



MID-CITY RAPID BUS PROJECT

FINAL ENVIRONMENTAL INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION
OCTOBER 2008
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Appendices A, B, and C

Stops: C St., Park, Naval Hospital, Zoo Pl., University, El Cajon Blvd, Texas, 30th, 35th, 40th, 43rd, Euclid, 49th, 54th, College, Plaza.

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APPENDIX A
TRAFFIC REPORT
(bound separately)

**APPENDIX A
TRAFFIC REPORT**

**SANDAG EL CAJON BOULEVARD MID-CITY BUS RAPID TRANSIT
SYSTEM TRAFFIC IMPACT STUDY**

March 2008

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CHAPTER 1 THE PROJECT

This traffic impact analysis has been prepared for the proposed El Cajon Boulevard Mid-City Bus Rapid Transit Project. The proposed project includes implementation of a Transit Signal Priority (TSP) system along Park Boulevard and El Cajon Boulevard. The proposed TSP project would traverse many communities in the City of San Diego including Balboa Park, North Park, City Heights, and the College Area. Figure 1-1 shows the project vicinity and study area.

PROJECT DESCRIPTION

The TSP project is part of SANDAG's Transit First Initiative, which includes plans for an integrated network of transit routes throughout San Diego County. A study commissioned by SANDAG, completed in March 2004, analyzed the proposed impacts of a trolley-like bus service on Park Boulevard from downtown San Diego to El Cajon Boulevard and El Cajon Boulevard from Park Boulevard to College Avenue. The project proposed to add transit lanes in select segments of El Cajon Boulevard and construct ten Bus Rapid Transit (BRT) stations along El Cajon Boulevard. As design work progressed, the project evolved to include a signal priority plan and no longer includes transit lanes for the BRT project. This study is required to update the horizon year to 2030, obtain current traffic data, and study the project without the previously proposed transit lanes.

This report specifically examines the effect of the operational changes involved in implementing Transit Signal Priority along the El Cajon corridor. There are actually two forms of Signal Priority. A more common form is Emergency Vehicle Priority (EVP). TSP and EVP are similar in that both processes alter signal cycles to accommodate for an approaching vehicle. However, TSP and EVP differ in that while EVP will effectively alter an entire signal cycle to clear passage for an emergency vehicle, TSP will simply extend a green phase, or truncate a red phase, a specified time to guarantee the passage of a transit vehicle. The task of implementing TSP along the corridor will involve several equipment-based upgrades at each intersection and on the transit vehicles.

STUDY AREA

The study area for this project includes those locations that are expected to be affected by the TSP operation. Added project traffic is expected to be nominal for the addition of BRT vehicles. The scope of the study area is based on discussions with SANDAG and the City of San Diego staff. The specific study area includes the following twenty-one intersections:

Intersections

- El Cajon Boulevard / College Avenue
- El Cajon Boulevard / 54th Street
- El Cajon Boulevard / Euclid Avenue
- El Cajon Boulevard / Menlo Avenue
- El Cajon Boulevard / Chamoune Avenue
- El Cajon Boulevard / Highland Avenue
- El Cajon Boulevard / Fairmont Avenue
- El Cajon Boulevard / 43rd Street
- El Cajon Boulevard / Copeland Avenue
- El Cajon Boulevard / Marlborough Avenue

- El Cajon Boulevard / I-15 Northbound
- El Cajon Boulevard / I-15 Southbound
- El Cajon Boulevard / 35th Street
- El Cajon Boulevard / I-805 Northbound
- El Cajon Boulevard / I-805 Southbound
- El Cajon Boulevard / 33rd Street
- El Cajon Boulevard / 30th Street
- El Cajon Boulevard / Texas Street
- El Cajon Boulevard / Florida Street
- El Cajon Boulevard / Park Boulevard
- Park Boulevard / University Avenue

CHAPTER 2 METHODOLOGIES

This chapter documents the methodologies and assumptions used to conduct the traffic impact analysis for the project. The study methodology and analysis is conducted in accordance with the *City of San Diego Traffic Impact Study Manual (1998)* and the *City of San Diego Significance Determination Thresholds, Development Services Department (2007)*. These guidelines are used to determine the project's potential significant impacts. This section contains the following background information:

- Study scenarios
- Study time periods
- Capacity analysis methodologies

STUDY SCENARIOS

This report presents an analysis of the following analysis scenarios:

- Existing Conditions
- Near-term Conditions (Existing Conditions with Approved Projects)
- Near-term Conditions With Project (Existing Conditions with Approved Projects with Signal Priority)
- Horizon Year Conditions (Year 2030)
- Horizon Conditions with Project (Year 2030 with Signal Priority)

ANALYSIS METHODOLOGIES

Street system operating conditions are typically described in terms of “level of service.” Level of service is a report-card scale used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service (LOS) ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion). A more detailed description of the concepts described in this section is provided in Appendix A of this document. The following methods are outlined in this publication and used in this study.

Roadway Segment Capacity Analysis

The City of San Diego has published daily traffic volume standards for roadways within its jurisdiction. To determine service levels on study area roadway segments, we compared the appropriate average daily traffic thresholds for level of service to the daily capacity of the study area roadway segments, and the existing and future volumes in the study area. The thresholds for determining level of service used in this analysis are summarized in Appendix A.

Roadway Segment Impact Assessment of TSP

With no added traffic and no other variety of analysis (i.e. cycle split alterations) there is no measure of effect on roadway segments associated with TSP. Therefore this study contains no roadway segment analysis.

Intersection Capacity Analysis

The analysis of peak hour intersection performance was conducted using the Synchro analysis software program, which uses methodologies defined in the 2000 Highway Capacity Manual (HCM)

to calculate results. Level of service (LOS) for intersections is determined by control delay. Control delay is defined as the total elapsed time from when a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. The total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. **Appendix A** lists the HCM delay/LOS criteria for both signalized and unsignalized intersections.

Signalized Intersections

The HCM analysis methodology for evaluating signalized intersections is based on the “operational analysis” procedure. This technique uses 1,900 passenger cars per hour of green per lane (pcphgpl) as the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition, (e.g., the percentage of vehicles that are trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). Average control delay is calculated by taking a volume-weighted average of all the delays for all vehicles entering the intersection.

Intersection Delay Analysis with Transit Signal Priority

Depending on what point during a cycle a transit vehicle approaches a signalized intersection there are five actions the TSP can take. These five actions and the probability that they occur, based on a field exercise, can be seen in Table 2-1 on page 5. The five actions are:

1. The vehicle could take no action; (the signal timing unaffected) - 40% probability
2. The vehicle could request a 5 second main street green extension - 10% probability
3. The vehicle could request a 10 second main street green extension - 30% probability
4. The vehicle could request a 5 second side street red truncation. - 10% probability
5. The vehicle could request a 10 second side street red truncation. - 10% probability

In an attempt for In order to be conservative the analysis this report assumes the worst case scenario, which is either the 10 second green extension or red truncation. For simplicity, this signal priority event has been modeled as a 10 second green extension in this analysis. Either TSP event (red truncation or green extension) results in the same signal timing assuming that the total signal cycle length remains constant between a TSP event and a non-TSP event. In order to maintain the same cycle length when the main street green time is increased (green extension), the side street green time is reduced by the same amount. The decision on this matter will ultimately come from San Diego City engineers after a technical review, but in this report the cycle lengths are assumed to not change.

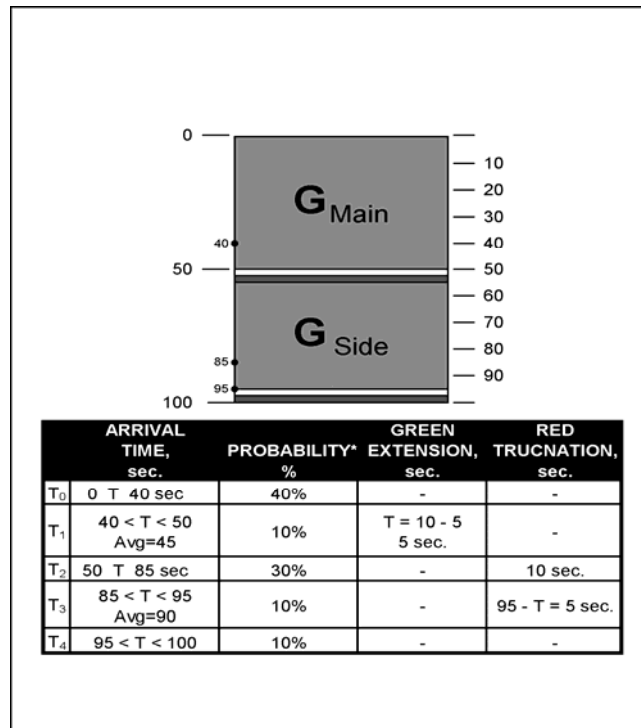
Intersection Impact Assessment of Transit Signal Priority

Not all transit vehicles traveling along El Cajon Boulevard would request preemption, as shown in Table 2-1. However, in an attempt for conservative analysis this study assumes that all transit vehicles do request and are granted priority. Assuming 10 minute bi-directional headways a maximum of 12 transit vehicles per peak hour would receive priority. Therefore peak hour delay, with TSP, is calculated using a weighted average between the cycles when priority occurs and when it doesn't. The following mathematical process details the calculation used. The calculation assumes a cycle length of 100 seconds. In the analysis actual cycle lengths at the local intersections are used.

Cycle length	=	100 seconds (assumption)
Seconds/Hour	=	3600 seconds
Cycles/Hour	=	36 cycles
D_1	=	50 seconds
D_{TSP}	=	60 seconds
D_t	=	$D_1(24/36) + D_{TSP}(12/36)$
D_t	=	$50(.67) + 60(.33)$
D_t	=	53.3 seconds

It should be noted that at many locations the delay after TSP implementation is actually better than before implementation. The reason is that by extending the green time on the main street more vehicles are served, as the volumes on the main street are often much higher than the side street.

**Table 2-1
Probability of TSP Actions**



Analysis of Significance

To determine direct project impacts, the City of San Diego has developed a series of thresholds based on allowable increases in volume-to-capacity ratios that become more stringent as level of service worsens. Appendix A summarizes these thresholds. Where roadway segments and intersections operate at LOS D or better impacts are not considered significant.

CHAPTER 3 EXISTING CONDITIONS

TRAFFIC VOLUMES

The intersection turning movement counts were conducted during the weekday morning peak period from 7:00 AM to 9:00 AM and during the weekday evening peak period from 4:00 PM to 6:00 PM in August 2007. Average daily traffic volumes were obtained through machine data collection. The resultant existing weekday morning and evening peak hour intersection volumes are shown in Figures 3-2 and 3-3. Figure 3-4 shows existing intersection operations.

ROADWAY NETWORK

The principal roadways in the project study area are described briefly below. The description includes the physical characteristics, adjacent land uses, and traffic control devices along these roadways. The existing roadway geometry and control conditions are shown in Figure 3-1. Additional details regarding specific intersection operating conditions can be found on the capacity analysis worksheets in the Appendix.

El Cajon Boulevard runs east/west connecting the University Heights and College Area Communities. It has a functional classification of a major road with 3 lanes in each direction from Park Boulevard to the 43rd Street/Fairmount Avenue couplet, and 2 lanes in each direction from the couplet to College Avenue. The roadway does provide driveway access to adjacent land uses. It also has a raised median with median breaks. There bus stops and sidewalks along the corridor. The posted speed limit ranges from 30 to 40 MPH.

Park Boulevard runs north/south connecting the University Heights and Center City Communities. It has a functional classification of a major road with 2 lanes in each direction from El Cajon Boulevard to University Avenue. The roadway does provide driveway access to adjacent land uses. It also has a raised median with median breaks. There are bus stops and sidewalks along the corridor. The posted speed is 35 MPH.

Existing Intersection Conditions

Table 3-1 shows both the AM and PM peak hour intersections conditions. All intersections in the existing conditions operate at level of service (LOS) D or better.

**Table 3-1
Existing Intersection Conditions**

Intersection	Delay	LOS	Delay	LOS
	AM Peak Hour		PM Peak Hour	
1. El Cajon Blvd / College Ave	41.2	D	44.6	D
2. El Cajon Blvd / 54th St	34.7	C	43.4	D
3. El Cajon Blvd / Euclid Ave	19.5	B	26.1	C
4. El Cajon Blvd / Menlo Ave	13.2	B	13.2	B
5. El Cajon Blvd / Chamoune Ave	7.6	A	3.9	A
6. El Cajon Blvd / Highland Ave	3.1	A	3.3	A
7. El Cajon Blvd / Fairmont Ave	30.2	C	16.4	B
8. El Cajon Blvd / 43rd Ave	17.0	B	28.2	C
9. El Cajon Blvd / Copeland Ave	16.0	B	24.5	C
10. El Cajon Blvd / Malborough Ave	14.9	B	24.7	C
11. El Cajon Blvd / I-15 NB	9.1	A	12.2	B
12. El Cajon Blvd / I-15 SB	15.1	B	16.2	B
13. El Cajon Blvd / 35th St	14.6	B	19.9	B
14. El Cajon Blvd / 33rd St	21.0	C	35.5	D
15. El Cajon Blvd / I-805 NB	20.5	C	20.0	B
16. El Cajon Blvd / I-805 SB	15.0	B	42.1	D
17. El Cajon Blvd / 30th St	32.0	C	41.9	D
18. El Cajon Blvd / Texas St	42.8	D	48.0	D
19. El Cajon Blvd / Florida St	7.9	A	19.2	B
20. El Cajon Blvd / Park Blvd	34.4	C	33.2	C
21. Park Blvd / University Ave	29.9	C	42.4	D

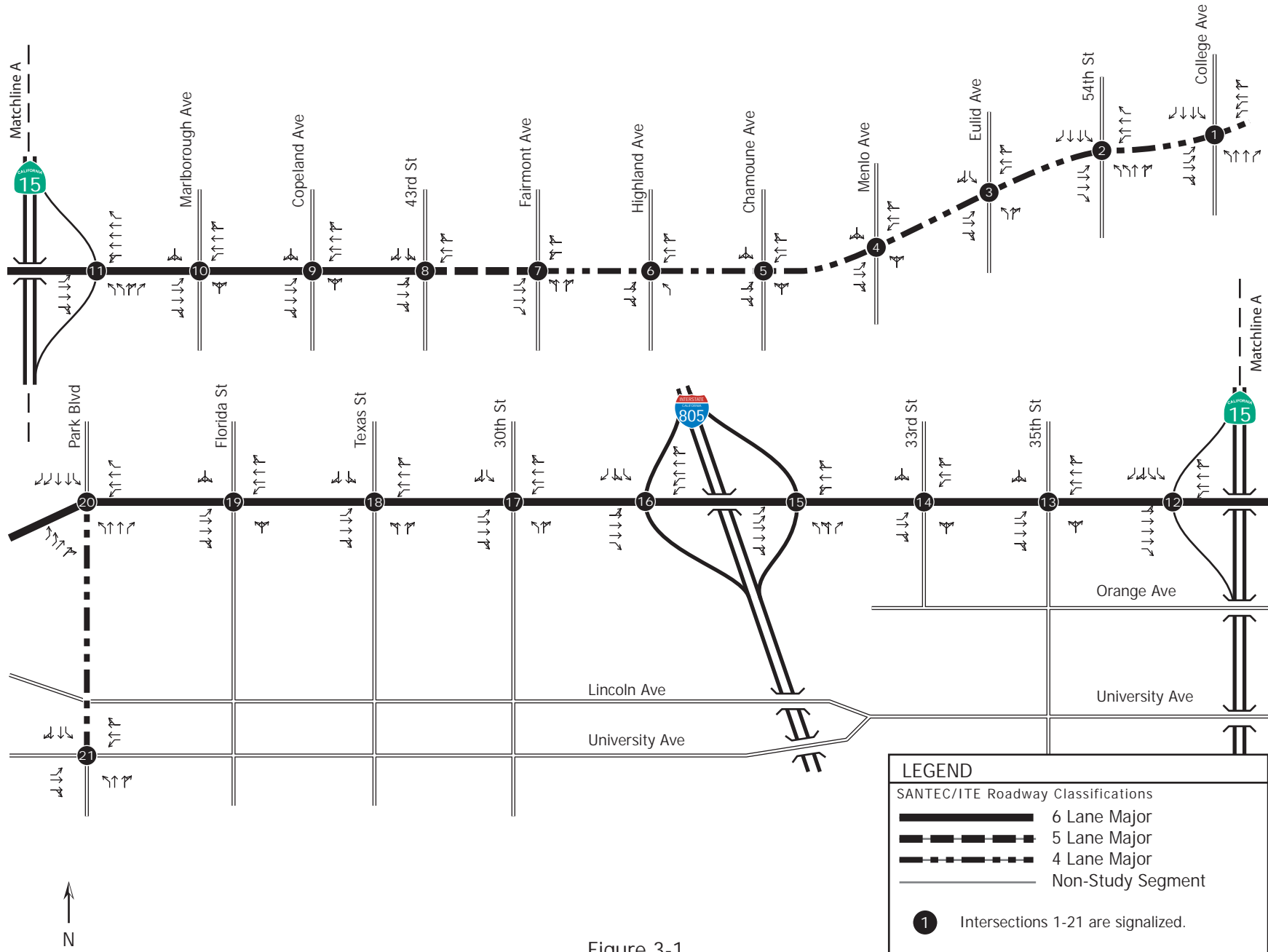


Figure 3-1
Existing Circulation Network

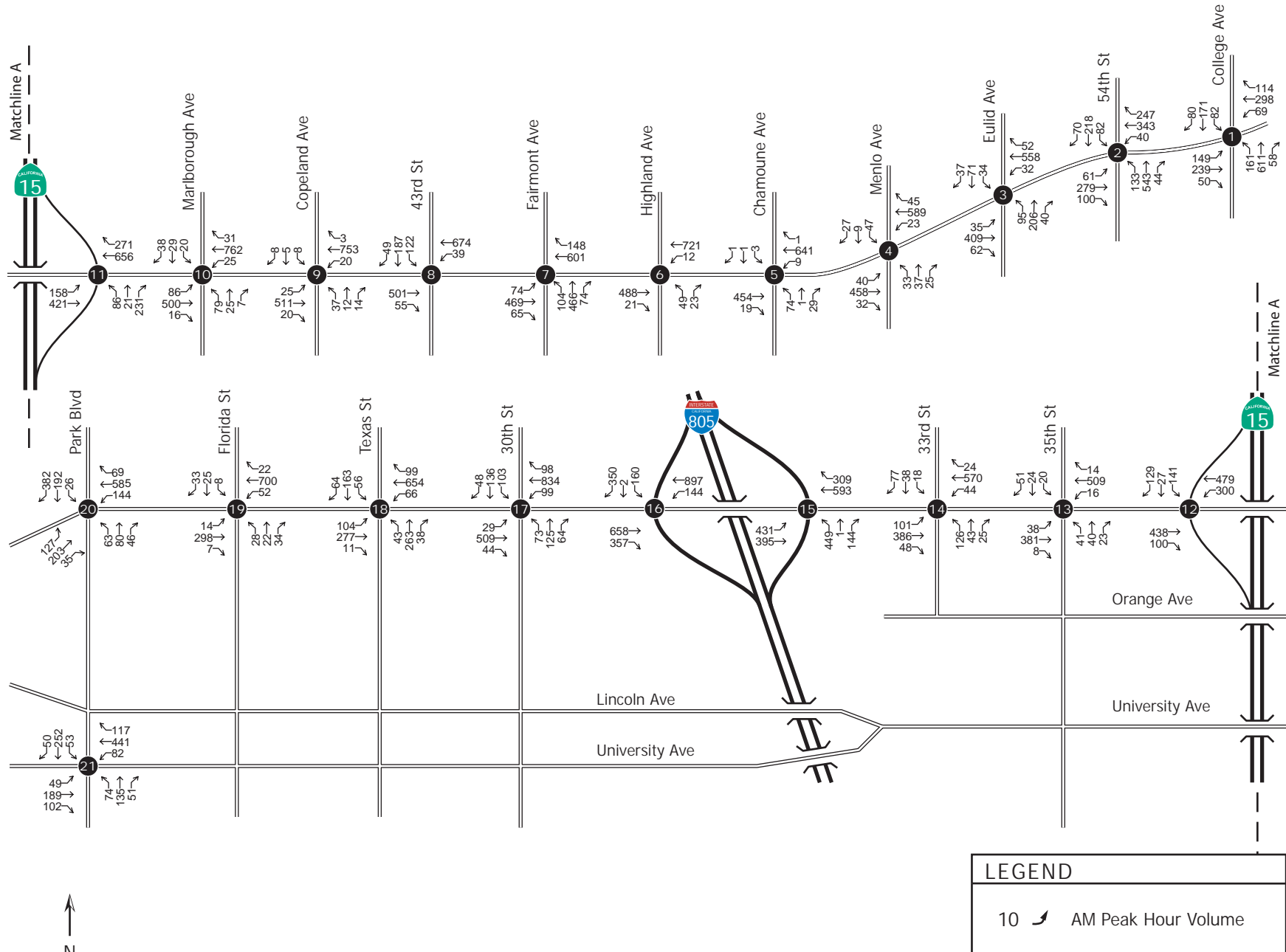


Figure 3-2
Existing AM Peak Hour Intersection Volumes

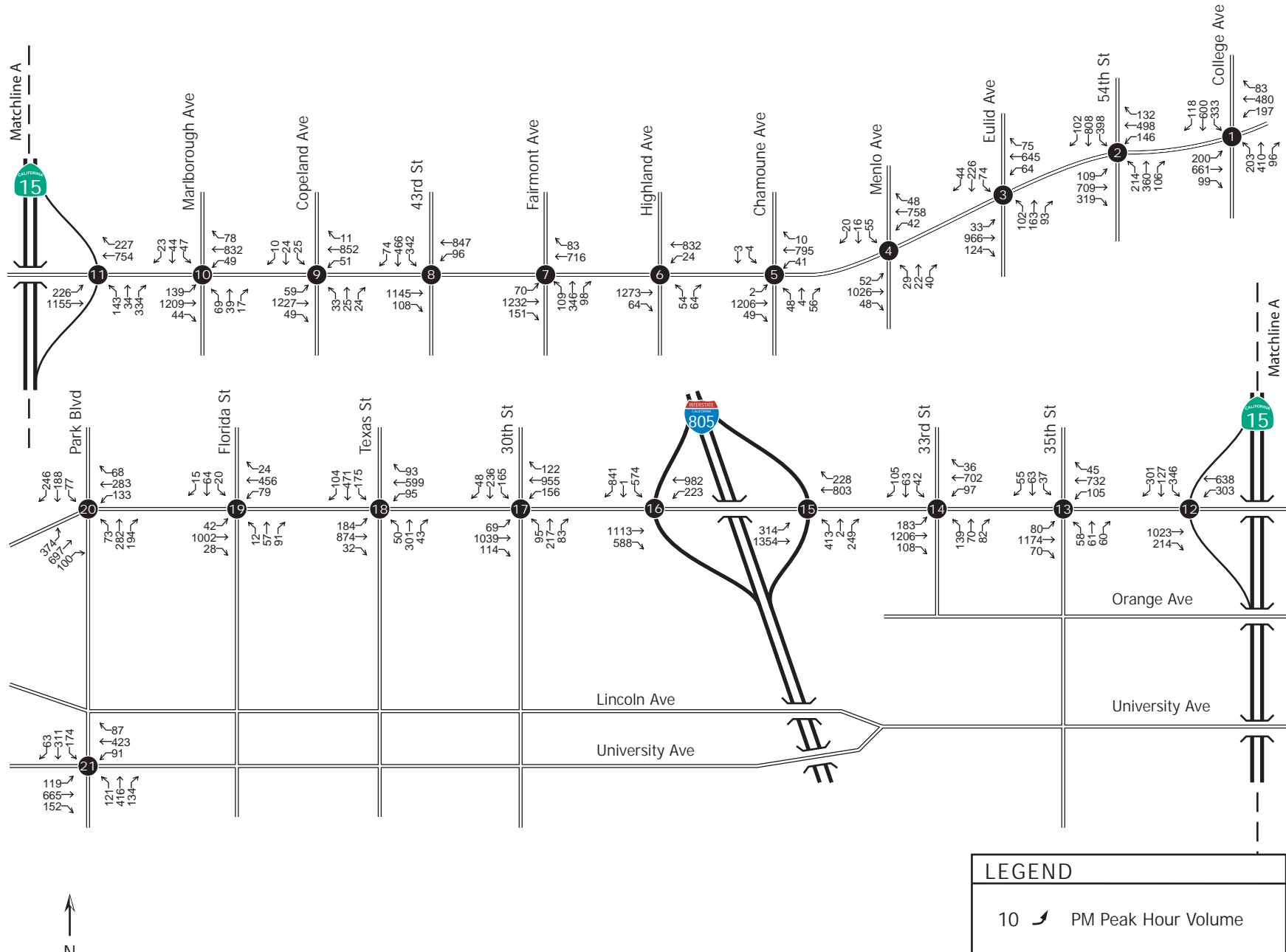
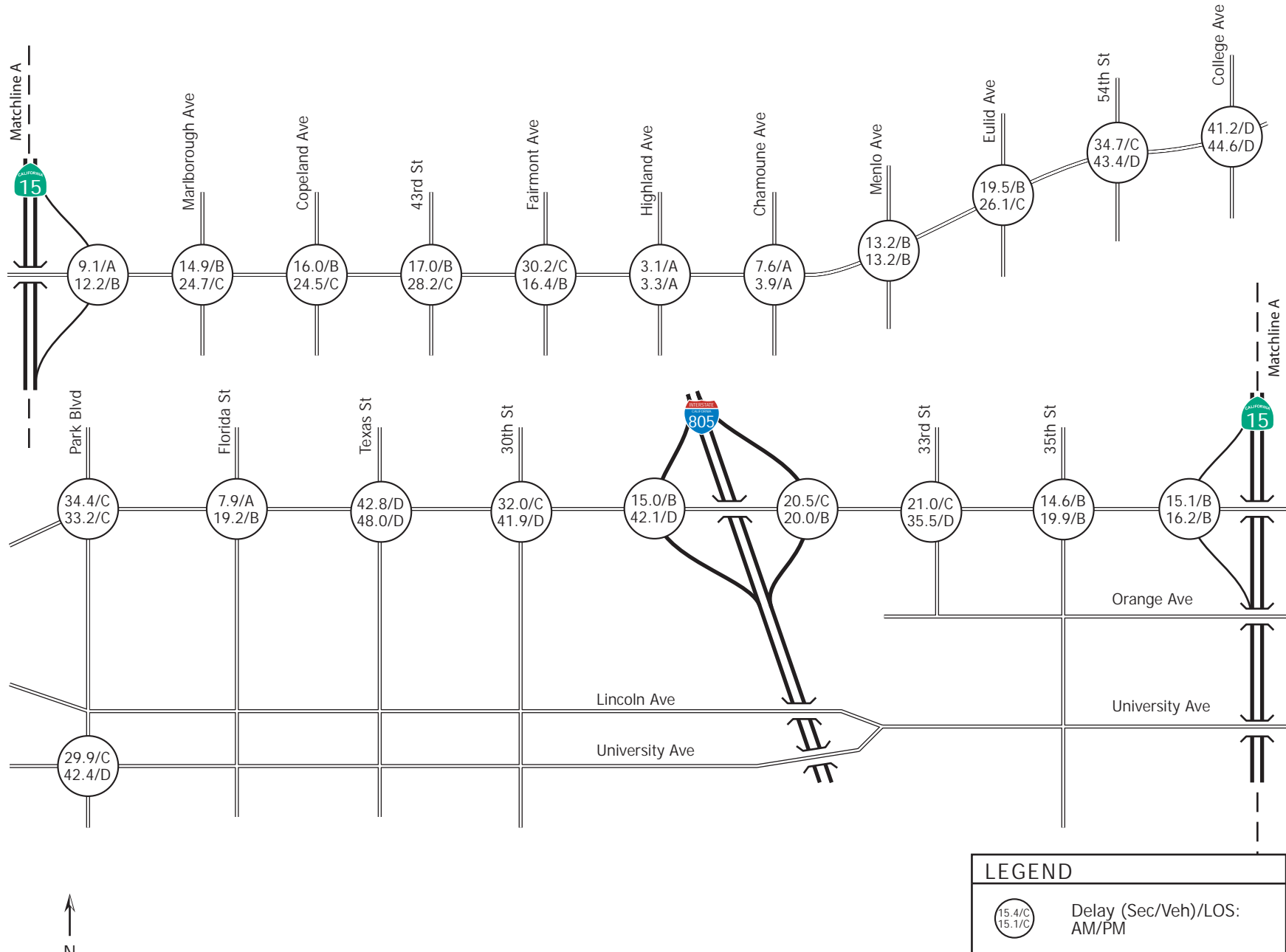


Figure 3-3
Existing PM Peak Hour Intersection Volumes



↑
N
Not To Scale

LEGEND



 Delay (Sec/Veh)/LOS:
 AM/PM

Figure 3-4
Existing AM and PM Peak Hour Intersection Conditions

CHAPTER 4 NEAR-TERM CONDITIONS

Near-term conditions represent implementation day of the proposed project (Year 2010). Project result is added to the near-term base volumes to create the “with TSP” scenario.

NEAR-TERM TRAFFIC VOLUMES

Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can, and have been used to estimate this growth.

For this analysis, traffic from cumulative projects was added to existing traffic counts to develop near-term base volumes. Cumulative projects are planned new developments that will add traffic to the study area roadways. The type, size, and current status of each project are shown in the table below. Also added to the existing volume was a growth rate of 6%. This growth accounts for both expected growth shown in the SANDAG Series 10 Models, and finally, to accommodate for any additional cumulative project implemented after this project’s initiation. Appendix C contains detailed information about Near-term volume development.

**Table 4-1
Cumulative Projects**

Project Name	Type	Size	Daily Trips
Adobe Falls	Residential	48 DU	1,376
Alvarado Hotel	Commercial	120 Rooms	1,200
Alvarado Mixed Use	Residential	925 DU	8,990
	Hotel	225 Rooms	
	Commercial	237 KSF	
Arbor Crest North	Residential	72 DU	432
Arbor Crest South	Residential	52 DU	312
Auburn Park	Commercial	69 DU	414
Aztec Budget Inn	Residential	75 DU	450
	Commercial	3.0 KGsf	120
Campus Site	Education	2,094 Students	947
Centerpointe	Residential	320 DU	1,920
	Commercial	16.21 KGsf	648
Collwood Blvd Apts	Residential	261 DU	588
El Cerrito Gateway	Residential	220 DU	1,720
	Retail	10 KSF	
El Paseo	Residential	471 DU	1,457
	Commercial	153 KSF	4,820
	Restaurant	60 KSF	3,120
	Religious	4.5 KSF	141
	Theater	2,900 seat	4,437
	Office	110 KSF	1,980
Mesa Commons I,II	Residential	92 DU	800
	Retail	2.8 KSF	
Park at 54th St	Residential	90 DU	540

NEAR-TERM CIRCULATION NETWORK

No circulation improvements were assumed under near-term conditions:

The effect of the proposed project on the study area circulation network was evaluated. The following tables summarize the results of this analysis. Figures 4-1 through 4-4 show the near-term intersection volumes and conditions without and with the proposed project.

Near-term Intersection Conditions

Tables 4-2 and 4-3 show the Near-term AM and PM peak hour intersections conditions. All intersections in the Near-term AM conditions operate at level of service (LOS) D or better, while all intersections in the PM conditions operate at LOS E or better, with no significant impacts.

Table 4-2
Near-term AM Intersection Conditions

Intersection	Without TSP		With TSP without Mitigation		Δ Delay	Significant
	Delay	LOS	Delay	LOS		
AM Peak Hour						
1. El Cajon Blvd / College Ave	41.6	D	41.7	D	0.1	No
2. El Cajon Blvd / 54th St	35.6	D	36.1	D	0.5	No
3. El Cajon Blvd / Euclid Ave	20.7	C	19.7	B	-1.1	No
4. El Cajon Blvd / Menlo Ave	13.7	B	13.0	B	-0.7	No
5. El Cajon Blvd / Chamoune Ave	8.1	A	7.2	A	-0.9	No
6. El Cajon Blvd / Highland Ave	3.1	A	3.2	A	0.1	No
7. El Cajon Blvd / Fairmont Ave	30.7	C	29.1	C	-1.6	No
8. El Cajon Blvd / 43rd Ave	16.7	B	16.8	B	0.1	No
9. El Cajon Blvd / Copeland Ave	15.9	B	15.0	B	-0.9	No
10. El Cajon Blvd / Marlborough Ave	15.1	B	15.4	B	0.3	No
11. El Cajon Blvd / I-15 NB	9.2	A	9.5	A	0.3	No
12. El Cajon Blvd / I-15 SB	15.3	B	15.5	B	0.2	No
13. El Cajon Blvd / 35th St	14.6	B	14.0	B	-0.6	No
14. El Cajon Blvd / 33rd St	21.5	C	22.0	C	0.5	No
15. El Cajon Blvd / I-805 NB	20.8	C	21.5	C	0.7	No
16. El Cajon Blvd / I-805 SB	15.3	B	15.0	B	-0.3	No
17. El Cajon Blvd / 30th St	32.6	C	31.3	C	-1.3	No
18. El Cajon Blvd / Texas St	43.9	D	42.3	D	-1.6	No
19. El Cajon Blvd / Florida St	8.1	A	8.4	A	0.3	No
20. El Cajon Blvd / Park Blvd	35.5	D	31.6	C	-3.9	No
21. Park Blvd / University Ave	30.5	C	32.0	C	1.5	No

Table 4-3
Near-term PM Intersection Conditions

Intersection	Without TSP		With TSP without Mitigation		Δ Delay	Significant
	Delay	LOS	Delay	LOS		
PM Peak Hour						
1. El Cajon Blvd / College Ave	64.5	E	62.3	E	-2.2	No
2. El Cajon Blvd / 54th St	50.4	D	54.8	D	4.4	No
3. El Cajon Blvd / Euclid Ave	26.9	C	28.7	C	1.8	No
4. El Cajon Blvd / Menlo Ave	15.2	B	14.7	B	-0.5	No
5. El Cajon Blvd / Chamoune Ave	4.5	A	4.4	A	-0.1	No
6. El Cajon Blvd / Highland Ave	3.5	A	3.7	A	0.2	No
7. El Cajon Blvd / Fairmont Ave	16.6	B	17.5	B	0.9	No
8. El Cajon Blvd / 43rd Ave	29.4	C	29.8	C	0.4	No
9. El Cajon Blvd / Copeland Ave	25.0	C	22.4	C	-2.6	No
10. El Cajon Blvd / Marlborough Ave	25.3	C	23.5	C	-1.8	No
11. El Cajon Blvd / I-15 NB	12.9	B	13.2	B	0.3	No
12. El Cajon Blvd / I-15 SB	16.5	B	17.2	B	0.7	No
13. El Cajon Blvd / 35th St	20.7	C	19.7	B	-1.0	No
14. El Cajon Blvd / 33rd St	42.7	D	45.1	D	2.4	No
15. El Cajon Blvd / I-805 NB	20.4	C	20.2	C	-0.2	No
16. El Cajon Blvd / I-805 SB	50.3	D	50.5	D	0.2	No
17. El Cajon Blvd / 30th St	43.8	D	42.4	D	-1.4	No
18. El Cajon Blvd / Texas St	49.7	D	49.8	D	0.1	No
19. El Cajon Blvd / Florida St	20.4	C	19.9	B	-0.5	No
20. El Cajon Blvd / Park Blvd	33.1	C	34.2	C	1.1	No
21. Park Blvd / University Ave	43.8	D	45.8	D	2.0	No

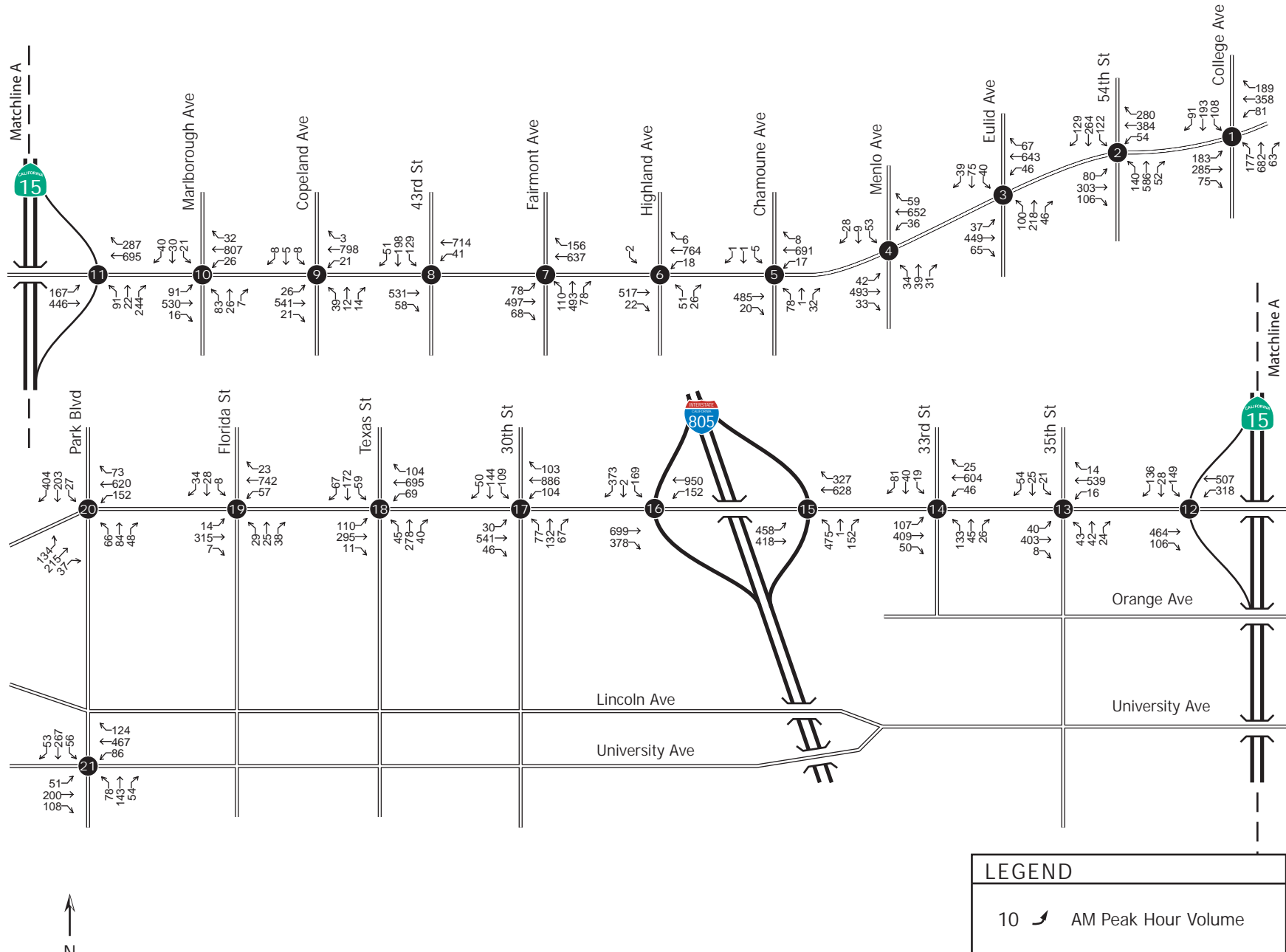


Figure 4-1
 Near-Term AM Peak Hour Intersection Volumes

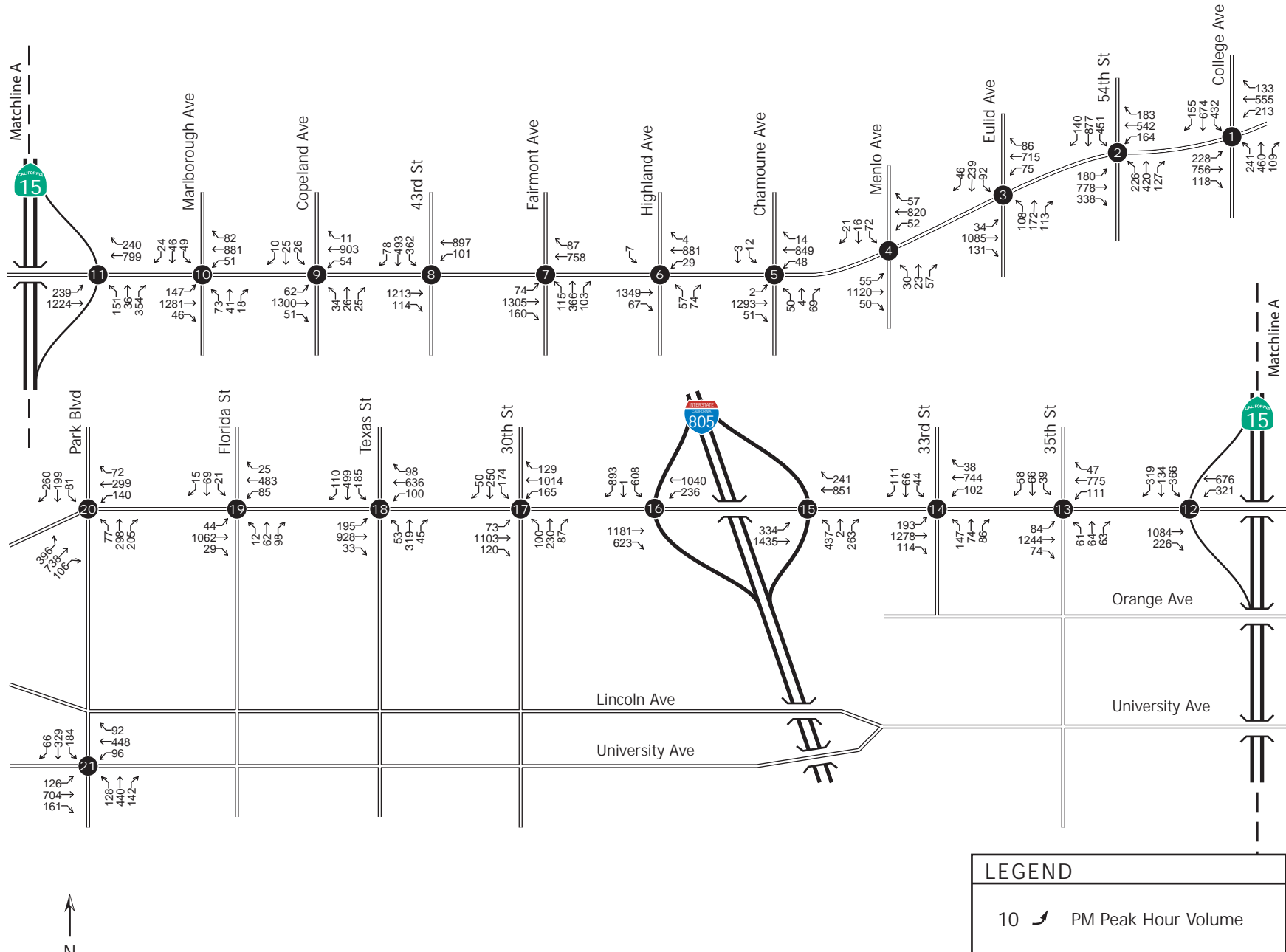
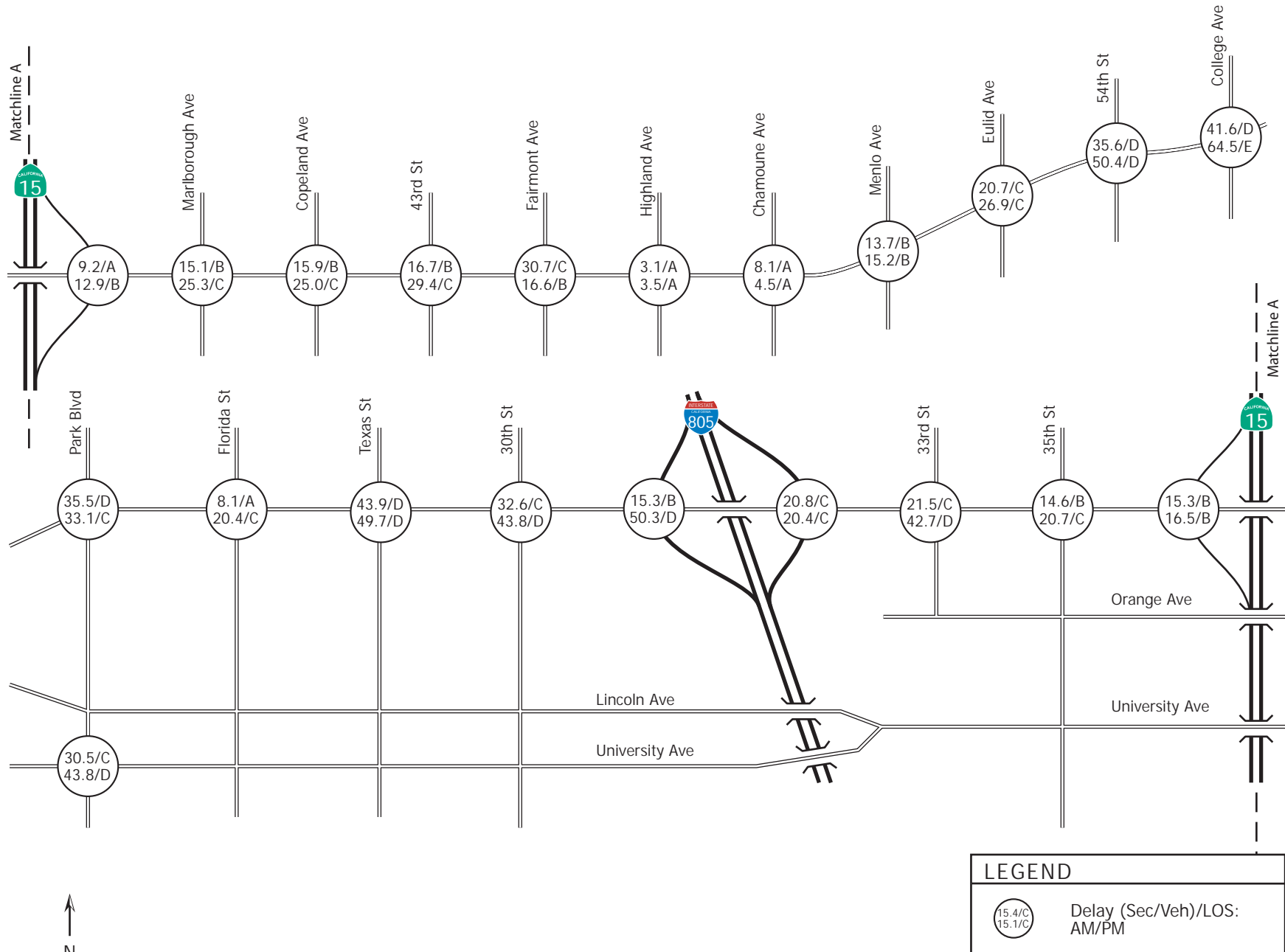



Figure 4-2
 Near-Term PM Peak Hour Intersection Volumes



LEGEND


 Delay (Sec/Veh)/LOS:
 AM/PM


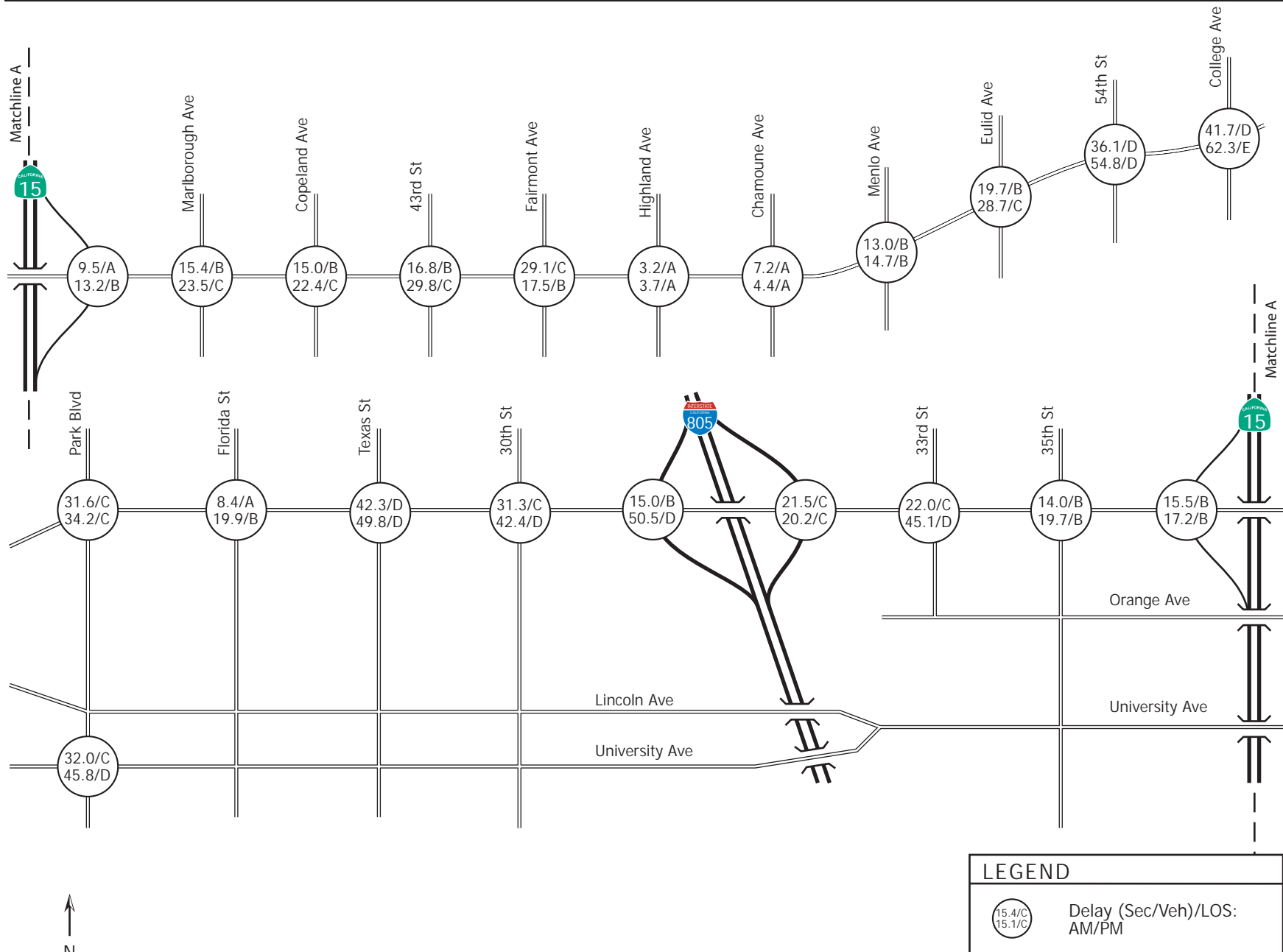

 N
 Not To Scale

Figure 4-3
Near-Term Peak Hour Intersection Conditions Without Project



↑
N
Not To Scale

Figure 4-4
Near-Term Peak Hour Intersection Conditions with Project

CHAPTER 5

HORIZON YEAR CONDITIONS

Horizon year conditions represent traffic conditions in 2030.

HORIZON YEAR TRAFFIC VOLUMES

Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can be used to estimate this growth. For this analysis traffic from cumulative projects was added to existing traffic counts to develop Horizon Year base volumes. Cumulative projects are planned new developments that will add traffic to the study area roadways. The type, size, and current status of each project are shown in Chapter 4. Also added to the existing volume was a growth rate of 13%. This growth accounts for both expected growth shown in the SANDAG Series 10 Models, and finally, to accommodate for any additional cumulative project implemented after this project's initiation. Appendix C contains detailed information about the Horizon Year volume development.

HORIZON YEAR CIRCULATION NETWORK

No circulation network changes are assumed in the Horizon Year. The effect of the proposed project on the study area circulation network was evaluated. The following tables summarize the results of this analysis. Figures 5-1 through 5-4 show the horizon year intersection volumes and conditions without and with the proposed project. In order to avoid a significant cumulative impact at El Cajon Boulevard / 54th Street the TSP event should be restricted to either five second red truncation or five second green extension in the Horizon Year.

Table 5-1
Horizon Year AM Intersection Conditions

Intersection	Without TSP		With TSP without Mitigation		Δ Delay	Significant
	Delay	LOS	Delay	LOS		
AM Peak Hour						
1. El Cajon Blvd / College Ave	43.7	D	43.8	D	0.1	No
2. El Cajon Blvd / 54th St ¹	35.9	D	36.7	D	0.8	No
3. El Cajon Blvd / Euclid Ave	19.6	B	18.9	B	-0.7	No
4. El Cajon Blvd / Menlo Ave	14.4	B	13.6	B	-0.8	No
5. El Cajon Blvd / Chamoune Ave	6.9	A	6.3	A	-0.6	No
6. El Cajon Blvd / Highland Ave	2.9	A	3.1	A	0.2	No
7. El Cajon Blvd / Fairmont Ave	29.7	C	28.9	C	-0.8	No
8. El Cajon Blvd / 43rd Ave	17.1	B	17.1	B	0.0	No
9. El Cajon Blvd / Copeland Ave	14.8	B	14.4	B	-0.4	No
10. El Cajon Blvd / Malborough Ave	15.6	B	16.0	B	0.4	No
11. El Cajon Blvd / I-15 NB	9.9	A	10.0	A	0.1	No
12. El Cajon Blvd / I-15 SB	15.7	B	15.9	B	0.2	No
13. El Cajon Blvd / 35th St	20.0	B	17.5	B	-2.5	No
14. El Cajon Blvd / 33rd St	22.0	C	23.2	C	1.2	No
15. El Cajon Blvd / I-805 NB	19.3	B	20.7	C	1.4	No
16. El Cajon Blvd / I-805 SB	18.6	B	17.9	B	-0.7	No
17. El Cajon Blvd / 30th St	33.9	C	32.5	C	-1.4	No
18. El Cajon Blvd / Texas St	44.9	D	43.3	D	-1.6	No
19. El Cajon Blvd / Florida St	8.3	A	8.6	A	0.3	No
20. El Cajon Blvd / Park Blvd	36.0	D	32.4	C	-3.6	No
21. Park Blvd / University Ave	32.5	C	33.5	C	1.0	No

¹ - Intersection analyzed with 5 second max green extension

Table 5-2
Horizon Year PM Intersection Conditions

Intersection	Without TSP		With TSP without Mitigation		Δ Delay	Significant
	Delay	LOS	Delay	LOS		
PM Peak Hour						
1. El Cajon Blvd / College Ave	85.8	F	81.3	F	-4.5	No
2. El Cajon Blvd / 54th St ¹	56.8	E	58.0	E	1.2	No
3. El Cajon Blvd / Euclid Ave	26.3	C	30.2	C	3.9	No
4. El Cajon Blvd / Menlo Ave	17.7	B	16.9	B	-0.8	No
5. El Cajon Blvd / Chamoune Ave	4.9	A	4.8	A	-0.1	No
6. El Cajon Blvd / Highland Ave	3.7	A	3.9	A	0.2	No
7. El Cajon Blvd / Fairmont Ave	17.8	B	19.2	B	1.4	No
8. El Cajon Blvd / 43rd Ave	30.9	C	32.5	C	1.6	No
9. El Cajon Blvd / Copeland Ave	25.2	C	22.9	C	-2.3	No
10. El Cajon Blvd / Malborough Ave	25.0	C	23.6	C	-1.4	No
11. El Cajon Blvd / I-15 NB	13.5	B	13.9	B	0.4	No
12. El Cajon Blvd / I-15 SB	17.0	B	18.3	B	1.3	No
13. El Cajon Blvd / 35th St	22.0	C	20.8	C	-1.2	No
14. El Cajon Blvd / 33rd St	62.0	E	60.6	E	-1.4	No
15. El Cajon Blvd / I-805 NB	20.9	C	20.8	C	-0.1	No
16. El Cajon Blvd / I-805 SB	62.1	E	61.1	E	-1.0	No
17. El Cajon Blvd / 30th St	46.1	D	44.7	D	-1.4	No
18. El Cajon Blvd / Texas St	52.0	D	52.9	D	0.9	No
19. El Cajon Blvd / Florida St	21.4	C	20.8	C	-0.6	No
20. El Cajon Blvd / Park Blvd	33.9	C	35.1	D	1.2	No
21. Park Blvd / University Ave	45.3	D	47.9	D	2.6	No

¹ - Intersection analyzed with 5 second max green extension

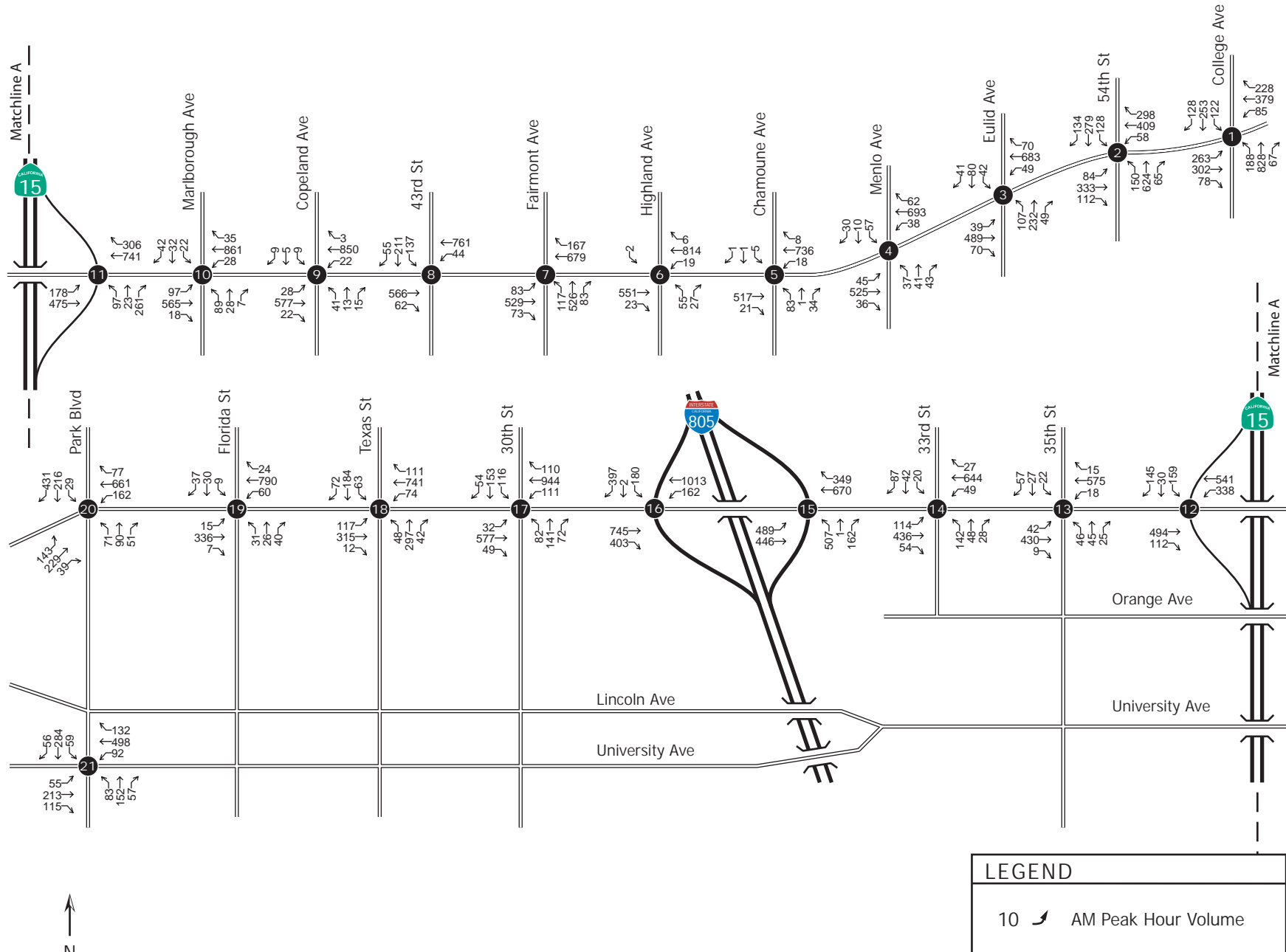


Figure 5-1
 Horizon Year AM Peak Hour Intersection Volumes

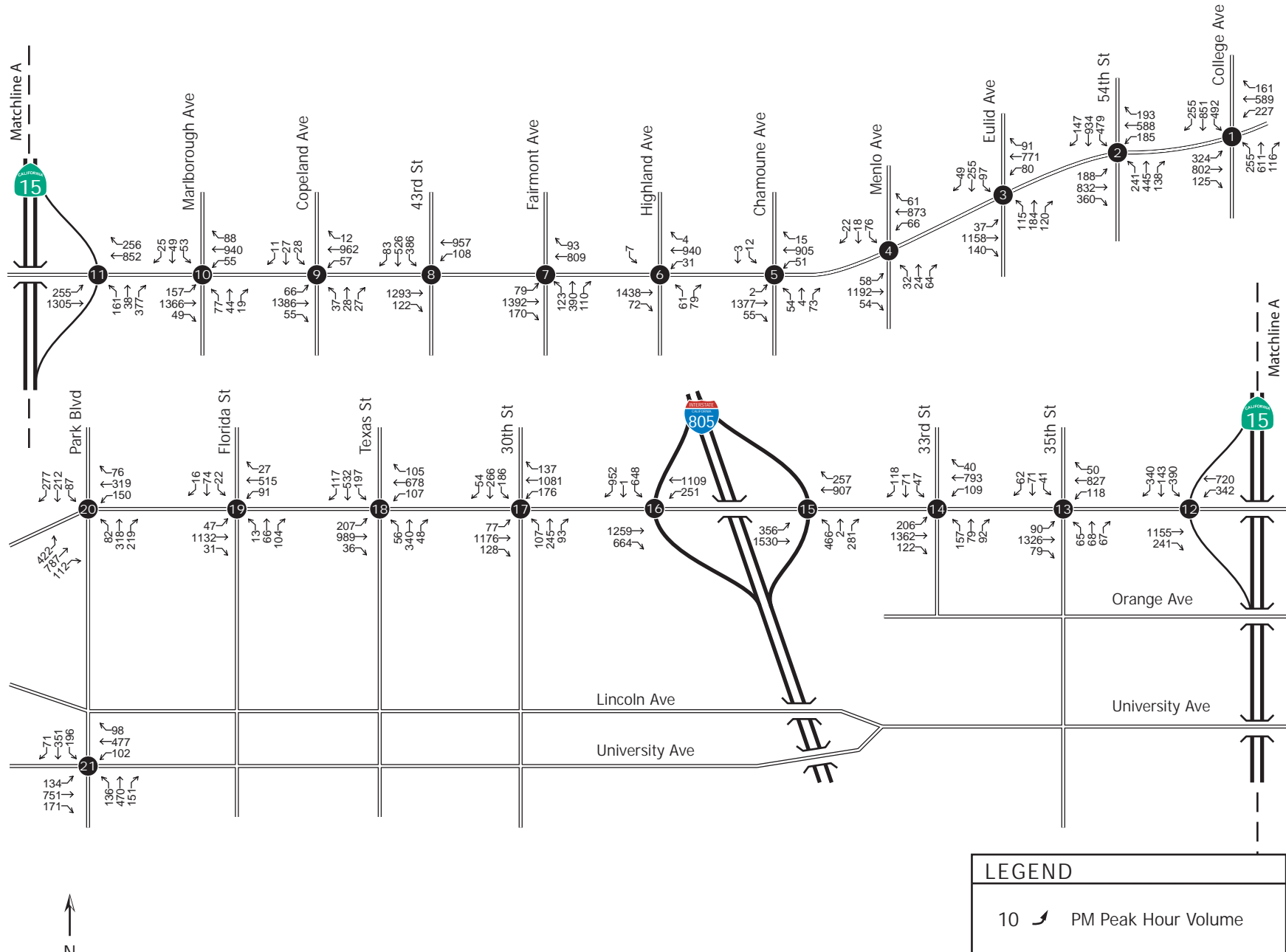
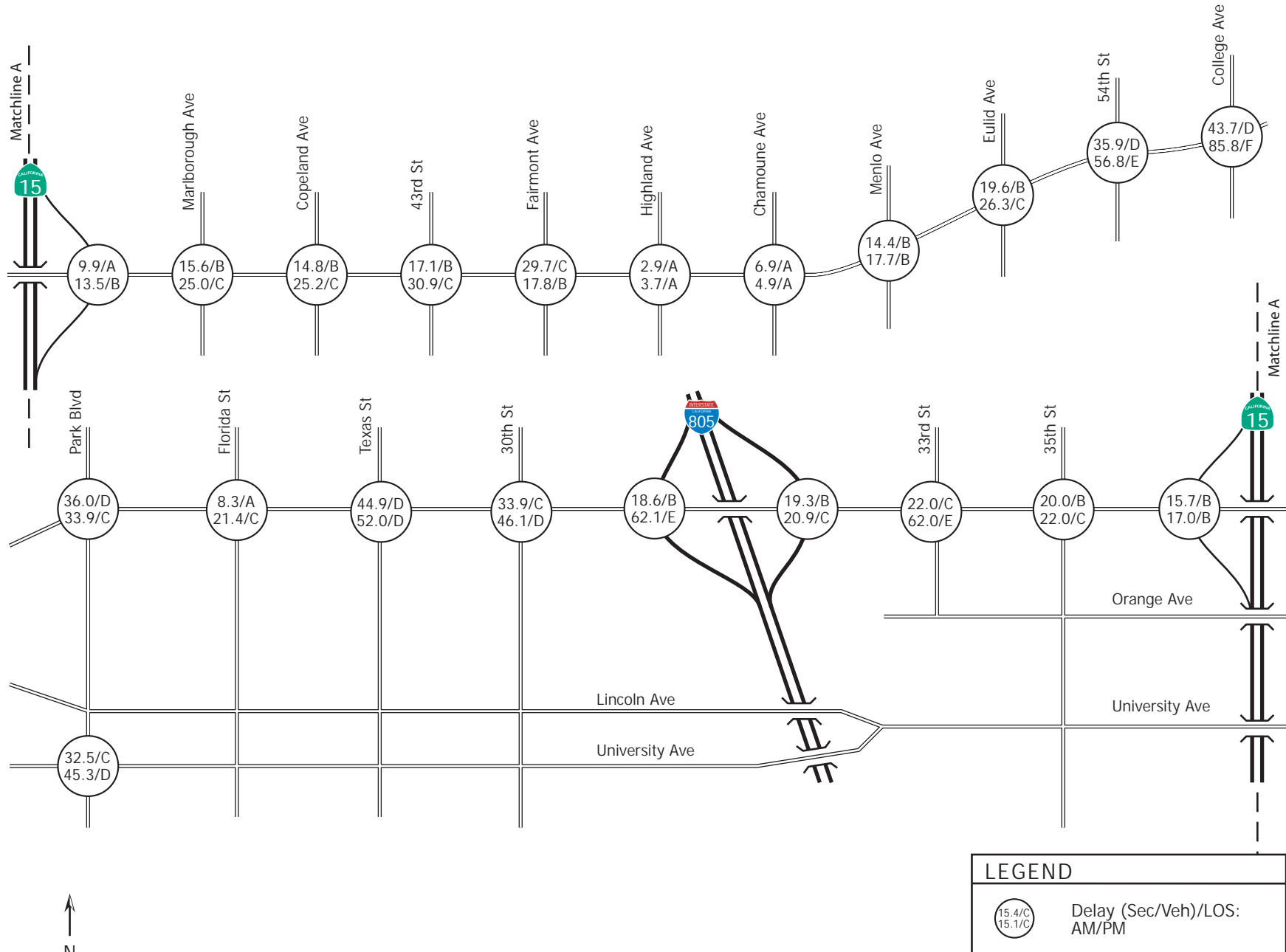


Figure 5-2
Horizon Year PM Peak Hour Intersection Volumes



↑
N
Not To Scale

LEGEND


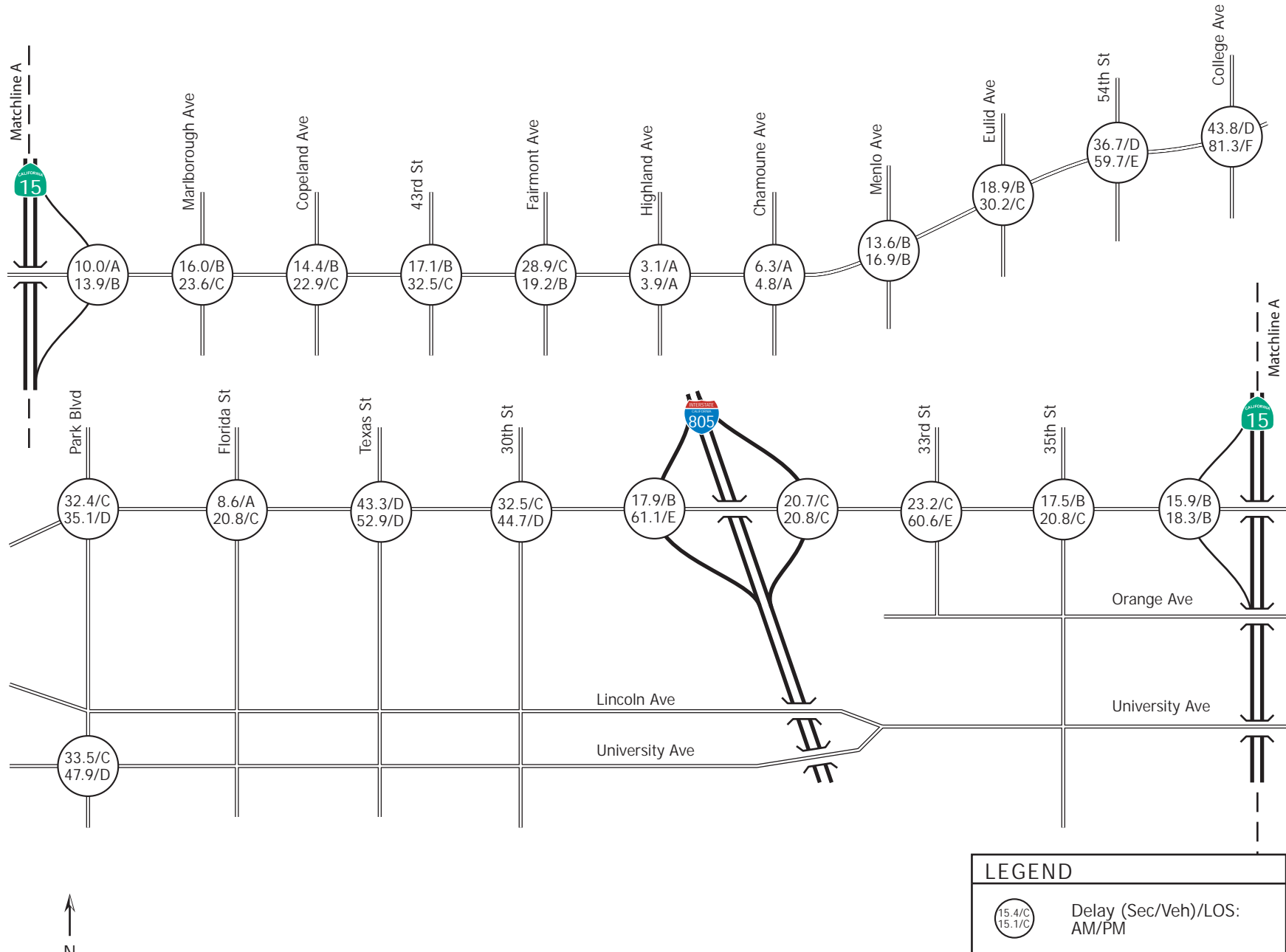

 Delay (Sec/Veh)/LOS:
 AM/PM

Figure 5-3
Horizon Year Peak Hour Intersection Conditions Without Project



↑
N
Not To Scale

Figure 5-4
Horizon Year Peak Hour Intersection Conditions With Project

CHAPTER 6

PARKING, PEDESTRIAN SAFETY AND TRAFFIC SAFETY

This chapter is intended to look specifically at impacts on parking, pedestrian safety and traffic safety associated with the implementation of Transit Signal Priority.

PARKING

One of the goals of this project was to minimize the loss of parking along the study corridor. Parking along the study corridor will be lost due to the installation of new Bus Rapid Transit (BRT) stations. However, parking will also be recouped by eliminating existing local bus stop stations. Along El Cajon Boulevard a total of 9 new BRT stations result in a loss of 35 parking spaces. However, five existing local bus stations are proposed for removal resulting in a gain of 11 parking spaces. Therefore a net total of 24 parking spaces are lost due to the implementation of TSP.

In addition, there are three locations along Park Boulevard where diagonal parking will be converted parallel parking. This will result in a loss of 35 parking spaces. However, through methods such as consolidating driveways, converting side streets to diagonal parking, and relocating a bus stop 23 parking spaces along Park Boulevard will be created. Therefore a net total of 12 parking spaces will be lost along Park Boulevard.

The following locations will have a net loss of parking due to the BRT project. An assessment of the impacts and alternative parking solutions for each location follows:

Intersection 1: College Avenue and El Cajon Boulevard

- A net loss of 2 commercial parking spaces would have a minimal impact to the existing commercial facility.

Intersection 2: 54th Street and El Cajon Boulevard

- A net loss of 1 space in the westbound side of the street can be offset with existing available street parking on El Cajon Boulevard and adjacent side streets.

Intersection 3: Euclid Avenue and El Cajon Boulevard

- A net loss of 5 spaces in the westbound side of the street and net loss of 2 spaces in the eastbound direction can be offset with existing available street parking on Euclid Avenue north and south of El Cajon Boulevard.

Intersection 13: 35th Street and El Cajon Boulevard

- A net loss of 4 spaces in the westbound side of the street and net loss of 4 spaces in the eastbound side of the street can be offset with existing available street parking on 35th Street north and south of El Cajon Boulevard and along El Cajon Boulevard.

Intersection 17: 30th Street and El Cajon Boulevard

- A net loss of 5 spaces in the westbound side of the street and net loss of 4 spaces in the eastbound side of the street can be offset with existing available street parking within a two-block radius of this location (Ohio Street both north and south of El Cajon Boulevard) and on El Cajon Boulevard.

Intersection 18: Texas Street and El Cajon Boulevard

- A net loss of 1 space in the westbound side of the street and net loss of 3 spaces in the eastbound side of the street can be offset with existing available street parking on Euclid Avenue north and south of El Cajon Boulevard.

Park Boulevard between University Avenue and Lincoln Avenue

- A net loss of 7 spaces in the northbound side of the street and 11 spaces in the southbound will have minimal effects on the existing businesses fronting on the southbound side of Park Boulevard as field observations indicate the parking at this location is well utilized. Because parking is available on side streets east and west of Park Boulevard within a .2-mile radius, or roughly 4-minute walk (Centre Street, Polk Avenue, Georgia Avenue and the overpass of University Avenue).

Park Boulevard between Lincoln Avenue and El Cajon Boulevard

- A net loss of 17 spaces in the northbound side of the street will have minimal effects on the existing businesses fronting on Park Boulevard as field observations indicate the parking at this location is well utilized. Because parking is available on side streets east and west of Park Boulevard within a .2-mile radius, or roughly 4-minute walk (Centre Street, Polk Avenue, Georgia Avenue and the overpass of University Avenue).
- The southbound side of Park Boulevard will gain 23 spaces resulting in an overall gain of 6 parking spaces for this segment of Park Boulevard.

A parking loss of 10 percent of the communities parking supply is determined to be an impact. A conservative assessment of the parking supply along Park Boulevard in the project study area shows that the net parking loss of 12 spaced does not represent 10% of the total parking available along Park Boulevard. Similarly, a loss of 23 parking spaces along El Cajon Boulevard does not represent 10 percent of the total parking available along El Cajon Boulevard in the study area. Figure 6-1 shows these locations and the parking losses or gains associated with each.

PEDESTRIAN AND TRAFFIC SAFETY

The project includes pedestrian enhancements at locations where new BRT stations are planned in order to increase pedestrian safety. Conceptual drawings of each proposed BRT station and the features associated with each can be seen in Appendix G. These featured include:

- 8 foot wide “ladder style” crosswalks
- New “bus/pedestrian” bulb outs
- Compliant ADA pedestrian ramps
- Pedestrian median refuge with adjacent 6 inch curb

These enhancements will be implemented at the following locations:

- Park Boulevard North of Lincoln Avenue
- Park Boulevard South of Lincoln Avenue
- El Cajon Boulevard at Florida Street
- El Cajon Boulevard at Florida Street
- El Cajon Boulevard at Texas Street
- El Cajon Boulevard at 30th Street
- El Cajon Boulevard at 33rd Street
- El Cajon Boulevard at 35th Street
- El Cajon Boulevard at 43rd Street
- El Cajon Boulevard at Euclid Avenue

- El Cajon Boulevard at 54th Street
- El Cajon Boulevard at College Avenue

The project must avoid reducing the side-street splits to below the minimum split required during a pedestrian cycle. During a pedestrian call to cross Park Boulevard or El Cajon Boulevard within the study area the “Walk” phase and “Flash Don’t Walk” phase cannot be reduced in order to maintain appropriate time for pedestrians to cross the street. Therefore, during a side street phase with pedestrian actuation a red truncation TSP event cannot occur.

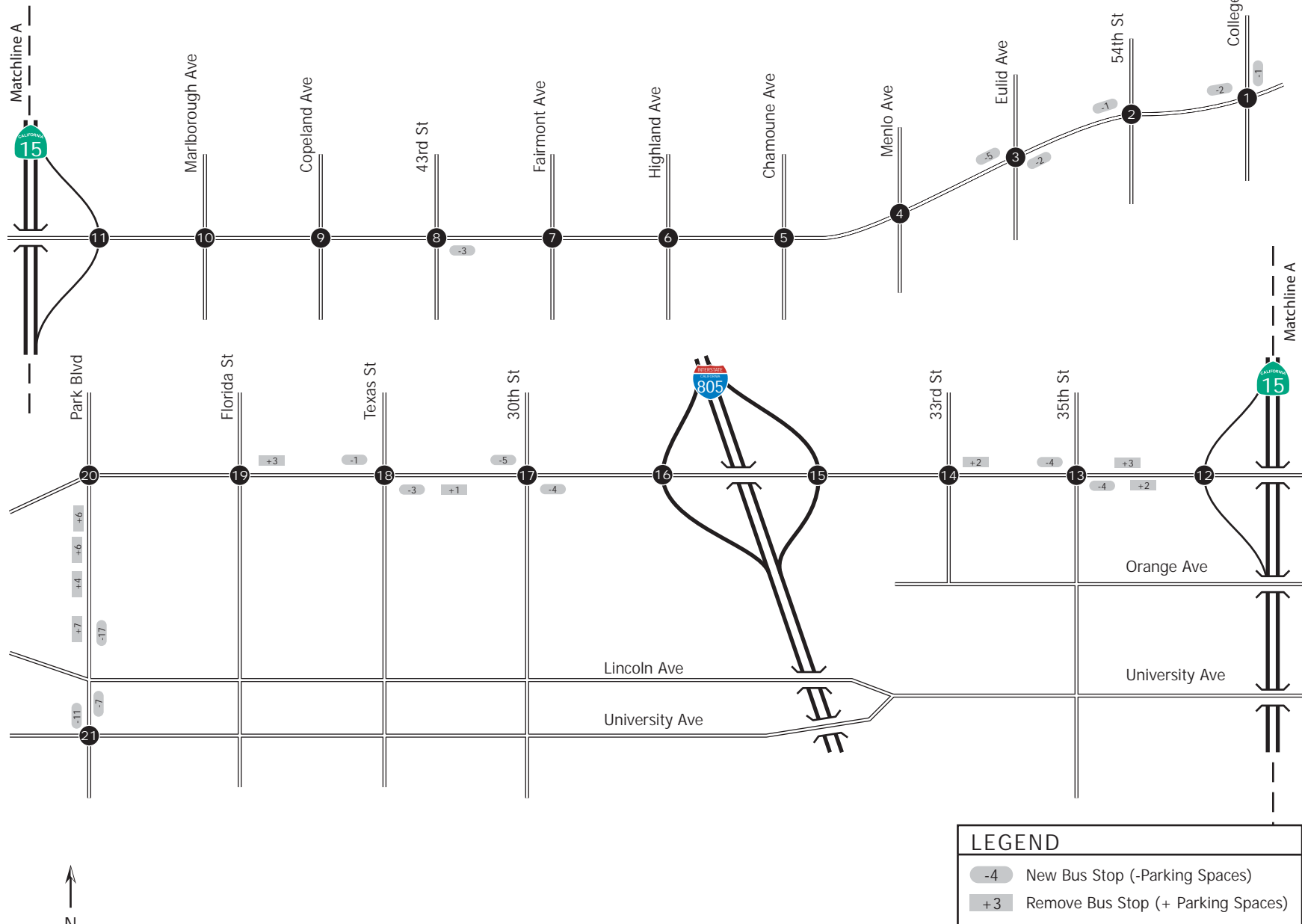


Figure 6-1
Parking Removals and Additions

CHAPTER 7 IMPACTS AND MITIGATION

This chapter identifies significant impacts and project mitigation. These improvements are shown in Table 7-1.

SIGNIFICANT IMPACTS

The analysis shows that the project has no direct impacts or cumulative impacts.

Direct Impacts

- None

Cumulative Impacts

- None

Other Operational Considerations

The project must avoid reducing the side-street splits to below the minimum split required during a pedestrian cycle. During a pedestrian call to cross Park Boulevard or El Cajon Boulevard within the study area the “Walk” phase and “Flash Don’t Walk” phase cannot be reduced in order to maintain appropriate time for pedestrians to cross the street. Therefore, during a side street phase with pedestrian actuation a red truncation TSP event cannot occur.

CHAPTER 8 SUMMARY OF ANALYSIS

This chapter summarizes the operations at the study intersections. Table 8-1 shows the summary of intersection conditions for each scenario.

**Table 8-1
Summary of AM Intersection Conditions**

Intersection	Existing Conditions		Near-term Conditions				Horizon Year Conditions			
			Without Project		With Project		Without Project		With Project	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM Peak Hour										
1. El Cajon Blvd / College Ave	41.2	D	41.6	D	41.7	B	43.7	D	43.8	D
2. El Cajon Blvd / 54th St	34.7	C	35.6	D	36.1	B	35.9	D	36.7	D
3. El Cajon Blvd / Euclid Ave	19.5	B	20.7	C	19.7	B	19.6	B	18.9	B
4. El Cajon Blvd / Menlo Ave	13.2	B	13.7	B	13.0	A	14.4	B	13.6	B
5. El Cajon Blvd / Chamoune Ave	7.6	A	8.1	A	7.2	B	6.9	A	6.3	A
6. El Cajon Blvd / Highland Ave	3.1	A	3.1	A	3.2	B	2.9	A	3.1	A
7. El Cajon Blvd / Fairmont Ave	30.2	C	30.7	C	29.1	B	29.7	C	28.9	C
8. El Cajon Blvd / 43rd Ave	17.0	B	16.7	B	16.8	B	17.1	B	17.1	B
9. El Cajon Blvd / Copeland Ave	16.0	B	15.9	B	15.0	B	14.8	B	14.4	B
10. El Cajon Blvd / Malborough Ave	14.9	B	15.1	B	15.4	C	15.6	B	16.0	B
11. El Cajon Blvd / I-15 NB	9.1	A	9.2	A	9.5	C	9.9	A	10.0	A
12. El Cajon Blvd / I-15 SB	15.1	B	15.3	B	15.5	B	15.7	B	15.9	B
13. El Cajon Blvd / 35th St	14.6	B	14.6	B	14.0	C	20.0	B	17.5	B
14. El Cajon Blvd / 33rd St	21.0	C	21.5	C	22.0	B	22.0	C	23.2	C
15. El Cajon Blvd / I-805 NB	20.5	C	20.8	C	21.5	A	19.3	B	20.7	C
16. El Cajon Blvd / I-805 SB	15.0	B	15.3	B	15.0	B	18.6	B	17.9	B
17. El Cajon Blvd / 30th St	32.0	C	32.6	C	31.3	C	33.9	C	32.5	C
18. El Cajon Blvd / Texas St	42.8	D	43.9	D	42.3	0.0	44.9	D	43.3	D
19. El Cajon Blvd / Florida St	7.9	A	8.1	A	8.4	0.0	8.3	A	8.6	A
20. El Cajon Blvd / Park Blvd	34.4	C	35.5	D	31.6	0.0	36.0	D	32.4	C
21. Park Blvd / University Ave	29.9	C	30.5	C	32.0	0.0	32.5	C	33.5	C

Table 8-2
Summary of PM Intersection Conditions

Intersection	Existing Conditions		Near-term Conditions				Horizon Year Conditions			
			Without Project		With Project		Without Project		With Project	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
PM Peak Hour										
1. El Cajon Blvd / College Ave	44.6	D	64.5	E	62.3	E	85.8	F	81.3	F
2. El Cajon Blvd / 54th St	43.4	D	50.4	D	54.8	D	56.8	E	58.0	E
3. El Cajon Blvd / Euclid Ave	26.1	C	26.9	C	28.7	C	26.3	C	30.2	C
4. El Cajon Blvd / Menlo Ave	13.2	B	15.2	B	14.7	B	17.7	B	16.9	B
5. El Cajon Blvd / Chamoune Ave	3.9	A	4.5	A	4.4	A	4.9	A	4.8	A
6. El Cajon Blvd / Highland Ave	3.3	A	3.5	A	3.7	A	3.7	A	3.9	A
7. El Cajon Blvd / Fairmont Ave	16.4	B	16.6	B	17.5	B	17.8	B	19.2	B
8. El Cajon Blvd / 43rd Ave	28.2	C	29.4	C	29.8	C	30.9	C	32.5	C
9. El Cajon Blvd / Copeland Ave	24.5	C	25.0	C	22.4	C	25.2	C	22.9	C
10. El Cajon Blvd / Marlborough Ave	24.7	C	25.3	C	23.5	C	25.0	C	23.6	C
11. El Cajon Blvd / I-15 NB	12.2	B	12.9	B	13.2	B	13.5	B	13.9	B
12. El Cajon Blvd / I-15 SB	16.2	B	16.5	B	17.2	B	17.0	B	18.3	B
13. El Cajon Blvd / 35th St	19.9	B	20.7	C	19.7	B	22.0	C	20.8	C
14. El Cajon Blvd / 33rd St	35.5	D	42.7	D	45.1	D	62.0	E	60.6	E
15. El Cajon Blvd / I-805 NB	20.0	B	20.4	C	20.2	C	20.9	C	20.8	C
16. El Cajon Blvd / I-805 SB	42.1	D	50.3	D	50.5	D	62.1	E	61.1	E
17. El Cajon Blvd / 30th St	41.9	D	43.8	D	42.4	D	46.1	D	44.7	D
18. El Cajon Blvd / Texas St	48.0	D	49.7	D	49.8	D	52.0	D	52.9	D
19. El Cajon Blvd / Florida St	19.2	B	20.4	C	19.9	B	21.4	C	20.8	C
20. El Cajon Blvd / Park Blvd	33.2	C	33.1	C	34.2	C	33.9	C	35.1	D
21. Park Blvd / University Ave	42.4	D	43.8	D	45.8	D	45.3	D	47.9	D

CHAPTER 9 RECOMMENDATIONS

As mentioned in Chapter 1 this report examines the effect of the operational changes involved in implementing Transit Signal Priority along the El Cajon corridor.

Based on the preceding analysis of this project we recommend the following:

1. El Cajon Boulevard and 54th Street: The maximum main street green extension should be limited to five seconds in the Horizon Year PM peak hour.

2. The project must avoid reducing the side-street splits to below the minimum split required during a pedestrian cycle. During a pedestrian call to cross Park Boulevard or El Cajon Boulevard within the study area the “Walk” phase and “Flash Don’t Walk” phase cannot be reduced in order to maintain appropriate time for pedestrians to cross the street. Therefore, during a side street phase with pedestrian actuation a red truncation TSP event cannot occur.

Sincerely,
KOA Corporation



Joe De La Garza, P.E.
Principal Engineer



Prepared By:

Seth Torma
Senior Transportation Planner

APPENDIX A

LEVEL OF SERVICE CONCEPTS, ANALYSIS METHODOLOGIES, STANDARDS OF SIGNIFICANCE

**SIGNALIZED INTERSECTION LEVEL OF SERVICE
HIGHWAY CAPACITY MANUAL OPERATIONAL ANALYSIS METHOD**

The operational analysis method for evaluation of signalized intersections presented in the *2000 Highway Capacity Manual* (Transportation Research Board Special Report 209) defines level of service in terms of delay, or more specifically, control stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time.

Control Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
>10 – 20	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
>20 – 35	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
>35 – 55	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
>55 – 80	LOS E is considered to be the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2000, Exhibit 16-2

MINOR STREET STOP AND ALL-WAY STOP CONTROLLED INTERSECTION LEVEL OF SERVICE HIGHWAY CAPACITY MANUAL OPERATIONAL ANALYSIS METHOD

The Highway Capacity Manual (HCM) analysis method for evaluating minor street stop intersections is based on the average total delay for each impeded movement. For all-way stop controlled intersections it is based on the average total delay for the entire intersection. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The resulting delay is used to determine the level of service as shown in the following table.

Average Total Delay	Level of Service (LOS) Characteristics
0-10	<i>LOS A</i> – Little or no delay
>10 – 15	<i>LOS B</i> – Short traffic delay
>15 – 25	<i>LOS C</i> – Average traffic delay
>25 – 35	<i>LOS D</i> – Long traffic delays
>35 – 50	<i>LOS E</i> – Very long traffic delays
>50	<i>LOS F</i> – When the demand exceeds the capacity of the lane, extreme delays will be encountered and queuing may cause severe congestion to the intersection.

Source: Highway Capacity Manual 2000, Exhibit 17-22

APPENDIX B

TRAFFIC COUNT DATA

True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1075.04.COLLEGE AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/7/2007
 Page No : 1

Groups Printed- Vehicles

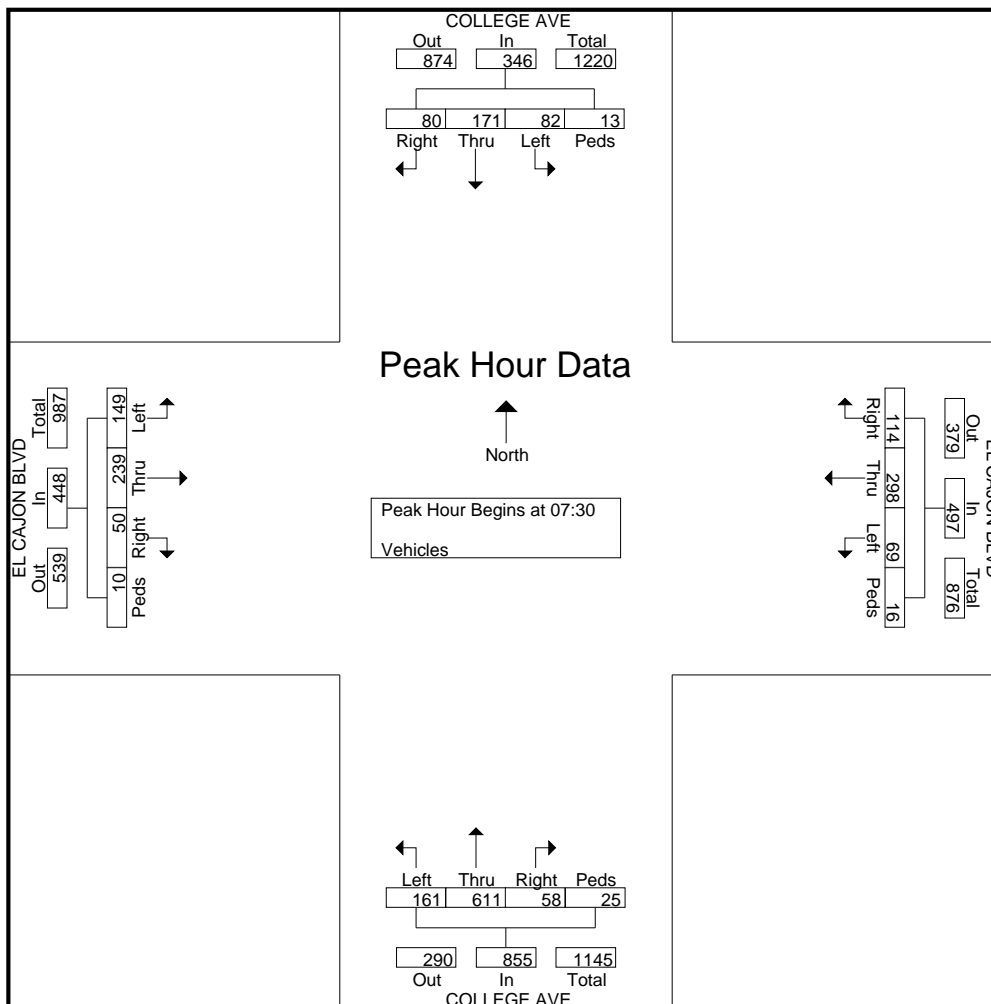
Start Time	COLLEGE AVE Southbound				EL CAJON BLVD Westbound				COLLEGE AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	13	24	8	2	18	72	19	0	26	101	3	0	30	32	6	1	355
07:15	22	28	13	0	19	51	24	0	40	173	9	1	17	41	5	0	443
07:30	15	33	18	1	17	72	30	4	43	188	19	5	44	61	15	4	569
07:45	19	46	19	8	13	70	38	5	51	179	10	5	39	67	9	1	579
Total	69	131	58	11	67	265	111	9	160	641	41	11	130	201	35	6	1946
08:00	21	47	23	1	17	72	19	2	34	149	13	8	30	56	15	3	510
08:15	27	45	20	3	22	84	27	5	33	95	16	7	36	55	11	2	488
08:30	26	68	31	3	21	79	39	2	32	102	17	2	34	62	19	3	540
08:45	28	61	27	1	16	61	35	7	35	91	18	5	37	82	19	2	525
Total	102	221	101	8	76	296	120	16	134	437	64	22	137	255	64	10	2063
*** BREAK ***																	
16:00	85	141	31	8	38	129	23	0	42	90	21	8	31	141	19	4	811
16:15	74	143	40	6	61	113	33	8	23	90	35	2	57	122	36	2	845
16:30	85	160	41	4	33	127	30	5	32	77	35	0	25	126	15	2	797
16:45	77	149	25	7	61	138	32	9	27	88	27	6	42	158	28	3	877
Total	321	593	137	25	193	507	118	22	124	345	118	16	155	547	98	11	3330
17:00	78	182	36	1	48	113	27	2	51	87	18	7	44	162	18	6	880
17:15	99	143	22	8	53	152	17	3	49	108	17	12	51	169	33	2	938
17:30	67	153	29	8	40	104	20	2	57	97	27	1	45	161	27	2	840
17:45	89	122	31	7	56	111	19	3	46	118	34	10	60	169	21	7	903
Total	333	600	118	24	197	480	83	10	203	410	96	30	200	661	99	17	3561
Grand Total	825	1545	414	68	533	1548	432	57	621	1833	319	79	622	1664	296	44	10900
Apprch %	28.9	54.2	14.5	2.4	20.7	60.2	16.8	2.2	21.8	64.3	11.2	2.8	23.7	63.4	11.3	1.7	
Total %	7.6	14.2	3.8	0.6	4.9	14.2	4	0.5	5.7	16.8	2.9	0.7	5.7	15.3	2.7	0.4	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1075.04.COLLEGE AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/7/2007
 Page No : 2

Start Time	COLLEGE AVE Southbound					EL CAJON BLVD Westbound					COLLEGE AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:30 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	15	33	18	1	67	17	72	30	4	123	43	188	19	5	255	44	61	15	4	124	569
07:45	19	46	19	8	92	13	70	38	5	126	51	179	10	5	245	39	67	9	1	116	579
08:00	21	47	23	1	92	17	72	19	2	110	34	149	13	8	204	30	56	15	3	104	510
08:15	27	45	20	3	95	22	84	27	5	138	33	95	16	7	151	36	55	11	2	104	488
Total Volume	82	171	80	13	346	69	298	114	16	497	161	611	58	25	855	149	239	50	10	448	2146
% App. Total	23.7	49.4	23.1	3.8		13.9	60	22.9	3.2		18.8	71.5	6.8	2.9		33.3	53.3	11.2	2.2		
PHF	.759	.910	.870	.406	.911	.784	.887	.750	.800	.900	.789	.813	.763	.781	.838	.847	.892	.833	.625	.903	.927

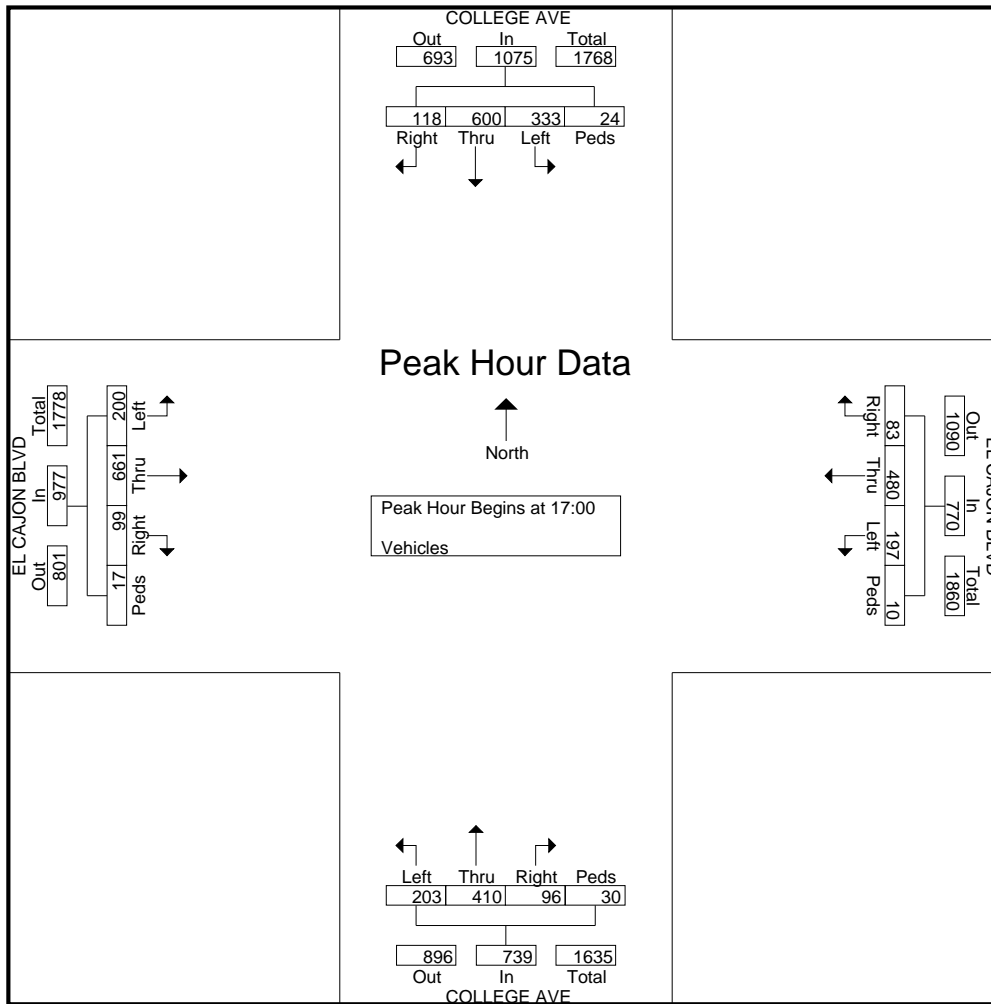


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1075.04.COLLEGE AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/7/2007
 Page No : 3

Start Time	COLLEGE AVE Southbound					EL CAJON BLVD Westbound					COLLEGE AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:45 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	78	182	36	1	297	48	113	27	2	190	51	87	18	7	163	44	162	18	6	230	880
17:15	99	143	22	8	272	53	152	17	3	225	49	108	17	12	186	51	169	33	2	255	938
17:30	67	153	29	8	257	40	104	20	2	166	57	97	27	1	182	45	161	27	2	235	840
17:45	89	122	31	7	249	56	111	19	3	189	46	118	34	10	208	60	169	21	7	257	903
Total Volume	333	600	118	24	1075	197	480	83	10	770	203	410	96	30	739	200	661	99	17	977	3561
% App. Total	31	55.8	11	2.2		25.6	62.3	10.8	1.3		27.5	55.5	13	4.1		20.5	67.7	10.1	1.7		
PHF	.841	.824	.819	.750	.905	.879	.789	.769	.833	.856	.890	.869	.706	.625	.888	.833	.978	.750	.607	.950	.949



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.02.54TH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 1

Groups Printed- Vehicles

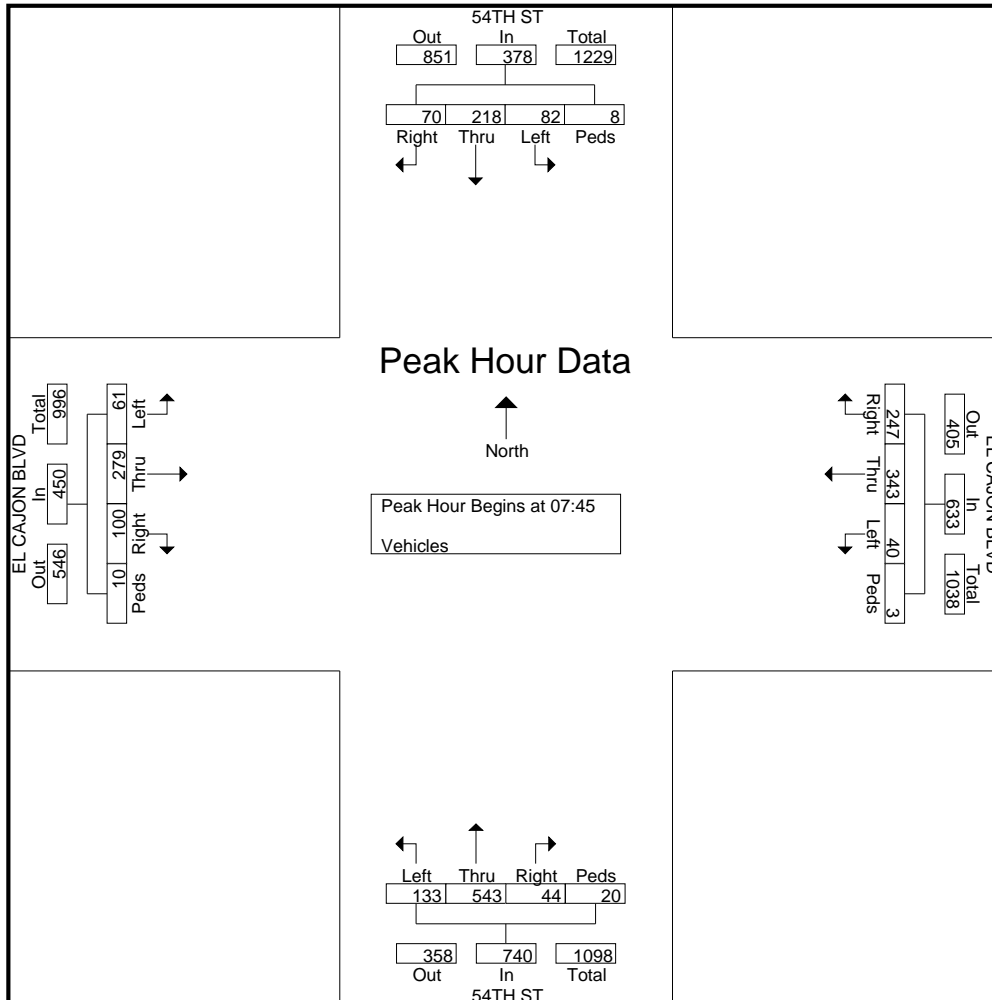
Start Time	54TH ST Southbound				EL CAJON BLVD Westbound				54TH ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	10	44	11	8	8	42	58	0	19	133	10	0	24	38	10	2	417
07:15	13	34	10	2	12	69	70	0	28	164	10	0	11	41	15	0	479
07:30	21	45	9	1	10	74	70	1	38	179	10	2	13	60	14	0	547
07:45	18	51	21	0	10	91	58	0	30	167	13	2	15	81	27	5	589
Total	62	174	51	11	40	276	256	1	115	643	43	4	63	220	66	7	2032
08:00	16	68	12	2	10	74	71	0	35	128	14	7	18	53	25	1	534
08:15	24	49	15	2	3	81	55	3	32	123	8	8	12	84	27	2	528
08:30	24	50	22	4	17	97	63	0	36	125	9	3	16	61	21	2	550
08:45	24	62	21	8	17	80	59	0	37	105	23	2	25	89	26	5	583
Total	88	229	70	16	47	332	248	3	140	481	54	20	71	287	99	10	2195
*** BREAK ***																	
16:00	76	129	17	0	11	81	22	0	37	52	14	0	19	82	29	0	569
16:15	80	182	25	5	35	108	37	7	35	68	25	0	32	138	64	2	843
16:30	80	165	22	4	31	149	26	0	53	82	10	2	29	183	57	1	894
16:45	96	196	27	25	36	99	19	3	59	87	28	11	37	151	59	21	954
Total	332	672	91	34	113	437	104	10	184	289	77	13	117	554	209	24	3260
17:00	72	200	20	12	50	136	36	0	53	84	34	0	25	181	89	0	992
17:15	112	223	23	0	36	103	39	0	50	89	25	0	22	173	76	0	971
17:30	118	189	32	2	24	160	38	0	52	100	19	4	25	204	95	7	1069
17:45	79	139	33	2	19	142	42	0	46	81	31	2	31	175	80	0	902
Total	381	751	108	16	129	541	155	0	201	354	109	6	103	733	340	7	3934
Grand Total	863	1826	320	77	329	1586	763	14	640	1767	283	43	354	1794	714	48	11421
Apprch %	28	59.2	10.4	2.5	12.2	58.9	28.3	0.5	23.4	64.7	10.4	1.6	12.2	61.6	24.5	1.6	
Total %	7.6	16	2.8	0.7	2.9	13.9	6.7	0.1	5.6	15.5	2.5	0.4	3.1	15.7	6.3	0.4	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.02.54TH ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/14/2007
Page No : 2

Start Time	54TH ST Southbound					EL CAJON BLVD Westbound					54TH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	18	51	21	0	90	10	91	58	0	159	30	167	13	2	212	15	81	27	5	128	589
08:00	16	68	12	2	98	10	74	71	0	155	35	128	14	7	184	18	53	25	1	97	534
08:15	24	49	15	2	90	3	81	55	3	142	32	123	8	8	171	12	84	27	2	125	528
08:30	24	50	22	4	100	17	97	63	0	177	36	125	9	3	173	16	61	21	2	100	550
Total Volume	82	218	70	8	378	40	343	247	3	633	133	543	44	20	740	61	279	100	10	450	2201
% App. Total	21.7	57.7	18.5	2.1		6.3	54.2	39	0.5		18	73.4	5.9	2.7		13.6	62	22.2	2.2		
PHF	.854	.801	.795	.500	.945	.588	.884	.870	.250	.894	.924	.813	.786	.625	.873	.847	.830	.926	.500	.879	.934

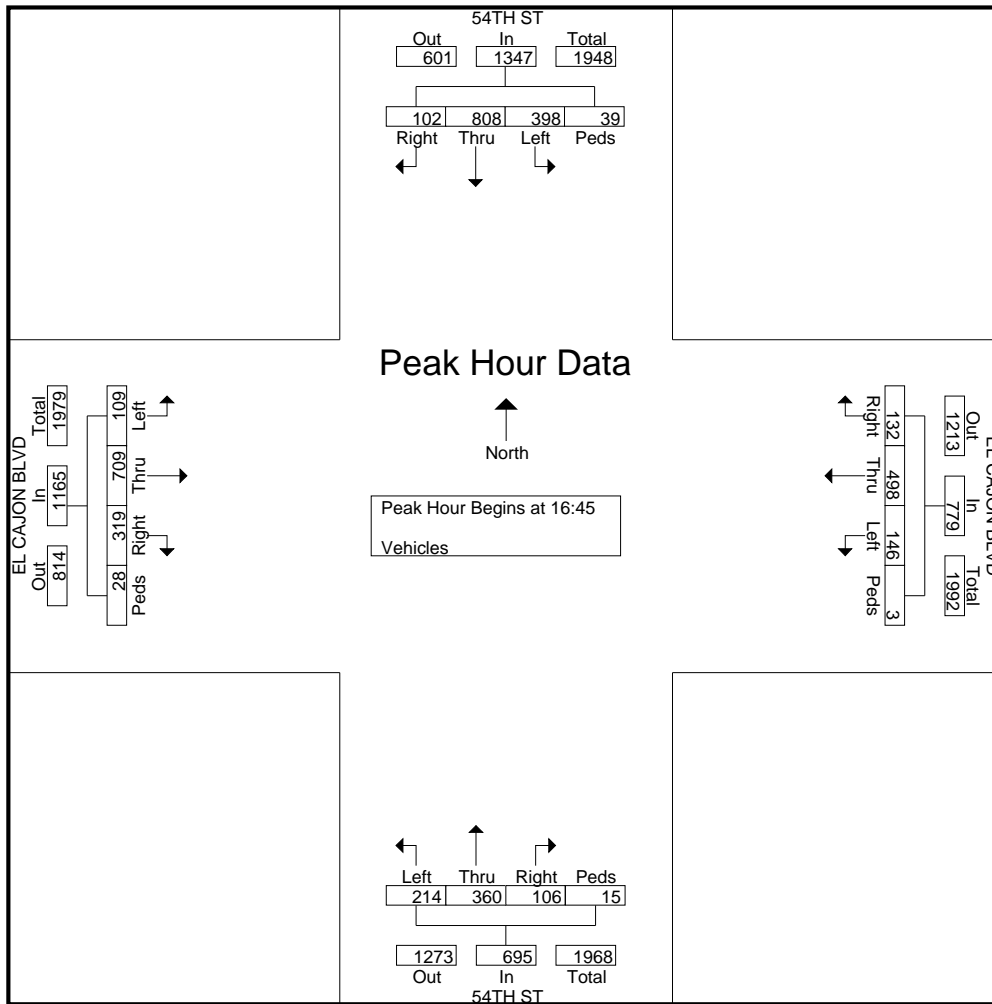


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.02.54TH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 3

Start Time	54TH ST Southbound					EL CAJON BLVD Westbound					54TH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	96	196	27	25	344	36	99	19	3	157	59	87	28	11	185	37	151	59	21	268	954
17:00	72	200	20	12	304	50	136	36	0	222	53	84	34	0	171	25	181	89	0	295	992
17:15	112	223	23	0	358	36	103	39	0	178	50	89	25	0	164	22	173	76	0	271	971
17:30	118	189	32	2	341	24	160	38	0	222	52	100	19	4	175	25	204	95	7	331	1069
Total Volume	398	808	102	39	1347	146	498	132	3	779	214	360	106	15	695	109	709	319	28	1165	3986
% App. Total	29.5	60	7.6	2.9		18.7	63.9	16.9	0.4		30.8	51.8	15.3	2.2		9.4	60.9	27.4	2.4		
PHF	.843	.906	.797	.390	.941	.730	.778	.846	.250	.877	.907	.900	.779	.341	.939	.736	.869	.839	.333	.880	.932



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.03.EUCLID AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/9/2007
 Page No : 1

Groups Printed- Vehicles

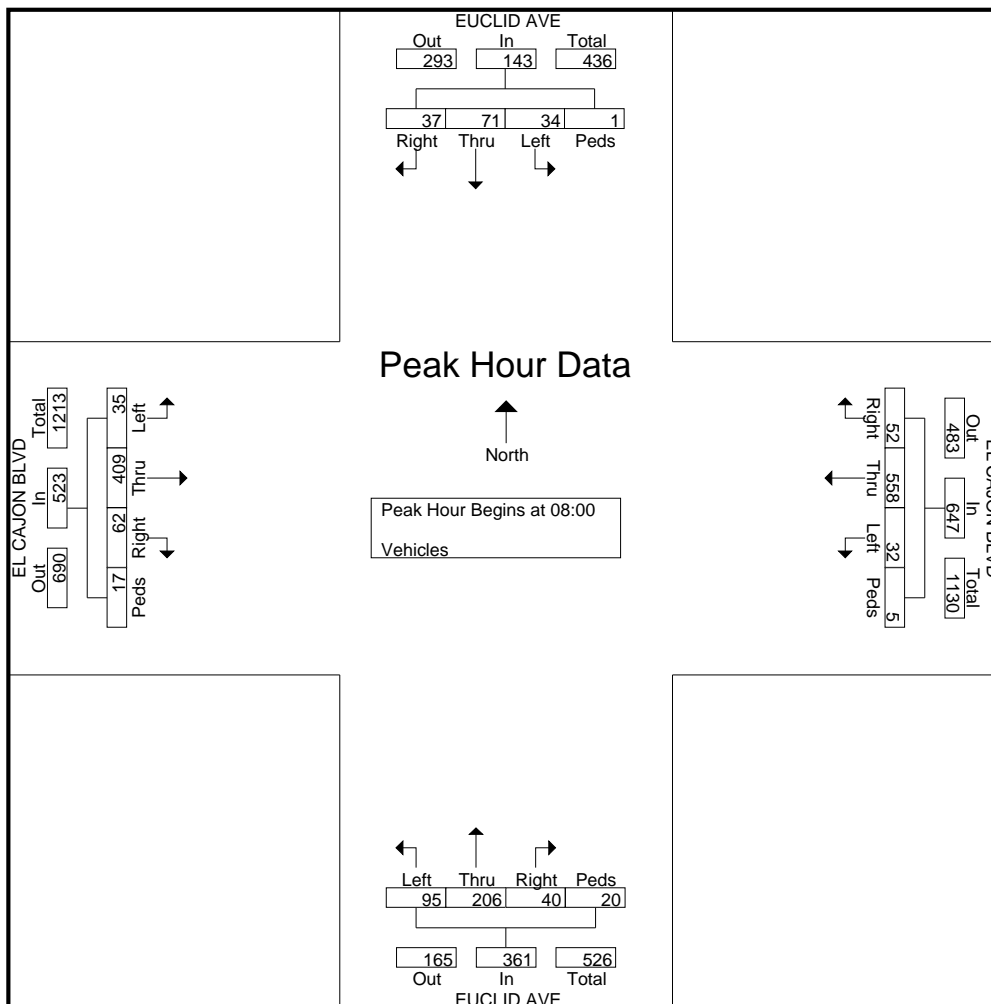
Start Time	EUCLID AVE Southbound				EL CAJON BLVD Westbound				EUCLID AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	2	14	3	3	9	110	17	1	30	58	7	4	8	59	4	1	330
07:15	3	14	5	2	10	111	29	3	13	73	11	5	4	76	12	0	371
07:30	6	13	7	2	12	141	27	0	19	84	6	1	11	82	9	3	423
07:45	4	22	3	5	8	131	28	1	26	65	16	6	9	101	13	4	442
Total	15	63	18	12	39	493	101	5	88	280	40	16	32	318	38	8	1566
08:00	6	22	13	0	9	136	9	0	21	60	11	7	9	82	22	1	408
08:15	11	12	4	1	10	135	10	2	21	52	9	2	8	106	9	1	393
08:30	8	18	7	0	4	138	18	1	25	53	7	2	8	114	17	7	427
08:45	9	19	13	0	9	149	15	2	28	41	13	9	10	107	14	8	446
Total	34	71	37	1	32	558	52	5	95	206	40	20	35	409	62	17	1674
*** BREAK ***																	
16:00	16	61	11	7	17	164	13	3	20	27	21	6	7	261	33	8	675
16:15	19	55	10	8	15	173	28	2	27	31	23	6	6	232	30	10	675
16:30	17	55	8	0	9	158	19	0	28	49	16	1	11	244	32	1	648
16:45	22	55	15	0	23	150	15	0	27	56	33	2	9	229	29	2	667
Total	74	226	44	15	64	645	75	5	102	163	93	15	33	966	124	21	2665
17:00	10	47	11	0	13	142	12	2	16	34	21	1	13	240	27	1	590
17:15	22	70	9	3	19	163	15	2	36	53	27	2	9	221	28	18	697
17:30	10	46	6	2	9	175	17	3	20	30	21	4	12	246	35	11	647
17:45	17	57	15	5	21	158	14	1	35	40	28	8	14	211	25	6	655
Total	59	220	41	10	62	638	58	8	107	157	97	15	48	918	115	36	2589
Grand Total	182	580	140	38	197	2334	286	23	392	806	270	66	148	2611	339	82	8494
Apprch %	19.4	61.7	14.9	4	6.9	82.2	10.1	0.8	25.6	52.5	17.6	4.3	4.7	82.1	10.7	2.6	
Total %	2.1	6.8	1.6	0.4	2.3	27.5	3.4	0.3	4.6	9.5	3.2	0.8	1.7	30.7	4	1	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.03.EUCLID AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/9/2007
 Page No : 2

Start Time	EUCLID AVE Southbound					EL CAJON BLVD Westbound					EUCLID AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	6	22	13	0	41	9	136	9	0	154	21	60	11	7	99	9	82	22	1	114	408
08:15	11	12	4	1	28	10	135	10	2	157	21	52	9	2	84	8	106	9	1	124	393
08:30	8	18	7	0	33	4	138	18	1	161	25	53	7	2	87	8	114	17	7	146	427
08:45	9	19	13	0	41	9	149	15	2	175	28	41	13	9	91	10	107	14	8	139	446
Total Volume	34	71	37	1	143	32	558	52	5	647	95	206	40	20	361	35	409	62	17	523	1674
% App. Total	23.8	49.7	25.9	0.7		4.9	86.2	8	0.8		26.3	57.1	11.1	5.5		6.7	78.2	11.9	3.3		
PHF	.773	.807	.712	.250	.872	.800	.936	.722	.625	.924	.848	.858	.769	.556	.912	.875	.897	.705	.531	.896	.938

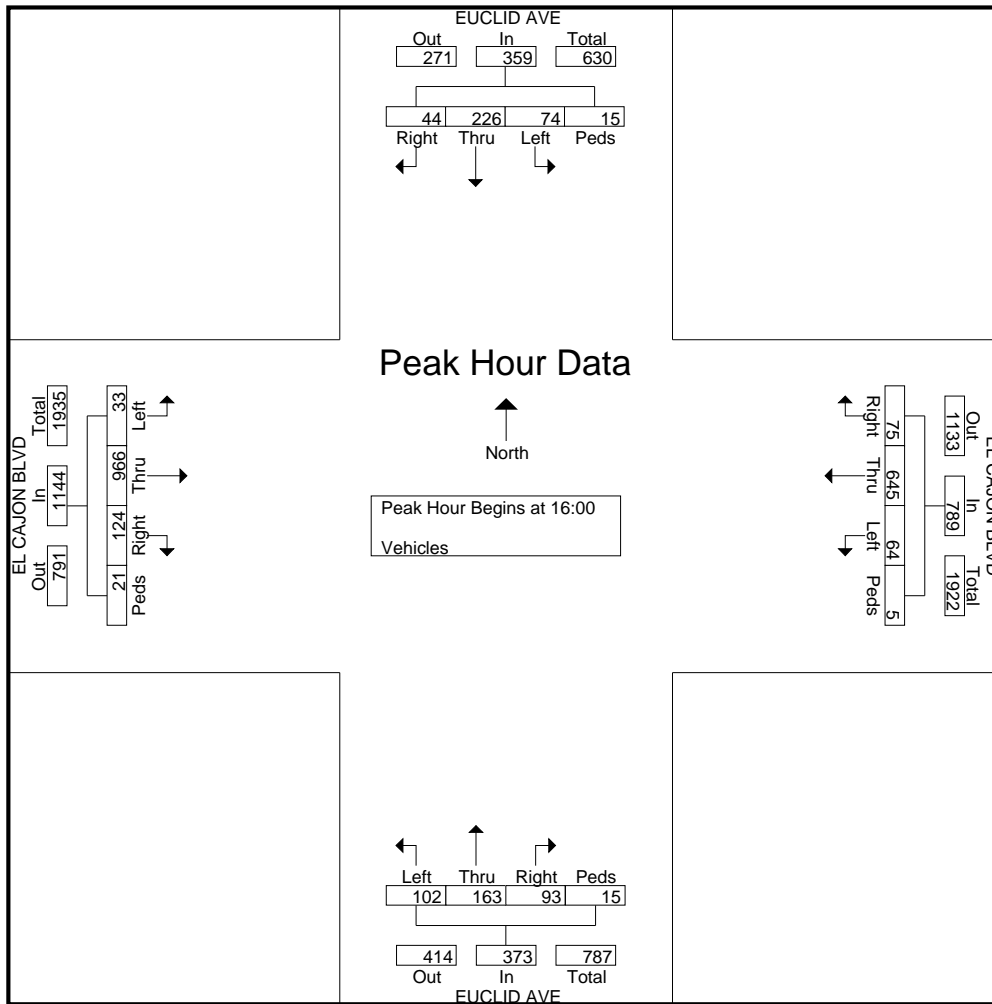


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.03.EUCLID AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/9/2007
 Page No : 3

Start Time	EUCLID AVE Southbound					EL CAJON BLVD Westbound					EUCLID AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	16	61	11	7	95	17	164	13	3	197	20	27	21	6	74	7	261	33	8	309	675
16:15	19	55	10	8	92	15	173	28	2	218	27	31	23	6	87	6	232	30	10	278	675
16:30	17	55	8	0	80	9	158	19	0	186	28	49	16	1	94	11	244	32	1	288	648
16:45	22	55	15	0	92	23	150	15	0	188	27	56	33	2	118	9	229	29	2	269	667
Total Volume	74	226	44	15	359	64	645	75	5	789	102	163	93	15	373	33	966	124	21	1144	2665
% App. Total	20.6	63	12.3	4.2		8.1	81.7	9.5	0.6		27.3	43.7	24.9	4		2.9	84.4	10.8	1.8		
PHF	.841	.926	.733	.469	.945	.696	.932	.670	.417	.905	.911	.728	.705	.625	.790	.750	.925	.939	.525	.926	.987



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.04.MENLO AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/9/2007
 Page No : 1

Groups Printed- Vehicles

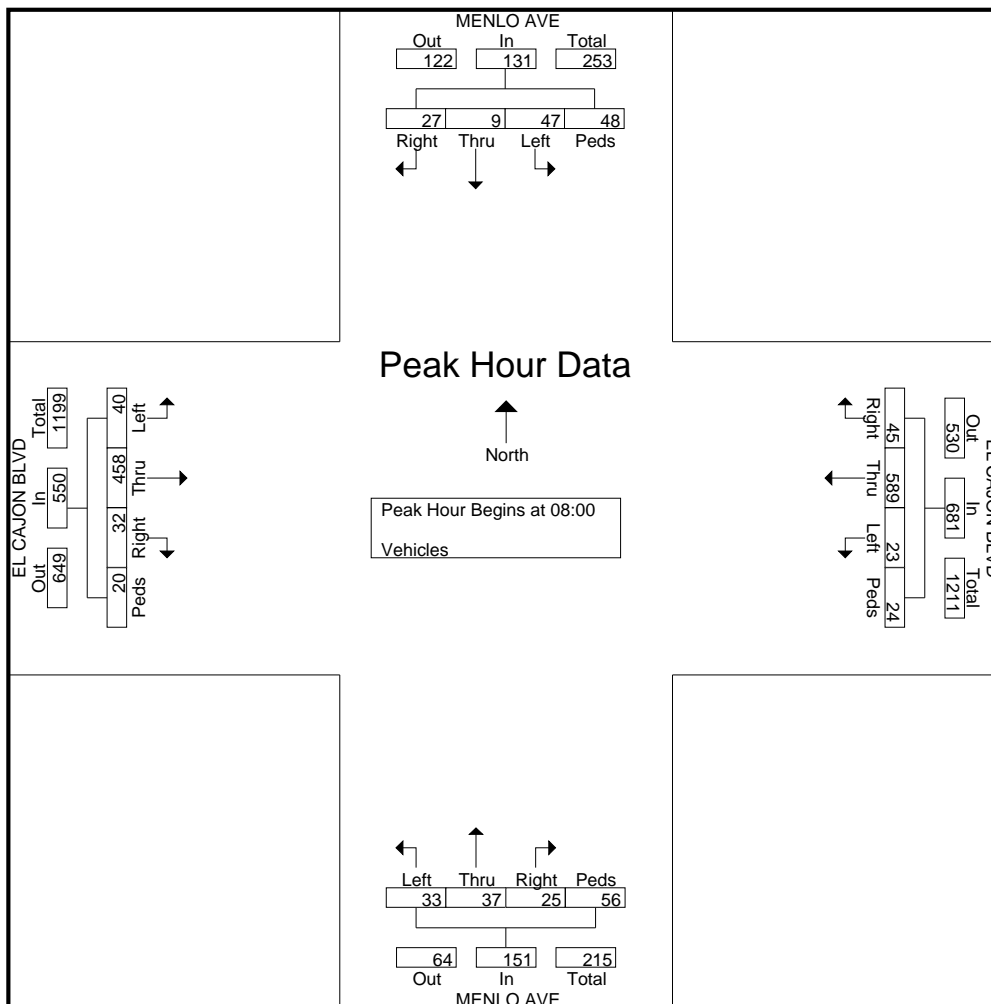
Start Time	MENLO AVE Southbound				EL CAJON BLVD Westbound				MENLO AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	3	3	3	11	4	136	5	0	1	4	4	8	8	66	4	3	263
07:15	4	0	3	7	3	136	7	1	7	4	7	7	1	85	0	4	276
07:30	2	2	2	5	2	155	7	3	2	9	9	3	8	84	2	4	299
07:45	4	0	4	3	8	160	3	5	5	6	5	8	8	106	4	3	332
Total	13	5	12	26	17	587	22	9	15	23	25	26	25	341	10	14	1170
08:00	11	2	8	9	4	134	8	5	7	10	7	14	6	104	8	5	342
08:15	10	3	7	13	8	147	11	5	9	6	4	14	11	114	8	1	371
08:30	8	2	4	9	5	154	10	6	7	12	7	9	8	121	5	2	369
08:45	18	2	8	17	6	154	16	8	10	9	7	19	15	119	11	12	431
Total	47	9	27	48	23	589	45	24	33	37	25	56	40	458	32	20	1513
*** BREAK ***																	
16:00	4	2	11	16	16	173	8	7	5	5	9	17	7	258	9	10	557
16:15	15	2	6	10	12	211	16	8	6	3	4	10	15	271	12	1	602
16:30	10	4	8	5	8	204	13	5	4	7	5	23	14	264	11	11	596
16:45	15	4	5	16	12	176	13	12	10	2	11	16	7	268	11	5	583
Total	44	12	30	47	48	764	50	32	25	17	29	66	43	1061	43	27	2338
17:00	14	3	1	21	14	179	9	4	11	7	16	21	16	235	16	3	570
17:15	16	5	6	15	8	199	13	9	4	6	8	12	15	259	10	18	603
17:30	9	8	14	8	8	184	19	8	7	3	3	11	18	263	19	1	583
17:45	13	5	5	15	14	181	16	11	2	7	8	17	8	221	15	3	541
Total	52	21	26	59	44	743	57	32	24	23	35	61	57	978	60	25	2297
Grand Total	156	47	95	180	132	2683	174	97	97	100	114	209	165	2838	145	86	7318
Apprch %	32.6	9.8	19.9	37.7	4.3	86.9	5.6	3.1	18.7	19.2	21.9	40.2	5.1	87.8	4.5	2.7	
Total %	2.1	0.6	1.3	2.5	1.8	36.7	2.4	1.3	1.3	1.4	1.6	2.9	2.3	38.8	2	1.2	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.04.MENLO AVE.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/9/2007
Page No : 2

Start Time	MENLO AVE Southbound					EL CAJON BLVD Westbound					MENLO AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	11	2	8	9	30	4	134	8	5	151	7	10	7	14	38	6	104	8	5	123	342
08:15	10	3	7	13	33	8	147	11	5	171	9	6	4	14	33	11	114	8	1	134	371
08:30	8	2	4	9	23	5	154	10	6	175	7	12	7	9	35	8	121	5	2	136	369
08:45	18	2	8	17	45	6	154	16	8	184	10	9	7	19	45	15	119	11	12	157	431
Total Volume	47	9	27	48	131	23	589	45	24	681	33	37	25	56	151	40	458	32	20	550	1513
% App. Total	35.9	6.9	20.6	36.6		3.4	86.5	6.6	3.5		21.9	24.5	16.6	37.1		7.3	83.3	5.8	3.6		
PHF	.653	.750	.844	.706	.728	.719	.956	.703	.750	.925	.825	.771	.893	.737	.839	.667	.946	.727	.417	.876	.878

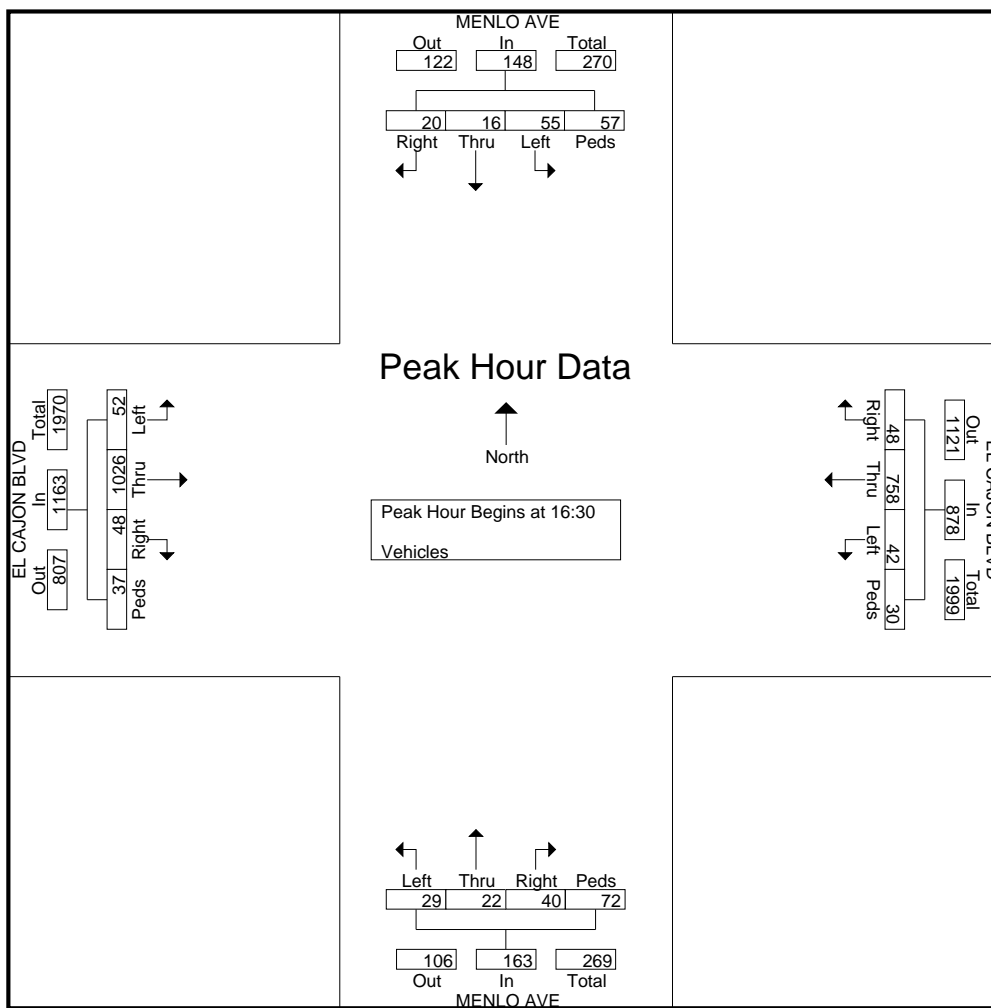


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.04.MENLO AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/9/2007
 Page No : 3

Start Time	MENLO AVE Southbound					EL CAJON BLVD Westbound					MENLO AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	10	4	8	5	27	8	204	13	5	230	4	7	5	23	39	14	264	11	11	300	596
16:45	15	4	5	16	40	12	176	13	12	213	10	2	11	16	39	7	268	11	5	291	583
17:00	14	3	1	21	39	14	179	9	4	206	11	7	16	21	55	16	235	16	3	270	570
17:15	16	5	6	15	42	8	199	13	9	229	4	6	8	12	30	15	259	10	18	302	603
Total Volume	55	16	20	57	148	42	758	48	30	878	29	22	40	72	163	52	1026	48	37	1163	2352
% App. Total	37.2	10.8	13.5	38.5		4.8	86.3	5.5	3.4		17.8	13.5	24.5	44.2		4.5	88.2	4.1	3.2		
PHF	.859	.800	.625	.679	.881	.750	.929	.923	.625	.954	.659	.786	.625	.783	.741	.813	.957	.750	.514	.963	.975



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.05.CHAMOUNE AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 1

Groups Printed- Vehicles

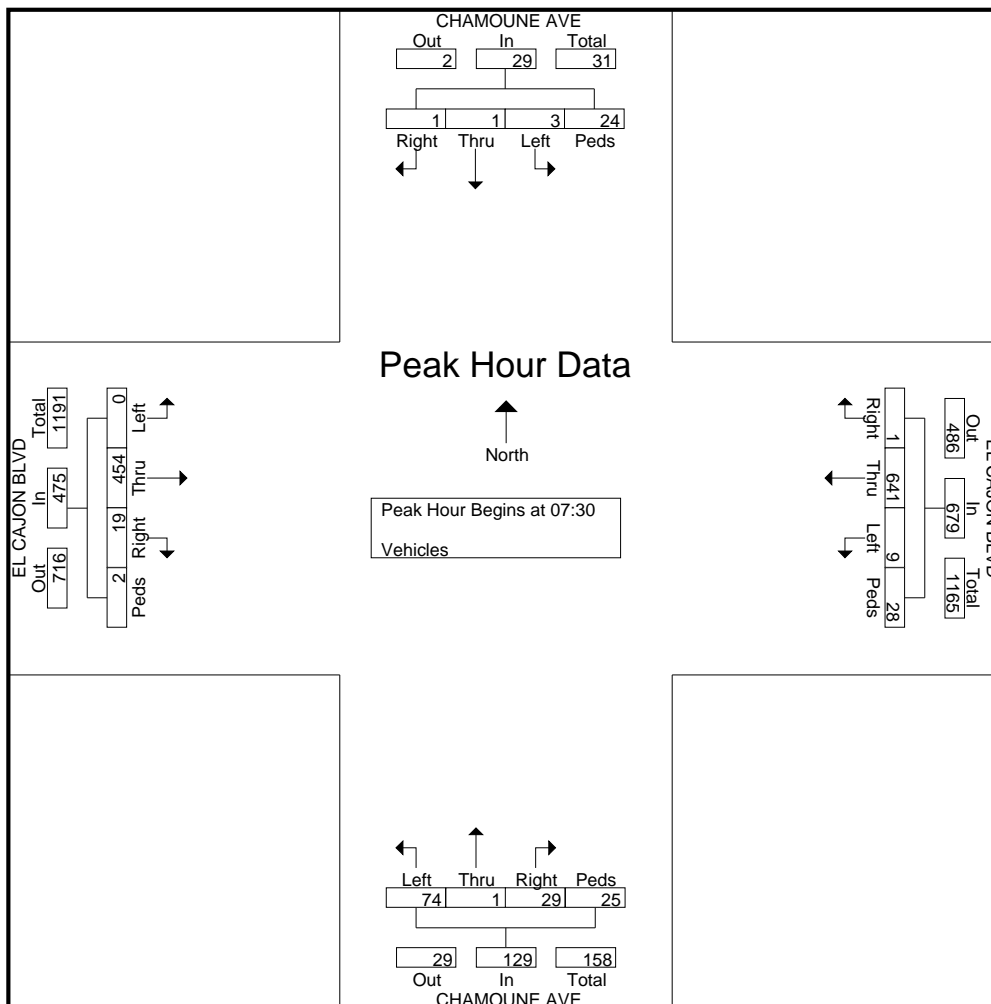
Start Time	CHAMOUNE AVE Southbound				EL CAJON BLVD Westbound				CHAMOUNE AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	1	0	0	4	1	126	0	3	12	0	6	7	0	67	4	0	231
07:15	1	1	0	8	2	150	0	6	16	0	6	6	0	77	4	2	279
07:30	0	0	0	8	1	198	0	8	26	1	7	10	0	100	7	1	367
07:45	2	0	1	7	2	163	0	6	18	0	4	6	0	112	4	1	326
Total	4	1	1	27	6	637	0	23	72	1	23	29	0	356	19	4	1203
08:00	1	0	0	3	2	145	1	6	19	0	7	3	0	126	3	0	316
08:15	0	1	0	6	4	135	0	8	11	0	11	6	0	116	5	0	303
08:30	1	1	0	6	2	170	0	6	15	0	9	3	0	145	5	1	364
08:45	0	0	0	11	5	151	0	2	6	0	13	3	0	133	2	0	326
Total	2	2	0	26	13	601	1	22	51	0	40	15	0	520	15	1	1309
*** BREAK ***																	
16:00	1	0	0	7	9	199	1	7	13	0	16	9	0	273	6	0	541
16:15	1	3	0	8	10	178	7	12	10	1	11	19	1	298	11	2	572
16:30	2	0	1	18	17	192	5	6	9	1	11	15	0	296	12	0	585
16:45	0	1	0	18	6	212	2	7	13	1	16	5	0	265	11	0	557
Total	4	4	1	51	42	781	15	32	45	3	54	48	1	1132	40	2	2255
17:00	1	0	0	14	15	189	2	7	10	1	13	16	0	300	9	1	578
17:15	3	1	0	18	12	187	5	5	13	2	12	14	2	318	11	4	607
17:30	0	1	0	17	8	207	1	4	12	0	15	7	0	323	18	2	615
17:45	3	0	1	13	6	169	3	7	8	1	7	9	0	302	13	0	542
Total	7	2	1	62	41	752	11	23	43	4	47	46	2	1243	51	7	2342
Grand Total	17	9	3	166	102	2771	27	100	211	8	164	138	3	3251	125	14	7109
Apprch %	8.7	4.6	1.5	85.1	3.4	92.4	0.9	3.3	40.5	1.5	31.5	26.5	0.1	95.8	3.7	0.4	
Total %	0.2	0.1	0	2.3	1.4	39	0.4	1.4	3	0.1	2.3	1.9	0	45.7	1.8	0.2	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.05.CHAMOUNE AVE.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/14/2007
Page No : 2

Start Time	CHAMOUNE AVE Southbound					EL CAJON BLVD Westbound					CHAMOUNE AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	8	8	1	198	0	8	207	26	1	7	10	44	0	100	7	1	108	367
07:45	2	0	1	7	10	2	163	0	6	171	18	0	4	6	28	0	112	4	1	117	326
08:00	1	0	0	3	4	2	145	1	6	154	19	0	7	3	29	0	126	3	0	129	316
08:15	0	1	0	6	7	4	135	0	8	147	11	0	11	6	28	0	116	5	0	121	303
Total Volume	3	1	1	24	29	9	641	1	28	679	74	1	29	25	129	0	454	19	2	475	1312
% App. Total	10.3	3.4	3.4	82.8		1.3	94.4	0.1	4.1		57.4	0.8	22.5	19.4		0	95.6	4	0.4		
PHF	.375	.250	.250	.750	.725	.563	.809	.250	.875	.820	.712	.250	.659	.625	.733	.000	.901	.679	.500	.921	.894

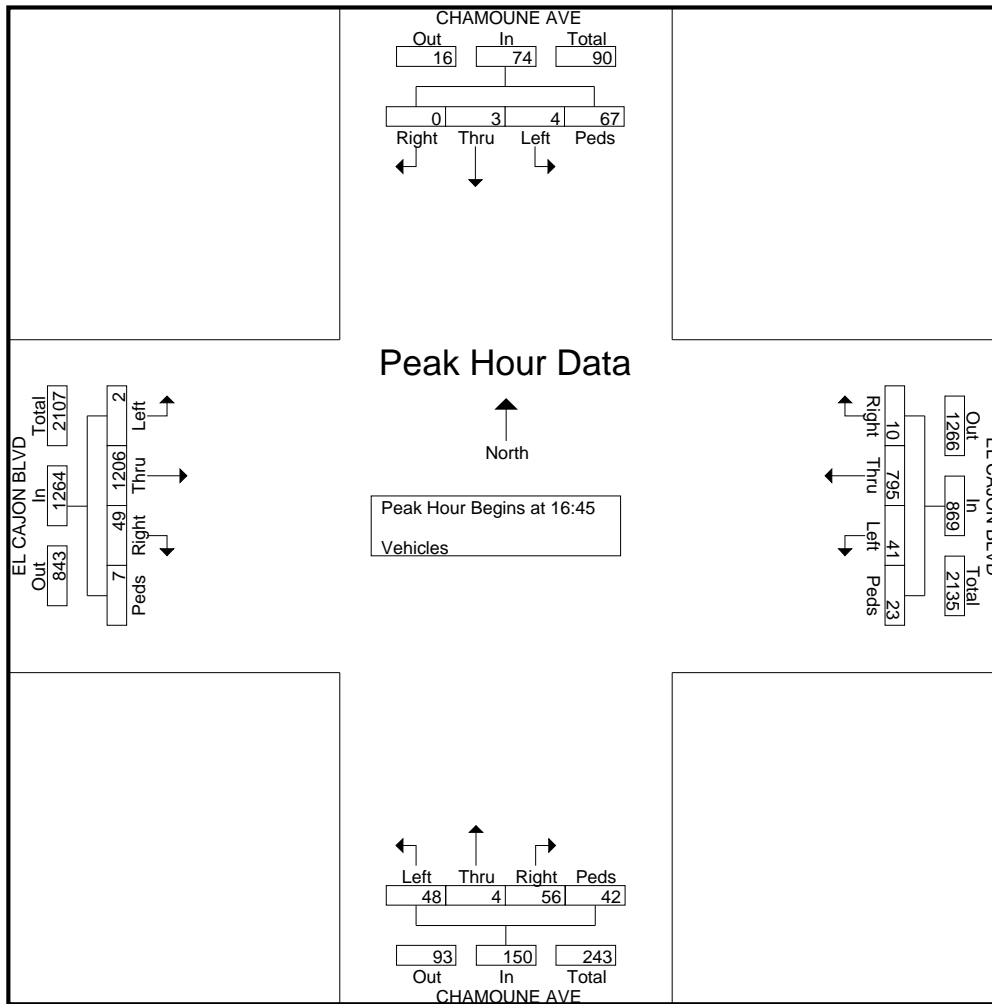


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.05.CHAMOUNE AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 3

Start Time	CHAMOUNE AVE Southbound					EL CAJON BLVD Westbound					CHAMOUNE AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	1	0	18	19	6	212	2	7	227	13	1	16	5	35	0	265	11	0	276	557
17:00	1	0	0	14	15	15	189	2	7	213	10	1	13	16	40	0	300	9	1	310	578
17:15	3	1	0	18	22	12	187	5	5	209	13	2	12	14	41	2	318	11	4	335	607
17:30	0	1	0	17	18	8	207	1	4	220	12	0	15	7	34	0	323	18	2	343	615
Total Volume	4	3	0	67	74	41	795	10	23	869	48	4	56	42	150	2	1206	49	7	1264	2357
% App. Total	5.4	4.1	0	90.5		4.7	91.5	1.2	2.6		3.2	2.7	37.3	28		0.2	95.4	3.9	0.6		
PHF	.333	.750	.000	.931	.841	.683	.938	.500	.821	.957	.923	.500	.875	.656	.915	.250	.933	.681	.438	.921	.958



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.06A.HIGHLAND AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 1

Groups Printed- Vehicles

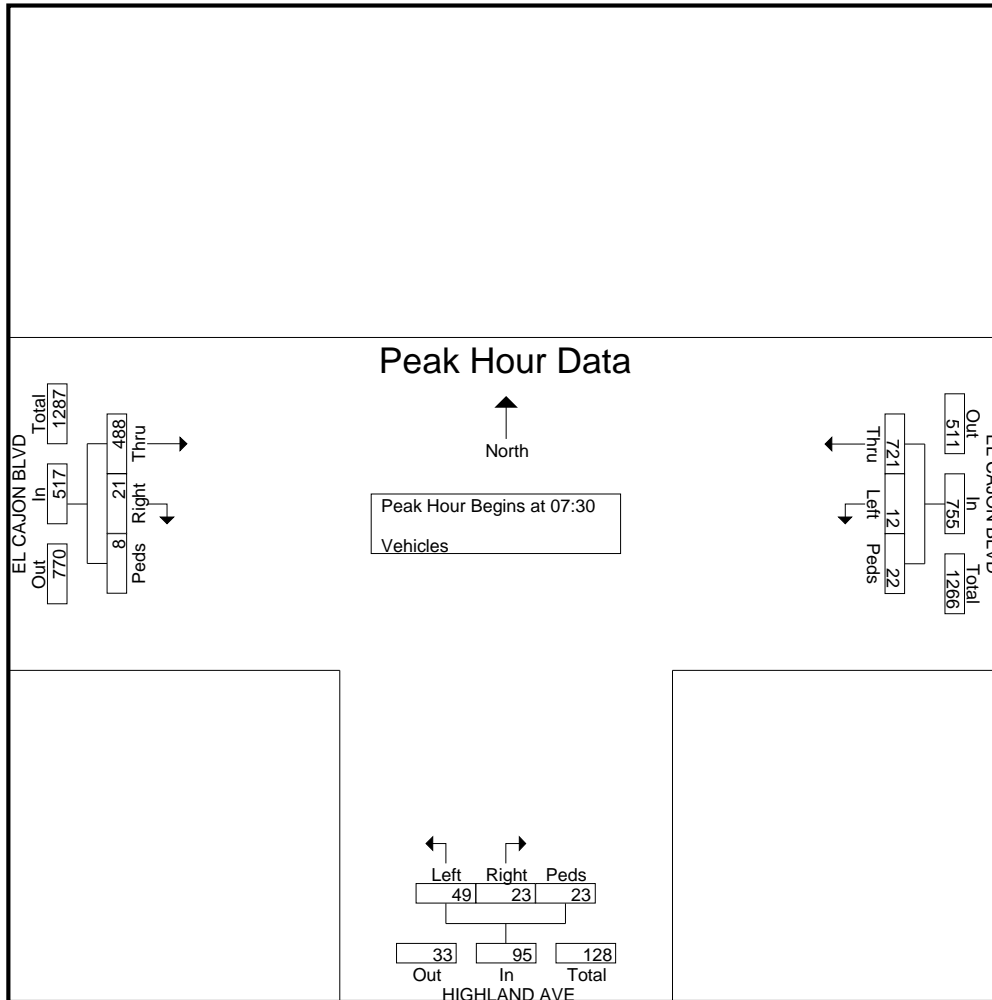
Start Time	EL CAJON BLVD Westbound			HIGHLAND AVE Northbound			EL CAJON BLVD Eastbound			Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	
07:00	0	137	0	9	4	5	69	3	5	232
07:15	3	170	4	4	4	1	86	5	1	278
07:30	2	230	2	12	6	4	106	3	2	367
07:45	1	184	16	15	4	11	127	3	1	362
Total	6	721	22	40	18	21	388	14	9	1239
08:00	2	153	3	11	6	2	130	7	3	317
08:15	7	154	1	11	7	6	125	8	2	321
08:30	1	178	1	12	9	4	130	4	0	339
08:45	7	151	2	13	6	3	139	5	3	329
Total	17	636	7	47	28	15	524	24	8	1306
*** BREAK ***										
16:00	7	203	2	7	11	4	290	23	4	551
16:15	3	197	7	15	13	16	317	24	1	593
16:30	11	206	3	15	13	4	309	28	1	590
16:45	5	219	1	16	13	12	278	15	3	562
Total	26	825	13	53	50	36	1194	90	9	2296
17:00	5	203	3	11	16	8	318	15	5	584
17:15	7	208	3	16	20	9	325	15	5	608
17:30	7	202	2	11	15	4	352	19	6	618
17:45	9	193	1	10	17	4	302	17	0	553
Total	28	806	9	48	68	25	1297	66	16	2363
Grand Total	77	2988	51	188	164	97	3403	194	42	7204
Apprch %	2.5	95.9	1.6	41.9	36.5	21.6	93.5	5.3	1.2	
Total %	1.1	41.5	0.7	2.6	2.3	1.3	47.2	2.7	0.6	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.06A.HIGHLAND AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 2

Start Time	EL CAJON BLVD Westbound				HIGHLAND AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30													
07:30	2	230	2	234	12	6	4	22	106	3	2	111	367
07:45	1	184	16	201	15	4	11	30	127	3	1	131	362
08:00	2	153	3	158	11	6	2	19	130	7	3	140	317
08:15	7	154	1	162	11	7	6	24	125	8	2	135	321
Total Volume	12	721	22	755	49	23	23	95	488	21	8	517	1367
% App. Total	1.6	95.5	2.9		51.6	24.2	24.2		94.4	4.1	1.5		
PHF	.429	.784	.344	.807	.817	.821	.523	.792	.938	.656	.667	.923	.931

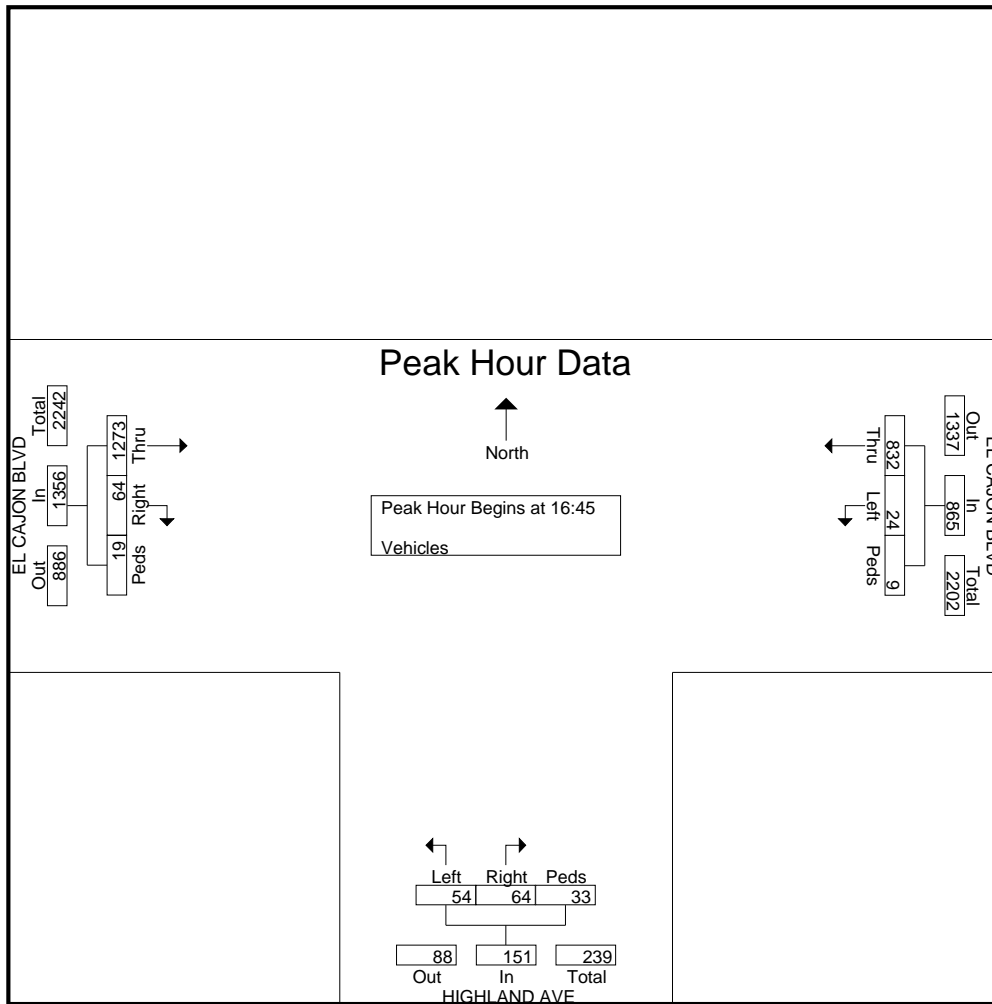


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.06A.HIGHLAND AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 3

Start Time	EL CAJON BLVD Westbound				HIGHLAND AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 16:45													
16:45	5	219	1	225	16	13	12	41	278	15	3	296	562
17:00	5	203	3	211	11	16	8	35	318	15	5	338	584
17:15	7	208	3	218	16	20	9	45	325	15	5	345	608
17:30	7	202	2	211	11	15	4	30	352	19	6	377	618
Total Volume	24	832	9	865	54	64	33	151	1273	64	19	1356	2372
% App. Total	2.8	96.2	1		35.8	42.4	21.9		93.9	4.7	1.4		
PHF	.857	.950	.750	.961	.844	.800	.688	.839	.904	.842	.792	.899	.960



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.07.FAIRMOUNT AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 1

Groups Printed- Vehicles

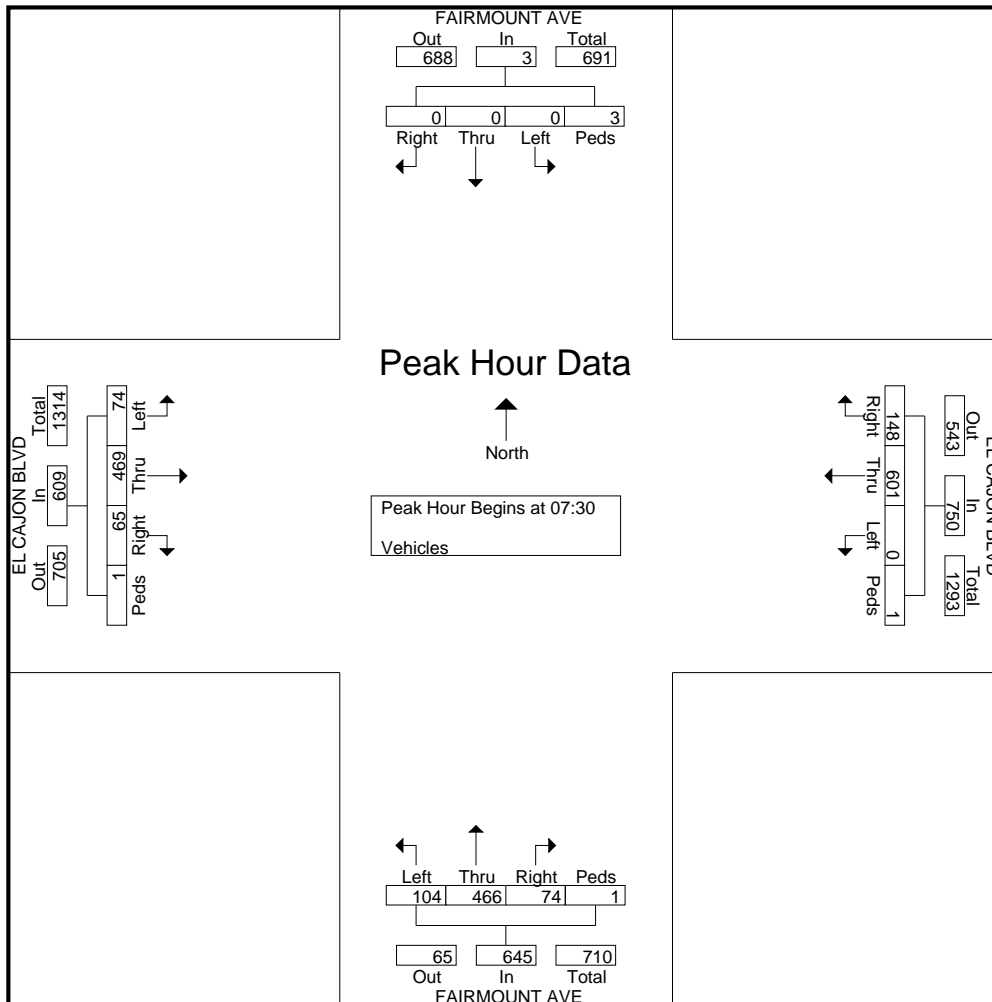
Start Time	FAIRMOUNT AVE Southbound				EL CAJON BLVD Westbound				FAIRMOUNT AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	0	0	2	0	126	26	0	18	108	8	2	9	84	10	0	393
07:15	0	0	0	1	0	139	35	0	36	121	17	1	14	80	19	0	463
07:30	0	0	0	1	0	171	43	0	25	133	15	0	21	100	12	0	521
07:45	0	0	0	0	0	162	44	1	36	136	13	0	17	128	13	0	550
Total	0	0	0	4	0	598	148	1	115	498	53	3	61	392	54	0	1927
08:00	0	0	0	2	0	133	29	0	20	94	26	1	17	123	20	1	466
08:15	0	0	0	0	0	135	32	0	23	103	20	0	19	118	20	0	470
08:30	0	0	0	0	0	143	31	0	14	108	11	0	13	138	16	0	474
08:45	0	0	0	0	0	154	17	0	24	68	9	0	17	146	21	0	456
Total	0	0	0	2	0	565	109	0	81	373	66	1	66	525	77	1	1866
*** BREAK ***																	
16:00	0	0	0	0	0	184	25	0	24	69	22	2	18	314	52	0	710
16:15	0	0	0	0	0	141	10	0	25	71	17	0	14	314	41	3	636
16:30	0	0	0	0	0	184	12	0	34	73	34	0	20	292	41	0	690
16:45	0	0	0	0	0	176	20	0	29	109	23	1	19	262	31	0	670
Total	0	0	0	0	0	685	67	0	112	322	96	3	71	1182	165	3	2706
17:00	0	0	0	0	0	188	15	0	29	82	27	0	16	312	38	1	708
17:15	0	0	0	0	0	174	24	0	27	83	29	0	19	329	43	1	729
17:30	0	0	0	0	0	178	24	0	24	72	19	0	16	329	39	0	701
17:45	0	0	0	0	0	158	14	0	22	67	22	0	21	284	43	0	631
Total	0	0	0	0	0	698	77	0	102	304	97	0	72	1254	163	2	2769
Grand Total	0	0	0	6	0	2546	401	1	410	1497	312	7	270	3353	459	6	9268
Apprch %	0	0	0	100	0	86.4	13.6	0	18.4	67.3	14	0.3	6.6	82	11.2	0.1	
Total %	0	0	0	0.1	0	27.5	4.3	0	4.4	16.2	3.4	0.1	2.9	36.2	5	0.1	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.07.FAIRMOUNT AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 2

Start Time	FAIRMOUNT AVE Southbound					EL CAJON BLVD Westbound					FAIRMOUNT AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	0	0	0	1	1	0	171	43	0	214	25	133	15	0	173	21	100	12	0	133	521
07:45	0	0	0	0	0	0	162	44	1	207	36	136	13	0	185	17	128	13	0	158	550
08:00	0	0	0	2	2	0	133	29	0	162	20	94	26	1	141	17	123	20	1	161	466
08:15	0	0	0	0	0	0	135	32	0	167	23	103	20	0	146	19	118	20	0	157	470
Total Volume	0	0	0	3	3	0	601	148	1	750	104	466	74	1	645	74	469	65	1	609	2007
% App. Total	0	0	0	100		0	80.1	19.7	0.1		16.1	72.2	11.5	0.2		12.2	77	10.7	0.2		
PHF	.000	.000	.000	.375	.375	.000	.879	.841	.250	.876	.722	.857	.712	.250	.872	.881	.916	.813	.250	.946	.912

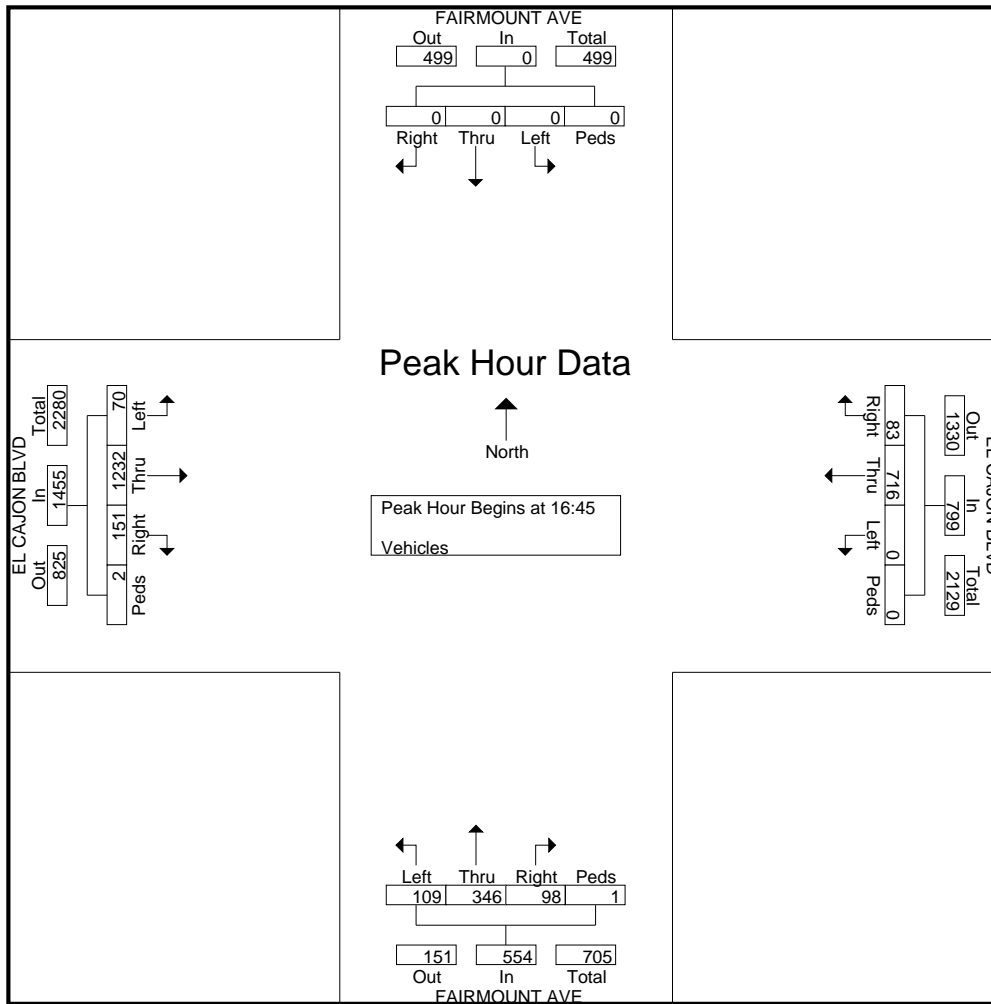


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.07.FAIRMOUNT AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 3

Start Time	FAIRMOUNT AVE Southbound					EL CAJON BLVD Westbound					FAIRMOUNT AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	176	20	0	196	29	109	23	1	162	19	262	31	0	312	670
17:00	0	0	0	0	0	0	188	15	0	203	29	82	27	0	138	16	312	38	1	367	708
17:15	0	0	0	0	0	0	174	24	0	198	27	83	29	0	139	19	329	43	1	392	729
17:30	0	0	0	0	0	0	178	24	0	202	24	72	19	0	115	16	329	39	0	384	701
Total Volume	0	0	0	0	0	0	716	83	0	799	109	346	98	1	554	70	1232	151	2	1455	2808
% App. Total	0	0	0	0	0	0	89.6	10.4	0		19.7	62.5	17.7	0.2		4.8	84.7	10.4	0.1		
PHF	.000	.000	.000	.000	.000	.000	.952	.865	.000	.984	.940	.794	.845	.250	.855	.921	.936	.878	.500	.928	.963



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.08.43RD ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/14/2007
 Page No : 1

Groups Printed- Vehicles

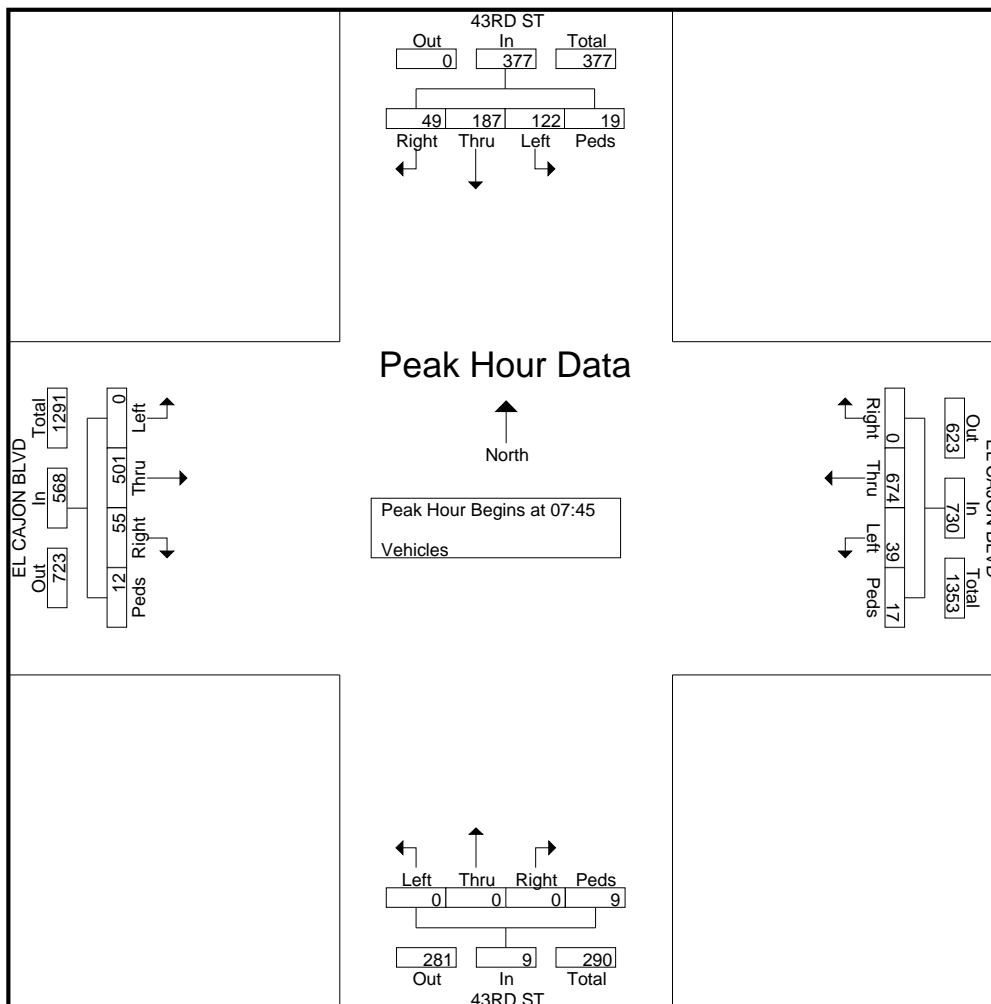
Start Time	43RD ST Southbound				EL CAJON BLVD Westbound				43RD ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	22	22	10	6	5	139	0	2	0	0	0	8	0	73	6	2	295
07:15	25	24	6	1	8	170	0	4	0	0	0	3	0	89	13	0	343
07:30	27	29	4	3	8	190	0	2	0	0	0	4	0	96	10	4	377
07:45	31	43	15	2	19	193	0	3	0	0	0	2	0	129	16	0	453
Total	105	118	35	12	40	692	0	11	0	0	0	17	0	387	45	6	1468
08:00	27	36	12	9	9	167	0	6	0	0	0	3	0	125	8	1	403
08:15	36	51	10	2	4	147	0	5	0	0	0	4	0	114	12	0	385
08:30	28	57	12	6	7	167	0	3	0	0	0	0	0	133	19	11	443
08:45	45	45	7	3	7	171	0	6	0	0	0	5	0	130	9	3	431
Total	136	189	41	20	27	652	0	20	0	0	0	12	0	502	48	15	1662
*** BREAK ***																	
16:00	89	114	20	9	23	198	0	3	0	0	0	13	0	286	24	2	781
16:15	102	142	13	3	22	198	0	3	0	0	0	10	0	309	30	10	842
16:30	82	114	17	10	22	239	0	11	0	0	0	12	0	290	30	2	829
16:45	69	96	24	4	29	212	0	2	0	0	0	9	0	260	24	1	730
Total	342	466	74	26	96	847	0	19	0	0	0	44	0	1145	108	15	3182
17:00	58	97	15	5	27	213	0	15	0	0	0	12	0	312	22	1	777
17:15	83	103	9	9	21	206	0	7	0	0	0	16	0	290	31	4	779
17:30	59	69	14	10	21	207	0	8	0	0	0	12	0	349	29	0	778
17:45	75	86	11	8	24	186	0	6	0	0	0	13	0	306	28	4	747
Total	275	355	49	32	93	812	0	36	0	0	0	53	0	1257	110	9	3081
Grand Total	858	1128	199	90	256	3003	0	86	0	0	0	126	0	3291	311	45	9393
Apprch %	37.7	49.6	8.7	4	7.7	89.8	0	2.6	0	0	0	100	0	90.2	8.5	1.2	
Total %	9.1	12	2.1	1	2.7	32	0	0.9	0	0	0	1.3	0	35	3.3	0.5	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.08.43RD ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/14/2007
Page No : 2

Start Time	43RD ST Southbound					EL CAJON BLVD Westbound					43RD ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	31	43	15	2	91	19	193	0	3	215	0	0	0	2	2	0	129	16	0	145	453
08:00	27	36	12	9	84	9	167	0	6	182	0	0	0	3	3	0	125	8	1	134	403
08:15	36	51	10	2	99	4	147	0	5	156	0	0	0	4	4	0	114	12	0	126	385
08:30	28	57	12	6	103	7	167	0	3	177	0	0	0	0	0	0	133	19	11	163	443
Total Volume	122	187	49	19	377	39	674	0	17	730	0	0	0	9	9	0	501	55	12	568	1684
% App. Total	32.4	49.6	13	5		5.3	92.3	0	2.3		0	0	0	100		0	88.2	9.7	2.1		
PHF	.847	.820	.817	.528	.915	.513	.873	.000	.708	.849	.000	.000	.000	.563	.563	.000	.942	.724	.273	.871	.929

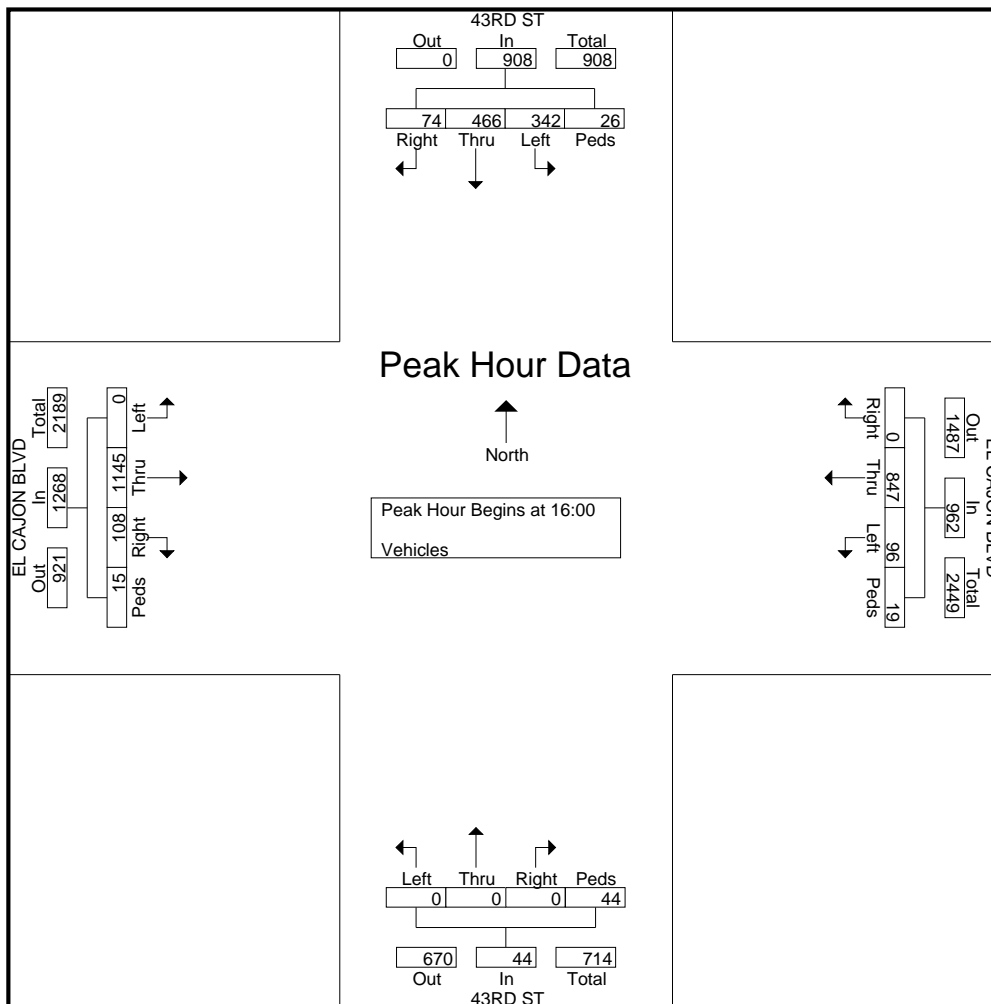


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.08.43RD ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/14/2007
Page No : 3

Start Time	43RD ST Southbound					EL CAJON BLVD Westbound					43RD ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	89	114	20	9	232	23	198	0	3	224	0	0	0	13	13	0	286	24	2	312	781
16:15	102	142	13	3	260	22	198	0	3	223	0	0	0	10	10	0	309	30	10	349	842
16:30	82	114	17	10	223	22	239	0	11	272	0	0	0	12	12	0	290	30	2	322	829
16:45	69	96	24	4	193	29	212	0	2	243	0	0	0	9	9	0	260	24	1	285	730
Total Volume	342	466	74	26	908	96	847	0	19	962	0	0	0	44	44	0	1145	108	15	1268	3182
% App. Total	37.7	51.3	8.1	2.9		10	88	0	2		0	0	0	100		0	90.3	8.5	1.2		
PHF	.838	.820	.771	.650	.873	.828	.886	.000	.432	.884	.000	.000	.000	.846	.846	.000	.926	.900	.375	.908	.945



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.09.COPELAND AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

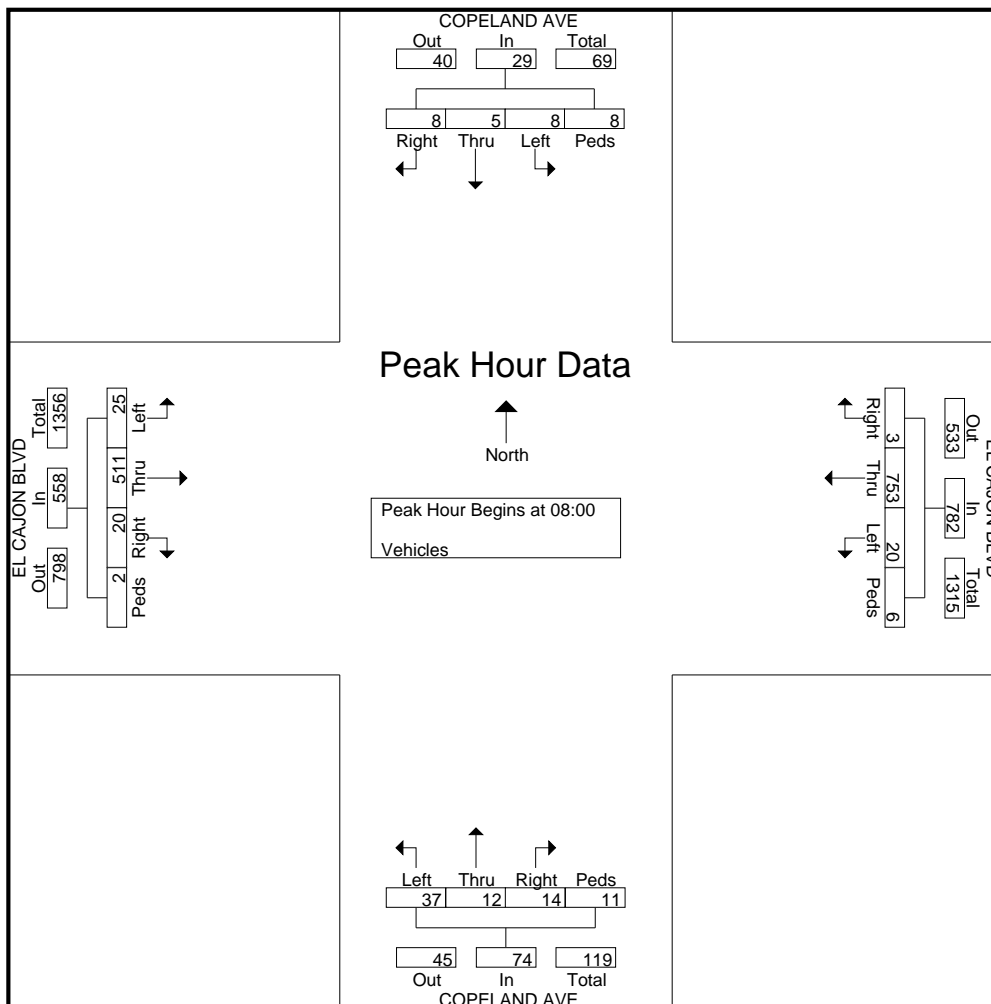
Start Time	COPELAND AVE Southbound				EL CAJON BLVD Westbound				COPELAND AVE Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	2	4	2	0	144	2	0	5	2	0	2	11	71	2	0	247
07:15	2	2	6	1	6	165	0	0	7	0	4	3	15	90	0	0	301
07:30	4	2	5	2	5	155	0	4	10	4	4	1	7	87	1	0	291
07:45	2	4	2	1	4	202	2	1	4	5	4	6	8	118	2	0	365
Total	8	10	17	6	15	666	4	5	26	11	12	12	41	366	5	0	1204
08:00	2	1	1	1	4	192	1	1	9	2	0	3	4	103	5	0	329
08:15	0	1	1	0	2	179	0	2	10	1	6	5	11	121	9	1	349
08:30	2	2	3	0	5	203	1	0	6	2	2	2	5	150	3	1	387
08:45	4	1	3	7	9	179	1	3	12	7	6	1	5	137	3	0	378
Total	8	5	8	8	20	753	3	6	37	12	14	11	25	511	20	2	1443
*** BREAK ***																	
16:00	9	5	8	2	5	161	7	7	4	5	4	1	18	254	18	4	512
16:15	5	1	2	1	13	228	5	5	9	2	6	3	10	283	8	1	582
16:30	7	3	1	0	30	184	6	3	9	5	5	3	15	272	18	10	571
16:45	4	7	2	4	14	221	6	3	5	4	8	11	14	276	20	4	603
Total	25	16	13	7	62	794	24	18	27	16	23	18	57	1085	64	19	2268
17:00	12	8	3	5	7	154	3	13	13	9	9	1	11	323	13	0	584
17:15	5	12	2	2	15	234	2	9	4	7	7	8	18	285	15	2	627
17:30	3	1	2	6	11	245	4	9	6	2	6	3	15	329	11	6	659
17:45	5	3	3	1	18	219	2	10	10	7	2	11	15	290	10	1	607
Total	25	24	10	14	51	852	11	41	33	25	24	23	59	1227	49	9	2477
Grand Total	66	55	48	35	148	3065	42	70	123	64	73	64	182	3189	138	30	7392
Apprch %	32.4	27	23.5	17.2	4.5	92.2	1.3	2.1	38	19.8	22.5	19.8	5.1	90.1	3.9	0.8	
Total %	0.9	0.7	0.6	0.5	2	41.5	0.6	0.9	1.7	0.9	1	0.9	2.5	43.1	1.9	0.4	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.09.COPELAND AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	COPELAND AVE Southbound					EL CAJON BLVD Westbound					COPELAND AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	2	1	1	1	5	4	192	1	1	198	9	2	0	3	14	4	103	5	0	112	329
08:15	0	1	1	0	2	2	179	0	2	183	10	1	6	5	22	11	121	9	1	142	349
08:30	2	2	3	0	7	5	203	1	0	209	6	2	2	2	12	5	150	3	1	159	387
08:45	4	1	3	7	15	9	179	1	3	192	12	7	6	1	26	5	137	3	0	145	378
Total Volume	8	5	8	8	29	20	753	3	6	782	37	12	14	11	74	25	511	20	2	558	1443
% App. Total	27.6	17.2	27.6	27.6		2.6	96.3	0.4	0.8		50	16.2	18.9	14.9		4.5	91.6	3.6	0.4		
PHF	.500	.625	.667	.286	.483	.556	.927	.750	.500	.935	.771	.429	.583	.550	.712	.568	.852	.556	.500	.877	.932

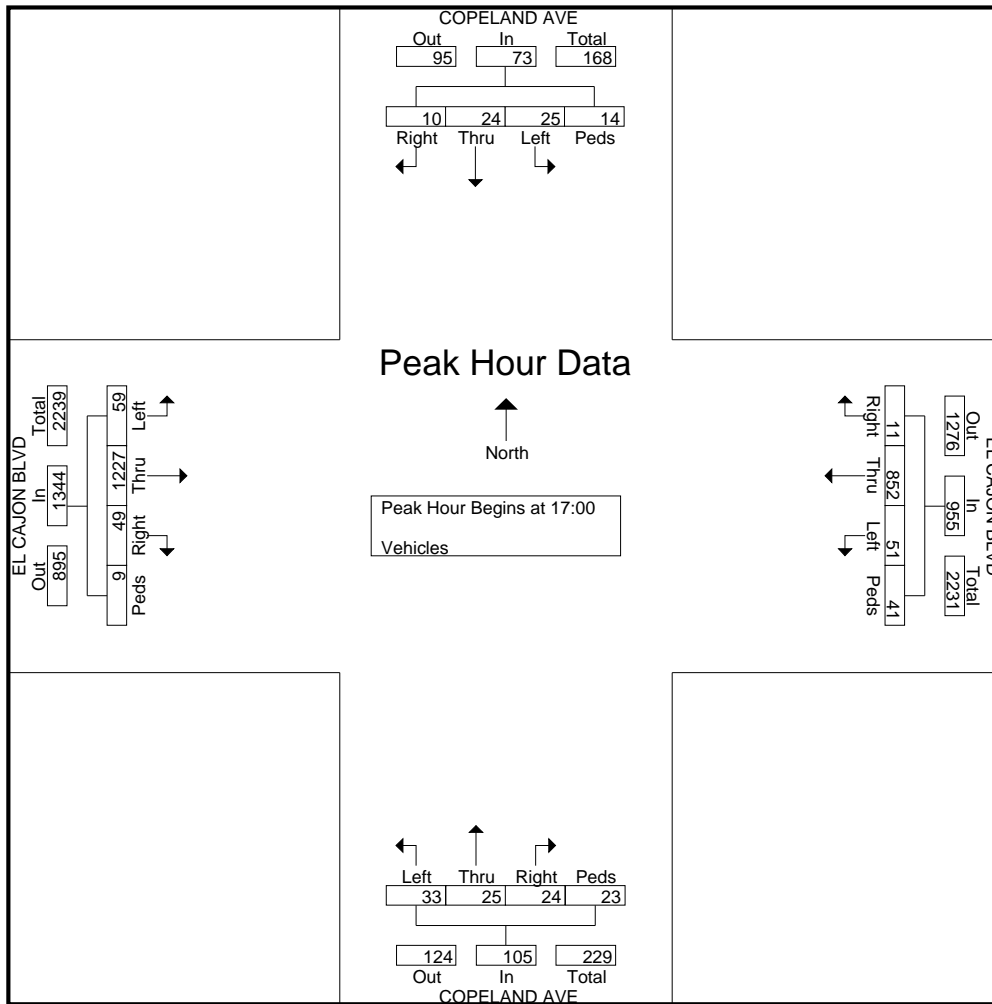


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.09.COPELAND AVE.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	COPELAND AVE Southbound					EL CAJON BLVD Westbound					COPELAND AVE Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	12	8	3	5	28	7	154	3	13	177	13	9	9	1	32	11	323	13	0	347	584
17:15	5	12	2	2	21	15	234	2	9	260	4	7	7	8	26	18	285	15	2	320	627
17:30	3	1	2	6	12	11	245	4	9	269	6	2	6	3	17	15	329	11	6	361	659
17:45	5	3	3	1	12	18	219	2	10	249	10	7	2	11	30	15	290	10	1	316	607
Total Volume	25	24	10	14	73	51	852	11	41	955	33	25	24	23	105	59	1227	49	9	1344	2477
% App. Total	34.2	32.9	13.7	19.2		5.3	89.2	1.2	4.3		31.4	23.8	22.9	21.9		4.4	91.3	3.6	0.7		
PHF	.521	.500	.833	.583	.652	.708	.869	.688	.788	.888	.635	.694	.667	.523	.820	.819	.932	.817	.375	.931	.940



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.10.MARLBOROUGH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

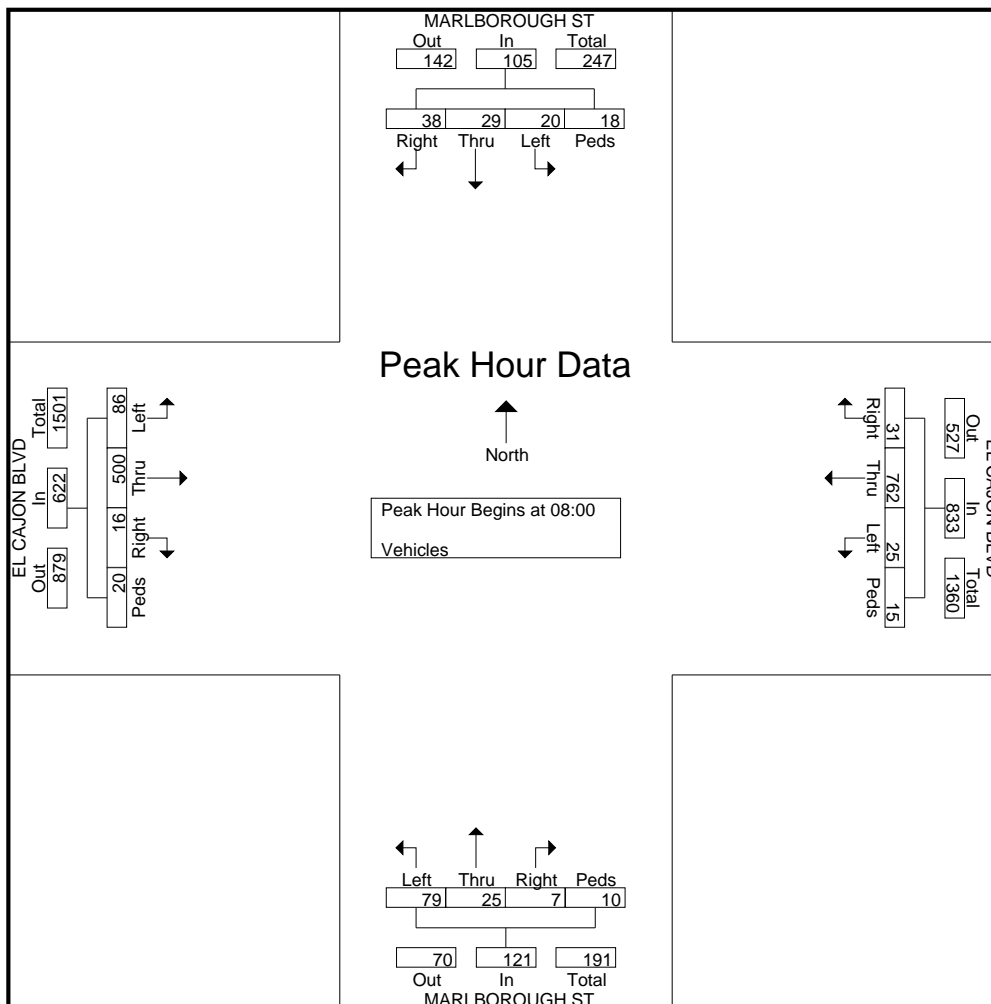
Start Time	MARLBOROUGH ST Southbound				EL CAJON BLVD Westbound				MARLBOROUGH ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	1	4	4	4	4	169	9	1	16	3	2	1	8	85	1	1	313
07:15	2	2	7	0	4	186	5	1	17	2	2	3	8	84	5	1	329
07:30	1	1	7	3	8	172	9	3	26	7	0	2	14	82	2	3	340
07:45	2	5	6	1	3	211	8	6	24	7	1	7	18	113	4	6	422
Total	6	12	24	8	19	738	31	11	83	19	5	13	48	364	12	11	1404
08:00	1	4	12	6	1	200	4	2	15	4	1	1	17	108	2	7	385
08:15	3	11	11	4	6	180	4	6	21	5	2	7	23	132	3	5	423
08:30	6	8	7	2	11	206	11	1	24	7	1	1	16	128	7	4	440
08:45	10	6	8	6	7	176	12	6	19	9	3	1	30	132	4	4	433
Total	20	29	38	18	25	762	31	15	79	25	7	10	86	500	16	20	1681
*** BREAK ***																	
16:00	16	8	7	2	17	183	21	2	20	6	1	6	45	311	7	0	652
16:15	15	6	6	4	21	179	13	5	25	10	5	4	31	290	15	1	630
16:30	14	12	10	9	24	219	17	2	11	5	3	1	31	306	16	3	683
16:45	23	11	9	4	12	200	25	5	14	13	4	2	30	292	14	2	660
Total	68	37	32	19	74	781	76	14	70	34	13	13	137	1199	52	6	2625
17:00	6	12	7	1	14	170	20	10	13	7	3	3	42	300	7	2	617
17:15	9	10	5	4	8	231	19	3	17	7	6	4	37	287	11	6	664
17:30	9	11	2	4	15	231	14	5	25	12	4	8	30	330	12	7	719
17:45	14	6	4	6	10	213	17	7	20	4	3	13	32	293	12	4	658
Total	38	39	18	15	47	845	70	25	75	30	16	28	141	1210	42	19	2658
Grand Total	132	117	112	60	165	3126	208	65	307	108	41	64	412	3273	122	56	8368
Apprch %	31.4	27.8	26.6	14.3	4.6	87.7	5.8	1.8	59	20.8	7.9	12.3	10.7	84.7	3.2	1.4	
Total %	1.6	1.4	1.3	0.7	2	37.4	2.5	0.8	3.7	1.3	0.5	0.8	4.9	39.1	1.5	0.7	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.10.MARLBOROUGH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	MARLBOROUGH ST Southbound					EL CAJON BLVD Westbound					MARLBOROUGH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 12:00 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	1	4	12	6	23	1	200	4	2	207	15	4	1	1	21	17	108	2	7	134	385
08:15	3	11	11	4	29	6	180	4	6	196	21	5	2	7	35	23	132	3	5	163	423
08:30	6	8	7	2	23	11	206	11	1	229	24	7	1	1	33	16	128	7	4	155	440
08:45	10	6	8	6	30	7	176	12	6	201	19	9	3	1	32	30	132	4	4	170	433
Total Volume	20	29	38	18	105	25	762	31	15	833	79	25	7	10	121	86	500	16	20	622	1681
% App. Total	19	27.6	36.2	17.1		3	91.5	3.7	1.8		65.3	20.7	5.8	8.3		13.8	80.4	2.6	3.2		
PHF	.500	.659	.792	.750	.875	.568	.925	.646	.625	.909	.823	.694	.583	.357	.864	.717	.947	.571	.714	.915	.955

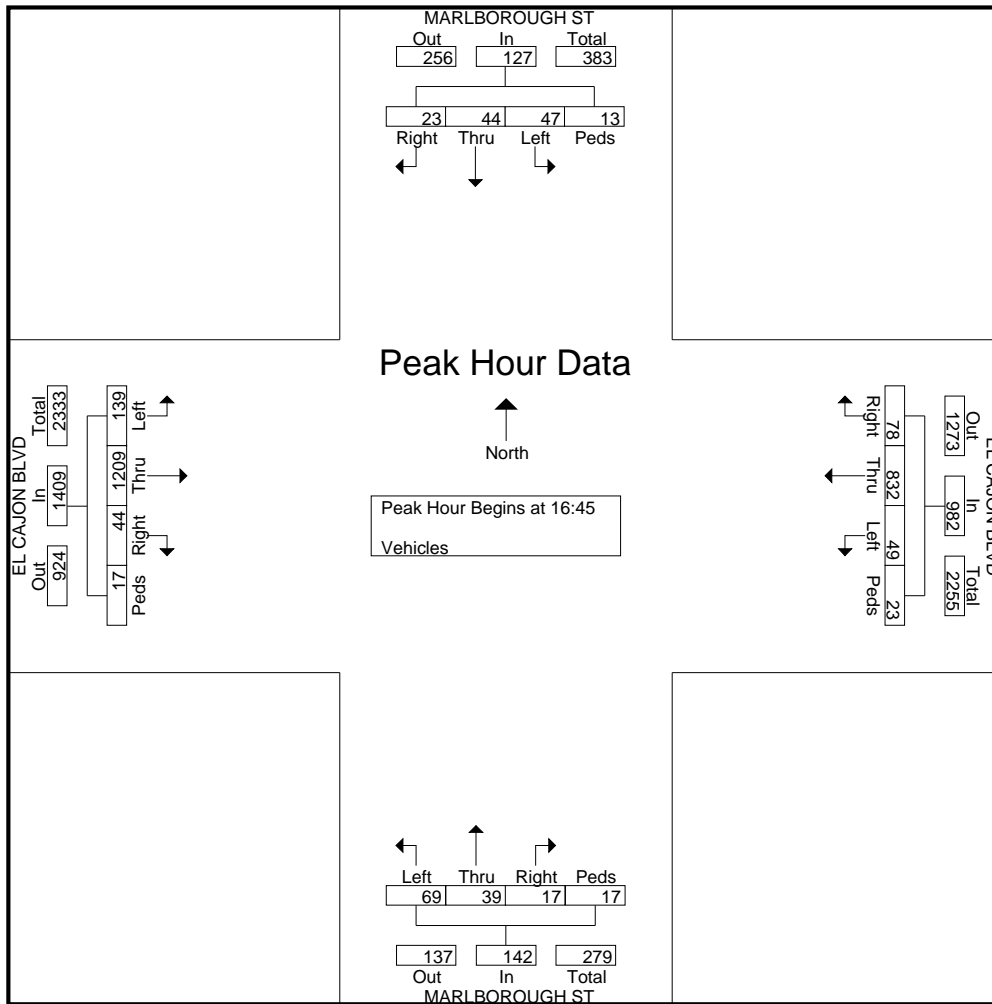


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.10.MARLBOROUGH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	MARLBOROUGH ST Southbound					EL CAJON BLVD Westbound					MARLBOROUGH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:15 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	23	11	9	4	47	12	200	25	5	242	14	13	4	2	33	30	292	14	2	338	660
17:00	6	12	7	1	26	14	170	20	10	214	13	7	3	3	26	42	300	7	2	351	617
17:15	9	10	5	4	28	8	231	19	3	261	17	7	6	4	34	37	287	11	6	341	664
17:30	9	11	2	4	26	15	231	14	5	265	25	12	4	8	49	30	330	12	7	379	719
Total Volume	47	44	23	13	127	49	832	78	23	982	69	39	17	17	142	139	1209	44	17	1409	2660
% App. Total	37	34.6	18.1	10.2		5	84.7	7.9	2.3		48.6	27.5	12	12		9.9	85.8	3.1	1.2		
PHF	.511	.917	.639	.813	.676	.817	.900	.780	.575	.926	.690	.750	.708	.531	.724	.827	.916	.786	.607	.929	.925



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.11.I-15 NB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 1

Groups Printed- Vehicles

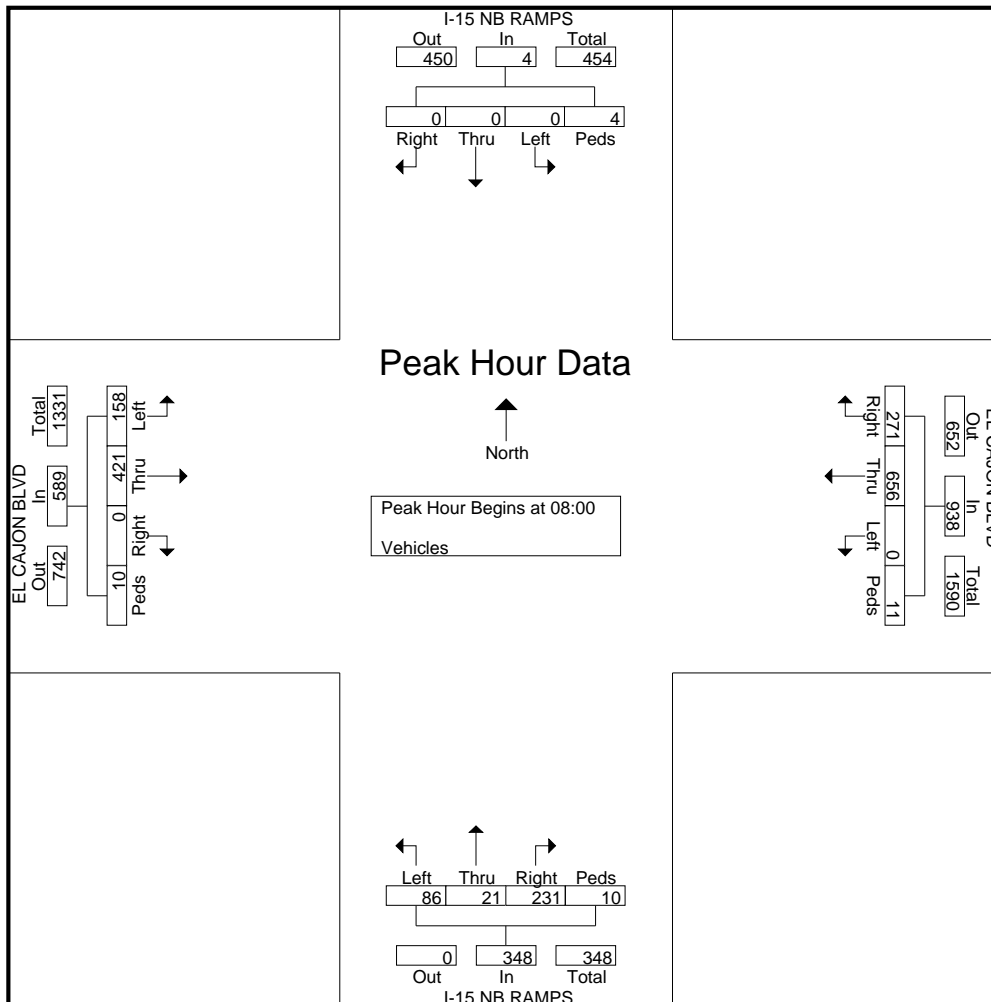
Start Time	I-15 NB RAMPS Southbound				EL CAJON BLVD Westbound				I-15 NB RAMPS Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	0	0	0	0	128	75	5	10	1	35	0	40	56	0	0	350
07:15	0	0	0	1	0	131	82	4	14	3	38	1	45	60	0	0	379
07:30	0	0	0	0	0	148	82	5	26	5	40	1	45	76	0	0	428
07:45	0	0	0	4	0	171	95	6	12	0	43	0	56	92	0	1	480
Total	0	0	0	5	0	578	334	20	62	9	156	2	186	284	0	1	1637
08:00	0	0	0	0	0	153	61	2	23	6	53	1	42	96	0	4	441
08:15	0	0	0	1	0	156	68	3	19	3	64	0	31	115	0	2	462
08:30	0	0	0	0	0	173	66	5	14	5	62	7	48	103	0	3	486
08:45	0	0	0	3	0	174	76	1	30	7	52	2	37	107	0	1	490
Total	0	0	0	4	0	656	271	11	86	21	231	10	158	421	0	10	1879
*** BREAK ***																	
16:00	0	0	0	0	0	191	48	2	41	13	100	3	54	254	0	2	708
16:15	0	0	0	1	0	188	59	3	37	6	77	3	59	305	0	6	744
16:30	0	0	0	2	0	176	59	4	33	13	98	3	46	282	0	4	720
16:45	0	0	0	1	0	191	65	3	30	10	78	3	59	275	0	3	718
Total	0	0	0	4	0	746	231	12	141	42	353	12	218	1116	0	15	2890
17:00	0	0	0	9	0	199	44	11	43	5	81	5	62	293	0	4	756
17:15	0	0	0	1	0	174	73	7	23	20	82	4	62	283	0	3	732
17:30	0	0	0	4	0	204	68	6	29	4	71	3	65	264	0	1	719
17:45	0	0	0	1	0	177	63	7	31	8	90	5	70	232	0	6	690
Total	0	0	0	15	0	754	248	31	126	37	324	17	259	1072	0	14	2897
Grand Total	0	0	0	28	0	2734	1084	74	415	109	1064	41	821	2893	0	40	9303
Apprch %	0	0	0	100	0	70.2	27.9	1.9	25.5	6.7	65.3	2.5	21.9	77.1	0	1.1	
Total %	0	0	0	0.3	0	29.4	11.7	0.8	4.5	1.2	11.4	0.4	8.8	31.1	0	0.4	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.11.I-15 NB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 2

Start Time	I-15 NB RAMPS Southbound					EL CAJON BLVD Westbound					I-15 NB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	0	0	0	0	0	0	153	61	2	216	23	6	53	1	83	42	96	0	4	142	441
08:15	0	0	0	1	1	0	156	68	3	227	19	3	64	0	86	31	115	0	2	148	462
08:30	0	0	0	0	0	0	173	66	5	244	14	5	62	7	88	48	103	0	3	154	486
08:45	0	0	0	3	3	0	174	76	1	251	30	7	52	2	91	37	107	0	1	145	490
Total Volume	0	0	0	4	4	0	656	271	11	938	86	21	231	10	348	158	421	0	10	589	1879
% App. Total	0	0	0	100		0	69.9	28.9	1.2		24.7	6	66.4	2.9		26.8	71.5	0	1.7		
PHF	.000	.000	.000	.333	.333	.000	.943	.891	.550	.934	.717	.750	.902	.357	.956	.823	.915	.000	.625	.956	.959

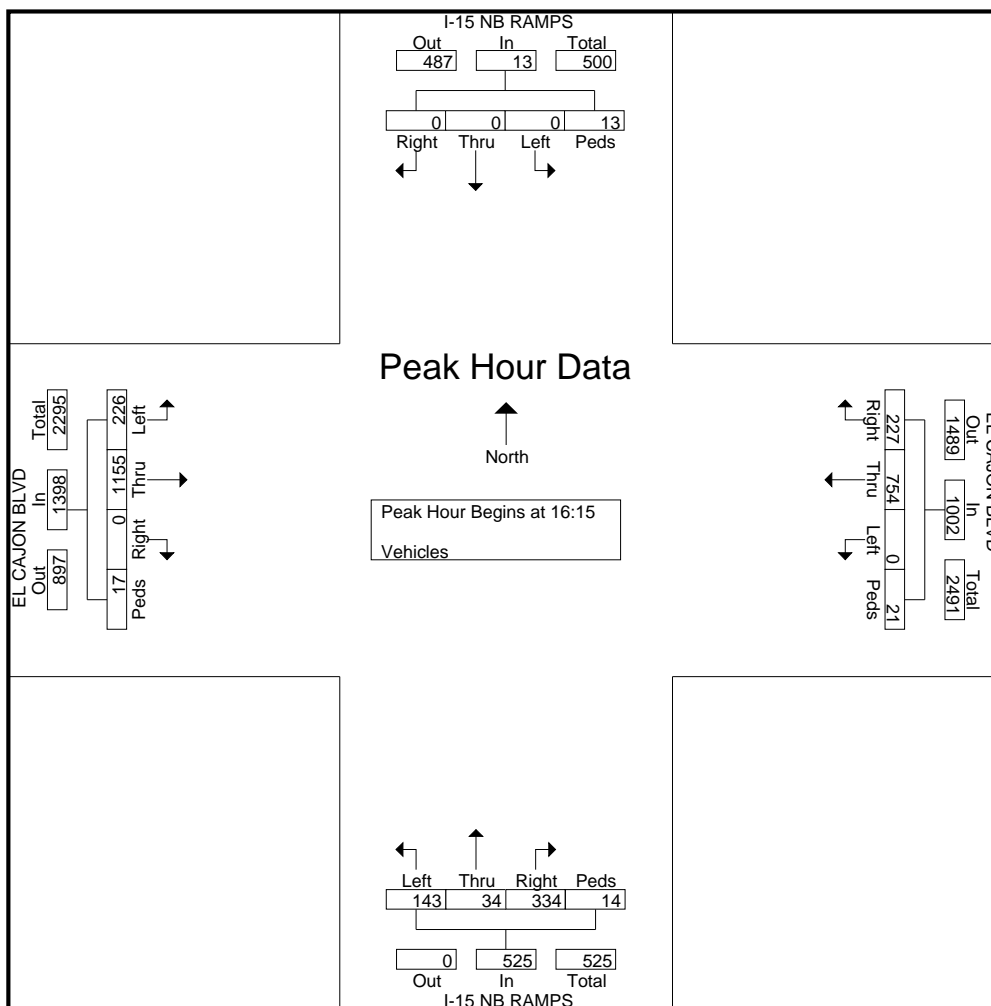


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.11.I-15 NB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 3

Start Time	I-15 NB RAMPS Southbound					EL CAJON BLVD Westbound					I-15 NB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	0	0	0	1	1	0	188	59	3	250	37	6	77	3	123	59	305	0	6	370	744
16:30	0	0	0	2	2	0	176	59	4	239	33	13	98	3	147	46	282	0	4	332	720
16:45	0	0	0	1	1	0	191	65	3	259	30	10	78	3	121	59	275	0	3	337	718
17:00	0	0	0	9	9	0	199	44	11	254	43	5	81	5	134	62	293	0	4	359	756
Total Volume	0	0	0	13	13	0	754	227	21	1002	143	34	334	14	525	226	1155	0	17	1398	2938
% App. Total	0	0	0	100		0	75.2	22.7	2.1		27.2	6.5	63.6	2.7		16.2	82.6	0	1.2		
PHF	.000	.000	.000	.361	.361	.000	.947	.873	.477	.967	.831	.654	.852	.700	.893	.911	.947	.000	.708	.945	.972



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.12.I-15 SB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 1

Groups Printed- Vehicles

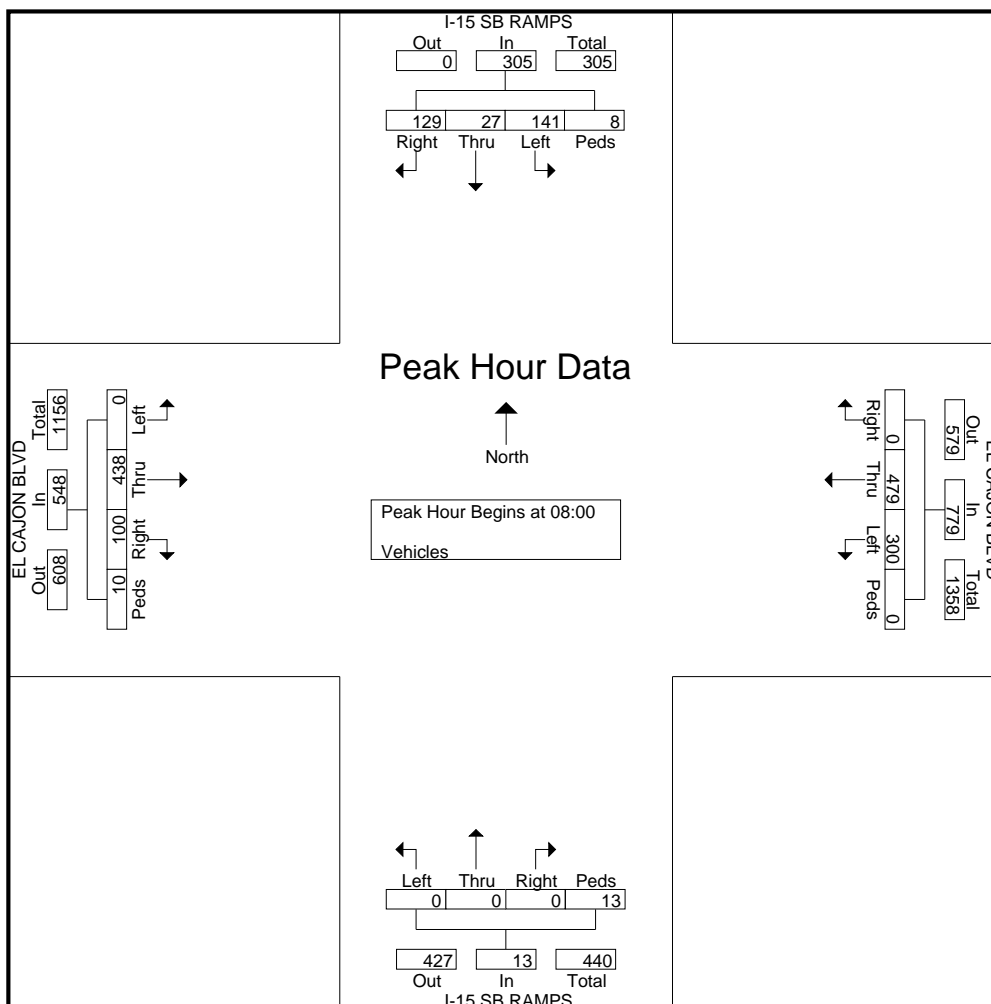
Start Time	I-15 SB RAMPS Southbound				EL CAJON BLVD Westbound				I-15 SB RAMPS Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	23	9	15	2	55	82	0	0	0	0	0	1	0	70	26	0	283
07:15	26	8	20	2	63	104	0	0	0	0	0	1	0	67	29	0	320
07:30	23	7	22	4	61	108	0	0	0	0	0	1	0	122	31	1	380
07:45	32	2	30	8	65	123	0	0	0	0	0	3	0	108	19	5	395
Total	104	26	87	16	244	417	0	0	0	0	0	6	0	367	105	6	1378
08:00	34	11	28	4	55	109	0	0	0	0	0	1	0	98	21	2	363
08:15	31	5	26	0	72	125	0	0	0	0	0	3	0	101	20	2	385
08:30	39	5	42	1	87	112	0	0	0	0	0	6	0	126	28	1	447
08:45	37	6	33	3	86	133	0	0	0	0	0	3	0	113	31	5	450
Total	141	27	129	8	300	479	0	0	0	0	0	13	0	438	100	10	1645
*** BREAK ***																	
16:00	71	19	81	10	85	177	0	1	0	0	0	5	0	240	48	10	747
16:15	86	29	73	6	86	144	0	0	0	0	0	2	0	284	55	4	769
16:30	101	33	70	12	65	160	0	0	0	0	0	5	0	212	55	9	722
16:45	70	17	74	0	77	155	0	0	0	0	0	10	0	277	58	5	743
Total	328	98	298	28	313	636	0	1	0	0	0	22	0	1013	216	28	2981
17:00	89	48	84	25	75	179	0	1	0	0	0	8	0	250	46	5	810
17:15	63	20	80	12	84	139	0	0	0	0	0	3	0	263	44	4	712
17:30	58	21	55	17	79	160	0	0	0	0	0	10	0	242	51	11	704
17:45	81	17	93	7	79	135	0	0	0	0	0	8	0	236	43	9	708
Total	291	106	312	61	317	613	0	1	0	0	0	29	0	991	184	29	2934
Grand Total	864	257	826	113	1174	2145	0	2	0	0	0	70	0	2809	605	73	8938
Apprch %	41.9	12.5	40.1	5.5	35.4	64.6	0	0.1	0	0	0	100	0	80.6	17.4	2.1	
Total %	9.7	2.9	9.2	1.3	13.1	24	0	0	0	0	0	0.8	0	31.4	6.8	0.8	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.12.I-15 SB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 2

Start Time	I-15 SB RAMPS Southbound					EL CAJON BLVD Westbound					I-15 SB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	34	11	28	4	77	55	109	0	0	164	0	0	0	1	1	0	98	21	2	121	363
08:15	31	5	26	0	62	72	125	0	0	197	0	0	0	3	3	0	101	20	2	123	385
08:30	39	5	42	1	87	87	112	0	0	199	0	0	0	6	6	0	126	28	1	155	447
08:45	37	6	33	3	79	86	133	0	0	219	0	0	0	3	3	0	113	31	5	149	450
Total Volume	141	27	129	8	305	300	479	0	0	779	0	0	0	13	13	0	438	100	10	548	1645
% App. Total	46.2	8.9	42.3	2.6		38.5	61.5	0	0		0	0	0	100		0	79.9	18.2	1.8		
PHF	.904	.614	.768	.500	.876	.862	.900	.000	.000	.889	.000	.000	.000	.542	.542	.000	.869	.806	.500	.884	.914

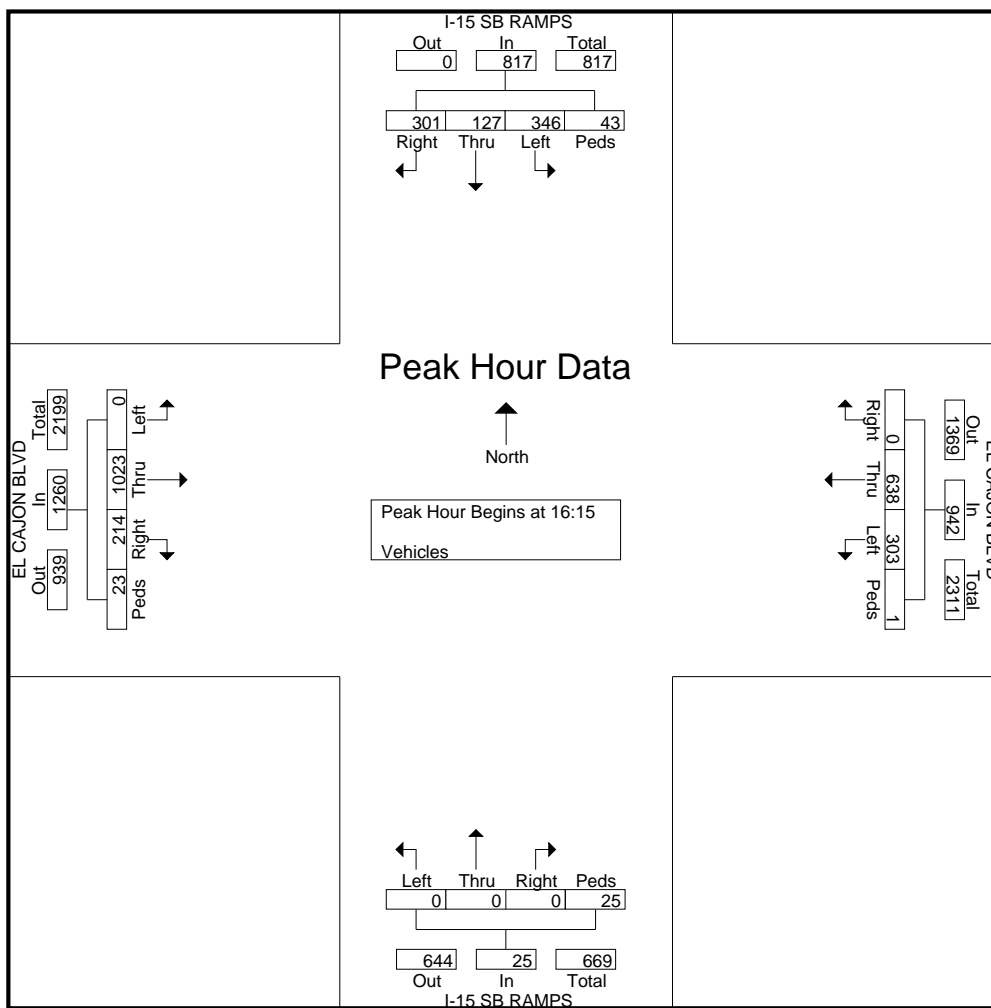


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.12.I-15 SB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 3

Start Time	I-15 SB RAMPS Southbound					EL CAJON BLVD Westbound					I-15 SB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	86	29	73	6	194	86	144	0	0	230	0	0	0	2	2	0	284	55	4	343	769
16:30	101	33	70	12	216	65	160	0	0	225	0	0	0	5	5	0	212	55	9	276	722
16:45	70	17	74	0	161	77	155	0	0	232	0	0	0	10	10	0	277	58	5	340	743
17:00	89	48	84	25	246	75	179	0	1	255	0	0	0	8	8	0	250	46	5	301	810
Total Volume	346	127	301	43	817	303	638	0	1	942	0	0	0	25	25	0	1023	214	23	1260	3044
% App. Total	42.4	15.5	36.8	5.3		32.2	67.7	0	0.1		0	0	0	100		0	81.2	17	1.8		
PHF	.856	.661	.896	.430	.830	.881	.891	.000	.250	.924	.000	.000	.000	.625	.625	.000	.901	.922	.639	.918	.940



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.13.35TH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 1

Groups Printed- Vehicles

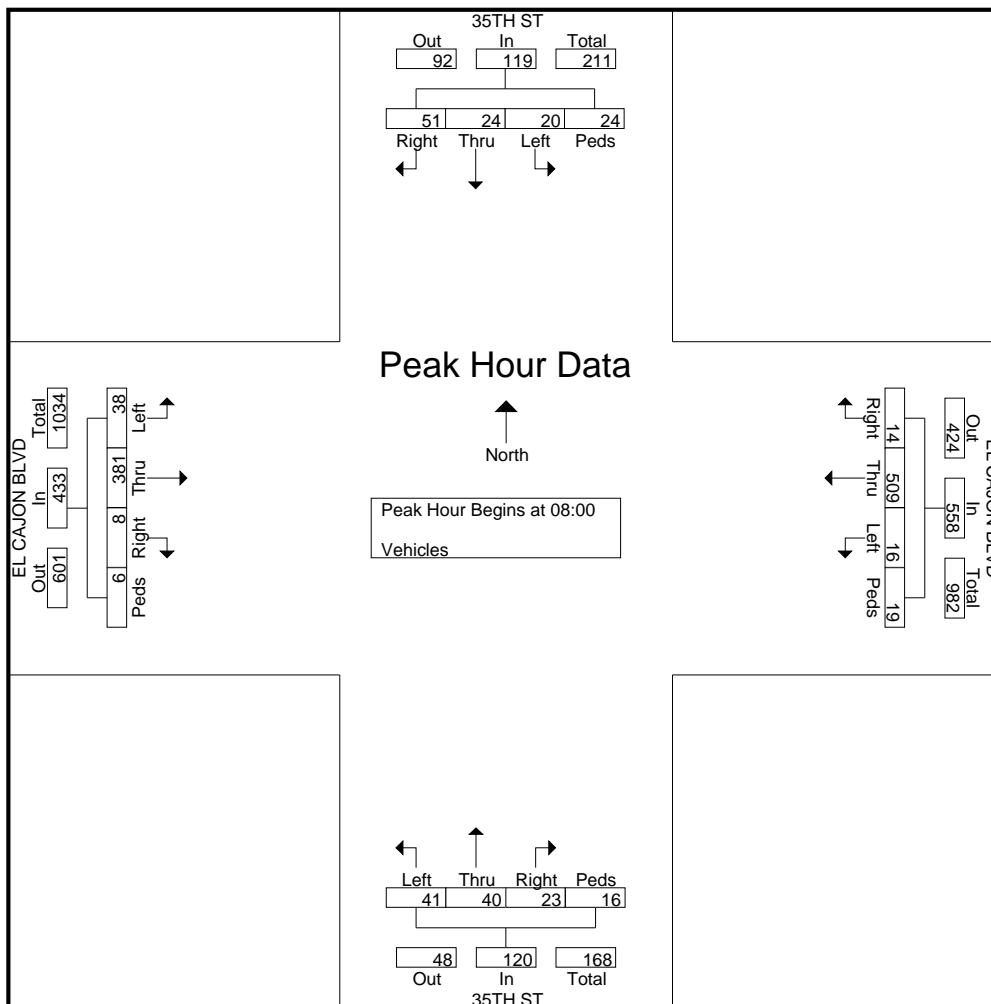
Start Time	35TH ST Southbound				EL CAJON BLVD Westbound				35TH ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	3	6	12	5	2	116	3	1	14	13	5	4	6	52	3	1	246
07:15	6	5	20	3	2	120	5	4	16	10	3	2	9	62	4	2	273
07:30	2	4	11	4	10	123	5	5	21	15	9	2	8	70	4	1	294
07:45	6	8	15	11	5	145	5	1	13	9	8	3	7	87	0	2	325
Total	17	23	58	23	19	504	18	11	64	47	25	11	30	271	11	6	1138
08:00	2	3	13	8	3	124	2	3	11	9	6	2	12	82	2	0	282
08:15	6	5	13	6	3	110	3	4	11	7	3	1	6	91	4	1	274
08:30	8	5	14	3	8	138	6	4	13	14	9	7	9	102	2	2	344
08:45	4	11	11	7	2	137	3	8	6	10	5	6	11	106	0	3	330
Total	20	24	51	24	16	509	14	19	41	40	23	16	38	381	8	6	1230
*** BREAK ***																	
16:00	15	12	10	1	20	199	10	5	13	18	14	10	21	295	22	2	667
16:15	11	16	14	10	21	148	9	1	14	19	14	6	16	277	17	10	603
16:30	6	16	20	5	20	193	14	0	19	14	9	8	16	313	21	3	677
16:45	11	13	11	11	27	182	9	4	10	19	12	8	20	257	15	7	616
Total	43	57	55	27	88	722	42	10	56	70	49	32	73	1142	75	22	2563
17:00	7	14	10	8	29	191	11	3	11	15	20	4	17	309	18	3	670
17:15	13	20	14	3	29	166	11	9	18	13	19	10	27	295	16	4	667
17:30	8	17	13	11	20	191	6	10	15	12	13	4	21	286	12	6	645
17:45	10	21	8	11	25	139	7	6	12	20	19	3	23	225	13	2	544
Total	38	72	45	33	103	687	35	28	56	60	71	21	88	1115	59	15	2526
Grand Total	118	176	209	107	226	2422	109	68	217	217	168	80	229	2909	153	49	7457
Apprch %	19.3	28.9	34.3	17.5	8	85.7	3.9	2.4	31.8	31.8	24.6	11.7	6.9	87.1	4.6	1.5	
Total %	1.6	2.4	2.8	1.4	3	32.5	1.5	0.9	2.9	2.9	2.3	1.1	3.1	39	2.1	0.7	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.13.35TH ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/15/2007
Page No : 2

Start Time	35TH ST Southbound					EL CAJON BLVD Westbound					35TH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	2	3	13	8	26	3	124	2	3	132	11	9	6	2	28	12	82	2	0	96	282
08:15	6	5	13	6	30	3	110	3	4	120	11	7	3	1	22	6	91	4	1	102	274
08:30	8	5	14	3	30	8	138	6	4	156	13	14	9	7	43	9	102	2	2	115	344
08:45	4	11	11	7	33	2	137	3	8	150	6	10	5	6	27	11	106	0	3	120	330
Total Volume	20	24	51	24	119	16	509	14	19	558	41	40	23	16	120	38	381	8	6	433	1230
% App. Total	16.8	20.2	42.9	20.2		2.9	91.2	2.5	3.4		34.2	33.3	19.2	13.3		8.8	88	1.8	1.4		
PHF	.625	.545	.911	.750	.902	.500	.922	.583	.594	.894	.788	.714	.639	.571	.698	.792	.899	.500	.500	.902	.894

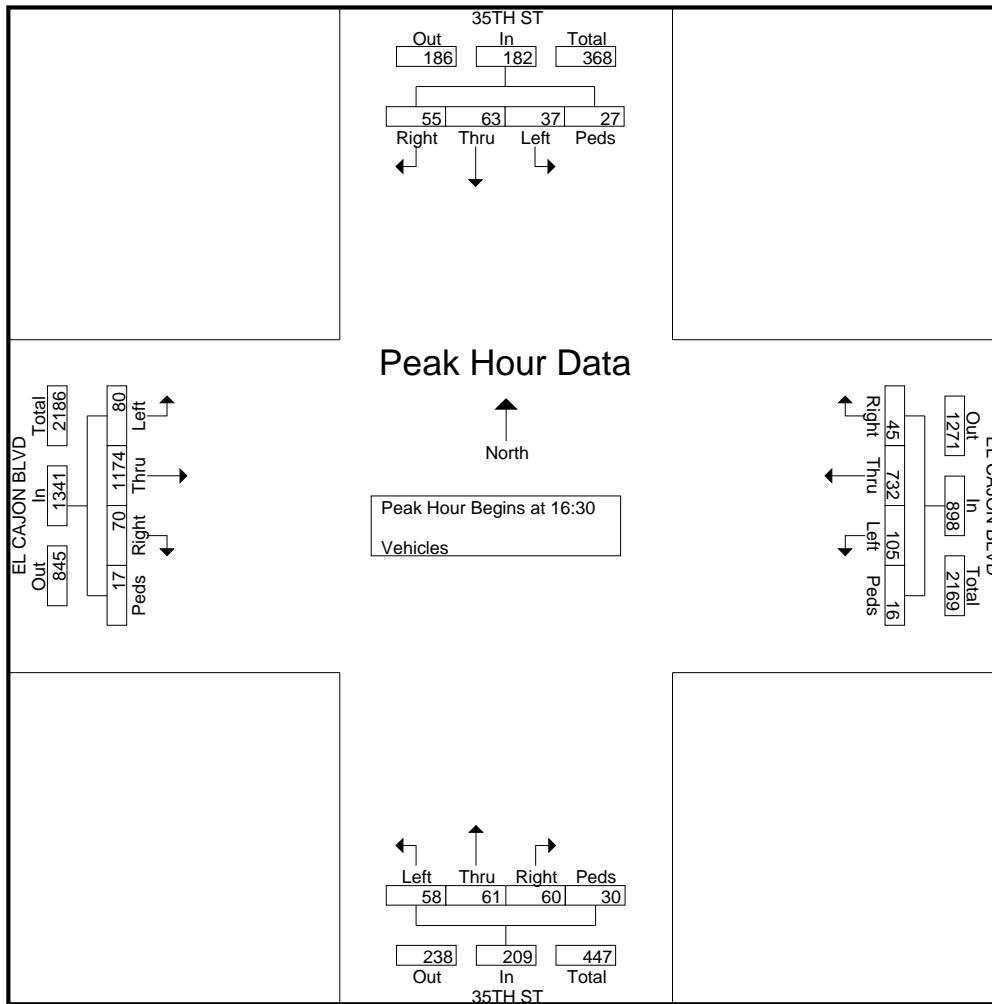


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.13.35TH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 3

Start Time	35TH ST Southbound					EL CAJON BLVD Westbound					35TH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	6	16	20	5	47	20	193	14	0	227	19	14	9	8	50	16	313	21	3	353	677
16:45	11	13	11	11	46	27	182	9	4	222	10	19	12	8	49	20	257	15	7	299	616
17:00	7	14	10	8	39	29	191	11	3	234	11	15	20	4	50	17	309	18	3	347	670
17:15	13	20	14	3	50	29	166	11	9	215	18	13	19	10	60	27	295	16	4	342	667
Total Volume	37	63	55	27	182	105	732	45	16	898	58	61	60	30	209	80	1174	70	17	1341	2630
% App. Total	20.3	34.6	30.2	14.8		11.7	81.5	5	1.8		27.8	29.2	28.7	14.4		6	87.5	5.2	1.3		
PHF	.712	.788	.688	.614	.910	.905	.948	.804	.444	.959	.763	.803	.750	.750	.871	.741	.938	.833	.607	.950	.971



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.14.33RD ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/15/2007
 Page No : 1

Groups Printed- Vehicles

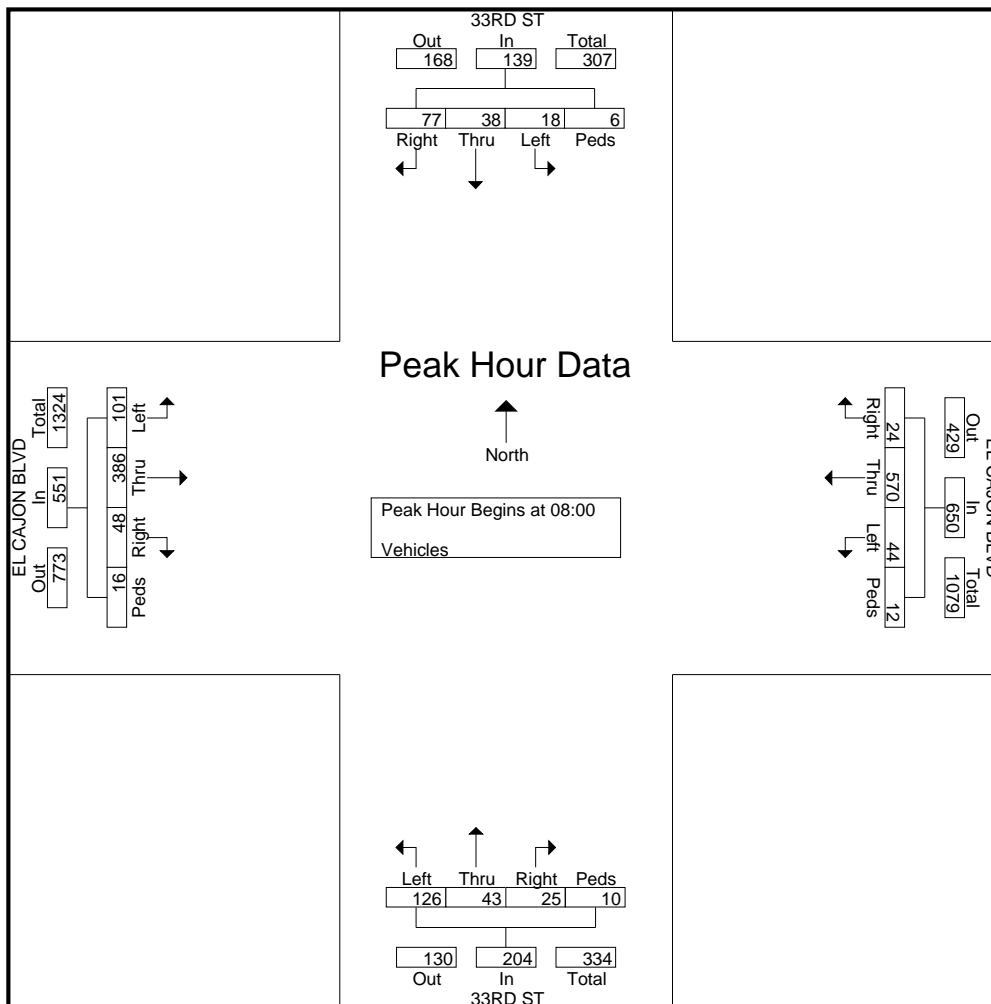
Start Time	33RD ST Southbound				EL CAJON BLVD Westbound				33RD ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	4	5	19	2	6	137	8	0	50	10	6	1	11	48	3	2	312
07:15	7	3	25	1	10	138	9	1	39	4	2	0	20	60	10	1	330
07:30	1	6	43	0	6	145	14	2	48	10	6	1	12	72	10	1	377
07:45	2	7	29	1	5	166	6	4	36	15	8	1	21	74	5	1	381
Total	14	21	116	4	27	586	37	7	173	39	22	3	64	254	28	5	1400
08:00	4	5	27	2	11	141	4	3	32	12	9	3	27	89	13	5	387
08:15	4	10	15	1	12	141	5	2	33	11	3	3	23	99	8	3	373
08:30	2	10	19	2	7	149	6	3	24	7	7	3	21	103	13	2	378
08:45	8	13	16	1	14	139	9	4	37	13	6	1	30	95	14	6	406
Total	18	38	77	6	44	570	24	12	126	43	25	10	101	386	48	16	1544
*** BREAK ***																	
16:00	15	17	33	0	37	183	15	1	20	13	11	1	39	299	31	2	717
16:15	9	12	14	0	21	144	6	3	28	17	13	10	40	285	33	2	637
16:30	9	17	24	0	26	205	8	1	36	17	14	0	58	324	25	2	766
16:45	10	17	30	0	29	163	6	1	36	21	13	1	51	280	29	5	692
Total	43	63	101	0	113	695	35	6	120	68	51	12	188	1188	118	11	2812
17:00	11	12	33	2	18	184	14	1	38	15	23	6	43	299	35	3	737
17:15	12	17	18	0	24	150	8	0	29	17	32	0	31	303	19	2	662
17:30	4	14	22	3	27	178	11	4	33	16	13	2	38	289	32	0	686
17:45	13	16	19	3	23	163	10	0	40	35	16	2	41	243	24	4	652
Total	40	59	92	8	92	675	43	5	140	83	84	10	153	1134	110	9	2737
Grand Total	115	181	386	18	276	2526	139	30	559	233	182	35	506	2962	304	41	8493
Apprch %	16.4	25.9	55.1	2.6	9.3	85	4.7	1	55.4	23.1	18	3.5	13.3	77.7	8	1.1	
Total %	1.4	2.1	4.5	0.2	3.2	29.7	1.6	0.4	6.6	2.7	2.1	0.4	6	34.9	3.6	0.5	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.14.33RD ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/15/2007
Page No : 2

Start Time	33RD ST Southbound					EL CAJON BLVD Westbound					33RD ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	4	5	27	2	38	11	141	4	3	159	32	12	9	3	56	27	89	13	5	134	387
08:15	4	10	15	1	30	12	141	5	2	160	33	11	3	3	50	23	99	8	3	133	373
08:30	2	10	19	2	33	7	149	6	3	165	24	7	7	3	41	21	103	13	2	139	378
08:45	8	13	16	1	38	14	139	9	4	166	37	13	6	1	57	30	95	14	6	145	406
Total Volume	18	38	77	6	139	44	570	24	12	650	126	43	25	10	204	101	386	48	16	551	1544
% App. Total	12.9	27.3	55.4	4.3		6.8	87.7	3.7	1.8		61.8	21.1	12.3	4.9		18.3	70.1	8.7	2.9		
PHF	.563	.731	.713	.750	.914	.786	.956	.667	.750	.979	.851	.827	.694	.833	.895	.842	.937	.857	.667	.950	.951

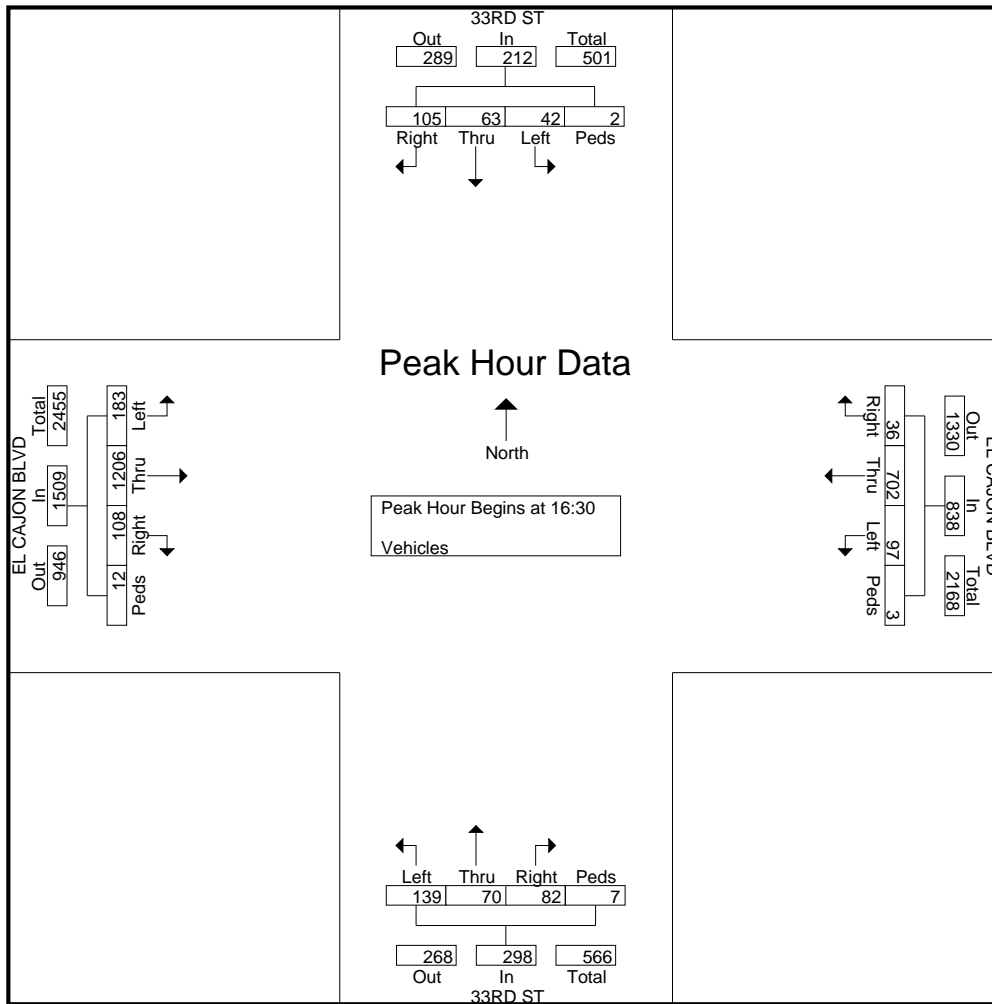


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.14.33RD ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/15/2007
Page No : 3

Start Time	33RD ST Southbound					EL CAJON BLVD Westbound					33RD ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	9	17	24	0	50	26	205	8	1	240	36	17	14	0	67	58	324	25	2	409	766
16:45	10	17	30	0	57	29	163	6	1	199	36	21	13	1	71	51	280	29	5	365	692
17:00	11	12	33	2	58	18	184	14	1	217	38	15	23	6	82	43	299	35	3	380	737
17:15	12	17	18	0	47	24	150	8	0	182	29	17	32	0	78	31	303	19	2	355	662
Total Volume	42	63	105	2	212	97	702	36	3	838	139	70	82	7	298	183	1206	108	12	1509	2857
% App. Total	19.8	29.7	49.5	0.9		11.6	83.8	4.3	0.4		46.6	23.5	27.5	2.3		12.1	79.9	7.2	0.8		
PHF	.875	.926	.795	.250	.914	.836	.856	.643	.750	.873	.914	.833	.641	.292	.909	.789	.931	.771	.600	.922	.932



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.15.I-805 NB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

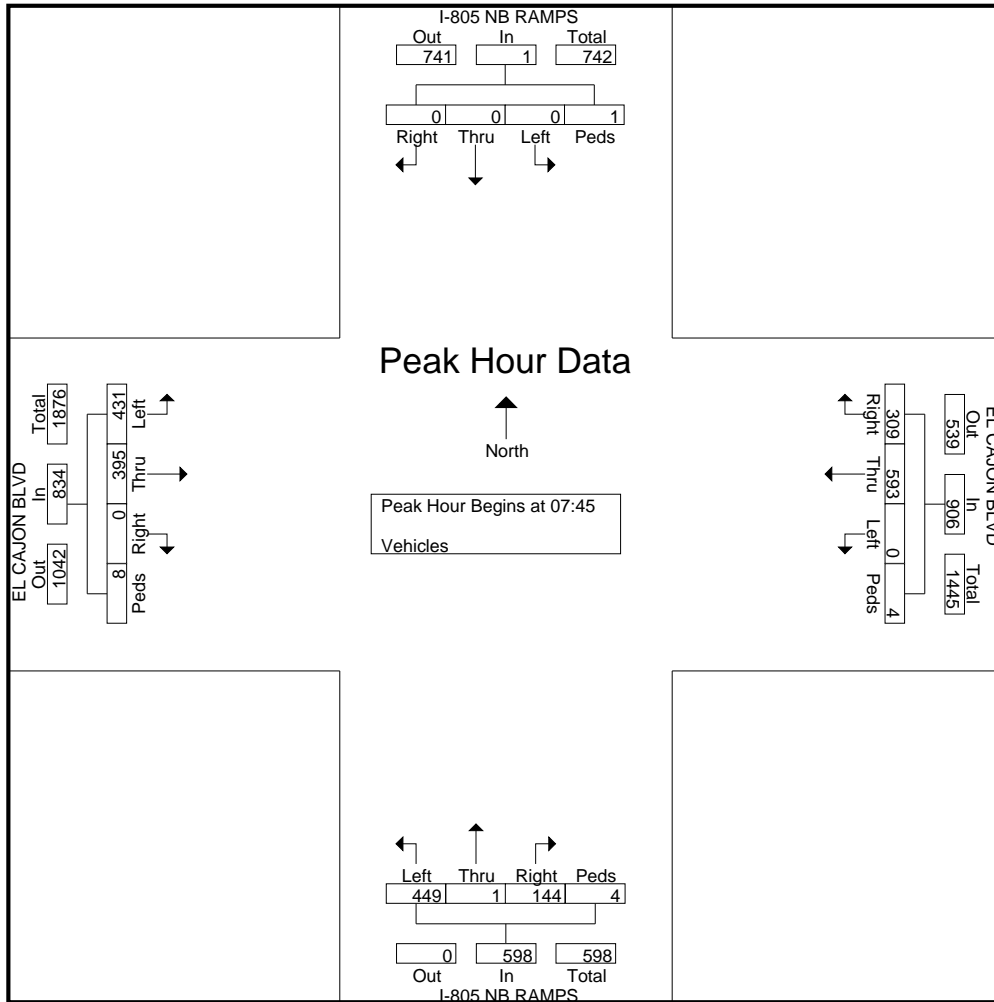
Start Time	I-805 NB RAMPS Southbound				EL CAJON BLVD Westbound				I-805 NB RAMPS Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	0	0	0	0	0	111	92	2	90	0	21	3	84	62	0	0	465
07:15	0	0	0	0	0	131	93	1	114	0	21	0	109	69	0	1	539
07:30	0	0	0	0	0	123	105	2	107	0	31	0	102	69	0	0	539
07:45	0	0	0	1	0	151	95	1	104	1	25	0	117	80	0	1	576
Total	0	0	0	1	0	516	385	6	415	1	98	3	412	280	0	2	2119
08:00	0	0	0	0	0	149	82	2	104	0	39	1	103	94	0	3	577
08:15	0	0	0	0	0	161	77	1	128	0	39	1	104	104	0	0	615
08:30	0	0	0	0	0	132	55	0	113	0	41	2	107	117	0	4	571
08:45	0	0	0	0	0	128	52	0	115	0	38	0	102	108	0	3	546
Total	0	0	0	0	0	570	266	3	460	0	157	4	416	423	0	10	2309
*** BREAK ***																	
16:00	0	0	0	0	0	200	44	3	75	0	54	1	112	326	0	1	816
16:15	0	0	0	2	0	181	70	10	118	0	58	9	105	330	0	2	885
16:30	0	0	0	2	0	172	43	0	108	0	68	2	97	301	0	5	798
16:45	0	0	0	0	0	182	68	1	129	0	71	2	60	301	0	0	814
Total	0	0	0	4	0	735	225	14	430	0	251	14	374	1258	0	8	3313
17:00	0	0	0	3	0	185	54	5	108	1	59	1	80	337	0	1	834
17:15	0	0	0	0	0	198	59	1	103	1	66	0	70	341	0	2	841
17:30	0	0	0	2	0	212	62	5	103	0	63	3	78	348	0	2	878
17:45	0	0	0	0	0	208	53	3	99	0	61	3	86	328	0	4	845
Total	0	0	0	5	0	803	228	14	413	2	249	7	314	1354	0	9	3398
Grand Total	0	0	0	10	0	2624	1104	37	1718	3	755	28	1516	3315	0	29	11139
Apprch %	0	0	0	100	0	69.7	29.3	1	68.6	0.1	30.2	1.1	31.2	68.2	0	0.6	
Total %	0	0	0	0.1	0	23.6	9.9	0.3	15.4	0	6.8	0.3	13.6	29.8	0	0.3	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.15.I-805 NB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	I-805 NB RAMPS Southbound					EL CAJON BLVD Westbound					I-805 NB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	1	1	0	151	95	1	247	104	1	25	0	130	117	80	0	1	198	576
08:00	0	0	0	0	0	0	149	82	2	233	104	0	39	1	144	103	94	0	3	200	577
08:15	0	0	0	0	0	0	161	77	1	239	128	0	39	1	168	104	104	0	0	208	615
08:30	0	0	0	0	0	0	132	55	0	187	113	0	41	2	156	107	117	0	4	228	571
Total Volume	0	0	0	1	1	0	593	309	4	906	449	1	144	4	598	431	395	0	8	834	2339
% App. Total	0	0	0	100		0	65.5	34.1	0.4		75.1	0.2	24.1	0.7		51.7	47.4	0	1		
PHF	.000	.000	.000	.250	.250	.000	.921	.813	.500	.917	.877	.250	.878	.500	.890	.921	.844	.000	.500	.914	.951

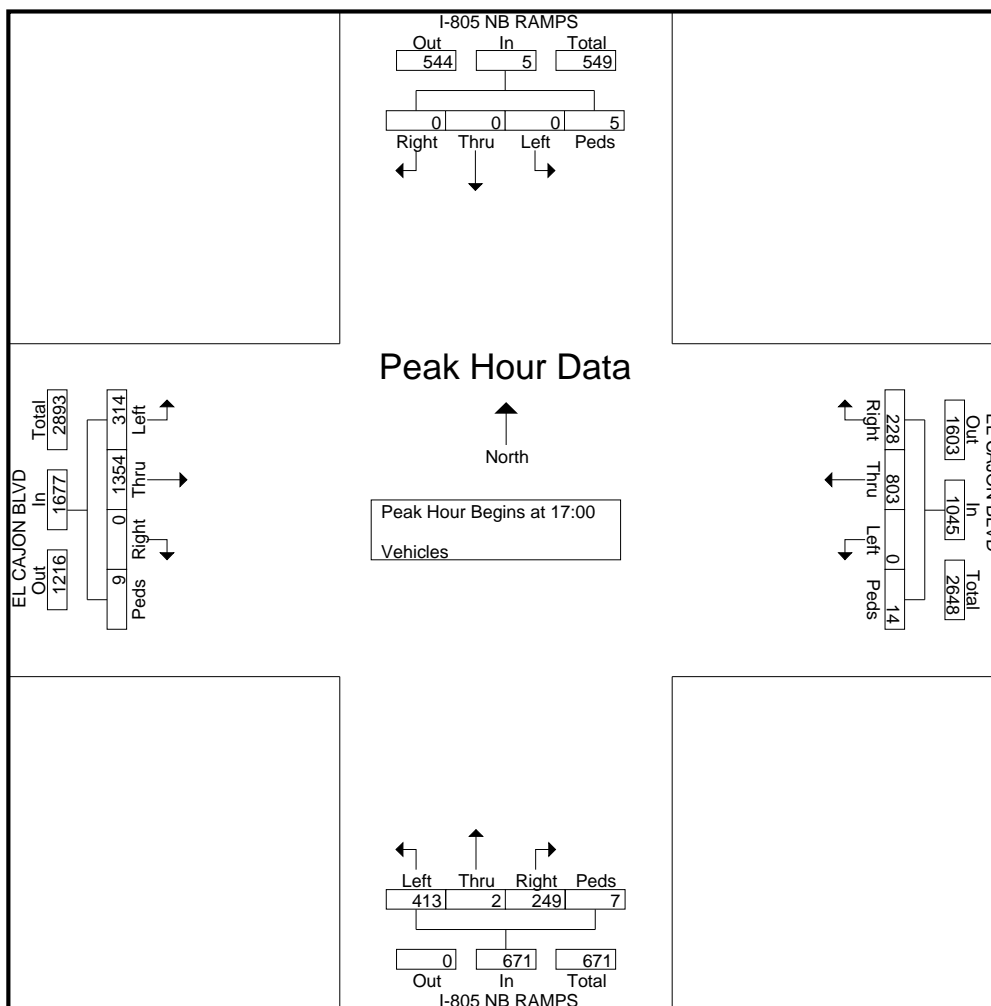


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.15.I-805 NB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	I-805 NB RAMPS Southbound					EL CAJON BLVD Westbound					I-805 NB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 09:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	3	3	0	185	54	5	244	108	1	59	1	169	80	337	0	1	418	834
17:15	0	0	0	0	0	0	198	59	1	258	103	1	66	0	170	70	341	0	2	413	841
17:30	0	0	0	2	2	0	212	62	5	279	103	0	63	3	169	78	348	0	2	428	878
17:45	0	0	0	0	0	0	208	53	3	264	99	0	61	3	163	86	328	0	4	418	845
Total Volume	0	0	0	5	5	0	803	228	14	1045	413	2	249	7	671	314	1354	0	9	1677	3398
% App. Total	0	0	0	100		0	76.8	21.8	1.3		61.5	0.3	37.1	1		18.7	80.7	0	0.5		
PHF	.000	.000	.000	.417	.417	.000	.947	.919	.700	.936	.956	.500	.943	.583	.987	.913	.973	.000	.563	.980	.968



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.16.I-805 SB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

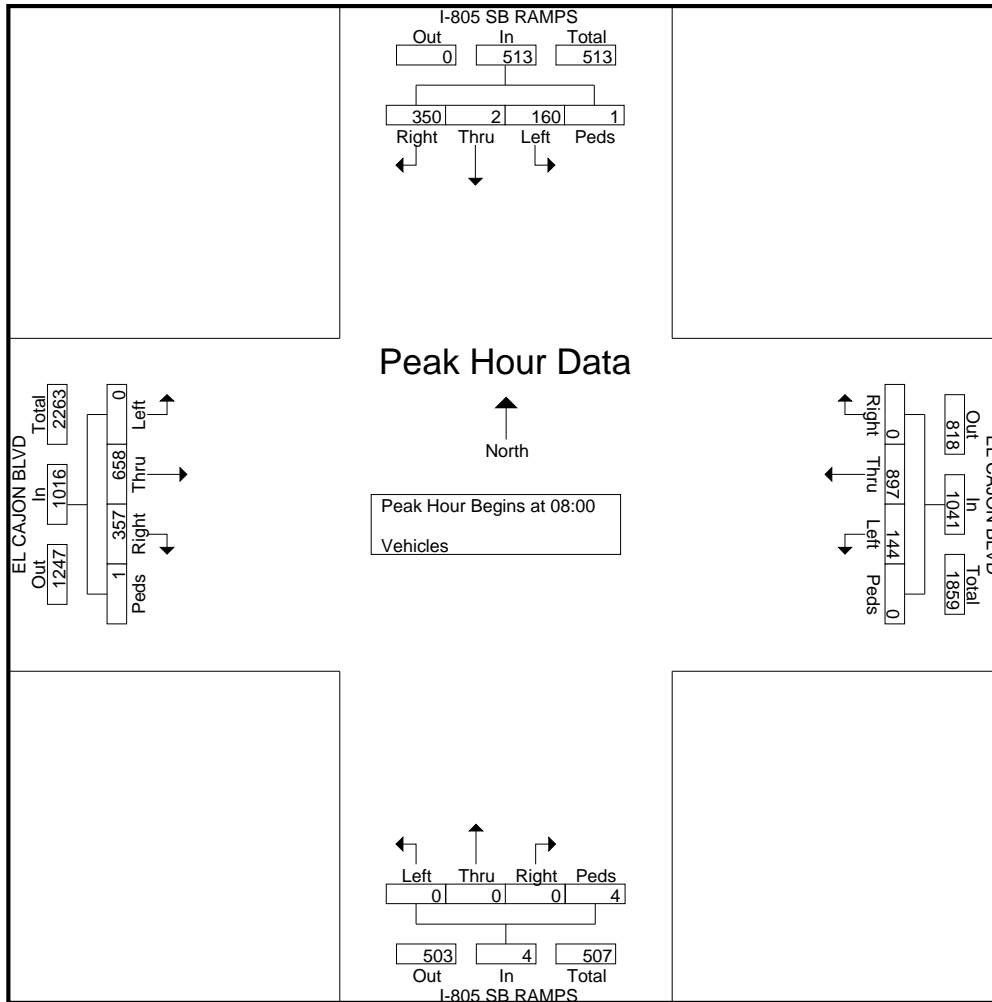
Start Time	I-805 SB RAMPS Southbound				EL CAJON BLVD Westbound				I-805 SB RAMPS Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	28	1	57	2	40	151	0	0	0	0	0	1	0	125	67	0	472
07:15	24	0	79	0	45	200	0	0	0	0	0	0	0	134	96	0	578
07:30	29	0	58	0	57	182	0	0	0	0	0	0	0	138	90	0	554
07:45	31	0	70	2	35	204	0	0	0	0	0	0	0	176	118	0	636
Total	112	1	264	4	177	737	0	0	0	0	0	1	0	573	371	0	2240
08:00	38	0	66	0	29	203	0	0	0	0	0	0	0	163	81	0	580
08:15	33	1	80	0	41	244	0	0	0	0	0	0	0	166	77	0	642
08:30	47	1	82	0	40	210	0	0	0	0	0	0	0	180	82	1	643
08:45	42	0	122	1	34	240	0	0	0	0	0	4	0	149	117	0	709
Total	160	2	350	1	144	897	0	0	0	0	0	4	0	658	357	1	2574
*** BREAK ***																	
16:00	134	0	142	0	50	226	0	0	0	0	0	0	0	296	77	0	925
16:15	147	0	182	0	41	220	0	0	0	0	0	0	0	305	123	0	1018
16:30	122	0	152	0	51	242	0	0	0	0	0	0	0	332	127	0	1026
16:45	143	0	150	0	49	244	0	0	0	0	0	0	0	265	118	0	969
Total	546	0	626	0	191	932	0	0	0	0	0	0	0	1198	445	0	3938
17:00	131	1	133	3	48	258	0	0	0	0	0	0	0	286	118	0	978
17:15	145	0	212	0	47	223	0	0	0	0	0	0	0	265	188	0	1080
17:30	150	0	261	3	56	253	0	0	0	0	0	0	0	278	160	2	1163
17:45	148	0	235	0	72	248	0	0	0	0	0	0	0	284	122	3	1112
Total	574	1	841	6	223	982	0	0	0	0	0	0	0	1113	588	5	4333
Grand Total	1392	4	2081	11	735	3548	0	0	0	0	0	5	0	3542	1761	6	13085
Apprch %	39.9	0.1	59.7	0.3	17.2	82.8	0	0	0	0	0	100	0	66.7	33.2	0.1	
Total %	10.6	0	15.9	0.1	5.6	27.1	0	0	0	0	0	0	0	27.1	13.5	0	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.16.I-805 SB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	I-805 SB RAMPS Southbound					EL CAJON BLVD Westbound					I-805 SB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	38	0	66	0	104	29	203	0	0	232	0	0	0	0	0	0	163	81	0	244	580
08:15	33	1	80	0	114	41	244	0	0	285	0	0	0	0	0	0	166	77	0	243	642
08:30	47	1	82	0	130	40	210	0	0	250	0	0	0	0	0	0	180	82	1	263	643
08:45	42	0	122	1	165	34	240	0	0	274	0	0	0	4	4	0	149	117	0	266	709
Total Volume	160	2	350	1	513	144	897	0	0	1041	0	0	0	4	4	0	658	357	1	1016	2574
% App. Total	31.2	0.4	68.2	0.2		13.8	86.2	0	0		0	0	0	100		0	64.8	35.1	0.1		
PHF	.851	.500	.717	.250	.777	.878	.919	.000	.000	.913	.000	.000	.000	.250	.250	.000	.914	.763	.250	.955	.908

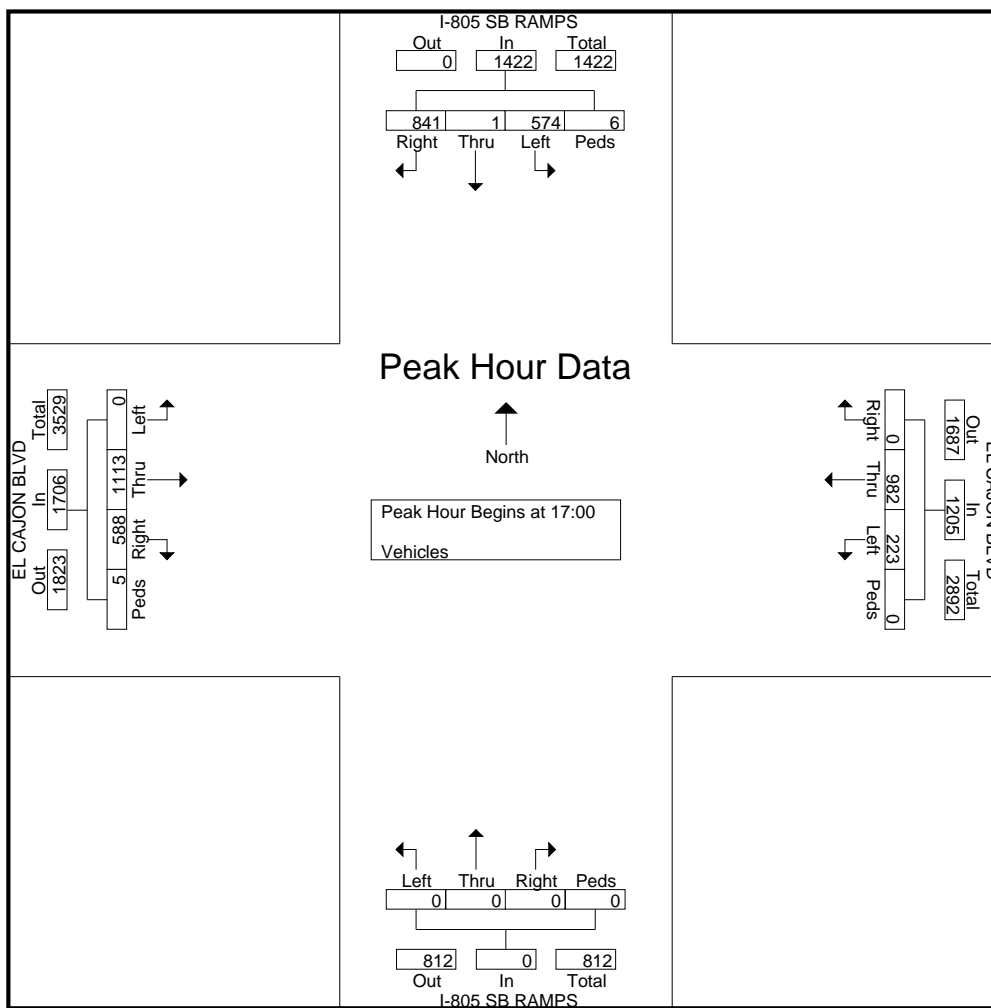


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.16.I-805 SB RAMPS.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	I-805 SB RAMPS Southbound					EL CAJON BLVD Westbound					I-805 SB RAMPS Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	131	1	133	3	268	48	258	0	0	306	0	0	0	0	0	0	286	118	0	404	978
17:15	145	0	212	0	357	47	223	0	0	270	0	0	0	0	0	0	265	188	0	453	1080
17:30	150	0	261	3	414	56	253	0	0	309	0	0	0	0	0	0	278	160	2	440	1163
17:45	148	0	235	0	383	72	248	0	0	320	0	0	0	0	0	0	284	122	3	409	1112
Total Volume	574	1	841	6	1422	223	982	0	0	1205	0	0	0	0	0	0	1113	588	5	1706	4333
% App. Total	40.4	0.1	59.1	0.4		18.5	81.5	0	0		0	0	0	0	0	0	65.2	34.5	0.3		
PHF	.957	.250	.806	.500	.859	.774	.952	.000	.000	.941	.000	.000	.000	.000	.000	.000	.973	.782	.417	.942	.931



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.17.30TH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

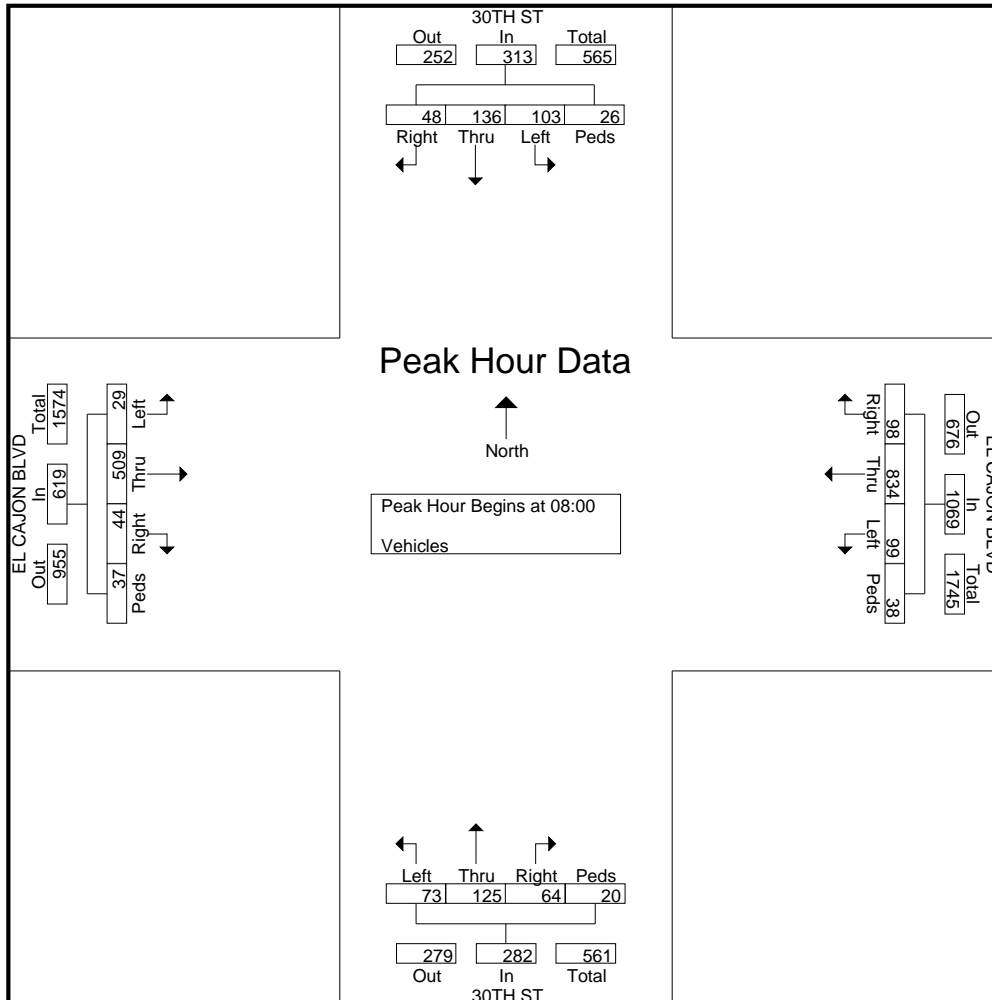
Start Time	30TH ST Southbound				EL CAJON BLVD Westbound				30TH ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	24	25	14	12	10	155	18	10	12	23	8	6	7	96	12	7	439
07:15	32	18	7	3	13	186	19	6	22	39	13	3	3	94	8	2	468
07:30	33	29	7	2	12	178	23	3	18	35	14	2	7	103	4	10	480
07:45	27	32	9	3	26	184	15	19	22	43	16	4	3	138	6	11	558
Total	116	104	37	20	61	703	75	38	74	140	51	15	20	431	30	30	1945
08:00	22	25	14	6	22	192	23	5	15	27	14	6	10	122	7	10	520
08:15	19	39	11	4	23	206	29	8	18	23	14	6	8	118	13	12	551
08:30	18	33	9	8	21	202	21	9	19	32	23	2	5	115	9	10	536
08:45	44	39	14	8	33	234	25	16	21	43	13	6	6	154	15	5	676
Total	103	136	48	26	99	834	98	38	73	125	64	20	29	509	44	37	2283
*** BREAK ***																	
16:00	19	53	8	4	24	215	17	13	23	47	24	10	21	283	18	9	788
16:15	30	36	8	2	37	231	43	2	22	51	19	8	15	243	25	6	778
16:30	36	52	11	3	26	226	36	22	21	51	26	6	26	231	23	22	818
16:45	37	61	9	5	38	257	37	8	27	43	13	11	22	272	22	21	883
Total	122	202	36	14	125	929	133	45	93	192	82	35	84	1029	88	58	3267
17:00	35	58	8	6	34	196	19	15	15	54	29	8	14	232	26	13	762
17:15	53	50	14	11	36	247	40	11	24	60	16	6	17	299	28	11	923
17:30	40	67	17	10	48	255	26	7	29	60	25	6	16	236	38	21	901
17:45	34	48	18	7	38	239	25	7	25	43	22	5	17	252	38	7	825
Total	162	223	57	34	156	937	110	40	93	217	92	25	64	1019	130	52	3411
Grand Total	503	665	178	94	441	3403	416	161	333	674	289	95	197	2988	292	177	10906
Apprch %	34.9	46.2	12.4	6.5	10	77	9.4	3.6	23.9	48.5	20.8	6.8	5.4	81.8	8	4.8	
Total %	4.6	6.1	1.6	0.9	4	31.2	3.8	1.5	3.1	6.2	2.6	0.9	1.8	27.4	2.7	1.6	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.17.30TH ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/21/2007
Page No : 2

Start Time	30TH ST Southbound					EL CAJON BLVD Westbound					30TH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	22	25	14	6	67	22	192	23	5	242	15	27	14	6	62	10	122	7	10	149	520
08:15	19	39	11	4	73	23	206	29	8	266	18	23	14	6	61	8	118	13	12	151	551
08:30	18	33	9	8	68	21	202	21	9	253	19	32	23	2	76	5	115	9	10	139	536
08:45	44	39	14	8	105	33	234	25	16	308	21	43	13	6	83	6	154	15	5	180	676
Total Volume	103	136	48	26	313	99	834	98	38	1069	73	125	64	20	282	29	509	44	37	619	2283
% App. Total	32.9	43.5	15.3	8.3		9.3	78	9.2	3.6		25.9	44.3	22.7	7.1		4.7	82.2	7.1	6		
PHF	.585	.872	.857	.813	.745	.750	.891	.845	.594	.868	.869	.727	.696	.833	.849	.725	.826	.733	.771	.860	.844

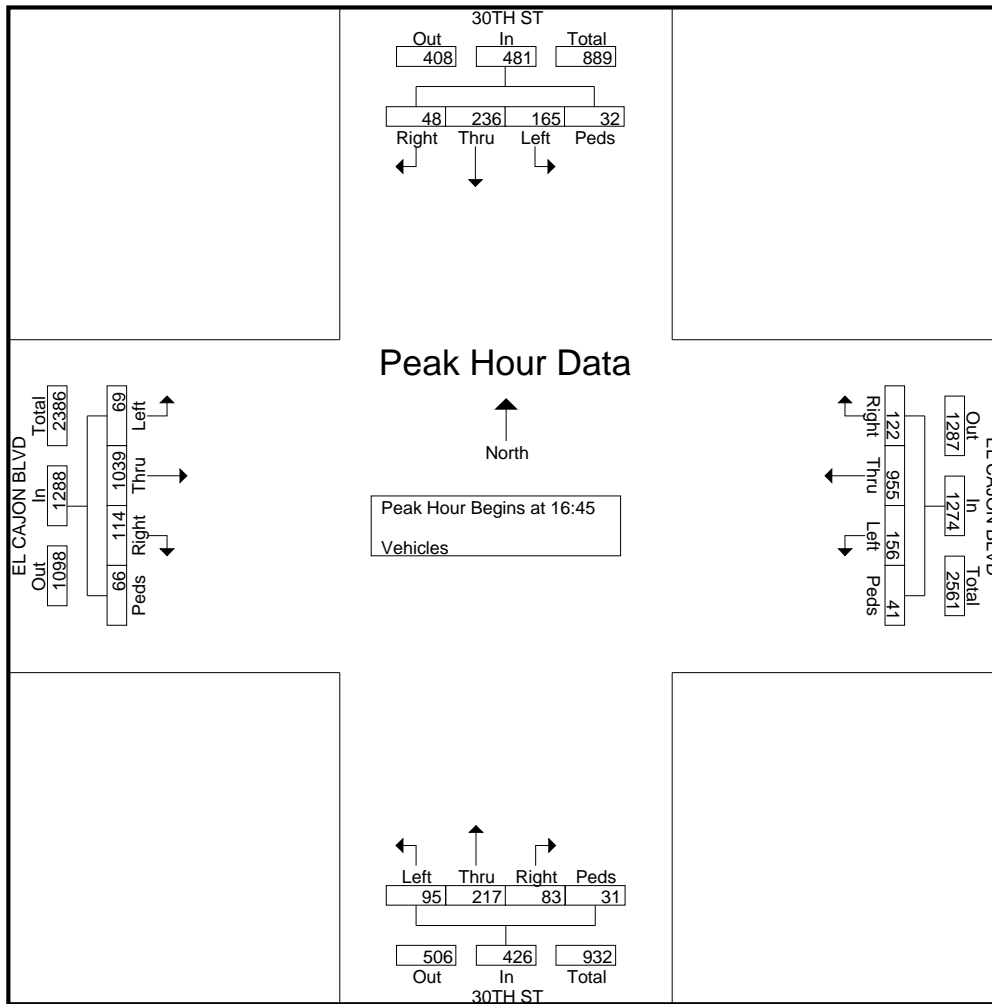


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.17.30TH ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	30TH ST Southbound					EL CAJON BLVD Westbound					30TH ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	37	61	9	5	112	38	257	37	8	340	27	43	13	11	94	22	272	22	21	337	883
17:00	35	58	8	6	107	34	196	19	15	264	15	54	29	8	106	14	232	26	13	285	762
17:15	53	50	14	11	128	36	247	40	11	334	24	60	16	6	106	17	299	28	11	355	923
17:30	40	67	17	10	134	48	255	26	7	336	29	60	25	6	120	16	236	38	21	311	901
Total Volume	165	236	48	32	481	156	955	122	41	1274	95	217	83	31	426	69	1039	114	66	1288	3469
% App. Total	34.3	49.1	10	6.7		12.2	75	9.6	3.2		22.3	50.9	19.5	7.3		5.4	80.7	8.9	5.1		
PHF	.778	.881	.706	.727	.897	.813	.929	.763	.683	.937	.819	.904	.716	.705	.888	.784	.869	.750	.786	.907	.940



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.18.TEXAS ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

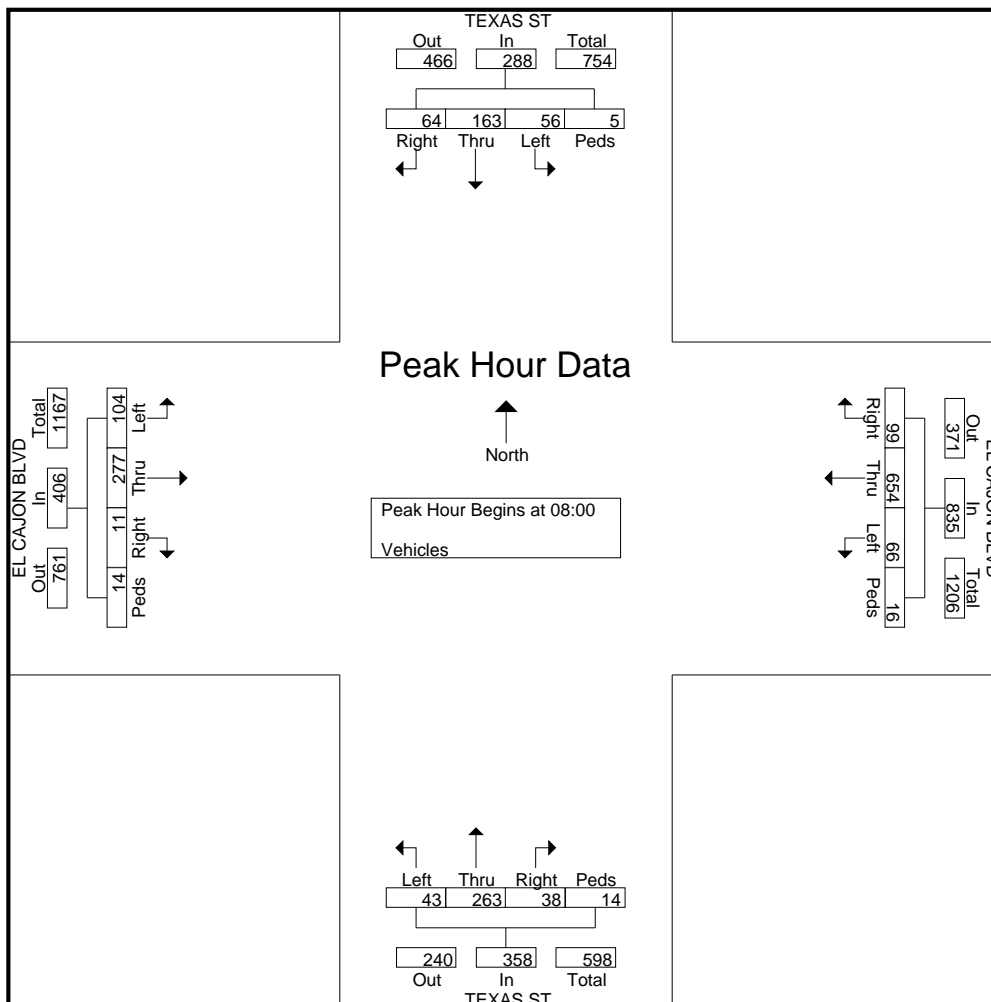
Start Time	TEXAS ST Southbound				EL CAJON BLVD Westbound				TEXAS ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	14	27	10	5	12	131	16	3	8	49	4	2	16	54	3	2	356
07:15	20	26	15	2	9	139	16	6	14	48	7	2	30	68	1	1	404
07:30	18	20	15	2	12	137	40	2	16	64	6	2	34	43	2	9	422
07:45	17	40	5	0	15	145	23	0	14	66	7	4	20	70	3	0	429
Total	69	113	45	9	48	552	95	11	52	227	24	10	100	235	9	12	1611
08:00	19	41	15	1	18	183	23	5	11	65	7	6	27	60	3	3	487
08:15	10	46	15	0	10	160	20	6	13	72	5	5	31	66	3	4	466
08:30	12	29	15	1	12	171	27	2	12	51	11	0	23	69	3	5	443
08:45	15	47	19	3	26	140	29	3	7	75	15	3	23	82	2	2	491
Total	56	163	64	5	66	654	99	16	43	263	38	14	104	277	11	14	1887
*** BREAK ***																	
16:00	37	99	24	4	13	135	23	1	4	74	19	2	33	198	4	4	674
16:15	41	103	28	2	10	147	14	2	3	77	9	1	50	173	6	3	669
16:30	39	66	24	2	31	127	16	4	7	72	13	2	39	177	9	4	632
16:45	36	129	22	1	28	184	11	4	5	53	13	3	35	216	5	5	750
Total	153	397	98	9	82	593	64	11	19	276	54	8	157	764	24	16	2725
17:00	51	101	18	0	17	112	22	4	14	64	13	1	50	220	14	5	706
17:15	45	110	32	2	23	134	26	0	12	69	11	1	44	239	9	15	772
17:30	50	110	23	0	31	228	23	2	8	70	13	0	33	208	4	0	803
17:45	29	150	31	1	24	125	22	2	16	98	6	0	57	207	5	5	778
Total	175	471	104	3	95	599	93	8	50	301	43	2	184	874	32	25	3059
Grand Total	453	1144	311	26	291	2398	351	46	164	1067	159	34	545	2150	76	67	9282
Apprch %	23.4	59.2	16.1	1.3	9.4	77.7	11.4	1.5	11.5	74.9	11.2	2.4	19.2	75.8	2.7	2.4	
Total %	4.9	12.3	3.4	0.3	3.1	25.8	3.8	0.5	1.8	11.5	1.7	0.4	5.9	23.2	0.8	0.7	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.18.TEXAS ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/21/2007
Page No : 2

Start Time	TEXAS ST Southbound					EL CAJON BLVD Westbound					TEXAS ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	19	41	15	1	76	18	183	23	5	229	11	65	7	6	89	27	60	3	3	93	487
08:15	10	46	15	0	71	10	160	20	6	196	13	72	5	5	95	31	66	3	4	104	466
08:30	12	29	15	1	57	12	171	27	2	212	12	51	11	0	74	23	69	3	5	100	443
08:45	15	47	19	3	84	26	140	29	3	198	7	75	15	3	100	23	82	2	2	109	491
Total Volume	56	163	64	5	288	66	654	99	16	835	43	263	38	14	358	104	277	11	14	406	1887
% App. Total	19.4	56.6	22.2	1.7		7.9	78.3	11.9	1.9		12	73.5	10.6	3.9		25.6	68.2	2.7	3.4		
PHF	.737	.867	.842	.417	.857	.635	.893	.853	.667	.912	.827	.877	.633	.583	.895	.839	.845	.917	.700	.931	.961

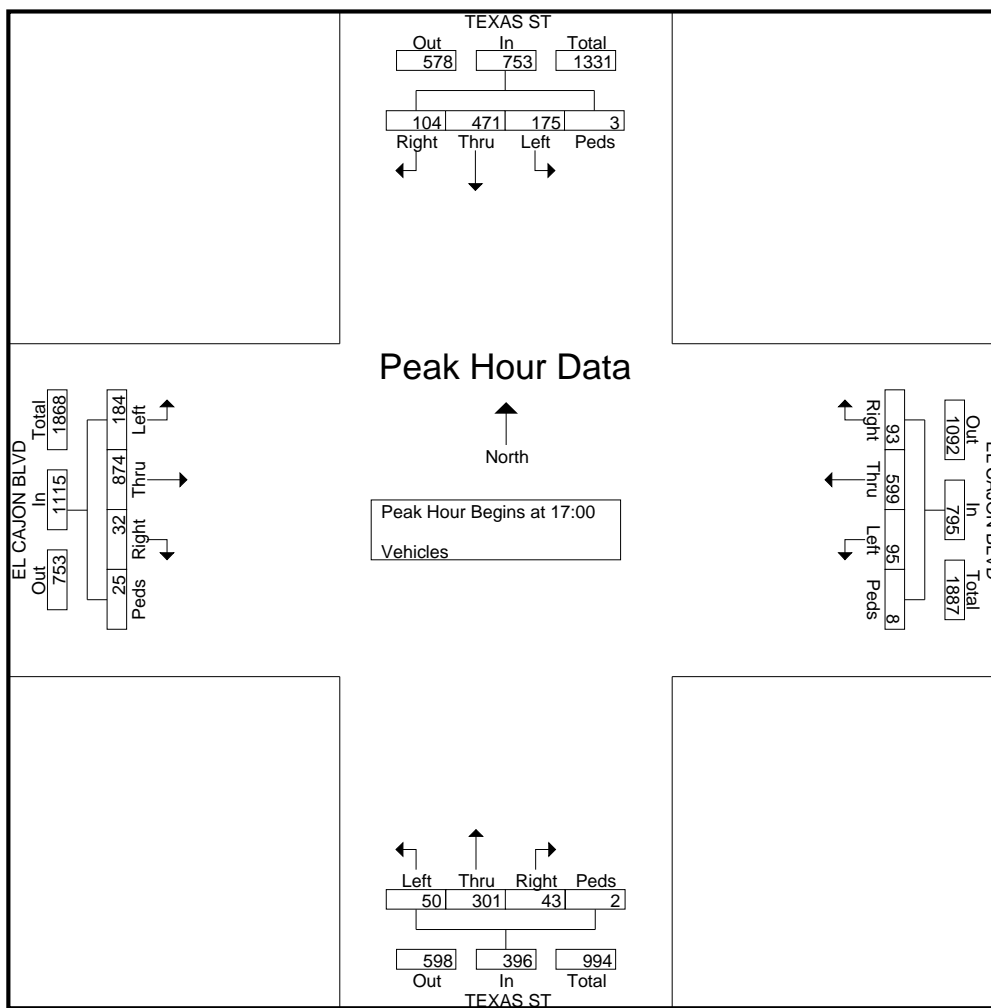


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.18.TEXAS ST.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/21/2007
Page No : 3

Start Time	TEXAS ST Southbound					EL CAJON BLVD Westbound					TEXAS ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	51	101	18	0	170	17	112	22	4	155	14	64	13	1	92	50	220	14	5	289	706
17:15	45	110	32	2	189	23	134	26	0	183	12	69	11	1	93	44	239	9	15	307	772
17:30	50	110	23	0	183	31	228	23	2	284	8	70	13	0	91	33	208	4	0	245	803
17:45	29	150	31	1	211	24	125	22	2	173	16	98	6	0	120	57	207	5	5	274	778
Total Volume	175	471	104	3	753	95	599	93	8	795	50	301	43	2	396	184	874	32	25	1115	3059
% App. Total	23.2	62.5	13.8	0.4		11.9	75.3	11.7	1		12.6	76	10.9	0.5		16.5	78.4	2.9	2.2		
PHF	.858	.785	.813	.375	.892	.766	.657	.894	.500	.700	.781	.768	.827	.500	.825	.807	.914	.571	.417	.908	.952



True Count
 3401 First Ave. #123
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File Name : 1080.19.FLORIDA ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

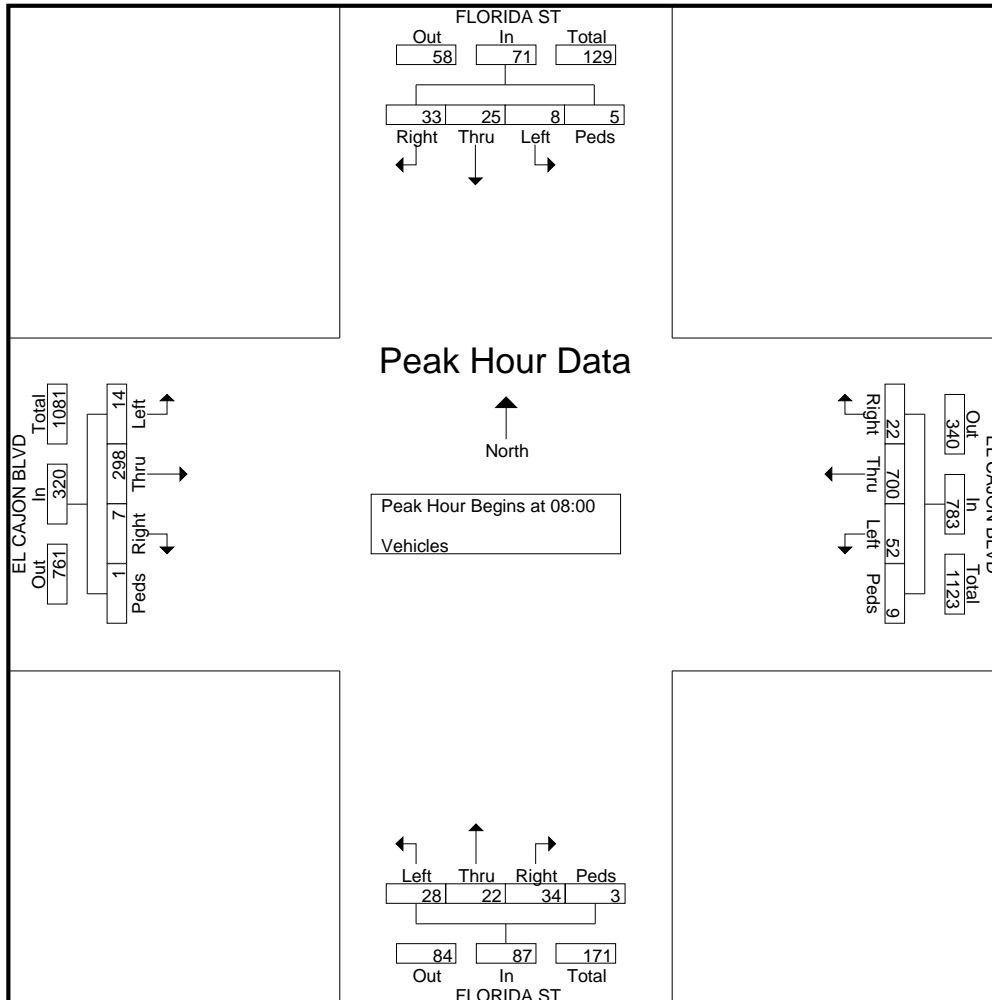
Start Time	FLORIDA ST Southbound				EL CAJON BLVD Westbound				FLORIDA ST Northbound				EL CAJON BLVD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	1	4	7	0	10	128	5	3	4	5	15	2	0	51	0	0	235
07:15	2	7	9	1	9	156	3	3	4	3	10	3	2	56	0	4	272
07:30	2	8	9	0	12	163	4	3	5	4	11	6	2	52	2	0	283
07:45	4	13	7	1	5	174	2	1	9	4	9	0	2	69	3	0	303
Total	9	32	32	2	36	621	14	10	22	16	45	11	6	228	5	4	1093
08:00	2	7	8	3	8	210	2	2	5	7	11	1	0	61	4	0	331
08:15	3	4	9	0	9	156	7	0	6	5	7	1	5	79	1	0	292
08:30	2	8	5	0	23	173	9	2	8	7	9	0	4	68	1	0	319
08:45	1	6	11	2	12	161	4	5	9	3	7	1	5	90	1	1	319
Total	8	25	33	5	52	700	22	9	28	22	34	3	14	298	7	1	1261
BREAK																	
16:00	6	16	3	0	22	121	1	1	4	12	17	2	13	224	6	4	452
16:15	3	18	6	1	22	121	4	3	2	19	16	1	12	206	9	6	449
16:30	1	12	6	0	19	122	7	1	7	5	19	0	10	197	7	5	418
16:45	3	14	4	1	26	109	7	3	3	13	25	1	10	231	8	4	462
Total	13	60	19	2	89	473	19	8	16	49	77	4	45	858	30	19	1781
17:00	6	19	2	2	12	89	4	0	4	15	29	0	9	286	6	3	486
17:15	3	14	3	1	21	117	5	5	4	15	21	6	12	267	15	1	510
17:30	6	17	3	1	25	126	4	3	2	15	22	3	11	214	4	4	460
17:45	5	14	7	0	21	124	11	1	2	12	19	3	10	235	3	3	470
Total	20	64	15	4	79	456	24	9	12	57	91	12	42	1002	28	11	1926
Grand Total	50	181	99	13	256	2250	79	36	78	144	247	30	107	2386	70	35	6061
Apprch %	14.6	52.8	28.9	3.8	9.8	85.8	3	1.4	15.6	28.9	49.5	6	4.1	91.8	2.7	1.3	
Total %	0.8	3	1.6	0.2	4.2	37.1	1.3	0.6	1.3	2.4	4.1	0.5	1.8	39.4	1.2	0.6	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.19.FLORIDA ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	FLORIDA ST Southbound					EL CAJON BLVD Westbound					FLORIDA ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	2	7	8	3	20	8	210	2	2	222	5	7	11	1	24	0	61	4	0	65	331
08:15	3	4	9	0	16	9	156	7	0	172	6	5	7	1	19	5	79	1	0	85	292
08:30	2	8	5	0	15	23	173	9	2	207	8	7	9	0	24	4	68	1	0	73	319
08:45	1	6	11	2	20	12	161	4	5	182	9	3	7	1	20	5	90	1	1	97	319
Total Volume	8	25	33	5	71	52	700	22	9	783	28	22	34	3	87	14	298	7	1	320	1261
% App. Total	11.3	35.2	46.5	7		6.6	89.4	2.8	1.1		32.2	25.3	39.1	3.4		4.4	93.1	2.2	0.3		
PHF	.667	.781	.750	.417	.888	.565	.833	.611	.450	.882	.778	.786	.773	.750	.906	.700	.828	.438	.250	.825	.952

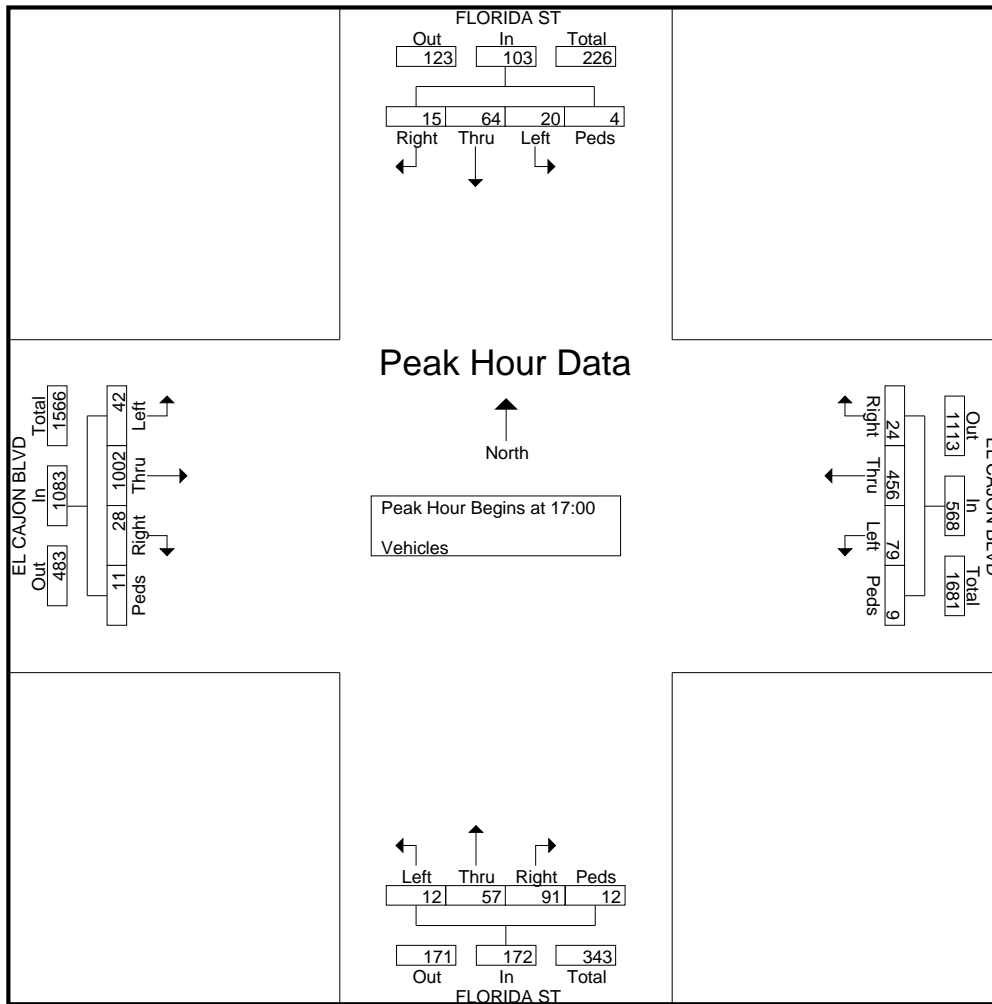


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.19.FLORIDA ST.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	FLORIDA ST Southbound					EL CAJON BLVD Westbound					FLORIDA ST Northbound					EL CAJON BLVD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	6	19	2	2	29	12	89	4	0	105	4	15	29	0	48	9	286	6	3	304	486
17:15	3	14	3	1	21	21	117	5	5	148	4	15	21	6	46	12	267	15	1	295	510
17:30	6	17	3	1	27	25	126	4	3	158	2	15	22	3	42	11	214	4	4	233	460
17:45	5	14	7	0	26	21	124	11	1	157	2	12	19	3	36	10	235	3	3	251	470
Total Volume	20	64	15	4	103	79	456	24	9	568	12	57	91	12	172	42	1002	28	11	1083	1926
% App. Total	19.4	62.1	14.6	3.9		13.9	80.3	4.2	1.6		7	33.1	52.9	7		3.9	92.5	2.6	1		
PHF	.833	.842	.536	.500	.888	.790	.905	.545	.450	.899	.750	.950	.784	.500	.896	.875	.876	.467	.688	.891	.944



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.20.PARK BLVD.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

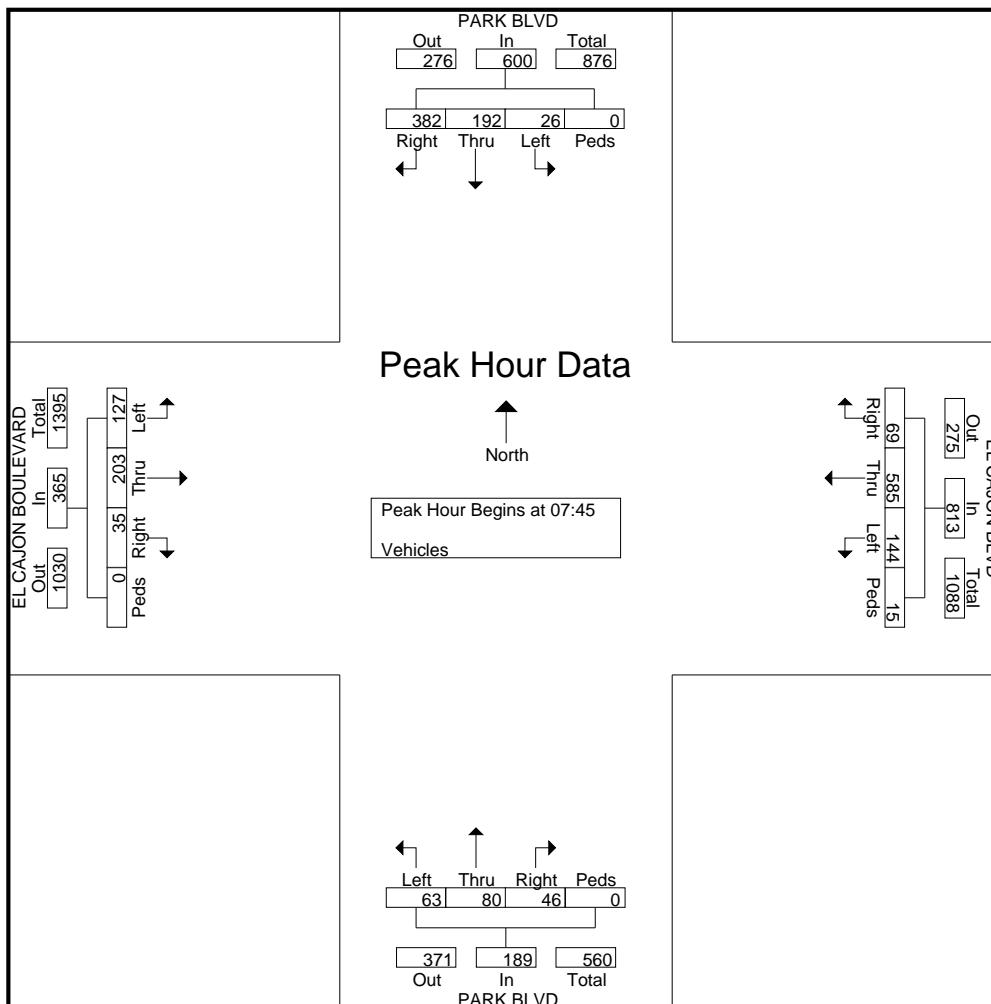
Start Time	PARK BLVD Southbound				EL CAJON BLVD Westbound				PARK BLVD Northbound				EL CAJON BOULEVARD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	2	30	53	0	23	94	11	6	11	14	9	0	13	37	3	0	306
07:15	4	39	71	1	27	135	13	5	13	11	4	0	27	39	7	0	396
07:30	3	33	80	0	22	147	19	3	12	13	7	1	31	46	7	0	424
07:45	9	65	117	0	26	155	20	9	19	19	14	0	24	43	6	0	526
Total	18	167	321	1	98	531	63	23	55	57	34	1	95	165	23	0	1652
08:00	6	44	93	0	36	169	18	1	9	25	13	0	29	49	10	0	502
08:15	5	42	96	0	39	125	12	3	16	19	11	0	34	57	7	0	466
08:30	6	41	76	0	43	136	19	2	19	17	8	0	40	54	12	0	473
08:45	12	47	51	1	49	119	14	7	12	28	22	0	41	65	9	0	477
Total	29	174	316	1	167	549	63	13	56	89	54	0	144	225	38	0	1918
BREAK																	
16:00	12	32	35	0	26	80	18	5	10	54	32	0	77	152	14	0	547
16:15	10	40	41	2	28	84	21	6	14	63	41	0	74	148	13	0	585
16:30	18	34	36	0	32	77	21	7	18	43	30	0	84	157	18	0	575
16:45	13	52	56	0	31	71	12	4	24	61	37	0	88	180	25	0	654
Total	53	158	168	2	117	312	72	22	66	221	140	0	323	637	70	0	2361
17:00	28	36	58	0	22	65	14	5	17	61	54	0	105	193	20	0	678
17:15	13	48	56	0	37	71	19	5	16	91	56	0	68	178	40	0	698
17:30	23	52	76	0	43	76	23	2	16	69	47	0	113	146	15	0	701
17:45	18	55	53	1	42	73	16	7	15	58	42	0	80	153	37	0	650
Total	82	191	243	1	144	285	72	19	64	279	199	0	366	670	112	0	2727
Grand Total	182	690	1048	5	526	1677	270	77	241	646	427	1	928	1697	243	0	8658
Apprch %	9.5	35.8	54.4	0.3	20.6	65.8	10.6	3	18.3	49.1	32.5	0.1	32.4	59.2	8.5	0	
Total %	2.1	8	12.1	0.1	6.1	19.4	3.1	0.9	2.8	7.5	4.9	0	10.7	19.6	2.8	0	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.20.PARK BLVD.EL CAJON BLVD
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	PARK BLVD Southbound					EL CAJON BLVD Westbound					PARK BLVD Northbound					EL CAJON BOULEVARD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	9	65	117	0	191	26	155	20	9	210	19	19	14	0	52	24	43	6	0	73	526
08:00	6	44	93	0	143	36	169	18	1	224	9	25	13	0	47	29	49	10	0	88	502
08:15	5	42	96	0	143	39	125	12	3	179	16	19	11	0	46	34	57	7	0	98	466
08:30	6	41	76	0	123	43	136	19	2	200	19	17	8	0	44	40	54	12	0	106	473
Total Volume	26	192	382	0	600	144	585	69	15	813	63	80	46	0	189	127	203	35	0	365	1967
% App. Total	4.3	32	63.7	0		17.7	72	8.5	1.8		33.3	42.3	24.3	0		34.8	55.6	9.6	0		
PHF	.722	.738	.816	.000	.785	.837	.865	.863	.417	.907	.829	.800	.821	.000	.909	.794	.890	.729	.000	.861	.935

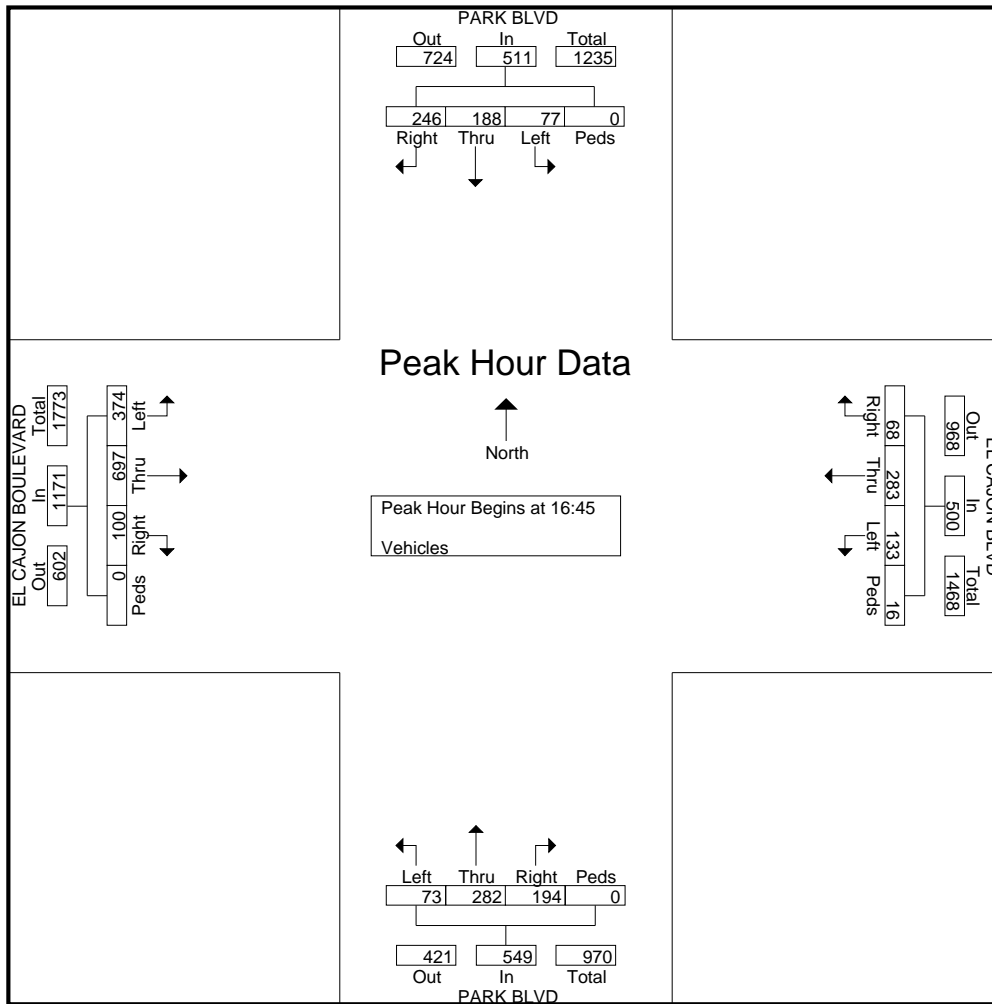


True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.20.PARK BLVD.EL CAJON BLVD
Site Code : 00000000
Start Date : 8/21/2007
Page No : 3

Start Time	PARK BLVD Southbound					EL CAJON BLVD Westbound					PARK BLVD Northbound					EL CAJON BOULEVARD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	13	52	56	0	121	31	71	12	4	118	24	61	37	0	122	88	180	25	0	293	654
17:00	28	36	58	0	122	22	65	14	5	106	17	61	54	0	132	105	193	20	0	318	678
17:15	13	48	56	0	117	37	71	19	5	132	16	91	56	0	163	68	178	40	0	286	698
17:30	23	52	76	0	151	43	76	23	2	144	16	69	47	0	132	113	146	15	0	274	701
Total Volume	77	188	246	0	511	133	283	68	16	500	73	282	194	0	549	374	697	100	0	1171	2731
% App. Total	15.1	36.8	48.1	0		26.6	56.6	13.6	3.2		13.3	51.4	35.3	0		31.9	59.5	8.5	0		
PHF	.688	.904	.809	.000	.846	.773	.931	.739	.800	.868	.760	.775	.866	.000	.842	.827	.903	.625	.000	.921	.974



True Count
 3401 First Ave. #123
 San Diego, CA 92103

File Name : 1080.21.PARK BLVD.UNIVERSITY AVE
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 1

Groups Printed- Vehicles

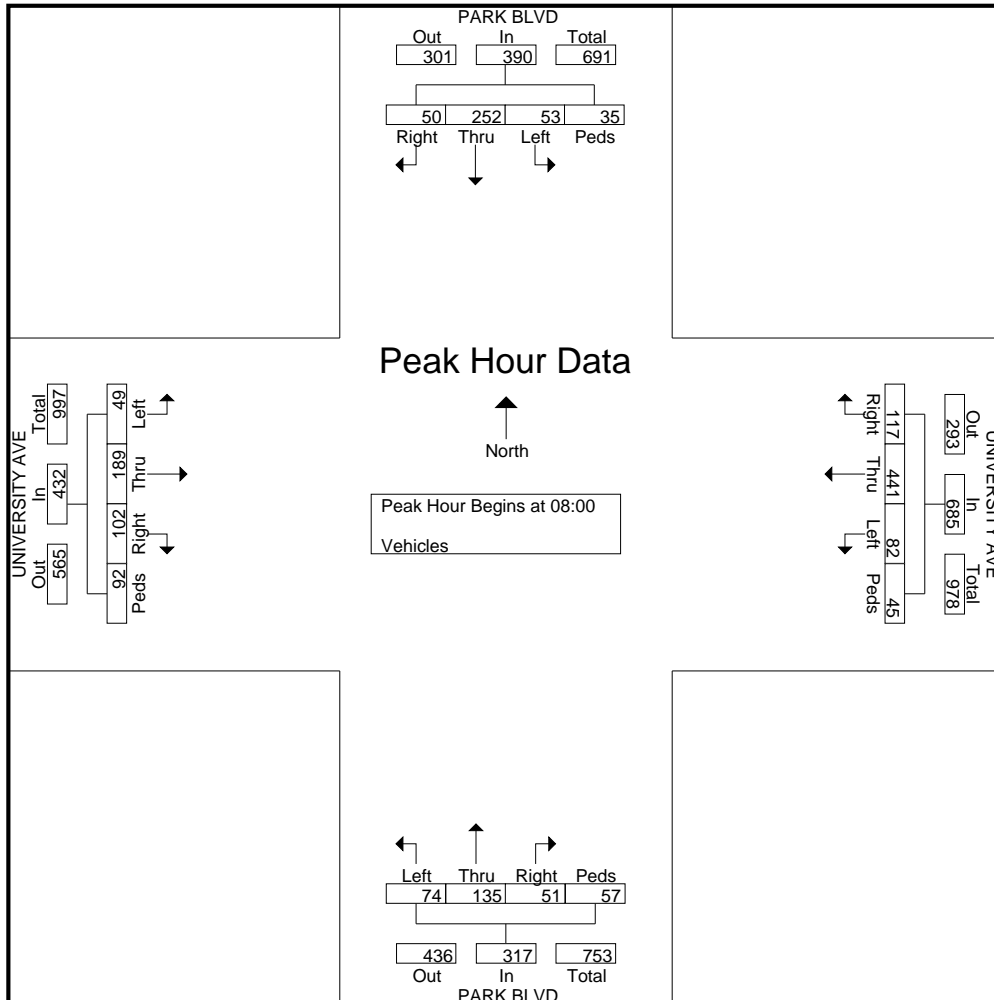
Start Time	PARK BLVD Southbound				UNIVERSITY AVE Westbound				PARK BLVD Northbound				UNIVERSITY AVE Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00	13	40	11	11	17	70	17	11	19	31	8	16	9	33	18	21	345
07:15	8	51	9	4	21	118	30	2	10	18	4	12	7	43	13	9	359
07:30	9	55	12	14	26	125	18	5	17	23	8	6	11	33	13	16	391
07:45	6	57	15	7	22	154	35	7	23	30	15	16	10	41	16	22	476
Total	36	203	47	36	86	467	100	25	69	102	35	50	37	150	60	68	1571
08:00	9	47	13	4	18	94	34	5	10	40	12	9	18	33	12	19	377
08:15	14	60	13	18	25	135	37	12	13	28	10	15	10	54	26	15	485
08:30	13	69	11	2	27	116	24	16	35	20	12	13	12	49	32	22	473
08:45	17	76	13	11	12	96	22	12	16	47	17	20	9	53	32	36	489
Total	53	252	50	35	82	441	117	45	74	135	51	57	49	189	102	92	1824
*** BREAK ***																	
16:00	27	62	20	9	30	111	8	5	18	77	27	29	37	146	25	20	651
16:15	49	49	21	14	23	84	20	24	39	69	34	28	25	135	27	22	663
16:30	30	55	27	17	22	115	23	11	19	82	35	18	27	162	30	11	684
16:45	42	94	18	17	26	102	24	24	29	91	34	28	23	166	51	52	821
Total	148	260	86	57	101	412	75	64	105	319	130	103	112	609	133	105	2819
17:00	47	66	5	16	23	109	21	31	36	104	38	20	25	161	28	13	743
17:15	44	69	21	10	22	117	18	29	36	129	30	35	41	173	35	24	833
17:30	41	82	19	11	20	95	24	8	20	92	32	21	30	165	38	20	718
17:45	35	98	23	20	29	119	26	29	28	95	28	21	29	134	21	22	757
Total	167	315	68	57	94	440	89	97	120	420	128	97	125	633	122	79	3051
Grand Total	404	1030	251	185	363	1760	381	231	368	976	344	307	323	1581	417	344	9265
Apprch %	21.6	55.1	13.4	9.9	13.3	64.4	13.9	8.4	18.4	48.9	17.2	15.4	12.1	59.3	15.6	12.9	
Total %	4.4	11.1	2.7	2	3.9	19	4.1	2.5	4	10.5	3.7	3.3	3.5	17.1	4.5	3.7	

True Count

3401 First Ave. #123
San Diego, CA 92103

File Name : 1080.21.PARK BLVD.UNIVERSITY AVE
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 2

Start Time	PARK BLVD Southbound					UNIVERSITY AVE Westbound					PARK BLVD Northbound					UNIVERSITY AVE Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	9	47	13	4	73	18	94	34	5	151	10	40	12	9	71	18	33	12	19	82	377
08:15	14	60	13	18	105	25	135	37	12	209	13	28	10	15	66	10	54	26	15	105	485
08:30	13	69	11	2	95	27	116	24	16	183	35	20	12	13	80	12	49	32	22	115	473
08:45	17	76	13	11	117	12	96	22	12	142	16	47	17	20	100	9	53	32	36	130	489
Total Volume	53	252	50	35	390	82	441	117	45	685	74	135	51	57	317	49	189	102	92	432	1824
% App. Total	13.6	64.6	12.8	9		12	64.4	17.1	6.6		23.3	42.6	16.1	18		11.3	43.8	23.6	21.3		
PHF	.779	.829	.962	.486	.833	.759	.817	.791	.703	.819	.529	.718	.750	.713	.793	.681	.875	.797	.639	.831	.933

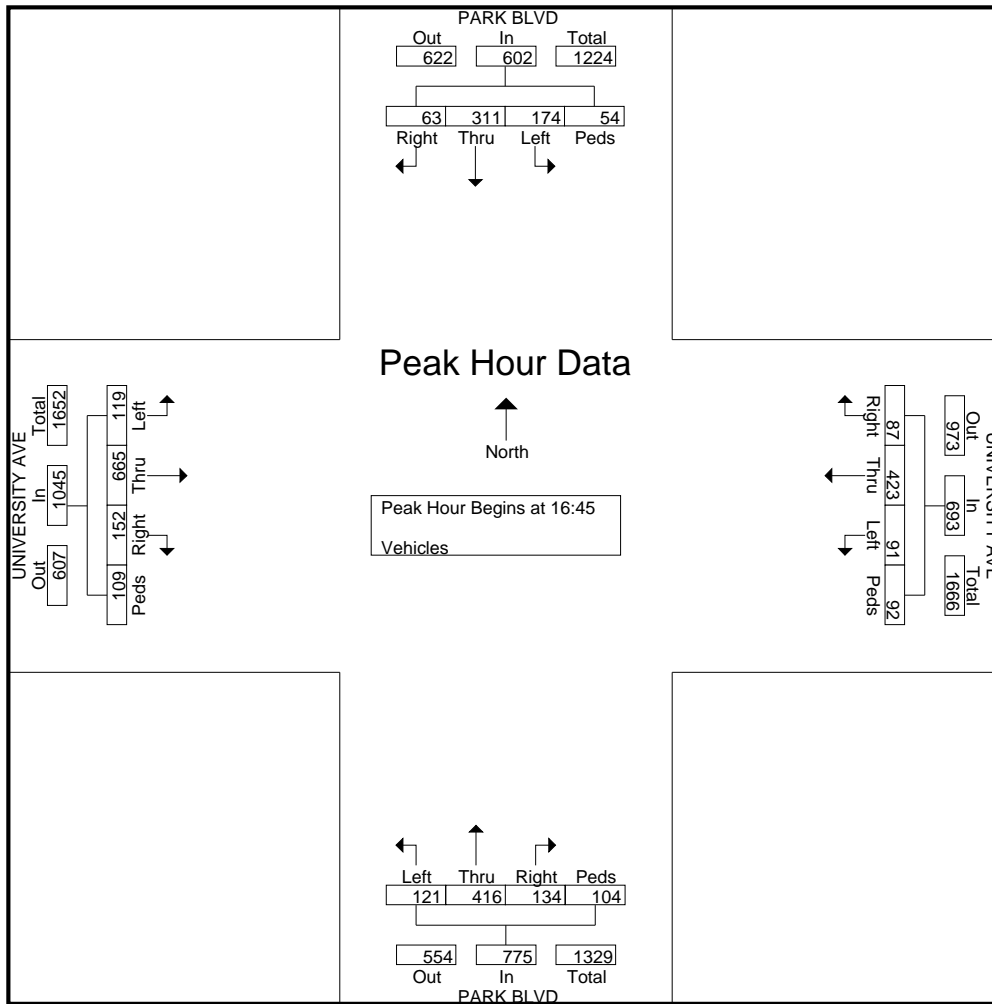


True Count

3401 First Ave. #123
San Diego, CA 92103

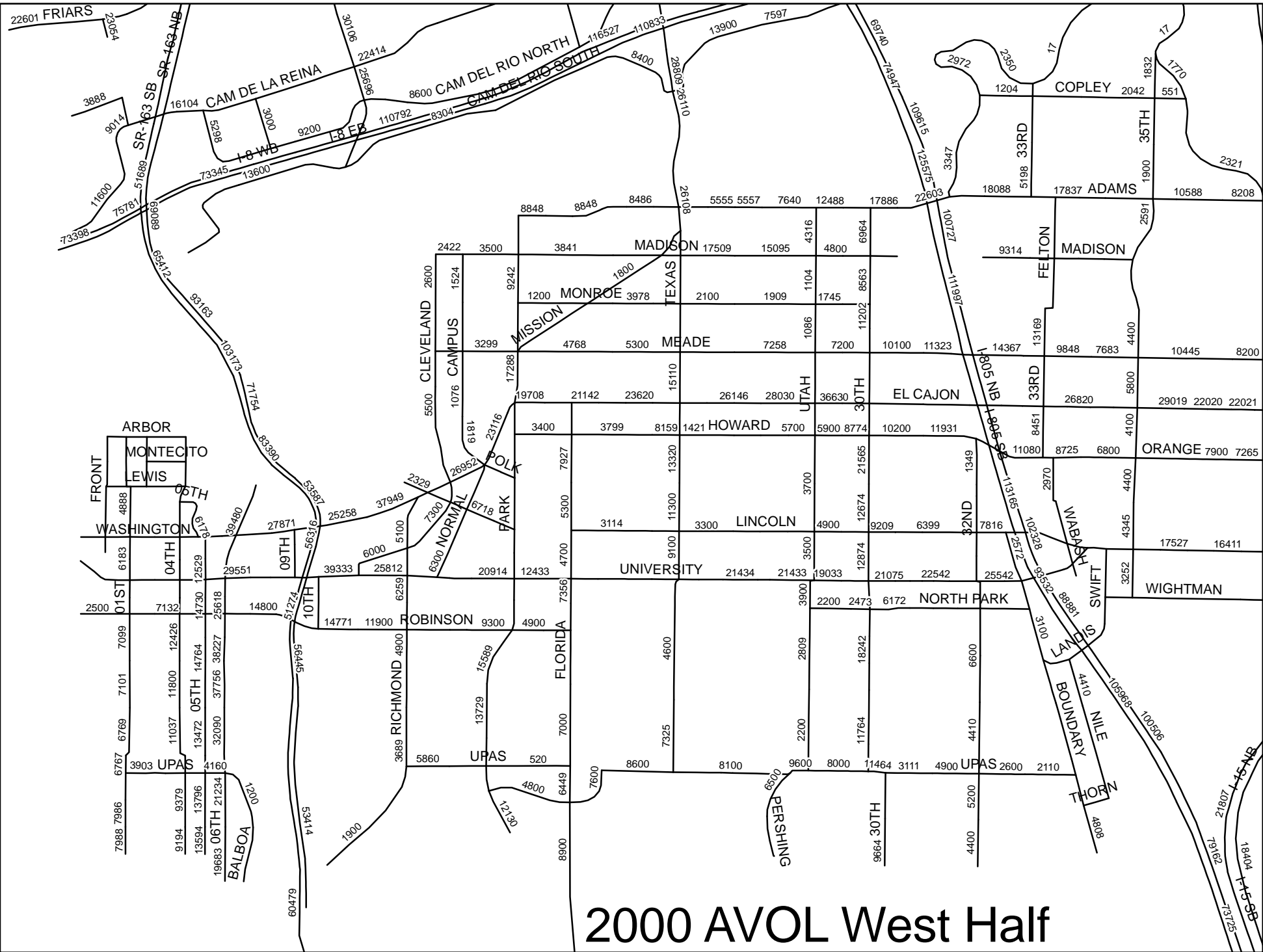
File Name : 1080.21.PARK BLVD.UNIVERSITY AVE
 Site Code : 00000000
 Start Date : 8/21/2007
 Page No : 3

Start Time	PARK BLVD Southbound					UNIVERSITY AVE Westbound					PARK BLVD Northbound					UNIVERSITY AVE Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	42	94	18	17	171	26	102	24	24	176	29	91	34	28	182	23	166	51	52	292	821
17:00	47	66	5	16	134	23	109	21	31	184	36	104	38	20	198	25	161	28	13	227	743
17:15	44	69	21	10	144	22	117	18	29	186	36	129	30	35	230	41	173	35	24	273	833
17:30	41	82	19	11	153	20	95	24	8	147	20	92	32	21	165	30	165	38	20	253	718
Total Volume	174	311	63	54	602	91	423	87	92	693	121	416	134	104	775	119	665	152	109	1045	3115
% App. Total	28.9	51.7	10.5	9		13.1	61	12.6	13.3		15.6	53.7	17.3	13.4		11.4	63.6	14.5	10.4		
PHF	.926	.827	.750	.794	.880	.875	.904	.906	.742	.931	.840	.806	.882	.743	.842	.726	.961	.745	.524	.895	.935

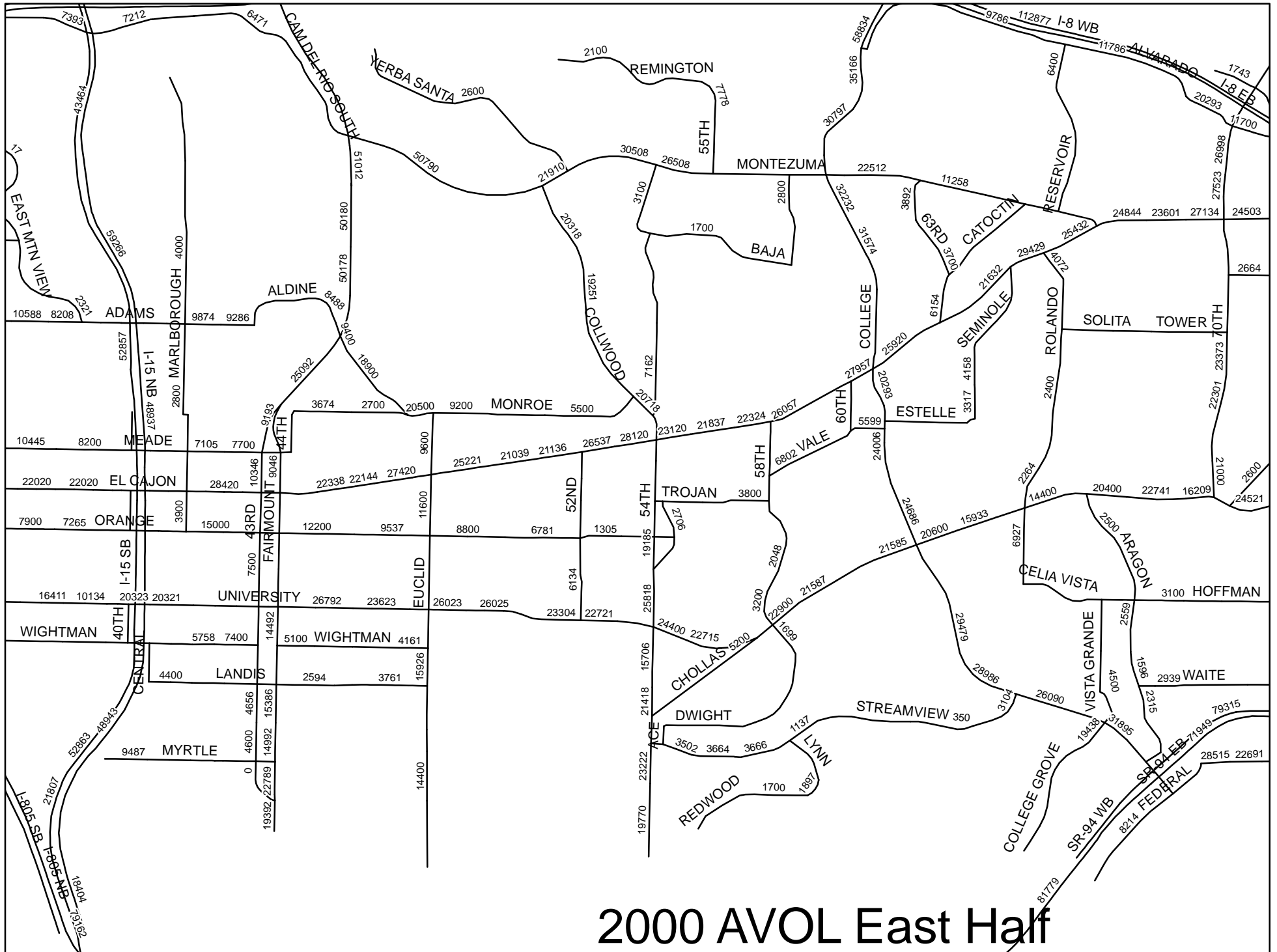


APPENDIX C

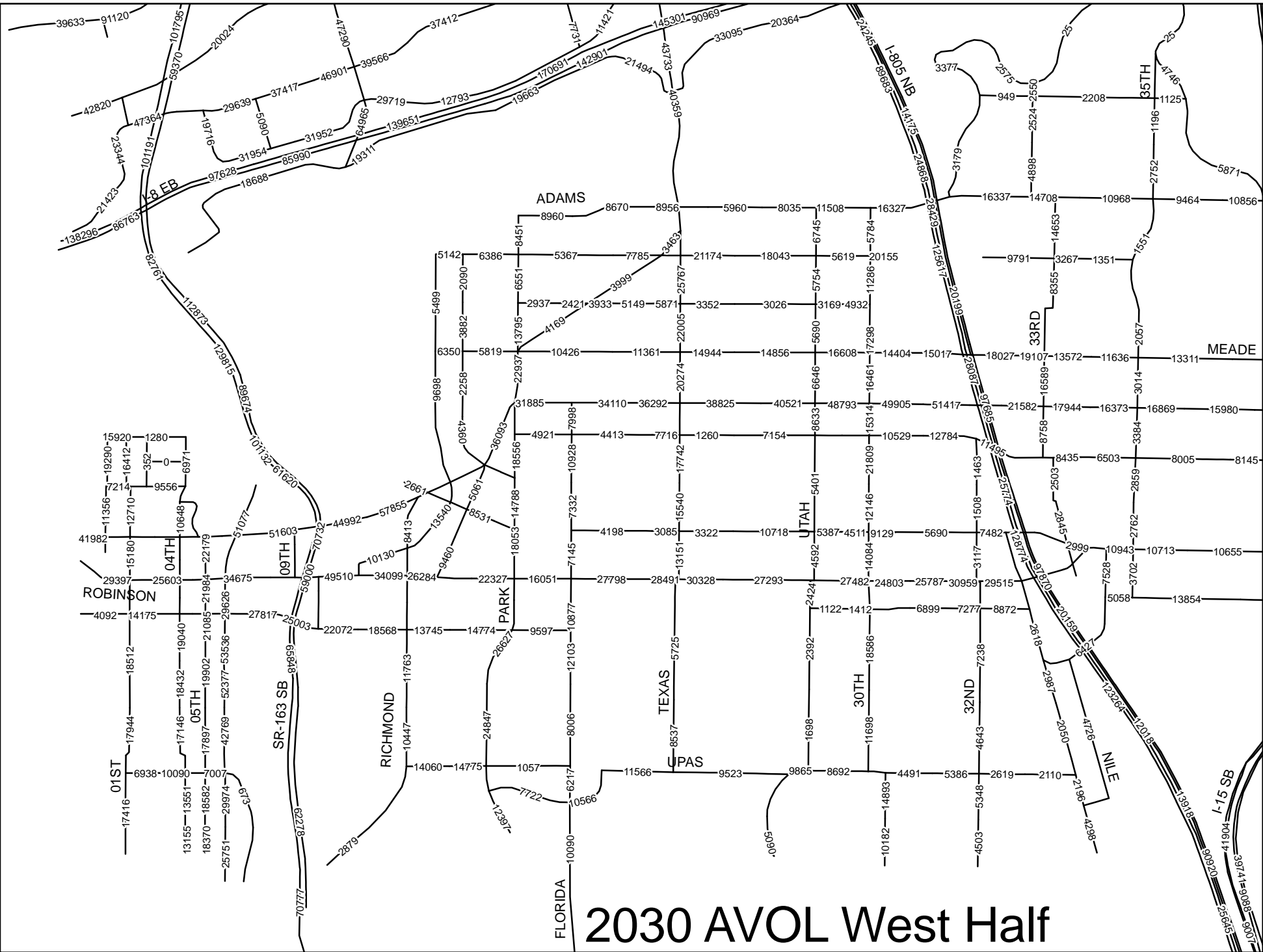
MODELING INFORMATION / GROWTH



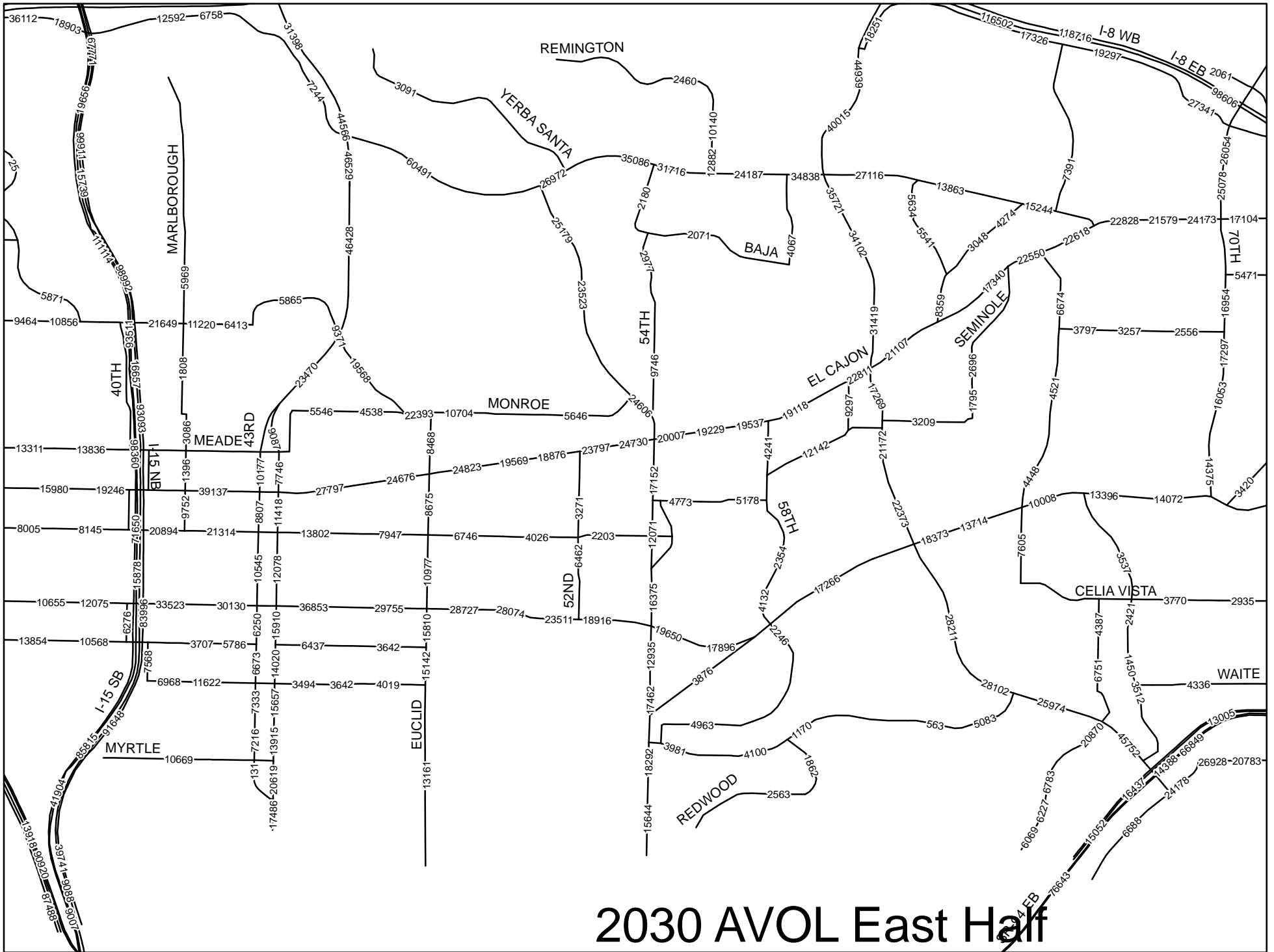
2000 AVOL West Half



2000 AVOL East Half



2030 AVOL West Half



2030 AVOL East Half

	2000	2030	Growth	Growth/yr	
El Cajon Blvd					
1	College Ave to 54th St	27,957	22,811	0.816	
2	College Ave to 54th St	26,420	20,321	0.769	
3	College Ave to 54th St	26,056	19,118	0.734	
4	College Ave to 54th St	22,324	19,537	0.875	
5	College Ave to 54th St	21,837	19,229	0.881	
6	College Ave to 54th St	23,120	20,007	0.865	
7	54th St to Euclid St	28,120	24,823	0.883	
8	54th St to Euclid St	26,537	23,797	0.897	
9	54th St to Euclid St	21,163	18,876	0.892	
10	54th St to Euclid St	21,039	19,569	0.930	
11	54th St to Euclid St	25,221	24,823	0.984	
12	Euclid St to 43rd St	27,420	24,676	0.900	
13	Euclid St to 43rd St	22,144	24,385	1.101	
14	Euclid St to 43rd St	22,338	27,797	1.244	
15	Euclid St to 43rd St	27,820	33,167	1.192	
16	43rd St to I-15	34,851	36,011	1.033	
17	43rd St to I-15	28,420	39,137	1.377	
18	43rd St to I-15	28,421	46,724	1.644	
19	I-15 to I-805	19,761	19,246	0.974	
20	I-15 to I-805	22,021	15,980	0.726	
21	I-15 to I-805	29,020	16,869	0.581	
22	I-15 to I-805	25,487	16,373	0.642	
23	I-15 to I-805	26,820	17,944	0.669	
24	I-15 to I-805	30,822	21,582	0.700	
25	I-805 to Texas St	36,721	51,417	1.400	
26	I-805 to Texas St	35,049	49,905	1.424	
27	I-805 to Texas St	36,630	48,793	1.332	
28	I-805 to Texas St	28,030	40,521	1.446	
29	I-805 to Texas St	26,146	38,825	1.485	
30	Texas St to Park Blvd	23,620	36,292	1.536	
31	Texas St to Park Blvd	21,009	34,110	1.624	
32	Texas St to Park Blvd	21,142	34,622	1.638	
33	Texas St to Park Blvd	20,020	32,090	1.603	
34	Texas St to Park Blvd	19,708	31,885	1.618	
	<i>Subtotal</i>	<i>883,214</i>	<i>971,262</i>	<i>1.100</i>	<i>0.33%</i>
Park Blvd					
	El Cajon Blvd and University Ave	15,220	19,423	1.276	1.276
	<i>Subtotal</i>	<i>15,220</i>	<i>19,423</i>	<i>1.276</i>	<i>0.92%</i>
	Total	898,434	990,685	1.103	0.34%

APPENDIX D

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS EXISTING CONDITIONS

EX AM

1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.974		0.959				0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3447	0	3433	3394	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3447	0	3433	3394	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			41				53			84
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	149	239	50	69	298	114	161	611	58	82	171	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	157	305	0	73	434	0	169	643	61	86	180	84
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8	8	7	4	4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2	40.2	8.4	40.1	40.1
Total Split (s)	19.4	46.7	0.0	18.4	45.7	0.0	30.8	53.6	53.6	21.3	44.1	44.1
Total Split (%)	13.9%	33.4%	0.0%	13.1%	32.6%	0.0%	22.0%	38.3%	38.3%	15.2%	31.5%	31.5%
Maximum Green (s)	15.0	41.9		14.0	41.0		26.4	48.4	48.4	16.9	39.0	39.0
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2	4.2	3.4	4.1	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7	3.7	2.0	3.2	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9	0.9	0.0	1.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0			32.0			28.0	28.0		28.0	28.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	11.7	74.4		10.4	70.2		17.6	30.7	30.7	11.4	24.4	24.4
Actuated g/C Ratio	0.08	0.53		0.07	0.50		0.13	0.22	0.22	0.08	0.17	0.17
v/c Ratio	0.55	0.17		0.29	0.25		0.76	0.83	0.16	0.60	0.29	0.24
Control Delay	68.8	18.2		64.4	19.9		79.5	61.8	13.5	78.1	50.8	10.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

EX AM

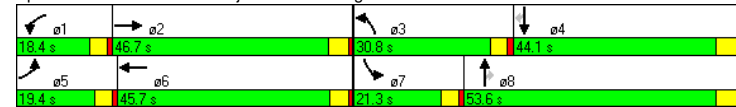
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.8	18.2		64.4	19.9		79.5	61.8	13.5	78.1	50.8	10.9
LOS	E	B		E	B		E	E	B	E	D	B
Approach Delay		35.4			26.3			61.8			47.9	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	72	71		32	102		151	296	6	77	75	0
Queue Length 95th (ft)	108	117		59	170		221	347	42	131	108	45
Internal Link Dist (ft)		1138			1071			1350			1401	
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	378	1840		353	1723		339	1254	595	219	1014	513
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.17		0.21	0.25		0.50	0.51	0.10	0.39	0.18	0.16

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	126 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization:	55.0%
ICU Level of Service A	
Analysis Period (min):	15

Splits and Phases: 1: El Cajon Blvd & College Ave



EX AM

2: El Cajon Blvd & Collwood Blvd

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3500	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3500	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			260			6			74
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	61	279	100	40	343	247	133	543	44	82	218	70
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	64	294	105	42	361	260	140	618	0	86	229	74
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	22.6	47.8	47.8	20.9	46.1	46.1	22.4	46.0	0.0	25.3	48.9	48.9
Total Split (%)	16.1%	34.1%	34.1%	14.9%	32.9%	32.9%	16.0%	32.9%	0.0%	18.1%	34.9%	34.9%
Maximum Green (s)	18.2	42.9	42.9	16.5	40.9	40.9	18.0	41.0		20.9	44.0	44.0
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	9.5	76.5	76.5	8.0	75.1	75.1	9.8	30.7		10.9	31.7	31.7
Actuated g/C Ratio	0.07	0.55	0.55	0.06	0.54	0.54	0.07	0.22		0.08	0.23	0.23
v/c Ratio	0.53	0.15	0.12	0.42	0.19	0.27	0.58	0.80		0.62	0.29	0.18
Control Delay	78.6	18.3	4.3	75.5	19.6	3.5	72.5	59.3		81.3	44.5	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

EX AM

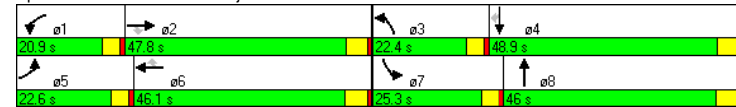
2: El Cajon Blvd & Collwood Blvd

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	78.6	18.3	4.3	75.5	19.6	3.5	72.5	59.3		81.3	44.5	9.0
LOS	E	B	A	E	B	A	E	E		F	D	A
Approach Delay			23.5			16.8					61.7	45.9
Approach LOS			C			B					E	D
Queue Length 50th (ft)	58	69	0	38	89	0	64	279		77	91	0
Queue Length 95th (ft)	106	120	35	77	150	54	99	329		132	120	39
Internal Link Dist (ft)			1240			1304				1314		1214
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	235	1935	913	214	1897	969	451	1054		269	1135	558
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.27	0.15	0.12	0.20	0.19	0.27	0.31	0.59		0.32	0.20	0.13

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	118 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	38.1
Intersection LOS:	D
Intersection Capacity Utilization:	48.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



EX AM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.987			0.976			0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3468	0	1770	3493	0	1770	1818	0	1770	1768	0
Flt Permitted	0.950			0.950			0.684			0.534		
Satd. Flow (perm)	1770	3468	0	1770	3493	0	1274	1818	0	995	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			15			17			39	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	35	409	62	32	558	52	95	206	40	34	71	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	37	496	0	34	642	0	100	259	0	36	114	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			8	4
Permitted Phases							8			4		4
Detector Phases	5	2		1	6		8	8		4		4
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0		6.0
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9		27.9
Total Split (s)	12.0	26.0	0.0	12.0	26.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Total Split (%)	17.1%	37.1%	0.0%	17.1%	37.1%	0.0%	45.7%	45.7%	0.0%	45.7%	45.7%	0.0%
Maximum Green (s)	7.6	21.1		7.6	21.1		27.1	27.1		27.1	27.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.9	29.4		6.8	29.4		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.10	0.42		0.10	0.42		0.40	0.40		0.40	0.40	
v/c Ratio	0.21	0.34		0.20	0.44		0.20	0.35		0.09	0.16	
Control Delay	25.9	27.6		31.6	16.6		15.0	15.3		13.9	9.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

EX AM
3: El Cajon Blvd & Euclid Ave

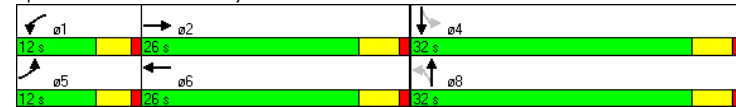
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.9	27.6		31.6	16.6		15.0	15.3		13.9	9.9	
LOS	C	C		C	B		B	B		B	A	
Approach Delay		27.5			17.4			15.2			10.9	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	25	167		14	84		27	70		9	20	
Queue Length 95th (ft)	0	220		38	167		58	123		27	49	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	202	1471		202	1474		510	737		398	731	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.34		0.17	0.44		0.20	0.35		0.09	0.16	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	40 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	19.5
Intersection LOS:	B
Intersection Capacity Utilization:	53.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



EX AM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.989			0.965			0.956	
Flt Protected	0.950			0.950				0.983			0.972	
Satd. Flow (prot)	1770	3504	0	1770	3500	0	0	1767	0	0	1731	0
Flt Permitted	0.950			0.950				0.900			0.830	
Satd. Flow (perm)	1770	3504	0	1770	3500	0	0	1618	0	0	1478	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			12			26			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	40	458	32	23	589	45	33	37	25	47	9	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	42	516	0	24	667	0	0	100	0	0	86	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	14.0	26.0	0.0	14.0	26.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	20.0%	37.1%	0.0%	20.0%	37.1%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%
Maximum Green (s)	9.6	21.1		9.6	21.1		25.1	25.1		25.1	25.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.6	33.8		5.8	29.1		26.0			26.0		
Actuated g/C Ratio	0.09	0.48		0.08	0.42		0.37			0.37		
v/c Ratio	0.25	0.30		0.16	0.46		0.16			0.15		
Control Delay	24.5	16.1		42.0	9.8		12.2			11.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

EX AM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	24.5	16.1		42.0	9.8					12.2		11.6
LOS	C	B		D	A					B		B
Approach Delay		16.7			10.9					12.2		11.6
Approach LOS		B			B					B		B
Queue Length 50th (ft)	16	159		6	123					21		16
Queue Length 95th (ft)	m25	203		m25	184					50		43
Internal Link Dist (ft)		598			599					1255		1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	253	1695		253	1461					617		567
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.17	0.30		0.09	0.46					0.16		0.15

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	65 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.46
Intersection Signal Delay:	13.3
Intersection LOS:	B
Intersection Capacity Utilization:	38.8%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



EX AM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕	↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt	0.994						0.962				0.973	
Fit Protected			0.950				0.966				0.971	
Satd. Flow (prot)	0	3518	0	1770	3539	0	0	1731	0	0	1760	0
Flt Permitted			0.452				0.818				0.918	
Satd. Flow (perm)	0	3518	0	842	3539	0	0	1466	0	0	1664	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)	9						31				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30						30				30	
Link Distance (ft)	667						1277				1173	
Travel Time (s)	15.2						29.0				26.7	
Volume (vph)	0	454	19	9	641	1	74	1	29	3	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	498	0	9	676	0	0	110	0	0	5	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		8		8		4		4	
Permitted Phases	2		6		8		8		4		4	
Detector Phases	2		6		8		8		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	60.0%	60.0%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%
Maximum Green (s)	37.0	37.0	37.0	37.0	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
Yellow Time (s)	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	55.8		55.8		55.8		8.9		8.9		8.9	
Actuated g/C Ratio	0.80		0.80		0.80		0.13		0.13		0.13	
v/c Ratio	0.18		0.01		0.24		0.51		0.51		0.02	
Control Delay	2.8		9.4		8.7		29.1		29.1		23.0	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	2.8		9.4		8.7		29.1		29.1		23.0	
LOS	A		A		A		C		C		C	
Approach Delay	2.8		8.7		29.1		29.1		29.1		23.0	

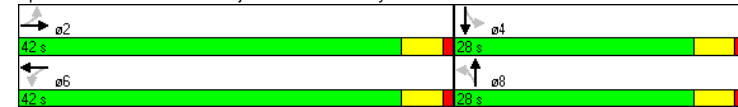
EX AM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A				A		C		C		C	
Queue Length 50th (ft)	29		2		90		32		2		2	
Queue Length 95th (ft)	55		m7		184		73		10		10	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2805		671		2820		523		571		571	
Starvation Cap Reductn	0		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.18		0.01		0.24		0.21		0.21		0.01	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	60 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	8.2
Intersection LOS:	A
Intersection Capacity Utilization:	35.1%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 5: El Cajon Blvd & Driveway

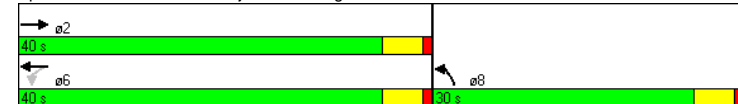


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994				0.957	
Flt Protected			0.950		0.967	
Satd. Flow (prot)	3518	0	1770	3539	1724	0
Flt Permitted			0.423		0.967	
Satd. Flow (perm)	3518	0	788	3539	1724	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	9				24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	488	21	12	721	49	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	536	0	13	759	76	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	40.0	0.0	40.0	40.0	30.0	0.0
Total Split (%)	57.1%	0.0%	57.1%	57.1%	42.9%	0.0%
Maximum Green (s)	35.1		35.1	35.1	25.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	60.1		60.1	60.1	7.3	
Actuated g/C Ratio	0.86		0.86	0.86	0.10	
v/c Ratio	0.18		0.02	0.25	0.38	
Control Delay	1.9		2.6	2.2	26.7	
Queue Delay	0.0		0.0	0.0	0.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.9		2.6	2.2	26.7	
LOS	A		A	A	C	
Approach Delay	1.9			2.2	26.7	
Approach LOS	A			A	C	
Queue Length 50th (ft)	43		1	42	21	
Queue Length 95th (ft)	3		m4	47	56	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	3023		677	3040	655	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.18		0.02	0.25	0.12	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	3 (4%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.38
Intersection Signal Delay:	3.4
Intersection LOS:	A
Intersection Capacity Utilization:	30.7%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



EX AM
7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↗	↔	↕	↗	↔	↕	↗	↔	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50		50		50
Trailing Detector (ft)	0	0	0		0		0	0		0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.970			0.983				
Flt Protected	0.950							0.992				
Satd. Flow (prot)	1770	3539	1583	0	3433	0	0	3451	0	0	0	0
Flt Permitted	0.950							0.992				
Satd. Flow (perm)	1770	3539	1583	0	3433	0	0	3451	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68		24			12				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	74	469	65	0	601	148	104	466	74	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	78	494	68	0	789	0	0	678	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	22.0	77.0	77.0	0.0	55.0	0.0	63.0	63.0	0.0	0.0	0.0	0.0
Total Split (%)	15.7%	55.0%	55.0%	0.0%	39.3%	0.0%	45.0%	45.0%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	17.6	72.1	72.1		50.1		58.1	58.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	9.2	73.0	73.0		59.8			59.0				
Actuated g/C Ratio	0.07	0.52	0.52		0.43			0.42				
v/c Ratio	0.67	0.27	0.08		0.53			0.46				
Control Delay	97.6	17.8	4.2		35.9			29.8				
Queue Delay	0.0	0.5	0.0		0.0			0.0				

EX AM
7: El Cajon Blvd & Fairmount Ave

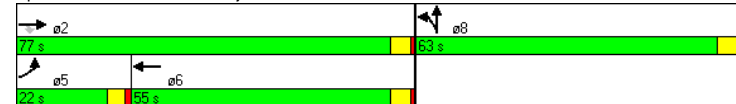
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	97.6	18.3	4.2		35.9							29.8
LOS	F	B	A		D							C
Approach Delay		26.5			35.9							29.8
Approach LOS		C			D							C
Queue Length 50th (ft)	76	104	3		196							226
Queue Length 95th (ft)	m125	m129	m9		441							283
Internal Link Dist (ft)		250			595				1261			1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	228	1845	858		1480				1461			
Starvation Cap Reductn	0	904	0		0				0			0
Spillback Cap Reductn	0	0	0		0				0			0
Storage Cap Reductn	0	0	0		0				0			0
Reduced v/c Ratio	0.34	0.52	0.08		0.53				0.46			

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	27 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	31.1
Intersection LOS:	C
Intersection Capacity Utilization:	55.7%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



EX AM
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑		↔	↑↑						↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.985								0.979	0.979	
Flt Protected				0.950						0.983	0.983	
Satd. Flow (prot)	0	5009	0	1770	3539	0	0	0	0	0	3406	0
Flt Permitted				0.950						0.983	0.983	
Satd. Flow (perm)	0	5009	0	1770	3539	0	0	0	0	0	3406	0
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)		14									15	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	501	55	39	674	0	0	0	0	122	187	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	585	0	41	709	0	0	0	0	0	377	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	49.3	0.0	33.8	83.1	0.0	0.0	0.0	0.0	56.9	56.9	0.0
Total Split (%)	0.0%	35.2%	0.0%	24.1%	59.4%	0.0%	0.0%	0.0%	0.0%	40.6%	40.6%	0.0%
Maximum Green (s)		44.4		29.4	78.2					52.0	52.0	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		103.4		8.0	113.6						18.4	
Actuated g/C Ratio		0.74		0.06	0.81						0.13	
v/c Ratio		0.16		0.41	0.25						0.82	
Control Delay		5.3		65.1	2.2						71.2	
Queue Delay		0.0		0.0	0.2						0.0	

EX AM
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		5.3		65.1	2.4							71.2
LOS		A		E	A							E
Approach Delay		5.3			5.9							71.2
Approach LOS		A			A							E
Queue Length 50th (ft)		44		37	50							171
Queue Length 95th (ft)		59		m72	40							221
Internal Link Dist (ft)		565			250			1205				1403
Turn Bay Length (ft)				115								
Base Capacity (vph)		3703		377	2871							1296
Starvation Cap Reductn		0		0	1341							0
Spillback Cap Reductn		0		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.16		0.11	0.46							0.29

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	23 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	20.1
Intersection LOS:	C
Intersection Capacity Utilization:	37.8%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



EX AM
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.999			0.970			0.949	
Flt Protected	0.950			0.950				0.972			0.981	
Satd. Flow (prot)	1770	5055	0	1770	5080	0	0	1756	0	0	1734	0
Flt Permitted	0.950			0.950				0.857			0.936	
Satd. Flow (perm)	1770	5055	0	1770	5080	0	0	1548	0	0	1655	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		4			12			8			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	655			645			1453			1643		
Travel Time (s)	14.9			14.7			33.0			37.3		
Volume (vph)	25	511	20	20	753	3	37	12	14	8	5	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	26	559	0	21	796	0	0	67	0	0	21	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases					8		4				4	
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	33.5	45.6	0.0	33.5	45.6	0.0	60.9	60.9	0.0	60.9	60.9	0.0
Total Split (%)	23.9%	32.6%	0.0%	23.9%	32.6%	0.0%	43.5%	43.5%	0.0%	43.5%	43.5%	0.0%
Maximum Green (s)	29.1	40.7		29.1	40.7		56.0	56.0		56.0	56.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	9.0		8.0		24.0		24.0		24.0		24.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	6.1	68.2		6.6	70.7		56.9			56.9		56.9
Actuated g/C Ratio	0.04	0.49		0.05	0.50		0.41			0.41		0.41
v/c Ratio	0.34	0.23		0.25	0.31		0.11			0.03		0.03
Control Delay	103.4	13.9		88.8	12.8		21.7			18.1		18.1
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		0.0

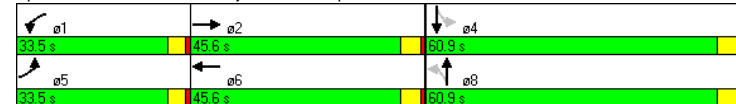
EX AM
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	103.4	13.9		88.8	12.8		21.7			18.1		18.1
LOS	F	B		F	B		C			B		B
Approach Delay		17.8			14.8				21.7			18.1
Approach LOS		B			B		C			B		B
Queue Length 50th (ft)	24	49		20	71		31			7		7
Queue Length 95th (ft)	59	60		m50	89		63			25		25
Internal Link Dist (ft)		575			565		1373			1563		1563
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	373	2466		373	2565		636			677		677
Starvation Cap Reductn	0	0		0	0		0			0		0
Spillback Cap Reductn	0	0		0	0		0			0		0
Storage Cap Reductn	0	0		0	0		0			0		0
Reduced v/c Ratio	0.07	0.23		0.06	0.31		0.11			0.03		0.03

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	40.7 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.34
Intersection Signal Delay:	16.3
Intersection LOS:	B
Intersection Capacity Utilization:	33.0%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



EX AM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.994			0.992			0.941	
Flt Protected	0.950			0.950				0.965			0.989	
Satd. Flow (prot)	1770	5060	0	1770	5055	0	0	1783	0	0	1734	0
Flt Permitted	0.950			0.950				0.717			0.925	
Satd. Flow (perm)	1770	5060	0	1770	5055	0	0	1325	0	0	1621	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		6			8			2			26	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		447			655			1485			1723	
Travel Time (s)		10.2			14.9			33.8			39.2	
Volume (vph)	86	500	16	25	762	31	79	25	7	20	29	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	91	543	0	26	835	0	0	116	0	0	92	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	15.0	90.0	0.0	14.0	89.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	10.7%	64.3%	0.0%	10.0%	63.6%	0.0%	25.7%	25.7%	0.0%	25.7%	25.7%	0.0%
Maximum Green (s)	10.6	85.1		9.6	84.1		31.1	31.1		31.1	31.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.1	92.7		7.0	85.9		32.0			32.0		
Actuated g/C Ratio	0.07	0.66		0.05	0.61		0.23			0.23		
v/c Ratio	0.71	0.16		0.29	0.27		0.38			0.38		
Control Delay	92.1	9.5		85.0	2.0		49.2			33.2		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

EX AM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.1	9.5		85.0	2.0				49.2			33.2
LOS	F	A		F	A				D			C
Approach Delay		21.4			4.5				49.2			33.2
Approach LOS		C			A				D			C
Queue Length 50th (ft)	82	68		25	14				88			49
Queue Length 95th (ft)	#160	91		61	18				151			100
Internal Link Dist (ft)		367			575				1405			1643
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	139	3353		126	3105				304			391
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.65	0.16		0.21	0.27				0.38			0.24

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	53 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	15.4
Intersection LOS:	B
Intersection Capacity Utilization:	43.0%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



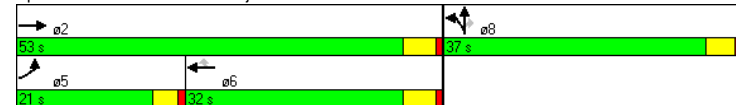
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.873	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)						285		120	123			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			225			1453			1618	
Travel Time (s)		8.6			5.1			33.0			36.8	
Volume (vph)	158	421	0	0	656	271	86	21	231	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	166	443	0	0	691	285	91	142	123	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	21.0	53.0	0.0	0.0	32.0	32.0	37.0	37.0	37.0	0.0	0.0	0.0
Total Split (%)	23.3%	58.9%	0.0%	0.0%	35.6%	35.6%	41.1%	41.1%	41.1%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	48.0			27.0	27.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	12.5	74.2			57.7	57.7	7.8	7.8	7.8			
Actuated g/C Ratio	0.14	0.82			0.64	0.64	0.09	0.09	0.09			
v/c Ratio	0.67	0.11			0.17	0.25	0.31	0.58	0.51			
Control Delay	41.7	0.8			7.4	1.9	40.5	20.7	15.0			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	41.7	0.8			7.4	1.9	40.5	20.7	15.0			
LOS	D	A			A	A	D	C	B			
Approach Delay		12.0			5.8		23.8					
Approach LOS		B			A		C					
Queue Length 50th (ft)	94	0			40	0	25	12	0			
Queue Length 95th (ft)	152	0			72	35	46	68	51			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	339	4194			4111	1118	1259	643	629			
Starvation Cap Reductn	0	0			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.49	0.11			0.17	0.25	0.07	0.22	0.20			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	11.0
Intersection LOS:	B
Intersection Capacity Utilization:	41.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



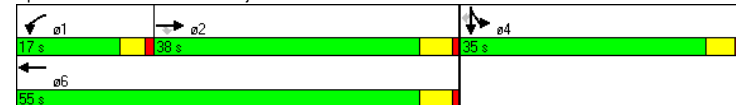
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Frnt			0.850							0.898	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1589	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1589	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105							59		77
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		1320		378		1484		1611		36.6		36.6
Travel Time (s)		30.0		8.6		33.7		36.6				
Volume (vph)	0	438	100	300	479	0	0	0	0	141	27	129
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	461	105	316	504	0	0	0	0	148	87	77
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4		4
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)		0.0	38.0	38.0	17.0	55.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)		0.0%	42.2%	42.2%	18.9%	61.1%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)		33.0	33.0	12.8	50.0					30.4	30.4	30.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes	Yes							
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		39.0	39.0	30.6	73.6					8.4	8.4	8.4
Actuated g/C Ratio		0.43	0.43	0.34	0.82					0.09	0.09	0.09
v/c Ratio		0.17	0.14	0.52	0.12					0.46	0.43	0.37
Control Delay		16.0	4.1	25.0	4.0					43.0	23.0	14.4
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		16.0	4.1	25.0	4.0					43.0	23.0	14.4
LOS		B	A	C	A					D	C	B
Approach Delay		13.8			12.1						30.4	
Approach LOS		B			B						C	
Queue Length 50th (ft)		42	0	155	13					41	15	0
Queue Length 95th (ft)		67	31	227	79					70	61	42
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2774	745	602	4158					1182	586	569
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.17	0.14	0.52	0.12					0.13	0.15	0.14

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	16.0
Intersection LOS:	B
Intersection Capacity Utilization:	41.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔			↔↔			↔↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt	0.997			0.996			0.970			0.927		
Flt Protected	0.950		0.950				0.981			0.990		
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1773	0	0	1709	0
Flt Permitted	0.950		0.950				0.867			0.937		
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1567	0	0	1618	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	3			5			13			54		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1329			1310			1164			1020		
Travel Time (s)	30.2			29.8			26.5			23.2		
Volume (vph)	38	381	8	16	509	14	41	40	23	20	24	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	40	409	0	17	551	0	0	109	0	0	100	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	18.0		4.0	18.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	23.0		8.4	23.0		34.9	34.9		34.9	34.9	
Total Split (s)	19.0	53.0	0.0	19.0	53.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	17.6%	49.1%	0.0%	17.6%	49.1%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	14.6	48.0		14.6	48.0		31.1	31.1		31.1	31.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.3	63.6		5.9	60.5		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.07	0.59		0.05	0.56		0.30	0.30		0.30	0.30	
v/c Ratio	0.33	0.14		0.18	0.19		0.23	0.23		0.19	0.19	
Control Delay	50.6	9.3		52.2	12.7		26.8	26.8		15.5	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.6	9.3		52.2	12.7		26.8	26.8		15.5	15.5	
LOS	D	A		D	B		C	C		B	B	
Approach Delay	13.0			13.9			26.8			15.5		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			B			C			B		
Queue Length 50th (ft)	29	34		12	70		50			23		
Queue Length 95th (ft)	m64	52		34	98		95			64		
Internal Link Dist (ft)	1249			1230			1084			940		
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	246	2986		246	2840		473			517		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.16	0.14		0.07	0.19		0.23			0.19		

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset: 27 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.33
Intersection Signal Delay:	14.8
Intersection LOS:	B
Intersection Capacity Utilization:	38.6%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 13: El Cajon Blvd & 35th St



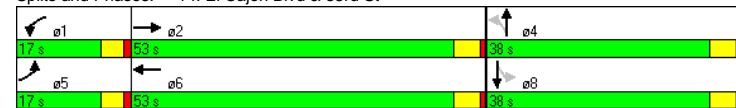
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.994			0.983			0.922	
Flt Protected	0.950			0.950				0.968			0.993	
Satd. Flow (prot)	1770	3479	0	1770	3518	0	0	1772	0	0	1705	0
Flt Permitted	0.950			0.950				0.687			0.949	
Satd. Flow (perm)	1770	3479	0	1770	3518	0	0	1258	0	0	1630	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		16		5		7		67				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		572		1329		1120		1176		1176		1176
Travel Time (s)		13.0		30.2		25.5		26.7		26.7		26.7
Volume (vph)	101	386	48	44	570	24	126	43	25	18	38	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	106	457	0	46	625	0	0	204	0	0	140	0
Turn Type	Prot			Prot		Perm		Perm		Perm		Perm
Protected Phases	5	2		1	6			4		4		8
Permitted Phases							4	4		8		8
Detector Phases	5	2		1	6		4	4		8		8
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0		4.0
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9		35.9		35.9
Total Split (s)	17.0	53.0		17.0	53.0		38.0	38.0		38.0		38.0
Total Split (%)	15.7%	49.1%	0.0%	15.7%	49.1%	0.0%	35.2%	35.2%	0.0%	35.2%	35.2%	0.0%
Maximum Green (s)	12.6	48.0		12.6	48.0		33.1	33.1		33.1		33.1
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9		3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0		1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0		2.0
Recall Mode	None	C-Max		None	C-Max		None	None		Max		Max
Walk Time (s)		7.0			7.0		7.0	7.0		7.0		7.0
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0		24.0
Pedestrian Calls (#/hr)		0			0		0	0		0		0
Act Effct Green (s)	10.6	56.1		7.7	51.4			34.0				34.0
Actuated g/C Ratio	0.10	0.52		0.07	0.48			0.31				0.31
v/c Ratio	0.61	0.25		0.37	0.37			0.51				0.25
Control Delay	61.4	15.0		62.0	13.9			34.5				15.9
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay	61.4	15.0		62.0	13.9			34.5				15.9
LOS	E	B		E	B			C				B
Approach Delay		23.7			17.2			34.5				15.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			C				B
Queue Length 50th (ft)	71	87		34	80			111				36
Queue Length 95th (ft)	127	128		72	104			186				85
Internal Link Dist (ft)		492			1249			1040				1096
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	213	1815		213	1678			401				559
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.50	0.25		0.22	0.37			0.51				0.25

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	33 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.61
Intersection Signal Delay:	21.7
Intersection Capacity Utilization:	53.9%
Intersection LOS:	C
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 14: El Cajon Blvd & 33rd St

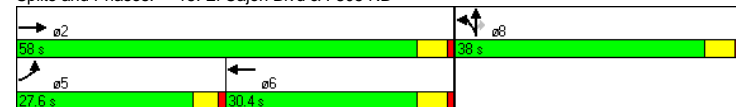


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.949				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					136				152			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	431	395	0	0	593	309	449	1	144	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	454	416	0	0	949	0	237	237	152	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	27.6	58.0	0.0	0.0	30.4	0.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	28.8%	60.4%	0.0%	0.0%	31.7%	0.0%	39.6%	39.6%	39.6%	0.0%	0.0%	0.0%
Maximum Green (s)	23.4	53.0			25.4		33.0	33.0	33.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	1.1			1.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)	7.0				7.0		7.0	7.0	7.0			
Flash Dont Walk (s)	10.0				10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)	0				0		0	0	0			
Act Effct Green (s)	17.5	70.0			48.6		18.0	18.0	18.0			
Actuated g/C Ratio	0.18	0.73			0.51		0.19	0.19	0.19			
v/c Ratio	0.73	0.11			0.38		0.75	0.75	0.36			
Control Delay	35.5	6.8			14.1		51.4	51.2	7.6			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	35.5	6.8			14.1		51.4	51.2	7.6			
LOS	D	A			B		D	D	A			
Approach Delay		21.8			14.1			40.7				
Approach LOS		C			B			D				
Queue Length 50th (ft)	140	53			103		146	146	0			
Queue Length 95th (ft)	183	83			175		210	210	46			
Internal Link Dist (ft)		374			492		1297				1503	
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	844	3710			2509		595	597	659			
Starvation Cap Reductn	0	0			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.54	0.11			0.38		0.40	0.40	0.23			

Intersection Summary	
Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	49 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	23.6
Intersection LOS:	C
Intersection Capacity Utilization:	53.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 15: El Cajon Blvd & I-805 NB



	↖	→	↘	↙	←	↖	↙	↘	↙	↘	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↖	↖	↑↑↑				↘	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frnt			0.850							0.850		0.850
Flt Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Flt Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			376									139
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	658	357	144	897	0	0	0	0	160	2	350
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	693	376	152	944	0	0	0	0	84	86	368
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)	0.0	47.0	47.0	15.0	62.0	0.0	0.0	0.0	0.0	34.0	34.0	34.0
Total Split (%)	0.0%	49.0%	49.0%	15.6%	64.6%	0.0%	0.0%	0.0%	0.0%	35.4%	35.4%	35.4%
Maximum Green (s)		42.0	42.0	10.8	57.0					29.0	29.0	29.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Time Before Reduce (s)		1.4	1.4	0.0	0.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		43.5	43.5	10.5	58.0					30.0	30.0	30.0
Actuated g/C Ratio		0.45	0.45	0.11	0.60					0.31	0.31	0.31
v/c Ratio		0.30	0.41	0.40	0.31					0.16	0.16	0.62
Control Delay		17.1	3.2	44.7	8.5					25.0	25.0	22.5
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

	↖	→	↘	↙	←	↖	↙	↘	↙	↘	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		17.1	3.2	44.7	8.5					25.0	25.0	22.5
LOS		B	A	D	A					C	C	C
Approach Delay		12.2			13.5						23.3	
Approach LOS		B			B						C	
Queue Length 50th (ft)		94	0	48	95					38	40	117
Queue Length 95th (ft)		124	49	m67	115					76	77	216
Internal Link Dist (ft)		586			374			1317			1493	
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		2304	923	393	3072					525	527	590
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.30	0.41	0.39	0.31					0.16	0.16	0.62

Intersection Summary

Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	95 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	15.0
Intersection LOS:	B
Intersection Capacity Utilization:	53.1%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: El Cajon Blvd & I-805 SB



EX AM
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.988		0.984		0.949		0.961				
Flt Protected	0.950			0.950		0.950		0.950		0.950		
Satd. Flow (prot)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Flt Permitted	0.950			0.950		0.950		0.950		0.950		
Satd. Flow (perm)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		12		18		26		18		18		18
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		768		762		1004		1052		1052		1052
Travel Time (s)		17.5		17.3		22.8		23.9		23.9		23.9
Volume (vph)	29	509	44	99	834	98	73	125	64	103	136	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	31	582	0	104	981	0	77	199	0	108	194	0
Turn Type	Prot			Prot		Prot		Prot		Prot		Prot
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7		4
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0		4.0
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4		40.9
Total Split (s)	20.0	30.0	0.0	20.0	30.0	0.0	17.0	41.0	0.0	17.0	41.0	0.0
Total Split (%)	18.5%	27.8%	0.0%	18.5%	27.8%	0.0%	15.7%	38.0%	0.0%	15.7%	38.0%	0.0%
Maximum Green (s)	15.6	25.0		15.6	25.0		12.6	36.1		12.6	36.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)		4.0			4.0			4.0			4.0	
Flash Dont Walk (s)		13.0			13.0			32.0			32.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	6.7	31.1		10.9	39.0		9.3	39.4		10.6	42.6	
Actuated g/C Ratio	0.06	0.29		0.10	0.36		0.09	0.36		0.10	0.39	
v/c Ratio	0.28	0.40		0.58	0.54		0.51	0.30		0.62	0.27	
Control Delay	54.1	31.9		58.5	29.2		58.0	23.3		61.8	22.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.1	31.9		58.5	29.2		58.0	23.3		61.8	22.8	
LOS	D	C		E	C		E	C		E	C	
Approach Delay		33.1			32.0			33.0			36.7	

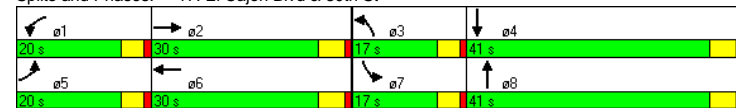
EX AM
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	21	116		70	202		52	84		73	83	
Queue Length 95th (ft)	51	161		121	257		97	148		128	148	
Internal Link Dist (ft)		688			682			924			972	
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	262	1453		262	1817		213	661		213	717	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.40		0.40	0.54		0.36	0.30		0.51	0.27	

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	33.0
Intersection LOS:	C
Intersection Capacity Utilization:	51.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: El Cajon Blvd & 30th St



EX AM
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔↔↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.994			0.980			0.983			0.966	
Flt Protected	0.950			0.950				0.994			0.990	
Satd. Flow (prot)	1770	5055	0	1770	4984	0	0	3458	0	0	3385	0
Flt Permitted	0.950			0.950				0.994			0.990	
Satd. Flow (perm)	1770	5055	0	1770	4984	0	0	3458	0	0	3385	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			20			10			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1532			1136			994			1062	
Travel Time (s)		34.8			25.8			22.6			24.1	
Volume (vph)	104	277	11	66	654	99	43	263	38	56	163	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	109	304	0	69	792	0	0	362	0	0	298	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	19.5	38.6	0.0	14.6	33.7	0.0	38.9	38.9	0.0	37.9	37.9	0.0
Total Split (%)	15.0%	29.7%	0.0%	11.2%	25.9%	0.0%	29.9%	29.9%	0.0%	29.2%	29.2%	0.0%
Maximum Green (s)	15.1	33.7		10.2	28.8		34.0	34.0		33.0	33.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		4.0			4.0		5.0	5.0		4.0	4.0	
Flash Dont Walk (s)		12.0			12.0		29.0	29.0		29.0	29.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	12.1	38.2		8.9	33.1		34.9	34.9		33.9	33.9	
Actuated g/C Ratio	0.09	0.29		0.07	0.25		0.27	0.27		0.26	0.26	
v/c Ratio	0.66	0.20		0.57	0.62		0.39	0.39		0.33	0.33	
Control Delay	92.4	28.2		76.4	44.7		39.2	39.2		36.3	36.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

EX AM
18: El Cajon Blvd & Texas St

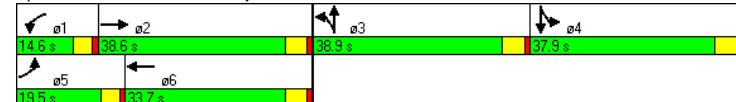
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.4	28.2		76.4	44.7			39.2			36.3	
LOS	F	C		E	D			D			D	
Approach Delay		45.2			47.2			39.2			36.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	98	50		57	213			127			96	
Queue Length 95th (ft)	m160	65		108	268			174			138	
Internal Link Dist (ft)		1452			1056			914			982	
Turn Bay Length (ft)	140			120								
Base Capacity (vph)	211	1488		144	1285			936			903	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.52	0.20		0.48	0.62			0.39			0.33	

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	25 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	43.6
Intersection LOS:	D
Intersection Capacity Utilization:	52.0%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



EX AM
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.995			0.945			0.932	
Flt Protected	0.950			0.950				0.984			0.994	
Satd. Flow (prot)	1770	5070	0	1770	5060	0	0	1732	0	0	1726	0
Flt Permitted	0.950			0.950				0.909			0.977	
Satd. Flow (perm)	1770	5070	0	1770	5060	0	0	1600	0	0	1696	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2			4			34			35	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	14	298	7	52	700	22	28	22	34	8	25	33
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	15	321	0	55	760	0	0	88	0	0	69	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		40.9	40.9		43.9	43.9	
Total Split (s)	25.3	40.5	0.0	29.6	44.8	0.0	59.9	59.9	0.0	59.9	59.9	0.0
Total Split (%)	19.5%	31.2%	0.0%	22.8%	34.5%	0.0%	46.1%	46.1%	0.0%	46.1%	46.1%	0.0%
Maximum Green (s)	20.9	35.4		25.2	39.9		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.0	104.5		8.8	111.1		9.2			9.2		
Actuated g/C Ratio	0.05	0.80		0.07	0.85		0.07			0.07		
v/c Ratio	0.18	0.08		0.46	0.18		0.61			0.45		
Control Delay	74.0	2.3		51.7	1.1		54.2			40.8		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

EX AM
19: El Cajon Blvd & Florida St

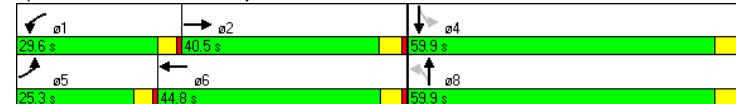
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.0	2.3		51.7	1.1					54.2		40.8
LOS	E	A		D	A					D		D
Approach Delay		5.5			4.5					54.2		40.8
Approach LOS		A			A					D		D
Queue Length 50th (ft)	12	15		48	11					45		28
Queue Length 95th (ft)	35	25		m83	23					99		75
Internal Link Dist (ft)		720			1452					827		901
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	290	4077		349	4324					707		749
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.05	0.08		0.16	0.18					0.12		0.09

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.61
Intersection Signal Delay:	10.0
Intersection LOS:	B
Intersection Capacity Utilization:	37.6%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: El Cajon Blvd & Florida St



EX AM
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑		↓	↑↑	↑	↓	↑↑	↑	↓	↑↑	↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				73			48			336
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	127	203	35	144	585	69	63	80	46	26	192	382
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	134	251	0	152	616	73	66	84	48	27	202	402
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	8.9	14.9		8.4	46.9	46.9	8.4	42.9	42.9	8.4	11.9	8.9
Total Split (s)	17.7	41.6	0.0	27.3	51.2	51.2	18.4	46.9	46.9	14.2	42.7	17.7
Total Split (%)	13.6%	32.0%	0.0%	21.0%	39.4%	39.4%	14.2%	36.1%	36.1%	10.9%	32.8%	13.6%
Maximum Green (s)	12.8	36.7		22.9	46.3	46.3	14.0	42.0	42.0	9.8	37.8	12.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes	Yes	Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	None	C-Max		None	None	None	None	None	None	None	None	None
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	10.3	77.6		15.5	82.8	82.8	9.5	17.7	17.7	6.9	13.3	27.6
Actuated g/C Ratio	0.08	0.60		0.12	0.64	0.64	0.07	0.14	0.14	0.05	0.10	0.21
v/c Ratio	0.49	0.12		0.72	0.27	0.07	0.51	0.17	0.19	0.29	0.56	0.47
Control Delay	63.3	12.8		99.4	31.8	19.4	70.9	49.7	14.8	66.3	61.3	9.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

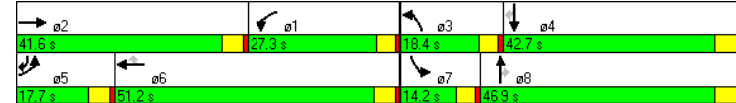
EX AM
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.3	12.8		99.4	31.8	19.4	70.9	49.7	14.8	66.3	61.3	9.8
LOS	E	B		F	C	B	E	D	B	E	E	A
Approach Delay		30.4			42.9			48.3			28.7	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	56	45		118	216	20	55	34	0	22	86	25
Queue Length 95th (ft)	89	80		183	284	m60	101	57	36	54	125	69
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220		130		100				
Base Capacity (vph)	362	2072		317	2255	1035	196	1168	555	139	1054	920
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.12		0.48	0.27	0.07	0.34	0.07	0.09	0.19	0.19	0.44

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	29 (22%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	36.7
Intersection LOS:	D
Intersection Capacity Utilization:	43.0%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



EX AM
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.948			0.969			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3355	0	1770	3429	0	1770	3394	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3355	0	1770	3429	0	1770	3394	0	1770	3451	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		74			25			41			17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	49	189	102	82	441	117	74	135	51	53	252	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	52	306	0	86	587	0	78	196	0	56	318	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	25.0	41.9	0.0	25.0	41.9	0.0	25.0	41.9	0.0	25.0	41.9	0.0
Total Split (%)	18.7%	31.3%	0.0%	18.7%	31.3%	0.0%	18.7%	31.3%	0.0%	18.7%	31.3%	0.0%
Maximum Green (s)	20.6	37.0		20.6	37.0		20.6	37.0		20.6	37.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.1	38.6		11.0	40.4		10.5	40.5		8.3	38.6	
Actuated g/C Ratio	0.08	0.35		0.10	0.37		0.09	0.37		0.07	0.35	
v/c Ratio	0.36	0.25		0.49	0.46		0.47	0.15		0.42	0.26	
Control Delay	57.8	21.7		58.9	28.4		58.8	20.8		61.2	27.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

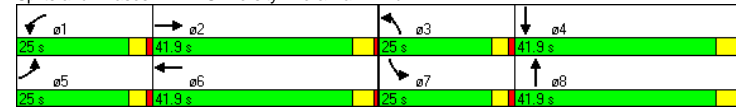
EX AM
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	57.8	21.7		58.9	28.4		58.8	20.8		61.2	27.1	
LOS	E	C		E	C		E	C		E	C	
Approach Delay		27.0			32.3			31.6			32.2	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	37	63		61	167		55	40		40	84	
Queue Length 95th (ft)	80	111		116	244		108	74		86	136	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	302	1228		307	1279		306	1278		301	1225	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.25		0.28	0.46		0.25	0.15		0.19	0.26	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	109.7
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	31.1
Intersection LOS:	C
Intersection Capacity Utilization:	45.3%
ICU Level of Service A	
Analysis Period (min)	15

Splits and Phases: 21: University Ave & Park Blvd



EX PM

1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980			0.978			0.850				0.850
Fit Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3468		0	3433	3461	0	1770	3539	1583	1770	3539
Fit Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3468		0	3433	3461	0	1770	3539	1583	1770	3539
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			17				101			94
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	200	661	99	197	480	83	203	410	96	333	600	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	211	800		0	207	592		214	432	101	351	632
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8		7		4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0		10.0		10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2		8.4		40.1
Total Split (s)	14.4	44.4		0.0	14.4	44.4		0.0	19.5	40.2		21.0
Total Split (%)	12.0%	37.0%		0.0%	12.0%	37.0%		0.0%	16.3%	33.5%		17.5%
Maximum Green (s)	10.0	39.6		10.0	39.7		15.1	35.0		35.0		16.6
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2		4.2		3.4
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0		1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7		3.7		3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2		0.2		0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9		0.9		1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1		0.1		0.1
Recall Mode	None	C-Min		None	C-Min		None	Min		Min		Min
Walk Time (s)		7.0			7.0			7.0		7.0		7.0
Flash Dont Walk (s)		31.0			32.0			28.0		28.0		28.0
Pedestrian Calls (#/hr)		0			0			0		0		0
Act Effct Green (s)	12.5	43.0		12.4	42.9		19.0	23.7		23.7		29.6
Actuated g/C Ratio	0.10	0.36		0.10	0.36		0.16	0.20		0.20		0.25
v/c Ratio	0.59	0.64		0.58	0.47		0.76	0.62		0.26		0.95
Control Delay	58.0	34.8		57.9	31.0		66.5	47.3		8.5		84.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0

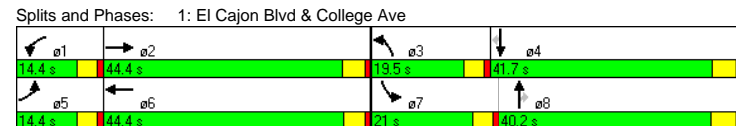
EX PM

1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	58.0	34.8		57.9	31.0		66.5	47.3		8.5	84.7	47.0
LOS	E	C		E	C		E	D		A	F	D
Approach Delay		39.6			38.0			47.5				55.1
Approach LOS		D			D			D				E
Queue Length 50th (ft)	81	266		80	181		155	161		0	270	245
Queue Length 95th (ft)	119	349		117	244		#309	199		43	#544	292
Internal Link Dist (ft)		1138			1071			1350				1401
Turn Bay Length (ft)	260			295			260			160	160	120
Base Capacity (vph)	358	1255		355	1251		281	1068		548	368	1112
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.59	0.64		0.58	0.47		0.76	0.40		0.18	0.95	0.57

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	82 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	45.5
Intersection LOS:	D
Intersection Capacity Utilization:	72.9%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



EX PM

2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic arrows for lane configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.966				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3419	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3419	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			222			139			32			103
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	109	709	319	146	498	132	214	360	106	398	808	102
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	115	746	336	154	524	139	225	491	0	419	851	107
Turn Type	Prot		Perm	Prot		Perm	Prot		Prot		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	12.4	35.1	35.1	14.9	37.6	37.6	17.5	38.0	0.0	32.0	52.5	52.5
Total Split (%)	10.3%	29.3%	29.3%	12.4%	31.3%	31.3%	14.6%	31.7%	0.0%	26.7%	43.8%	43.8%
Maximum Green (s)	8.0	30.2	30.2	10.5	32.4	32.4	13.1	33.0		27.6	47.6	47.6
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	13.3	37.1	37.1	16.4	40.2	40.2	11.6	22.4		28.0	38.9	38.9
Actuated g/C Ratio	0.11	0.31	0.31	0.14	0.34	0.34	0.10	0.19		0.23	0.32	0.32
v/c Ratio	0.59	0.68	0.52	0.64	0.44	0.22	0.68	0.74		1.01	0.74	0.18
Control Delay	62.9	41.3	15.6	61.3	33.8	6.2	62.9	49.6		93.9	40.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

EX PM

2: El Cajon Blvd & Collwood Blvd

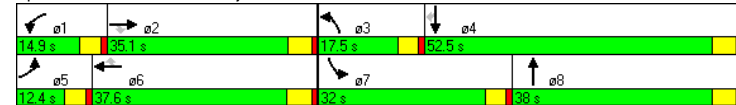
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.9	41.3	15.6	61.3	33.8	6.2	62.9	49.6		93.9	40.5	6.4
LOS	E	D	B	E	C	A	E	D		F	D	A
Approach Delay		36.1			34.3			53.8			54.1	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	85	269	67	113	167	0	88	178		~334	310	2
Queue Length 95th (ft)	149	362	171	#188	236	48	128	224		#542	362	40
Internal Link Dist (ft)		1240			1304			1314			1214	
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	196	1095	643	242	1187	623	386	992		413	1430	701
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.59	0.68	0.52	0.64	0.44	0.22	0.58	0.49		1.01	0.60	0.15

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	44.9
Intersection LOS:	D
Intersection Capacity Utilization:	76.4%
ICU Level of Service:	D
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



EX PM

3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.984			0.946			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3479	0	1770	3483	0	1770	1762	0	1770	1818	0
Flt Permitted	0.950			0.950			0.410			0.430		
Satd. Flow (perm)	1770	3479	0	1770	3483	0	764	1762	0	801	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			14			25			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	33	966	124	64	645	75	102	163	93	74	226	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	35	1148	0	67	758	0	107	270	0	78	284	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	15.6	58.9	0.0	19.1	62.4	0.0	42.0	42.0	0.0	42.0	42.0	0.0
Total Split (%)	13.0%	49.1%	0.0%	15.9%	52.0%	0.0%	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%
Maximum Green (s)	11.2	54.0		14.7	57.5		37.1	37.1		37.1	37.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.6	62.7		9.4	66.5		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.06	0.52		0.08	0.55		0.32	0.32		0.32	0.32	
v/c Ratio	0.31	0.63		0.48	0.39		0.44	0.47		0.31	0.49	
Control Delay	52.1	24.1		63.9	16.5		39.7	32.9		35.2	35.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

EX PM

3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	52.1	24.1		63.9	16.5		39.7	32.9		35.2	35.6	
LOS	D	C		E	B		D	C		D	D	
Approach Delay		25.0			20.4			34.8			35.5	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	27	270		51	177		66	151		46	172	
Queue Length 95th (ft)	m56	293		96	236		124	234		91	258	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	171	1824		223	1937		242	575		254	581	
Starvation Cap Reductn	0	20		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.64		0.30	0.39		0.44	0.47		0.31	0.49	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	106 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	26.3
Intersection LOS:	C
Intersection Capacity Utilization:	69.2%
ICU Level of Service:	C
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



EX PM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0	0	0
Storage Lanes	1		0	1		0	0		0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.991			0.941			0.970	
Flt Protected	0.950			0.950				0.984			0.971	
Satd. Flow (prot)	1770	3514	0	1770	3507	0	0	1725	0	0	1754	0
Flt Permitted	0.950			0.950				0.890			0.794	
Satd. Flow (perm)	1770	3514	0	1770	3507	0	0	1560	0	0	1435	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9			29			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	52	1026	48	42	758	48	29	22	40	55	16	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	55	1131	0	44	849	0	0	96	0	0	96	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	20.0	71.0	0.0	20.0	71.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	16.7%	59.2%	0.0%	16.7%	59.2%	0.0%	24.2%	24.2%	0.0%	24.2%	24.2%	0.0%
Maximum Green (s)	15.6	66.1		15.6	66.1		24.1	24.1		24.1	24.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.1	79.0		7.8	76.7		25.0			25.0		
Actuated g/C Ratio	0.07	0.66		0.06	0.64		0.21			0.21		
v/c Ratio	0.46	0.49		0.38	0.38		0.28			0.28		0.31
Control Delay	63.4	13.3		81.1	6.4		30.2			38.7		
Queue Delay	0.0	0.1		0.0	0.0		0.0			0.0		

EX PM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.4	13.3		81.1	6.4					30.2		38.7
LOS	E	B		F	A					C		D
Approach Delay		15.6			10.1					30.2		38.7
Approach LOS		B			B					C		D
Queue Length 50th (ft)	40	184		36	56					43		56
Queue Length 95th (ft)	m84	422		m77	74					93		108
Internal Link Dist (ft)		598			599					1255		1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	236	2316		236	2245					348		308
Starvation Cap Reductn	0	198		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.23	0.53		0.19	0.38					0.28		0.31

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	15.1
Intersection LOS:	B
Intersection Capacity Utilization:	52.5%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



EX PM
5: El Cajon Blvd & Driveway

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕	↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.930		0.978		0.972			
Fit Protected			0.950				0.978		0.972			
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1694	0	0	1811	0
Flt Permitted	0.954		0.167				0.872		0.903			
Satd. Flow (perm)	0	3356	0	311	3532	0	0	1511	0	0	1682	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes			
Satd. Flow (RTOR)	9		3		41							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30			
Link Distance (ft)	667		678		1277		1173		26.7			
Travel Time (s)	15.2		15.4		29.0		26.7					
Volume (vph)	2	1206	49	41	795	10	48	4	56	4	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1323	0	43	848	0	0	114	0	0	7	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		8		4		4			
Permitted Phases	2		6		8		4		4			
Detector Phases	2		6		8		4		4			
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	91.0	91.0	0.0	91.0	91.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	75.8%	75.8%	0.0%	75.8%	75.8%	0.0%	24.2%	24.2%	0.0%	24.2%	24.2%	0.0%
Maximum Green (s)	86.0	86.0	86.0	86.0	86.0	24.1	24.1	24.1	24.1	24.1	24.1	24.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	101.0		101.0		101.0		11.0		11.0		11.0	
Actuated g/C Ratio	0.84		0.84		0.84		0.09		0.09		0.09	
v/c Ratio	0.47		0.16		0.29		0.65		0.05		0.05	
Control Delay	3.7		2.7		1.5		49.8		47.1		47.1	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	3.7		2.7		1.5		49.8		47.1		47.1	
LOS	A		A		A		D		D		D	
Approach Delay	3.7		1.6		49.8		47.1		47.1		47.1	

EX PM
5: El Cajon Blvd & Driveway

11/15/2007

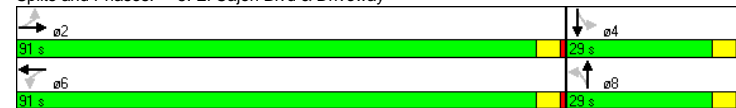


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		D		D		D		D	
Queue Length 50th (ft)	60		3		35		55		5		5	
Queue Length 95th (ft)	239		7		41		112		19		19	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2827		262		2974		347		350		350	
Starvation Cap Reductn	123		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.49		0.16		0.29		0.33		0.02		0.02	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	5.3
Intersection LOS:	A
Intersection Capacity Utilization:	50.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: El Cajon Blvd & Driveway



	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993				0.927	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	3514	0	1770	3539	1689	0
Flt Permitted			0.147		0.978	
Satd. Flow (perm)	3514	0	274	3539	1689	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	11				45	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	1273	64	24	832	54	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	1407	0	25	876	124	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	90.0	0.0	90.0	90.0	30.0	0.0
Total Split (%)	75.0%	0.0%	75.0%	75.0%	25.0%	0.0%
Maximum Green (s)	85.1		85.1	85.1	25.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	101.3		101.3	101.3	10.7	
Actuated g/C Ratio	0.84		0.84	0.84	0.09	
v/c Ratio	0.47		0.11	0.29	0.65	
Control Delay	1.5		2.2	1.4	48.0	
Queue Delay	0.0		0.0	0.0	0.0	

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.5		2.2	1.4	48.0	
LOS	A		A	A	D	
Approach Delay	1.5			1.4	48.0	
Approach LOS	A			A	D	
Queue Length 50th (ft)	35		1	27	60	
Queue Length 95th (ft)	45		m5	42	119	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2967		231	2986	401	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.47		0.11	0.29	0.31	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	16 (13%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	3.8
Intersection LOS:	A
Intersection Capacity Utilization:	50.8%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



EX PM

7: El Cajon Blvd & Fairmount Ave

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frnt			0.850		0.984			0.973				
Flt Protected	0.950							0.990				
Satd. Flow (prot)	1770	3539	1583	0	3483	0	0	3409	0	0	0	0
Flt Permitted	0.950							0.990				
Satd. Flow (perm)	1770	3539	1583	0	3483	0	0	3409	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159		12			21				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	70	1232	151	0	716	83	109	346	98	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	74	1297	159	0	841	0	0	582	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	32.0	83.0	83.0	0.0	51.0	0.0	37.0	37.0	0.0	0.0	0.0	0.0
Total Split (%)	26.7%	69.2%	69.2%	0.0%	42.5%	0.0%	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	27.6	78.1	78.1		46.1		32.1	32.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	8.2	79.0	79.0		68.5		33.0	33.0				
Actuated g/C Ratio	0.07	0.66	0.66		0.57		0.28	0.28				
v/c Ratio	0.62	0.56	0.15		0.42		0.61	0.61				
Control Delay	89.4	8.4	0.3		10.3		39.7	39.7				
Queue Delay	0.0	0.1	0.0		0.0		0.0	0.0				

EX PM

7: El Cajon Blvd & Fairmount Ave

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	89.4	8.5	0.3		10.3							39.7
LOS	F	A	A		B							D
Approach Delay		11.6			10.3							39.7
Approach LOS		B			B							D
Queue Length 50th (ft)	62	122	0		137							200
Queue Length 95th (ft)	m103	138	m0		164							261
Internal Link Dist (ft)		250			595							1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	413	2330	1096		1994							953
Starvation Cap Reductn	0	228	0		0							0
Spillback Cap Reductn	0	0	0		0							0
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.18	0.62	0.15		0.42							0.61

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	56.6%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



EX PM
8: El Cajon Blvd & 43rd St

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑		↔	↔						↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.987								0.987	0.987	
Flt Protected				0.950						0.981	0.981	
Satd. Flow (prot)	0	5019	0	1770	3539	0	0	0	0	0	3427	0
Flt Permitted				0.950						0.981	0.981	
Satd. Flow (perm)	0	5019	0	1770	3539	0	0	0	0	0	3427	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15									9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30		30	
Link Distance (ft)		645			330				1285		1483	
Travel Time (s)		14.7			7.5				29.2		33.7	
Volume (vph)	0	1145	108	96	847	0	0	0	0	342	466	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1319	0	101	892	0	0	0	0	0	929	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	47.8	0.0	21.4	69.2	0.0	0.0	0.0	0.0	50.8	50.8	0.0
Total Split (%)	0.0%	39.8%	0.0%	17.8%	57.7%	0.0%	0.0%	0.0%	0.0%	42.3%	42.3%	0.0%
Maximum Green (s)		42.9		17.0	64.3					45.9	45.9	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		59.6		11.6	75.2						36.8	
Actuated g/C Ratio		0.50		0.10	0.63						0.31	
v/c Ratio		0.53		0.59	0.40						0.88	
Control Delay		22.9		73.3	12.3						49.0	
Queue Delay		0.0		0.0	0.2						0.0	

EX PM
8: El Cajon Blvd & 43rd St

11/15/2007

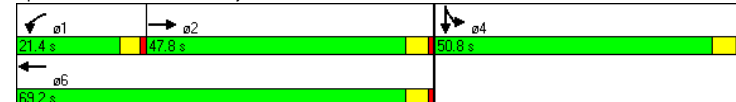


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		22.9		73.3	12.5						49.0	
LOS		C		E	B						D	
Approach Delay		22.9			18.7						49.0	
Approach LOS		C			B						D	
Queue Length 50th (ft)		244		82	127						355	
Queue Length 95th (ft)		358		m142	207						394	
Internal Link Dist (ft)		565			250			1205			1403	
Turn Bay Length (ft)				115								
Base Capacity (vph)		2501		257	2218						1342	
Starvation Cap Reductn		0		0	574						0	
Spillback Cap Reductn		0		0	0						0	
Storage Cap Reductn		0		0	0						0	
Reduced v/c Ratio		0.53		0.39	0.54						0.69	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	29.1
Intersection LOS:	C
Intersection Capacity Utilization:	65.0%
ICU Level of Service:	C
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



EX PM

9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.998			0.961			0.976	
Flt Protected	0.950			0.950				0.980			0.979	
Satd. Flow (prot)	1770	5055	0	1770	5075	0	0	1754	0	0	1780	0
Flt Permitted	0.950			0.950				0.881			0.881	
Satd. Flow (perm)	1770	5055	0	1770	5075	0	0	1577	0	0	1602	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			2			16			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	655			645			1453			1643		
Travel Time (s)	14.9			14.7			33.0			37.3		
Volume (vph)	59	1227	49	51	852	11	33	25	24	25	24	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	62	1344	0	54	909	0	0	86	0	0	62	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases	[Diagrammatic Permitted Phases]											
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	10.0		4.0	10.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.5		8.5	22.5			35.9	35.9		35.9	35.9
Total Split (s)	27.5	64.2		0.0	26.9	63.6		0.0	48.9	48.9		0.0
Total Split (%)	19.6%	45.9%		0.0%	19.2%	45.4%		0.0%	34.9%	34.9%		0.0%
Maximum Green (s)	23.1	59.3		22.5	58.7			44.0	44.0		44.0	44.0
Yellow Time (s)	3.4	3.9		3.4	3.9			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag			Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	3.3		2.0	3.3			2.0	2.0		2.0	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2			2.0	2.0		2.0	2.0
Time Before Reduce (s)	1.0	1.0		0.0	0.0			0.0	0.0		0.0	0.0
Time To Reduce (s)	0.1	0.1		0.0	0.0			0.0	0.0		0.0	0.0
Recall Mode	None	Max		None	Max			Max	Max		Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		9.0			8.0			24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	9.1	60.4		8.6	59.9			45.0			45.0	
Actuated g/C Ratio	0.07	0.49		0.07	0.48			0.36			0.36	
v/c Ratio	0.48	0.55		0.45	0.37			0.15			0.11	
Control Delay	68.4	23.8		67.8	21.3			23.7			25.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

EX PM

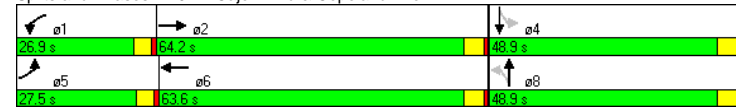
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.4	23.8		67.8	21.3					23.7		25.1
LOS	E	C		E	C					C		C
Approach Delay	25.7			23.9			23.7			25.1		
Approach LOS	C			C			C			C		
Queue Length 50th (ft)	49	276		43	168		38			29		
Queue Length 95th (ft)	96	341		87	216		80			64		
Internal Link Dist (ft)	575			565			1373			1563		
Turn Bay Length (ft)	115			180			290		2452	583		586
Base Capacity (vph)	297	2464		290	2452		583			586		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.21	0.55		0.19	0.37		0.15			0.11		

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	124
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	24.9
Intersection LOS:	C
Intersection Capacity Utilization:	43.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



EX PM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.987			0.982			0.973	
Flt Protected	0.950			0.950				0.973			0.980	
Satd. Flow (prot)	1770	5060	0	1770	5019	0	0	1780	0	0	1776	0
Flt Permitted	0.950			0.950				0.802			0.846	
Satd. Flow (perm)	1770	5060	0	1770	5019	0	0	1467	0	0	1533	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			14			7			11	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		447			655			1485			1723	
Travel Time (s)		10.2			14.9			33.8			39.2	
Volume (vph)	139	1209	44	49	832	78	69	39	17	47	44	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	146	1319	0	52	958	0	0	132	0	0	119	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	32.1	53.0	0.0	23.1	44.0	0.0	43.9	43.9	0.0	43.9	43.9	0.0
Total Split (%)	26.8%	44.2%	0.0%	19.3%	36.7%	0.0%	36.6%	36.6%	0.0%	36.6%	36.6%	0.0%
Maximum Green (s)	27.7	48.1		18.7	39.1		39.0	39.0		39.0	39.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	14.1	61.7		8.2	54.0		39.9	39.9		39.9	39.9	
Actuated g/C Ratio	0.12	0.51		0.07	0.45		0.33	0.33		0.33	0.33	
v/c Ratio	0.70	0.51		0.43	0.42		0.27	0.27		0.23	0.23	
Control Delay	68.0	20.6		63.8	23.4		29.6	29.6		27.6	27.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

EX PM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.0	20.6		63.8	23.4					29.6		27.6
LOS	E	C		E	C					C		C
Approach Delay		25.3			25.4					29.6		27.6
Approach LOS		C			C					C		C
Queue Length 50th (ft)	111	244		39	177					70		60
Queue Length 95th (ft)	173	304		79	235					123		108
Internal Link Dist (ft)		367			575				1405			1643
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	414	2604		282	2265				492			517
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.35	0.51		0.18	0.42				0.27			0.23

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	25.7
Intersection LOS:	C
Intersection Capacity Utilization:	47.8%
ICU Level of Service A	
Analysis Period (min):	15

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



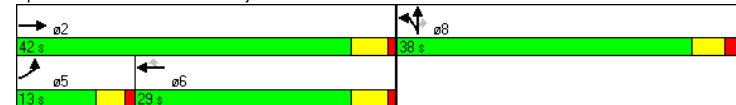
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.876	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)						239		34	34			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			225			1453			1618	
Travel Time (s)		8.6			5.1			33.0			36.8	
Volume (vph)	226	1155	0	0	754	227	143	34	334	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	238	1216	0	0	794	239	151	209	179	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	13.0	42.0	0.0	0.0	29.0	29.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	16.3%	52.5%	0.0%	0.0%	36.3%	36.3%	47.5%	47.5%	47.5%	0.0%	0.0%	0.0%
Maximum Green (s)	8.8	37.0			24.0	24.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	23.0	57.7			30.6	30.6	14.3	14.3	14.3			
Actuated g/C Ratio	0.29	0.72			0.38	0.38	0.18	0.18	0.18			
v/c Ratio	0.47	0.33			0.32	0.32	0.25	0.69	0.60			
Control Delay	19.3	2.2			18.5	4.2	27.7	36.4	32.0			
Queue Delay	0.0	0.2			0.0	0.0	0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.3	2.4			18.5	4.2	27.7	36.4	32.0			
LOS	B	A			B	A	C	D	C			
Approach Delay		5.2			15.2			32.5				
Approach LOS		A			B			C				
Queue Length 50th (ft)	39	0			77	0	34	87	70			
Queue Length 95th (ft)	184	189			116	48	52	144	123			
Internal Link Dist (ft)		298			145		1373		1538			
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	510	3666			2454	754	1459	678	659			
Starvation Cap Reductn	0	1406			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.47	0.54			0.32	0.32	0.10	0.31	0.27			

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	13.5
Intersection LOS:	B
Intersection Capacity Utilization:	54.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Frnt			0.850							0.938	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1660	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1660	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225								52	196
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30				30		30		30
Link Distance (ft)		1320		378			1484			1611		
Travel Time (s)		30.0		8.6			33.7			36.6		
Volume (vph)	0	1023	214	303	638	0	0	0	0	346	127	301
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1077	225	319	672	0	0	0	0	364	228	223
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	31.0	31.0	14.0	45.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	38.8%	38.8%	17.5%	56.3%	0.0%	0.0%	0.0%	0.0%	43.8%	43.8%	43.8%
Maximum Green (s)		26.0	26.0	9.8	40.0					30.4	30.4	30.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		6.0	6.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		27.0	27.0	26.9	57.9					14.1	14.1	14.1
Actuated g/C Ratio		0.34	0.34	0.34	0.72					0.18	0.18	0.18
v/c Ratio		0.50	0.33	0.54	0.18					0.60	0.68	0.52
Control Delay		22.1	4.4	17.7	2.6					34.0	33.5	10.6
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		22.1	4.4	17.7	2.6					34.0	33.5	10.6
LOS		C	A	B	A					C	C	B
Approach Delay		19.0			7.5						27.5	
Approach LOS		B			A						C	
Queue Length 50th (ft)		122	0	136	1					88	87	12
Queue Length 95th (ft)		154	45	#257	2					116	148	66
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2163	683	596	3681					1330	675	703
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.50	0.33	0.54	0.18					0.27	0.34	0.32

Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	40 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	17.6
Intersection LOS:	B
Intersection Capacity Utilization:	54.4%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 12: El Cajon Blvd & I-15 SB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔		↔↔↔		↔↔↔		↔↔↔		↔↔↔		↔↔↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.991			0.955			0.952	
Flt Protected	0.950			0.950			0.984			0.988		
Satd. Flow (prot)	1770	5045	0	1770	5040	0	0	1750	0	0	1752	0
Flt Permitted	0.950			0.950			0.857			0.902		
Satd. Flow (perm)	1770	5045	0	1770	5040	0	0	1525	0	0	1600	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10			10			22			24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1329			1310			1164			1020		
Travel Time (s)	30.2			29.8			26.5			23.2		
Volume (vph)	80	1174	70	105	732	45	58	61	60	37	63	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	84	1310	0	111	818	0	0	188	0	0	163	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases					8		8		4		4	
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		34.9	34.9		34.9	34.9	
Total Split (s)	20.0	60.0	0.0	20.0	60.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	16.7%	50.0%	0.0%	16.7%	50.0%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	15.6	55.0		15.6	55.0		35.1	35.1		35.1	35.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.5	60.1		11.9	63.6			36.0			36.0	
Actuated g/C Ratio	0.09	0.50		0.10	0.53		0.30			0.30		
v/c Ratio	0.55	0.52		0.63	0.31		0.40			0.33		
Control Delay	67.2	13.0		67.5	16.8		32.3			29.8		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		
Total Delay	67.2	13.0		67.5	16.8		32.3			29.8		
LOS	E	B		E	B		C			C		
Approach Delay	16.2				22.9		32.3				29.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			C			C		
Queue Length 50th (ft)	69	86		84	128			102			83	
Queue Length 95th (ft)	m89	164		141	171			171			144	
Internal Link Dist (ft)	1249			1230			1084			940		
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	236	2533		236	2674			473			497	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.36	0.52		0.47	0.31			0.40			0.33	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	59 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	20.5
Intersection LOS:	C
Intersection Capacity Utilization:	55.3%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 13: El Cajon Blvd & 35th St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.993			0.962			0.932	
Flt Protected	0.950			0.950				0.977			0.990	
Satd. Flow (prot)	1770	3497	0	1770	3514	0	0	1751	0	0	1719	0
Flt Permitted	0.950			0.950				0.646			0.880	
Satd. Flow (perm)	1770	3497	0	1770	3514	0	0	1158	0	0	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			5			17			43	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	183	1206	108	97	702	36	139	70	82	42	63	105
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	193	1383	0	102	777	0	0	306	0	0	221	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4			8		
Detector Phases	5	2		1	6		4	4		8	8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9		35.9	35.9	
Total Split (s)	29.0	51.0		29.0	51.0		40.0	40.0		40.0	40.0	0.0
Total Split (%)	24.2%	42.5%	0.0%	24.2%	42.5%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	24.6	46.0		24.6	46.0		35.1	35.1		35.1	35.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	17.4	60.7		11.3	54.6			36.0			36.0	
Actuated g/C Ratio	0.14	0.51		0.09	0.46			0.30			0.30	
v/c Ratio	0.75	0.78		0.61	0.49			0.85			0.45	
Control Delay	66.9	28.6		60.4	22.4			60.2			30.6	
Queue Delay	0.0	6.2		0.0	0.0			0.0			0.0	
Total Delay	66.9	34.7		60.4	22.4			60.2			30.6	
LOS	E	C		E	C			E			C	
Approach Delay		38.7			26.8			60.2			30.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C			E			C	
Queue Length 50th (ft)	146	442		78	145			212			111	
Queue Length 95th (ft)	213	583		134	222			#376			188	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	369	1773		369	1602			359			489	
Starvation Cap Reductn	0	341		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.52	0.97		0.28	0.49			0.85			0.45	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	46 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	36.8
Intersection LOS:	D
Intersection Capacity Utilization:	83.9%
ICU Level of Service:	E
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 14: El Cajon Blvd & 33rd St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frnt					0.967				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					68				46			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	314	1354	0	0	803	228	413	2	249	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	331	1425	0	0	1085	0	218	219	262	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	29.7	74.0	0.0	0.0	44.3	0.0	42.0	42.0	42.0	0.0	0.0	0.0
Total Split (%)	25.6%	63.8%	0.0%	0.0%	38.2%	0.0%	36.2%	36.2%	36.2%	0.0%	0.0%	0.0%
Maximum Green (s)	25.5	69.0			39.3		37.0	37.0	37.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	1.0			1.0		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	16.3	87.1			66.8		20.9	20.9	20.9			
Actuated g/C Ratio	0.14	0.75			0.58		0.18	0.18	0.18			
v/c Ratio	0.69	0.37			0.38		0.72	0.72	0.81			
Control Delay	71.4	1.6			14.2		57.4	57.4	55.9			
Queue Delay	0.0	0.3			0.0		0.0	0.0	0.3			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	71.4	1.8			14.2				57.4	57.4	56.2	
LOS	E	A			B				E	E	E	
Approach Delay		14.9			14.2				56.9			
Approach LOS		B			B				E			
Queue Length 50th (ft)	137	30			136				164	165	159	
Queue Length 95th (ft)	m106	m35			228				228	230	231	
Internal Link Dist (ft)		374			492				1297			1503
Turn Bay Length (ft)	148								158			
Base Capacity (vph)	761	3818			2859				551	552	550	
Starvation Cap Reductn	0	1438			0				0	0	0	
Spillback Cap Reductn	0	392			0				0	0	46	
Storage Cap Reductn	0	0			0				0	0	0	
Reduced v/c Ratio	0.43	0.60			0.38				0.40	0.40	0.52	

Intersection Summary	
Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	59 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	23.0
Intersection LOS:	C
Intersection Capacity Utilization:	77.7%
ICU Level of Service:	D
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: El Cajon Blvd & I-805 NB



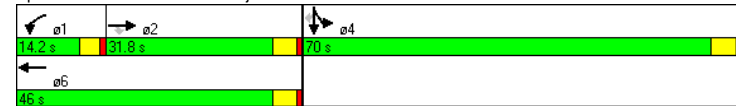
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↔	↑↑↑					↓	↔	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frnt			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Fit Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			436									23
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	1113	588	223	982	0	0	0	0	574	1	841
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1172	619	235	1034	0	0	0	0	302	303	885
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1		6				4		4
Permitted Phases			2									4
Detector Phases		2	2	1		6				4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)	0.0	31.8	31.8	14.2	46.0	0.0	0.0	0.0	0.0	70.0	70.0	70.0
Total Split (%)	0.0%	27.4%	27.4%	12.2%	39.7%	0.0%	0.0%	0.0%	0.0%	60.3%	60.3%	60.3%
Maximum Green (s)		26.8	26.8	10.0	41.0					65.0	65.0	65.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.4	1.4	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		27.8	27.8	10.2	42.0					66.0	66.0	66.0
Actuated g/C Ratio		0.24	0.24	0.09	0.36					0.57	0.57	0.57
v/c Ratio		0.96	0.87	0.78	0.56					0.32	0.32	0.97
Control Delay		61.9	26.7	58.5	35.2					14.3	14.3	48.2
Queue Delay		0.0	0.0	0.0	0.8					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		61.9	26.7	58.5	36.0					14.3	14.3	48.2
LOS		E	C		E	D				B	B	D
Approach Delay		49.7			40.2							34.4
Approach LOS		D			D							C
Queue Length 50th (ft)		318	142	80	261					118	118	596
Queue Length 95th (ft)		#414	#367	m#143	348					176	177	#909
Internal Link Dist (ft)		586			374			1317				1493
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		1219	711	302	1841					956	959	911
Starvation Cap Reductn		0	0	0	467					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.96	0.87	0.78	0.75					0.32	0.32	0.97

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	42.1
Intersection LOS:	D
Intersection Capacity Utilization:	77.7%
ICU Level of Service:	D
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: El Cajon Blvd & I-805 SB



EX PM
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.985			0.983			0.959			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1814	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			20			17			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			762			1004			1052	
Travel Time (s)		17.5			17.3			22.8			23.9	
Volume (vph)	69	1039	114	156	955	122	95	217	83	165	236	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	73	1214	0	164	1133	0	100	315	0	174	299	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	14.5	38.1	0.0	20.0	43.6	0.0	17.3	40.9	0.0	21.0	44.6	0.0
Total Split (%)	12.1%	31.8%	0.0%	16.7%	36.3%	0.0%	14.4%	34.1%	0.0%	17.5%	37.2%	0.0%
Maximum Green (s)	10.1	33.1		15.6	38.6		12.9	36.0		16.6	39.7	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)		4.0			4.0			4.0			4.0	
Flash Dont Walk (s)		13.0			13.0			32.0			32.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	8.8	35.8		14.3	43.2		10.8	38.9		15.0	43.1	
Actuated g/C Ratio	0.07	0.30		0.12	0.36		0.09	0.32		0.12	0.36	
v/c Ratio	0.56	0.81		0.78	0.63		0.62	0.53		0.78	0.46	
Control Delay	69.7	43.8		75.4	33.8		69.3	35.9		74.7	31.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.7	43.8		75.4	33.8		69.3	35.9		74.7	31.9	
LOS	E	D		E	C		E	D		E	C	
Approach Delay		45.2			39.1			43.9			47.6	

EX PM
17: El Cajon Blvd & 30th St

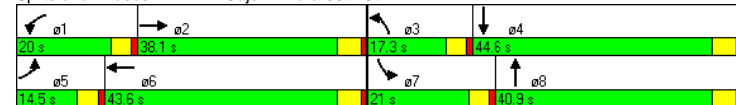
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			D			D		
Queue Length 50th (ft)	55	321		123	269		76	192		130	172	
Queue Length 95th (ft)	105	380		#214	324		133	289		#223	264	
Internal Link Dist (ft)	688			682			924			972		
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	155	1506		236	1811		196	590		251	657	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.81		0.69	0.63		0.51	0.53		0.69	0.46	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	103 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	43.1
Intersection LOS:	D
Intersection Capacity Utilization:	70.2%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 17: El Cajon Blvd & 30th St



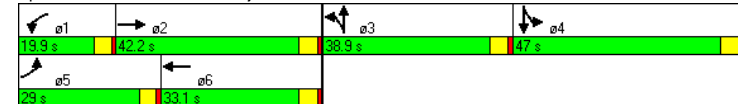
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.995			0.980			0.984			0.979	
Flt Protected	0.950			0.950			0.994			0.988		
Satd. Flow (prot)	1770	5060	0	1770	4984	0	0	3462	0	0	3423	0
Flt Permitted	0.950			0.950			0.994			0.988		
Satd. Flow (perm)	1770	5060	0	1770	4984	0	0	3462	0	0	3423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			18			8			12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1532			1136			994			1062	
Travel Time (s)		34.8			25.8			22.6			24.1	
Volume (vph)	184	874	32	95	599	93	50	301	43	175	471	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	194	954	0	100	729	0	0	415	0	0	789	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	29.0	42.2	0.0	19.9	33.1	0.0	38.9	38.9	0.0	47.0	47.0	0.0
Total Split (%)	19.6%	28.5%	0.0%	13.4%	22.4%	0.0%	26.3%	26.3%	0.0%	31.8%	31.8%	0.0%
Maximum Green (s)	24.6	37.3		15.5	28.2		34.0	34.0		42.1	42.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		4.0			4.0		5.0	5.0		4.0	4.0	
Flash Dont Walk (s)		12.0			12.0		29.0	29.0		29.0	29.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	19.3	41.6		12.5	34.8		34.9	34.9		43.0	43.0	
Actuated g/C Ratio	0.13	0.28		0.08	0.24		0.24	0.24		0.29	0.29	
v/c Ratio	0.84	0.67		0.67	0.62		0.50	0.50		0.79	0.79	
Control Delay	80.3	32.4		86.3	52.7		50.6	50.6		54.1	54.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	80.3	32.4		86.3	52.7			50.6			54.1	
LOS	F	C		F	D			D			D	
Approach Delay		40.5			56.8			50.6			54.1	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	106	313		95	227			181			364	
Queue Length 95th (ft)	m193	378		157	289			236			445	
Internal Link Dist (ft)		1452			1056			914			982	
Turn Bay Length (ft)	140			120								
Base Capacity (vph)	299	1424		190	1184			822			1003	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.65	0.67		0.53	0.62			0.50			0.79	

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	15 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	49.4
Intersection LOS:	D
Intersection Capacity Utilization:	69.7%
ICU Level of Service:	C
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.993			0.923			0.979	
Flt Protected	0.950			0.950				0.996			0.990	
Satd. Flow (prot)	1770	5065	0	1770	5050	0	0	1712	0	0	1805	0
Flt Permitted	0.950			0.950				0.979			0.928	
Satd. Flow (perm)	1770	5065	0	1770	5050	0	0	1683	0	0	1692	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			6			50			7	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	42	1002	28	79	456	24	12	57	91	20	64	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	44	1084	0	83	505	0	0	169	0	0	104	0
Turn Type	Prot			Prot		Perm		Perm		Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases												
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	10.0		4.0	10.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.4	21.1		8.4	21.1			40.9	40.9		43.9	43.9
Total Split (s)	27.2	58.6	0.0	31.5	62.9	0.0	0.0	57.9	57.9	0.0	57.9	57.9
Total Split (%)	18.4%	39.6%	0.0%	21.3%	42.5%	0.0%	0.0%	39.1%	39.1%	0.0%	39.1%	39.1%
Maximum Green (s)	22.8	53.5		27.1	58.0			53.0	53.0		53.0	53.0
Yellow Time (s)	3.4	4.1		3.4	3.9			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8			2.0	2.0		2.0	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2			2.0	2.0		2.0	2.0
Time Before Reduce (s)	0.0	0.8		0.0	0.8			0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1			0.0	0.0		0.0	0.0
Recall Mode	None	C-Max		None	C-Max			None	None		None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		9.0			9.0			29.0	29.0		32.0	32.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	7.7	109.7		11.6	115.4			14.7			14.7	
Actuated g/C Ratio	0.05	0.74		0.08	0.78			0.10			0.10	
v/c Ratio	0.48	0.29		0.60	0.13			0.80			0.60	
Control Delay	82.3	12.3		55.7	9.0			70.9			72.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	82.3	12.3		55.7	9.0			70.9			72.5	
LOS	F	B		E	A			E			E	
Approach Delay		15.0			15.6			70.9			72.5	
Approach LOS		B			B			E			E	
Queue Length 50th (ft)	35	221		82	35			115			91	
Queue Length 95th (ft)	m74	309		m131	116			191			149	
Internal Link Dist (ft)		720			1452			827			901	
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	277	3755		329	3938			645			621	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.16	0.29		0.25	0.13			0.26			0.17	

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	32 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	22.9
Intersection LOS:	C
Intersection Capacity Utilization:	44.8%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: El Cajon Blvd & Florida St



EX PM
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑		↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				72			204			259
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	394	839	0	140	298	72	77	297	204	81	198	259
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	9.9	15.9		9.4	47.9	47.9	9.4	43.9	43.9	9.4	12.9	9.9
Total Split (s)	31.7	53.3	0.0	27.5	49.1	49.1	20.0	46.9	46.9	20.3	47.2	31.7
Total Split (%)	21.4%	36.0%	0.0%	18.6%	33.2%	33.2%	13.5%	31.7%	31.7%	13.7%	31.9%	21.4%
Maximum Green (s)	25.8	47.4		22.1	43.2	43.2	14.6	41.0	41.0	14.9	41.3	25.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes	Yes	Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	Max	C-Max		None	None	None	None	None	None	None	None	Max
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	61.1	82.7		17.2	38.8	38.8	12.0	19.8	19.8	12.3	20.1	85.2
Actuated g/C Ratio	0.41	0.56		0.12	0.26	0.26	0.08	0.13	0.13	0.08	0.14	0.58
v/c Ratio	0.28	0.43		0.68	0.32	0.15	0.54	0.63	0.52	0.55	0.41	0.15
Control Delay	31.6	21.2		73.9	39.4	16.1	78.5	66.4	11.9	78.8	60.6	2.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

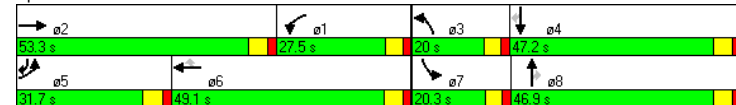
EX PM
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.6	21.2		73.9	39.4	16.1	78.5	66.4	11.9	78.8	60.6	2.2
LOS	C	C		E	D	B	E	E	B	E	E	A
Approach Delay		24.5			45.5			48.8			35.2	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	128	236		137	148	29	73	144	0	76	93	0
Queue Length 95th (ft)	200	357		m207	m94	m24	126	190	74	132	131	25
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220		130		100				
Base Capacity (vph)	1417	1945		281	1078	532	191	1026	604	195	1033	1714
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.43		0.50	0.28	0.14	0.40	0.29	0.34	0.42	0.19	0.15

Intersection Summary	
Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	107 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	35.2
Intersection LOS:	D
Intersection Capacity Utilization:	55.2%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



EX PM

21: University Ave & Park Blvd

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.974			0.963			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3440	0	1770	3447	0	1770	3408	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3447	0	1770	3408	0	1770	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			19			32			18	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	125	860	0	96	537	0	127	579	0	183	393	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	21.6	47.9	0.0	18.0	44.3	0.0	21.8	41.9	0.0	26.0	46.1	0.0
Total Split (%)	16.1%	35.8%	0.0%	13.5%	33.1%	0.0%	16.3%	31.3%	0.0%	19.4%	34.5%	0.0%
Maximum Green (s)	17.2	43.0		13.6	39.4		17.4	37.0		21.6	41.2	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	14.1	44.0		11.7	41.6		14.2	39.2		17.2	42.2	
Actuated g/C Ratio	0.11	0.34		0.09	0.32		0.11	0.31		0.13	0.33	
v/c Ratio	0.64	0.72		0.60	0.47		0.65	0.54		0.77	0.34	
Control Delay	70.5	40.5		72.1	35.8		70.4	38.1		74.7	32.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

EX PM

21: University Ave & Park Blvd

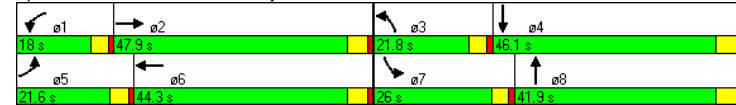
11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.5	40.5		72.1	35.8		70.4	38.1		74.7	32.7	
LOS	E	D		E	D		E	D		E	C	
Approach Delay		44.3			41.3			43.9			46.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	102	325		78	183		103	203		150	125	
Queue Length 95th (ft)	171	421		141	254		173	278		232	178	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	237	1196		190	1132		239	1065		293	1149	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.72		0.51	0.47		0.53	0.54		0.62	0.34	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	128.1
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	43.9
Intersection Capacity Utilization:	67.0%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 21: University Ave & Park Blvd



APPENDIX E

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS NEAR-TERM CONDITIONS

NT AM

1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.969			0.948				0.850			0.850
Fit Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3429	0	3433	3355	0	1770	3539	1583	1770	3539	1583
Fit Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3429	0	3433	3355	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			70				51			96
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	183	285	75	81	358	189	177	682	63	108	193	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	193	379	0	85	576	0	186	718	66	114	203	96
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8	8	7	4	4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2	40.2	8.4	40.1	40.1
Total Split (s)	19.4	46.7	0.0	18.4	45.7	0.0	30.8	53.6	53.6	21.3	44.1	44.1
Total Split (%)	13.9%	33.4%	0.0%	13.1%	32.6%	0.0%	22.0%	38.3%	38.3%	15.2%	31.5%	31.5%
Maximum Green (s)	15.0	41.9		14.0	41.0		26.4	48.4	48.4	16.9	39.0	39.0
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2	4.2	3.4	4.1	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7	3.7	2.0	3.2	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9	0.9	0.0	1.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0			32.0			28.0	28.0		28.0	28.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	12.8	66.2		10.4	63.8		19.0	33.7	33.7	13.6	28.3	28.3
Actuated g/C Ratio	0.09	0.47		0.07	0.46		0.14	0.24	0.24	0.10	0.20	0.20
v/c Ratio	0.61	0.23		0.33	0.37		0.77	0.84	0.16	0.66	0.28	0.24
Control Delay	69.6	22.4		65.3	24.3		78.6	60.1	14.6	78.3	47.5	9.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

NT AM

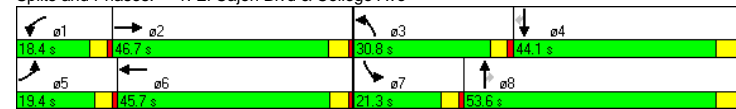
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.6	22.4		65.3	24.3		78.6	60.1	14.6	78.3	47.5	9.4
LOS	E	C		E	C		E	E	B	E	D	A
Approach Delay		38.3			29.6			60.6			47.2	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	89	97		38	153		166	330	11	102	83	0
Queue Length 95th (ft)	127	158		67	248		238	380	47	163	115	46
Internal Link Dist (ft)		1138			1071			1350			1401	
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	382	1635		353	1568		339	1254	594	224	1014	522
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.23		0.24	0.37		0.55	0.57	0.11	0.51	0.20	0.18

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	126 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization:	62.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: El Cajon Blvd & College Ave



NT AM

2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frnt			0.850			0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3497	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3497	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			295			7			136
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	80	303	106	54	384	280	140	586	52	122	264	129
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	84	319	112	57	404	295	147	672	0	128	278	136
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	22.6	47.8	47.8	20.9	46.1	46.1	22.4	46.0	0.0	25.3	48.9	48.9
Total Split (%)	16.1%	34.1%	34.1%	14.9%	32.9%	32.9%	16.0%	32.9%	0.0%	18.1%	34.9%	34.9%
Maximum Green (s)	18.2	42.9	42.9	16.5	40.9	40.9	18.0	41.0		20.9	44.0	44.0
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	10.8	69.9	69.9	9.0	66.0	66.0	10.1	33.1		14.2	37.1	37.1
Actuated g/C Ratio	0.08	0.50	0.50	0.06	0.47	0.47	0.07	0.24		0.10	0.26	0.26
v/c Ratio	0.61	0.18	0.13	0.50	0.24	0.33	0.59	0.81		0.72	0.30	0.26
Control Delay	80.8	22.6	5.2	77.8	25.1	4.3	72.5	57.7		81.8	40.7	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

NT AM

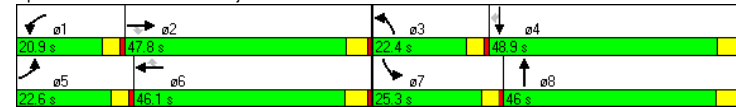
2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	80.8	22.6	5.2	77.8	25.1	4.3	72.5	57.7		81.8	40.7	6.4
LOS	F	C	A	E	C	A	E	E		F	D	A
Approach Delay		28.3			20.9			60.4			41.8	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	76	84	0	51	113	0	68	303		115	106	0
Queue Length 95th (ft)	129	145	41	97	190	63	103	348		178	132	47
Internal Link Dist (ft)		1240			1304			1314			1214	
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	235	1767	846	214	1668	902	451	1054		269	1149	606
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.36	0.18	0.13	0.27	0.24	0.33	0.33	0.64		0.48	0.24	0.22

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	118 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	38.9
Intersection LOS:	D
Intersection Capacity Utilization:	53.6%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



NT AM

3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.986			0.974			0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	3490	0	1770	1814	0	1770	1768	0
Flt Permitted	0.950			0.950			0.680			0.513		
Satd. Flow (perm)	1770	3472	0	1770	3490	0	1267	1814	0	956	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			16			18			41	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	37	449	65	46	643	67	100	218	46	40	75	39
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	39	541	0	48	748	0	105	277	0	42	120	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	12.0	26.0	0.0	12.0	26.0	0.0	32.0	32.0	0.0	32.0	32.0	0.0
Total Split (%)	17.1%	37.1%	0.0%	17.1%	37.1%	0.0%	45.7%	45.7%	0.0%	45.7%	45.7%	0.0%
Maximum Green (s)	7.6	21.1		7.6	21.1		27.1	27.1		27.1	27.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.9	27.1		7.0	27.3		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.10	0.39		0.10	0.39		0.40	0.40		0.40	0.40	
v/c Ratio	0.22	0.40		0.27	0.55		0.21	0.38		0.11	0.16	
Control Delay	23.7	28.0		32.9	19.4		15.2	15.7		14.2	10.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT AM

3: El Cajon Blvd & Euclid Ave

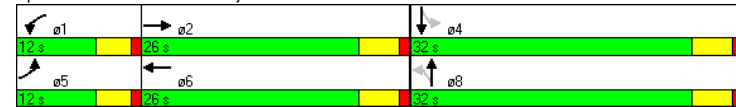
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	23.7	28.0		32.9	19.4		15.2	15.7		14.2	10.0	
LOS	C	C		C	B		B	B		B	A	
Approach Delay		27.7			20.2			15.5			11.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	26	191		20	137		29	75		11	21	
Queue Length 95th (ft)	44	235		49	200		61	132		30	51	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	202	1360		202	1369		507	736		382	732	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.40		0.24	0.55		0.21	0.38		0.11	0.16	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	40 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	20.8
Intersection LOS:	C
Intersection Capacity Utilization:	57.5%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



NT AM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.988			0.960			0.958	
Flt Protected	0.950			0.950				0.984			0.971	
Satd. Flow (prot)	1770	3507	0	1770	3497	0	0	1760	0	0	1733	0
Flt Permitted	0.950			0.950				0.903			0.812	
Satd. Flow (perm)	1770	3507	0	1770	3497	0	0	1615	0	0	1449	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			14			33			29	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	42	493	33	36	652	59	34	39	31	53	9	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	44	554	0	38	748	0	0	110	0	0	94	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	14.0	26.0	0.0	14.0	26.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	20.0%	37.1%	0.0%	20.0%	37.1%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%
Maximum Green (s)	9.6	21.1		9.6	21.1		25.1	25.1		25.1	25.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.7	31.4		6.3	29.0			26.0			26.0	
Actuated g/C Ratio	0.10	0.45		0.09	0.41			0.37			0.37	
v/c Ratio	0.26	0.35		0.24	0.51			0.18			0.17	
Control Delay	25.3	18.4		44.2	8.7			11.7			11.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

NT AM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.3	18.4		44.2	8.7			11.7			11.8	
LOS	C	B		D	A			B			B	
Approach Delay		18.9			10.4			11.7			11.8	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	17	169		15	142			21			18	
Queue Length 95th (ft)	m29	230		m31	212			53			47	
Internal Link Dist (ft)		598			599			1255			1145	
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	253	1577		253	1458			621			556	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.17	0.35		0.15	0.51			0.18			0.17	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	65 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	13.8
Intersection LOS:	B
Intersection Capacity Utilization:	42.2%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



NT AM
5: El Cajon Blvd & Driveway

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕	↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	48	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.961		0.981		0.966		0.981	
Fit Protected			0.950		0.966		0.966					
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1729	0	0	1765	0
Flt Permitted			0.432		0.816		0.893					
Satd. Flow (perm)	0	3518	0	805	3532	0	0	1461	0	0	1632	0
Right Turn on Red			Yes		Yes		Yes				Yes	
Satd. Flow (RTOR)	9		2		32		1					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30					
Link Distance (ft)	667		678		1277		1173					
Travel Time (s)	15.2		15.4		29.0		26.7					
Volume (vph)	0	485	20	17	691	8	78	1	32	5	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	532	0	18	735	0	0	117	0	0	7	0
Turn Type	Perm		Perm		Perm		Perm					
Protected Phases	2		6		8		4					
Permitted Phases	2		6		8		4					
Detector Phases	2		6		8		4					
Minimum Initial (s)	25.0	25.0		25.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		27.9	27.9		8.9	8.9	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	60.0%	60.0%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%
Maximum Green (s)	37.0	37.0		37.0	37.0		23.1	23.1		23.1	23.1	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0				
Flash Dont Walk (s)	7.0	7.0					16.0	16.0				
Pedestrian Calls (#/hr)	0		0		0		0					
Act Effct Green (s)	55.5		55.5		55.5		9.2				9.2	
Actuated g/C Ratio	0.79		0.79		0.79		0.13				0.13	
v/c Ratio	0.19		0.03		0.26		0.53				0.03	
Control Delay	3.0		9.8		9.4		29.4				23.1	
Queue Delay	0.0		0.0		0.0		0.0				0.0	
Total Delay	3.0		9.8		9.4		29.4				23.1	
LOS	A		A		A		C				C	
Approach Delay	3.0		9.4		29.4		23.1					

NT AM
5: El Cajon Blvd & Driveway

11/15/2007

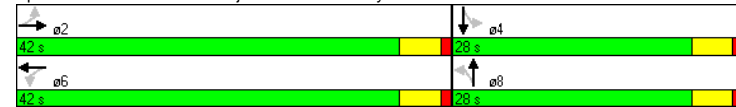


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A				A		C				C	
Queue Length 50th (ft)	35		4		110		35				2	
Queue Length 95th (ft)	62		m13		203		77				12	
Internal Link Dist (ft)	587				598		1197				1093	
Turn Bay Length (ft)			48									
Base Capacity (vph)	2791		638		2801		522				560	
Starvation Cap Reductn	0		0		0		0				0	
Spillback Cap Reductn	0		0		0		0				0	
Storage Cap Reductn	0		0		0		0				0	
Reduced v/c Ratio	0.19		0.03		0.26		0.22				0.01	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	60 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.53
Intersection Signal Delay:	8.7
Intersection LOS:	A
Intersection Capacity Utilization:	34.7%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 5: El Cajon Blvd & Driveway

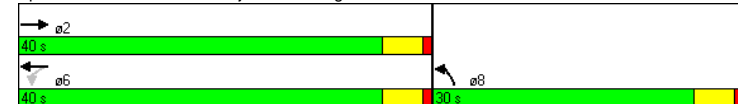


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994			0.955		
Flt Protected			0.950		0.968	
Satd. Flow (prot)	3518	0	1770	3539	1722	0
Flt Permitted			0.405		0.968	
Satd. Flow (perm)	3518	0	754	3539	1722	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	9				27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	517	22	18	764	51	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	567	0	19	804	81	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	40.0	0.0	40.0	40.0	30.0	0.0
Total Split (%)	57.1%	0.0%	57.1%	57.1%	42.9%	0.0%
Maximum Green (s)	35.1		35.1	35.1	25.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	60.0		60.0	60.0	7.4	
Actuated g/C Ratio	0.86		0.86	0.86	0.11	
v/c Ratio	0.19		0.03	0.26	0.39	
Control Delay	1.9		2.4	2.0	26.4	
Queue Delay	0.0		0.0	0.0	0.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.9		2.4	2.0	26.4	
LOS	A		A	A	C	
Approach Delay	1.9			2.1	26.4	
Approach LOS	A			A	C	
Queue Length 50th (ft)	46		2	42	22	
Queue Length 95th (ft)	4		m5	47	57	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	3019		647	3036	657	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.19		0.03	0.26	0.12	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.39
Intersection Signal Delay:	3.3
Intersection LOS:	A
Intersection Capacity Utilization:	32.2%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



NT AM

7: El Cajon Blvd & Fairmount Ave

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.971			0.983				
Flt Protected	0.950							0.992				
Satd. Flow (prot)	1770	3539	1583	0	3437	0	0	3451	0	0	0	0
Flt Permitted	0.950							0.992				
Satd. Flow (perm)	1770	3539	1583	0	3437	0	0	3451	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			72		24			12				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	78	497	68	0	637	156	110	493	78	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	82	523	72	0	835	0	0	717	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	22.0	77.0	77.0	0.0	55.0	0.0	63.0	63.0	0.0	0.0	0.0	0.0
Total Split (%)	15.7%	55.0%	55.0%	0.0%	39.3%	0.0%	45.0%	45.0%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	17.6	72.1	72.1		50.1		58.1	58.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	9.5	73.0	73.0		59.5			59.0				
Actuated g/C Ratio	0.07	0.52	0.52		0.42			0.42				
v/c Ratio	0.68	0.28	0.08		0.57			0.49				
Control Delay	97.3	17.6	4.0		36.8			30.4				
Queue Delay	0.0	0.5	0.0		0.0			0.0				

NT AM

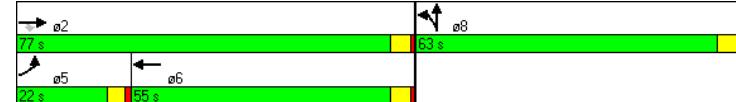
7: El Cajon Blvd & Fairmount Ave

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	97.3	18.2	4.0		36.8							30.4
LOS	F	B	A		D							C
Approach Delay		26.2			36.8							30.4
Approach LOS		C			D							C
Queue Length 50th (ft)	80	111	3		208							243
Queue Length 95th (ft)	m129	m136	m9		467							302
Internal Link Dist (ft)		250			595							1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	228	1845	860		1474							1461
Starvation Cap Reductn	0	874	0		0							0
Spillback Cap Reductn	0	0	0		0							0
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.36	0.54	0.08		0.57							0.49

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	27 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	31.5
Intersection LOS:	C
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



NT AM

8: El Cajon Blvd & 43rd St

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.985								0.980	0.980	
Flt Protected				0.950						0.983	0.983	
Satd. Flow (prot)	0	5009	0	1770	3539	0	0	0	0	0	3409	0
Flt Permitted				0.950						0.983	0.983	
Satd. Flow (perm)	0	5009	0	1770	3539	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)		14									14	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	531	58	41	714	0	0	0	0	129	198	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	620	0	43	752	0	0	0	0	0	398	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	51.1	0.0	33.0	84.1	0.0	0.0	0.0	0.0	55.9	55.9	0.0
Total Split (%)	0.0%	36.5%	0.0%	23.6%	60.1%	0.0%	0.0%	0.0%	0.0%	39.9%	39.9%	0.0%
Maximum Green (s)		46.2		28.6	79.2					51.0	51.0	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		102.4		8.1	112.7						19.3	
Actuated g/C Ratio		0.73		0.06	0.80						0.14	
v/c Ratio		0.17		0.42	0.26						0.83	
Control Delay		5.6		65.3	2.2						71.1	
Queue Delay		0.0		0.0	0.3						0.0	

NT AM

8: El Cajon Blvd & 43rd St

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		5.6		65.3	2.5							71.1
LOS		A		E	A							E
Approach Delay		5.6			5.9							71.1
Approach LOS		A			A							E
Queue Length 50th (ft)		49		39	51							182
Queue Length 95th (ft)		63		m73	41							232
Internal Link Dist (ft)		565			250			1205				1403
Turn Bay Length (ft)				115								
Base Capacity (vph)		3667		367	2849							1273
Starvation Cap Reductn		0		0	1319							0
Spillback Cap Reductn		0		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.17		0.12	0.49							0.31

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	23 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	20.1
Intersection LOS:	C
Intersection Capacity Utilization:	38.3%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



NT AM

9: El Cajon Blvd & Copeland Ave

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔		↔↔↔	↔↔↔			↔↔			↔↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.999			0.971			0.949	
Flt Protected	0.950			0.950				0.971			0.981	
Satd. Flow (prot)	1770	5055	0	1770	5080	0	0	1756	0	0	1734	0
Flt Permitted	0.950			0.950				0.852			0.935	
Satd. Flow (perm)	1770	5055	0	1770	5080	0	0	1541	0	0	1653	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		4						12			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			645			1453			1643	
Travel Time (s)		14.9			14.7			33.0			37.3	
Volume (vph)	26	541	21	21	798	3	39	12	14	8	5	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	27	591	0	22	843	0	0	69	0	0	21	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	33.5	45.6	0.0	33.5	45.6	0.0	60.9	60.9	0.0	60.9	60.9	0.0
Total Split (%)	23.9%	32.6%	0.0%	23.9%	32.6%	0.0%	43.5%	43.5%	0.0%	43.5%	43.5%	0.0%
Maximum Green (s)	29.1	40.7		29.1	40.7		56.0	56.0		56.0	56.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			8.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.1	68.1		6.7	70.6			56.9			56.9	
Actuated g/C Ratio	0.04	0.49		0.05	0.50			0.41			0.41	
v/c Ratio	0.35	0.24		0.26	0.33			0.11			0.03	
Control Delay	103.7	14.0		88.2	12.6			21.9			18.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

NT AM

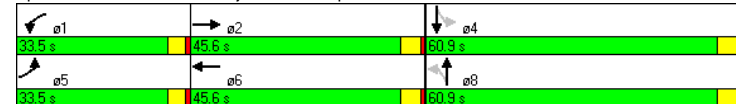
9: El Cajon Blvd & Copeland Ave

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	103.7	14.0		88.2	12.6			21.9			18.1	
LOS	F	B		F	B			C			B	
Approach Delay		17.9			14.6			21.9			18.1	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	25	51		0	76			32			7	
Queue Length 95th (ft)	60	62		m52	93			65			25	
Internal Link Dist (ft)		575			565			1373			1563	
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	373	2463		373	2563			633			677	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.07	0.24		0.06	0.33			0.11			0.03	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	40.7 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.35
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	34.1%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



NT AM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↑↑↑				↑↑			↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996			0.994			0.992			0.941		
Flt Protected	0.950		0.950			0.965			0.989			
Satd. Flow (prot)	1770	5065	0	1770	5055	0	0	1783	0	0	1734	0
Flt Permitted	0.950		0.950			0.703			0.922			
Satd. Flow (perm)	1770	5065	0	1770	5055	0	0	1299	0	0	1616	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	6			8			2			26		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	447			655			1485			1723		
Travel Time (s)	10.2			14.9			33.8			39.2		
Volume (vph)	91	530	16	26	807	32	83	26	7	21	30	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	96	575	0	27	883	0	0	121	0	0	96	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	15.0	90.0	0.0	14.0	89.0	0.0	36.0	36.0	0.0	36.0	36.0	0.0
Total Split (%)	10.7%	64.3%	0.0%	10.0%	63.6%	0.0%	25.7%	25.7%	0.0%	25.7%	25.7%	0.0%
Maximum Green (s)	10.6	85.1		9.6	84.1		31.1	31.1		31.1	31.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0			7.0			7.0			7.0		
Flash Dont Walk (s)	8.0			8.0			22.0			22.0		
Pedestrian Calls (#/hr)	0			0			0			0		
Act Effct Green (s)	10.3	92.7		7.1	85.7		32.0			32.0		
Actuated g/C Ratio	0.07	0.66		0.05	0.61		0.23			0.23		
v/c Ratio	0.74	0.17		0.30	0.29		0.41			0.25		
Control Delay	94.5	9.6		84.0	2.0		50.0			33.9		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

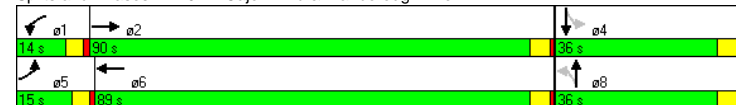
NT AM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	94.5	9.6		84.0	2.0					50.0		33.9
LOS	F	A		F	A					D		C
Approach Delay	21.8			4.4			50.0			33.9		
Approach LOS	C			A			D			C		
Queue Length 50th (ft)	87	73		26	15		93			52		
Queue Length 95th (ft)	#171	97		61	19		158			104		
Internal Link Dist (ft)	367			575			1405			1643		
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	139	3354		126	3098		298			389		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.69	0.17		0.21	0.29		0.41			0.25		

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	53 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	15.5
Intersection LOS:	B
Intersection Capacity Utilization:	44.4%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



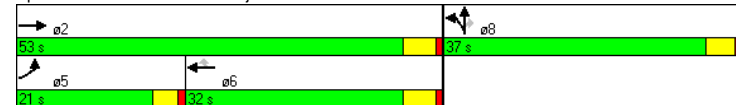
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt					0.850		0.873	0.850				
Flt Protected	0.950					0.950						
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950					0.950						
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					302		127	130				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30		30		30			30
Link Distance (ft)		378			225		1453		1618			1618
Travel Time (s)		8.6			5.1		33.0		36.8			36.8
Volume (vph)	167	446	0	0	695	287	91	22	244	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	176	469	0	0	732	302	96	150	130	0	0	0
Turn Type	Prot				Perm	Split		Perm				
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8				8
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0				5.0
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6				36.6
Total Split (s)	21.0	53.0	0.0	0.0	32.0	32.0	37.0	37.0	37.0	0.0	0.0	0.0
Total Split (%)	23.3%	58.9%	0.0%	0.0%	35.6%	35.6%	41.1%	41.1%	41.1%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	48.0			27.0	27.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	13.0	74.1			57.1	57.1	7.9	7.9	7.9			
Actuated g/C Ratio	0.14	0.82			0.63	0.63	0.09	0.09	0.09			
v/c Ratio	0.69	0.11			0.18	0.27	0.32	0.60	0.52			
Control Delay	43.5	0.1			7.8	2.0	40.5	20.6	14.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	43.5	0.1			7.8	2.0	40.5	20.6	14.9			
LOS	D	A			A	A	D	C	B			
Approach Delay		12.0			6.1		23.7					
Approach LOS		B			A		C					
Queue Length 50th (ft)	50	0			43	0	27	12	0			
Queue Length 95th (ft)	159	0			79	37	48	70	52			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	342	4187			4067	1115	1259	647	634			
Starvation Cap Reductn	0	0			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.51	0.11			0.18	0.27	0.08	0.23	0.21			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	11.1
Intersection LOS:	B
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB

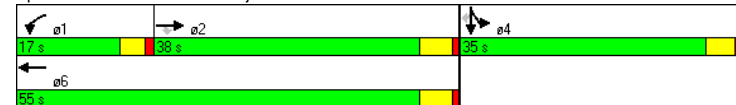


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Frnt			0.850							0.897	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1587	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1587	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112							63		80
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		1320		378		1484		1611		36.6		36.6
Travel Time (s)		30.0		8.6		33.7		36.6				
Volume (vph)	0	464	106	318	507	0	0	0	0	149	28	136
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	488	112	335	534	0	0	0	0	157	92	80
Turn Type		Perm	Prot							Split		Perm
Protected Phases		2	1	6						4	4	
Permitted Phases		2	2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	38.0	38.0	17.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	42.2%	42.2%	18.9%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)		33.0	33.0	12.8	50.0					30.4	30.4	30.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		36.5	36.5	32.9	73.4					8.6	8.6	8.6
Actuated g/C Ratio		0.41	0.41	0.37	0.82					0.10	0.10	0.10
v/c Ratio		0.19	0.16	0.52	0.13					0.48	0.44	0.37
Control Delay		17.5	4.3	23.2	4.2					43.1	22.6	14.2
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		17.5	4.3	23.2	4.2					43.1	22.6	14.2
LOS		B	A	C	A					D	C	B
Approach Delay		15.1			11.5						30.3	
Approach LOS		B			B						C	
Queue Length 50th (ft)		48	0	161	15					44	15	0
Queue Length 95th (ft)		72	32	237	84					72	63	43
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2598	708	647	4146					1182	588	570
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.19	0.16	0.52	0.13					0.13	0.16	0.14

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔		↔↔↔	↔↔↔		↔↔↔	↔↔↔		↔↔↔	↔↔↔	↔↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt		0.997			0.996			0.970			0.927	
Flt Protected	0.950			0.950				0.981			0.990	
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1773	0	0	1709	0
Flt Permitted	0.950			0.950				0.863			0.935	
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1559	0	0	1615	0
Right Turn on Red		Yes		Yes		Yes		Yes			Yes	
Satd. Flow (RTOR)		3		5		13		56				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30			30	
Link Distance (ft)		1329		1310		1164		1020			23.2	
Travel Time (s)		30.2		29.8		26.5		23.2				
Volume (vph)	40	403	8	16	539	14	43	42	24	21	25	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	42	432	0	17	582	0	0	114	0	0	105	0
Turn Type	Prot			Prot		Perm		Perm			Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8				4	
Detector Phases	5	2		1	6		8	8			4	4
Minimum Initial (s)	4.0	18.0		4.0	18.0		4.0	4.0			4.0	4.0
Minimum Split (s)	8.4	23.0		8.4	23.0		34.9	34.9			34.9	34.9
Total Split (s)	19.0	53.0		19.0	53.0		36.0	36.0			36.0	36.0
Total Split (%)	17.6%	49.1%	0.0%	17.6%	49.1%	0.0%	33.3%	33.3%	0.0%		33.3%	33.3%
Maximum Green (s)	14.6	48.0		14.6	48.0		31.1	31.1			31.1	31.1
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9			3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0			1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Recall Mode	None	C-Max		None	C-Max		Max	Max			Max	Max
Walk Time (s)		7.0			7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)		11.0			11.0		23.0	23.0			23.0	23.0
Pedestrian Calls (#/hr)		0			0		0	0			0	0
Act Effct Green (s)	7.4	63.6		5.9	60.4			32.0				32.0
Actuated g/C Ratio	0.07	0.59		0.05	0.56			0.30				0.30
v/c Ratio	0.35	0.14		0.18	0.21			0.24				0.20
Control Delay	51.0	9.3		52.2	12.8			27.1				15.6
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay	51.0	9.3		52.2	12.8			27.1				15.6
LOS	D	A		D	B			C				B
Approach Delay		13.0			14.0			27.1				15.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			C				B
Queue Length 50th (ft)	30	36		12	75			52				25
Queue Length 95th (ft)	m66	54		34	103			100				67
Internal Link Dist (ft)		1249			1230			1084				940
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	246	2986		246	2835			471				518
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.17	0.14		0.07	0.21			0.24				0.20

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset: 27 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.35
Intersection Signal Delay:	14.9
Intersection LOS:	B
Intersection Capacity Utilization:	39.2%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: El Cajon Blvd & 35th St

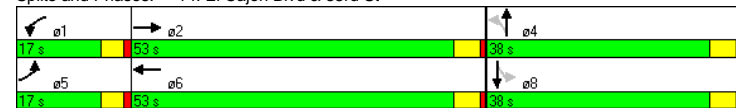


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984		0.994			0.983			0.922		0.993
Flt Protected	0.950		0.950				0.968			0.993		
Satd. Flow (prot)	1770	3483	0	1770	3518	0	0	1772	0	0	1705	0
Flt Permitted	0.950		0.950				0.671			0.947		
Satd. Flow (perm)	1770	3483	0	1770	3518	0	0	1229	0	0	1626	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		16		5		7		67				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	572		1329		1120		1176		26.7			
Travel Time (s)	13.0		30.2		25.5		26.7					
Volume (vph)	107	409	50	46	604	25	133	45	26	19	40	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	113	484	0	48	662	0	0	214	0	0	147	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6		4		4		8	
Permitted Phases							4		4		8	
Detector Phases	5	2		1	6		4		4		8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0		4.0		4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9		35.9		35.9	
Total Split (s)	17.0	53.0		17.0	53.0		38.0		38.0		38.0	
Total Split (%)	15.7%	49.1%		0.0%	15.7%		49.1%		0.0%		35.2%	
Maximum Green (s)	12.6	48.0		12.6	48.0		33.1		33.1		33.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9		3.9		3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0		1.0		1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0		2.0		2.0	
Recall Mode	None	C-Max		None	C-Max		None		None		Max	
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	18.0		18.0		24.0		24.0		24.0		24.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	10.8	56.0		7.8	51.2		34.0		34.0		34.0	
Actuated g/C Ratio	0.10	0.52		0.07	0.47		0.31		0.31		0.31	
v/c Ratio	0.64	0.27		0.38	0.40		0.55		0.55		0.26	
Control Delay	63.0	15.3		62.1	14.1		35.8		35.8		16.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0		0.0	
Total Delay	63.0	15.3		62.1	14.1		35.8		35.8		16.5	
LOS	E	B		E	B		D		D		B	
Approach Delay		24.3			17.3				35.8			16.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			D				B
Queue Length 50th (ft)	76	94		35	85			118				40
Queue Length 95th (ft)	134	136		76	110			198				90
Internal Link Dist (ft)		492			1249			1040				1096
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	213	1814		213	1672			392				558
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.53	0.27		0.23	0.40			0.55				0.26

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	33 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	22.1
Intersection LOS:	C
Intersection Capacity Utilization:	59.5%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 14: El Cajon Blvd & 33rd St

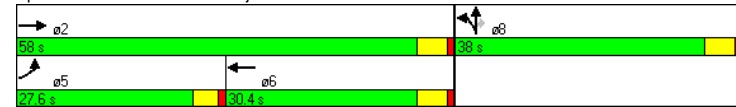


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frnt					0.949				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					135				160			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	458	418	0	0	628	327	475	1	152	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	482	440	0	0	1005	0	250	251	160	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	27.6	58.0	0.0	0.0	30.4	0.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	28.8%	60.4%	0.0%	0.0%	31.7%	0.0%	39.6%	39.6%	39.6%	0.0%	0.0%	0.0%
Maximum Green (s)	23.4	53.0			25.4		33.0	33.0	33.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	1.1			1.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	18.3	69.1			46.8		18.9	18.9	18.9			
Actuated g/C Ratio	0.19	0.72			0.49		0.20	0.20	0.20			
v/c Ratio	0.74	0.12			0.41		0.76	0.76	0.36			
Control Delay	35.5	7.4			15.6		50.3	50.4	7.2			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	35.5	7.4			15.6		50.3	50.4	7.2			
LOS	D	A			B		D	D	A			
Approach Delay		22.1			15.6			39.9				
Approach LOS		C			B			D				
Queue Length 50th (ft)	148	57			116		153	154	0			
Queue Length 95th (ft)	196	90			197		218	220	46			
Internal Link Dist (ft)		374			492			1297				1503
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	844	3661			2422		595	597	664			
Starvation Cap Reductn	0	0			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.57	0.12			0.41		0.42	0.42	0.24			

Intersection Summary	
Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	49 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	24.1
Intersection LOS:	C
Intersection Capacity Utilization:	55.7%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 15: El Cajon Blvd & I-805 NB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↑	↑↑	↑↑↑						↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frnt			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Fit Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			398							123		123
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	699	378	152	950	0	0	0	0	169	2	373
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	736	398	160	1000	0	0	0	0	89	91	393
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)		0.0	47.0	47.0	15.0	62.0	0.0	0.0	0.0	34.0	34.0	34.0
Total Split (%)		0.0%	49.0%	49.0%	15.6%	64.6%	0.0%	0.0%	0.0%	35.4%	35.4%	35.4%
Maximum Green (s)		42.0	42.0	10.8	57.0					29.0	29.0	29.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Time Before Reduce (s)		1.4	1.4	0.0	0.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		43.5	43.5	10.5	58.0					30.0	30.0	30.0
Actuated g/C Ratio		0.45	0.45	0.11	0.60					0.31	0.31	0.31
v/c Ratio		0.32	0.43	0.43	0.33					0.17	0.17	0.68
Control Delay		17.3	3.2	43.9	8.0					25.1	25.1	26.2
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		17.3	3.2	43.9	8.0					25.1	25.1	26.2
LOS		B	A	D	A					C	C	C
Approach Delay		12.4			12.9						25.9	
Approach LOS		B			B						C	
Queue Length 50th (ft)		101	0	51	102					41	42	143
Queue Length 95th (ft)		132	51	m64	87					81	82	251
Internal Link Dist (ft)		586			374			1317			1493	
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		2303	935	393	3072					525	527	579
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.32	0.43	0.41	0.33					0.17	0.17	0.68
Intersection Summary												
Area Type:	Other											
Cycle Length:	96											
Actuated Cycle Length:	96											
Offset:	95 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.68											
Intersection Signal Delay:	15.3			Intersection LOS: B								
Intersection Capacity Utilization:	55.7%			ICU Level of Service B								
Analysis Period (min):	15											
m	Volume for 95th percentile queue is metered by upstream signal.											
Splits and Phases: 16: El Cajon Blvd & I-805 SB												

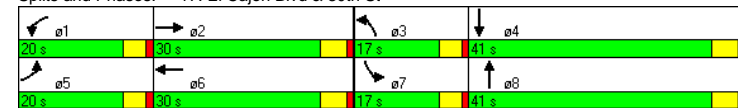
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.984			0.949			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		12			17			26			18	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			762			1004			1052	
Travel Time (s)		17.5			17.3			22.8			23.9	
Volume (vph)	30	541	46	104	886	103	77	132	67	109	144	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	32	617	0	109	1041	0	81	210	0	115	205	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	20.0	30.0	0.0	20.0	30.0	0.0	17.0	41.0	0.0	17.0	41.0	0.0
Total Split (%)	18.5%	27.8%	0.0%	18.5%	27.8%	0.0%	15.7%	38.0%	0.0%	15.7%	38.0%	0.0%
Maximum Green (s)	15.6	25.0		15.6	25.0		12.6	36.1		12.6	36.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)		4.0			4.0			4.0			4.0	
Flash Dont Walk (s)		13.0			13.0			32.0			32.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	6.8	30.7		11.3	38.9		9.4	39.2		10.8	42.5	
Actuated g/C Ratio	0.06	0.28		0.10	0.36		0.09	0.36		0.10	0.39	
v/c Ratio	0.29	0.43		0.59	0.57		0.52	0.32		0.65	0.29	
Control Delay	54.2	32.6		58.5	29.9		58.6	23.8		63.3	23.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.2	32.6		58.5	29.9		58.6	23.8		63.3	23.2	
LOS	D	C		E	C		E	C		E	C	
Approach Delay		33.7			32.6			33.5			37.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	22	124		73	219		55	91		77	89	
Queue Length 95th (ft)	52	172		125	276		101	156		136	157	
Internal Link Dist (ft)		688			682			924			972	
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	262	1439		262	1813		213	658		213	715	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.43		0.42	0.57		0.38	0.32		0.54	0.29	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	33.7
Intersection LOS:	C
Intersection Capacity Utilization:	53.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 17: El Cajon Blvd & 30th St



NT AM
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt	0.994			0.981			0.984			0.966		
Flt Protected	0.950			0.950			0.994			0.990		
Satd. Flow (prot)	1770	5055	0	1770	4989	0	0	3462	0	0	3385	0
Flt Permitted	0.950			0.950			0.994			0.990		
Satd. Flow (perm)	1770	5055	0	1770	4989	0	0	3462	0	0	3385	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	4			20			10			28		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1532			1136			994			1062		
Travel Time (s)	34.8			25.8			22.6			24.1		
Volume (vph)	110	295	11	69	695	104	45	278	40	59	172	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	116	323	0	73	841	0	0	382	0	0	314	0
Turn Type	Prot		Prot		Split		Split		Split		Split	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	19.5	38.6	0.0	14.6	33.7	0.0	38.9	38.9	0.0	37.9	37.9	0.0
Total Split (%)	15.0%	29.7%	0.0%	11.2%	25.9%	0.0%	29.9%	29.9%	0.0%	29.2%	29.2%	0.0%
Maximum Green (s)	15.1	33.7		10.2	28.8		34.0	34.0		33.0	33.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None C-Max		None C-Max		Max		Max		Max		Max	
Walk Time (s)	4.0			4.0			5.0			4.0		
Flash Dont Walk (s)	12.0			12.0			29.0			29.0		
Pedestrian Calls (#/hr)	0			0			0			0		
Act Effct Green (s)	12.6	38.1		9.0	32.6		34.9			33.9		
Actuated g/C Ratio	0.10	0.29		0.07	0.25		0.27			0.26		
v/c Ratio	0.68	0.22		0.59	0.66		0.41			0.35		
Control Delay	92.0	30.3		77.8	46.2		39.6			36.7		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

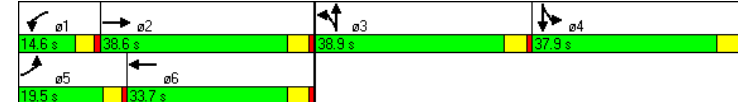
NT AM
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.0	30.3		77.8	46.2					39.6		36.7
LOS	F	C		E	D					D		D
Approach Delay	46.6			48.7			39.6			36.7		
Approach LOS	D			D			D			D		
Queue Length 50th (ft)	104	54		60	231					135		103
Queue Length 95th (ft)	m167	79		112	287					184		146
Internal Link Dist (ft)	1452			1056			914			982		
Turn Bay Length (ft)	140			120			144			1266		
Base Capacity (vph)	211			1484			937			903		
Starvation Cap Reductn	0			0			0			0		
Spillback Cap Reductn	0			0			0			0		
Storage Cap Reductn	0			0			0			0		
Reduced v/c Ratio	0.55	0.22		0.51	0.66					0.41		0.35

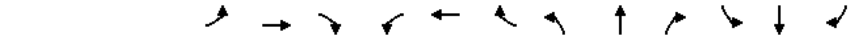
Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	25 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	44.7
Intersection LOS:	D
Intersection Capacity Utilization:	54.0%
ICU Level of Service A	
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



NT AM
19: El Cajon Blvd & Florida St

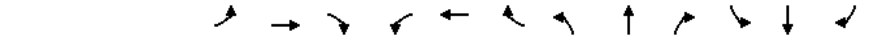
11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrams]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.996			0.944			0.933	
Flt Protected	0.950			0.950			0.984			0.995		
Satd. Flow (prot)	1770	5070		0	1770	5065		0	1730		0	1729
Flt Permitted	0.950			0.950			0.908			0.978		
Satd. Flow (perm)	1770	5070		0	1770	5065		0	1597		0	1700
Right Turn on Red	Yes											
Satd. Flow (RTOR)	2			4			34			36		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30											
Link Distance (ft)	800			1532			907			981		
Travel Time (s)	18.2			34.8			20.6			22.3		
Volume (vph)	14	315	7	57	742	23	29	25	38	8	28	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	15	339	0	60	805	0	0	97	0	0	73	0
Turn Type	Prot		Prot		Perm		Perm					
Protected Phases	5	2		1	6		8	8			4	4
Permitted Phases	[Diagrams]											
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		40.9	40.9		43.9	43.9	
Total Split (s)	25.3	40.5		0.0	29.6	44.8		0.0	59.9	59.9		0.0
Total Split (%)	19.5%	31.2%		0.0%	22.8%	34.5%		0.0%	46.1%	46.1%		0.0%
Maximum Green (s)	20.9	35.4		25.2	39.9		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	6.0	103.6		9.2	110.5			9.7			9.7	
Actuated g/C Ratio	0.05	0.80		0.07	0.85			0.07			0.07	
v/c Ratio	0.18	0.08		0.48	0.19			0.64			0.46	
Control Delay	73.8	2.4		51.9	1.1			56.7			40.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

NT AM
19: El Cajon Blvd & Florida St

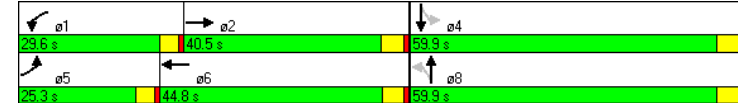
11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	73.8	2.4		51.9	1.1			56.7			40.5	
LOS	E	A		D	A			E			D	
Approach Delay		5.4			4.6			56.7			40.5	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	12	15		53	12			52			30	
Queue Length 95th (ft)	35	27		m83	24			109			78	
Internal Link Dist (ft)		720			1452			827			901	
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	290	4042		349	4307			706			752	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.05	0.08		0.17	0.19			0.14			0.10	

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	10.3
Intersection LOS:	B
Intersection Capacity Utilization:	39.3%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 19: El Cajon Blvd & Florida St

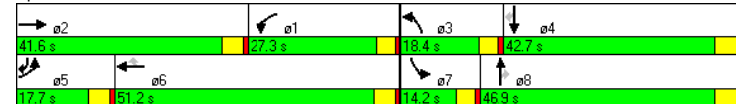


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				77			51			308
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	134	215	37	152	620	73	66	84	48	27	203	404
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	141	265	0	160	653	77	69	88	51	28	214	425
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	8.9	14.9		8.4	46.9	46.9	8.4	42.9	42.9	8.4	11.9	8.9
Total Split (s)	17.7	41.6	0.0	27.3	51.2	51.2	18.4	46.9	46.9	14.2	42.7	17.7
Total Split (%)	13.6%	32.0%	0.0%	21.0%	39.4%	39.4%	14.2%	36.1%	36.1%	10.9%	32.8%	13.6%
Maximum Green (s)	12.8	36.7		22.9	46.3	46.3	14.0	42.0	42.0	9.8	37.8	12.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes	Yes	Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	None	C-Max		None	None	None	None	None	None	None	None	None
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	10.5	76.3		16.2	81.9	81.9	9.7	18.3	18.3	6.9	13.7	28.2
Actuated g/C Ratio	0.08	0.59		0.12	0.63	0.63	0.07	0.14	0.14	0.05	0.11	0.22
v/c Ratio	0.51	0.13		0.73	0.29	0.08	0.52	0.18	0.19	0.30	0.57	0.50
Control Delay	63.3	13.5		98.8	32.9	19.4	71.0	49.2	14.2	66.4	61.3	13.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.3	13.5		98.8	32.9	19.4	71.0	49.2	14.2	66.4	61.3	13.7
LOS	E	B		F	C	B	E	D	B	E	E	B
Approach Delay		30.8			43.6			47.9			31.2	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	59	49		126	232	23	57	35	0	23	91	46
Queue Length 95th (ft)	92	87		185	296	m61	105	59	38	55	131	93
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220		130		100				
Base Capacity (vph)	362	2038		317	2231	1026	196	1168	557	139	1054	907
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.13		0.50	0.29	0.08	0.35	0.08	0.09	0.20	0.20	0.47

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	29 (22%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	37.8
Intersection LOS:	D
Intersection Capacity Utilization:	44.9%
ICU Level of Service A	
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



NT AM

21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.947			0.968			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3352	0	1770	3426	0	1770	3394	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3352	0	1770	3426	0	1770	3394	0	1770	3451	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		75			25			41			17	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	51	200	108	86	467	124	78	143	54	56	267	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	54	325	0	91	623	0	82	208	0	59	337	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	25.0	41.9	0.0	25.0	41.9	0.0	25.0	41.9	0.0	25.0	41.9	0.0
Total Split (%)	18.7%	31.3%	0.0%	18.7%	31.3%	0.0%	18.7%	31.3%	0.0%	18.7%	31.3%	0.0%
Maximum Green (s)	20.6	37.0		20.6	37.0		20.6	37.0		20.6	37.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.2	38.6		11.3	40.6		10.8	40.5		8.5	38.6	
Actuated g/C Ratio	0.08	0.35		0.10	0.37		0.10	0.37		0.08	0.35	
v/c Ratio	0.37	0.27		0.51	0.49		0.48	0.16		0.44	0.28	
Control Delay	58.3	22.4		59.4	29.2		59.4	21.3		61.9	27.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT AM

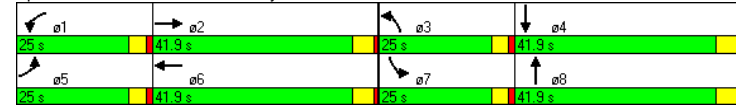
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	58.3	22.4		59.4	29.2		59.4	21.3		61.9	27.6	
LOS	E	C		E	C		E	C		E	C	
Approach Delay		27.5			33.1			32.1			32.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	38	69		65	181		58	43		42	91	
Queue Length 95th (ft)	83	120		122	264		113	80		89	145	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	302	1223		306	1277		305	1275		301	1220	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.27		0.30	0.49		0.27	0.16		0.20	0.28	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	110.2
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	31.6
Intersection Capacity Utilization:	46.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 21: University Ave & Park Blvd



NT AM with TSP
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.969		0.948				0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3429	0	3433	3355	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3429	0	3433	3355	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			71				49			96
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	183	285	75	81	358	189	177	682	63	108	193	91
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	193	379	0	85	576	0	186	718	66	114	203	96
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8	8	7	4	4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2	40.2	8.4	40.1	40.1
Total Split (s)	24.0	50.4	0.0	20.0	46.4	0.0	27.7	49.9	49.9	19.7	41.9	41.9
Total Split (%)	17.1%	36.0%	0.0%	14.3%	33.1%	0.0%	19.8%	35.6%	35.6%	14.1%	29.9%	29.9%
Maximum Green (s)	19.6	45.6		15.6	41.7		23.3	44.7	44.7	15.3	36.8	36.8
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2	4.2	3.4	4.1	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7	3.7	2.0	3.2	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9	0.9	0.0	1.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0			32.0			28.0	28.0		28.0	28.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	12.7	65.7		10.4	63.4		19.2	34.1	34.1	13.8	28.6	28.6
Actuated g/C Ratio	0.09	0.47		0.07	0.45		0.14	0.24	0.24	0.10	0.20	0.20
v/c Ratio	0.62	0.23		0.33	0.37		0.77	0.83	0.16	0.66	0.28	0.24
Control Delay	69.9	22.6		65.2	24.5		77.6	59.2	15.2	77.7	47.3	9.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

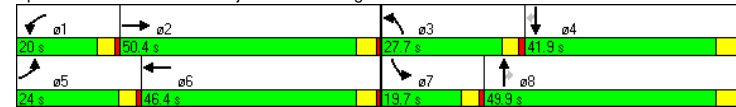
NT AM with TSP
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.9	22.6		65.2	24.5		77.6	59.2	15.2	77.7	47.3	9.4
LOS	E	C		E	C		E	E	B	E	D	A
Approach Delay		38.6			29.8			59.7			46.8	
Approach LOS		D			C			E			D	
Queue Length 50th (ft)	89	98		38	154		166	329	12	102	83	0
Queue Length 95th (ft)	127	159		67	249		237	377	49	162	115	46
Internal Link Dist (ft)		1138			1071			1350			1401	
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	490	1623		392	1559		308	1160	552	208	958	499
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.23		0.22	0.37		0.60	0.62	0.12	0.55	0.21	0.19

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	126 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	45.5
Intersection LOS:	D
Intersection Capacity Utilization:	62.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: El Cajon Blvd & College Ave



NT AM with TSP

2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Flt			0.850			0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3497	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3497	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112			295			6			136
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	80	303	106	54	384	280	140	586	52	122	264	129
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	84	319	112	57	404	295	147	672	0	128	278	136
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	22.6	58.0	58.0	20.9	56.3	56.3	18.8	39.3	0.0	21.8	42.3	42.3
Total Split (%)	16.1%	41.4%	41.4%	14.9%	40.2%	40.2%	13.4%	28.1%	0.0%	15.6%	30.2%	30.2%
Maximum Green (s)	18.2	53.1	53.1	16.5	51.1	51.1	14.4	34.3		17.4	37.4	37.4
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	10.8	71.0	71.0	9.0	67.1	67.1	10.2	32.3		13.8	35.9	35.9
Actuated g/C Ratio	0.08	0.51	0.51	0.06	0.48	0.48	0.07	0.23		0.10	0.26	0.26
v/c Ratio	0.61	0.18	0.13	0.50	0.24	0.32	0.59	0.83		0.74	0.31	0.27
Control Delay	80.8	21.3	4.5	77.8	23.7	3.8	72.3	60.0		84.9	42.1	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

NT AM with TSP

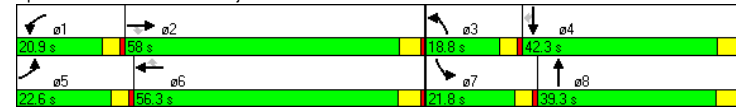
2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	80.8	21.3	4.5	77.8	23.7	3.8	72.3	60.0		84.9	42.1	7.1
LOS	F	C	A	E	C	A	E	E		F	D	A
Approach Delay		27.4			20.0			62.2			43.5	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	76	85	0	51	114	0	68	302		115	106	0
Queue Length 95th (ft)	129	132	37	97	173	58	103	370		182	144	51
Internal Link Dist (ft)		1240			1304			1314			1214	
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	235	1795	858	214	1697	913	363	892		225	992	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.36	0.18	0.13	0.27	0.24	0.32	0.40	0.75		0.57	0.28	0.25

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	118 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	39.4
Intersection LOS:	D
Intersection Capacity Utilization:	53.6%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



NT AM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.986			0.974			0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	3490	0	1770	1814	0	1770	1768	0
Flt Permitted	0.950			0.950			0.680			0.411		
Satd. Flow (perm)	1770	3472	0	1770	3490	0	1267	1814	0	766	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			21			15			36	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	37	449	65	46	643	67	100	218	46	40	75	39
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	39	541	0	48	748	0	105	277	0	42	120	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	12.0	36.0	0.0	12.0	36.0	0.0	22.0	22.0	0.0	22.0	22.0	0.0
Total Split (%)	17.1%	51.4%	0.0%	17.1%	51.4%	0.0%	31.4%	31.4%	0.0%	31.4%	31.4%	0.0%
Maximum Green (s)	7.6	31.1		7.6	31.1		17.1	17.1		17.1	17.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.9	37.1		7.0	37.3		18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.10	0.53		0.10	0.53		0.26	0.26		0.26	0.26	
v/c Ratio	0.22	0.29		0.27	0.40		0.32	0.58		0.21	0.25	
Control Delay	30.6	12.9		32.9	11.3		24.4	27.1		23.9	16.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT AM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.6	12.9		32.9	11.3		24.4	27.1		23.9	16.5	
LOS	C	B		C	B		C	C		C	B	
Approach Delay		14.1			12.6			26.4			18.4	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	22	71		20	102		37	98		14	28	
Queue Length 95th (ft)	46	184		49	151		77	171		39	67	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	202	1855		202	1868		326	478		197	481	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.29		0.24	0.40		0.32	0.58		0.21	0.25	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	40 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	16.3
Intersection LOS:	B
Intersection Capacity Utilization:	57.5%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



NT AM with TSP
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.988			0.960			0.958	
Flt Protected	0.950			0.950				0.984			0.971	
Satd. Flow (prot)	1770	3507	0	1770	3497	0	0	1760	0	0	1733	0
Flt Permitted	0.950			0.950				0.887			0.820	
Satd. Flow (perm)	1770	3507	0	1770	3497	0	0	1586	0	0	1463	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			18			29			29	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	42	493	33	36	652	59	34	39	31	53	9	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	44	554	0	38	748	0	0	110	0	0	94	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	14.0	36.0	0.0	14.0	36.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Total Split (%)	20.0%	51.4%	0.0%	20.0%	51.4%	0.0%	28.6%	28.6%	0.0%	28.6%	28.6%	0.0%
Maximum Green (s)	9.6	31.1		9.6	31.1		15.1	15.1		15.1	15.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.5	41.4		6.3	41.2		16.0			16.0		
Actuated g/C Ratio	0.09	0.59		0.09	0.59		0.23			0.23		
v/c Ratio	0.27	0.27		0.24	0.36		0.29			0.26		
Control Delay	32.7	11.2		42.2	5.2		19.2			18.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

NT AM with TSP
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	32.7	11.2		42.2	5.2					19.2		18.6
LOS	C	B		D	A					B		B
Approach Delay		12.8			7.0					19.2		18.6
Approach LOS		B			A					B		B
Queue Length 50th (ft)	24	84		15	6					28		23
Queue Length 95th (ft)	m51	160		m39	172					69		59
Internal Link Dist (ft)		598			599				1255			1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	253	2078		253	2064				385			357
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.17	0.27		0.15	0.36				0.29			0.26

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	65 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.36
Intersection Signal Delay:	10.7
Intersection LOS:	B
Intersection Capacity Utilization:	42.2%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



NT AM with TSP
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕				↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.961		0.981		0.966		0.981	
Fit Protected	0.950		0.966		0.966		0.966		0.966		0.966	
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1729	0	0	1765	0
Flt Permitted	0.454		0.789		0.852		0.852		0.852		0.852	
Satd. Flow (perm)	0	3518	0	846	3532	0	0	1412	0	0	1557	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	13		3		26		1		1		1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	667		678		1277		1173		1173		1173	
Travel Time (s)	15.2		15.4		29.0		26.7		26.7		26.7	
Volume (vph)	0	485	20	17	691	8	78	1	32	5	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	532	0	18	735	0	0	117	0	0	7	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		8		4		4		4	
Permitted Phases	2		6		8		4		4		4	
Detector Phases	2		6		8		4		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	52.0	52.0	0.0	52.0	52.0	0.0	18.0	18.0	0.0	18.0	18.0	0.0
Total Split (%)	74.3%	74.3%	0.0%	74.3%	74.3%	0.0%	25.7%	25.7%	0.0%	25.7%	25.7%	0.0%
Maximum Green (s)	47.0	47.0	47.0	47.0	47.0	13.1	13.1	13.1	13.1	13.1	13.1	13.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	55.0		55.0		55.0		9.7		9.7		9.7	
Actuated g/C Ratio	0.79		0.79		0.79		0.14		0.14		0.14	
v/c Ratio	0.19		0.03		0.26		0.54		0.54		0.03	
Control Delay	0.8		3.5		3.0		30.5		30.5		22.7	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	0.8		3.5		3.0		30.5		30.5		22.7	
LOS	A		A		A		C		C		C	
Approach Delay	0.8		3.0		30.5		22.7		22.7		22.7	

NT AM with TSP
5: El Cajon Blvd & Driveway

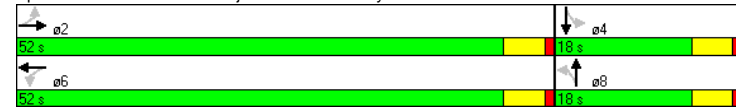
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		A		C		C		C	
Queue Length 50th (ft)	13		1		23		37		2		2	
Queue Length 95th (ft)	18		m7		78		79		12		12	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2767		665		2776		303		312		312	
Starvation Cap Reductn	0		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.19		0.03		0.26		0.39		0.02		0.02	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	60 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	4.6
Intersection LOS:	A
Intersection Capacity Utilization:	34.7%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 5: El Cajon Blvd & Driveway



NT AM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994			0.955		
Flt Protected			0.950		0.968	
Satd. Flow (prot)	3518	0	1770	3539	1722	0
Flt Permitted			0.432		0.968	
Satd. Flow (perm)	3518	0	805	3539	1722	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13				27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	517	22	18	764	51	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	567	0	19	804	81	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	50.0	0.0	50.0	50.0	20.0	0.0
Total Split (%)	71.4%	0.0%	71.4%	71.4%	28.6%	0.0%
Maximum Green (s)	45.1		45.1	45.1	15.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	57.0		57.0	57.0	7.6	
Actuated g/C Ratio	0.81		0.81	0.81	0.11	
v/c Ratio	0.20		0.03	0.28	0.38	
Control Delay	3.7		1.8	1.6	25.8	
Queue Delay	0.0		0.0	0.0	0.0	

NT AM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	3.7		1.8	1.6	25.8	
LOS	A		A	A	C	
Approach Delay	3.7			1.6	25.8	
Approach LOS	A			A	C	
Queue Length 50th (ft)	63		1	21	22	
Queue Length 95th (ft)	146		m5	48	57	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2869		656	2884	414	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.20		0.03	0.28	0.20	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	3 (4%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.38
Intersection Signal Delay:	3.7
Intersection LOS:	A
Intersection Capacity Utilization:	32.2%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



NT AM with TSP

7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.971			0.983				
Flt Protected	0.950							0.992				
Satd. Flow (prot)	1770	3539	1583	0	3437	0	0	3451	0	0	0	0
Flt Permitted	0.950							0.992				
Satd. Flow (perm)	1770	3539	1583	0	3437	0	0	3451	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			72		27			11				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	78	497	68	0	637	156	110	493	78	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	82	523	72	0	835	0	0	717	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	22.0	87.0	87.0	0.0	65.0	0.0	53.0	53.0	0.0	0.0	0.0	0.0
Total Split (%)	15.7%	62.1%	62.1%	0.0%	46.4%	0.0%	37.9%	37.9%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	17.6	82.1	82.1		60.1		48.1	48.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	9.5	83.0	83.0		69.5		49.0	49.0				
Actuated g/C Ratio	0.07	0.59	0.59		0.50		0.35	0.35				
v/c Ratio	0.68	0.25	0.07		0.49		0.59	0.59				
Control Delay	91.8	13.3	2.9		23.3		39.1	39.1				
Queue Delay	0.0	0.4	0.0		0.0		0.0	0.0				

NT AM with TSP

7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	91.8	13.8	2.9		23.3							39.1
LOS	F	B	A		C							D
Approach Delay		22.1			23.3							39.1
Approach LOS		C			C							D
Queue Length 50th (ft)	80	109	3		207							276
Queue Length 95th (ft)	m130	136	m9		243							343
Internal Link Dist (ft)		250			595				1261			1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	228	2098	968		1719				1215			
Starvation Cap Reductn	0	1037	0		0				0			0
Spillback Cap Reductn	0	0	0		0				0			0
Storage Cap Reductn	0	0	0		0				0			0
Reduced v/c Ratio	0.36	0.49	0.07		0.49				0.59			

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	27 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	28.0
Intersection LOS:	C
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



NT AM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↖	↑↑						↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.985								0.980	0.980	
Flt Protected				0.950						0.983	0.983	
Satd. Flow (prot)	0	5009	0	1770	3539	0	0	0	0	0	3409	0
Flt Permitted				0.950						0.983	0.983	
Satd. Flow (perm)	0	5009	0	1770	3539	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16									13	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	531	58	41	714	0	0	0	0	129	198	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	620	0	43	752	0	0	0	0	0	398	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	61.0	0.0	33.0	94.0	0.0	0.0	0.0	0.0	46.0	46.0	0.0
Total Split (%)	0.0%	43.6%	0.0%	23.6%	67.1%	0.0%	0.0%	0.0%	0.0%	32.9%	32.9%	0.0%
Maximum Green (s)		56.1		28.6	89.1					41.1	41.1	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		101.8		8.1	112.1						19.9	
Actuated g/C Ratio		0.73		0.06	0.80						0.14	
v/c Ratio		0.17		0.42	0.27						0.80	
Control Delay		5.7		71.3	2.2						68.9	
Queue Delay		0.0		0.0	0.2						0.0	

NT AM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		5.7		71.3	2.4						68.9	
LOS		A		E	A						E	
Approach Delay		5.7			6.1						68.9	
Approach LOS		A			A						E	
Queue Length 50th (ft)		49		39	31						181	
Queue Length 95th (ft)		63		m80	62						231	
Internal Link Dist (ft)		565			250			1205			1403	
Turn Bay Length (ft)				115								
Base Capacity (vph)		3648		367	2835						1032	
Starvation Cap Reductn		0		0	1176						0	
Spillback Cap Reductn		0		0	0						0	
Storage Cap Reductn		0		0	0						0	
Reduced v/c Ratio		0.17		0.12	0.45						0.39	

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	23 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	19.8
Intersection LOS:	B
Intersection Capacity Utilization:	38.3%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



NT AM with TSP
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.999			0.971			0.949	
Flt Protected	0.950			0.950				0.971			0.981	
Satd. Flow (prot)	1770	5055	0	1770	5080	0	0	1756	0	0	1734	0
Flt Permitted	0.950			0.950				0.849			0.933	
Satd. Flow (perm)	1770	5055	0	1770	5080	0	0	1536	0	0	1649	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						11				8
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			645			1453			1643	
Travel Time (s)		14.9			14.7			33.0			37.3	
Volume (vph)	26	541	21	21	798	3	39	12	14	8	5	8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	27	591	0	22	843	0	0	69	0	0	21	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	33.5	55.0	0.0	33.5	55.0	0.0	51.5	51.5	0.0	51.5	51.5	0.0
Total Split (%)	23.9%	39.3%	0.0%	23.9%	39.3%	0.0%	36.8%	36.8%	0.0%	36.8%	36.8%	0.0%
Maximum Green (s)	29.1	50.1		29.1	50.1		46.6	46.6		46.6	46.6	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			8.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.3	77.5		6.6	79.9		47.5			47.5		
Actuated g/C Ratio	0.04	0.55		0.05	0.57		0.34			0.34		
v/c Ratio	0.34	0.21		0.26	0.29		0.13			0.13		
Control Delay	96.8	11.7		85.6	10.0		27.7			22.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

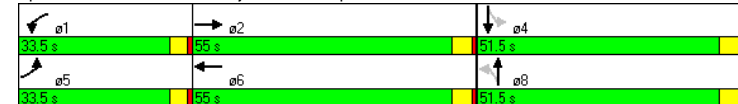
NT AM with TSP
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	96.8	11.7		85.6	10.0			27.7			22.6	
LOS	F	B		F	B			C			C	
Approach Delay		15.4			11.9			27.7			22.6	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	26	50		22	74			36			8	
Queue Length 95th (ft)	m60	61		m52	91			73			28	
Internal Link Dist (ft)		575			565			1373			1563	
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	373	2802		373	2901			528			565	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.07	0.21		0.06	0.29			0.13			0.04	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	40.7 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.34
Intersection Signal Delay:	14.1
Intersection LOS:	B
Intersection Capacity Utilization:	34.1%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



NT AM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔		↔↔↔	↔↔↔		↔↔↔	↔↔↔		↔↔↔	↔↔↔	↔↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994			0.992			0.941	
Flt Protected	0.950			0.950				0.965			0.989	
Satd. Flow (prot)	1770	5065	0	1770	5055	0	0	1783	0	0	1734	0
Flt Permitted	0.950			0.950				0.637			0.925	
Satd. Flow (perm)	1770	5065	0	1770	5055	0	0	1177	0	0	1621	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		7			9			2			24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		447			655			1485			1723	
Travel Time (s)		10.2			14.9			33.8			39.2	
Volume (vph)	91	530	16	26	807	32	83	26	7	21	30	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	96	575	0	27	883	0	0	121	0	0	96	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	15.0	100.0	0.0	14.0	99.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0
Total Split (%)	10.7%	71.4%	0.0%	10.0%	70.7%	0.0%	18.6%	18.6%	0.0%	18.6%	18.6%	0.0%
Maximum Green (s)	10.6	95.1		9.6	94.1		21.1	21.1		21.1	21.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.3	102.7		7.1	95.7			22.0			22.0	
Actuated g/C Ratio	0.07	0.73		0.05	0.68			0.16			0.16	
v/c Ratio	0.74	0.15		0.30	0.26			0.65			0.35	
Control Delay	94.5	6.1		82.3	1.6			71.5			43.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

NT AM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	94.5	6.1		82.3	1.6			71.5			43.2	
LOS	F	A		F	A			E			D	
Approach Delay		18.8			4.0			71.5			43.2	
Approach LOS		B			A			E			D	
Queue Length 50th (ft)	87	57		26	14			103			59	
Queue Length 95th (ft)	#171	76		60	18			#185			116	
Internal Link Dist (ft)		367			575			1405			1643	
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	139	3716		126	3459			187			275	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.69	0.15		0.21	0.26			0.65			0.35	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	53 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	16.1
Intersection LOS:	B
Intersection Capacity Utilization:	44.4%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



NT AM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frnt						0.850		0.873	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red			Yes			Yes		Yes		Yes		Yes
Satd. Flow (RTOR)						302		126	131			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			225			1453			1618	
Travel Time (s)		8.6			5.1			33.0			36.8	
Volume (vph)	167	446	0	0	695	287	91	22	244	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	176	469	0	0	732	302	96	149	131	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	21.0	63.0	0.0	0.0	42.0	42.0	27.0	27.0	27.0	0.0	0.0	0.0
Total Split (%)	23.3%	70.0%	0.0%	0.0%	46.7%	46.7%	30.0%	30.0%	30.0%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	58.0			37.0	37.0	22.4	22.4	22.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	13.3	73.9			56.6	56.6	8.1	8.1	8.1			
Actuated g/C Ratio	0.15	0.82			0.63	0.63	0.09	0.09	0.09			
v/c Ratio	0.67	0.11			0.18	0.27	0.31	0.59	0.52			
Control Delay	42.8	3.2			7.9	2.0	40.2	20.2	14.6			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			

NT AM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	42.8	3.2			7.9	2.0	40.2	20.2	14.6			
LOS	D	A			A	A	D	C	B			
Approach Delay		14.0			6.2			23.4				
Approach LOS		B			A			C				
Queue Length 50th (ft)	100	0			44	0	27	12	0			
Queue Length 95th (ft)	159	67			79	38	48	69	52			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	342	4178			4033	1108	877	489	482			
Starvation Cap Reductn	0	0			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.51	0.11			0.18	0.27	0.11	0.30	0.27			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	11.8
Intersection LOS:	B
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



NT AM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Fr't			0.850							0.898	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1589	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1589	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112							62		81
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30				30		30		30
Link Distance (ft)		1320		378			1484			1611		
Travel Time (s)		30.0		8.6			33.7			36.6		
Volume (vph)	0	464	106	318	507	0	0	0	0	149	28	136
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	488	112	335	534	0	0	0	0	157	91	81
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	48.0	48.0	17.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	53.3%	53.3%	18.9%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)		43.0	43.0	12.8	60.0					20.4	20.4	20.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		44.0	44.0	25.2	73.2					8.8	8.8	8.8
Actuated g/C Ratio		0.49	0.49	0.28	0.81					0.10	0.10	0.10
v/c Ratio		0.16	0.13	0.68	0.13					0.47	0.43	0.37
Control Delay		12.9	3.0	33.9	4.4					42.6	22.3	13.9
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

NT AM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		12.9	3.0	33.9	4.4					42.6	22.3	13.9
LOS		B	A	C	A					D	C	B
Approach Delay		11.0			15.7						29.9	
Approach LOS		B			B						C	
Queue Length 50th (ft)		42	0	174	16					44	15	0
Queue Length 95th (ft)		57	26	#299	85					72	62	43
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		3133	831	496	4136					801	418	413
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.16	0.13	0.68	0.13					0.20	0.22	0.20

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 12: El Cajon Blvd & I-15 SB



NT AM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↓	↑↑↑		↓	↑↑↑		↓	↑↑↑		↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.996			0.970			0.927	
Flt Protected	0.950			0.950				0.981			0.990	
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1773	0	0	1709	0
Flt Permitted	0.950			0.950				0.870			0.929	
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1572	0	0	1604	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		4			6			12			50	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1329			1310			1164			1020	
Travel Time (s)		30.2			29.8			26.5			23.2	
Volume (vph)	40	403	8	16	539	14	43	42	24	21	25	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	42	432	0	17	582	0	0	114	0	0	105	0
Turn Type	Prot			Prot		Perm		Perm		Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	18.0		4.0	18.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	23.0		8.4	23.0		34.9	34.9		34.9	34.9	
Total Split (s)	19.0	63.0	0.0	19.0	63.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0
Total Split (%)	17.6%	58.3%	0.0%	17.6%	58.3%	0.0%	24.1%	24.1%	0.0%	24.1%	24.1%	0.0%
Maximum Green (s)	14.6	58.0		14.6	58.0		21.1	21.1		21.1	21.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.4	73.6		5.9	70.4			22.0			22.0	
Actuated g/C Ratio	0.07	0.68		0.05	0.65		0.20	0.20		0.20	0.20	
v/c Ratio	0.35	0.12		0.18	0.18		0.35	0.35		0.29	0.29	
Control Delay	50.8	5.9		52.2	8.2		36.3	36.3		22.5	22.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.8	5.9		52.2	8.2		36.3	36.3		22.5	22.5	
LOS	D	A		D	A		D	D		C	C	
Approach Delay		9.9			9.4			36.3			22.5	

NT AM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		A		D		C		C	
Queue Length 50th (ft)	29	26		12	58			61			32	
Queue Length 95th (ft)	m65	m47		34	82			115			80	
Internal Link Dist (ft)	1249		1230		1084		940					
Turn Bay Length (ft)	130		135									
Base Capacity (vph)	246	3456		246	3304			330			367	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.17	0.13		0.07	0.18			0.35			0.29	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	27 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.35
Intersection Signal Delay:	13.0
Intersection LOS:	B
Intersection Capacity Utilization:	39.2%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: El Cajon Blvd & 35th St



NT AM with TSP
14: El Cajon Blvd & 33rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.994			0.983			0.922	
Flt Protected	0.950			0.950				0.968			0.993	
Satd. Flow (prot)	1770	3483	0	1770	3518	0	0	1772	0	0	1705	0
Flt Permitted	0.950			0.950				0.618			0.949	
Satd. Flow (perm)	1770	3483	0	1770	3518	0	0	1132	0	0	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			6			6			59	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	107	409	50	46	604	25	133	45	26	19	40	81
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	113	484	0	48	662	0	0	214	0	0	147	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4			8		
Detector Phases	5	2		1	6		4	4		8	8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9		35.9	35.9	
Total Split (s)	17.0	63.0	0.0	17.0	63.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	15.7%	58.3%	0.0%	15.7%	58.3%	0.0%	25.9%	25.9%	0.0%	25.9%	25.9%	0.0%
Maximum Green (s)	12.6	58.0		12.6	58.0		23.1	23.1		23.1	23.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.8	66.0		7.8	61.2			24.0			24.0	
Actuated g/C Ratio	0.10	0.61		0.07	0.57			0.22			0.22	
v/c Ratio	0.64	0.23		0.38	0.33			0.84			0.36	
Control Delay	63.0	10.0		57.2	10.6			66.8			23.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	63.0	10.0		57.2	10.6			66.8			23.9	
LOS	E	B		E	B			E			C	
Approach Delay		20.1			13.7			66.8			23.9	

NT AM with TSP
14: El Cajon Blvd & 33rd St

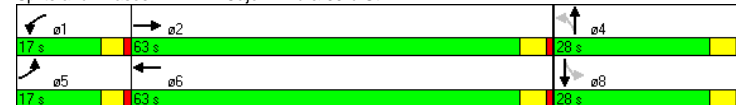
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			E			C	
Queue Length 50th (ft)	76	73		33	83			139			50	
Queue Length 95th (ft)	134	109		71	107			#273			109	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	213	2136		213	1997			256			408	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.53	0.23		0.23	0.33			0.84			0.36	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	33 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	23.7
Intersection LOS:	C
Intersection Capacity Utilization:	59.5%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 14: El Cajon Blvd & 33rd St



NT AM with TSP
15: El Cajon Blvd & I-805 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕			↕↕		↔↔	↕↕	↕↕			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.949				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					156				160			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	458	418	0	0	628	327	475	1	152	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	482	440	0	0	1005	0	250	251	160	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	27.6	67.6	0.0	0.0	40.0	0.0	28.4	28.4	28.4	0.0	0.0	0.0
Total Split (%)	28.8%	70.4%	0.0%	0.0%	41.7%	0.0%	29.6%	29.6%	29.6%	0.0%	0.0%	0.0%
Maximum Green (s)	23.4	62.6			35.0		23.4	23.4	23.4			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	1.1			1.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	18.3	69.1			46.8		18.9	18.9	18.9			
Actuated g/C Ratio	0.19	0.72			0.49		0.20	0.20	0.20			
v/c Ratio	0.74	0.12			0.41		0.76	0.76	0.36			
Control Delay	40.3	11.9			15.0		50.5	50.5	7.3			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			

NT AM with TSP
15: El Cajon Blvd & I-805 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	40.3	11.9			15.0		50.5	50.5	7.3			
LOS	D	B			B		D	D	A			
Approach Delay		26.7			15.0		40.0					
Approach LOS		C			B		D					
Queue Length 50th (ft)	148	58			115		152	152	0			
Queue Length 95th (ft)	192	87			185		226	227	48			
Internal Link Dist (ft)		374			492		1297				1503	
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	844	3660			2434		427	429	522			
Starvation Cap Reductn	0	0			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.57	0.12			0.41		0.59	0.59	0.31			

Intersection Summary

Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	49 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	25.6
Intersection LOS:	C
Intersection Capacity Utilization:	55.7%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 15: El Cajon Blvd & I-805 NB



NT AM with TSP
16: El Cajon Blvd & I-805 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frnt			0.850									0.850
Flt Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Flt Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			398									171
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		666		454		1397				1573		
Travel Time (s)		15.1		10.3		31.8				35.8		
Volume (vph)	0	699	378	152	950	0	0	0	0	169	2	373
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	736	398	160	1000	0	0	0	0	89	91	393
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)	0.0	57.0	57.0	15.0	72.0	0.0	0.0	0.0	0.0	24.0	24.0	24.0
Total Split (%)	0.0%	59.4%	59.4%	15.6%	75.0%	0.0%	0.0%	0.0%	0.0%	25.0%	25.0%	25.0%
Maximum Green (s)		52.0	52.0	10.8	67.0					19.0	19.0	19.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Time Before Reduce (s)		1.4	1.4	0.0	0.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		53.5	53.5	10.5	68.0					20.0	20.0	20.0
Actuated g/C Ratio		0.56	0.56	0.11	0.71					0.21	0.21	0.21
v/c Ratio		0.26	0.38	0.43	0.28					0.25	0.26	0.85
Control Delay		11.3	2.2	42.0	3.8					34.1	34.2	38.5
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

NT AM with TSP
16: El Cajon Blvd & I-805 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		11.3	2.2	42.0	3.8					34.1	34.2	38.5
LOS		B	A	D	A					C	C	D
Approach Delay		8.1			9.1							37.2
Approach LOS		A			A							D
Queue Length 50th (ft)		79	0	51	84					48	49	134
Queue Length 95th (ft)		104	40	m59	4					94	95	#297
Internal Link Dist (ft)		586			374			1317				1493
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		2833	1058	393	3602					350	351	465
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.26	0.38	0.41	0.28					0.25	0.26	0.85
Intersection Summary												
Area Type:	Other											
Cycle Length:	96											
Actuated Cycle Length:	96											
Offset:	95 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.85											
Intersection Signal Delay:	14.3						Intersection LOS: B					
Intersection Capacity Utilization:	55.7%						ICU Level of Service B					
Analysis Period (min):	15											
#	95th percentile volume exceeds capacity, queue may be longer.											
	Queue shown is maximum after two cycles.											
m	Volume for 95th percentile queue is metered by upstream signal.											
Splits and Phases: 16: El Cajon Blvd & I-805 SB												

NT AM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988		0.984		0.949		0.961					
Flt Protected	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (prot)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Flt Permitted	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (perm)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Right Turn on Red	Yes		Yes		Yes		Yes					
Satd. Flow (RTOR)	13		20		24		16					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	768			762			1004			1052		
Travel Time (s)	17.5			17.3			22.8			23.9		
Volume (vph)	30	541	46	104	886	103	77	132	67	109	144	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	32	617	0	109	1041	0	81	210	0	115	205	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	20.0	40.0	0.0	20.0	40.0	0.0	14.0	34.0	0.0	14.0	34.0	0.0
Total Split (%)	18.5%	37.0%	0.0%	18.5%	37.0%	0.0%	13.0%	31.5%	0.0%	13.0%	31.5%	0.0%
Maximum Green (s)	15.6	35.0		15.6	35.0		9.6	29.1		9.6	29.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)	4.0			4.0			4.0			4.0		
Flash Dont Walk (s)	13.0			13.0			32.0			32.0		
Pedestrian Calls (#/hr)	0			0			0			0		
Act Effct Green (s)	6.8	40.7		11.3	48.9		8.6	30.5		9.5	33.3	
Actuated g/C Ratio	0.06	0.38		0.10	0.45		0.08	0.28		0.09	0.31	
v/c Ratio	0.29	0.32		0.59	0.46		0.57	0.41		0.74	0.36	
Control Delay	54.2	24.5		58.5	21.7		63.6	30.7		75.6	30.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.2	24.5		58.5	21.7		63.6	30.7		75.6	30.4	
LOS	D	C		E	C		E	C		E	C	
Approach Delay	26.0		25.2		39.9		46.6					

NT AM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			D			D		
Queue Length 50th (ft)	22	106		73	185		54	105		79	105	
Queue Length 95th (ft)	52	149		125	236		104	174		#163	175	
Internal Link Dist (ft)	688			682			924			972		
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	262	1903		262	2277		164	516		164	563	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.32		0.42	0.46		0.49	0.41		0.70	0.36	

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	30.0
Intersection LOS:	C
Intersection Capacity Utilization:	53.1%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 17: El Cajon Blvd & 30th St



NT AM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘ ↙ ↚ ↛ ↜ ↝ ↞ ↠ ↡ ↢ ↣											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.994			0.981			0.984			0.966	
Flt Protected	0.950			0.950				0.994			0.990	
Satd. Flow (prot)	1770	5055	0	1770	4989	0	0	3462	0	0	3385	0
Flt Permitted	0.950			0.950				0.994			0.990	
Satd. Flow (perm)	1770	5055	0	1770	4989	0	0	3462	0	0	3385	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			22			10			27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1532			1136			994			1062		
Travel Time (s)	34.8			25.8			22.6			24.1		
Volume (vph)	110	295	11	69	695	104	45	278	40	59	172	67
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	116	323	0	73	841	0	0	382	0	0	314	0
Turn Type	Prot		Prot		Split		Split		Split		Split	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	19.5	48.0	0.0	14.6	43.1	0.0	34.6	34.6	0.0	32.8	32.8	0.0
Total Split (%)	15.0%	36.9%	0.0%	11.2%	33.2%	0.0%	26.6%	26.6%	0.0%	25.2%	25.2%	0.0%
Maximum Green (s)	15.1	43.1		10.2	38.2		29.7	29.7		27.9	27.9	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	4.0		4.0		4.0		5.0		5.0		4.0	
Flash Dont Walk (s)	12.0		12.0		29.0		29.0		29.0		29.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	12.7	47.5		9.0	41.9		30.6			28.8		
Actuated g/C Ratio	0.10	0.37		0.07	0.32		0.24			0.22		
v/c Ratio	0.67	0.17		0.59	0.52		0.46			0.41		
Control Delay	83.6	25.7		77.8	36.6		43.7			41.3		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

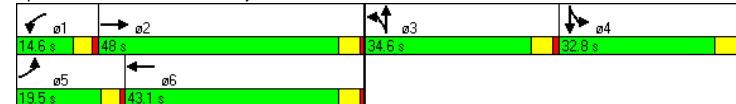
NT AM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	83.6	25.7		77.8	36.6					43.7		41.3
LOS	F	C		E	D					D		D
Approach Delay		41.0			39.9					43.7		41.3
Approach LOS		D			D					D		D
Queue Length 50th (ft)	101	53		60	207					142		109
Queue Length 95th (ft)	m164	82		112	258					193		155
Internal Link Dist (ft)	1452		1056		914		982					
Turn Bay Length (ft)	140		120		823		771					
Base Capacity (vph)	211	1849		144	1624							
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.55	0.17		0.51	0.52					0.46		0.41

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	25 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	41.1
Intersection LOS:	D
Intersection Capacity Utilization:	54.0%
ICU Level of Service A	
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



NT AM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.996			0.944			0.933	
Flt Protected	0.950			0.950				0.984			0.995	
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1730	0	0	1729	0
Flt Permitted	0.950			0.950				0.903			0.975	
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1588	0	0	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			5			27			36	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	14	315	7	57	742	23	29	25	38	8	28	34
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	15	339	0	60	805	0	0	97	0	0	73	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		40.9	40.9		43.9	43.9	
Total Split (s)	25.0	61.0	0.0	29.0	65.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	19.2%	46.9%	0.0%	22.3%	50.0%	0.0%	30.8%	30.8%	0.0%	30.8%	30.8%	0.0%
Maximum Green (s)	20.6	55.9		24.6	60.1		35.1	35.1		35.1	35.1	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.1	100.1		9.2	107.0		10.6			10.6		
Actuated g/C Ratio	0.05	0.77		0.07	0.82		0.08			0.08		
v/c Ratio	0.18	0.09		0.48	0.19		0.63			0.43		
Control Delay	73.8	2.4		61.3	1.3		58.7			38.4		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

NT AM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	73.8	2.4		61.3	1.3			58.7			38.4	
LOS	E	A		E	A			E			D	
Approach Delay		5.4			5.4			58.7			38.4	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	12	16		53	13			58			30	
Queue Length 95th (ft)	35	29		101	25			114			77	
Internal Link Dist (ft)		720			1452			827			901	
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	286	3905		340	4168			459			495	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.05	0.09		0.18	0.19			0.21			0.15	

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	10.9
Intersection LOS:	B
Intersection Capacity Utilization:	39.3%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 19: El Cajon Blvd & Florida St



NT AM with TSP
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				77			51			327
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	134	215	37	152	620	73	66	84	48	27	203	404
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	141	265	0	160	653	77	69	88	51	28	214	425
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	8.9	14.9		8.4	46.9	46.9	8.4	42.9	42.9	8.4	11.9	8.9
Total Split (s)	17.7	52.0	0.0	27.6	61.9	61.9	15.3	39.1	39.1	11.3	35.1	17.7
Total Split (%)	13.6%	40.0%	0.0%	21.2%	47.6%	47.6%	11.8%	30.1%	30.1%	8.7%	27.0%	13.6%
Maximum Green (s)	12.8	47.1		23.2	57.0	57.0	10.9	34.2	34.2	6.9	30.2	12.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes		Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	None	C-Max		None	None	None	None	None	None	None	None	None
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	10.5	74.9		17.3	81.7	81.7	9.7	18.5	18.5	7.0	13.9	28.5
Actuated g/C Ratio	0.08	0.58		0.13	0.63	0.63	0.07	0.14	0.14	0.05	0.11	0.22
v/c Ratio	0.51	0.13		0.68	0.29	0.08	0.52	0.17	0.19	0.29	0.56	0.49
Control Delay	63.3	14.3		55.4	14.0	5.4	70.9	49.0	14.1	66.2	60.8	11.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

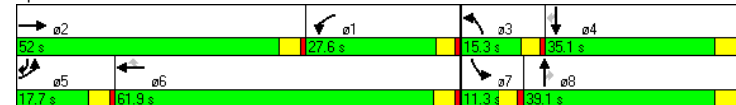
NT AM with TSP
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.3	14.3		55.4	14.0	5.4	70.9	49.0	14.1	66.2	60.8	11.9
LOS	E	B		E	B	A	E	D	B	E	E	B
Approach Delay		31.3			20.7			47.7			29.9	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	59	52		65	100	1	57	35	0	23	91	38
Queue Length 95th (ft)	92	88		124	186	m27	105	59	38	55	131	84
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220		130		100				
Base Capacity (vph)	362	2001		321	2224	1023	161	956	465	107	847	925
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.13		0.50	0.29	0.08	0.43	0.09	0.11	0.26	0.25	0.46

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	29 (22%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	28.1
Intersection LOS:	C
Intersection Capacity Utilization:	44.9%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



NT AM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.947			0.968			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3352	0	1770	3426	0	1770	3394	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3352	0	1770	3426	0	1770	3394	0	1770	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70			23			46			20	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	51	200	108	86	467	124	78	143	54	56	267	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	54	325	0	91	623	0	82	208	0	59	337	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	21.0	35.0	0.0	21.0	35.0	0.0	25.0	52.8	0.0	25.0	52.8	0.0
Total Split (%)	15.7%	26.2%	0.0%	15.7%	26.2%	0.0%	18.7%	39.5%	0.0%	18.7%	39.5%	0.0%
Maximum Green (s)	16.6	30.1		16.6	30.1		20.6	47.9		20.6	47.9	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.4	36.9		11.8	39.1		11.2	51.6		8.7	49.5	
Actuated g/C Ratio	0.08	0.31		0.10	0.33		0.09	0.43		0.07	0.41	
v/c Ratio	0.39	0.30		0.53	0.55		0.51	0.14		0.47	0.24	
Control Delay	64.3	27.8		65.4	36.2		65.4	18.3		68.7	24.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

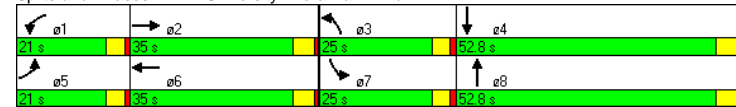
NT AM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	64.3	27.8		65.4	36.2		65.4	18.3		68.7	24.4	
LOS	E	C		E	D		E	B		E	C	
Approach Delay		33.0			39.9			31.7			31.0	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	42	83		71	213		64	41		46	88	
Queue Length 95th (ft)	89	136		130	299		121	75		97	140	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	233	1078		237	1129		283	1483		278	1433	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.23	0.30		0.38	0.55		0.29	0.14		0.21	0.24	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	120.3
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	35.1
Intersection LOS:	D
Intersection Capacity Utilization:	46.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 21: University Ave & Park Blvd



NT PM

1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980			0.971			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3468	0	3433	3437	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3468	0	3433	3437	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			26				115			111
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	228	756	118	213	555	133	241	460	109	432	674	155
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	240	920	0	224	724	0	254	484	115	455	709	163
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8	8	7	4	4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2	40.2	8.4	40.1	40.1
Total Split (s)	14.4	44.4	0.0	14.4	44.4	0.0	19.5	40.2	40.2	21.0	41.7	41.7
Total Split (%)	12.0%	37.0%	0.0%	12.0%	37.0%	0.0%	16.3%	33.5%	33.5%	17.5%	34.8%	34.8%
Maximum Green (s)	10.0	39.6		10.0	39.7		15.1	35.0	35.0	16.6	36.6	36.6
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2	4.2	3.4	4.1	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7	3.7	2.0	3.2	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9	0.9	0.0	1.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0			32.0			28.0	28.0		28.0	28.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	12.8	42.3		12.3	41.8		19.9	28.0	28.0	21.4	29.5	29.5
Actuated g/C Ratio	0.11	0.35		0.10	0.35		0.17	0.23	0.23	0.18	0.25	0.25
v/c Ratio	0.66	0.75		0.63	0.60		0.86	0.59	0.25	1.44	0.82	0.35
Control Delay	60.4	38.3		60.2	33.6		77.1	43.4	7.3	250.8	50.6	14.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

NT PM

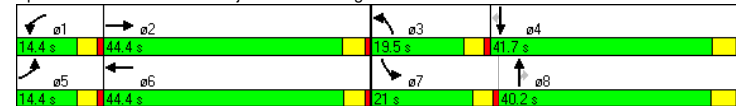
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.4	38.3		60.2	33.6		77.1	43.4	7.3	250.8	50.6	14.3
LOS	E	D		E	C		E	D	A	F	D	B
Approach Delay		42.9			39.9			48.6			114.8	
Approach LOS		D			D			D			F	
Queue Length 50th (ft)	92	321		86	233		196	176	0	-489	274	32
Queue Length 95th (ft)	138	412		129	303		#393	216	44	#736	321	84
Internal Link Dist (ft)		1138			1071			1350			1401	
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	366	1232		353	1214		294	1068	558	316	1112	573
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.75		0.63	0.60		0.86	0.45	0.21	1.44	0.64	0.28

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	82 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	130
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.44
Intersection Signal Delay:	65.6
Intersection LOS:	E
Intersection Capacity Utilization:	83.0%
ICU Level of Service:	E
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 1: El Cajon Blvd & College Ave



NT PM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984		0.984			0.940			0.976		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1770	3483	0	1770	1751	0	1770	1818	0
Flt Permitted	0.950			0.950			0.389			0.389		
Satd. Flow (perm)	1770	3483	0	1770	3483	0	725	1751	0	725	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			15			29				8
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		679			1338			1391				1169
Travel Time (s)		15.4			30.4			31.6				26.6
Volume (vph)	34	1085	131	75	715	86	108	172	113	92	239	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	36	1280	0	79	844	0	114	300	0	97	300	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4		4
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0		6.0
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9		27.9
Total Split (s)	15.6	58.9	0.0	19.1	62.4	0.0	42.0	42.0	0.0	42.0	42.0	0.0
Total Split (%)	13.0%	49.1%	0.0%	15.9%	52.0%	0.0%	35.0%	35.0%	0.0%	35.0%	35.0%	0.0%
Maximum Green (s)	11.2	54.0		14.7	57.5		37.1	37.1		37.1	37.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.7	62.0		10.1	66.5		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.06	0.52		0.08	0.55		0.32	0.32		0.32	0.32	
v/c Ratio	0.32	0.71		0.53	0.44		0.50	0.52		0.42	0.52	
Control Delay	51.1	24.7		64.9	17.2		42.2	34.0		39.3	36.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT PM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	51.1	24.7		64.9	17.2		42.2	34.0		39.3	36.4	
LOS	D	C		E	B		D	C		D	D	
Approach Delay		25.4			21.3			36.3			37.1	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	28	303		60	204		71	171		59	184	
Queue Length 95th (ft)	m53	312		108	270		135	261		115	274	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	171	1806		223	1937		230	574		230	581	
Starvation Cap Reductn	0	18		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.72		0.35	0.44		0.50	0.52		0.42	0.52	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	106 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	27.2
Intersection LOS:	C
Intersection Capacity Utilization:	73.9%
ICU Level of Service:	D
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



NT PM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.990			0.930			0.974	
Flt Protected	0.950			0.950				0.986			0.968	
Satd. Flow (prot)	1770	3518	0	1770	3504	0	0	1708	0	0	1756	0
Flt Permitted	0.950			0.950				0.908			0.706	
Satd. Flow (perm)	1770	3518	0	1770	3504	0	0	1573	0	0	1281	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			10			41			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	55	1120	50	52	820	57	30	23	57	72	16	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	58	1232	0	55	923	0	0	116	0	0	115	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	20.0	71.0	0.0	20.0	71.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	16.7%	59.2%	0.0%	16.7%	59.2%	0.0%	24.2%	24.2%	0.0%	24.2%	24.2%	0.0%
Maximum Green (s)	15.6	66.1		15.6	66.1		24.1	24.1		24.1	24.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.3	76.4		8.4	76.5		25.0			25.0		
Actuated g/C Ratio	0.07	0.64		0.07	0.64		0.21			0.21		
v/c Ratio	0.47	0.55		0.44	0.41		0.32			0.42		
Control Delay	62.7	13.2		82.5	6.6		28.6			43.3		
Queue Delay	0.0	0.1		0.0	0.0		0.0			0.0		

NT PM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.7	13.3		82.5	6.6					28.6		43.3
LOS	E	B		F	A					C		D
Approach Delay		15.5			10.9					28.6		43.3
Approach LOS		B			B					C		D
Queue Length 50th (ft)	43	180		46	60					49		72
Queue Length 95th (ft)	m88	412		m91	78					104		132
Internal Link Dist (ft)		598			599					1255		1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	236	2241		236	2238					360		274
Starvation Cap Reductn	0	162		0	0					0		0
Spillback Cap Reductn	0	5		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.25	0.59		0.23	0.41					0.32		0.42

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	15.6
Intersection LOS:	B
Intersection Capacity Utilization:	58.7%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



NT PM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕	↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.924		0.924		0.961		0.961	
Fit Protected			0.950		0.980		0.980		0.961		0.961	
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1687	0	0	1790	0
Flt Permitted	0.954		0.147		0.877		0.877		0.814		0.814	
Satd. Flow (perm)	0	3356	0	274	3532	0	0	1509	0	0	1516	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	9		4		49		49		100		100	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	667		678		1277		1277		1173		1173	
Travel Time (s)	15.2		15.4		29.0		29.0		26.7		26.7	
Volume (vph)	2	1293	51	48	849	14	50	4	69	12	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1417	0	51	909	0	0	130	0	0	16	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		8		8		4		4	
Permitted Phases	2		6		8		8		4		4	
Detector Phases	2		6		8		8		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	27.9	27.9	27.9	27.9	8.9	8.9	8.9
Total Split (s)	91.0	91.0	0.0	91.0	91.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	75.8%	75.8%	0.0%	75.8%	75.8%	0.0%	24.2%	24.2%	0.0%	24.2%	24.2%	0.0%
Maximum Green (s)	86.0	86.0	86.0	86.0	86.0	24.1	24.1	24.1	24.1	24.1	24.1	24.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	100.4		100.4		100.4		11.6		11.6		11.6	
Actuated g/C Ratio	0.84		0.84		0.84		0.10		0.10		0.10	
w/c Ratio	0.50		0.22		0.31		0.68		0.68		0.11	
Control Delay	3.2		3.8		1.6		49.4		49.4		48.1	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	3.2		3.8		1.6		49.4		49.4		48.1	
LOS	A		A		A		D		D		D	
Approach Delay	3.2		1.7		49.4		49.4		49.4		48.1	

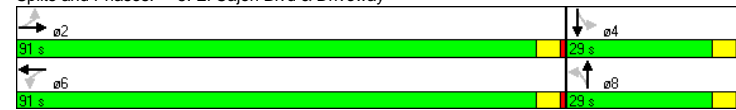
NT PM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		A		D		D		D	
Queue Length 50th (ft)	64		4		36		61		12		12	
Queue Length 95th (ft)	204		9		44		122		32		32	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2809		229		2955		353		316		316	
Starvation Cap Reductn	65		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.52		0.22		0.31		0.37		0.37		0.05	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	5.3
Intersection LOS:	A
Intersection Capacity Utilization:	53.5%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: El Cajon Blvd & Driveway



NT PM

6: El Cajon Blvd & Highland Ave

11/15/2007

	→	↖	↙	←	↘	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993				0.924	
Flt Protected			0.950		0.979	
Satd. Flow (prot)	3514	0	1770	3539	1685	0
Flt Permitted			0.130		0.979	
Satd. Flow (perm)	3514	0	242	3539	1685	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11				50	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	1349	67	29	881	57	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	1491	0	31	927	138	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	90.0	0.0	90.0	90.0	30.0	0.0
Total Split (%)	75.0%	0.0%	75.0%	75.0%	25.0%	0.0%
Maximum Green (s)	85.1		85.1	85.1	25.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	100.6		100.6	100.6	11.4	
Actuated g/C Ratio	0.84		0.84	0.84	0.10	
v/c Ratio	0.51		0.15	0.31	0.67	
Control Delay	1.8		2.9	1.5	48.6	
Queue Delay	0.0		0.0	0.0	0.0	

NT PM

6: El Cajon Blvd & Highland Ave

11/15/2007

	→	↖	↙	←	↘	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.8		2.9	1.5	48.6	
LOS	A		A	A	D	
Approach Delay	1.8			1.5	48.6	
Approach LOS	A			A	D	
Queue Length 50th (ft)	51		2	31	66	
Queue Length 95th (ft)	58		m6	44	129	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2948		203	2968	404	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.51		0.15	0.31	0.34	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	16 (13%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	4.2
Intersection LOS:	A
Intersection Capacity Utilization:	53.8%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



NT PM

7: El Cajon Blvd & Fairmount Ave

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↗	↔	↕	↗	↔	↕	↗	↔	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50		50		50
Trailing Detector (ft)	0	0	0		0		0	0		0		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.984			0.974				
Flt Protected	0.950							0.990				
Satd. Flow (prot)	1770	3539	1583	0	3483	0	0	3413	0	0	0	0
Flt Permitted	0.950							0.990				
Satd. Flow (perm)	1770	3539	1583	0	3483	0	0	3413	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168		12			21				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	74	1305	160	0	758	87	115	366	103	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	78	1374	168	0	890	0	0	614	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	32.0	83.0	83.0	0.0	51.0	0.0	37.0	37.0	0.0	0.0	0.0	0.0
Total Split (%)	26.7%	69.2%	69.2%	0.0%	42.5%	0.0%	30.8%	30.8%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	27.6	78.1	78.1		46.1		32.1	32.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	8.4	79.0	79.0		68.3			33.0				
Actuated g/C Ratio	0.07	0.66	0.66		0.57			0.28				
v/c Ratio	0.63	0.59	0.15		0.45			0.64				
Control Delay	91.4	8.1	0.3		10.3			40.6				
Queue Delay	0.0	0.3	0.0		0.0			0.5				

NT PM

7: El Cajon Blvd & Fairmount Ave

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	91.4	8.4	0.3		10.3							41.1
LOS	F	A	A		B							D
Approach Delay		11.6			10.3							41.1
Approach LOS		B			B							D
Queue Length 50th (ft)	60	88	0		144							213
Queue Length 95th (ft)	m103	110	m0		171							277
Internal Link Dist (ft)		250			595							1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	413	2330	1100		1986							954
Starvation Cap Reductn	0	371	0		0							0
Spillback Cap Reductn	0	0	0		1							90
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.19	0.70	0.15		0.45							0.71

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	17.0
Intersection LOS:	B
Intersection Capacity Utilization:	59.5%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



NT PM
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↘	↑↑						↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.987								0.987	0.987	
Flt Protected				0.950						0.981	0.981	
Satd. Flow (prot)	0	5019	0	1770	3539	0	0	0	0	0	3427	0
Flt Permitted				0.950						0.981	0.981	
Satd. Flow (perm)	0	5019	0	1770	3539	0	0	0	0	0	3427	0
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)		15									9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	1213	114	101	897	0	0	0	0	362	493	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1397	0	106	944	0	0	0	0	0	982	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	48.5	0.0	20.7	69.2	0.0	0.0	0.0	0.0	50.8	50.8	0.0
Total Split (%)	0.0%	40.4%	0.0%	17.3%	57.7%	0.0%	0.0%	0.0%	0.0%	42.3%	42.3%	0.0%
Maximum Green (s)		43.6		16.3	64.3					45.9	45.9	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		57.5		11.9	73.4						38.6	
Actuated g/C Ratio		0.48		0.10	0.61						0.32	
v/c Ratio		0.58		0.61	0.44						0.89	
Control Delay		25.1		66.6	19.8						48.2	
Queue Delay		0.0		0.0	0.4						0.0	

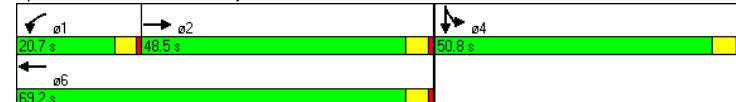
NT PM
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		25.1		66.6	20.3						48.2	
LOS		C		E	C						D	
Approach Delay		25.1			25.0						48.2	
Approach LOS		C			C						D	
Queue Length 50th (ft)		276		83	231						374	
Queue Length 95th (ft)		396		m145	286						415	
Internal Link Dist (ft)		565			250			1205			1403	
Turn Bay Length (ft)				115								
Base Capacity (vph)		2413		246	2164						1342	
Starvation Cap Reductn		0		0	683						0	
Spillback Cap Reductn		48		0	0						0	
Storage Cap Reductn		0		0	0						0	
Reduced v/c Ratio		0.59		0.43	0.64						0.73	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	31.7
Intersection LOS:	C
Intersection Capacity Utilization:	68.2%
ICU Level of Service:	C
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



NT PM

9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.998			0.961			0.977	
Flt Protected	0.950			0.950				0.980			0.979	
Satd. Flow (prot)	1770	5055	0	1770	5075	0	0	1754	0	0	1782	0
Flt Permitted	0.950			0.950				0.880			0.878	
Satd. Flow (perm)	1770	5055	0	1770	5075	0	0	1575	0	0	1598	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			2			16			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			645			1453			1643	
Travel Time (s)		14.9			14.7			33.0			37.3	
Volume (vph)	62	1300	51	54	903	11	34	26	25	26	25	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	65	1422	0	57	963	0	0	89	0	0	64	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	27.5	64.2		26.9	63.6		48.9	48.9		48.9	48.9	0.0
Total Split (%)	19.6%	45.9%	0.0%	19.2%	45.4%	0.0%	34.9%	34.9%	0.0%	34.9%	34.9%	0.0%
Maximum Green (s)	23.1	59.3		22.5	58.7		44.0	44.0		44.0	44.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			8.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	9.3	60.4		8.8	59.9		45.0	45.0		45.0	45.0	
Actuated g/C Ratio	0.07	0.49		0.07	0.48		0.36	0.36		0.36	0.36	
v/c Ratio	0.50	0.58		0.46	0.39		0.15	0.15		0.15	0.11	
Control Delay	68.6	24.5		68.2	21.7		24.0	24.0		24.0	25.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT PM

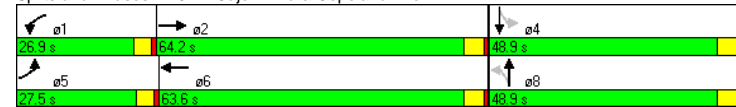
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.6	24.5		68.2	21.7				24.0			25.3
LOS	E	C		E	C				C			C
Approach Delay		26.4			24.3				24.0			25.3
Approach LOS		C			C				C			C
Queue Length 50th (ft)	52	299		45	181				40			30
Queue Length 95th (ft)	101	368		91	231				83			66
Internal Link Dist (ft)		575			565				1373			1563
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	297	2460		290	2449				581			584
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.22	0.58		0.20	0.39				0.15			0.11

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	124.2
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	25.5
Intersection Capacity Utilization:	45.6%
ICU Level of Service A:	
Analysis Period (min):	15

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



NT PM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.987			0.982			0.973	
Flt Protected	0.950			0.950				0.973			0.980	
Satd. Flow (prot)	1770	5060	0	1770	5019	0	0	1780	0	0	1776	0
Flt Permitted	0.950			0.950				0.799			0.839	
Satd. Flow (perm)	1770	5060	0	1770	5019	0	0	1462	0	0	1521	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		5		14		7		11		11		11
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		447		655		1485		1723		1723		1723
Travel Time (s)		10.2		14.9		33.8		39.2		39.2		39.2
Volume (vph)	147	1281	46	51	881	82	73	41	18	49	46	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	155	1396	0	54	1013	0	0	139	0	0	125	0
Turn Type	Prot			Prot		Perm		Perm		Perm		Perm
Protected Phases	5	2		1	6			8			4	4
Permitted Phases							8			4		4
Detector Phases	5	2		1	6		8	8		4		4
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0		4.0
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9		33.9
Total Split (s)	32.1	53.0	0.0	23.1	44.0	0.0	43.9	43.9	0.0	43.9	43.9	0.0
Total Split (%)	26.8%	44.2%	0.0%	19.3%	36.7%	0.0%	36.6%	36.6%	0.0%	36.6%	36.6%	0.0%
Maximum Green (s)	27.7	48.1		18.7	39.1		39.0	39.0		39.0	39.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	14.7	61.6		8.3	53.4		39.9			39.9		39.9
Actuated g/C Ratio	0.12	0.51		0.07	0.44		0.33			0.33		0.33
v/c Ratio	0.72	0.54		0.44	0.45		0.28			0.28		0.24
Control Delay	68.3	21.2		64.0	24.2		29.9			28.0		28.0
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		0.0

NT PM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.3	21.2		64.0	24.2		29.9			28.0		28.0
LOS	E	C		E	C		C			C		C
Approach Delay		25.9			26.2		29.9					28.0
Approach LOS		C			C		C					C
Queue Length 50th (ft)	117	265		41	192		75			63		63
Queue Length 95th (ft)	180	329		82	254		129			113		113
Internal Link Dist (ft)		367			575		1405			1643		1643
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	414	2599		282	2242		491			513		513
Starvation Cap Reductn	0	0		0	0		0			0		0
Spillback Cap Reductn	0	0		0	0		0			0		0
Storage Cap Reductn	0	0		0	0		0			0		0
Reduced v/c Ratio	0.37	0.54		0.19	0.45		0.28			0.24		0.24

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	26.3
Intersection LOS:	C
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave

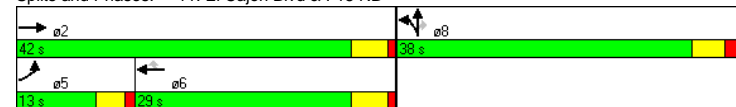


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.876	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						253		28	28			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30		30		30			30
Link Distance (ft)		378			225		1453		1618			1618
Travel Time (s)		8.6			5.1		33.0		36.8			36.8
Volume (vph)	239	1224	0	0	799	240	151	36	354	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	252	1288	0	0	841	253	159	222	189	0	0	0
Turn Type	Prot				Perm	Split		Perm				
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8	8			8
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			5.0
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			37.6
Total Split (s)	13.0	42.0	0.0	0.0	29.0	29.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	16.3%	52.5%	0.0%	0.0%	36.3%	36.3%	47.5%	47.5%	47.5%	0.0%	0.0%	0.0%
Maximum Green (s)	8.8	37.0			24.0	24.0	32.4	32.4	32.4			32.4
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			3.6
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			2.0
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			2.0
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			2.0
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			0.0
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			0.0
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			None
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			25.0
Pedestrian Calls (#/hr)	0				0	0	0	0	0			0
Act Effct Green (s)	24.3	56.8			28.5	28.5	15.2	15.2	15.2			15.2
Actuated g/C Ratio	0.30	0.71			0.36	0.36	0.19	0.19	0.19			0.19
v/c Ratio	0.47	0.36			0.37	0.35	0.24	0.70	0.61			0.61
Control Delay	19.0	2.7			20.1	4.4	27.0	37.6	32.9			32.9
Queue Delay	0.0	0.2			0.0	0.0	0.0	0.0	0.0			0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.0	3.0			20.1	4.4	27.0	37.6	32.9			
LOS	B	A			C	A	C	D	C			
Approach Delay		5.6			16.5			33.1				
Approach LOS		A			B			C				
Queue Length 50th (ft)	38	0			87	0	35	96	77			
Queue Length 95th (ft)	196	206			123	50	53	153	131			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	538	3610			2281	727	1459	675	655			
Starvation Cap Reductn	0	1365			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.47	0.57			0.37	0.35	0.11	0.33	0.29			

Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	14.2
Intersection LOS:	B
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Frnt			0.850							0.937	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1658	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1658	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238								53	176
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30				30		30		30
Link Distance (ft)		1320		378			1484			1611		
Travel Time (s)		30.0		8.6			33.7			36.6		
Volume (vph)	0	1084	226	321	676	0	0	0	0	366	134	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1141	238	338	712	0	0	0	0	385	243	234
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	31.0	31.0	14.0	45.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	38.8%	38.8%	17.5%	56.3%	0.0%	0.0%	0.0%	0.0%	43.8%	43.8%	43.8%
Maximum Green (s)		26.0	26.0	9.8	40.0					30.4	30.4	30.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		6.0	6.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		27.0	27.0	26.3	57.3					14.7	14.7	14.7
Actuated g/C Ratio		0.34	0.34	0.33	0.72					0.18	0.18	0.18
v/c Ratio		0.53	0.34	0.58	0.20					0.61	0.70	0.56
Control Delay		22.4	4.4	19.0	2.1					33.6	34.0	13.4
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		22.4	4.4	19.0	2.1					33.6	34.0	13.4
LOS		C	A	B	A					C	C	B
Approach Delay		19.3			7.5						28.2	
Approach LOS		B			A						C	
Queue Length 50th (ft)		131	0	147	1					92	94	26
Queue Length 95th (ft)		164	46	#292	23					120	155	84
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2163	692	582	3644					1330	675	691
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.53	0.34	0.58	0.20					0.29	0.36	0.34

Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	40 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	17.9
Intersection LOS:	B
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 12: El Cajon Blvd & I-15 SB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.992			0.955			0.952	
Flt Protected	0.950			0.950				0.984			0.988	
Satd. Flow (prot)	1770	5045	0	1770	5045	0	0	1750	0	0	1752	0
Flt Permitted	0.950			0.950				0.847			0.899	
Satd. Flow (perm)	1770	5045	0	1770	5045	0	0	1507	0	0	1594	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		10			10			22			24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1329			1310			1164			1020		
Travel Time (s)	30.2			29.8			26.5			23.2		
Volume (vph)	84	1244	74	111	775	47	61	64	63	39	66	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	88	1387	0	117	865	0	0	197	0	0	171	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases					8		8				4	
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	25.0		4.0	25.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.4	30.0		8.4	30.0			34.9	34.9		34.9	34.9
Total Split (s)	20.0	60.0	0.0	20.0	60.0	0.0	0.0	40.0	40.0	0.0	40.0	40.0
Total Split (%)	16.7%	50.0%	0.0%	16.7%	50.0%	0.0%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%
Maximum Green (s)	15.6	55.0		15.6	55.0			35.1	35.1		35.1	35.1
Yellow Time (s)	3.4	4.0		3.4	4.0			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Recall Mode	None	C-Max		None	C-Max			Max	Max		Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	10.8	59.8		12.2	61.2			36.0	36.0		36.0	36.0
Actuated g/C Ratio	0.09	0.50		0.10	0.51			0.30	0.30		0.30	0.30
v/c Ratio	0.55	0.55		0.65	0.34			0.42	0.35		0.35	0.35
Control Delay	65.7	13.8		68.1	18.0			33.0	30.4		30.4	30.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	65.7	13.8		68.1	18.0			33.0	30.4		30.4	30.4
LOS	E	B		E	B			C	C		C	C
Approach Delay	16.8				24.0				33.0		30.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			C			C		
Queue Length 50th (ft)	72	91		88	138			108			88	
Queue Length 95th (ft)	m87	m173		148	183			180			152	
Internal Link Dist (ft)	1249			1230			1084			940		
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	236	2519		236	2580			468			495	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.37	0.55		0.50	0.34			0.42			0.35	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	59 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	21.3
Intersection LOS:	C
Intersection Capacity Utilization:	57.8%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 13: El Cajon Blvd & 35th St



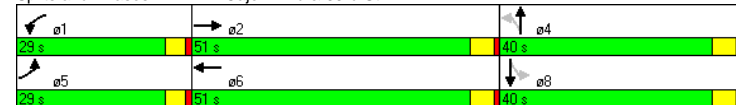
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.993			0.962			0.932	
Flt Protected	0.950			0.950				0.977			0.990	
Satd. Flow (prot)	1770	3497	0	1770	3514	0	0	1751	0	0	1719	0
Flt Permitted	0.950			0.950				0.634			0.874	
Satd. Flow (perm)	1770	3497	0	1770	3514	0	0	1136	0	0	1517	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		9			5			17			44	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	193	1278	114	102	744	38	147	74	86	44	66	111
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	203	1465	0	107	823	0	0	324	0	0	232	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4			8		
Detector Phases	5	2		1	6		4	4		8	8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9		35.9	35.9	
Total Split (s)	29.0	51.0		29.0	51.0		40.0	40.0		40.0	40.0	0.0
Total Split (%)	24.2%	42.5%	0.0%	24.2%	42.5%	0.0%	33.3%	33.3%	0.0%	33.3%	33.3%	0.0%
Maximum Green (s)	24.6	46.0		24.6	46.0		35.1	35.1		35.1	35.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	18.1	60.3		11.7	53.9			36.0			36.0	
Actuated g/C Ratio	0.15	0.50		0.10	0.45			0.30			0.30	
v/c Ratio	0.76	0.83		0.62	0.52			0.92			0.48	
Control Delay	66.4	31.1		60.2	24.3			70.4			31.3	
Queue Delay	0.0	15.7		0.0	0.0			0.0			0.0	
Total Delay	66.4	46.8		60.2	24.3			70.4			31.3	
LOS	E	D		E	C			E			C	
Approach Delay		49.2			28.4			70.4			31.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C			E			C	
Queue Length 50th (ft)	153	491		82	154			232			118	
Queue Length 95th (ft)	222	#650		140	249			#413			197	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	369	1763		369	1582			353			486	
Starvation Cap Reductn	0	321		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.55	1.02		0.29	0.52			0.92			0.48	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	46 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	43.9
Intersection LOS:	D
Intersection Capacity Utilization:	87.9%
ICU Level of Service:	E
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 14: El Cajon Blvd & 33rd St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↕			↕↕↕		↔↔	↕↕	↕↕			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.967				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					67				37			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	334	1435	0	0	851	241	437	2	263	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	352	1511	0	0	1150	0	230	232	277	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	29.7	74.0	0.0	0.0	44.3	0.0	42.0	42.0	42.0	0.0	0.0	0.0
Total Split (%)	25.6%	63.8%	0.0%	0.0%	38.2%	0.0%	36.2%	36.2%	36.2%	0.0%	0.0%	0.0%
Maximum Green (s)	25.5	69.0			39.3		37.0	37.0	37.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	1.0			1.0		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	17.8	85.4			63.7		22.6	22.6	22.6			
Actuated g/C Ratio	0.15	0.74			0.55		0.19	0.19	0.19			
v/c Ratio	0.67	0.40			0.42		0.70	0.71	0.82			
Control Delay	65.5	1.7			16.6		54.3	54.6	57.2			
Queue Delay	0.0	0.3			0.0		0.2	0.2	0.5			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	65.5	2.0			16.6		54.5	54.8	57.7			
LOS	E	A			B		D	D	E			
Approach Delay		14.0			16.6			55.8				
Approach LOS		B			B			E				
Queue Length 50th (ft)	146	35			154		171	172	176			
Queue Length 95th (ft)	m93	m36			263		235	237	248			
Internal Link Dist (ft)		374			492			1297			1503	
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	761	3746			2729		551	552	543			
Starvation Cap Reductn	0	1389			0		0	0	0			
Spillback Cap Reductn	0	533			1		45	45	61			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.46	0.64			0.42		0.45	0.46	0.57			

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	59 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	23.0
Intersection LOS:	C
Intersection Capacity Utilization:	82.1%
ICU Level of Service:	E
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: El Cajon Blvd & I-805 NB



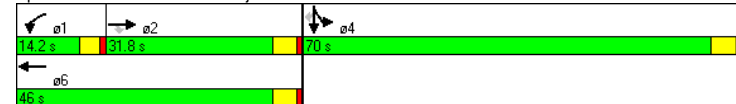
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frnt			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Flt Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			435									18
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	1181	623	236	1040	0	0	0	0	608	1	893
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1243	656	248	1095	0	0	0	0	320	321	940
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)		0.0	31.8	31.8	14.2	46.0				70.0	70.0	70.0
Total Split (%)		0.0%	27.4%	27.4%	12.2%	39.7%	0.0%	0.0%	0.0%	60.3%	60.3%	60.3%
Maximum Green (s)		26.8	26.8	10.0	41.0					65.0	65.0	65.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.4	1.4	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		27.8	27.8	10.2	42.0					66.0	66.0	66.0
Actuated g/C Ratio		0.24	0.24	0.09	0.36					0.57	0.57	0.57
v/c Ratio		1.02	0.92	0.82	0.59					0.33	0.33	1.04
Control Delay		74.6	34.6	61.3	36.6					14.5	14.5	64.8
Queue Delay		0.0	0.0	0.0	1.2					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		74.6	34.6	61.3	37.8					14.5	14.5	64.8
LOS		E	C	E	D					B	B	E
Approach Delay		60.8			42.2							44.4
Approach LOS		E			D							D
Queue Length 50th (ft)		-361	185	86	294					127	127	-751
Queue Length 95th (ft)		#456	#432	m#159	365					189	189	#1002
Internal Link Dist (ft)		586			374			1317				1493
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		1219	710	302	1841					956	959	908
Starvation Cap Reductn		0	0	0	488					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.02	0.92	0.82	0.81					0.33	0.33	1.04

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	50.2
Intersection LOS:	D
Intersection Capacity Utilization:	82.1%
ICU Level of Service:	E
Analysis Period (min):	15
-	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: El Cajon Blvd & I-805 SB



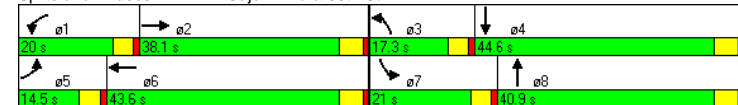
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.983			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		15			20			16			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			762			1004			1052	
Travel Time (s)		17.5			17.3			22.8			23.9	
Volume (vph)	73	1103	120	165	1014	129	100	230	87	174	250	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	77	1287	0	174	1203	0	105	334	0	183	316	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	14.5	38.1	0.0	20.0	43.6	0.0	17.3	40.9	0.0	21.0	44.6	0.0
Total Split (%)	12.1%	31.8%	0.0%	16.7%	36.3%	0.0%	14.4%	34.1%	0.0%	17.5%	37.2%	0.0%
Maximum Green (s)	10.1	33.1		15.6	38.6		12.9	36.0		16.6	39.7	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)		4.0			4.0			4.0			4.0	
Flash Dont Walk (s)		13.0			13.0			32.0			32.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.0	35.5		14.6	43.0		11.0	38.6		15.3	42.9	
Actuated g/C Ratio	0.08	0.30		0.12	0.36		0.09	0.32		0.13	0.36	
v/c Ratio	0.58	0.86		0.81	0.67		0.64	0.57		0.81	0.48	
Control Delay	70.7	46.9		78.2	34.9		70.3	37.3		76.7	32.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	70.7	46.9		78.2	34.9		70.3	37.3		76.7	32.7	
LOS	E	D		E	C		E	D		E	C	
Approach Delay		48.2			40.3			45.2			48.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			D			D		
Queue Length 50th (ft)	58	347		131	292		79	208		137	185	
Queue Length 95th (ft)	109	#416		#235	349		138	309		#241	279	
Internal Link Dist (ft)	688			682			924			972		
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	155	1492		236	1806		196	585		251	654	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.86		0.74	0.67		0.54	0.57		0.73	0.48	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	103 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	45.0
Intersection LOS:	D
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 17: El Cajon Blvd & 30th St



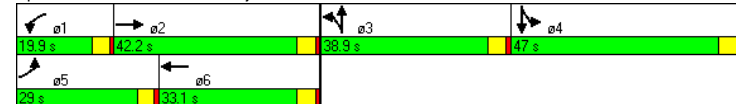
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔↔↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.995			0.980			0.984			0.979	
Flt Protected	0.950			0.950				0.994			0.988	
Satd. Flow (prot)	1770	5060	0	1770	4984	0	0	3462	0	0	3423	0
Flt Permitted	0.950			0.950				0.994			0.988	
Satd. Flow (perm)	1770	5060	0	1770	4984	0	0	3462	0	0	3423	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			17			8			12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1532			1136			994			1062	
Travel Time (s)		34.8			25.8			22.6			24.1	
Volume (vph)	195	928	33	100	636	98	53	319	45	185	499	110
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	205	1012	0	105	772	0	0	439	0	0	836	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	29.0	42.2	0.0	19.9	33.1	0.0	38.9	38.9	0.0	47.0	47.0	0.0
Total Split (%)	19.6%	28.5%	0.0%	13.4%	22.4%	0.0%	26.3%	26.3%	0.0%	31.8%	31.8%	0.0%
Maximum Green (s)	24.6	37.3		15.5	28.2		34.0	34.0		42.1	42.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		4.0			4.0		5.0	5.0		4.0	4.0	
Flash Dont Walk (s)		12.0			12.0		29.0	29.0		29.0	29.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	20.9	41.2		12.9	33.2		34.9	34.9		43.0	43.0	
Actuated g/C Ratio	0.14	0.28		0.09	0.22		0.24	0.24		0.29	0.29	
v/c Ratio	0.82	0.72		0.68	0.68		0.53	0.53		0.83	0.83	
Control Delay	77.4	32.7		87.0	55.7		51.3	51.3		56.9	56.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	77.4	32.7		87.0	55.7					51.3		56.9
LOS	E	C		F	E					D		E
Approach Delay		40.2			59.5					51.3		56.9
Approach LOS		D			E					D		E
Queue Length 50th (ft)	92	338		100	253					193		394
Queue Length 95th (ft)	m221	402		164	308					251		479
Internal Link Dist (ft)		1452			1056					914		982
Turn Bay Length (ft)	140			120								
Base Capacity (vph)	299	1412		190	1130					822		1003
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.69	0.72		0.55	0.68					0.53		0.83

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	15 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	50.8
Intersection LOS:	D
Intersection Capacity Utilization:	73.1%
ICU Level of Service:	D
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



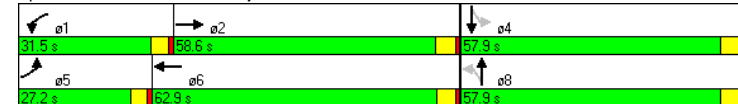
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.993			0.923			0.981	
Flt Protected	0.950			0.950			0.996			0.990		
Satd. Flow (prot)	1770	5065	0	1770	5050	0	0	1712	0	0	1809	0
Flt Permitted	0.950			0.950			0.980			0.926		
Satd. Flow (perm)	1770	5065	0	1770	5050	0	0	1685	0	0	1692	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			6			51			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	44	1062	29	85	483	25	12	62	98	21	69	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	46	1149	0	89	534	0	0	181	0	0	111	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	21.1		8.4	21.1		40.9	40.9		43.9	43.9	
Total Split (s)	27.2	58.6	0.0	31.5	62.9	0.0	57.9	57.9	0.0	57.9	57.9	0.0
Total Split (%)	18.4%	39.6%	0.0%	21.3%	42.5%	0.0%	39.1%	39.1%	0.0%	39.1%	39.1%	0.0%
Maximum Green (s)	22.8	53.5		27.1	58.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.8	108.3		12.1	114.4		15.6			15.6		
Actuated g/C Ratio	0.05	0.73		0.08	0.77		0.11			0.11		
v/c Ratio	0.49	0.31		0.61	0.14		0.81			0.60		
Control Delay	85.3	13.0		54.2	11.5		71.8			72.4		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	85.3	13.0		54.2	11.5		71.8			72.4		
LOS	F	B		D	B		E			E		
Approach Delay		15.7			17.6		71.8			72.4		
Approach LOS		B			B		E			E		
Queue Length 50th (ft)	38	243		88	79		126			98		
Queue Length 95th (ft)	m78	339		m129	m127		203			157		
Internal Link Dist (ft)		720			1452		827			901		
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	277	3707		329	3905		646			620		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.17	0.31		0.27	0.14		0.28			0.18		

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	32 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	24.1
Intersection LOS:	C
Intersection Capacity Utilization:	47.2%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: El Cajon Blvd & Florida St



NT PM
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				76			216			274
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	396	738	106	140	299	72	77	298	205	81	199	260
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	417	889	0	147	315	76	81	314	216	85	209	274
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	9.9	15.9		9.4	47.9	47.9	9.4	43.9	43.9	9.4	12.9	9.9
Total Split (s)	31.7	53.3		0.0	27.5	49.1	20.0	46.9	46.9	20.3	47.2	31.7
Total Split (%)	21.4%	36.0%		0.0%	18.6%	33.2%	13.5%	31.7%	31.7%	13.7%	31.9%	21.4%
Maximum Green (s)	25.8	47.4		22.1	43.2	43.2	14.6	41.0	41.0	14.9	41.3	25.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes	Yes	Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	Max	C-Max		None	None	None	None	None	None	None	None	Max
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	59.7	81.3		17.7	39.3	39.3	12.2	20.5	20.5	12.5	20.8	84.5
Actuated g/C Ratio	0.40	0.55		0.12	0.27	0.27	0.08	0.14	0.14	0.08	0.14	0.57
v/c Ratio	0.30	0.46		0.69	0.34	0.16	0.55	0.64	0.53	0.57	0.42	0.16
Control Delay	32.8	22.5		71.0	35.9	12.8	79.1	66.2	11.6	79.3	60.1	2.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NT PM
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	32.8	22.5		71.0	35.9	12.8	79.1	66.2	11.6	79.3	60.1	2.1
LOS	C	C		E	D	B	E	E	B	E	E	A
Approach Delay		25.8			42.2			48.6			35.0	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	140	262		144	156	17	76	153	0	80	98	0
Queue Length 95th (ft)	213	388		m217	m94	m24	132	199	75	137	136	25
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220			130		100			
Base Capacity (vph)	1385	1912		281	1078	535	191	1026	612	195	1033	1709
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.46		0.52	0.29	0.14	0.42	0.31	0.35	0.44	0.20	0.16

Intersection Summary	
Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	107 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	35.1
Intersection LOS:	D
Intersection Capacity Utilization:	57.6%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



NT PM

21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.974			0.963			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3440	0	1770	3447	0	1770	3408	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3447	0	1770	3408	0	1770	3451	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		22			18			32			18	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	126	704	161	96	448	92	128	440	142	184	329	66
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	133	910	0	101	569	0	135	612	0	194	415	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	21.6	47.9	0.0	18.0	44.3	0.0	21.8	41.9	0.0	26.0	46.1	0.0
Total Split (%)	16.1%	35.8%	0.0%	13.5%	33.1%	0.0%	16.3%	31.3%	0.0%	19.4%	34.5%	0.0%
Maximum Green (s)	17.2	43.0		13.6	39.4		17.4	37.0		21.6	41.2	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	14.5	44.0		11.9	41.4		14.6	38.9		17.8	42.2	
Actuated g/C Ratio	0.11	0.34		0.09	0.32		0.11	0.30		0.14	0.33	
v/c Ratio	0.67	0.76		0.62	0.51		0.68	0.58		0.79	0.36	
Control Delay	71.8	42.5		73.5	37.0		72.0	39.4		76.4	33.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT PM

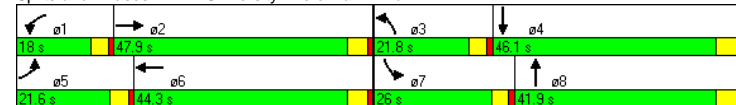
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	71.8	42.5		73.5	37.0		72.0	39.4		76.4	33.3	
LOS	E	D		E	D		E	D		E	C	
Approach Delay		46.3			42.5			45.3			47.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	109	356		83	200		111	221		160	135	
Queue Length 95th (ft)	180	453		147	271		183	296		247	188	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	237	1191		190	1122		239	1053		294	1144	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.76		0.53	0.51		0.56	0.58		0.66	0.36	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	128.6
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	45.4
Intersection Capacity Utilization:	70.1%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 21: University Ave & Park Blvd



NT PM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.984			0.940			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1770	3483	0	1770	1751	0	1770	1818	0
Flt Permitted	0.950			0.950			0.279			0.279		
Satd. Flow (perm)	1770	3483	0	1770	3483	0	520	1751	0	520	1818	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		17			18			26			7	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	34	1085	131	75	715	86	108	172	113	92	239	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	36	1280	0	79	844	0	114	300	0	97	300	0
Turn Type	Prot			Prot		Perm		Perm		Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	15.6	69.0	0.0	19.1	72.5	0.0	31.9	31.9	0.0	31.9	31.9	0.0
Total Split (%)	13.0%	57.5%	0.0%	15.9%	60.4%	0.0%	26.6%	26.6%	0.0%	26.6%	26.6%	0.0%
Maximum Green (s)	11.2	64.1		14.7	67.6		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.7	72.1		10.1	76.5		27.9	27.9		27.9	27.9	
Actuated g/C Ratio	0.06	0.60		0.08	0.64		0.23	0.23		0.23	0.23	
v/c Ratio	0.32	0.61		0.53	0.38		0.94	0.70		0.80	0.70	
Control Delay	55.4	22.5		64.9	11.5		114.5	48.5		86.8	51.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT PM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	55.4	22.5		64.9	11.5		114.5	48.5		86.8	51.2	
LOS	E	C		E	B		F	D		F	D	
Approach Delay		23.4			16.1			66.6			59.9	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)	0	300		60	163		87	196		71	209	
Queue Length 95th (ft)	m57	337		108	219		#207	298		#172	311	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	171	2099		223	2228		121	427		121	428	
Starvation Cap Reductn	0	35		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.62		0.35	0.38		0.94	0.70		0.80	0.70	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	106 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	31.8
Intersection LOS:	C
Intersection Capacity Utilization:	73.9%
ICU Level of Service:	D
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



NT PM with TSP
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.990			0.930			0.974	
Flt Protected	0.950			0.950				0.986			0.968	
Satd. Flow (prot)	1770	3518	0	1770	3504	0	0	1708	0	0	1756	0
Flt Permitted	0.950			0.950				0.891			0.598	
Satd. Flow (perm)	1770	3518	0	1770	3504	0	0	1544	0	0	1085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			12			37				8
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	55	1120	50	52	820	57	30	23	57	72	16	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	58	1232	0	55	923	0	0	116	0	0	115	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases								8			4	
Detector Phases	5	2		1	6			8			4	
Minimum Initial (s)	4.0	10.0		4.0	10.0			7.0			7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9			28.9			28.9	
Total Split (s)	20.0	81.0	0.0	20.0	81.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	16.7%	67.5%	0.0%	16.7%	67.5%	0.0%	15.8%	15.8%	0.0%	15.8%	15.8%	0.0%
Maximum Green (s)	15.6	76.1		15.6	76.1		14.1	14.1		14.1	14.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	8.7	86.4		8.4	86.1			15.0			15.0	
Actuated g/C Ratio	0.07	0.72		0.07	0.72			0.12			0.12	
v/c Ratio	0.45	0.49		0.44	0.37			0.52			0.80	
Control Delay	61.4	6.4		77.6	5.4			42.0			85.1	
Queue Delay	0.0	0.1		0.0	0.0			0.0			0.0	

NT PM with TSP
4: El Cajon Blvd & Menlo Ave

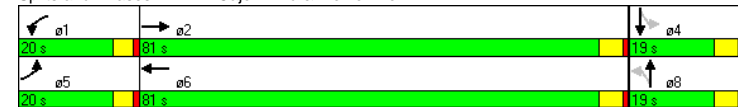
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	61.4	6.5		77.6	5.4					42.0		85.1
LOS	E	A		E	A					D		F
Approach Delay		9.0			9.5					42.0		85.1
Approach LOS		A			A					D		F
Queue Length 50th (ft)	47	71		45	61					57		82
Queue Length 95th (ft)	m91	248		m85	m74					120		#188
Internal Link Dist (ft)		598			599					1255		1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)		236	2534		236	2518				225		143
Starvation Cap Reductn	0	224		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.25	0.53		0.23	0.37					0.52		0.80

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	14.2
Intersection LOS:	B
Intersection Capacity Utilization:	58.7%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



NT PM with TSP
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕	↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.924		0.924		0.961		0.961	
Fit Protected	0.950		0.980		0.961		0.961		0.961		0.961	
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1687	0	0	1790	0
Flt Permitted	0.954		0.165		0.861		0.760		0.760		0.760	
Satd. Flow (perm)	0	3356	0	307	3532	0	0	1482	0	0	1416	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	12		5		44		44		44		44	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	667		678		1277		1173		1173		1173	
Travel Time (s)	15.2		15.4		29.0		26.7		26.7		26.7	
Volume (vph)	2	1293	51	48	849	14	50	4	69	12	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1417	0	51	909	0	0	130	0	0	16	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		8		8		4		4	
Permitted Phases	2		6		8		8		4		4	
Detector Phases	2		6		8		8		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	101.0	101.0	0.0	101.0	101.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	84.2%	84.2%	0.0%	84.2%	84.2%	0.0%	15.8%	15.8%	0.0%	15.8%	15.8%	0.0%
Maximum Green (s)	96.0	96.0	96.0	96.0	96.0	14.1	14.1	14.1	14.1	14.1	14.1	14.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	100.5		100.5		100.5		11.5		11.5		11.5	
Actuated g/C Ratio	0.84		0.84		0.84		0.10		0.10		0.10	
v/c Ratio	0.50		0.20		0.31		0.71		0.12		0.12	
Control Delay	2.0		3.0		1.5		55.2		49.4		49.4	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	2.0		3.0		1.5		55.2		49.4		49.4	
LOS	A		A		A		E		D		D	
Approach Delay	2.0		1.6		55.2		49.4		49.4		49.4	

NT PM with TSP
5: El Cajon Blvd & Driveway

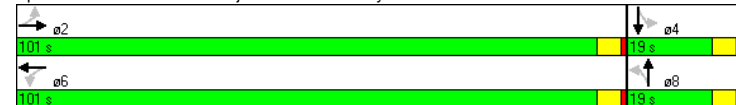
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		E		D		D		D	
Queue Length 50th (ft)	64		4		33		65		11		11	
Queue Length 95th (ft)	71		m7		38		131		34		34	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2812		257		2958		224		177		177	
Starvation Cap Reductn	67		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.52		0.20		0.31		0.58		0.09		0.09	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	4.9
Intersection LOS:	A
Intersection Capacity Utilization:	53.5%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: El Cajon Blvd & Driveway



NT PM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔		↔	↔↔	↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993				0.924	
Flt Protected			0.950		0.979	
Satd. Flow (prot)	3514	0	1770	3539	1685	0
Flt Permitted			0.148		0.979	
Satd. Flow (perm)	3514	0	276	3539	1685	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	15				45	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	1349	67	29	881	57	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	1491	0	31	927	138	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	100.0	0.0	100.0	100.0	20.0	0.0
Total Split (%)	83.3%	0.0%	83.3%	83.3%	16.7%	0.0%
Maximum Green (s)	95.1		95.1	95.1	15.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	100.4		100.4	100.4	11.6	
Actuated g/C Ratio	0.84		0.84	0.84	0.10	
v/c Ratio	0.51		0.13	0.31	0.68	
Control Delay	1.9		2.5	1.5	51.1	
Queue Delay	0.0		0.0	0.0	0.0	

NT PM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.9		2.5	1.5	51.1	
LOS	A		A	A	D	
Approach Delay	1.9			1.5	51.1	
Approach LOS	A			A	D	
Queue Length 50th (ft)	38		2	32	70	
Queue Length 95th (ft)	m41		m5	41	135	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2943		231	2961	264	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.51		0.13	0.31	0.52	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	16 (13%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	4.4
Intersection LOS:	A
Intersection Capacity Utilization:	53.8%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: El Cajon Blvd & Highland Ave



NT PM with TSP

7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.984			0.974				
Flt Protected	0.950							0.990				
Satd. Flow (prot)	1770	3539	1583	0	3483	0	0	3413	0	0	0	0
Flt Permitted	0.950							0.990				
Satd. Flow (perm)	1770	3539	1583	0	3483	0	0	3413	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			168		14			19				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	74	1305	160	0	758	87	115	366	103	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	78	1374	168	0	890	0	0	614	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	32.0	93.0	93.0	0.0	61.0	0.0	27.0	27.0	0.0	0.0	0.0	0.0
Total Split (%)	26.7%	77.5%	77.5%	0.0%	50.8%	0.0%	22.5%	22.5%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	27.6	88.1	88.1		56.1		22.1	22.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	8.4	89.0	89.0		78.3			23.0				
Actuated g/C Ratio	0.07	0.74	0.74		0.65			0.19				
v/c Ratio	0.63	0.52	0.14		0.39			0.92				
Control Delay	91.6	4.5	0.3		6.6			65.9				
Queue Delay	0.0	0.1	0.0		0.0			0.0				

NT PM with TSP

7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	91.6	4.7	0.3		6.6							65.9
LOS	F	A	A		A							E
Approach Delay		8.4			6.6							65.9
Approach LOS		A			A							E
Queue Length 50th (ft)	65	88	0		95							241
Queue Length 95th (ft)	m107	m101	m2		161							#349
Internal Link Dist (ft)		250			595							1261
Turn Bay Length (ft)	110											1427
Base Capacity (vph)	413	2625	1217		2278							670
Starvation Cap Reductn	0	371	0		0							0
Spillback Cap Reductn	0	0	0		0							0
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.19	0.61	0.14		0.39							0.92

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	19.2
Intersection LOS:	B
Intersection Capacity Utilization:	59.5%
ICU Level of Service:	B
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



NT PM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑		↔	↔		↔	↔		↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.987								0.987	0.987	
Flt Protected				0.950						0.981	0.981	
Satd. Flow (prot)	0	5019	0	1770	3539	0	0	0	0	0	3427	0
Flt Permitted				0.950						0.981	0.981	
Satd. Flow (perm)	0	5019	0	1770	3539	0	0	0	0	0	3427	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17									8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	1213	114	101	897	0	0	0	0	362	493	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1397	0	106	944	0	0	0	0	0	982	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	59.0	0.0	20.7	79.7	0.0	0.0	0.0	0.0	40.3	40.3	0.0
Total Split (%)	0.0%	49.2%	0.0%	17.3%	66.4%	0.0%	0.0%	0.0%	0.0%	33.6%	33.6%	0.0%
Maximum Green (s)		54.1		16.3	74.8					35.4	35.4	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		60.6		11.8	76.4						35.6	
Actuated g/C Ratio		0.50		0.10	0.64						0.30	
v/c Ratio		0.55		0.61	0.42						0.96	
Control Delay		21.7		68.3	10.9						61.4	
Queue Delay		0.0		0.0	0.4						0.0	

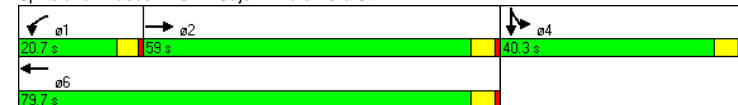
NT PM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		21.7		68.3	11.3							61.4
LOS		C		E	B							E
Approach Delay		21.7			17.1							61.4
Approach LOS		C			B							E
Queue Length 50th (ft)		262		81	133							387
Queue Length 95th (ft)		336		m134	m211							#522
Internal Link Dist (ft)		565			250			1205				1403
Turn Bay Length (ft)				115								
Base Capacity (vph)		2542		246	2253							1042
Starvation Cap Reductn		0		0	742							0
Spillback Cap Reductn		0		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.55		0.43	0.62							0.94

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	31.7
Intersection LOS:	C
Intersection Capacity Utilization:	68.2%
ICU Level of Service:	C
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



NT PM with TSP

9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.998			0.961			0.977	
Flt Protected	0.950			0.950			0.980			0.979		
Satd. Flow (prot)	1770	5055	0	1770	5075	0	0	1754	0	0	1782	0
Flt Permitted	0.950			0.950			0.875			0.873		
Satd. Flow (perm)	1770	5055	0	1770	5075	0	0	1566	0	0	1589	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		6			2			14			7	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	655			645			1453			1643		
Travel Time (s)	14.9			14.7			33.0			37.3		
Volume (vph)	62	1300	51	54	903	11	34	26	25	26	25	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	65	1422	0	57	963	0	0	89	0	0	64	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases					8				4			
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	27.5	74.0		26.9	73.4		39.1	39.1		39.1	39.1	0.0
Total Split (%)	19.6%	52.9%	0.0%	19.2%	52.4%	0.0%	27.9%	27.9%	0.0%	27.9%	27.9%	0.0%
Maximum Green (s)	23.1	69.1		22.5	68.5		34.2	34.2		34.2	34.2	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			8.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	9.3	70.2		8.8	69.7			35.2			35.2	
Actuated g/C Ratio	0.07	0.57		0.07	0.56			0.28			0.28	
v/c Ratio	0.50	0.50		0.46	0.34			0.20			0.14	
Control Delay	68.6	17.6		68.2	15.7			31.1			32.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

NT PM with TSP

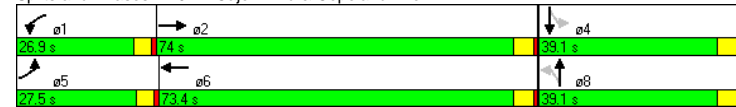
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.6	17.6		68.2	15.7					31.1		32.3
LOS	E	B		E	B					C		C
Approach Delay		19.8			18.6					31.1		32.3
Approach LOS		B			B					C		C
Queue Length 50th (ft)	52	250		45	152					46		35
Queue Length 95th (ft)	101	311		91	196					95		75
Internal Link Dist (ft)		575			565					1373		1563
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	297	2860		290	2850					454		455
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.22	0.50		0.20	0.34					0.20		0.14

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	124.2
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay:	20.0
Intersection Capacity Utilization:	45.6%
ICU Level of Service A	
Analysis Period (min)	15

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



NT PM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.987			0.982			0.973	
Flt Protected	0.950			0.950				0.973			0.980	
Satd. Flow (prot)	1770	5060	0	1770	5019	0	0	1780	0	0	1776	0
Flt Permitted	0.950			0.950				0.770			0.842	
Satd. Flow (perm)	1770	5060	0	1770	5019	0	0	1408	0	0	1526	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			18			6			10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		447			655			1485			1723	
Travel Time (s)		10.2			14.9			33.8			39.2	
Volume (vph)	147	1281	46	51	881	82	73	41	18	49	46	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	155	1396	0	54	1013	0	0	139	0	0	125	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	23.1	63.0	0.0	23.1	63.0	0.0	33.9	33.9	0.0	33.9	33.9	0.0
Total Split (%)	19.3%	52.5%	0.0%	19.3%	52.5%	0.0%	28.3%	28.3%	0.0%	28.3%	28.3%	0.0%
Maximum Green (s)	18.7	58.1		18.7	58.1		29.0	29.0		29.0	29.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	14.7	71.6		8.3	63.4		29.9			29.9		
Actuated g/C Ratio	0.12	0.60		0.07	0.53		0.25			0.25		
v/c Ratio	0.72	0.46		0.44	0.38		0.39			0.32		
Control Delay	68.4	14.7		64.0	17.3		39.7			36.5		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

NT PM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	68.4	14.7		64.0	17.3				39.7			36.5
LOS	E	B		E	B				D			D
Approach Delay		20.0			19.7				39.7			36.5
Approach LOS		C			B				D			D
Queue Length 50th (ft)	117	216		41	161				86			73
Queue Length 95th (ft)	183	272		82	209				149			130
Internal Link Dist (ft)		367			575				1405			1643
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	282	3021		282	2662				355			388
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.55	0.46		0.19	0.38				0.39			0.32

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	21.6
Intersection LOS:	C
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



NT PM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frnt						0.850		0.876	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)						253		62	62			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			225			1453			1618	
Travel Time (s)		8.6			5.1			33.0			36.8	
Volume (vph)	239	1224	0	0	799	240	151	36	354	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	252	1288	0	0	841	253	159	221	190	0	0	0
Turn Type	Prot				Perm	Split		Perm				
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			5.0
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	13.0	52.0	0.0	0.0	39.0	39.0	28.0	28.0	28.0	0.0	0.0	0.0
Total Split (%)	16.3%	65.0%	0.0%	0.0%	48.8%	48.8%	35.0%	35.0%	35.0%	0.0%	0.0%	0.0%
Maximum Green (s)	8.8	47.0			34.0	34.0	22.4	22.4	22.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	18.9	57.9			35.0	35.0	14.1	14.1	14.1			
Actuated g/C Ratio	0.24	0.72			0.44	0.44	0.18	0.18	0.18			
v/c Ratio	0.60	0.35			0.30	0.30	0.26	0.68	0.60			
Control Delay	33.3	7.0			14.9	3.0	28.0	31.9	27.2			
Queue Delay	0.0	0.2			0.0	0.0	0.0	0.0	0.0			

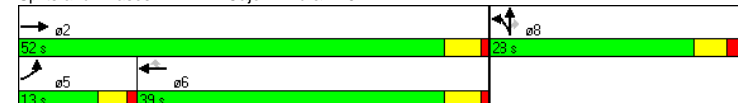
NT PM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	33.3	7.2			14.9	3.0	28.0	31.9	27.2			
LOS	C	A			B	A	C	C	C			
Approach Delay		11.5			12.2			29.2				
Approach LOS		B			B			C				
Queue Length 50th (ft)	120	142			76	0	36	77	61			
Queue Length 95th (ft)	#276	202			98	39	54	137	115			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	418	3679			2804	835	1030	508	495			
Starvation Cap Reductn	0	1400			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.60	0.57			0.30	0.30	0.15	0.44	0.38			

Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	14.9
Intersection LOS:	B
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: El Cajon Blvd & I-15 NB



NT PM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↑↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Fr't			0.850							0.947	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1676	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1676	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238							33		255
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30					30			30
Link Distance (ft)		1320		378				1484		1611		
Travel Time (s)		30.0		8.6				33.7		36.6		
Volume (vph)	0	1084	226	321	676	0	0	0	0	366	134	319
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1141	238	338	712	0	0	0	0	385	218	259
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	41.0	41.0	14.0	55.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	51.3%	51.3%	17.5%	68.8%	0.0%	0.0%	0.0%	0.0%	31.3%	31.3%	31.3%
Maximum Green (s)		36.0	36.0	9.8	50.0					20.4	20.4	20.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		6.0	6.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		37.0	37.0	16.3	57.3					14.7	14.7	14.7
Actuated g/C Ratio		0.46	0.46	0.20	0.72					0.18	0.18	0.18
v/c Ratio		0.38	0.28	0.94	0.20					0.61	0.65	0.53
Control Delay		14.5	2.8	64.3	6.0					33.6	34.1	8.2
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

NT PM with TSP
12: El Cajon Blvd & I-15 SB

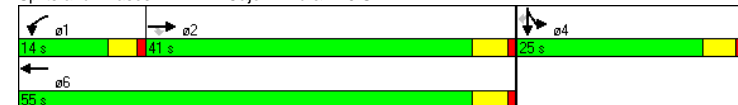
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		14.5	2.8	64.3	6.0					33.6	34.1	8.2
LOS		B	A	E	A					C	C	A
Approach Delay		12.5			24.8							26.1
Approach LOS		B			C							C
Queue Length 50th (ft)		103	0	170	79					92	90	2
Queue Length 95th (ft)		129	36	#407	121					122	149	58
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2964	860	360	3639					901	464	583
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.38	0.28	0.94	0.20					0.43	0.47	0.44

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	40 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	20.0
Intersection LOS:	B
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 12: El Cajon Blvd & I-15 SB



NT PM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.992			0.955			0.952	
Flt Protected	0.950			0.950				0.984			0.988	
Satd. Flow (prot)	1770	5045	0	1770	5045	0	0	1750	0	0	1752	0
Flt Permitted	0.950			0.950				0.781			0.856	
Satd. Flow (perm)	1770	5045	0	1770	5045	0	0	1389	0	0	1518	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		12			12			19			21	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1329			1310			1164			1020		
Travel Time (s)	30.2			29.8			26.5			23.2		
Volume (vph)	84	1244	74	111	775	47	61	64	63	39	66	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	88	1387	0	117	865	0	0	197	0	0	171	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases					8		8		4		4	
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	25.0		4.0	25.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.4	30.0		8.4	30.0			34.9	34.9		34.9	34.9
Total Split (s)	20.0	70.0	0.0	20.0	70.0	0.0	0.0	30.0	30.0	0.0	30.0	30.0
Total Split (%)	16.7%	58.3%	0.0%	16.7%	58.3%	0.0%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%
Maximum Green (s)	15.6	65.0		15.6	65.0			25.1	25.1		25.1	25.1
Yellow Time (s)	3.4	4.0		3.4	4.0			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Recall Mode	None	C-Max		None	C-Max			Max	Max		Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	10.7	69.8		12.2	71.3			26.0			26.0	
Actuated g/C Ratio	0.09	0.58		0.10	0.59			0.22			0.22	
v/c Ratio	0.56	0.47		0.65	0.29			0.62			0.50	
Control Delay	64.9	8.6		68.1	12.4			48.1			41.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	64.9	8.6		68.1	12.4			48.1			41.7	
LOS	E	A		E	B			D			D	
Approach Delay	12.0				19.0				48.1		41.7	

NT PM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B		B		B		D		D		D	
Queue Length 50th (ft)	71	91		88	111			126			102	
Queue Length 95th (ft)	m96	m117		148	150			209			175	
Internal Link Dist (ft)	1249		1230		1084		940					
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	236	2940		236	3002			316			345	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.37	0.47		0.50	0.29			0.62			0.50	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	59 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	18.7
Intersection LOS:	B
Intersection Capacity Utilization:	57.8%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 13: El Cajon Blvd & 35th St



NT PM with TSP
14: El Cajon Blvd & 33rd St

11/15/2007

	↖	→	↘	↙	←	↖	↙	↗	↘	↖	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.993			0.962			0.932	
Flt Protected	0.950			0.950				0.977			0.990	
Satd. Flow (prot)	1770	3497	0	1770	3514	0	0	1751	0	0	1719	0
Flt Permitted	0.950			0.950				0.559			0.857	
Satd. Flow (perm)	1770	3497	0	1770	3514	0	0	1002	0	0	1488	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		11		6		15		39		39		39
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30		30		30		30		30
Link Distance (ft)	572			1329		1120		1176		1176		1176
Travel Time (s)	13.0			30.2		25.5		26.7		26.7		26.7
Volume (vph)	193	1278	114	102	744	38	147	74	86	44	66	111
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	203	1465	0	107	823	0	0	324	0	0	232	0
Turn Type	Prot			Prot		Perm		Perm		Perm		Perm
Protected Phases	5	2		1	6			4		4		8
Permitted Phases								4		8		8
Detector Phases	5	2		1	6			4		4		8
Minimum Initial (s)	4.0	25.0		4.0	25.0			4.0		4.0		4.0
Minimum Split (s)	8.4	30.0		8.4	30.0			35.9		35.9		35.9
Total Split (s)	29.0	61.0	0.0	29.0	61.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	24.2%	50.8%	0.0%	24.2%	50.8%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)	24.6	56.0		24.6	56.0		25.1	25.1		25.1	25.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0			7.0		7.0		7.0
Flash Dont Walk (s)		18.0			18.0			24.0		24.0		24.0
Pedestrian Calls (#/hr)		0			0			0		0		0
Act Effct Green (s)	18.1	70.5		11.5	63.9			26.0		26.0		26.0
Actuated g/C Ratio	0.15	0.59		0.10	0.53			0.22		0.22		0.22
v/c Ratio	0.76	0.71		0.63	0.44			1.41		0.66		0.66
Control Delay	66.4	20.4		65.1	15.3			244.9		45.4		45.4
Queue Delay	0.0	3.4		0.0	0.0			0.0		0.0		0.0
Total Delay	66.4	23.9		65.1	15.3			244.9		45.4		45.4
LOS	E	C		E	B			F		D		D
Approach Delay		29.0			21.0			244.9				45.4

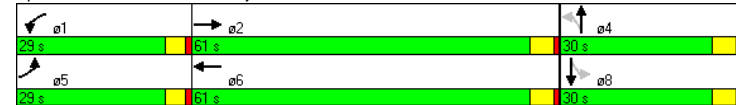
NT PM with TSP
14: El Cajon Blvd & 33rd St

11/15/2007

	↖	→	↘	↙	←	↖	↙	↗	↘	↖	↘	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			F			D	
Queue Length 50th (ft)	153	396		84	153			-331			138	
Queue Length 95th (ft)	222	535		m144	187			#516			229	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	369	2059		369	1875			229			353	
Starvation Cap Reductn	0	485		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.55	0.93		0.29	0.44			1.41			0.66	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	46 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.41
Intersection Signal Delay:	50.1
Intersection LOS:	D
Intersection Capacity Utilization:	87.9%
ICU Level of Service:	E
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 14: El Cajon Blvd & 33rd St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑↑			↑↑↑		↑	↑	↑			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.967				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					78				58			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	334	1435	0	0	851	241	437	2	263	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	352	1511	0	0	1150	0	230	232	277	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	29.7	84.0	0.0	0.0	54.3	0.0	32.0	32.0	32.0	0.0	0.0	0.0
Total Split (%)	25.6%	72.4%	0.0%	0.0%	46.8%	0.0%	27.6%	27.6%	27.6%	0.0%	0.0%	0.0%
Maximum Green (s)	25.5	79.0			49.3		27.0	27.0	27.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	1.0			1.0		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)	7.0				7.0		7.0	7.0	7.0			
Flash Dont Walk (s)	10.0				10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)	0				0		0	0	0			
Act Effct Green (s)	17.3	86.7			65.5		21.3	21.3	21.3			
Actuated g/C Ratio	0.15	0.75			0.56		0.18	0.18	0.18			
v/c Ratio	0.69	0.40			0.41		0.75	0.75	0.82			
Control Delay	60.0	1.4			15.0		59.1	59.4	54.7			
Queue Delay	0.0	0.2			0.0		0.2	0.2	0.4			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.0	1.7			15.0		59.3	59.6	55.1			
LOS	E	A			B		E	E	E			
Approach Delay		12.7			15.0			57.8				
Approach LOS		B			B			E				
Queue Length 50th (ft)	98	22			167		172	174	160			
Queue Length 95th (ft)	m129	25			239		248	250	245			
Internal Link Dist (ft)		374			492		1297				1503	
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	761	3802			2810		406	407	426			
Starvation Cap Reductn	0	1303			0		0	0	0			
Spillback Cap Reductn	0	369			0		13	13	16			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.46	0.60			0.41		0.59	0.59	0.68			

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	59 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	22.3
Intersection LOS:	C
Intersection Capacity Utilization:	82.1%
ICU Level of Service:	E
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: El Cajon Blvd & I-805 NB



NT PM with TSP
16: El Cajon Blvd & I-805 SB

11/15/2007

	←	→	↙	↘	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Fr't			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Flt Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			491									41
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30					30			30
Link Distance (ft)		666		454				1397				1573
Travel Time (s)		15.1		10.3				31.8				35.8
Volume (vph)	0	1181	623	236	1040	0	0	0	0	608	1	893
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1243	656	248	1095	0	0	0	0	320	321	940
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1		6				4		4
Permitted Phases			2									4
Detector Phases		2	2	1		6				4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)	0.0	41.8	41.8	14.2	56.0	0.0	0.0	0.0	0.0	60.0	60.0	60.0
Total Split (%)	0.0%	36.0%	36.0%	12.2%	48.3%	0.0%	0.0%	0.0%	0.0%	51.7%	51.7%	51.7%
Maximum Green (s)		36.8	36.8	10.0	51.0					55.0	55.0	55.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.4	1.4	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		37.8	37.8	10.2	52.0					56.0	56.0	56.0
Actuated g/C Ratio		0.33	0.33	0.09	0.45					0.48	0.48	0.48
v/c Ratio		0.75	0.77	0.82	0.48					0.39	0.39	1.20
Control Delay		38.3	15.8	70.0	29.3					21.0	21.0	129.2
Queue Delay		0.0	0.0	0.0	1.7					0.0	0.0	0.0

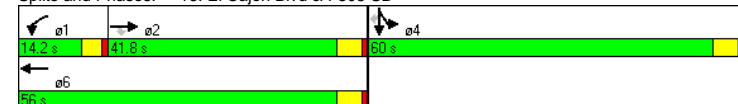
NT PM with TSP
16: El Cajon Blvd & I-805 SB

11/15/2007

	←	→	↙	↘	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		38.3	15.8	70.0	31.0					21.0	21.0	129.2
LOS		D	B	E	C					C	C	F
Approach Delay		30.5			38.2							85.3
Approach LOS		C			D							F
Queue Length 50th (ft)		302	107	87	311					155	156	~839
Queue Length 95th (ft)		357	275 m#153		327					232	232	#1091
Internal Link Dist (ft)		586			374			1317				1493
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		1657	847	302	2279					812	814	785
Starvation Cap Reductn		0	0	0	959					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.75	0.77	0.82	0.83					0.39	0.39	1.20

Intersection Summary	
Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.20
Intersection Signal Delay:	50.6
Intersection LOS:	D
Intersection Capacity Utilization:	82.1%
ICU Level of Service:	E
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 16: El Cajon Blvd & I-805 SB



NT PM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

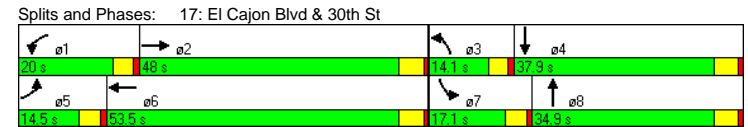
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985		0.983			0.959			0.975		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		17			23			15			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			762			1004			1052	
Travel Time (s)		17.5			17.3			22.8			23.9	
Volume (vph)	73	1103	120	165	1014	129	100	230	87	174	250	50
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	77	1287	0	174	1203	0	105	334	0	183	316	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	14.5	48.0	0.0	20.0	53.5	0.0	14.1	34.9	0.0	17.1	37.9	0.0
Total Split (%)	12.1%	40.0%	0.0%	16.7%	44.6%	0.0%	11.8%	29.1%	0.0%	14.3%	31.6%	0.0%
Maximum Green (s)	10.1	43.0		15.6	48.5		9.7	30.0		12.7	33.0	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)		4.0			4.0			4.0			4.0	
Flash Dont Walk (s)		13.0			13.0			32.0			32.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.0	45.4		14.6	52.9		9.6	30.9		13.1	34.4	
Actuated g/C Ratio	0.08	0.38		0.12	0.44		0.08	0.26		0.11	0.29	
v/c Ratio	0.58	0.68		0.81	0.54		0.74	0.71		0.95	0.60	
Control Delay	70.7	33.2		78.2	26.0		83.7	48.0		106.1	41.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	70.7	33.2		78.2	26.0		83.7	48.0		106.1	41.7	
LOS	E	C		E	C		F	D		F	D	
Approach Delay		35.3			32.6			56.6			65.3	

NT PM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	58	304			131	252		81	226		143	207
Queue Length 95th (ft)	109	358			#235	302		#165	334		#288	305
Internal Link Dist (ft)		688			682			924			972	
Turn Bay Length (ft)	150				150			200			200	
Base Capacity (vph)	155	1905			236	2218		149	471		193	527
Starvation Cap Reductn	0	0			0	0		0	0		0	0
Spillback Cap Reductn	0	0			0	0		0	0		0	0
Storage Cap Reductn	0	0			0	0		0	0		0	0
Reduced v/c Ratio	0.50	0.68			0.74	0.54		0.70	0.71		0.95	0.60

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	103 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	40.9
Intersection LOS:	D
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



NT PM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt	0.995		0.980		0.984		0.979		0.988		0.979	
Flt Protected	0.950		0.950		0.994		0.988		0.988		0.988	
Satd. Flow (prot)	1770	5060	0	1770	4984	0	0	3462	0	0	3423	0
Flt Permitted	0.950		0.950		0.994		0.988		0.988		0.988	
Satd. Flow (perm)	1770	5060	0	1770	4984	0	0	3462	0	0	3423	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	4		19		8		12		12		12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1532			1136			994			1062		
Travel Time (s)	34.8			25.8			22.6			24.1		
Volume (vph)	195	928	33	100	636	98	53	319	45	185	499	110
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	205	1012	0	105	772	0	0	439	0	0	836	0
Turn Type	Prot		Prot		Split		Split		Split		Split	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	29.0	52.0	0.0	19.9	42.9	0.0	34.2	34.2	0.0	41.9	41.9	0.0
Total Split (%)	19.6%	35.1%	0.0%	13.4%	29.0%	0.0%	23.1%	23.1%	0.0%	28.3%	28.3%	0.0%
Maximum Green (s)	24.6	47.1		15.5	38.0		29.3	29.3		37.0	37.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	4.0		4.0		5.0		5.0		4.0		4.0	
Flash Dont Walk (s)	12.0		12.0		29.0		29.0		29.0		29.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	21.4	51.0		12.9	42.5		30.2			37.9		
Actuated g/C Ratio	0.14	0.34		0.09	0.29		0.20			0.26		
v/c Ratio	0.80	0.58		0.68	0.53		0.62			0.94		
Control Delay	95.7	22.1		87.0	45.5		56.9			72.5		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

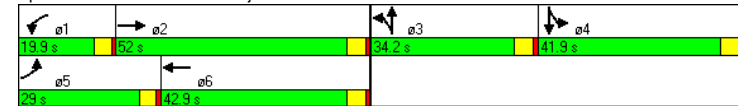
NT PM with TSP
18: El Cajon Blvd & Texas St

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	95.7	22.1		87.0	45.5		56.9			72.5		
LOS	F	C		F	D		E			E		
Approach Delay	34.5		50.5		56.9		72.5		72.5		72.5	
Approach LOS	C		D		E		E		E		E	
Queue Length 50th (ft)	137	312		100	233		201			414		
Queue Length 95th (ft)	m292	110		164	280		262			#545		
Internal Link Dist (ft)	1452		1056		914		982		982		982	
Turn Bay Length (ft)	140		120		713		885		885		885	
Base Capacity (vph)	299	1748		190	1446		713			885		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.69	0.58		0.55	0.53		0.62			0.94		

Intersection Summary	
Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	15 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	51.0
Intersection LOS:	D
Intersection Capacity Utilization:	73.1%
ICU Level of Service:	D
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



NT PM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↑↑↑				↑			↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996			0.993			0.923			0.981		
Flt Protected	0.950			0.950				0.996			0.990	
Satd. Flow (prot)	1770	5065	0	1770	5050	0	0	1712	0	0	1809	0
Flt Permitted	0.950			0.950				0.979			0.924	
Satd. Flow (perm)	1770	5065	0	1770	5050	0	0	1683	0	0	1688	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	3			7			46			6		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	800			1532			907			981		
Travel Time (s)	18.2			34.8			20.6			22.3		
Volume (vph)	44	1062	29	85	483	25	12	62	98	21	69	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	46	1149	0	89	534	0	0	181	0	0	111	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	21.1		8.4	21.1		40.9	40.9		43.9	43.9	
Total Split (s)	27.2	68.7	0.0	31.5	73.0	0.0	47.8	47.8	0.0	47.8	47.8	0.0
Total Split (%)	18.4%	46.4%	0.0%	21.3%	49.3%	0.0%	32.3%	32.3%	0.0%	32.3%	32.3%	0.0%
Maximum Green (s)	22.8	63.6		27.1	68.1		42.9	42.9		42.9	42.9	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None C-Max			None C-Max			None			None		
Walk Time (s)	7.0			7.0			7.0			7.0		
Flash Dont Walk (s)	9.0			9.0			29.0			32.0		
Pedestrian Calls (#/hr)	0			0			0			0		
Act Effct Green (s)	7.8	107.5		12.1	113.6		16.4			16.4		
Actuated g/C Ratio	0.05	0.73		0.08	0.77		0.11			0.11		
v/c Ratio	0.49	0.31		0.61	0.14		0.80			0.58		
Control Delay	82.2	13.4		63.9	4.3		71.3			69.9		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

NT PM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	82.2	13.4		63.9	4.3			71.3			69.9	
LOS	F	B		E	A			E			E	
Approach Delay	16.1			12.8			71.3			69.9		
Approach LOS	B			B			E			E		
Queue Length 50th (ft)	38	245		88	26		130			98		
Queue Length 95th (ft)	m78	334		m142	m58		207			156		
Internal Link Dist (ft)	720			1452			827			901		
Turn Bay Length (ft)	112			155			530			504		
Base Capacity (vph)	277	3681		329	3878		530			504		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.17	0.31		0.27	0.14		0.34			0.22		

Intersection Summary	
Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	32 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	22.7
Intersection LOS:	C
Intersection Capacity Utilization:	47.2%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: El Cajon Blvd & Florida St



NT PM with TSP
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←↑	←↑	←	←	←↑	←↑	←	←	←	←	←↑	←↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				76			211			274
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1889			800			2502			1037		
Travel Time (s)	42.9			18.2			56.9			23.6		
Volume (vph)	396	738	106	140	299	72	77	298	205	81	199	260
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	417	889	0	147	315	76	81	314	216	85	209	274
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	9.9	15.9		9.4	47.9	47.9	9.4	43.9	43.9	9.4	12.9	9.9
Total Split (s)	31.7	63.0	0.0	27.3	58.6	58.6	17.5	40.2	40.2	17.5	40.2	31.7
Total Split (%)	21.4%	42.6%	0.0%	18.4%	39.6%	39.6%	11.8%	27.2%	27.2%	11.8%	27.2%	21.4%
Maximum Green (s)	25.8	57.1		21.9	52.7	52.7	12.1	34.3	34.3	12.1	34.3	25.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes		Yes		Yes	
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	Max	C-Max		None	None	None	None	None	None	None	None	Max
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	50.2	81.5		17.7	49.0	49.0	11.8	20.8	20.8	12.0	21.0	75.2
Actuated g/C Ratio	0.34	0.55		0.12	0.33	0.33	0.08	0.14	0.14	0.08	0.14	0.51
v/c Ratio	0.36	0.46		0.69	0.27	0.13	0.58	0.63	0.53	0.59	0.42	0.18
Control Delay	39.9	22.2		82.3	38.1	19.6	81.5	65.6	12.4	82.1	59.9	2.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NT PM with TSP
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	39.9	22.2		82.3	38.1	19.6	81.5	65.6	12.4	82.1	59.9	2.6
LOS	D	C		F	D	B	F	E	B	F	E	A
Approach Delay	27.8			47.6			48.9				35.6	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	157	265		144	128	34	76	152	4	80	97	0
Queue Length 95th (ft)	229	374		m216	m147	m66	135	198	80	140	136	28
Internal Link Dist (ft)	1809			720			2422				957	
Turn Bay Length (ft)	265			220			130		100			
Base Capacity (vph)	1164	1917		279	1306	632	163	866	547	164	866	1551
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.46		0.53	0.24	0.12	0.50	0.36	0.39	0.52	0.24	0.18

Intersection Summary

Area Type: Other

Cycle Length: 148

Actuated Cycle Length: 148

Offset: 107 (72%), Referenced to phase 2:EBT, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

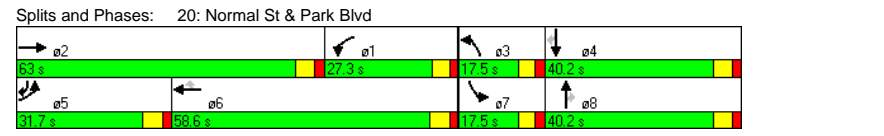
Maximum v/c Ratio: 0.69

Intersection Signal Delay: 37.1 Intersection LOS: D

Intersection Capacity Utilization 57.6% ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



NT PM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.974			0.963			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3440	0	1770	3447	0	1770	3408	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3447	0	1770	3408	0	1770	3451	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		20			17			36			21	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	126	704	161	96	448	92	128	440	142	184	329	66
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	133	910	0	101	569	0	135	612	0	194	415	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	18.0	40.0	0.0	15.0	37.0	0.0	22.0	52.8	0.0	26.0	56.8	0.0
Total Split (%)	13.5%	29.9%	0.0%	11.2%	27.7%	0.0%	16.4%	39.5%	0.0%	19.4%	42.5%	0.0%
Maximum Green (s)	13.6	35.1		10.6	32.1		17.6	47.9		21.6	51.9	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	13.2	40.6		10.5	37.9		14.8	49.7		18.0	52.8	
Actuated g/C Ratio	0.10	0.30		0.08	0.28		0.11	0.37		0.13	0.39	
v/c Ratio	0.77	0.87		0.73	0.58		0.69	0.48		0.82	0.30	
Control Delay	87.5	53.8		90.8	43.6		76.5	32.7		83.1	28.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

NT PM with TSP
21: University Ave & Park Blvd

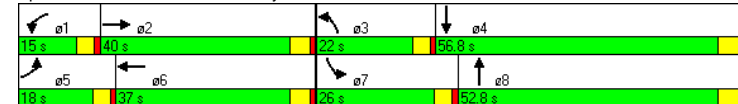
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	87.5	53.8		90.8	43.6		76.5	32.7		83.1	28.0	
LOS	F	D		F	D		E	C		F	C	
Approach Delay		58.1			50.7			40.6			45.6	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	116	395		89	223		116	206		169	126	
Queue Length 95th (ft)	#220	#517		#181	292		189	273		256	173	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	183	1050		144	982		231	1278		281	1366	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.73	0.87		0.70	0.58		0.58	0.48		0.69	0.30	

Intersection Summary

Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	134.8
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	49.8
Intersection LOS:	D
Intersection Capacity Utilization:	70.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 21: University Ave & Park Blvd



APPENDIX F

**PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS HORIZON YEAR
CONDITIONS**

LT AM
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↘	↑↑	↑↑	↘	↑↑	↑↑	↘	↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.969			0.944			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3429	0	3433	3341	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3429	0	3433	3341	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			92				44			135
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	263	302	78	85	379	228	188	828	67	122	253	128
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	277	400	0	89	639	0	198	872	71	128	266	135
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8		7		4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0		10.0		10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2		8.4		40.1
Total Split (s)	19.8	50.1	0.0	16.4	46.7	0.0	31.4	51.1		51.1	22.4	42.1
Total Split (%)	14.1%	35.8%	0.0%	11.7%	33.4%	0.0%	22.4%	36.5%		36.5%	16.0%	30.1%
Maximum Green (s)	15.4	45.3		12.0	42.0		27.0	45.9		45.9	18.0	37.0
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2		4.2	3.4	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7		3.7	2.0	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2		0.2	2.0	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9		0.9	0.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1		0.1	0.0	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min		Min	None	Min
Walk Time (s)		7.0			7.0			7.0		7.0		7.0
Flash Dont Walk (s)		31.0			32.0			28.0		28.0		28.0
Pedestrian Calls (#/hr)		0			0			0		0		0
Act Effct Green (s)	15.5	58.3		10.5	53.3		20.0	40.4		40.4	14.8	35.2
Actuated g/C Ratio	0.11	0.42		0.08	0.38		0.14	0.29		0.29	0.11	0.25
v/c Ratio	0.73	0.28		0.35	0.48		0.78	0.85		0.15	0.68	0.30
Control Delay	71.4	27.8		65.5	31.6		78.2	55.5		15.9	78.1	42.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0

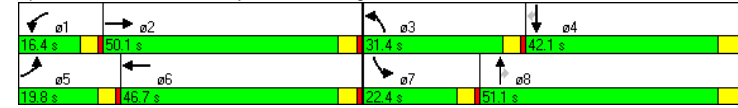
LT AM
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	71.4	27.8		65.5	31.6		78.2	55.5	15.9	78.1	42.5	7.1
LOS	E	C		E	C		E	E	B	E	D	A
Approach Delay		45.7			35.8			57.0				42.1
Approach LOS		D			D			E				D
Queue Length 50th (ft)	127	116		40	197		177	396	18	114	104	0
Queue Length 95th (ft)	174	188		69	309		251	436	52	177	135	49
Internal Link Dist (ft)		1138			1071			1350				1401
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	410	1456		304	1359		346	1200	566	239	985	538
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.27		0.29	0.47		0.57	0.73	0.13	0.54	0.27	0.25

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	126 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	46.9
Intersection LOS:	D
Intersection Capacity Utilization:	69.1%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 1: El Cajon Blvd & College Ave



LT AM
2: El Cajon Blvd & Collwood Blvd

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔↔	↔↔	↔	↔	↔↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3490	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3490	0	1770	3539	1583
Right Turn on Red		Yes			Yes				Yes			Yes
Satd. Flow (RTOR)			118			314			8			141
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	84	333	112	58	409	298	150	624	65	128	279	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	88	351	118	61	431	314	158	725	0	135	294	141
Turn Type	Prot	Perm	Prot		Perm	Prot			Prot		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	22.3	46.9	46.9	20.2	44.8	44.8	21.5	47.0	0.0	25.9	51.4	51.4
Total Split (%)	15.9%	33.5%	33.5%	14.4%	32.0%	32.0%	15.4%	33.6%	0.0%	18.5%	36.7%	36.7%
Maximum Green (s)	17.9	42.0	42.0	15.8	39.6	39.6	17.1	42.0		21.5	46.5	46.5
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.1	66.7	66.7	9.3	62.8	62.8	10.6	35.5		14.7	39.6	39.6
Actuated g/C Ratio	0.08	0.48	0.48	0.07	0.45	0.45	0.08	0.25		0.10	0.28	0.28
v/c Ratio	0.63	0.21	0.14	0.52	0.27	0.36	0.61	0.81		0.73	0.29	0.26
Control Delay	81.2	24.9	5.5	78.2	27.5	4.6	72.6	56.2		81.8	38.8	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

LT AM
2: El Cajon Blvd & Collwood Blvd

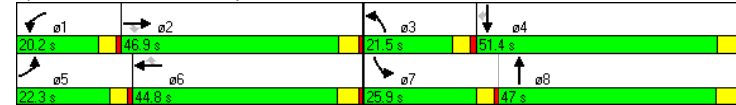
11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	81.2	24.9	5.5	78.2	27.5	4.6	72.6	56.2		81.8	38.8	6.0
LOS	F	C	A	E	C	A	E	E		F	D	A
Approach Delay		29.7			22.4			59.1			40.9	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	79	98	0	55	127	0	73	325		121	111	0
Queue Length 95th (ft)	134	167	44	102	212	69	109	370		186	134	46
Internal Link Dist (ft)		1240			1304			1314			1214	
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	231	1685	816	205	1586	883	429	1081		277	1215	636
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.38	0.21	0.14	0.30	0.27	0.36	0.37	0.67		0.49	0.24	0.22

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	118 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	39.1
Intersection LOS:	D
Intersection Capacity Utilization:	56.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



LT AM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.981		0.986		0.974		0.949		0.949		0.949	
Flt Protected	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (prot)	1770	3472	0	1770	3490	0	1770	1814	0	1770	1768	0
Flt Permitted	0.950		0.950		0.676		0.475		0.475		0.475	
Satd. Flow (perm)	1770	3472	0	1770	3490	0	1259	1814	0	885	1768	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	24		17		17		42		42		42	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	679		1338		1391		1169		1169		1169	
Travel Time (s)	15.4		30.4		31.6		26.6		26.6		26.6	
Volume (vph)	39	489	70	49	683	70	107	232	49	42	80	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	41	589	0	52	793	0	113	296	0	44	127	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8		8		4
Permitted Phases	5		2		1		6		8		4	
Detector Phases	5	2		1	6			8		8		4
Minimum Initial (s)	6.0	10.0		6.0	10.0			4.0		4.0		6.0
Minimum Split (s)	10.4	18.9		10.4	18.9			27.9		27.9		27.9
Total Split (s)	12.4	27.7	0.0	12.4	27.7	0.0	29.9	29.9	0.0	29.9	29.9	0.0
Total Split (%)	17.7%	39.6%	0.0%	17.7%	39.6%	0.0%	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%
Maximum Green (s)	8.0	22.8		8.0	22.8		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None C-Max		None C-Max		Max		Max		None		None	
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	7.0		7.0		16.0		16.0		16.0		16.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	7.0	29.1		7.2	29.3		25.9	25.9		25.9	25.9	
Actuated g/C Ratio	0.10	0.42		0.10	0.42		0.37	0.37		0.37	0.37	
v/c Ratio	0.23	0.40		0.29	0.54		0.24	0.43		0.13	0.19	
Control Delay	21.9	24.1		33.0	18.0		17.1	18.0		16.1	11.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

LT AM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.9	24.1		33.0	18.0		17.1	18.0		16.1	11.2	
LOS	C		C		C		B		B		B	
Approach Delay	23.9		18.9		17.7		12.4		12.4		12.4	
Approach LOS	C		B		B		B		B		B	
Queue Length 50th (ft)	22	172		21	140		33	87		12	24	
Queue Length 95th (ft)	42	221		51	206		68	151		33	57	
Internal Link Dist (ft)	599		1258		1311		1089		1089		1089	
Turn Bay Length (ft)	100		100		160		200		200		200	
Base Capacity (vph)	212	1456		212	1470		466	682		327	681	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.40		0.25	0.54		0.24	0.43		0.13	0.19	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	40 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	19.7
Intersection LOS:	B
Intersection Capacity Utilization:	59.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



LT AM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.988			0.952			0.958	
Flt Protected	0.950			0.950				0.985			0.972	
Satd. Flow (prot)	1770	3504	0	1770	3497	0	0	1747	0	0	1735	0
Flt Permitted	0.950			0.950				0.903			0.805	
Satd. Flow (perm)	1770	3504	0	1770	3497	0	0	1601	0	0	1437	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		11			15			45			32	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	45	525	36	38	693	62	37	41	43	57	10	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	47	591	0	40	794	0	0	127	0	0	103	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	11.1	29.6	0.0	10.5	29.0	0.0	29.9	29.9	0.0	29.9	29.9	0.0
Total Split (%)	15.9%	42.3%	0.0%	15.0%	41.4%	0.0%	42.7%	42.7%	0.0%	42.7%	42.7%	0.0%
Maximum Green (s)	6.7	24.7		6.1	24.1		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.3	31.9		5.9	29.5			25.9			25.9	
Actuated g/C Ratio	0.09	0.46		0.08	0.42			0.37			0.37	
v/c Ratio	0.30	0.37		0.27	0.54			0.20			0.19	
Control Delay	32.4	18.6		43.8	9.6			11.1			11.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

LT AM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	32.4	18.6		43.8	9.6				11.1			11.9
LOS	C	B		D	A				B			B
Approach Delay		19.6			11.2				11.1			11.9
Approach LOS		B			B				B			B
Queue Length 50th (ft)	28	140		14	152				23			20
Queue Length 95th (ft)	m44	190		m33	213				57			51
Internal Link Dist (ft)		598			599				1255			1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	180	1602		164	1484				621			552
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.26	0.37		0.24	0.54				0.20			0.19

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	65 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	14.4
Intersection LOS:	B
Intersection Capacity Utilization:	44.6%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



LT AM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕	↕↕			↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.961		0.981		0.966		0.966	
Fit Protected	0		0.950		0.966		0.966		0		0	
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1729	0	0	1765	0
Flt Permitted	0		0.387		0.822		0.904		0		0	
Satd. Flow (perm)	0	3518	0	721	3532	0	0	1471	0	0	1652	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	7		2		36		1		1		1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	667		678		1277		1173		1173		1173	
Travel Time (s)	15.2		15.4		29.0		26.7		26.7		26.7	
Volume (vph)	0	517	21	18	736	8	83	1	34	5	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	566	0	19	783	0	0	124	0	0	7	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		8		4		4		4	
Permitted Phases	2		6		8		4		4		4	
Detector Phases	2		6		8		4		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	35.1	35.1	0.0	35.1	35.1	0.0	34.9	34.9	0.0	34.9	34.9	0.0
Total Split (%)	50.1%	50.1%	0.0%	50.1%	50.1%	0.0%	49.9%	49.9%	0.0%	49.9%	49.9%	0.0%
Maximum Green (s)	30.1	30.1	30.1	30.1	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	55.6		55.6		55.6		9.1		9.1		9.1	
Actuated g/C Ratio	0.79		0.79		0.79		0.13		0.13		0.13	
v/c Ratio	0.20		0.03		0.28		0.56		0.03		0.03	
Control Delay	0.8		9.1		8.9		29.8		23.3		23.3	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	0.8		9.1		8.9		29.8		23.3		23.3	
LOS	A		A		A		C		C		C	
Approach Delay	0.8		8.9		29.8		23.3		23.3		23.3	

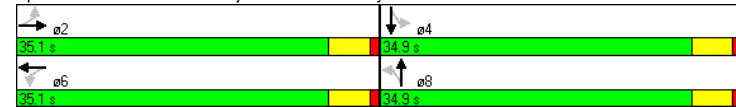
LT AM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			C			C		
Queue Length 50th (ft)	12		5		123		36		2		2	
Queue Length 95th (ft)	18		m12		194		79		12		12	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2796		573		2806		669		730		730	
Starvation Cap Reductn	0		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.20		0.03		0.28		0.19		0.01		0.01	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	60 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay:	7.6
Intersection LOS:	A
Intersection Capacity Utilization:	35.1%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 5: El Cajon Blvd & Driveway

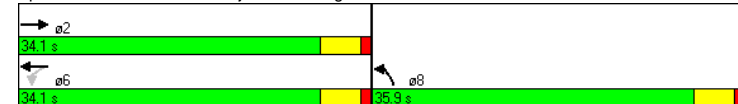


	→	↖	↙	←	↘	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994			0.956		
Flt Protected			0.950	0.967		
Satd. Flow (prot)	3518	0	1770	3539	1722	0
Flt Permitted			0.359	0.967		
Satd. Flow (perm)	3518	0	669	3539	1722	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	7			28		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	551	23	19	814	55	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	604	0	20	857	86	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	34.1	0.0	34.1	34.1	35.9	0.0
Total Split (%)	48.7%	0.0%	48.7%	48.7%	51.3%	0.0%
Maximum Green (s)	29.2		29.2	29.2	31.0	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	60.0		60.0	60.0	7.4	
Actuated g/C Ratio	0.86		0.86	0.86	0.11	
v/c Ratio	0.20		0.03	0.28	0.41	
Control Delay	1.5		2.4	2.0	26.9	
Queue Delay	0.0		0.0	0.0	0.0	

	→	↖	↙	←	↘	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.5		2.4	2.0	26.9	
LOS	A		A	A	C	
Approach Delay	1.5			2.0	26.9	
Approach LOS	A			A	C	
Queue Length 50th (ft)	48		2	42	24	
Queue Length 95th (ft)	60		m5	48	61	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	3016		573	3033	800	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.20		0.03	0.28	0.11	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	3 (4%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.41
Intersection Signal Delay:	3.2
Intersection LOS:	A
Intersection Capacity Utilization:	33.9%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



LT AM
7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.970			0.983				
Flt Protected	0.950							0.992				
Satd. Flow (prot)	1770	3539	1583	0	3433	0	0	3451	0	0	0	0
Flt Permitted	0.950							0.992				
Satd. Flow (perm)	1770	3539	1583	0	3433	0	0	3451	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		26			11				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	83	529	73	0	679	167	117	526	83	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	87	557	77	0	891	0	0	764	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	26.4	86.0	86.0	0.0	59.6	0.0	54.0	54.0	0.0	0.0	0.0	0.0
Total Split (%)	18.9%	61.4%	61.4%	0.0%	42.6%	0.0%	38.6%	38.6%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	22.0	81.1	81.1		54.7		49.1	49.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	9.9	82.0	82.0		68.1		50.0	50.0				
Actuated g/C Ratio	0.07	0.59	0.59		0.49		0.36	0.36				
v/c Ratio	0.70	0.27	0.08		0.53		0.62	0.62				
Control Delay	86.1	14.9	4.0		29.8		39.1	39.1				
Queue Delay	0.0	0.4	0.0		0.0		0.0	0.0				

LT AM
7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	86.1	15.3	4.0		29.8							39.1
LOS	F	B	A		C							D
Approach Delay		22.7			29.8							39.1
Approach LOS		C			C							D
Queue Length 50th (ft)	84	116	3		223							296
Queue Length 95th (ft)	m136	m167	m15		259							366
Internal Link Dist (ft)		250			595				1261			1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	283	2073	959		1683				1240			
Starvation Cap Reductn	0	982	0		0				0			0
Spillback Cap Reductn	0	0	0		0				0			0
Storage Cap Reductn	0	0	0		0				0			0
Reduced v/c Ratio	0.31	0.51	0.08		0.53				0.62			

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	27 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	30.6
Intersection LOS:	C
Intersection Capacity Utilization:	59.3%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



LT AM
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↘	↑↑						↙↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.985								0.979	0.979	
Flt Protected				0.950						0.983	0.983	
Satd. Flow (prot)	0	5009	0	1770	3539	0	0	0	0	0	3406	0
Flt Permitted				0.950						0.983	0.983	
Satd. Flow (perm)	0	5009	0	1770	3539	0	0	0	0	0	3406	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14									15	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30		30	
Link Distance (ft)		645			330				1285		1483	
Travel Time (s)		14.7			7.5				29.2		33.7	
Volume (vph)	0	566	62	44	761	0	0	0	0	137	211	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	661	0	46	801	0	0	0	0	0	424	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		25.0		4.0	25.0					4.0	4.0	
Minimum Split (s)		29.9		8.4	29.9					39.9	39.9	
Total Split (s)	0.0	50.9	0.0	31.2	82.1	0.0	0.0	0.0	0.0	57.9	57.9	0.0
Total Split (%)	0.0%	36.4%	0.0%	22.3%	58.6%	0.0%	0.0%	0.0%	0.0%	41.4%	41.4%	0.0%
Maximum Green (s)		46.0		26.8	77.2					53.0	53.0	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		10.0			10.0					24.0	24.0	
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		101.4		8.3	111.8					20.2	20.2	
Actuated g/C Ratio		0.72		0.06	0.80					0.14	0.14	
v/c Ratio		0.18		0.44	0.28					0.84	0.84	
Control Delay		5.9		72.5	2.6					71.6	71.6	
Queue Delay		0.0		0.0	0.2					0.0	0.0	

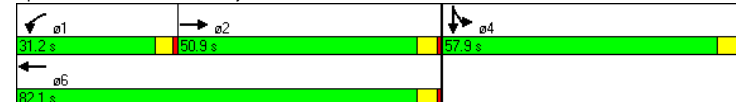
LT AM
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		5.9		72.5	2.8							71.6
LOS		A		E	A							E
Approach Delay		5.9			6.6							71.6
Approach LOS		A			A							E
Queue Length 50th (ft)		53		42	53							194
Queue Length 95th (ft)		67		m79	59							245
Internal Link Dist (ft)		565			250			1205				1403
Turn Bay Length (ft)				115								
Base Capacity (vph)		3631		344	2827							1321
Starvation Cap Reductn		0		0	1175							0
Spillback Cap Reductn		0		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.18		0.13	0.48							0.32

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	23 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	20.6
Intersection LOS:	C
Intersection Capacity Utilization:	45.7%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



LT AM
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.999			0.970			0.947	
Flt Protected	0.950			0.950				0.971			0.981	
Satd. Flow (prot)	1770	5060	0	1770	5080	0	0	1754	0	0	1731	0
Flt Permitted	0.950			0.950				0.849			0.928	
Satd. Flow (perm)	1770	5060	0	1770	5080	0	0	1534	0	0	1637	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5						11			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			645			1453			1643	
Travel Time (s)		14.9			14.7			33.0			37.3	
Volume (vph)	28	577	22	22	850	3	41	13	15	9	5	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	29	630	0	23	898	0	0	73	0	0	23	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	29.5	56.0	0.0	29.1	55.6	0.0	54.9	54.9	0.0	54.9	54.9	0.0
Total Split (%)	21.1%	40.0%	0.0%	20.8%	39.7%	0.0%	39.2%	39.2%	0.0%	39.2%	39.2%	0.0%
Maximum Green (s)	25.1	51.1		24.7	50.7		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			8.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.2	74.0		6.8	73.7		50.9			50.9		
Actuated g/C Ratio	0.05	0.53		0.05	0.53		0.36			0.36		
v/c Ratio	0.32	0.24		0.27	0.34		0.13			0.13		0.04
Control Delay	91.3	11.9		87.4	11.9		26.0			20.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

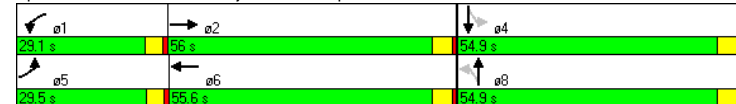
LT AM
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	91.3	11.9		87.4	11.9					26.0		20.6
LOS	F	B		F	B					C		C
Approach Delay		15.4			13.8					26.0		20.6
Approach LOS		B			B					C		C
Queue Length 50th (ft)	27	53		22	84					37		8
Queue Length 95th (ft)	63	64		m54	97					74		29
Internal Link Dist (ft)		575			565					1373		1563
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	322	2678		317	2674					565		601
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.09	0.24		0.07	0.34					0.13		0.04

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	40.7 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.34
Intersection Signal Delay:	15.1
Intersection LOS:	B
Intersection Capacity Utilization:	35.9%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



LT AM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.994			0.993			0.941	
Flt Protected	0.950			0.950				0.965			0.989	
Satd. Flow (prot)	1770	5060	0	1770	5055	0	0	1785	0	0	1734	0
Flt Permitted	0.950			0.950				0.743			0.925	
Satd. Flow (perm)	1770	5060	0	1770	5055	0	0	1374	0	0	1621	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		4			5			2			30	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30											
Link Distance (ft)	447			655			1485			1723		
Travel Time (s)	10.2			14.9			33.8			39.2		
Volume (vph)	97	565	18	28	861	35	89	28	7	22	32	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	102	614	0	29	943	0	0	130	0	0	101	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases	[Diagrammatic Permitted Phases]											
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	10.0		4.0	10.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.4	19.9		8.4	19.9			33.9	33.9		33.9	33.9
Total Split (s)	35.6	63.6	0.0	26.5	54.5	0.0	49.9	49.9	0.0	49.9	49.9	0.0
Total Split (%)	25.4%	45.4%	0.0%	18.9%	38.9%	0.0%	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%
Maximum Green (s)	31.2	58.7		22.1	49.6		45.0	45.0		45.0	45.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	12.3	78.7		7.1	69.8			45.9			45.9	
Actuated g/C Ratio	0.09	0.56		0.05	0.50			0.33			0.33	
v/c Ratio	0.65	0.22		0.32	0.37			0.29			0.18	
Control Delay	80.4	16.1		103.0	4.0			36.5			24.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

LT AM
10: El Cajon Blvd & Marlborough Ave

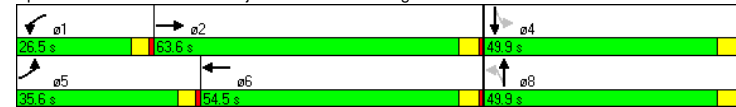
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	80.4	16.1		103.0	4.0			36.5			24.4	
LOS	F	B		F	A			D			C	
Approach Delay		25.3			6.9			36.5			24.4	
Approach LOS		C			A			D			C	
Queue Length 50th (ft)	92	104		28	19			86			45	
Queue Length 95th (ft)	149	135		66	24			144			92	
Internal Link Dist (ft)	367		575		1405		1643					
Turn Bay Length (ft)	132			110			452			552		
Base Capacity (vph)	400	2845		284	2522			452			552	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.26	0.22		0.10	0.37			0.29			0.18	

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	53 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	16.7
Intersection LOS:	B
Intersection Capacity Utilization:	46.3%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave

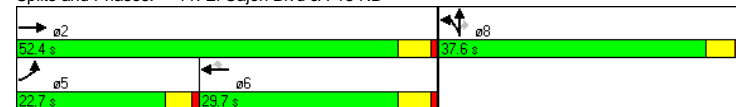


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frnt					0.850		0.873	0.850				
Flt Protected	0.950					0.950						
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950					0.950						
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					322		136	139				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30		30		30			30
Link Distance (ft)		378			225		1453		1618			1618
Travel Time (s)		8.6			5.1		33.0		36.8			36.8
Volume (vph)	178	475	0	0	741	306	97	23	261	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	187	500	0	0	780	322	102	160	139	0	0	0
Turn Type	Prot				Perm	Split		Perm				
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8				8
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0				5.0
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6				36.6
Total Split (s)	22.7	52.4	0.0	0.0	29.7	29.7	37.6	37.6		0.0	0.0	0.0
Total Split (%)	25.2%	58.2%	0.0%	0.0%	33.0%	33.0%	41.8%	41.8%		0.0%	0.0%	0.0%
Maximum Green (s)	18.5	47.4			24.7	24.7	33.0	33.0				33.0
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6				3.6
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				1.0
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0				2.0
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0				2.0
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0				0.0
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0				0.0
Recall Mode	None	C-Max			C-Max	C-Max	None	None		None		None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0				7.0
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0				25.0
Pedestrian Calls (#/hr)		0			0	0	0	0				0
Act Effct Green (s)	13.7	74.0			56.2	56.2	8.0	8.0				8.0
Actuated g/C Ratio	0.15	0.82			0.62	0.62	0.09	0.09				0.09
v/c Ratio	0.69	0.12			0.19	0.29	0.33	0.61				0.53
Control Delay	43.2	2.8			8.2	2.0	40.6	20.5				14.7
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0				0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	43.2	2.8			8.2	2.0	40.6	20.5	14.7			
LOS	D	A			A	A	D	C	B			
Approach Delay		13.8			6.4			23.6				
Approach LOS		B			A			C				
Queue Length 50th (ft)	106	47			48	0	28	13	0			
Queue Length 95th (ft)	166	0			86	39	50	73	54			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	372	4180			4004	1110	1282	662	649			
Starvation Cap Reductn	0	0			0	0	0	0	0			
Spillback Cap Reductn	0	0			42	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.50	0.12			0.20	0.29	0.08	0.24	0.21			

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	11.9
Intersection LOS:	B
Intersection Capacity Utilization:	45.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB

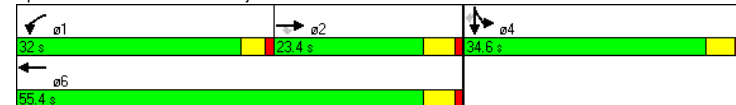


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Fr't			0.850							0.899	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1591	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1591	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118							66		87
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		1320		378		1484		1611		36.6		36.6
Travel Time (s)		30.0		8.6		33.7		36.6				
Volume (vph)	0	494	112	338	541	0	0	0	0	159	30	145
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	520	118	356	569	0	0	0	0	167	98	87
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	23.4	23.4	32.0	55.4	0.0	0.0	0.0	0.0	34.6	34.6	34.6
Total Split (%)	0.0%	26.0%	26.0%	35.6%	61.6%	0.0%	0.0%	0.0%	0.0%	38.4%	38.4%	38.4%
Maximum Green (s)		18.4	18.4	27.8	50.4					30.0	30.0	30.0
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		47.6	47.6	21.6	73.2					8.8	8.8	8.8
Actuated g/C Ratio		0.53	0.53	0.24	0.81					0.10	0.10	0.10
v/c Ratio		0.15	0.13	0.84	0.14					0.50	0.46	0.38
Control Delay		12.4	3.6	45.1	4.5					43.3	22.7	13.8
Queue Delay		0.0	0.0	0.2	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		12.4	3.6	45.2	4.5					43.3	22.7	13.8
LOS		B	A	D	A					D	C	B
Approach Delay		10.8			20.2						30.3	
Approach LOS		B			C						C	
Queue Length 50th (ft)		41	0	198	25					47	17	0
Queue Length 95th (ft)		73	32	263	90					76	66	44
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		3391	893	562	4135					1167	585	569
Starvation Cap Reductn		0	0	13	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.15	0.13	0.65	0.14					0.14	0.17	0.15

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	18.9
Intersection LOS:	B
Intersection Capacity Utilization:	45.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB

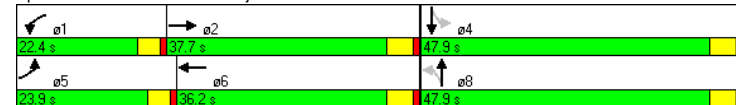


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.996			0.971			0.927	
Flt Protected	0.950			0.950				0.981			0.990	
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1774	0	0	1709	0
Flt Permitted	0.950			0.950				0.865			0.938	
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1565	0	0	1620	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		3		4		15		60				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		1329		1310		1164		1020		1020		23.2
Travel Time (s)		30.2		29.8		26.5		23.2		23.2		
Volume (vph)	42	430	9	18	575	15	46	45	25	22	27	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	44	462	0	19	621	0	0	121	0	0	111	0
Turn Type	Prot			Prot		Perm		Perm		Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	18.0		4.0	18.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	23.0		8.4	23.0		34.9	34.9		34.9	34.9	
Total Split (s)	23.9	37.7		0.0	22.4		36.2	0.0	47.9	47.9	0.0	47.9
Total Split (%)	22.1%	34.9%		0.0%	20.7%		33.5%	0.0%	44.4%	44.4%	0.0%	44.4%
Maximum Green (s)	19.5	32.7		18.0	31.2		43.0	43.0		43.0	43.0	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.6	51.6		6.0	46.3			43.9			43.9	
Actuated g/C Ratio	0.07	0.48		0.06	0.43			0.41			0.41	
v/c Ratio	0.35	0.19		0.19	0.29			0.19			0.16	
Control Delay	56.6	16.8		52.6	21.2			18.9			10.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	56.6	16.8		52.6	21.2			18.9			10.8	
LOS	E	B		D	C			B			B	
Approach Delay		20.3			22.1			18.9				10.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	32	45		13	102			46			21	
Queue Length 95th (ft)	m70	90		36	138			86			57	
Internal Link Dist (ft)		1249			1230			1084			940	
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	326	2424		302	2175			645			694	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.13	0.19		0.06	0.29			0.19			0.16	

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	27 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.35
Intersection Signal Delay:	20.2
Intersection LOS:	C
Intersection Capacity Utilization:	40.0%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 13: El Cajon Blvd & 35th St



LT AM
14: El Cajon Blvd & 33rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.994			0.983			0.921	
Flt Protected	0.950			0.950				0.968			0.993	
Satd. Flow (prot)	1770	3479	0	1770	3518	0	0	1772	0	0	1704	0
Flt Permitted	0.950			0.950				0.679			0.946	
Satd. Flow (perm)	1770	3479	0	1770	3518	0	0	1243	0	0	1623	0
Right Turn on Red		Yes			Yes		Yes			Yes		Yes
Satd. Flow (RTOR)		15			4			8			74	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	114	436	54	49	644	27	142	48	28	20	42	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	120	516	0	52	706	0	0	229	0	0	157	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4	4			8	
Detector Phases	5	2		1	6		4	4			8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0			4.0	4.0
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9			35.9	35.9
Total Split (s)	24.9	46.6	0.0	18.7	40.4	0.0	42.7	42.7	0.0	42.7	42.7	0.0
Total Split (%)	23.1%	43.1%	0.0%	17.3%	37.4%	0.0%	39.5%	39.5%	0.0%	39.5%	39.5%	0.0%
Maximum Green (s)	20.5	41.6		14.3	35.4		37.8	37.8		37.8	37.8	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.8	51.1		8.0	45.5			38.7			38.7	
Actuated g/C Ratio	0.11	0.47		0.07	0.42			0.36			0.36	
v/c Ratio	0.62	0.31		0.40	0.48			0.51			0.25	
Control Delay	59.3	18.5		61.0	16.6			31.0			14.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	59.3	18.5		61.0	16.6			31.0			14.1	
LOS	E	B		E	B			C			B	
Approach Delay		26.2			19.7			31.0			14.1	

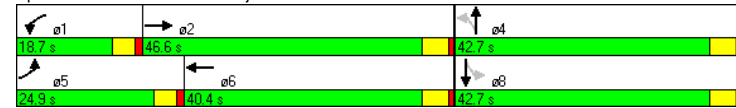
LT AM
14: El Cajon Blvd & 33rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	81	112		38	91			119			38	
Queue Length 95th (ft)	135	162		79	118			197			87	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	343	1655		241	1485			451			629	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.35	0.31		0.22	0.48			0.51			0.25	

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	33 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	23.0
Intersection LOS:	C
Intersection Capacity Utilization:	61.2%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 14: El Cajon Blvd & 33rd St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕↕			↕↕↕		↔	↕	↕			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Frnt					0.949				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					139				171			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	489	446	0	0	670	349	507	1	162	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	515	469	0	0	1072	0	267	268	171	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	27.6	60.0	0.0	0.0	32.4	0.0	36.0	36.0	36.0	0.0	0.0	0.0
Total Split (%)	28.8%	62.5%	0.0%	0.0%	33.8%	0.0%	37.5%	37.5%	37.5%	0.0%	0.0%	0.0%
Maximum Green (s)	23.4	55.0			27.4		31.0	31.0	31.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	1.1			1.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	20.5	68.0			43.5		20.0	20.0	20.0			
Actuated g/C Ratio	0.21	0.71			0.45		0.21	0.21	0.21			
v/c Ratio	0.70	0.13			0.47		0.76	0.76	0.37			
Control Delay	25.6	2.2			17.9		49.4	49.3	6.7			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.6	2.2			17.9		49.4	49.3	6.7			
LOS	C	A			B		D	D	A			
Approach Delay		14.4			17.9			39.0				
Approach LOS		B			B			D				
Queue Length 50th (ft)	139	1			133		163	164	0			
Queue Length 95th (ft)	209	50			224		229	229	47			
Internal Link Dist (ft)		374			492			1297				1503
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	853	3602			2261		560	562	642			
Starvation Cap Reductn	0	0			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.60	0.13			0.47		0.48	0.48	0.27			

Intersection Summary	
Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	49 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	22.1
Intersection LOS:	C
Intersection Capacity Utilization:	58.8%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 15: El Cajon Blvd & I-805 NB



LT AM
16: El Cajon Blvd & I-805 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Fr't			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Fit Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			424									59
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	745	403	162	1013	0	0	0	0	180	2	397
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	784	424	171	1066	0	0	0	0	95	96	418
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)	0.0	32.8	32.8	18.2	51.0	0.0	0.0	0.0	0.0	45.0	45.0	45.0
Total Split (%)	0.0%	34.2%	34.2%	19.0%	53.1%	0.0%	0.0%	0.0%	0.0%	46.9%	46.9%	46.9%
Maximum Green (s)		27.8	27.8	14.0	46.0					40.0	40.0	40.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Time Before Reduce (s)		1.4	1.4	0.0	0.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		32.0	32.0	11.0	47.0					41.0	41.0	41.0
Actuated g/C Ratio		0.33	0.33	0.11	0.49					0.43	0.43	0.43
v/c Ratio		0.46	0.52	0.43	0.43					0.13	0.13	0.59
Control Delay		26.5	5.1	47.2	12.7					17.4	17.4	21.9
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

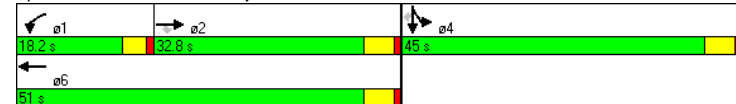
LT AM
16: El Cajon Blvd & I-805 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		26.5	5.1	47.2	12.7					17.4	17.4	21.9
LOS		C	A	D	B					B	B	C
Approach Delay		19.0			17.5						20.5	
Approach LOS		B			B						C	
Queue Length 50th (ft)		134	0	54	130					35	36	163
Queue Length 95th (ft)		180	66	m77	158					69	70	262
Internal Link Dist (ft)		586			374			1317			1493	
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		1694	810	508	2490					718	720	710
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.46	0.52	0.34	0.43					0.13	0.13	0.59

Intersection Summary	
Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	95 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	18.7
Intersection LOS:	B
Intersection Capacity Utilization:	58.8%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 16: El Cajon Blvd & I-805 SB



LT AM
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.988			0.984			0.949			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		12			19			26			19	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			762			1004			1052	
Travel Time (s)		17.5			17.3			22.8			23.9	
Volume (vph)	32	577	49	111	944	110	82	141	72	116	153	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	34	659	0	117	1110	0	86	224	0	122	218	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	10.3	29.4		18.7	37.8		15.8	40.9		19.0	44.1	0.0
Total Split (%)	9.5%	27.2%	0.0%	17.3%	35.0%	0.0%	14.6%	37.9%	0.0%	17.6%	40.8%	0.0%
Maximum Green (s)	5.9	24.4		14.3	32.8		11.4	36.0		14.6	39.2	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)		4.0			4.0			4.0			4.0	
Flash Dont Walk (s)		13.0			13.0			32.0			32.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.9	28.7		11.4	37.9		9.4	40.2		11.7	44.4	
Actuated g/C Ratio	0.05	0.27		0.11	0.35		0.09	0.37		0.11	0.41	
v/c Ratio	0.35	0.49		0.63	0.63		0.56	0.33		0.64	0.29	
Control Delay	59.5	34.9		60.5	31.4		60.6	23.7		60.8	22.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.5	34.9		60.5	31.4		60.6	23.7		60.8	22.0	
LOS	E	C		E	C		E	C		E	C	
Approach Delay		36.1			34.1			34.0			35.9	

LT AM
17: El Cajon Blvd & 30th St

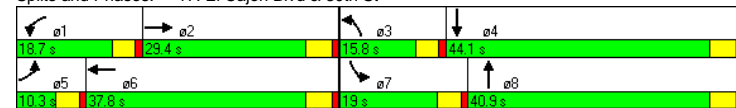
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	23	139		79	242		58	96		82	94	
Queue Length 95th (ft)	56	186		135	294		108	167		139	158	
Internal Link Dist (ft)		688			682			924			972	
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	103	1344		241	1769		193	675		246	747	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.33	0.49		0.49	0.63		0.45	0.33		0.50	0.29	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	34.9
Intersection LOS:	C
Intersection Capacity Utilization:	55.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 17: El Cajon Blvd & 30th St



LT AM
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔↔↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.994			0.980			0.984			0.966	
Flt Protected	0.950			0.950				0.994			0.990	
Satd. Flow (prot)	1770	5055	0	1770	4984	0	0	3462	0	0	3385	0
Flt Permitted	0.950			0.950				0.994			0.990	
Satd. Flow (perm)	1770	5055	0	1770	4984	0	0	3462	0	0	3385	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		4			20			10			28	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1532			1136			994			1062	
Travel Time (s)		34.8			25.8			22.6			24.1	
Volume (vph)	117	315	12	74	741	111	48	297	42	63	184	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	123	345	0	78	897	0	0	408	0	0	336	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	19.0	37.0	0.0	16.2	34.2	0.0	38.9	38.9	0.0	37.9	37.9	0.0
Total Split (%)	14.6%	28.5%	0.0%	12.5%	26.3%	0.0%	29.9%	29.9%	0.0%	29.2%	29.2%	0.0%
Maximum Green (s)	14.6	32.1		11.8	29.3		34.0	34.0		33.0	33.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		4.0			4.0		5.0	5.0		4.0	4.0	
Flash Dont Walk (s)		12.0			12.0		29.0	29.0		29.0	29.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	12.6	37.3		9.8	32.6		34.9	34.9		33.9	33.9	
Actuated g/C Ratio	0.10	0.29		0.08	0.25		0.27	0.27		0.26	0.26	
v/c Ratio	0.72	0.24		0.58	0.71		0.44	0.44		0.37	0.37	
Control Delay	94.8	32.1		74.8	47.5		40.1	40.1		37.3	37.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

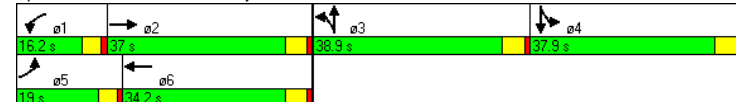
LT AM
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	94.8	32.1		74.8	47.5		40.1	40.1		37.3	37.3	
LOS	F	C		E	D		D	D		D	D	
Approach Delay		48.6			49.7			40.1			37.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	110	58		64	251			146			112	
Queue Length 95th (ft)	m177	90		117	307			197			157	
Internal Link Dist (ft)		1452			1056			914			982	
Turn Bay Length (ft)	140			120								
Base Capacity (vph)	204	1454		166	1263			937			903	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.60	0.24		0.47	0.71			0.44			0.37	

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	25 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization:	56.8%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St

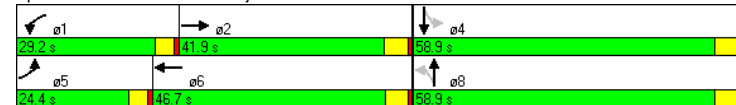


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.996			0.944			0.934	
Flt Protected	0.950			0.950				0.984			0.994	
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1730	0	0	1729	0
Flt Permitted	0.950			0.950				0.903			0.976	
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1588	0	0	1698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			4			34			39	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	15	336	7	60	790	24	31	26	40	9	30	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	16	361	0	63	857	0	0	102	0	0	80	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		40.9	40.9		43.9	43.9	
Total Split (s)	24.4	41.9	0.0	29.2	46.7	0.0	58.9	58.9	0.0	58.9	58.9	0.0
Total Split (%)	18.8%	32.2%	0.0%	22.5%	35.9%	0.0%	45.3%	45.3%	0.0%	45.3%	45.3%	0.0%
Maximum Green (s)	20.0	36.8		24.8	41.8		54.0	54.0		54.0	54.0	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.1	100.4		9.4	107.4		10.1			10.1		
Actuated g/C Ratio	0.05	0.77		0.07	0.83		0.08			0.08		
v/c Ratio	0.19	0.09		0.49	0.20		0.66			0.48		
Control Delay	74.1	2.5		51.5	1.4		57.9			40.4		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.1	2.5		51.5	1.4					57.9		40.4
LOS	E	A		D	A					E		D
Approach Delay		5.5			4.9					57.9		40.4
Approach LOS		A			A					E		D
Queue Length 50th (ft)	13	17		55	13					56		33
Queue Length 95th (ft)	37	32		m83	34					114		83
Internal Link Dist (ft)		720			1452					827		901
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	278	3916		343	4187					690		740
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.06	0.09		0.18	0.20					0.15		0.11

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	10.6
Intersection LOS:	B
Intersection Capacity Utilization:	40.8%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 19: El Cajon Blvd & Florida St

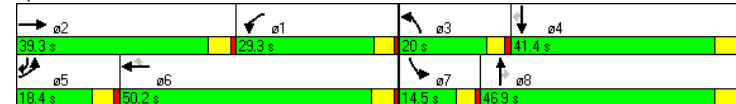


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				81			54			302
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	143	229	39	162	661	77	71	90	51	29	216	431
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	151	282	0	171	696	81	75	95	54	31	227	454
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	8.9	14.9		8.4	46.9	46.9	8.4	42.9	42.9	8.4	11.9	8.9
Total Split (s)	18.4	39.3	0.0	29.3	50.2	50.2	20.0	46.9	46.9	14.5	41.4	18.4
Total Split (%)	14.2%	30.2%	0.0%	22.5%	38.6%	38.6%	15.4%	36.1%	36.1%	11.2%	31.8%	14.2%
Maximum Green (s)	13.5	34.4		24.9	45.3	45.3	15.6	42.0	42.0	10.1	36.5	13.5
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes		Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	None	C-Max		None	None	None	None	None	None	None	None	None
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	11.1	74.8		16.8	80.6	80.6	10.1	19.0	19.0	7.1	14.2	29.3
Actuated g/C Ratio	0.09	0.58		0.13	0.62	0.62	0.08	0.15	0.15	0.05	0.11	0.23
v/c Ratio	0.52	0.14		0.75	0.32	0.08	0.54	0.18	0.19	0.32	0.59	0.53
Control Delay	62.7	14.3		97.7	33.5	19.1	71.6	48.7	13.6	67.1	61.2	15.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.7	14.3		97.7	33.5	19.1	71.6	48.7	13.6	67.1	61.2	15.7
LOS	E	B		F	C	B	E	D	B	E	E	B
Approach Delay		31.2			43.8			47.9			32.5	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)	63	54		134	250	25	62	37	0	26	97	60
Queue Length 95th (ft)	96	94		197	320	m58	111	62	38	59	137	109
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220		130		100				
Base Capacity (vph)	384	1998		344	2193	1012	218	1168	559	143	1018	928
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.14		0.50	0.32	0.08	0.34	0.08	0.10	0.22	0.22	0.49

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	29 (22%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	38.4
Intersection LOS:	D
Intersection Capacity Utilization:	47.3%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



LT AM
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.947			0.969			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3352	0	1770	3429	0	1770	3394	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3352	0	1770	3429	0	1770	3394	0	1770	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76			27			42			18	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	55	213	115	92	498	132	83	152	57	59	284	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	58	345	0	97	663	0	87	220	0	62	358	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	18.9	43.9	0.0	23.8	48.8	0.0	22.1	46.9	0.0	19.2	44.0	0.0
Total Split (%)	14.1%	32.8%	0.0%	17.8%	36.5%	0.0%	16.5%	35.1%	0.0%	14.3%	32.9%	0.0%
Maximum Green (s)	14.5	39.0		19.4	43.9		17.7	42.0		14.8	39.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.7	43.1		12.2	45.3		11.5	43.5		8.9	41.4	
Actuated g/C Ratio	0.08	0.36		0.10	0.38		0.09	0.37		0.07	0.35	
v/c Ratio	0.41	0.27		0.54	0.50		0.52	0.17		0.47	0.30	
Control Delay	63.3	23.5		64.2	30.3		64.1	23.0		67.2	29.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

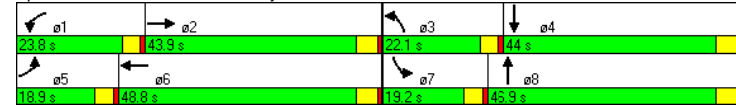
LT AM
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.3	23.5		64.2	30.3		64.1	23.0		67.2	29.8	
LOS	E	C		E	C		E	C		E	C	
Approach Delay		29.2			34.7			34.6			35.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	45	79		74	206		67	50		48	105	
Queue Length 95th (ft)	93	133		135	294		124	88		97	162	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	210	1263		273	1324		252	1269		213	1212	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.28	0.27		0.36	0.50		0.35	0.17		0.29	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	118.9
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	33.6
Intersection Capacity Utilization:	48.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 21: University Ave & Park Blvd



LT AM with TSP
2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic symbols for lane configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Fr't			0.850			0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3490	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3490	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			314			7			141
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	84	333	112	58	409	298	150	624	65	128	279	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	88	351	118	61	431	314	158	725	0	135	294	141
Turn Type	Prot		Perm	Prot		Perm	Prot		Prot		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	22.6	58.0	58.0	20.9	56.3	56.3	18.8	39.3	0.0	21.8	42.3	42.3
Total Split (%)	16.1%	41.4%	41.4%	14.9%	40.2%	40.2%	13.4%	28.1%	0.0%	15.6%	30.2%	30.2%
Maximum Green (s)	18.2	53.1	53.1	16.5	51.1	51.1	14.4	34.3		17.4	37.4	37.4
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.1	68.9	68.9	9.3	65.0	65.0	10.6	33.7		14.2	37.3	37.3
Actuated g/C Ratio	0.08	0.49	0.49	0.07	0.46	0.46	0.08	0.24		0.10	0.27	0.27
v/c Ratio	0.63	0.20	0.14	0.52	0.26	0.35	0.61	0.86		0.75	0.31	0.27
Control Delay	81.2	22.5	4.5	78.2	25.0	3.9	72.3	61.2		85.7	41.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

LT AM with TSP
2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	81.2	22.5	4.5	78.2	25.0	3.9	72.3	61.2		85.7	41.5	7.1
LOS	F	C	A	E	C	A	E	E		F	D	A
Approach Delay		28.0			20.8			63.2			43.5	
Approach LOS		C			C			E			D	
Queue Length 50th (ft)	79	100	0	55	129	0	73	323		121	109	0
Queue Length 95th (ft)	134	145	39	102	185	60	109	404		191	153	52
Internal Link Dist (ft)		1240			1304			1314			1214	
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	235	1742	839	214	1644	903	363	893		225	998	547
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.37	0.20	0.14	0.29	0.26	0.35	0.44	0.81		0.60	0.29	0.26

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	118 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	40.1
Intersection LOS:	D
Intersection Capacity Utilization:	56.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



LT AM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.986			0.974			0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	3490	0	1770	1814	0	1770	1768	0
Flt Permitted	0.950			0.950			0.676			0.379		
Satd. Flow (perm)	1770	3472	0	1770	3490	0	1259	1814	0	706	1768	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			20			15			35	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	39	489	70	49	683	70	107	232	49	42	80	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	41	589	0	52	793	0	113	296	0	44	127	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	12.0	36.0	0.0	12.0	36.0	0.0	22.0	22.0	0.0	22.0	22.0	0.0
Total Split (%)	17.1%	51.4%	0.0%	17.1%	51.4%	0.0%	31.4%	31.4%	0.0%	31.4%	31.4%	0.0%
Maximum Green (s)	7.6	31.1		7.6	31.1		17.1	17.1		17.1	17.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.9	37.1		7.1	37.3		18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.10	0.53		0.10	0.53		0.26	0.26		0.26	0.26	
v/c Ratio	0.23	0.32		0.29	0.42		0.35	0.62		0.24	0.26	
Control Delay	30.4	13.4		33.3	11.6		25.0	28.3		24.8	17.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

LT AM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.4	13.4		33.3	11.6		25.0	28.3		24.8	17.0	
LOS	C	B		C	B		C	C		C	B	
Approach Delay		14.5			12.9			27.4			19.0	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	23	85		21	111		40	107		15	31	
Queue Length 95th (ft)	48	203		51	163		82	183		42	72	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	202	1852		202	1867		324	478		182	481	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.20	0.32		0.26	0.42		0.35	0.62		0.24	0.26	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	40 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	59.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



LT AM with TSP
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.988			0.952			0.958	
Flt Protected	0.950			0.950				0.985			0.972	
Satd. Flow (prot)	1770	3504	0	1770	3497	0	0	1747	0	0	1735	0
Flt Permitted	0.950			0.950				0.888			0.814	
Satd. Flow (perm)	1770	3504	0	1770	3497	0	0	1575	0	0	1453	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			17			37			30	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	45	525	36	38	693	62	37	41	43	57	10	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	47	591	0	40	794	0	0	127	0	0	103	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	14.0	36.0	0.0	14.0	36.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0
Total Split (%)	20.0%	51.4%	0.0%	20.0%	51.4%	0.0%	28.6%	28.6%	0.0%	28.6%	28.6%	0.0%
Maximum Green (s)	9.6	31.1		9.6	31.1		15.1	15.1		15.1	15.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.7	41.3		6.3	41.1		16.0			16.0		
Actuated g/C Ratio	0.10	0.59		0.09	0.59		0.23			0.23		
v/c Ratio	0.28	0.28		0.25	0.39		0.33			0.33		0.29
Control Delay	33.1	11.5		42.4	5.5		19.0			19.1		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

LT AM with TSP
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	33.1	11.5		42.4	5.5				19.0			19.1
LOS	C	B		D	A				B			B
Approach Delay		13.1			7.3				19.0			19.1
Approach LOS		B			A				B			B
Queue Length 50th (ft)	26	93		16	6				32			26
Queue Length 95th (ft)	m51	174		m39	187				75			65
Internal Link Dist (ft)		598			599				1255			1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	253	2075		253	2059				389			355
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.19	0.28		0.16	0.39				0.33			0.29

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	65 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.39
Intersection Signal Delay:	11.1
Intersection LOS:	B
Intersection Capacity Utilization:	44.6%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



LT AM with TSP
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕				↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.961		0.981		0.966		0.966	
Fit Protected	0		0.950		0.966		0.966		0		0	
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1729	0	0	1765	0
Flt Permitted	0		0.436		0.787		0.850		0		0	
Satd. Flow (perm)	0	3518	0	812	3532	0	0	1409	0	0	1553	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	13		3		26		1		1		1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	667		678		1277		1173		1173		1173	
Travel Time (s)	15.2		15.4		29.0		26.7		26.7		26.7	
Volume (vph)	0	517	21	18	736	8	83	1	34	5	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	566	0	19	783	0	0	124	0	0	7	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		8		4		4		4	
Permitted Phases	2		6		8		4		4		4	
Detector Phases	2		6		8		4		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	52.0	52.0	0.0	52.0	52.0	0.0	18.0	18.0	0.0	18.0	18.0	0.0
Total Split (%)	74.3%	74.3%	0.0%	74.3%	74.3%	0.0%	25.7%	25.7%	0.0%	25.7%	25.7%	0.0%
Maximum Green (s)	47.0	47.0	47.0	47.0	47.0	13.1	13.1	13.1	13.1	13.1	13.1	13.1
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	54.8		54.8		54.8		9.9		9.9		9.9	
Actuated g/C Ratio	0.78		0.78		0.78		0.14		0.14		0.14	
v/c Ratio	0.21		0.03		0.28		0.56		0.56		0.03	
Control Delay	0.8		4.0		3.4		31.3		31.3		22.6	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	0.8		4.0		3.4		31.3		31.3		22.6	
LOS	A		A		A		C		C		C	
Approach Delay	0.8		3.4		31.3		22.6		22.6		22.6	

LT AM with TSP
5: El Cajon Blvd & Driveway

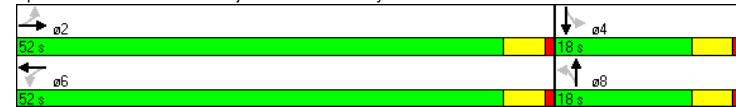
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		A		C		C		C	
Queue Length 50th (ft)	14		1		24		40		2		2	
Queue Length 95th (ft)	18		m8		93		83		12		12	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2757		636		2766		303		311		311	
Starvation Cap Reductn	0		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.21		0.03		0.28		0.41		0.41		0.02	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	60 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay:	4.8
Intersection LOS:	A
Intersection Capacity Utilization:	35.1%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: El Cajon Blvd & Driveway



LT AM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994			0.956		
Flt Protected			0.950	0.967		
Satd. Flow (prot)	3518	0	1770	3539	1722	0
Flt Permitted			0.413	0.967		
Satd. Flow (perm)	3518	0	769	3539	1722	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	12			28		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	551	23	19	814	55	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	604	0	20	857	86	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	50.0	0.0	50.0	50.0	20.0	0.0
Total Split (%)	71.4%	0.0%	71.4%	71.4%	28.6%	0.0%
Maximum Green (s)	45.1		45.1	45.1	15.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	56.9		56.9	56.9	7.8	
Actuated g/C Ratio	0.81		0.81	0.81	0.11	
v/c Ratio	0.21		0.03	0.30	0.40	
Control Delay	4.4		2.0	1.8	26.0	
Queue Delay	0.0		0.0	0.0	0.0	

LT AM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

	→	↖	↗	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	4.4		2.0	1.8	26.0	
LOS	A		A	A	C	
Approach Delay	4.4			1.8	26.0	
Approach LOS	A			A	C	
Queue Length 50th (ft)	122		1	22	24	
Queue Length 95th (ft)	157		m5	50	60	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2862		625	2877	415	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.21		0.03	0.30	0.21	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	3 (4%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.40
Intersection Signal Delay:	4.1
Intersection LOS:	A
Intersection Capacity Utilization:	33.9%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: El Cajon Blvd & Highland Ave



LT AM with TSP
7: El Cajon Blvd & Fairmount Ave

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.970			0.983				
Flt Protected	0.950							0.992				
Satd. Flow (prot)	1770	3539	1583	0	3433	0	0	3451	0	0	0	0
Flt Permitted	0.950							0.992				
Satd. Flow (perm)	1770	3539	1583	0	3433	0	0	3451	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		27			11				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	83	529	73	0	679	167	117	526	83	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	87	557	77	0	891	0	0	764	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	22.0	87.0	87.0	0.0	65.0	0.0	53.0	53.0	0.0	0.0	0.0	0.0
Total Split (%)	15.7%	62.1%	62.1%	0.0%	46.4%	0.0%	37.9%	37.9%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	17.6	82.1	82.1		60.1		48.1	48.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	9.9	83.0	83.0		69.1		49.0	49.0				
Actuated g/C Ratio	0.07	0.59	0.59		0.49		0.35	0.35				
v/c Ratio	0.70	0.27	0.08		0.52		0.63	0.63				
Control Delay	91.9	13.1	2.5		24.6		40.1	40.1				
Queue Delay	0.0	0.4	0.0		0.0		0.0	0.0				

LT AM with TSP
7: El Cajon Blvd & Fairmount Ave

11/15/2007

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	91.9	13.5	2.5		24.6							40.1
LOS	F	B	A		C							D
Approach Delay		21.8			24.6							40.1
Approach LOS		C			C							D
Queue Length 50th (ft)	85	116	3		222							300
Queue Length 95th (ft)	m137	143	m9		259							371
Internal Link Dist (ft)		250			595							1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	228	2098	970		1708							1215
Starvation Cap Reductn	0	993	0		0							0
Spillback Cap Reductn	0	0	0		0							0
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.38	0.50	0.08		0.52							0.63

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	27 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	28.8
Intersection LOS:	C
Intersection Capacity Utilization:	59.3%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



LT AM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↘	↘	↑↑	↘	↘	↘	↘	↘	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	115	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50						50	50	
Trailing Detector (ft)		0		0						0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.985								0.979	0.979	
Flt Protected				0.950						0.983	0.983	
Satd. Flow (prot)	0	5009	0	1770	3539	0	0	0	0	0	3406	0
Flt Permitted				0.950						0.983	0.983	
Satd. Flow (perm)	0	5009	0	1770	3539	0	0	0	0	0	3406	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16									13	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	566	62	44	761	0	0	0	0	137	211	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	661	0	46	801	0	0	0	0	0	424	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	61.0	0.0	33.0	94.0	0.0	0.0	0.0	0.0	46.0	46.0	0.0
Total Split (%)	0.0%	43.6%	0.0%	23.6%	67.1%	0.0%	0.0%	0.0%	0.0%	32.9%	32.9%	0.0%
Maximum Green (s)		56.1		28.6	89.1					41.1	41.1	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		100.6		8.3	111.1					20.9	20.9	
Actuated g/C Ratio		0.72		0.06	0.79					0.15	0.15	
v/c Ratio		0.18		0.44	0.29					0.81	0.81	
Control Delay		6.0		71.8	2.4					68.6	68.6	
Queue Delay		0.0		0.0	0.2					0.0	0.0	

LT AM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		6.0		71.8	2.6							68.6
LOS		A		E	A							E
Approach Delay		6.0			6.4							68.6
Approach LOS		A			A							E
Queue Length 50th (ft)		54		42	34							193
Queue Length 95th (ft)		67		m80	65							243
Internal Link Dist (ft)		565			250			1205				1403
Turn Bay Length (ft)				115								
Base Capacity (vph)		3603		367	2807							1031
Starvation Cap Reductn		0		0	1142							0
Spillback Cap Reductn		0		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.18		0.13	0.48							0.41

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	23 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	19.9
Intersection LOS:	B
Intersection Capacity Utilization:	39.3%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



LT AM with TSP
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑↑↑		↑↑↑		↑↑		↑↑		↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.999			0.970			0.947	
Flt Protected	0.950			0.950				0.971			0.981	
Satd. Flow (prot)	1770	5060	0	1770	5080	0	0	1754	0	0	1731	0
Flt Permitted	0.950			0.950				0.847			0.927	
Satd. Flow (perm)	1770	5060	0	1770	5080	0	0	1530	0	0	1635	0
Right Turn on Red	Yes				Yes				Yes			
Satd. Flow (RTOR)	4						11				9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	655			645			1453			1643		
Travel Time (s)	14.9			14.7			33.0			37.3		
Volume (vph)	28	577	22	22	850	3	41	13	15	9	5	9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	29	630	0	23	898	0	0	73	0	0	23	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases					8		4				4	
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		35.9	35.9		35.9	35.9	
Total Split (s)	33.5	55.0	0.0	33.5	55.0	0.0	51.5	51.5	0.0	51.5	51.5	0.0
Total Split (%)	23.9%	39.3%	0.0%	23.9%	39.3%	0.0%	36.8%	36.8%	0.0%	36.8%	36.8%	0.0%
Maximum Green (s)	29.1	50.1		29.1	50.1		46.6	46.6		46.6	46.6	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None C-Max		None C-Max		Max		Max		Max		Max	
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	9.0		8.0		24.0		24.0		24.0		24.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	6.4	77.5		6.7	79.9		47.5			47.5		47.5
Actuated g/C Ratio	0.05	0.55		0.05	0.57		0.34			0.34		0.34
v/c Ratio	0.36	0.22		0.27	0.31		0.14			0.14		0.04
Control Delay	97.5	11.9		85.1	9.9		28.0			22.2		22.2
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		0.0

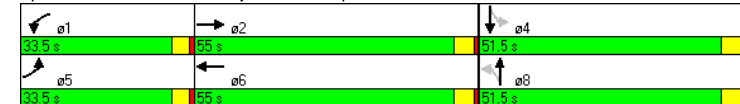
LT AM with TSP
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	97.5	11.9		85.1	9.9					28.0		22.2
LOS	F	B		F	A					C		C
Approach Delay		15.7			11.8					28.0		22.2
Approach LOS		B			B					C		C
Queue Length 50th (ft)	27	53		22	79					39		8
Queue Length 95th (ft)	m62	65		m54	96					78		30
Internal Link Dist (ft)		575			565				1373			1563
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	373	2802		373	2898					526		561
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.08	0.22		0.06	0.31				0.14			0.04

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	40.7 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.36
Intersection Signal Delay:	14.2
Intersection LOS:	B
Intersection Capacity Utilization:	35.9%
ICU Level of Service:	A
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



LT AM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.994			0.993			0.941	
Flt Protected	0.950			0.950				0.965			0.989	
Satd. Flow (prot)	1770	5060	0	1770	5055	0	0	1785	0	0	1734	0
Flt Permitted	0.950			0.950				0.623			0.923	
Satd. Flow (perm)	1770	5060	0	1770	5055	0	0	1152	0	0	1618	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		8			10			2			24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	447			655			1485			1723		
Travel Time (s)	10.2			14.9			33.8			39.2		
Volume (vph)	97	565	18	28	861	35	89	28	7	22	32	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	102	614	0	29	943	0	0	130	0	0	101	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	15.0	100.0	0.0	14.0	99.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0
Total Split (%)	10.7%	71.4%	0.0%	10.0%	70.7%	0.0%	18.6%	18.6%	0.0%	18.6%	18.6%	0.0%
Maximum Green (s)	10.6	95.1		9.6	94.1		21.1	21.1		21.1	21.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		22.0	22.0		22.0	22.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	10.4	102.6		7.2	95.6			22.0			22.0	
Actuated g/C Ratio	0.07	0.73		0.05	0.68			0.16			0.16	
v/c Ratio	0.77	0.17		0.32	0.27			0.71			0.37	
Control Delay	98.0	6.2		82.4	1.6			76.7			44.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

LT AM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	98.0	6.2		82.4	1.6			76.7			44.3	
LOS	F	A		F	A			E			D	
Approach Delay	19.3			4.0			76.7			44.3		
Approach LOS	B			A			E			D		
Queue Length 50th (ft)	92	61		28	15			112			63	
Queue Length 95th (ft)	#184	82		66	19			#210			123	
Internal Link Dist (ft)	367			575			1405			1643		
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	139	3709		126	3453			183			274	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.73	0.17		0.23	0.27			0.71			0.37	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	53 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	16.8
Intersection LOS:	B
Intersection Capacity Utilization:	46.3%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



LT AM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt					0.850		0.873	0.850				
Flt Protected	0.950					0.950						
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950					0.950						
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					322		135	140				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30		30		30			30
Link Distance (ft)		378			225		1453		1618			36.8
Travel Time (s)		8.6			5.1		33.0		36.8			
Volume (vph)	178	475	0	0	741	306	97	23	261	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	187	500	0	0	780	322	102	159	140	0	0	0
Turn Type	Prot				Perm	Split		Perm				
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	21.0	63.0	0.0	0.0	42.0	42.0	27.0	27.0	27.0	0.0	0.0	0.0
Total Split (%)	23.3%	70.0%	0.0%	0.0%	46.7%	46.7%	30.0%	30.0%	30.0%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	58.0			37.0	37.0	22.4	22.4	22.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)		17.0			16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)		0			0	0	0	0	0			
Act Effct Green (s)	13.9	73.8			55.9	55.9	8.2	8.2	8.2			
Actuated g/C Ratio	0.15	0.82			0.62	0.62	0.09	0.09	0.09			
v/c Ratio	0.68	0.12			0.20	0.29	0.33	0.60	0.53			
Control Delay	42.7	3.3			8.4	2.1	40.2	20.0	14.4			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			

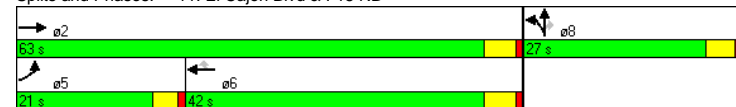
LT AM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	42.7	3.3			8.4	2.1	40.2	20.0	14.4			
LOS	D	A			A	A	D	C	B			
Approach Delay		14.0			6.5			23.2				
Approach LOS		B			A			C				
Queue Length 50th (ft)	106	0			48	0	28	13	0			
Queue Length 95th (ft)	165	71			88	40	50	72	54			
Internal Link Dist (ft)		298			145		1373				1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	345	4170			3981	1106	877	495	489			
Starvation Cap Reductn	0	0			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.54	0.12			0.20	0.29	0.12	0.32	0.29			

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	11.9
Intersection LOS:	B
Intersection Capacity Utilization:	45.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



LT AM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

	↖	→	↘	↙	←	↖	↙	↘	↙	↘	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑					↖↙	↖↙	↖↙
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Fr _t			0.850							0.899	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1591	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1591	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118							65		88
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30					30			30
Link Distance (ft)		1320		378			1484			1611		
Travel Time (s)		30.0		8.6			33.7			36.6		
Volume (vph)	0	494	112	338	541	0	0	0	0	159	30	145
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	520	118	356	569	0	0	0	0	167	97	88
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	48.0	48.0	17.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	53.3%	53.3%	18.9%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)		43.0	43.0	12.8	60.0					20.4	20.4	20.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		44.0	44.0	24.9	72.9					9.1	9.1	9.1
Actuated g/C Ratio		0.49	0.49	0.28	0.81					0.10	0.10	0.10
v/c Ratio		0.17	0.14	0.73	0.14					0.48	0.44	0.38
Control Delay		13.0	3.0	36.4	4.6					42.6	22.3	13.5
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

LT AM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

	↖	→	↘	↙	←	↖	↙	↘	↙	↘	↙	↘
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		13.0	3.0	36.4	4.6					42.6	22.3	13.5
LOS		B	A	D	A					D	C	B
Approach Delay		11.1			16.9						29.7	
Approach LOS		B			B						C	
Queue Length 50th (ft)		45	0	188	27					46	17	0
Queue Length 95th (ft)		61	27	#335	91					76	65	44
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		3133	834	490	4120					801	421	418
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.17	0.14	0.73	0.14					0.21	0.23	0.21
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow											
Natural Cycle:	80											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.73											
Intersection Signal Delay:	17.3						Intersection LOS: B					
Intersection Capacity Utilization:	45.4%						ICU Level of Service A					
Analysis Period (min):	15											
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
Splits and Phases: 12: El Cajon Blvd & I-15 SB												

LT AM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔			↔↔			↔↔		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997			0.996			0.971			0.927		
Flt Protected	0.950		0.950			0.981			0.990			
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1774	0	0	1709	0
Flt Permitted	0.950		0.950			0.858			0.927			
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1552	0	0	1601	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	4			6			11			49		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1329			1310			1164			1020		
Travel Time (s)	30.2			29.8			26.5			23.2		
Volume (vph)	42	430	9	18	575	15	46	45	25	22	27	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	44	462	0	19	621	0	0	121	0	0	111	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	4
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	18.0		4.0	18.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	23.0		8.4	23.0		34.9	34.9		34.9	34.9	
Total Split (s)	19.0	63.0		19.0	63.0		26.0	26.0		26.0	26.0	0.0
Total Split (%)	17.6%	58.3%	0.0%	17.6%	58.3%	0.0%	24.1%	24.1%	0.0%	24.1%	24.1%	0.0%
Maximum Green (s)	14.6	58.0		14.6	58.0		21.1	21.1		21.1	21.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.5	73.5		6.0	70.3			22.0			22.0	
Actuated g/C Ratio	0.07	0.68		0.06	0.65		0.20	0.20		0.20	0.20	
v/c Ratio	0.36	0.13		0.19	0.19		0.37	0.37		0.30	0.30	
Control Delay	50.8	6.0		52.6	8.3		37.5	37.5		23.7	23.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.8	6.0		52.6	8.3		37.5	37.5		23.7	23.7	
LOS	D	A		D	A		D	D		C	C	
Approach Delay	9.9			9.6			37.5			23.7		

LT AM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			A			D			C		
Queue Length 50th (ft)	30	28		13	63			66			36	
Queue Length 95th (ft)	m66	m49		36	88			122			87	
Internal Link Dist (ft)	1249			1230			1084			940		
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	246	3452		246	3300			325			365	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.18	0.13		0.08	0.19			0.37			0.30	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset:	27 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.37
Intersection Signal Delay:	13.3
Intersection LOS:	B
Intersection Capacity Utilization:	40.0%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: El Cajon Blvd & 35th St



LT AM with TSP
14: El Cajon Blvd & 33rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.994			0.983			0.921	
Flt Protected	0.950			0.950				0.968			0.993	
Satd. Flow (prot)	1770	3479	0	1770	3518	0	0	1772	0	0	1704	0
Flt Permitted	0.950			0.950				0.601			0.948	
Satd. Flow (perm)	1770	3479	0	1770	3518	0	0	1100	0	0	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			6			6			61	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	114	436	54	49	644	27	142	48	28	20	42	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	120	516	0	52	706	0	0	229	0	0	157	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			8	
Permitted Phases							4		4		8	
Detector Phases	5	2		1	6		4	4		8	8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9		35.9	35.9	
Total Split (s)	17.0	63.0	0.0	17.0	63.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	15.7%	58.3%	0.0%	15.7%	58.3%	0.0%	25.9%	25.9%	0.0%	25.9%	25.9%	0.0%
Maximum Green (s)	12.6	58.0		12.6	58.0		23.1	23.1		23.1	23.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.0	65.8		8.0	61.0			24.0			24.0	
Actuated g/C Ratio	0.10	0.61		0.07	0.56			0.22			0.22	
v/c Ratio	0.67	0.24		0.40	0.35			0.92			0.38	
Control Delay	64.3	10.3		58.0	10.8			81.1			24.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	64.3	10.3		58.0	10.8			81.1			24.6	
LOS	E	B		E	B			F			C	
Approach Delay		20.5			14.0			81.1			24.6	

LT AM with TSP
14: El Cajon Blvd & 33rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			B			F			C	
Queue Length 50th (ft)	80	80		35	90			152			55	
Queue Length 95th (ft)	141	117		74	114			#304			116	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	213	2127		213	1990			249			409	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.56	0.24		0.24	0.35			0.92			0.38	

Intersection Summary

Area Type: Other
 Cycle Length: 108
 Actuated Cycle Length: 108
 Offset: 33 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 25.9
 Intersection LOS: C
 Intersection Capacity Utilization 61.2%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 14: El Cajon Blvd & 33rd St



LT AM with TSP
15: El Cajon Blvd & I-805 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑↑			↑↑↑			↓	↓	↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.949				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4826	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					156				171			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	489	446	0	0	670	349	507	1	162	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	515	469	0	0	1072	0	267	268	171	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	27.6	67.6	0.0	0.0	40.0	0.0	28.4	28.4	28.4	0.0	0.0	0.0
Total Split (%)	28.8%	70.4%	0.0%	0.0%	41.7%	0.0%	29.6%	29.6%	29.6%	0.0%	0.0%	0.0%
Maximum Green (s)	23.4	62.6			35.0		23.4	23.4	23.4			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	1.1			1.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	19.0	68.3			45.3		19.7	19.7	19.7			
Actuated g/C Ratio	0.20	0.71			0.47		0.21	0.21	0.21			
v/c Ratio	0.76	0.13			0.45		0.77	0.77	0.37			
Control Delay	40.5	12.3			16.3		51.1	51.0	7.1			
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			

LT AM with TSP
15: El Cajon Blvd & I-805 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	40.5	12.3			16.3		51.1	51.0	7.1			
LOS	D	B			B		D	D	A			
Approach Delay		27.1			16.3		40.4					
Approach LOS		C			B		D					
Queue Length 50th (ft)	158	63			132		162	163	0			
Queue Length 95th (ft)	205	92			202		243	243	50			
Internal Link Dist (ft)		374			492		1297				1503	
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	844	3619			2359		427	429	530			
Starvation Cap Reductn	0	0			0		0	0	0			
Spillback Cap Reductn	0	0			0		0	0	0			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.61	0.13			0.45		0.63	0.62	0.32			

Intersection Summary

Area Type: Other
 Cycle Length: 96
 Actuated Cycle Length: 96
 Offset: 49 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 26.3
 Intersection LOS: C
 Intersection Capacity Utilization 58.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 15: El Cajon Blvd & I-805 NB



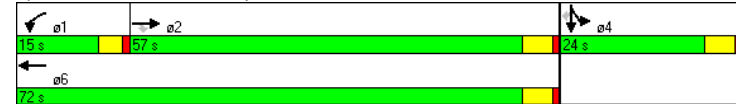
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↔	↑↑↑					↓	↔	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt			0.850									0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Flt Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			424									151
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	745	403	162	1013	0	0	0	0	180	2	397
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	784	424	171	1066	0	0	0	0	95	96	418
Turn Type		Perm	Prot							Split		Perm
Protected Phases		2		1		6				4		4
Permitted Phases			2									4
Detector Phases		2	2	1		6				4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)		0.0	57.0	57.0	15.0	72.0	0.0	0.0	0.0	24.0	24.0	24.0
Total Split (%)		0.0%	59.4%	59.4%	15.6%	75.0%	0.0%	0.0%	0.0%	25.0%	25.0%	25.0%
Maximum Green (s)		52.0	52.0	10.8	67.0					19.0	19.0	19.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Time Before Reduce (s)		1.4	1.4	0.0	0.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		53.5	53.5	10.5	68.0					20.0	20.0	20.0
Actuated g/C Ratio		0.56	0.56	0.11	0.71					0.21	0.21	0.21
v/c Ratio		0.28	0.40	0.45	0.30					0.27	0.27	0.93
Control Delay		11.5	2.3	42.2	3.4					34.4	34.4	53.6
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		11.5	2.3	42.2	3.4					34.4	34.4	53.6
LOS		B	A	D	A					C	C	D
Approach Delay		8.3			8.8							47.6
Approach LOS		A			A							D
Queue Length 50th (ft)		85	0	52	91					51	52	168
Queue Length 95th (ft)		110	41	m64	4					98	101	#355
Internal Link Dist (ft)		586			374			1317				1493
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		2832	1070	393	3602					350	351	449
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.28	0.40	0.44	0.30					0.27	0.27	0.93

Intersection Summary

Area Type:	Other
Cycle Length:	96
Actuated Cycle Length:	96
Offset:	95 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	16.3
Intersection LOS:	B
Intersection Capacity Utilization:	58.8%
ICU Level of Service:	B
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: El Cajon Blvd & I-805 SB



LT AM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt	0.988		0.984		0.949		0.961					
Flt Protected	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (prot)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Flt Permitted	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (perm)	1770	5024	0	1770	5004	0	1770	1768	0	1770	1790	0
Right Turn on Red	Yes		Yes		Yes		Yes					
Satd. Flow (RTOR)	14		20		24		16					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	768			762			1004			1052		
Travel Time (s)	17.5			17.3			22.8			23.9		
Volume (vph)	32	577	49	111	944	110	82	141	72	116	153	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	34	659	0	117	1110	0	86	224	0	122	218	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	20.0	40.0		20.0	40.0		14.0	34.0		14.0	34.0	0.0
Total Split (%)	18.5%	37.0%	0.0%	18.5%	37.0%	0.0%	13.0%	31.5%	0.0%	13.0%	31.5%	0.0%
Maximum Green (s)	15.6	35.0		15.6	35.0		9.6	29.1		9.6	29.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)	4.0		4.0		4.0		4.0					
Flash Dont Walk (s)	13.0		13.0		32.0		32.0					
Pedestrian Calls (#/hr)	0		0		0		0					
Act Effct Green (s)	6.9	40.4		11.6	48.8		8.8	30.4		9.6	33.1	
Actuated g/C Ratio	0.06	0.37		0.11	0.45		0.08	0.28		0.09	0.31	
v/c Ratio	0.30	0.35		0.62	0.49		0.60	0.43		0.78	0.39	
Control Delay	54.6	25.0		59.4	22.2		65.0	31.5		79.8	31.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.6	25.0		59.4	22.2		65.0	31.5		79.8	31.0	
LOS	D	C		E	C		E	C		E	C	
Approach Delay	26.4		25.8		40.8		48.5					

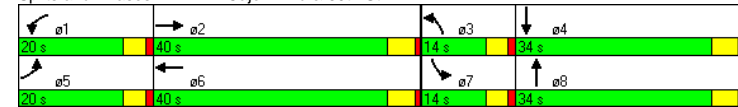
LT AM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			D			D		
Queue Length 50th (ft)	23	116		79	201		58	113		84	114	
Queue Length 95th (ft)	54	159		133	256		110	186		#176	186	
Internal Link Dist (ft)	688			682			924			972		
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	262	1888		262	2273		164	515		164	561	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.35		0.45	0.49		0.52	0.43		0.74	0.39	

Intersection Summary	
Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	108
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	30.8
Intersection LOS:	C
Intersection Capacity Utilization:	55.6%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 17: El Cajon Blvd & 30th St



LT AM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.994			0.980			0.984			0.966	
Flt Protected	0.950			0.950				0.994			0.990	
Satd. Flow (prot)	1770	5055	0	1770	4984	0	0	3462	0	0	3385	0
Flt Permitted	0.950			0.950				0.994			0.990	
Satd. Flow (perm)	1770	5055	0	1770	4984	0	0	3462	0	0	3385	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			22			9			27	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1532			1136			994			1062		
Travel Time (s)	34.8			25.8			22.6			24.1		
Volume (vph)	117	315	12	74	741	111	48	297	42	63	184	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	123	345	0	78	897	0	0	408	0	0	336	0
Turn Type	Prot		Prot		Split		Split		Split		Split	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases	[Diagrammatic Permitted Phases]											
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	19.5	48.0	0.0	14.6	43.1	0.0	34.6	34.6	0.0	32.8	32.8	0.0
Total Split (%)	15.0%	36.9%	0.0%	11.2%	33.2%	0.0%	26.6%	26.6%	0.0%	25.2%	25.2%	0.0%
Maximum Green (s)	15.1	43.1		10.2	38.2		29.7	29.7		27.9	27.9	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	4.0		4.0		4.0		5.0		5.0		4.0	
Flash Dont Walk (s)	12.0		12.0		29.0		29.0		29.0		29.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	12.9	47.3		9.2	41.7		30.6			28.8		
Actuated g/C Ratio	0.10	0.36		0.07	0.32		0.24			0.22		
v/c Ratio	0.70	0.19		0.62	0.56		0.50			0.44		
Control Delay	85.0	26.4		79.5	37.6		44.5			42.0		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

LT AM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	85.0	26.4		79.5	37.6		44.5			42.0		
LOS	F	C		E	D		D			D		
Approach Delay		41.8			40.9		44.5			42.0		
Approach LOS		D			D		D			D		
Queue Length 50th (ft)	107	56		64	225		154			118		
Queue Length 95th (ft)	m174	90		119	277		207			167		
Internal Link Dist (ft)	1452		1056		914		982					
Turn Bay Length (ft)	140		120		822		771					
Base Capacity (vph)	211	1843		144	1613							
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.58	0.19		0.54	0.56		0.50			0.44		

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 25 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 41.9

Intersection LOS: D

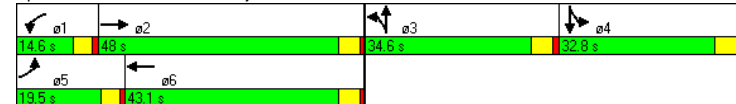
Intersection Capacity Utilization 56.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



LT AM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.996			0.944			0.934	
Flt Protected	0.950			0.950				0.984			0.994	
Satd. Flow (prot)	1770	5070	0	1770	5065	0	0	1730	0	0	1729	0
Flt Permitted	0.950			0.950				0.898			0.973	
Satd. Flow (perm)	1770	5070	0	1770	5065	0	0	1579	0	0	1693	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		3			5			27			36	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	15	336	7	60	790	24	31	26	40	9	30	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	16	361	0	63	857	0	0	102	0	0	80	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.5	22.5		8.5	22.5		40.9	40.9		43.9	43.9	
Total Split (s)	25.0	61.0	0.0	29.0	65.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	19.2%	46.9%	0.0%	22.3%	50.0%	0.0%	30.8%	30.8%	0.0%	30.8%	30.8%	0.0%
Maximum Green (s)	20.6	55.9		24.6	60.1		35.1	35.1		35.1	35.1	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.1	99.5		9.4	106.5		11.0			11.0		
Actuated g/C Ratio	0.05	0.77		0.07	0.82		0.08			0.08		
v/c Ratio	0.19	0.09		0.49	0.21		0.65			0.45		
Control Delay	74.1	2.5		61.1	1.3		59.7			40.3		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

LT AM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	74.1	2.5		61.1	1.3				59.7			40.3
LOS	E	A		E	A				E			D
Approach Delay		5.5			5.4				59.7			40.3
Approach LOS		A			A				E			D
Queue Length 50th (ft)	13	17		55	14				62			36
Queue Length 95th (ft)	37	32		m104	27				119			84
Internal Link Dist (ft)		720			1452				827			901
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	286	3880		340	4150				457			495
Starvation Cap Reductn	0	0		0	0				0			0
Spillback Cap Reductn	0	0		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.06	0.09		0.19	0.21				0.22			0.16

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	11.1
Intersection LOS:	B
Intersection Capacity Utilization:	40.8%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: El Cajon Blvd & Florida St



LT AM with TSP
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3461	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				81			54			290
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	143	229	39	162	661	77	71	90	51	29	216	431
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	151	282	0	171	696	81	75	95	54	31	227	454
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	8.9	14.9		8.4	46.9	46.9	8.4	42.9	42.9	8.4	11.9	8.9
Total Split (s)	17.7	52.0	0.0	27.6	61.9	61.9	15.3	39.1	39.1	11.3	35.1	17.7
Total Split (%)	13.6%	40.0%	0.0%	21.2%	47.6%	47.6%	11.8%	30.1%	30.1%	8.7%	27.0%	13.6%
Maximum Green (s)	12.8	47.1		23.2	57.0	57.0	10.9	34.2	34.2	6.9	30.2	12.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes		Yes		Yes	
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	None	C-Max		None	None	None	None	None	None	None	None	None
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	11.1	73.3		18.6	80.8	80.8	9.7	19.1	19.1	6.7	14.4	29.5
Actuated g/C Ratio	0.09	0.56		0.14	0.62	0.62	0.07	0.15	0.15	0.05	0.11	0.23
v/c Ratio	0.51	0.14		0.68	0.32	0.08	0.57	0.18	0.19	0.34	0.58	0.53
Control Delay	62.6	15.0		54.3	14.9	5.6	74.4	48.6	13.6	68.9	60.7	16.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LT AM with TSP
20: Normal St & Park Blvd

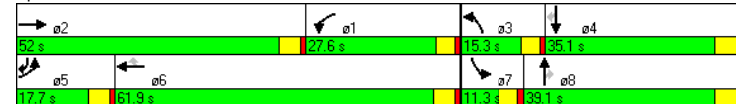
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.6	15.0		54.3	14.9	5.6	74.4	48.6	13.6	68.9	60.7	16.9
LOS	E	B		D	B	A	E	D	B	E	E	B
Approach Delay		31.6			21.2			48.8			33.1	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	63	57		75	121	0	62	37	0	26	97	65
Queue Length 95th (ft)	96	94		125	188	m24	114	63	38	60	136	114
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220			130		100			
Base Capacity (vph)	369	1959		321	2199	1014	158	956	467	103	847	912
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.14		0.53	0.32	0.08	0.47	0.10	0.12	0.30	0.27	0.50

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	29 (22%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	29.5
Intersection LOS:	C
Intersection Capacity Utilization:	47.3%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



LT AM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↗	↔	↕	↗	↔	↕	↗	↔	↕	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.947			0.969			0.959			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3352	0	1770	3429	0	1770	3394	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3352	0	1770	3429	0	1770	3394	0	1770	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			23			45				19
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1181			1539			1102				2502
Travel Time (s)		26.8			35.0			25.0				56.9
Volume (vph)	55	213	115	92	498	132	83	152	57	59	284	56
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	58	345	0	97	663	0	87	220	0	62	358	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	21.0	35.0	0.0	21.0	35.0	0.0	25.0	52.8	0.0	25.0	52.8	0.0
Total Split (%)	15.7%	26.2%	0.0%	15.7%	26.2%	0.0%	18.7%	39.5%	0.0%	18.7%	39.5%	0.0%
Maximum Green (s)	16.6	30.1		16.6	30.1		20.6	47.9		20.6	47.9	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	9.7	37.0		12.1	39.1		11.5	51.8		8.9	49.6	
Actuated g/C Ratio	0.08	0.31		0.10	0.32		0.09	0.43		0.07	0.41	
v/c Ratio	0.41	0.32		0.56	0.59		0.52	0.15		0.48	0.25	
Control Delay	64.9	28.8		66.6	37.5		65.9	18.9		69.3	25.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

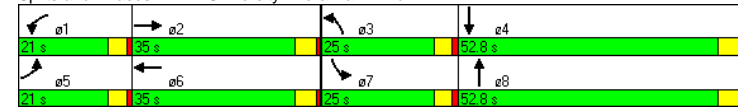
LT AM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	64.9	28.8		66.6	37.5		65.9	18.9		69.3	25.0	
LOS	E	C		E	D		E	B		E	C	
Approach Delay		34.0			41.2			32.2			31.5	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	46	91		76	233		68	45		49	96	
Queue Length 95th (ft)	94	148		139	325		126	80		100	150	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	232	1073		236	1125		282	1480		277	1426	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.32		0.41	0.59		0.31	0.15		0.22	0.25	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	120.9
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	36.1
Intersection Capacity Utilization:	48.9%
ICU Level of Service A	
Analysis Period (min)	15

Splits and Phases: 21: University Ave & Park Blvd



LT PM
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frnt		0.980			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3468	0	3433	3426	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3468	0	3433	3426	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			31				115			150
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	324	802	125	227	589	161	255	611	116	492	851	255
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	341	976	0	239	789	0	268	643	122	518	896	268
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8	8	7	4	4
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2	40.2	8.4	40.1	40.1
Total Split (s)	14.4	44.9		14.9	45.4		15.0	40.2	40.2	20.0	45.2	45.2
Total Split (%)	12.0%	37.4%	0.0%	12.4%	37.8%	0.0%	12.5%	33.5%	33.5%	16.7%	37.7%	37.7%
Maximum Green (s)	10.0	40.1		10.5	40.7		10.6	35.0	35.0	15.6	40.1	40.1
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2	4.2	3.4	4.1	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7	3.7	2.0	3.2	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9	0.9	0.0	1.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0			32.0			28.0	28.0		28.0	28.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	16.3	42.0		12.1	37.8		14.6	30.3	30.3	19.6	35.3	35.3
Actuated g/C Ratio	0.14	0.35		0.10	0.32		0.12	0.25	0.25	0.16	0.29	0.29
v/c Ratio	0.73	0.80		0.69	0.72		1.25	0.72	0.25	1.79	0.86	0.47
Control Delay	60.7	40.6		63.2	38.6		186.9	45.5	8.0	399.9	49.0	16.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

LT PM
1: El Cajon Blvd & College Ave

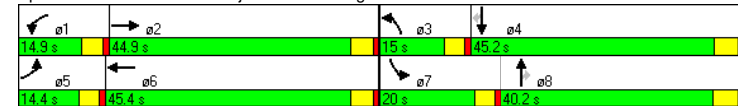
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.7	40.6		63.2	38.6		186.9	45.5	8.0	399.9	49.0	16.7
LOS	E	D		E	D		F	D	A	F	D	B
Approach Delay		45.8			44.3			77.8			151.9	
Approach LOS		D			D			E			F	
Queue Length 50th (ft)	132	355		92	269		-271	238	4	-615	343	70
Queue Length 95th (ft)	#255	441		#153	330		#472	286	49	#859	396	140
Internal Link Dist (ft)		1138			1071			1350			1401	
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	467	1225		349	1202		215	1068	558	289	1215	642
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.80		0.68	0.66		1.25	0.60	0.22	1.79	0.74	0.42

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	82 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.79
Intersection Signal Delay:	87.3
Intersection LOS:	F
Intersection Capacity Utilization:	92.0%
ICU Level of Service:	F
Analysis Period (min):	15
-	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 1: El Cajon Blvd & College Ave



LT PM

2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3415	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3415	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			213			187		34				130
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	188	832	360	185	588	193	241	445	138	479	934	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	198	876	379	195	619	203	254	613	0	504	983	155
Turn Type	Prot		Perm	Prot		Perm	Prot		Prot		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	12.4	35.1	35.1	14.9	37.6	37.6	17.5	38.0	0.0	32.0	52.5	52.5
Total Split (%)	10.3%	29.3%	29.3%	12.4%	31.3%	31.3%	14.6%	31.7%	0.0%	26.7%	43.8%	43.8%
Maximum Green (s)	8.0	30.2	30.2	10.5	32.4	32.4	13.1	33.0		27.6	47.6	47.6
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	15.3	31.1	31.1	17.8	33.6	33.6	12.1	27.1		28.0	42.9	42.9
Actuated g/C Ratio	0.13	0.26	0.26	0.15	0.28	0.28	0.10	0.23		0.23	0.36	0.36
v/c Ratio	0.88	0.96	0.67	0.74	0.62	0.35	0.73	0.77		1.22	0.78	0.24
Control Delay	87.5	64.8	23.3	67.9	41.0	7.9	65.1	47.5		159.1	38.8	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

LT PM

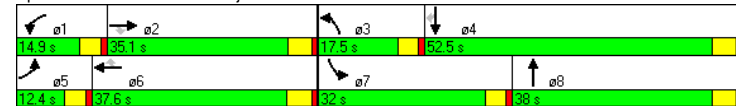
2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	87.5	64.8	23.3	67.9	41.0	7.9	65.1	47.5		159.1	38.8	7.0
LOS	F	E	C	E	D	A	E	D		F	D	A
Approach Delay			57.1			39.6				52.7		72.7
Approach LOS			E			D				D		E
Queue Length 50th (ft)	153	353	114	147	220	9	98	222		-480	356	13
Queue Length 95th (ft)	#370	#483	228	#334	283	67	143	268		#691	403	54
Internal Link Dist (ft)			1240			1304			1314			1214
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	226	917	568	263	991	578	386	992		413	1430	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.88	0.96	0.67	0.74	0.62	0.35	0.66	0.62		1.22	0.69	0.22

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	145
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	57.9
Intersection LOS:	E
Intersection Capacity Utilization:	89.8%
ICU Level of Service:	E
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



LT PM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.984			0.941			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1770	3483	0	1770	1753	0	1770	1818	0
Flt Permitted	0.950			0.950			0.369			0.369		
Satd. Flow (perm)	1770	3483	0	1770	3483	0	687	1753	0	687	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			16			29			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	37	1158	140	80	771	91	115	184	120	97	255	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	39	1366	0	84	908	0	121	320	0	102	320	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	10.9	61.1	0.0	16.0	66.2	0.0	42.9	42.9	0.0	42.9	42.9	0.0
Total Split (%)	9.1%	50.9%	0.0%	13.3%	55.2%	0.0%	35.8%	35.8%	0.0%	35.8%	35.8%	0.0%
Maximum Green (s)	6.5	56.2		11.6	61.3		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	6.7	61.3		9.9	66.6		38.9	38.9		38.9	38.9	
Actuated g/C Ratio	0.06	0.51		0.08	0.56		0.32	0.32		0.32	0.32	
v/c Ratio	0.39	0.76		0.58	0.47		0.54	0.54		0.46	0.54	
Control Delay	56.4	22.3		68.3	17.5		44.1	34.2		40.3	36.2	
Queue Delay	0.0	0.1		0.0	0.0		0.0	0.0		0.0	0.0	

LT PM
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	56.4	22.4		68.3	17.5		44.1	34.2		40.3	36.2	
LOS	E	C		E	B		D	C		D	D	
Approach Delay		23.3			21.8			36.9			37.2	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	30	282		63	227		77	184		63	196	
Queue Length 95th (ft)	m53	324		116	284		145	279		122	290	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	102	1786		177	1939		223	588		223	595	
Starvation Cap Reductn	0	17		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.38	0.77		0.47	0.47		0.54	0.54		0.46	0.54	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	106 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	26.5
Intersection LOS:	C
Intersection Capacity Utilization:	77.6%
ICU Level of Service:	D
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



LT PM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.990			0.928			0.975	
Flt Protected	0.950			0.950				0.987			0.968	
Satd. Flow (prot)	1770	3514	0	1770	3504	0	0	1706	0	0	1758	0
Flt Permitted	0.950			0.950				0.907			0.683	
Satd. Flow (perm)	1770	3514	0	1770	3504	0	0	1568	0	0	1240	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			10			43			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	58	1192	54	66	873	61	32	24	64	76	18	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	61	1312	0	69	983	0	0	126	0	0	122	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	20.0	71.0	0.0	20.0	71.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	16.7%	59.2%	0.0%	16.7%	59.2%	0.0%	24.2%	24.2%	0.0%	24.2%	24.2%	0.0%
Maximum Green (s)	15.6	66.1		15.6	66.1		24.1	24.1		24.1	24.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.5	75.6		9.3	76.4		25.0			25.0		
Actuated g/C Ratio	0.07	0.63		0.08	0.64		0.21			0.21		
v/c Ratio	0.49	0.59		0.50	0.44		0.35			0.46		
Control Delay	62.5	17.1		84.5	7.2		29.5			44.9		
Queue Delay	0.0	0.1		0.0	0.0		0.0			0.0		

LT PM
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.5	17.2		84.5	7.2					29.5		44.9
LOS	E	B		F	A					C		D
Approach Delay		19.2			12.3					29.5		44.9
Approach LOS		B			B					C		D
Queue Length 50th (ft)	45	314		56	65					54		77
Queue Length 95th (ft)	m88	435		m106	110					112		140
Internal Link Dist (ft)		598			599					1255		1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)	236	2215		236	2233					361		265
Starvation Cap Reductn	0	153		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.26	0.64		0.29	0.44					0.35		0.46

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	18.2
Intersection LOS:	B
Intersection Capacity Utilization:	61.5%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



LT PM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕				↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.925		0.980		0.961			
Fit Protected			0.950				0.980		0.961			
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1689	0	0	1790	0
Flt Permitted	0.954		0.105				0.880		0.828			
Satd. Flow (perm)	0	3356	0	196	3532	0	0	1516	0	0	1542	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	7		3		53							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	667		678		1277		1173		26.7			
Travel Time (s)	15.2		15.4		29.0		26.7					
Volume (vph)	2	1377	55	51	905	15	54	4	73	12	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1509	0	54	969	0	0	138	0	0	16	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		8		8		4		4	
Permitted Phases	2		6		8		8		4		4	
Detector Phases	2		6		8		8		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	81.1	81.1	0.0	81.1	81.1	0.0	38.9	38.9	0.0	38.9	38.9	0.0
Total Split (%)	67.6%	67.6%	0.0%	67.6%	67.6%	0.0%	32.4%	32.4%	0.0%	32.4%	32.4%	0.0%
Maximum Green (s)	76.1	76.1	76.1	76.1	76.1	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	100.3		100.3		100.3		11.7		11.7		11.7	
Actuated g/C Ratio	0.84		0.84		0.84		0.10		0.10		0.10	
w/c Ratio	0.54		0.33		0.33		0.71		0.71		0.11	
Control Delay	3.8		9.1		1.6		50.6		50.6		48.1	
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0	
Total Delay	3.8		9.1		1.6		50.6		50.6		48.1	
LOS	A		A		A		D		D		D	
Approach Delay	3.8		1.9		50.6		50.6		50.6		48.1	

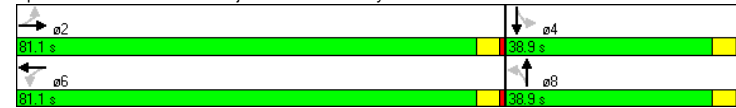
LT PM
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		A		D		D		D	
Queue Length 50th (ft)	74		4		36		64		12		12	
Queue Length 95th (ft)	226		29		44		128		32		32	
Internal Link Dist (ft)	587		598		1197		1093		1093		1093	
Turn Bay Length (ft)	48		48		48		48		48		48	
Base Capacity (vph)	2807		164		2954		478		448		448	
Starvation Cap Reductn	68		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.55		0.33		0.33		0.29		0.29		0.04	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	5.8
Intersection LOS:	A
Intersection Capacity Utilization:	56.5%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 5: El Cajon Blvd & Driveway



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑↑	↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993			0.924		
Flt Protected			0.950		0.979	
Satd. Flow (prot)	3514	0	1770	3539	1685	0
Flt Permitted			0.087		0.979	
Satd. Flow (perm)	3514	0	162	3539	1685	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	8				44	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	1438	72	31	940	61	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	1590	0	33	989	147	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	80.1	0.0	80.1	80.1	39.9	0.0
Total Split (%)	66.8%	0.0%	66.8%	66.8%	33.3%	0.0%
Maximum Green (s)	75.2		75.2	75.2	35.0	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	99.9		99.9	99.9	12.1	
Actuated g/C Ratio	0.83		0.83	0.83	0.10	
v/c Ratio	0.54		0.24	0.34	0.70	
Control Delay	1.9		6.3	1.6	53.4	
Queue Delay	0.0		0.0	0.0	0.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	1.9		6.3	1.6	53.4	
LOS	A		A	A	D	
Approach Delay	1.9			1.7	53.4	
Approach LOS	A			A	D	
Queue Length 50th (ft)	53		2	35	78	
Queue Length 95th (ft)	60		m6	47	142	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2927		135	2946	535	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.54		0.24	0.34	0.27	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	16 (13%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	4.6
Intersection LOS:	A
Intersection Capacity Utilization:	56.9%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 6: El Cajon Blvd & Highland Ave



	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↕	↔	↕	↕	↔	↕	↕	↔	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.985			0.973				
Flt Protected	0.950							0.990				
Satd. Flow (prot)	1770	3539	1583	0	3486	0	0	3409	0	0	0	0
Flt Permitted	0.950							0.990				
Satd. Flow (perm)	1770	3539	1583	0	3486	0	0	3409	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		13			22				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	79	1392	170	0	809	93	123	390	110	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	83	1465	179	0	950	0	0	656	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	22.2	78.3	78.3	0.0	56.1	0.0	41.7	41.7	0.0	0.0	0.0	0.0
Total Split (%)	18.5%	65.3%	65.3%	0.0%	46.8%	0.0%	34.8%	34.8%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	17.8	73.4	73.4		51.2		36.8	36.8				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	8.6	74.3	74.3		63.4		37.7	37.7				
Actuated g/C Ratio	0.07	0.62	0.62		0.53		0.31	0.31				
v/c Ratio	0.65	0.67	0.17		0.51		0.60	0.60				
Control Delay	92.0	10.3	0.3		13.1		36.4	36.4				
Queue Delay	0.0	0.7	0.5		0.0		0.5	0.5				

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.0	11.0	0.8		13.1							36.9
LOS	F	B	A		B							D
Approach Delay		13.9			13.1							36.9
Approach LOS		B			B							D
Queue Length 50th (ft)	61	481	0		155							218
Queue Length 95th (ft)	m101	119	m0		197							282
Internal Link Dist (ft)		250			595							1427
Turn Bay Length (ft)	110											
Base Capacity (vph)	268	2191	1048		1847							1086
Starvation Cap Reductn	0	372	546		0							0
Spillback Cap Reductn	0	0	0		1							137
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.31	0.81	0.36		0.51							0.69

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	18.2
Intersection LOS:	B
Intersection Capacity Utilization:	63.0%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



LT PM
8: El Cajon Blvd & 43rd St

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↖	↑↑						↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.987								0.988	0.981	
Flt Protected				0.950							0.981	
Satd. Flow (prot)	0	5019	0	1770	3539	0	0	0	0	0	3430	0
Flt Permitted				0.950							0.981	
Satd. Flow (perm)	0	5019	0	1770	3539	0	0	0	0	0	3430	0
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)		15									9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		645			330			1285			1483	
Travel Time (s)		14.7			7.5			29.2			33.7	
Volume (vph)	0	1293	122	108	957	0	0	0	0	386	526	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1489	0	114	1007	0	0	0	0	0	1047	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		25.0		4.0	25.0					4.0	4.0	
Minimum Split (s)		29.9		8.4	29.9					39.9	39.9	
Total Split (s)	0.0	49.4	0.0	19.2	68.6	0.0	0.0	0.0	0.0	51.4	51.4	0.0
Total Split (%)	0.0%	41.2%	0.0%	16.0%	57.2%	0.0%	0.0%	0.0%	0.0%	42.8%	42.8%	0.0%
Maximum Green (s)		44.5		14.8	63.7					46.5	46.5	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		10.0			10.0					24.0	24.0	
Flash Dont Walk (s)		11.0			11.0					11.0	11.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		55.2		12.0	71.2					40.8		
Actuated g/C Ratio		0.46		0.10	0.59					0.34		
v/c Ratio		0.64		0.64	0.48					0.89		
Control Delay		27.6		68.3	21.1					47.5		
Queue Delay		0.1		0.0	0.7					0.0		

LT PM
8: El Cajon Blvd & 43rd St

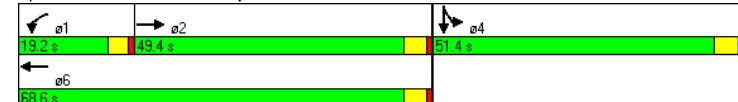
11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		27.6		68.3	21.8						47.5	
LOS		C		E	C						D	
Approach Delay		27.6			26.5						47.5	
Approach LOS		C			C						D	
Queue Length 50th (ft)		317		91	250						397	
Queue Length 95th (ft)		426		m156	305						448	
Internal Link Dist (ft)		565			250			1205			1403	
Turn Bay Length (ft)				115								
Base Capacity (vph)		2318		224	2101						1360	
Starvation Cap Reductn		0		0	686						0	
Spillback Cap Reductn		92		0	0						0	
Storage Cap Reductn		0		0	0						0	
Reduced v/c Ratio		0.67		0.51	0.71						0.77	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	33.0
Intersection LOS:	C
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



LT PM

9: El Cajon Blvd & Copeland Ave

11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.998			0.961			0.977	
Flt Protected	0.950			0.950				0.980			0.979	
Satd. Flow (prot)	1770	5055	0	1770	5075	0	0	1754	0	0	1782	0
Flt Permitted	0.950			0.950				0.874			0.873	
Satd. Flow (perm)	1770	5055	0	1770	5075	0	0	1565	0	0	1589	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		5			2			15			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			645			1453			1643	
Travel Time (s)		14.9			14.7			33.0			37.3	
Volume (vph)	66	1386	55	57	962	12	37	28	27	28	27	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	69	1517	0	60	1026	0	0	96	0	0	69	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8				4	
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	10.0		4.0	10.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.5		8.5	22.5			35.9	35.9		35.9	35.9
Total Split (s)	28.0	65.8		26.3	64.1			47.9	47.9		47.9	47.9
Total Split (%)	20.0%	47.0%	0.0%	18.8%	45.8%	0.0%		34.2%	34.2%	0.0%	34.2%	34.2%
Maximum Green (s)	23.6	60.9		21.9	59.2			43.0	43.0		43.0	43.0
Yellow Time (s)	3.4	3.9		3.4	3.9			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3			2.0	2.0		2.0	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2			2.0	2.0		2.0	2.0
Time Before Reduce (s)	1.0	1.0		0.0	0.0			0.0	0.0		0.0	0.0
Time To Reduce (s)	0.1	0.1		0.0	0.0			0.0	0.0		0.0	0.0
Recall Mode	None	Max		None	Max			Max	Max		Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		9.0			8.0			24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	9.6	62.0		9.0	61.4			44.0			44.0	
Actuated g/C Ratio	0.08	0.50		0.07	0.49			0.35			0.35	
v/c Ratio	0.51	0.60		0.48	0.41			0.17			0.12	
Control Delay	69.5	24.5		68.8	21.5			25.7			26.5	
Queue Delay	0.0	0.3		0.0	0.0			0.0			0.0	

LT PM

9: El Cajon Blvd & Copeland Ave

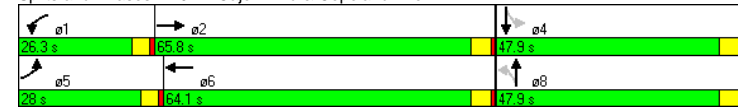
11/15/2007



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.5	24.8		68.8	21.5			25.7			26.5	
LOS	E	C		E	C			C			C	
Approach Delay		26.7			24.1			25.7			26.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	55	324		48	194			46			34	
Queue Length 95th (ft)	105	397		95	247			92			72	
Internal Link Dist (ft)		575			565			1373			1563	
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	301	2509		282	2495			561			565	
Starvation Cap Reductn	0	342		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.23	0.70		0.21	0.41			0.17			0.12	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	125
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	25.7
Intersection Capacity Utilization:	47.8%
ICU Level of Service A:	
Analysis Period (min):	15

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



LT PM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘ ↙ ↚ ↛ ↜ ↝ ↞ ↠ ↡ ↢ ↣											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.987		0.982		0.974		0.974	
Flt Protected	0.950			0.950			0.973	0.980				
Satd. Flow (prot)	1770	5060	0	1770	5019	0	0	1780	0	0	1778	0
Flt Permitted	0.950			0.950			0.786	0.841				
Satd. Flow (perm)	1770	5060	0	1770	5019	0	0	1438	0	0	1526	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)	6			14			7			11		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	447			655			1485			1723		
Travel Time (s)	10.2			14.9			33.8			39.2		
Volume (vph)	157	1366	49	55	940	88	77	44	19	53	49	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	165	1490	0	58	1082	0	0	147	0	0	134	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	5	2		1	6			8			4	4
Permitted Phases							8			4		
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	10.0		4.0	10.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.4	19.9		8.4	19.9			33.9	33.9		33.9	33.9
Total Split (s)	32.0	56.6	0.0	21.5	46.1	0.0	0.0	41.9	41.9	0.0	41.9	41.9
Total Split (%)	26.7%	47.2%	0.0%	17.9%	38.4%	0.0%	0.0%	34.9%	34.9%	0.0%	34.9%	34.9%
Maximum Green (s)	27.6	51.7		17.1	41.2			37.0	37.0		37.0	37.0
Yellow Time (s)	3.4	3.9		3.4	3.9			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2			2.0	2.0		2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Time Before Reduce (s)	1.0	1.0		0.0	0.0			0.0	0.0		0.0	0.0
Time To Reduce (s)	0.1	0.1		0.0	0.0			0.0	0.0		0.0	0.0
Recall Mode	None	C-Max		None	C-Max			Max	Max		Max	Max
Walk Time (s)	7.0		7.0		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	8.0		8.0		22.0		22.0		22.0		22.0	
Pedestrian Calls (#/hr)	0		0		0		0		0		0	
Act Effct Green (s)	15.4	63.3		8.6	54.7			37.9			37.9	
Actuated g/C Ratio	0.13	0.53		0.07	0.46			0.32			0.32	
v/c Ratio	0.73	0.56		0.46	0.47			0.32			0.27	
Control Delay	67.9	20.6		64.2	23.7			32.1			30.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	

LT PM
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	67.9	20.6		64.2	23.7			32.1			30.0	
LOS	E	C		E	C			C			C	
Approach Delay	25.3				25.8		32.1		30.0			
Approach LOS	C				C		C		C			
Queue Length 50th (ft)	125	280		44	204			82			71	
Queue Length 95th (ft)	190	348		86	270			140			124	
Internal Link Dist (ft)	367			575			1405			1643		
Turn Bay Length (ft)	132			110								
Base Capacity (vph)	413	2674		258	2296			459			489	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.40	0.56		0.22	0.47			0.32			0.27	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	26.0
Intersection LOS:	C
Intersection Capacity Utilization:	52.0%
ICU Level of Service A	
Analysis Period (min):	15

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



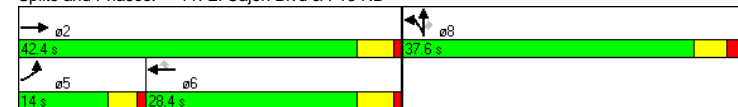
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔			↔↔↔	↔	↔↔	↔	↔			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.875	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1548	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1548	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						269		22	22			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			225			1453			1618	
Travel Time (s)		8.6			5.1			33.0			36.8	
Volume (vph)	255	1305	0	0	852	256	161	38	377	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	268	1374	0	0	897	269	169	236	201	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	14.0	42.4	0.0	0.0	28.4	28.4	37.6	37.6	37.6	0.0	0.0	0.0
Total Split (%)	17.5%	53.0%	0.0%	0.0%	35.5%	35.5%	47.0%	47.0%	47.0%	0.0%	0.0%	0.0%
Maximum Green (s)	9.8	37.4			23.4	23.4	32.0	32.0	32.0			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0				0	0	0	0	0			
Act Effct Green (s)	23.3	55.8			28.5	28.5	16.2	16.2	16.2			
Actuated g/C Ratio	0.29	0.70			0.36	0.36	0.20	0.20	0.20			
v/c Ratio	0.52	0.39			0.39	0.36	0.24	0.71	0.62			
Control Delay	20.0	3.4			20.5	4.5	26.2	38.3	33.6			
Queue Delay	0.0	0.3			0.0	0.0	0.0	0.0	0.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	20.0	3.7			20.5	4.5	26.2	38.3	33.6			
LOS	C	A			C	A	C	D	C			
Approach Delay		6.3			16.8			33.4				
Approach LOS		A			B			C				
Queue Length 50th (ft)	69	0			93	0	37	106	86			
Queue Length 95th (ft)	94	1			133	51	55	164	138			
Internal Link Dist (ft)		298			145			1373			1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	515	3548			2286	738	1442	663	644			
Starvation Cap Reductn	0	1315			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.52	0.62			0.39	0.36	0.12	0.36	0.31			

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	14.7
Intersection LOS:	B
Intersection Capacity Utilization:	60.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



LT PM
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Frnt			0.850							0.937	0.850	
Fit Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1658	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1658	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248							53		159
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		1320		378		1484		1611		36.6		36.6
Travel Time (s)		30.0		8.6		33.7		36.6		36.6		36.6
Volume (vph)	0	1155	241	342	720	0	0	0	0	390	143	340
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1216	254	360	758	0	0	0	0	411	261	248
Turn Type		Perm	Prot			Split		Perm				
Protected Phases		2	1	6				4		4		
Permitted Phases			2									4
Detector Phases		2	2	1	6			4		4		4
Minimum Initial (s)		5.0	5.0	5.0	5.0			5.0		5.0		5.0
Minimum Split (s)		23.0	23.0	9.2	29.0			34.6		34.6		34.6
Total Split (s)	0.0	23.4	23.4	22.0	45.4	0.0	0.0	0.0	0.0	34.6	34.6	34.6
Total Split (%)	0.0%	29.3%	29.3%	27.5%	56.8%	0.0%	0.0%	0.0%	0.0%	43.3%	43.3%	43.3%
Maximum Green (s)		18.4	18.4	17.8	40.4			30.0		30.0		30.0
Yellow Time (s)		4.0	4.0	3.2	4.0			3.6		3.6		3.6
All-Red Time (s)		1.0	1.0	1.0	1.0			1.0		1.0		1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0			2.0		2.0		2.0
Minimum Gap (s)		6.0	6.0	2.0	6.0			2.0		2.0		2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1			0.0		0.0		0.0
Time To Reduce (s)		1.0	1.0	0.0	1.0			0.0		0.0		0.0
Recall Mode		C-Max	C-Max	None	C-Max			None		None		None
Walk Time (s)		7.0	7.0		7.0			7.0		7.0		7.0
Flash Dont Walk (s)		11.0	11.0		17.0			23.0		23.0		23.0
Pedestrian Calls (#/hr)		0	0		0			0		0		0
Act Effct Green (s)		29.9	29.9	22.6	56.5			15.5		15.5		15.5
Actuated g/C Ratio		0.37	0.37	0.28	0.71			0.19		0.19		0.19
v/c Ratio		0.51	0.34	0.72	0.21			0.62		0.72		0.59
Control Delay		22.1	5.2	22.7	2.4			33.0		34.6		16.4
Queue Delay		0.0	0.0	0.0	0.0			0.0		0.0		0.0

LT PM
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		22.1	5.2	22.7	2.4					33.0	34.6	16.4
LOS		C	A	C	A					C	C	B
Approach Delay		19.2			9.0							29.0
Approach LOS		B			A							C
Queue Length 50th (ft)		136	2	165	1					98	103	41
Queue Length 95th (ft)		204	58	245	63					125	165	101
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2397	747	510	3593					1313	667	673
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.51	0.34	0.71	0.21					0.31	0.39	0.37

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	40 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	18.5
Intersection LOS:	B
Intersection Capacity Utilization:	60.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



LT PM
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑↑↑		↑↑↑		↑		↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.991			0.955			0.952	
Flt Protected	0.950			0.950			0.984			0.988		
Satd. Flow (prot)	1770	5045	0	1770	5040	0	0	1750	0	0	1752	0
Flt Permitted	0.950			0.950			0.836			0.895		
Satd. Flow (perm)	1770	5045	0	1770	5040	0	0	1487	0	0	1587	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		9			10			22			24	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1329			1310			1164			1020		
Travel Time (s)	30.2			29.8			26.5			23.2		
Volume (vph)	90	1326	79	118	827	50	65	68	67	41	71	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	95	1479	0	124	924	0	0	211	0	0	183	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases					8		8		4		4	
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		34.9	34.9		34.9	34.9	
Total Split (s)	23.0	53.2	0.0	25.9	56.1	0.0	40.9	40.9	0.0	40.9	40.9	0.0
Total Split (%)	19.2%	44.3%	0.0%	21.6%	46.8%	0.0%	34.1%	34.1%	0.0%	34.1%	34.1%	0.0%
Maximum Green (s)	18.6	48.2		21.5	51.1		36.0	36.0		36.0	36.0	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.2	58.3		12.8	59.9		36.9	36.9		36.9	36.9	
Actuated g/C Ratio	0.09	0.49		0.11	0.50		0.31	0.31		0.31	0.31	
v/c Ratio	0.58	0.60		0.66	0.37		0.45	0.45		0.36	0.36	
Control Delay	64.1	16.1		67.1	19.1		33.3	33.3		30.4	30.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.1	16.1		67.1	19.1		33.3	33.3		30.4	30.4	
LOS	E	B		E	B		C	C		C	C	
Approach Delay		19.0			24.8			33.3			30.4	

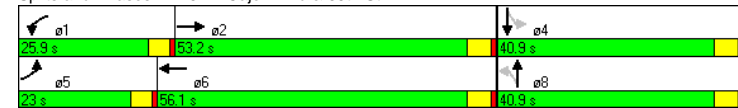
LT PM
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			C			C		
Queue Length 50th (ft)	78	135		94	153			117			95	
Queue Length 95th (ft)	m86	m176		152	202			192			161	
Internal Link Dist (ft)	1249			1230			1084			940		
Turn Bay Length (ft)	130			135								
Base Capacity (vph)	280	2455		323	2521			472			505	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.34	0.60		0.38	0.37			0.45			0.36	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	59 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	22.7
Intersection LOS:	C
Intersection Capacity Utilization:	61.1%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 13: El Cajon Blvd & 35th St



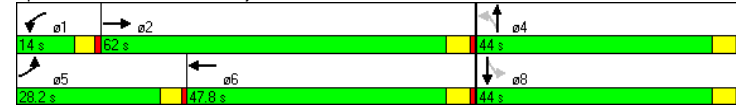
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.993			0.962			0.932	
Flt Protected	0.950			0.950				0.977			0.990	
Satd. Flow (prot)	1770	3497	0	1770	3514	0	0	1751	0	0	1719	0
Flt Permitted	0.950			0.950				0.639			0.872	
Satd. Flow (perm)	1770	3497	0	1770	3514	0	0	1145	0	0	1514	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			5			18			45	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	206	1362	122	109	793	40	157	79	92	47	71	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	217	1562	0	115	877	0	0	345	0	0	248	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			4	8
Permitted Phases								4			8	
Detector Phases	5	2		1	6			4	4		8	8
Minimum Initial (s)	4.0	25.0		4.0	25.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.4	30.0		8.4	30.0			35.9	35.9		35.9	35.9
Total Split (s)	28.2	62.0	0.0	14.0	47.8	0.0	44.0	44.0	0.0	44.0	44.0	0.0
Total Split (%)	23.5%	51.7%	0.0%	11.7%	39.8%	0.0%	36.7%	36.7%	0.0%	36.7%	36.7%	0.0%
Maximum Green (s)	23.8	57.0		9.6	42.8		39.1	39.1		39.1	39.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	18.7	58.3		9.7	49.3			40.0			40.0	
Actuated g/C Ratio	0.16	0.49		0.08	0.41			0.33			0.33	
v/c Ratio	0.79	0.92		0.80	0.61			0.88			0.46	
Control Delay	68.3	38.3		83.4	30.0			59.6			28.9	
Queue Delay	0.0	47.0		0.0	0.0			0.0			0.0	
Total Delay	68.3	85.2		83.4	30.0			59.6			28.9	
LOS	E	F		F	C			E			C	
Approach Delay		83.2			36.2			59.6			28.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			D			E			C	
Queue Length 50th (ft)	163	573		89	166			240			123	
Queue Length 95th (ft)	239	#742		#191	294			#418			202	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	357	1705		148	1448			394			535	
Starvation Cap Reductn	0	289		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.61	1.10		0.78	0.61			0.88			0.46	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	46 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	62.9
Intersection LOS:	E
Intersection Capacity Utilization:	92.9%
ICU Level of Service:	F
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 14: El Cajon Blvd & 33rd St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔↔			↔↔↔		↔	↔	↔			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.967				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					68				29			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		454			572			1377			1583	
Travel Time (s)		10.3			13.0			31.3			36.0	
Volume (vph)	356	1530	0	0	907	257	466	2	281	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	375	1611	0	0	1226	0	246	247	296	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Detector Phases	5	2			6		8	8	8			
Minimum Initial (s)	10.0	10.0			10.0		5.0	5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0		34.0	34.0	34.0			
Total Split (s)	29.6	74.0	0.0	0.0	44.4	0.0	42.0	42.0	42.0	0.0	0.0	0.0
Total Split (%)	25.5%	63.8%	0.0%	0.0%	38.3%	0.0%	36.2%	36.2%	36.2%	0.0%	0.0%	0.0%
Maximum Green (s)	25.4	69.0			39.4		37.0	37.0	37.0			
Yellow Time (s)	3.2	4.0			4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0		2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.1			0.1		0.0	0.0	0.0			
Time To Reduce (s)	0.0	1.0			1.0		0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max		None	None	None			
Walk Time (s)		7.0			7.0		7.0	7.0	7.0			
Flash Dont Walk (s)		10.0			10.0		22.0	22.0	22.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	18.0	83.4			61.5		24.6	24.6	24.6			
Actuated g/C Ratio	0.16	0.72			0.53		0.21	0.21	0.21			
v/c Ratio	0.70	0.44			0.46		0.69	0.69	0.83			
Control Delay	63.0	2.1			18.4		51.5	51.5	57.5			
Queue Delay	0.0	0.4			0.0		0.4	0.4	0.9			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	63.0	2.5			18.4		51.9	51.9	58.4			
LOS	E	A			B		D	D	E			
Approach Delay		13.9			18.4			54.3				
Approach LOS		B			B			D				
Queue Length 50th (ft)	134	36			188		181	182	195			
Queue Length 95th (ft)	m80	m36			304		244	244	266			
Internal Link Dist (ft)		374			492			1297			1503	
Turn Bay Length (ft)	148						158					
Base Capacity (vph)	758	3658			2638		551	552	538			
Starvation Cap Reductn	0	1321			0		0	0	0			
Spillback Cap Reductn	0	713			3		76	76	79			
Storage Cap Reductn	0	0			0		0	0	0			
Reduced v/c Ratio	0.49	0.69			0.47		0.52	0.52	0.64			

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	59 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	23.3
Intersection LOS:	C
Intersection Capacity Utilization:	87.0%
ICU Level of Service:	E
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: El Cajon Blvd & I-805 NB



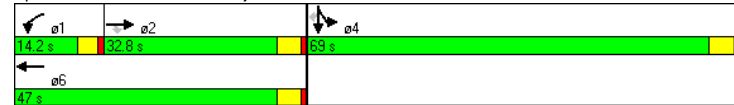
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Flt Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes		Yes			Yes				Yes
Satd. Flow (RTOR)			440									15
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	1259	664	251	1109	0	0	0	0	648	1	952
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1325	699	264	1167	0	0	0	0	341	342	1002
Turn Type		Perm	Prot							Split	Perm	
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)		0.0	32.8	32.8	14.2	47.0				69.0	69.0	69.0
Total Split (%)		0.0%	28.3%	28.3%	12.2%	40.5%	0.0%	0.0%	0.0%	59.5%	59.5%	59.5%
Maximum Green (s)		27.8	27.8	10.0	42.0					64.0	64.0	64.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.4	1.4	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		28.8	28.8	10.2	43.0					65.0	65.0	65.0
Actuated g/C Ratio		0.25	0.25	0.09	0.37					0.56	0.56	0.56
v/c Ratio		1.05	0.97	0.87	0.62					0.36	0.36	1.12
Control Delay		81.9	42.7	67.1	37.9					15.4	15.4	95.0
Queue Delay		7.2	0.0	0.0	2.8					0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		89.1	42.7	67.1	40.6					15.4	15.4	95.0
LOS		F	D	E	D					B	B	F
Approach Delay		73.1			45.5						62.8	
Approach LOS		E			D						E	
Queue Length 50th (ft)		-395	229	90	341					141	141	-862
Queue Length 95th (ft)		#491	#492	#174	385					207	208	#1117
Internal Link Dist (ft)		586			374			1317			1493	
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		1262	724	302	1885					942	945	894
Starvation Cap Reductn		0	0	0	578					0	0	0
Spillback Cap Reductn		22	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		1.07	0.97	0.87	0.89					0.36	0.36	1.12

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.12
Intersection Signal Delay:	62.0
Intersection LOS:	E
Intersection Capacity Utilization:	87.0%
ICU Level of Service:	E
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

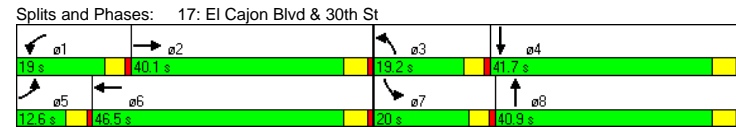
Splits and Phases: 16: El Cajon Blvd & I-805 SB



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↓	↑↑↑		↓	↑↑↑		↓	↑↑↑		↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985			0.983			0.959			0.975		
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			21			16			9	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	768			762			1004			1052		
Travel Time (s)	17.5			17.3			22.8			23.9		
Volume (vph)	77	1176	128	176	1081	137	107	245	93	186	266	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	81	1373	0	185	1282	0	113	356	0	196	337	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	12.6	40.1		19.0	46.5		19.2	40.9		20.0	41.7	0.0
Total Split (%)	10.5%	33.4%	0.0%	15.8%	38.8%	0.0%	16.0%	34.1%	0.0%	16.7%	34.8%	0.0%
Maximum Green (s)	8.2	35.1		14.6	41.5		14.8	36.0		15.6	36.8	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)	4.0			4.0			4.0			4.0		
Flash Dont Walk (s)	13.0			13.0			32.0			32.0		
Pedestrian Calls (#/hr)	0			0			0			0		
Act Effct Green (s)	8.1	36.7		14.4	43.0		11.9	37.6		15.3	41.0	
Actuated g/C Ratio	0.07	0.31		0.12	0.36		0.10	0.31		0.13	0.34	
v/c Ratio	0.68	0.89		0.87	0.71		0.65	0.62		0.87	0.54	
Control Delay	81.3	47.8		87.7	35.4		68.5	39.5		85.3	35.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	81.3	47.8		87.7	35.4		68.5	39.5		85.3	35.5	
LOS	F	D		F	D		E	D		F	D	
Approach Delay	49.7			42.0			46.5			53.8		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			D			D			D		
Queue Length 50th (ft)	62	370		142	308		85	227		150	205	
Queue Length 95th (ft)	#133	#442		#268	364		144	332		#277	312	
Internal Link Dist (ft)	688			682			924					
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	127	1542		221	1803		224	570		236	627	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	0.89		0.84	0.71		0.50	0.62		0.83	0.54	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	103 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	47.0
Intersection LOS:	D
Intersection Capacity Utilization:	77.5%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



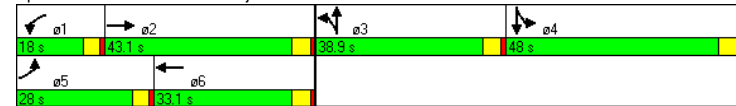
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑ ↑ ↑ ↑ ↓ ↓ ↓ ↓ ← ← ← ← → → → →											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.995			0.980			0.984			0.979	
Flt Protected	0.950			0.950				0.994			0.989	
Satd. Flow (prot)	1770	5060	0	1770	4984	0	0	3462	0	0	3427	0
Flt Permitted	0.950			0.950				0.994			0.989	
Satd. Flow (perm)	1770	5060	0	1770	4984	0	0	3462	0	0	3427	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		4			18			8			12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30											
Link Distance (ft)	1532			1136			994			1062		
Travel Time (s)	34.8			25.8			22.6			24.1		
Volume (vph)	207	989	36	107	678	105	56	340	48	197	532	117
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	218	1079	0	113	825	0	0	468	0	0	890	0
Turn Type	Prot		Prot		Split		Split		Split		Split	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	28.0	43.1	0.0	18.0	33.1	0.0	38.9	38.9	0.0	48.0	48.0	0.0
Total Split (%)	18.9%	29.1%	0.0%	12.2%	22.4%	0.0%	26.3%	26.3%	0.0%	32.4%	32.4%	0.0%
Maximum Green (s)	23.6	38.2		13.6	28.2		34.0	34.0		43.1	43.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	4.0											
Flash Dont Walk (s)	12.0											
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	21.0	40.5		12.6	32.1		34.9			44.0		
Actuated g/C Ratio	0.14	0.27		0.09	0.22		0.24			0.30		
v/c Ratio	0.87	0.78		0.75	0.75		0.57			0.87		
Control Delay	87.2	33.7		94.8	58.6		52.2			58.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	87.2	33.7		94.8	58.6					52.2		58.6
LOS	F	C		F	E					D		E
Approach Delay		42.7			62.9					52.2		58.6
Approach LOS		D			E					D		E
Queue Length 50th (ft)	116	370		107	273					207		424
Queue Length 95th (ft) m#297		350		#191	331					268		513
Internal Link Dist (ft)	1452				1056				914		982	
Turn Bay Length (ft)	140			120								
Base Capacity (vph)	287	1388		167	1096					822		1027
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.76	0.78		0.68	0.75					0.57		0.87

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	15 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	53.1
Intersection LOS:	D
Intersection Capacity Utilization:	77.0%
ICU Level of Service:	D
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: El Cajon Blvd & Texas St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.993			0.923			0.981	
Flt Protected	0.950			0.950				0.996			0.990	
Satd. Flow (prot)	1770	5065	0	1770	5050	0	0	1712	0	0	1809	0
Flt Permitted	0.950			0.950				0.979			0.924	
Satd. Flow (perm)	1770	5065	0	1770	5050	0	0	1683	0	0	1688	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			7			49			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	47	1132	31	91	515	27	13	66	104	22	74	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	49	1225	0	96	570	0	0	192	0	0	118	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	21.1		8.4	21.1		40.9	40.9		43.9	43.9	
Total Split (s)	25.6	60.6	0.0	31.5	66.5	0.0	55.9	55.9	0.0	55.9	55.9	0.0
Total Split (%)	17.3%	40.9%	0.0%	21.3%	44.9%	0.0%	37.8%	37.8%	0.0%	37.8%	37.8%	0.0%
Maximum Green (s)	21.2	55.5		27.1	61.6		51.0	51.0		51.0	51.0	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.1	106.5		12.7	113.0		16.8			16.8		
Actuated g/C Ratio	0.05	0.72		0.09	0.76		0.11			0.11		
v/c Ratio	0.51	0.34		0.63	0.15		0.82			0.60		
Control Delay	85.4	13.8		53.3	13.3		73.2			70.8		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	85.4	13.8		53.3	13.3					73.2		70.8
LOS	F	B		D	B					E		E
Approach Delay		16.6			19.1					73.2		70.8
Approach LOS		B			B					E		E
Queue Length 50th (ft)	41	269		95	88					138		105
Queue Length 95th (ft)	m80	367		m127	m138					217		164
Internal Link Dist (ft)		720			1452					827		901
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	258	3647		329	3857					622		596
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.19	0.34		0.29	0.15					0.31		0.20

Intersection Summary

Area Type: Other

Cycle Length: 148

Actuated Cycle Length: 148

Offset: 32 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 49.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

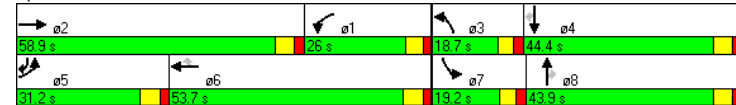
Splits and Phases: 19: El Cajon Blvd & Florida St

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↘	↘	↘	↘	↘	↘	↘	↘	↘	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				80			219			292
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	422	787	112	150	319	76	82	318	219	87	212	277
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	444	946	0	158	336	80	86	335	231	92	223	292
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	9.9	15.9		9.4	47.9	47.9	9.4	43.9	43.9	9.4	12.9	9.9
Total Split (s)	31.2	58.9		26.0	53.7	53.7	18.7	43.9	43.9	19.2	44.4	31.2
Total Split (%)	21.1%	39.8%	0.0%	17.6%	36.3%	36.3%	12.6%	29.7%	29.7%	13.0%	30.0%	21.1%
Maximum Green (s)	25.3	53.0		20.6	47.8	47.8	13.3	38.0	38.0	13.8	38.5	25.3
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes		Yes		Yes	
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	Max	C-Max		None	None	None	None	None	None	None	None	Max
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	52.0	79.7		18.1	45.8	45.8	12.3	21.5	21.5	12.7	21.9	77.9
Actuated g/C Ratio	0.35	0.54		0.12	0.31	0.31	0.08	0.15	0.15	0.09	0.15	0.53
v/c Ratio	0.37	0.50		0.73	0.31	0.15	0.59	0.65	0.55	0.61	0.43	0.18
Control Delay	38.8	24.0		71.0	28.8	9.9	81.1	65.7	13.3	81.5	59.3	2.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	38.8	24.0		71.0	28.8	9.9	81.1	65.7	13.3	81.5	59.3	2.4
LOS	D	C		E	C	A	F	E	B	F	E	A
Approach Delay		28.7			37.8			49.1			35.3	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	166	297		155	95	17	81	163	10	87	104	0
Queue Length 95th (ft)	239	413		m232	m98	m23	140	210	89	147	143	27
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220		130		100				
Base Capacity (vph)	1206	1875		263	1188	585	176	954	587	183	966	1605
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.50		0.60	0.28	0.14	0.49	0.35	0.39	0.50	0.23	0.18

Intersection Summary	
Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	107 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	35.7
Intersection LOS:	D
Intersection Capacity Utilization:	60.6%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



LT PM
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.974			0.964			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3440	0	1770	3447	0	1770	3412	0	1770	3451	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3447	0	1770	3412	0	1770	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			18			32			18	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1181			1539			1102			2502	
Travel Time (s)		26.8			35.0			25.0			56.9	
Volume (vph)	134	751	171	102	477	98	136	470	151	196	351	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	141	971	0	107	605	0	143	654	0	206	444	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	22.8	48.9	0.0	17.0	43.1	0.0	23.0	41.9	0.0	26.0	44.9	0.0
Total Split (%)	17.0%	36.5%	0.0%	12.7%	32.2%	0.0%	17.2%	31.3%	0.0%	19.4%	33.6%	0.0%
Maximum Green (s)	18.4	44.0		12.6	38.2		18.6	37.0		21.6	40.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	15.2	45.0		11.7	41.4		15.4	38.1		18.5	41.2	
Actuated g/C Ratio	0.12	0.35		0.09	0.32		0.12	0.29		0.14	0.32	
v/c Ratio	0.68	0.80		0.67	0.54		0.68	0.64		0.81	0.40	
Control Delay	71.4	43.9		78.3	38.2		71.2	41.5		78.4	34.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

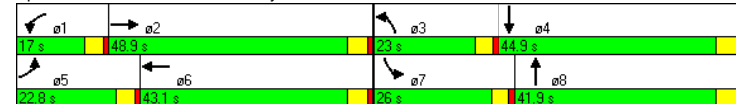
LT PM
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	71.4	43.9		78.3	38.2		71.2	41.5		78.4	34.8	
LOS	E	D		E	D		E	D		E	C	
Approach Delay		47.4			44.2			46.8			48.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	117	391		89	218		119	246		171	150	
Queue Length 95th (ft)	188	487		#162	294		191	320		#264	205	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	251	1211		176	1117		253	1029		294	1113	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.80		0.61	0.54		0.57	0.64		0.70	0.40	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	129.3
Natural Cycle:	115
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	46.8
Intersection LOS:	D
Intersection Capacity Utilization:	73.9%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 21: University Ave & Park Blvd



LT PM with TSP
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	260		0	295		0	260		160	160		120
Storage Lanes	2		0	2		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980			0.968			0.850			0.850	
Fit Protected	0.950			0.950		0.950			0.950			0.950
Satd. Flow (prot)	3433	3468	0	3433	3426	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950		0.950			0.950			0.950
Satd. Flow (perm)	3433	3468	0	3433	3426	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			31				111			138
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1218			1151				1430			1481
Travel Time (s)		27.7			26.2				32.5			33.7
Volume (vph)	324	802	125	227	589	161	255	611	116	492	851	255
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	341	976	0	239	789	0	268	643	122	518	896	268
Turn Type	Prot			Prot		Prot		Perm	Prot		Perm	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	10.0	10.0		10.0	10.0		6.0	10.0	10.0	4.0	10.0	10.0
Minimum Split (s)	14.4	42.8		14.4	43.7		10.4	40.2	40.2	8.4	40.1	40.1
Total Split (s)	20.0	48.4	0.0	15.0	43.4	0.0	18.4	37.2	37.2	19.4	38.2	38.2
Total Split (%)	16.7%	40.3%	0.0%	12.5%	36.2%	0.0%	15.3%	31.0%	31.0%	16.2%	31.8%	31.8%
Maximum Green (s)	15.6	43.6		10.6	38.7		14.0	32.0	32.0	15.0	33.1	33.1
Yellow Time (s)	3.4	3.8		3.4	3.7		3.4	4.2	4.2	3.4	4.1	4.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.4		2.0	3.7		2.0	3.7	3.7	2.0	3.2	3.2
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2
Time Before Reduce (s)	0.0	0.9		0.0	0.9		0.0	0.9	0.9	0.0	1.0	1.0
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1
Recall Mode	None	C-Min		None	C-Min		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		31.0			32.0			28.0	28.0		28.0	28.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	15.0	38.9		10.9	34.8		20.9	32.3	32.3	21.9	33.3	33.3
Actuated g/C Ratio	0.12	0.32		0.09	0.29		0.17	0.27	0.27	0.18	0.28	0.28
v/c Ratio	0.80	0.86		0.77	0.78		0.87	0.67	0.24	1.60	0.91	0.50
Control Delay	65.3	45.8		70.1	43.2		76.5	43.1	8.8	318.7	56.0	20.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0

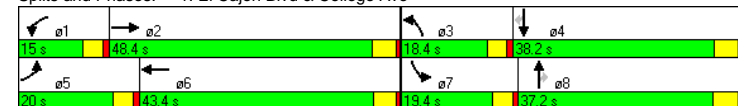
LT PM with TSP
1: El Cajon Blvd & College Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	65.3	45.8		70.1	43.2		76.5	43.1	8.8	318.7	56.0	20.3
LOS	E	D		E	D		E	D	A	F	E	C
Approach Delay		50.9			49.5			47.7			131.2	
Approach LOS		D			D			D			F	
Queue Length 50th (ft)	132	368		94	288		205	232	6	-582	350	80
Queue Length 95th (ft)	184	420		#151	339		#432	297	53	#866	#462	164
Internal Link Dist (ft)		1138			1071			1350			1401	
Turn Bay Length (ft)	260			295			260		160	160		120
Base Capacity (vph)	458	1293		315	1146		308	979	518	323	1009	550
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.75		0.76	0.69		0.87	0.66	0.24	1.60	0.89	0.49

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	82 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.60
Intersection Signal Delay:	76.6
Intersection LOS:	E
Intersection Capacity Utilization:	92.0%
ICU Level of Service:	F
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: El Cajon Blvd & College Ave



LT PM with TSP

2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		135	225		155	385		0	110		190
Storage Lanes	1		1	1		1	2		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850			0.850		0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3415	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3415	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238			203			32			117
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1320			1384			1394			1294	
Travel Time (s)		30.0			31.5			31.7			29.4	
Volume (vph)	188	832	360	185	588	193	241	445	138	479	934	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	198	876	379	195	619	203	254	613	0	504	983	155
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases			2			6						4
Detector Phases	5	2	2	1	6	6	3	8		7	4	4
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	10.0	4.0	10.0		4.0	10.0	10.0
Minimum Split (s)	10.4	34.9	34.9	10.4	37.2	37.2	8.4	38.0		8.4	36.9	36.9
Total Split (s)	12.4	45.0	45.0	14.9	47.5	47.5	15.1	33.0	0.0	27.1	45.0	45.0
Total Split (%)	10.3%	37.5%	37.5%	12.4%	39.6%	39.6%	12.6%	27.5%	0.0%	22.6%	37.5%	37.5%
Maximum Green (s)	8.0	40.1	40.1	10.5	42.3	42.3	10.7	28.0		22.7	40.1	40.1
Yellow Time (s)	3.4	3.9	3.9	3.4	4.2	4.2	3.4	4.0		3.4	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.5	3.7	3.7	1.5	3.7	3.7	1.5	3.7		1.5	3.7	3.7
Minimum Gap (s)	1.5	0.2	0.2	1.5	0.2	0.2	1.5	3.0		1.5	0.2	0.2
Time Before Reduce (s)	0.0	2.9	2.9	0.0	0.9	0.9	0.0	0.9		0.0	0.9	0.9
Time To Reduce (s)	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1		0.0	0.1	0.1
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		23.0	23.0		25.0	25.0		26.0			25.0	25.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	11.2	41.0	41.0	13.7	43.5	43.5	10.8	26.2		23.1	38.5	38.5
Actuated g/C Ratio	0.09	0.34	0.34	0.11	0.36	0.36	0.09	0.22		0.19	0.32	0.32
v/c Ratio	1.19	0.72	0.54	0.96	0.48	0.29	0.82	0.80		1.48	0.87	0.26
Control Delay	178.4	38.7	14.4	107.9	31.1	4.6	75.0	50.2		265.7	47.3	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0

LT PM with TSP

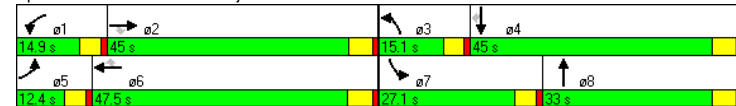
2: El Cajon Blvd & Collwood Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	178.4	38.7	14.4	107.9	31.1	4.6	75.0	50.2		265.7	47.3	9.7
LOS	F	D	B	F	C	A	E	D		F	D	A
Approach Delay		51.4			40.6			57.5			110.8	
Approach LOS		D			D			E			F	
Queue Length 50th (ft)	~204	310	81	~169	193	0	101	222		~538	369	20
Queue Length 95th (ft)	#372	387	179	#336	248	50	#165	286		#749	448	68
Internal Link Dist (ft)		1240			1304			1314			1214	
Turn Bay Length (ft)	300		135	225		155	385			110		190
Base Capacity (vph)	166	1209	698	203	1283	703	318	850		341	1209	618
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.19	0.72	0.54	0.96	0.48	0.29	0.80	0.72		1.48	0.81	0.25

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	145
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.48
Intersection Signal Delay:	69.8
Intersection LOS:	E
Intersection Capacity Utilization:	89.8%
ICU Level of Service:	E
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 2: El Cajon Blvd & Collwood Blvd



LT PM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	160		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.984			0.941			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1770	3483	0	1770	1753	0	1770	1818	0
Flt Permitted	0.950			0.950			0.243			0.243		
Satd. Flow (perm)	1770	3483	0	1770	3483	0	453	1753	0	453	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			18			25			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		679			1338			1391			1169	
Travel Time (s)		15.4			30.4			31.6			26.6	
Volume (vph)	37	1158	140	80	771	91	115	184	120	97	255	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	39	1366	0	84	908	0	121	320	0	102	320	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	6.0	10.0		6.0	10.0		4.0	4.0		6.0	6.0	
Minimum Split (s)	10.4	18.9		10.4	18.9		27.9	27.9		27.9	27.9	
Total Split (s)	15.6	69.0	0.0	19.1	72.5	0.0	31.9	31.9	0.0	31.9	31.9	0.0
Total Split (%)	13.0%	57.5%	0.0%	15.9%	60.4%	0.0%	26.6%	26.6%	0.0%	26.6%	26.6%	0.0%
Maximum Green (s)	11.2	64.1		14.7	67.6		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.5		2.0	0.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.7		0.0	0.7		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		7.0			7.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	7.9	71.8		10.4	76.4		27.9	27.9		27.9	27.9	
Actuated g/C Ratio	0.07	0.60		0.09	0.64		0.23	0.23		0.23	0.23	
v/c Ratio	0.34	0.65		0.55	0.41		1.15	0.75		0.97	0.75	
Control Delay	55.1	23.1		65.2	11.9		177.0	51.5		127.8	53.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

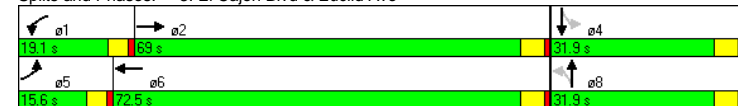
LT PM with TSP
3: El Cajon Blvd & Euclid Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	55.1	23.2		65.2	11.9		177.0	51.5		127.8	53.6	
LOS	E	C		E	B		F	D		F	D	
Approach Delay		24.0			16.4			86.0			71.6	
Approach LOS		C			B			F			E	
Queue Length 50th (ft)	0	320		64	181		~110	215		79	226	
Queue Length 95th (ft)	m57	358		113	242		#234	#330		#196	#338	
Internal Link Dist (ft)		599			1258			1311			1089	
Turn Bay Length (ft)	100			100			160			200		
Base Capacity (vph)	171	2090		223	2224		105	427		105	429	
Starvation Cap Reductn	0	32		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.23	0.66		0.38	0.41		1.15	0.75		0.97	0.75	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	106 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.15
Intersection Signal Delay:	36.3
Intersection LOS:	D
Intersection Capacity Utilization:	77.6%
ICU Level of Service:	D
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 3: El Cajon Blvd & Euclid Ave



LT PM with TSP
4: El Cajon Blvd & Menlo Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	210		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.990			0.928			0.975	
Flt Protected	0.950			0.950				0.987			0.968	
Satd. Flow (prot)	1770	3514	0	1770	3504	0	0	1706	0	0	1758	0
Flt Permitted	0.950			0.950				0.889			0.571	
Satd. Flow (perm)	1770	3514	0	1770	3504	0	0	1537	0	0	1037	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			12			39				8
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		678			679			1335			1225	
Travel Time (s)		15.4			15.4			30.3			27.8	
Volume (vph)	58	1192	54	66	873	61	32	24	64	76	18	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	61	1312	0	69	983	0	0	126	0	0	122	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		28.9	28.9		28.9	28.9	
Total Split (s)	20.0	81.0	0.0	20.0	81.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	16.7%	67.5%	0.0%	16.7%	67.5%	0.0%	15.8%	15.8%	0.0%	15.8%	15.8%	0.0%
Maximum Green (s)	15.6	76.1		15.6	76.1		14.1	14.1		14.1	14.1	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.7		2.0	2.9		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	1.2		0.0	1.1		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			8.0		17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.9	85.6		9.3	85.9		15.0			15.0		
Actuated g/C Ratio	0.07	0.71		0.08	0.72		0.12			0.12		
v/c Ratio	0.46	0.52		0.50	0.39		0.56			0.89		
Control Delay	61.3	7.5		78.7	5.6		44.1			101.2		
Queue Delay	0.0	0.1		0.0	0.0		0.0			0.0		

LT PM with TSP
4: El Cajon Blvd & Menlo Ave

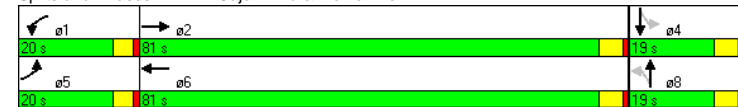
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	61.3	7.6		78.7	5.6				44.1			101.2
LOS	E	A		E	A				D			F
Approach Delay		10.0			10.4				44.1			101.2
Approach LOS		B			B				D			F
Queue Length 50th (ft)	49	151		56	66				63			88
Queue Length 95th (ft)	m91	277		m99	m76				129			#208
Internal Link Dist (ft)		598			599				1255			1145
Turn Bay Length (ft)	100			210								
Base Capacity (vph)		236	2508		236	2512			226			137
Starvation Cap Reductn	0	215		0	0				0			0
Spillback Cap Reductn	0	36		0	0				0			0
Storage Cap Reductn	0	0		0	0				0			0
Reduced v/c Ratio	0.26	0.57		0.29	0.39				0.56			0.89

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	15.9
Intersection LOS:	B
Intersection Capacity Utilization:	61.5%
ICU Level of Service:	B
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: El Cajon Blvd & Menlo Ave



LT PM with TSP
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕			↕↕				↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	48	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	1	0	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994		0.998		0.925		0.980		0.961			
Fit Protected			0.950				0.980		0.961			
Satd. Flow (prot)	0	3518	0	1770	3532	0	0	1689	0	0	1790	0
Flt Permitted	0.954		0.147				0.859		0.746			
Satd. Flow (perm)	0	3356	0	274	3532	0	0	1480	0	0	1390	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes			
Satd. Flow (RTOR)	12		5		43							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30			
Link Distance (ft)	667		678		1277		1173		26.7			
Travel Time (s)	15.2		15.4		29.0		26.7					
Volume (vph)	2	1377	55	51	905	15	54	4	73	12	3	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1509	0	54	969	0	0	138	0	0	16	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		8		8		4		4	
Permitted Phases	2		6		8		8		4		4	
Detector Phases	2		6		8		8		4		4	
Minimum Initial (s)	25.0	25.0	25.0	25.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	30.0	30.0	30.0	30.0	27.9	27.9	8.9	8.9	8.9	8.9	8.9	8.9
Total Split (s)	101.0	101.0	0.0	101.0	101.0	0.0	19.0	19.0	0.0	19.0	19.0	0.0
Total Split (%)	84.2%	84.2%	0.0%	84.2%	84.2%	0.0%	15.8%	15.8%	0.0%	15.8%	15.8%	0.0%
Maximum Green (s)	96.0	96.0	96.0	96.0	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
Yellow Time (s)	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	7.0	7.0	7.0	7.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	100.1		100.1		100.1		11.9		11.9			
Actuated g/C Ratio	0.83		0.83		0.83		0.10		0.10			
v/c Ratio	0.54		0.24		0.33		0.74		0.12			
Control Delay	2.3		3.8		1.5		58.6		49.2			
Queue Delay	0.0		0.0		0.0		0.0		0.0			
Total Delay	2.3		3.8		1.5		58.6		49.2			
LOS	A		A		A		E		D			
Approach Delay	2.3		1.7		58.6		49.2					

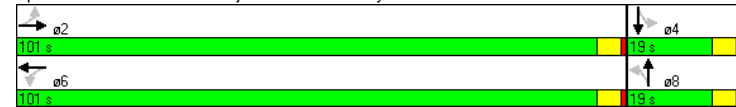
LT PM with TSP
5: El Cajon Blvd & Driveway

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A		A		E		D					
Queue Length 50th (ft)	68		4		34		72		11			
Queue Length 95th (ft)	91		m8		m41		141		34			
Internal Link Dist (ft)	587		598		1197		1093					
Turn Bay Length (ft)	48		228		2946		223		174			
Base Capacity (vph)	2800		68		0		0		0		0	
Starvation Cap Reductn	0		0		0		0		0		0	
Spillback Cap Reductn	0		0		0		0		0		0	
Storage Cap Reductn	0		0		0		0		0		0	
Reduced v/c Ratio	0.55		0.24		0.33		0.62		0.09			

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	10 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	5.2
Intersection LOS:	A
Intersection Capacity Utilization:	56.5%
ICU Level of Service:	B
Analysis Period (min):	15
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 5: El Cajon Blvd & Driveway



LT PM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔		↔	↔↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	78		0	0
Storage Lanes		0	1		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50		50	50	50	
Trailing Detector (ft)	0		0	0	0	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993				0.924	
Flt Protected			0.950		0.979	
Satd. Flow (prot)	3514	0	1770	3539	1685	0
Flt Permitted			0.130		0.979	
Satd. Flow (perm)	3514	0	242	3539	1685	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	15				45	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30			30	30	
Link Distance (ft)	675			667	1317	
Travel Time (s)	15.3			15.2	29.9	
Volume (vph)	1438	72	31	940	61	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	1590	0	33	989	147	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phases	2		6	6	8	
Minimum Initial (s)	10.0		10.0	10.0	4.0	
Minimum Split (s)	21.9		14.9	14.9	29.9	
Total Split (s)	100.0	0.0	100.0	100.0	20.0	0.0
Total Split (%)	83.3%	0.0%	83.3%	83.3%	16.7%	0.0%
Maximum Green (s)	95.1		95.1	95.1	15.1	
Yellow Time (s)	3.9		3.9	3.9	3.9	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	2.0	
Minimum Gap (s)	0.2		0.2	0.2	0.2	
Time Before Reduce (s)	0.1		0.1	0.1	0.0	
Time To Reduce (s)	1.1		1.1	1.1	0.0	
Recall Mode	C-Max		C-Max	C-Max	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	10.0				18.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	100.0		100.0	100.0	12.0	
Actuated g/C Ratio	0.83		0.83	0.83	0.10	
v/c Ratio	0.54		0.16	0.34	0.70	
Control Delay	2.0		3.1	1.6	53.2	
Queue Delay	0.0		0.0	0.0	0.0	

LT PM with TSP
6: El Cajon Blvd & Highland Ave

11/15/2007

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	2.0		3.1	1.6	53.2	
LOS	A		A	A	D	
Approach Delay	2.0			1.6	53.2	
Approach LOS	A			A	D	
Queue Length 50th (ft)	39		2	35	77	
Queue Length 95th (ft)	m47		m5	44	144	
Internal Link Dist (ft)	595			587	1237	
Turn Bay Length (ft)			78			
Base Capacity (vph)	2929		202	2948	264	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.54		0.16	0.34	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	16 (13%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	4.6
Intersection LOS:	A
Intersection Capacity Utilization:	56.9%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: El Cajon Blvd & Highland Ave



LT PM with TSP

7: El Cajon Blvd & Fairmount Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50		50		50	50				
Trailing Detector (ft)	0	0	0		0		0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frt			0.850		0.985			0.973				
Flt Protected	0.950							0.990				
Satd. Flow (prot)	1770	3539	1583	0	3486	0	0	3409	0	0	0	0
Flt Permitted	0.950							0.990				
Satd. Flow (perm)	1770	3539	1583	0	3486	0	0	3409	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		14			19				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		330			675			1341				1507
Travel Time (s)		7.5			15.3			30.5				34.3
Volume (vph)	79	1392	170	0	809	93	123	390	110	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	83	1465	179	0	950	0	0	656	0	0	0	0
Turn Type	Prot		Perm				Split					
Protected Phases	5	2			6		8	8				
Permitted Phases			2									
Detector Phases	5	2	2		6		8	8				
Minimum Initial (s)	4.0	28.0	28.0		28.0		10.0	10.0				
Minimum Split (s)	8.4	32.9	32.9		32.9		34.9	34.9				
Total Split (s)	32.0	93.0	93.0	0.0	61.0	0.0	27.0	27.0	0.0	0.0	0.0	0.0
Total Split (%)	26.7%	77.5%	77.5%	0.0%	50.8%	0.0%	22.5%	22.5%	0.0%	0.0%	0.0%	0.0%
Maximum Green (s)	27.6	88.1	88.1		56.1		22.1	22.1				
Yellow Time (s)	3.4	3.9	3.9		3.9		3.9	3.9				
All-Red Time (s)	1.0	1.0	1.0		1.0		1.0	1.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	0.2	2.0	2.0		2.0		0.2	0.2				
Minimum Gap (s)	2.0	2.0	2.0		2.0		2.0	2.0				
Time Before Reduce (s)	0.0	0.0	0.0		0.0		0.7	0.7				
Time To Reduce (s)	0.0	0.0	0.0		0.0		0.1	0.1				
Recall Mode	None	C-Max	C-Max		C-Max		Max	Max				
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		12.0	12.0		9.0		23.0	23.0				
Pedestrian Calls (#/hr)		0	0		0		0	0				
Act Effct Green (s)	8.7	89.0	89.0		78.0			23.0				
Actuated g/C Ratio	0.07	0.74	0.74		0.65			0.19				
v/c Ratio	0.65	0.56	0.15		0.42			0.98				
Control Delay	90.5	4.7	0.3		6.8			77.5				
Queue Delay	0.0	0.2	0.4		0.0			0.0				

LT PM with TSP

7: El Cajon Blvd & Fairmount Ave

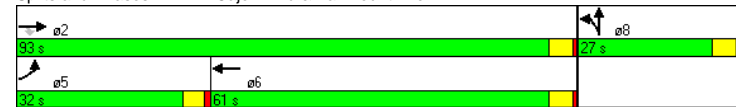
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	90.5	4.9	0.7		6.8							77.5
LOS	F	A	A		A							E
Approach Delay		8.5			6.8							77.5
Approach LOS		A			A							E
Queue Length 50th (ft)	69	97	0		103							262
Queue Length 95th (ft)	m105	m105	m2		174							#388
Internal Link Dist (ft)		250			595							1261
Turn Bay Length (ft)	110											1427
Base Capacity (vph)	413	2625	1220		2271							669
Starvation Cap Reductn	0	371	664		0							0
Spillback Cap Reductn	0	0	0		0							0
Storage Cap Reductn	0	0	0		0							0
Reduced v/c Ratio	0.20	0.65	0.32		0.42							0.98

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.98
Intersection Signal Delay:	21.6
Intersection LOS:	C
Intersection Capacity Utilization:	63.0%
ICU Level of Service:	B
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: El Cajon Blvd & Fairmount Ave



LT PM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↓	↓	↑↑	↑↑	↑	↑	↑	↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0	115	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	1	0	0	0	0	0	0	0	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50		50	50					50	50	
Trailing Detector (ft)		0		0	0					0	0	
Turning Speed (mph)	15		9	15		9	15			9	15	9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.987								0.988	0.981	
Flt Protected				0.950							0.981	
Satd. Flow (prot)	0	5019	0	1770	3539	0	0	0	0	0	3430	0
Flt Permitted				0.950							0.981	
Satd. Flow (perm)	0	5019	0	1770	3539	0	0	0	0	0	3430	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17									8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30		30	
Link Distance (ft)		645			330				1285		1483	
Travel Time (s)		14.7			7.5				29.2		33.7	
Volume (vph)	0	1293	122	108	957	0	0	0	0	386	526	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1489	0	114	1007	0	0	0	0	0	1047	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Detector Phases		2		1	6					4	4	
Minimum Initial (s)		17.0		4.0	17.0					4.0	4.0	
Minimum Split (s)		21.9		8.4	21.9					35.9	35.9	
Total Split (s)	0.0	59.0	0.0	20.7	79.7	0.0	0.0	0.0	0.0	40.3	40.3	0.0
Total Split (%)	0.0%	49.2%	0.0%	17.3%	66.4%	0.0%	0.0%	0.0%	0.0%	33.6%	33.6%	0.0%
Maximum Green (s)		54.1		16.3	74.8					35.4	35.4	
Yellow Time (s)		3.9		3.4	3.9					3.9	3.9	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0		2.0	1.0					2.0	2.0	
Minimum Gap (s)		1.0		2.0	1.0					2.0	2.0	
Time Before Reduce (s)		0.0		0.0	0.0					1.2	1.2	
Time To Reduce (s)		0.0		0.0	0.0					0.1	0.1	
Recall Mode		C-Max		None	C-Max					None	None	
Walk Time (s)		7.0			7.0					7.0	7.0	
Flash Dont Walk (s)		10.0			10.0					24.0	24.0	
Pedestrian Calls (#/hr)		0			0					0	0	
Act Effct Green (s)		59.5		12.2	75.7						36.3	
Actuated g/C Ratio		0.50		0.10	0.63						0.30	
v/c Ratio		0.60		0.64	0.45						1.00	
Control Delay		23.1		69.2	11.7						70.5	
Queue Delay		0.0		0.0	0.4						0.0	

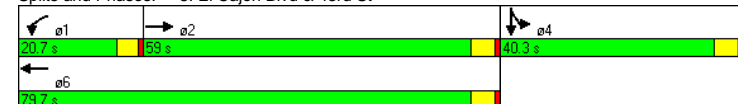
LT PM with TSP
8: El Cajon Blvd & 43rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		23.1		69.2	12.1							70.5
LOS		C		E	B							E
Approach Delay		23.1		17.9								70.5
Approach LOS		C		B								E
Queue Length 50th (ft)		290		88	150							~427
Queue Length 95th (ft)		365		m143	m231							#579
Internal Link Dist (ft)		565		250				1205				1403
Turn Bay Length (ft)				115								
Base Capacity (vph)		2498		246	2233							1043
Starvation Cap Reductn		0		0	686							0
Spillback Cap Reductn		0		0	0							0
Storage Cap Reductn		0		0	0							0
Reduced v/c Ratio		0.60		0.46	0.65							1.00

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	110 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	35.1
Intersection LOS:	D
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15
-	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: El Cajon Blvd & 43rd St



LT PM with TSP
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	180		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.998			0.961			0.977	
Flt Protected	0.950			0.950				0.980			0.979	
Satd. Flow (prot)	1770	5055	0	1770	5075	0	0	1754	0	0	1782	0
Flt Permitted	0.950			0.950				0.870			0.869	
Satd. Flow (perm)	1770	5055	0	1770	5075	0	0	1557	0	0	1581	0
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		6			2			14			7	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		655			645			1453			1643	
Travel Time (s)		14.9			14.7			33.0			37.3	
Volume (vph)	66	1386	55	57	962	12	37	28	27	28	27	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	69	1517	0	60	1026	0	0	96	0	0	69	0
Turn Type	Prot		Prot		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8			4	
Permitted Phases					8		4				4	
Detector Phases	5	2		1	6			8	8		4	4
Minimum Initial (s)	4.0	10.0		4.0	10.0			4.0	4.0		4.0	4.0
Minimum Split (s)	8.5	22.5		8.5	22.5			35.9	35.9		35.9	35.9
Total Split (s)	27.5	74.0		0.0	26.9	73.4	0.0	39.1	39.1	0.0	39.1	39.1
Total Split (%)	19.6%	52.9%		0.0%	19.2%	52.4%	0.0%	27.9%	27.9%	0.0%	27.9%	27.9%
Maximum Green (s)	23.1	69.1		22.5	68.5			34.2	34.2		34.2	34.2
Yellow Time (s)	3.4	3.9		3.4	3.9			3.9	3.9		3.9	3.9
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0		1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.3		2.0	3.3			2.0	2.0		2.0	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2			2.0	2.0		2.0	2.0
Time Before Reduce (s)	1.0	1.0		0.0	0.0			0.0	0.0		0.0	0.0
Time To Reduce (s)	0.1	0.1		0.0	0.0			0.0	0.0		0.0	0.0
Recall Mode	None	Max		None	Max			Max	Max		Max	Max
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		9.0			8.0			24.0	24.0		24.0	24.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	9.6	70.2		9.0	69.7			35.2			35.2	
Actuated g/C Ratio	0.08	0.56		0.07	0.56			0.28			0.28	
v/c Ratio	0.51	0.53		0.47	0.36			0.21			0.15	
Control Delay	69.1	18.2		68.5	16.1			31.9			32.7	
Queue Delay	0.0	0.2		0.0	0.0			0.0			0.0	

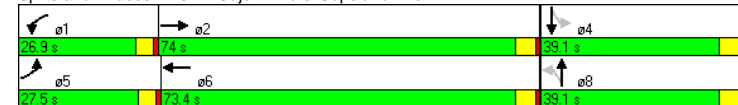
LT PM with TSP
9: El Cajon Blvd & Copeland Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.1	18.5		68.5	16.1			31.9			32.7	
LOS	E	B		E	B			C			C	
Approach Delay		20.7			19.0			31.9			32.7	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)	55	276		48	165			51			38	
Queue Length 95th (ft)	105	341		94	213			103			81	
Internal Link Dist (ft)		575			565			1373			1563	
Turn Bay Length (ft)	115			180								
Base Capacity (vph)	297	2856		290	2845			450			452	
Starvation Cap Reductn	0	568		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.23	0.66		0.21	0.36			0.21			0.15	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	124.4
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.53
Intersection Signal Delay:	20.7
Intersection LOS:	C
Intersection Capacity Utilization:	47.8%
ICU Level of Service A	
Analysis Period (min)	15

Splits and Phases: 9: El Cajon Blvd & Copeland Ave



LT PM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	[Diagrammatic Lane Configurations]											
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	132		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.987				0.982		0.974	
Flt Protected	0.950				0.950				0.973		0.980	
Satd. Flow (prot)	1770	5060	0	1770	5019	0	0	1780	0	0	1778	0
Flt Permitted	0.950				0.950				0.756		0.831	
Satd. Flow (perm)	1770	5060	0	1770	5019	0	0	1383	0	0	1508	0
Right Turn on Red	Yes				Yes				Yes		Yes	
Satd. Flow (RTOR)	6				18				6		10	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30				30				30		30	
Link Distance (ft)	447				655				1485		1723	
Travel Time (s)	10.2				14.9				33.8		39.2	
Volume (vph)	157	1366	49	55	940	88	77	44	19	53	49	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	165	1490	0	58	1082	0	0	147	0	0	134	0
Turn Type	Prot				Prot				Perm		Perm	
Protected Phases	5	2		1	6			8			4	4
Permitted Phases							8				4	
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	19.9		8.4	19.9		33.9	33.9		33.9	33.9	
Total Split (s)	23.1	63.0	0.0	23.1	63.0	0.0	33.9	33.9	0.0	33.9	33.9	0.0
Total Split (%)	19.3%	52.5%	0.0%	19.3%	52.5%	0.0%	28.3%	28.3%	0.0%	28.3%	28.3%	0.0%
Maximum Green (s)	18.7	58.1		18.7	58.1		29.0	29.0		29.0	29.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.2		2.0	3.2		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	1.0	1.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.1	0.1		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0				7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	8.0				8.0		22.0		22.0		22.0	
Pedestrian Calls (#/hr)	0				0		0		0		0	
Act Effct Green (s)	15.1	71.4		8.5	63.0		29.9			29.9		
Actuated g/C Ratio	0.13	0.60		0.07	0.52		0.25			0.25		
v/c Ratio	0.74	0.49		0.46	0.41		0.42			0.35		
Control Delay	69.6	15.2		64.4	18.0		40.6			37.3		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

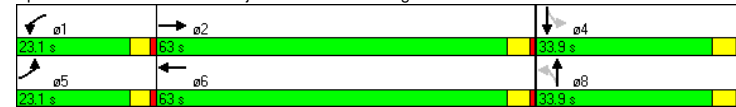
LT PM with TSP
10: El Cajon Blvd & Marlborough Ave

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.6	15.2		64.4	18.0					40.6		37.3
LOS	E	B		E	B					D		D
Approach Delay	20.7				20.3				40.6		37.3	
Approach LOS	C				C				D		D	
Queue Length 50th (ft)	124	237		44	177					92		79
Queue Length 95th (ft)	195	298		86	226					157		138
Internal Link Dist (ft)	367				575				1405		1643	
Turn Bay Length (ft)	132				110							
Base Capacity (vph)	282	3012		282	2642					349		383
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.59	0.49		0.21	0.41					0.42		0.35

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	108 (90%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	22.2
Intersection LOS:	C
Intersection Capacity Utilization:	52.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 10: El Cajon Blvd & Marlborough Ave



LT PM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	1.00	0.86	1.00	0.97	0.95	0.95	1.00	1.00	1.00
Frt						0.850		0.876	0.850			
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						269		51	51			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		378			225			1453			1618	
Travel Time (s)		8.6			5.1			33.0			36.8	
Volume (vph)	255	1305	0	0	852	256	161	38	377	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	268	1374	0	0	897	269	169	235	202	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6		8				8
Detector Phases	5	2			6	6	8	8				8
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			5.0
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			37.6
Total Split (s)	13.0	52.0	0.0	0.0	39.0	39.0	28.0	28.0	28.0	0.0	0.0	0.0
Total Split (%)	16.3%	65.0%	0.0%	0.0%	48.8%	48.8%	35.0%	35.0%	35.0%	0.0%	0.0%	0.0%
Maximum Green (s)	8.8	47.0			34.0	34.0	22.4	22.4	22.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None	C-Max			C-Max	C-Max	None	None	None			
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0				0	0	0	0	0			
Act Effct Green (s)	17.6	56.6			35.0	35.0	15.4	15.4	15.4			
Actuated g/C Ratio	0.22	0.71			0.44	0.44	0.19	0.19	0.19			
v/c Ratio	0.69	0.38			0.32	0.32	0.26	0.69	0.61			
Control Delay	38.2	8.0			15.1	3.1	26.8	33.4	28.8			
Queue Delay	0.0	0.3			0.0	0.0	0.0	0.0	0.0			

LT PM with TSP
11: El Cajon Blvd & I-15 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	38.2	8.3			15.1	3.1	26.8	33.4	28.8			
LOS	D	A			B	A	C	C	C			
Approach Delay		13.2			12.3			30.0				
Approach LOS		B			B			C				
Queue Length 50th (ft)	130	158			82	0	37	90	72			
Queue Length 95th (ft)	#319	225			105	40	55	149	126			
Internal Link Dist (ft)		298			145			1373			1538	
Turn Bay Length (ft)	180					81	136		200			
Base Capacity (vph)	389	3598			2804	844	1030	501	487			
Starvation Cap Reductn	0	1332			0	0	0	0	0			
Spillback Cap Reductn	0	0			0	0	0	0	0			
Storage Cap Reductn	0	0			0	0	0	0	0			
Reduced v/c Ratio	0.69	0.61			0.32	0.32	0.16	0.47	0.41			

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	15.9
Intersection LOS:	B
Intersection Capacity Utilization:	60.1%
ICU Level of Service:	B
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 11: El Cajon Blvd & I-15 NB



LT PM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↑	↑	↑↑↑	↑↑↑	←	←	←	↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	120	190	0	0	0	0	200	0	205	0
Storage Lanes	0	0	1	1	0	0	0	0	2	0	2	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	0	50	50	50	50	0	0	0	0	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	1.00	0.86	1.00	1.00	0.91	1.00	1.00	1.00	1.00	0.97	0.95	0.95
Fr't		0.850								0.946	0.850	
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1674	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1674	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			254							34	231	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30					30		30	
Link Distance (ft)		1320		378				1484			1611	
Travel Time (s)		30.0		8.6				33.7			36.6	
Volume (vph)	0	1155	241	342	720	0	0	0	0	390	143	340
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1216	254	360	758	0	0	0	0	411	236	273
Turn Type		Perm	Prot							Split	Perm	
Protected Phases		2	1	6						4	4	
Permitted Phases		2	2									4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)	0.0	41.0	41.0	14.0	55.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	51.3%	51.3%	17.5%	68.8%	0.0%	0.0%	0.0%	0.0%	31.3%	31.3%	31.3%
Maximum Green (s)		36.0	36.0	9.8	50.0					20.4	20.4	20.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		6.0	6.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		37.0	37.0	15.8	56.8					15.2	15.2	15.2
Actuated g/C Ratio		0.46	0.46	0.20	0.71					0.19	0.19	0.19
v/c Ratio		0.41	0.29	1.03	0.21					0.63	0.68	0.58
Control Delay		14.8	2.8	86.8	6.3					33.6	35.3	11.2
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	0.0

LT PM with TSP
12: El Cajon Blvd & I-15 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		14.8	2.8	86.8	6.3					33.6	35.3	11.2
LOS		B	A	F	A					C	D	B
Approach Delay		12.7			32.2						27.4	
Approach LOS		B			C						C	
Queue Length 50th (ft)		112	0	-197	87					98	98	18
Queue Length 95th (ft)		138	37	#434	129					130	162	81
Internal Link Dist (ft)		1240			298			1404			1531	
Turn Bay Length (ft)			120	190						200		205
Base Capacity (vph)		2964	869	349	3608					901	465	565
Starvation Cap Reductn		0	0	0	0					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.41	0.29	1.03	0.21					0.46	0.51	0.48

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	40 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.03
Intersection Signal Delay:	22.8
Intersection LOS:	C
Intersection Capacity Utilization:	60.1%
ICU Level of Service:	B
Analysis Period (min):	15
-	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

Splits and Phases: 12: El Cajon Blvd & I-15 SB



LT PM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗		↖ ↗		↖ ↗		↖ ↗		↖ ↗		↖ ↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	130		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.991			0.955			0.952	
Flt Protected	0.950			0.950			0.984			0.988		
Satd. Flow (prot)	1770	5045	0	1770	5040	0	0	1750	0	0	1752	0
Flt Permitted	0.950			0.950			0.760			0.844		
Satd. Flow (perm)	1770	5045	0	1770	5040	0	0	1352	0	0	1497	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		12		12		19		21		21		21
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30		30		30	
Link Distance (ft)	1329		1310		1164		1020		23.2		23.2	
Travel Time (s)	30.2		29.8		26.5		23.2					
Volume (vph)	90	1326	79	118	827	50	65	68	67	41	71	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	95	1479	0	124	924	0	0	211	0	0	183	0
Turn Type	Prot		Prot		Perm		Perm					
Protected Phases	5	2		1	6			8			4	4
Permitted Phases					8		4				4	
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		34.9	34.9		34.9	34.9	
Total Split (s)	20.0	70.0	0.0	20.0	70.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	16.7%	58.3%	0.0%	16.7%	58.3%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)	15.6	65.0		15.6	65.0		25.1	25.1		25.1	25.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	11.2	69.4		12.6	70.8			26.0			26.0	
Actuated g/C Ratio	0.09	0.58		0.10	0.59		0.22			0.22		
v/c Ratio	0.58	0.51		0.67	0.31		0.69			0.54		
Control Delay	62.7	9.4		68.8	12.9		51.9			43.4		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		
Total Delay	62.7	9.4		68.8	12.9		51.9			43.4		
LOS	E	A		E	B		D			D		
Approach Delay	12.7		19.5		51.9		43.4					

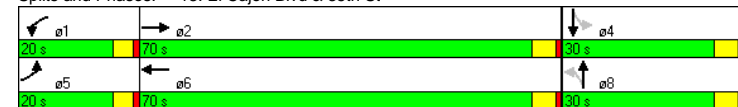
LT PM with TSP
13: El Cajon Blvd & 35th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B		B		D		D					
Queue Length 50th (ft)	76	97		94	122		138			112		
Queue Length 95th (ft)	m97	m149		155	165		#228			189		
Internal Link Dist (ft)	1249		1230		1084		940					
Turn Bay Length (ft)	130		135									
Base Capacity (vph)	236	2924		236	2979		308			341		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.40	0.51		0.53	0.31		0.69			0.54		

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	59 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	19.6
Intersection LOS:	B
Intersection Capacity Utilization:	61.1%
ICU Level of Service:	B
Analysis Period (min):	15
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: El Cajon Blvd & 35th St



LT PM with TSP
14: El Cajon Blvd & 33rd St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗		↖ ↗	↖ ↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205		0	135		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.993			0.962			0.932	
Flt Protected	0.950			0.950				0.977			0.990	
Satd. Flow (prot)	1770	3497	0	1770	3514	0	0	1751	0	0	1719	0
Flt Permitted	0.950			0.950				0.539			0.853	
Satd. Flow (perm)	1770	3497	0	1770	3514	0	0	966	0	0	1481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			15			38	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		572			1329			1120			1176	
Travel Time (s)		13.0			30.2			25.5			26.7	
Volume (vph)	206	1362	122	109	793	40	157	79	92	47	71	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	217	1562	0	115	877	0	0	345	0	0	248	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			4			4	8
Permitted Phases							4			8		
Detector Phases	5	2		1	6		4	4		8	8	
Minimum Initial (s)	4.0	25.0		4.0	25.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	30.0		8.4	30.0		35.9	35.9		35.9	35.9	
Total Split (s)	29.0	61.0	0.0	29.0	61.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	24.2%	50.8%	0.0%	24.2%	50.8%	0.0%	25.0%	25.0%	0.0%	25.0%	25.0%	0.0%
Maximum Green (s)	24.6	56.0		24.6	56.0		25.1	25.1		25.1	25.1	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	None		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		18.0			18.0		24.0	24.0		24.0	24.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	18.8	69.9		12.1	63.2			26.0			26.0	
Actuated g/C Ratio	0.16	0.58		0.10	0.53			0.22			0.22	
v/c Ratio	0.78	0.76		0.65	0.47			1.56			0.71	
Control Delay	67.7	22.6		64.7	15.8			305.2			48.8	
Queue Delay	0.0	7.9		0.0	0.0			0.0			0.0	
Total Delay	67.7	30.4		64.7	15.8			305.2			48.8	
LOS	E	C		E	B			F			D	
Approach Delay		35.0			21.5			305.2			48.8	

LT PM with TSP
14: El Cajon Blvd & 33rd St

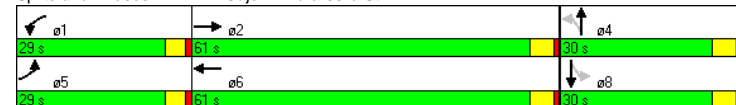
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			F			D	
Queue Length 50th (ft)	163	450		90	164			-372			152	
Queue Length 95th (ft)	237	607		m151	197			#562			#249	
Internal Link Dist (ft)		492			1249			1040			1096	
Turn Bay Length (ft)	205			135								
Base Capacity (vph)	369	2042		369	1855			221			351	
Starvation Cap Reductn	0	450		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.59	0.98		0.31	0.47			1.56			0.71	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	46 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.56
Intersection Signal Delay:	59.7
Intersection LOS:	E
Intersection Capacity Utilization:	92.9%
ICU Level of Service:	F
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	
m Volume for 95th percentile queue is metered by upstream signal.	

Splits and Phases: 14: El Cajon Blvd & 33rd St



LT PM with TSP
15: El Cajon Blvd & I-805 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔↔		↔↔		↔↔		↔↔		↔↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	148		0	0		0	158		0	0		0
Storage Lanes	2		0	0		0	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50		50	50	50			
Trailing Detector (ft)	0	0			0		0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	0.91	0.95	0.95	1.00	1.00	1.00	1.00
Fr't					0.967				0.850			
Flt Protected	0.950						0.950	0.953				
Satd. Flow (prot)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Flt Permitted	0.950						0.950	0.953				
Satd. Flow (perm)	3433	5085	0	0	4917	0	1681	1686	1583	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					78				47			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30				30
Link Distance (ft)		454			572			1377				1583
Travel Time (s)		10.3			13.0			31.3				36.0
Volume (vph)	356	1530	0	0	907	257	466	2	281	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	375	1611	0	0	1226	0	246	247	296	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6			8	8			
Permitted Phases												8
Detector Phases	5	2			6			8	8			
Minimum Initial (s)	10.0	10.0			10.0			5.0	5.0			
Minimum Split (s)	14.2	22.0			22.0			34.0	34.0			
Total Split (s)	29.7	84.0	0.0	0.0	54.3	0.0	32.0	32.0	32.0	0.0	0.0	0.0
Total Split (%)	25.6%	72.4%	0.0%	0.0%	46.8%	0.0%	27.6%	27.6%	27.6%	0.0%	0.0%	0.0%
Maximum Green (s)	25.5	79.0			49.3			27.0	27.0			
Yellow Time (s)	3.2	4.0			4.0			4.0	4.0			
All-Red Time (s)	1.0	1.0			1.0			1.0	1.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	4.2			5.3			2.0	2.0			
Minimum Gap (s)	3.0	3.0			3.0			2.0	2.0			
Time Before Reduce (s)	0.0	0.1			0.1			0.0	0.0			
Time To Reduce (s)	0.0	1.0			1.0			0.0	0.0			
Recall Mode	None C-Max				C-Max		None		None		None	
Walk Time (s)	7.0				7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	10.0				10.0		22.0		22.0		22.0	
Pedestrian Calls (#/hr)	0				0		0		0		0	
Act Effct Green (s)	17.7	85.3			63.5			22.7	22.7			
Actuated g/C Ratio	0.15	0.74			0.55			0.20	0.20			
v/c Ratio	0.71	0.43			0.45			0.75	0.75			
Control Delay	59.1	1.6			16.5			57.5	57.5			
Queue Delay	0.0	0.3			0.0			0.7	0.7			

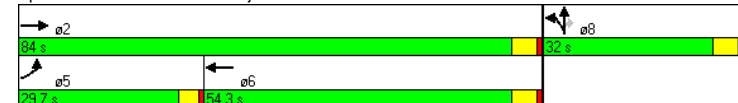
LT PM with TSP
15: El Cajon Blvd & I-805 NB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	59.1	1.9			16.5			58.2	58.2			
LOS	E	A			B			E	E			
Approach Delay	12.7				16.5				58.9			
Approach LOS	B				B				E			
Queue Length 50th (ft)	113	24			177			182	183			
Queue Length 95th (ft)	m129	26			265			266	266			
Internal Link Dist (ft)	374				492				1297		1503	
Turn Bay Length (ft)	148								158			
Base Capacity (vph)	761	3737			2728				406	407	418	
Starvation Cap Reductn	0	1245			0				0	0	0	
Spillback Cap Reductn	0	522			1				32	32	22	
Storage Cap Reductn	0	0			0				0	0	0	
Reduced v/c Ratio	0.49	0.65			0.45				0.66	0.66	0.75	

Intersection Summary	
Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	59 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	23.0
Intersection LOS:	C
Intersection Capacity Utilization:	87.0%
ICU Level of Service:	E
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: El Cajon Blvd & I-805 NB



LT PM with TSP
16: El Cajon Blvd & I-805 SB

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		160	137		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Fr't			0.850							0.950	0.953	0.850
Fit Protected				0.950						0.950	0.953	
Satd. Flow (prot)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Fit Permitted				0.950						0.950	0.953	
Satd. Flow (perm)	0	5085	1583	3433	5085	0	0	0	0	1681	1686	1583
Right Turn on Red			Yes		Yes			Yes				Yes
Satd. Flow (RTOR)			491									32
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30				30			30
Link Distance (ft)		666			454				1397			1573
Travel Time (s)		15.1			10.3				31.8			35.8
Volume (vph)	0	1259	664	251	1109	0	0	0	0	648	1	952
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	0	1325	699	264	1167	0	0	0	0	341	342	1002
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1		6				4		4
Permitted Phases			2									4
Detector Phases		2	2	1		6				4	4	4
Minimum Initial (s)		10.0	10.0	10.0	10.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	14.2	22.0					34.0	34.0	34.0
Total Split (s)	0.0	41.8	41.8	14.2	56.0	0.0	0.0	0.0	0.0	60.0	60.0	60.0
Total Split (%)	0.0%	36.0%	36.0%	12.2%	48.3%	0.0%	0.0%	0.0%	0.0%	51.7%	51.7%	51.7%
Maximum Green (s)		36.8	36.8	10.0	51.0					55.0	55.0	55.0
Yellow Time (s)		4.0	4.0	3.2	4.0					4.0	4.0	4.0
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	3.0	3.0					2.0	2.0	2.0
Time Before Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Time To Reduce (s)		1.4	1.4	0.0	1.0					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		10.0					22.0	22.0	22.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		37.8	37.8	10.2	52.0					56.0	56.0	56.0
Actuated g/C Ratio		0.33	0.33	0.09	0.45					0.48	0.48	0.48
v/c Ratio		0.80	0.83	0.87	0.51					0.42	0.42	1.28
Control Delay		40.1	19.8	75.6	31.0					21.5	21.5	164.8
Queue Delay		0.0	0.0	0.0	2.5					0.0	0.0	0.0

LT PM with TSP
16: El Cajon Blvd & I-805 SB

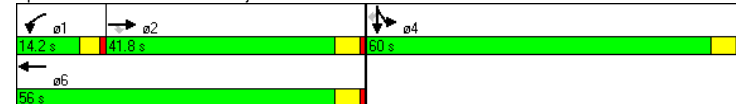
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		40.1	19.8	75.6	33.5					21.5	21.5	164.8
LOS		D	B	E	C					C	C	F
Approach Delay		33.1			41.3							106.7
Approach LOS		C			D							F
Queue Length 50th (ft)		329	150	94	327					168	169	~945
Queue Length 95th (ft)		388	#341	m#170	354					249	250	#1200
Internal Link Dist (ft)		586			374			1317				1493
Turn Bay Length (ft)			160	137								
Base Capacity (vph)		1657	847	302	2279					812	814	781
Starvation Cap Reductn		0	0	0	948					0	0	0
Spillback Cap Reductn		0	0	0	0					0	0	0
Storage Cap Reductn		0	0	0	0					0	0	0
Reduced v/c Ratio		0.80	0.83	0.87	0.88					0.42	0.42	1.28

Intersection Summary

Area Type:	Other
Cycle Length:	116
Actuated Cycle Length:	116
Offset:	6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.28
Intersection Signal Delay:	59.5
Intersection LOS:	E
Intersection Capacity Utilization:	87.0%
ICU Level of Service:	E
Analysis Period (min):	15
-	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 16: El Cajon Blvd & I-805 SB



LT PM with TSP
17: El Cajon Blvd & 30th St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑		↑↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frnt	0.985		0.983		0.959		0.975					
Flt Protected	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (prot)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Flt Permitted	0.950		0.950		0.950		0.950		0.950		0.950	
Satd. Flow (perm)	1770	5009	0	1770	4999	0	1770	1786	0	1770	1816	0
Right Turn on Red	Yes		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	17		23		15		9					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	30		30		30		30					
Link Distance (ft)	768		762		1004		1052					
Travel Time (s)	17.5		17.3		22.8		23.9					
Volume (vph)	77	1176	128	176	1081	137	107	245	93	186	266	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	81	1373	0	185	1282	0	113	356	0	196	337	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	22.0		8.4	22.0		8.4	40.9		8.4	40.9	
Total Split (s)	14.5	48.0	0.0	20.0	53.5	0.0	14.1	34.9	0.0	17.1	37.9	0.0
Total Split (%)	12.1%	40.0%	0.0%	16.7%	44.6%	0.0%	11.8%	29.1%	0.0%	14.3%	31.6%	0.0%
Maximum Green (s)	10.1	43.0		15.6	48.5		9.7	30.0		12.7	33.0	
Yellow Time (s)	3.4	4.0		3.4	4.0		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Recall Mode	None	C-Max		None	C-Max		None	Max		None	Max	
Walk Time (s)	4.0		4.0		4.0		4.0					
Flash Dont Walk (s)	13.0		13.0		32.0		32.0					
Pedestrian Calls (#/hr)	0		0		0		0					
Act Effct Green (s)	9.1	45.1		14.9	52.9		9.7	30.9		13.1	34.3	
Actuated g/C Ratio	0.08	0.38		0.12	0.44		0.08	0.26		0.11	0.29	
v/c Ratio	0.60	0.73		0.84	0.58		0.79	0.76		1.02	0.64	
Control Delay	72.3	34.7		81.7	26.7		89.3	50.8		122.0	43.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	72.3	34.7		81.7	26.7		89.3	50.8		122.0	43.2	
LOS	E	C		F	C		F	D		F	D	
Approach Delay	36.8		33.7		60.1		72.1					

LT PM with TSP
17: El Cajon Blvd & 30th St

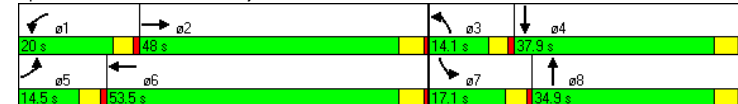
11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			E			E		
Queue Length 50th (ft)	61	332		141	276		87	245		-157	224	
Queue Length 95th (ft)	114	390		#256	327		#183	#361		#312	328	
Internal Link Dist (ft)	688		682		924		972					
Turn Bay Length (ft)	150		150		200		200					
Base Capacity (vph)	155	1891		236	2215		149	471		193	525	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.73		0.78	0.58		0.76	0.76		1.02	0.64	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	103 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	100
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	43.2
Intersection LOS:	D
Intersection Capacity Utilization:	77.5%
ICU Level of Service:	D
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite.	
Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 17: El Cajon Blvd & 30th St



LT PM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

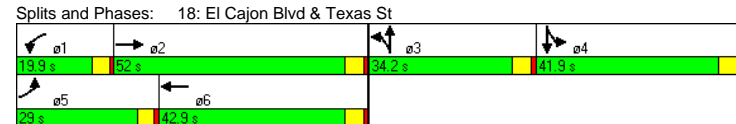
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	120		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.995			0.980			0.984			0.979	
Flt Protected	0.950			0.950				0.994			0.989	
Satd. Flow (prot)	1770	5060	0	1770	4984	0	0	3462	0	0	3427	0
Flt Permitted	0.950			0.950				0.994			0.989	
Satd. Flow (perm)	1770	5060	0	1770	4984	0	0	3462	0	0	3427	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			19			8			12	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1532			1136			994			1062	
Travel Time (s)		34.8			25.8			22.6			24.1	
Volume (vph)	207	989	36	107	678	105	56	340	48	197	532	117
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	218	1079	0	113	825	0	0	468	0	0	890	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	3		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	8.4	20.9		8.4	20.9		38.9	38.9		37.9	37.9	
Total Split (s)	29.0	52.0	0.0	19.9	42.9	0.0	34.2	34.2	0.0	41.9	41.9	0.0
Total Split (%)	19.6%	35.1%	0.0%	13.4%	29.0%	0.0%	23.1%	23.1%	0.0%	28.3%	28.3%	0.0%
Maximum Green (s)	24.6	47.1		15.5	38.0		29.3	29.3		37.0	37.0	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	6.8		2.0	6.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	0.0	0.1		0.0	0.1		0.1	0.1		0.1	0.1	
Time To Reduce (s)	0.0	0.7		0.0	0.7		1.8	1.8		1.8	1.8	
Recall Mode	None	C-Max		None	C-Max		Max	Max		Max	Max	
Walk Time (s)		4.0			4.0		5.0	5.0		4.0	4.0	
Flash Dont Walk (s)		12.0			12.0		29.0	29.0		29.0	29.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	21.7	50.6		13.3	42.2		30.2			37.9		
Actuated g/C Ratio	0.15	0.34		0.09	0.29		0.20			0.26		
v/c Ratio	0.84	0.62		0.71	0.57		0.66			1.00		
Control Delay	104.0	21.9		89.0	46.5		58.2			84.6		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

LT PM with TSP
18: El Cajon Blvd & Texas St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	104.0	21.9		89.0	46.5		58.2			84.6		
LOS	F	C		F	D		E			F		
Approach Delay		35.7			51.6		58.2			84.6		
Approach LOS		D			D		E			F		
Queue Length 50th (ft)	188	340		107	240		217			~453		
Queue Length 95th (ft) m#311	115	302		174	302		280			#603		
Internal Link Dist (ft)		1452			1056		914			982		
Turn Bay Length (ft)	140			120								
Base Capacity (vph)	299	1734		190	1436		713			887		
Starvation Cap Reductn	0	0		0	0		0			0		
Spillback Cap Reductn	0	0		0	0		0			0		
Storage Cap Reductn	0	0		0	0		0			0		
Reduced v/c Ratio	0.73	0.62		0.59	0.57		0.66			1.00		

Intersection Summary	
Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	15 (10%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay:	54.9
Intersection LOS:	D
Intersection Capacity Utilization:	77.0%
ICU Level of Service:	D
Analysis Period (min):	15
-	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.
m	Volume for 95th percentile queue is metered by upstream signal.



LT PM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	112		0	155		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.993			0.923			0.981	
Flt Protected	0.950			0.950			0.996			0.990		
Satd. Flow (prot)	1770	5065	0	1770	5050	0	0	1712	0	0	1809	0
Flt Permitted	0.950			0.950			0.978			0.922		
Satd. Flow (perm)	1770	5065	0	1770	5050	0	0	1681	0	0	1685	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			7			45			6	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		800			1532			907			981	
Travel Time (s)		18.2			34.8			20.6			22.3	
Volume (vph)	47	1132	31	91	515	27	13	66	104	22	74	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	49	1225	0	96	570	0	0	192	0	0	118	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Detector Phases	5	2		1	6		8	8		4	4	
Minimum Initial (s)	4.0	10.0		4.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.4	21.1		8.4	21.1		40.9	40.9		43.9	43.9	
Total Split (s)	27.2	68.7	0.0	31.5	73.0	0.0	47.8	47.8	0.0	47.8	47.8	0.0
Total Split (%)	18.4%	46.4%	0.0%	21.3%	49.3%	0.0%	32.3%	32.3%	0.0%	32.3%	32.3%	0.0%
Maximum Green (s)	22.8	63.6		27.1	68.1		42.9	42.9		42.9	42.9	
Yellow Time (s)	3.4	4.1		3.4	3.9		3.9	3.9		3.9	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	3.8		2.0	3.8		2.0	2.0		2.0	2.0	
Minimum Gap (s)	2.0	0.2		2.0	0.2		2.0	2.0		2.0	2.0	
Time Before Reduce (s)	0.0	0.8		0.0	0.8		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.1		0.0	0.1		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		9.0			9.0		29.0	29.0		32.0	32.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	8.0	105.9		12.7	112.4		17.4			17.4		
Actuated g/C Ratio	0.05	0.72		0.09	0.76		0.12			0.12		
v/c Ratio	0.51	0.34		0.63	0.15		0.81			0.58		
Control Delay	84.9	14.3		64.3	5.5		72.4			68.8		
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		

LT PM with TSP
19: El Cajon Blvd & Florida St

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	84.9	14.3		64.3	5.5					72.4		68.8
LOS	F	B		E	A					E		E
Approach Delay		17.0			14.0					72.4		68.8
Approach LOS		B			B					E		E
Queue Length 50th (ft)	41	269		95	28					142		104
Queue Length 95th (ft)	m81	370		m150	m71					220		163
Internal Link Dist (ft)		720			1452					827		901
Turn Bay Length (ft)	112			155								
Base Capacity (vph)	277	3625		329	3836					529		503
Starvation Cap Reductn	0	0		0	0					0		0
Spillback Cap Reductn	0	0		0	0					0		0
Storage Cap Reductn	0	0		0	0					0		0
Reduced v/c Ratio	0.18	0.34		0.29	0.15					0.36		0.23

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	32 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	23.6
Intersection LOS:	C
Intersection Capacity Utilization:	49.4%
ICU Level of Service:	A
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 19: El Cajon Blvd & Florida St



LT PM with TSP
20: Normal St & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	265		0	220		0	130		100	0		0
Storage Lanes	2		0	1		1	1		1	1		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3472	0	1770	3539	1583	1770	3539	1583	1770	3539	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				80			211			292
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1889			800			2502			1037	
Travel Time (s)		42.9			18.2			56.9			23.6	
Volume (vph)	422	787	112	150	319	76	82	318	219	87	212	277
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	444	946	0	158	336	80	86	335	231	92	223	292
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases						6			8			4
Detector Phases	5	2		1	6	6	3	8	8	7	4	5
Minimum Initial (s)	4.0	10.0		4.0	10.0	10.0	4.0	7.0	7.0	4.0	7.0	4.0
Minimum Split (s)	9.9	15.9		9.4	47.9	47.9	9.4	43.9	43.9	9.4	12.9	9.9
Total Split (s)	31.7	63.0	0.0	27.3	58.6	58.6	17.5	40.2	40.2	17.5	40.2	31.7
Total Split (%)	21.4%	42.6%	0.0%	18.4%	39.6%	39.6%	11.8%	27.2%	27.2%	11.8%	27.2%	21.4%
Maximum Green (s)	25.8	57.1		21.9	52.7	52.7	12.1	34.3	34.3	12.1	34.3	25.8
Yellow Time (s)	3.9	3.9		3.4	3.9	3.9	3.4	3.9	3.9	3.4	3.9	3.9
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes						Yes		Yes			Yes
Vehicle Extension (s)	2.0	3.2		2.0	3.8	3.8	2.0	4.3	4.3	2.0	3.4	2.0
Minimum Gap (s)	2.0	0.2		2.0	0.2	0.2	2.0	0.2	0.2	2.0	0.2	2.0
Time Before Reduce (s)	0.0	1.0		0.0	0.8	0.8	0.0	0.7	0.7	0.0	0.9	0.0
Time To Reduce (s)	0.0	0.1		0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0
Recall Mode	Max	C-Max		None	None	None	None	None	None	None	None	Max
Walk Time (s)					7.0	7.0			7.0			7.0
Flash Dont Walk (s)					35.0	35.0			31.0			31.0
Pedestrian Calls (#/hr)					0	0			0			0
Act Effct Green (s)	48.3	79.6		18.4	49.7	49.7	12.1	21.6	21.6	12.4	21.9	74.2
Actuated g/C Ratio	0.33	0.54		0.12	0.34	0.34	0.08	0.15	0.15	0.08	0.15	0.50
v/c Ratio	0.40	0.51		0.72	0.28	0.14	0.60	0.65	0.56	0.62	0.42	0.19
Control Delay	41.8	24.0		82.2	37.1	18.5	82.4	65.3	14.7	83.7	59.3	2.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LT PM with TSP
20: Normal St & Park Blvd

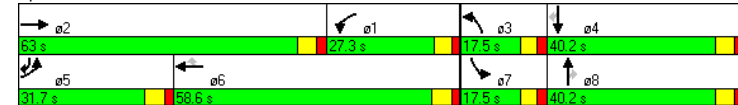
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	41.8	24.0		82.2	37.1	18.5	82.4	65.3	14.7	83.7	59.3	2.6
LOS	D	C		F	D	B	F	E	B	F	E	A
Approach Delay		29.7			46.9			49.6			35.7	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	173	298		155	138	34	81	163	17	87	104	0
Queue Length 95th (ft)	247	412		m230	m148	m62	141	209	98	149	143	28
Internal Link Dist (ft)		1809			720			2422			957	
Turn Bay Length (ft)	265			220			130		100			
Base Capacity (vph)	1120	1873		279	1306	634	165	866	547	165	866	1544
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.51		0.57	0.26	0.13	0.52	0.39	0.42	0.56	0.26	0.19

Intersection Summary

Area Type:	Other
Cycle Length:	148
Actuated Cycle Length:	148
Offset:	107 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	37.9
Intersection LOS:	D
Intersection Capacity Utilization:	60.6%
ICU Level of Service:	B
Analysis Period (min):	15
m	Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: Normal St & Park Blvd



LT PM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	150		0	120		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972		0.974		0.964		0.975				
Flt Protected	0.950			0.950		0.950		0.950		0.950		
Satd. Flow (prot)	1770	3440	0	1770	3447	0	1770	3412	0	1770	3451	0
Flt Permitted	0.950			0.950		0.950		0.950		0.950		
Satd. Flow (perm)	1770	3440	0	1770	3447	0	1770	3412	0	1770	3451	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		20		17		36		21				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		30		30		30		30		30		30
Link Distance (ft)		1181		1539		1102		2502		56.9		
Travel Time (s)		26.8		35.0		25.0		56.9				
Volume (vph)	134	751	171	102	477	98	136	470	151	196	351	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Group Flow (vph)	141	971	0	107	605	0	143	654	0	206	444	0
Turn Type	Prot			Prot		Prot		Prot		Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Detector Phases	5	2		1	6		3	8		7	4	
Minimum Initial (s)	4.0	7.0		4.0	7.0		4.0	6.0		4.0	6.0	
Minimum Split (s)	8.5	39.9		8.5	41.9		8.5	41.9		8.5	31.9	
Total Split (s)	18.0	40.0	0.0	15.0	37.0	0.0	22.0	52.8	0.0	26.0	56.8	0.0
Total Split (%)	13.5%	29.9%	0.0%	11.2%	27.7%	0.0%	16.4%	39.5%	0.0%	19.4%	42.5%	0.0%
Maximum Green (s)	13.6	35.1		10.6	32.1		17.6	47.9		21.6	51.9	
Yellow Time (s)	3.4	3.9		3.4	3.9		3.4	3.9		3.4	3.9	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Minimum Gap (s)	3.0	2.0		3.0	2.0		3.0	0.2		2.0	0.2	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	1.0		0.0	1.1	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.1	
Recall Mode	None	Max		None	Max		None	Max		None	Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		28.0			30.0			30.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	13.3	40.7		10.6	37.9		15.2	49.3		18.7	52.9	
Actuated g/C Ratio	0.10	0.30		0.08	0.28		0.11	0.36		0.14	0.39	
v/c Ratio	0.81	0.93		0.78	0.62		0.72	0.52		0.84	0.33	
Control Delay	92.3	60.3		95.3	44.8		78.6	33.9		85.1	28.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

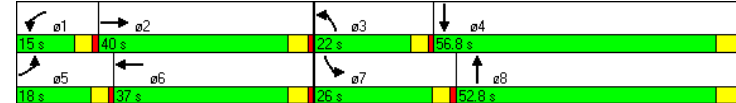
LT PM with TSP
21: University Ave & Park Blvd

11/15/2007

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	92.3	60.3		95.3	44.8		78.6	33.9		85.1	28.6	
LOS	F	E		F	D		E	C		F	C	
Approach Delay		64.3			52.4			42.0			46.5	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	125	436		95	242		124	228		179	138	
Queue Length 95th (ft)	#239	#580		#196	313		199	295		#286	186	
Internal Link Dist (ft)		1101			1459			1022			2422	
Turn Bay Length (ft)	90			150			120			150		
Base Capacity (vph)	182	1048		143	979		231	1267		281	1361	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.93		0.75	0.62		0.62	0.52		0.73	0.33	

Intersection Summary	
Area Type:	Other
Cycle Length:	133.8
Actuated Cycle Length:	135.3
Natural Cycle:	115
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	52.7
Intersection LOS:	D
Intersection Capacity Utilization:	73.9%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

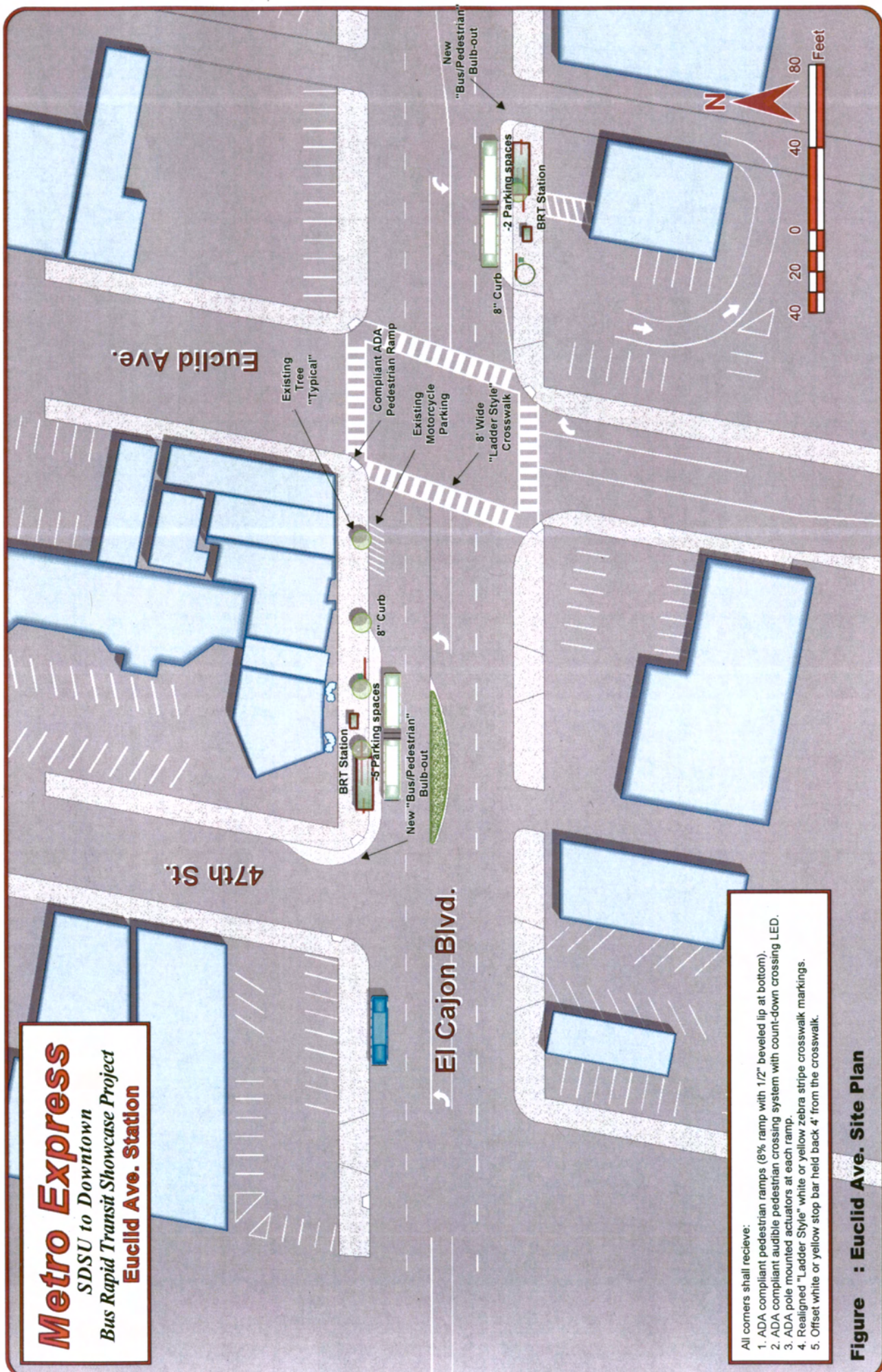
Splits and Phases: 21: University Ave & Park Blvd



APPENDIX G

TRANSIT LOCATION CONCEPT DRAWINGS

Metro Express
 SDSU to Downtown
 Bus Rapid Transit Showcase Project
Euclid Ave. Station

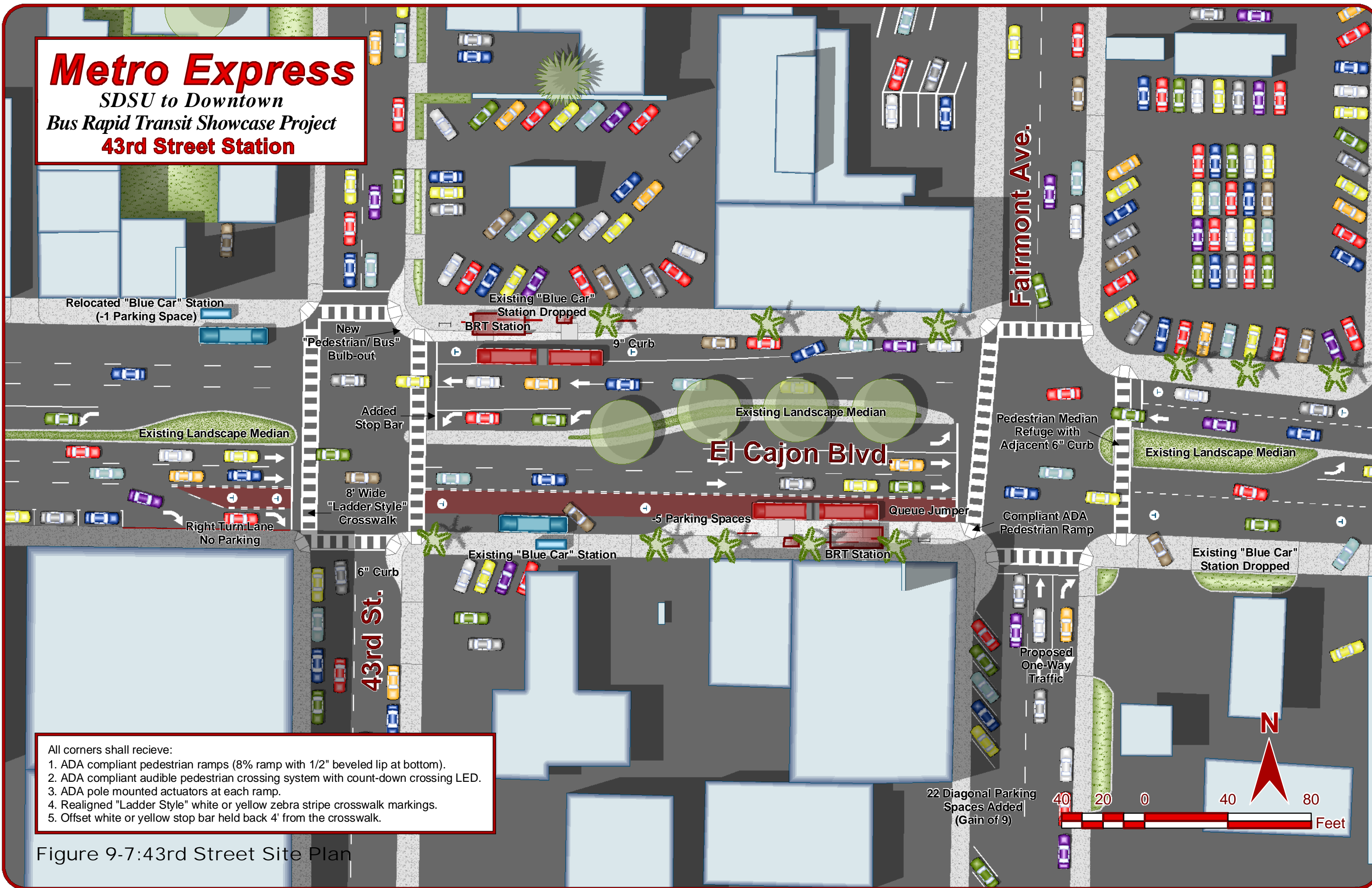


- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

Figure : Euclid Ave. Site Plan

Metro Express

SDSU to Downtown
Bus Rapid Transit Showcase Project
43rd Street Station



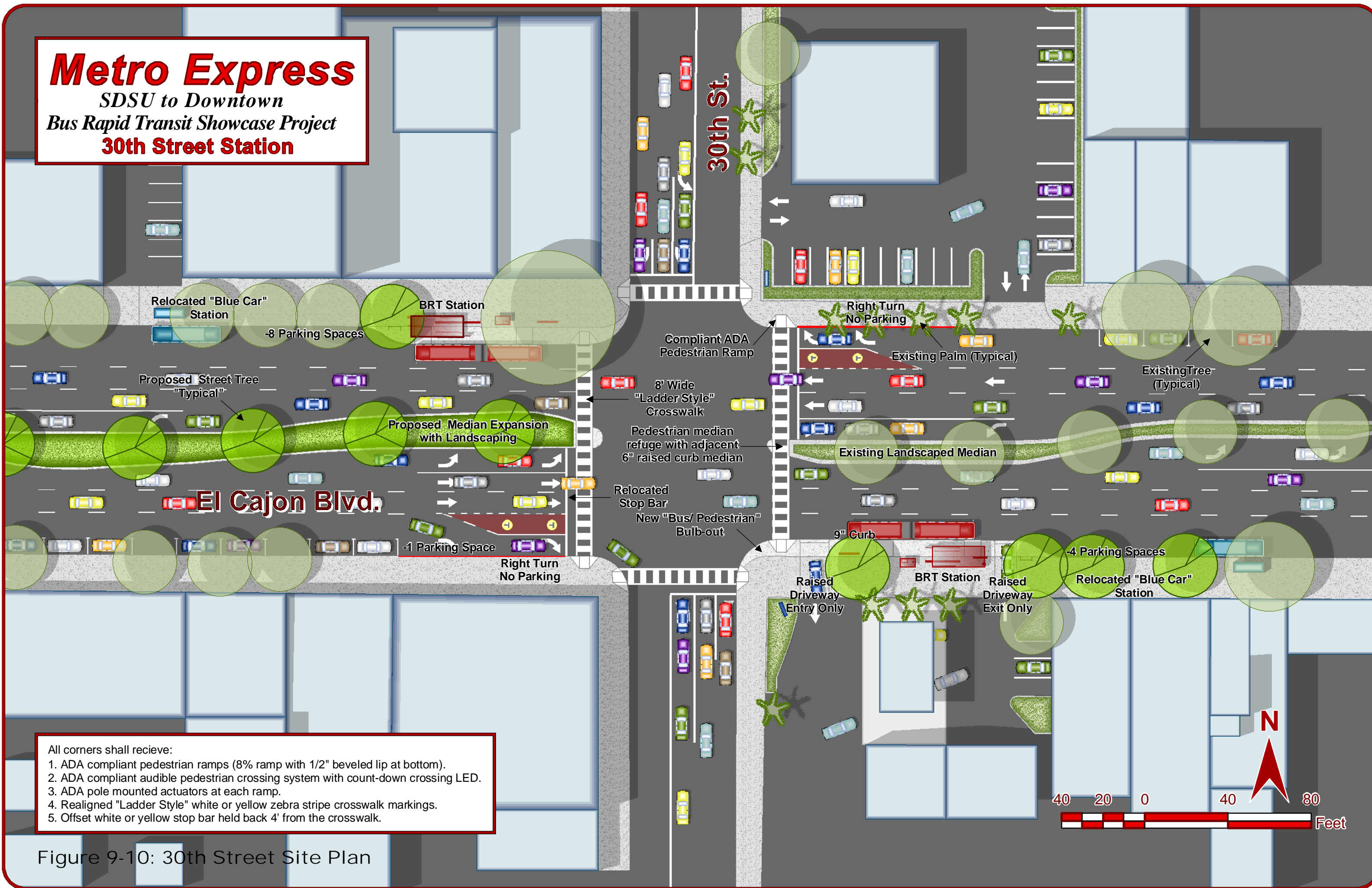
- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

Figure 9-7:43rd Street Site Plan

22 Diagonal Parking Spaces Added (Gain of 9)

Metro Express

SDSU to Downtown
 Bus Rapid Transit Showcase Project
30th Street Station



- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

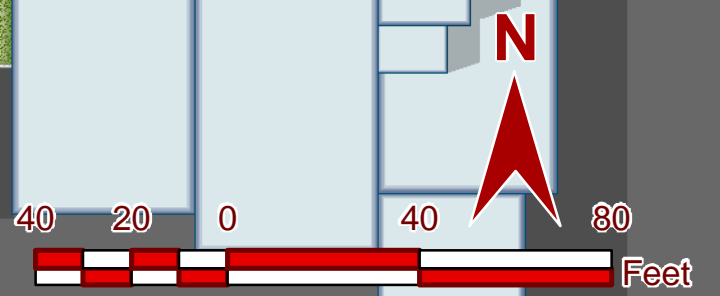
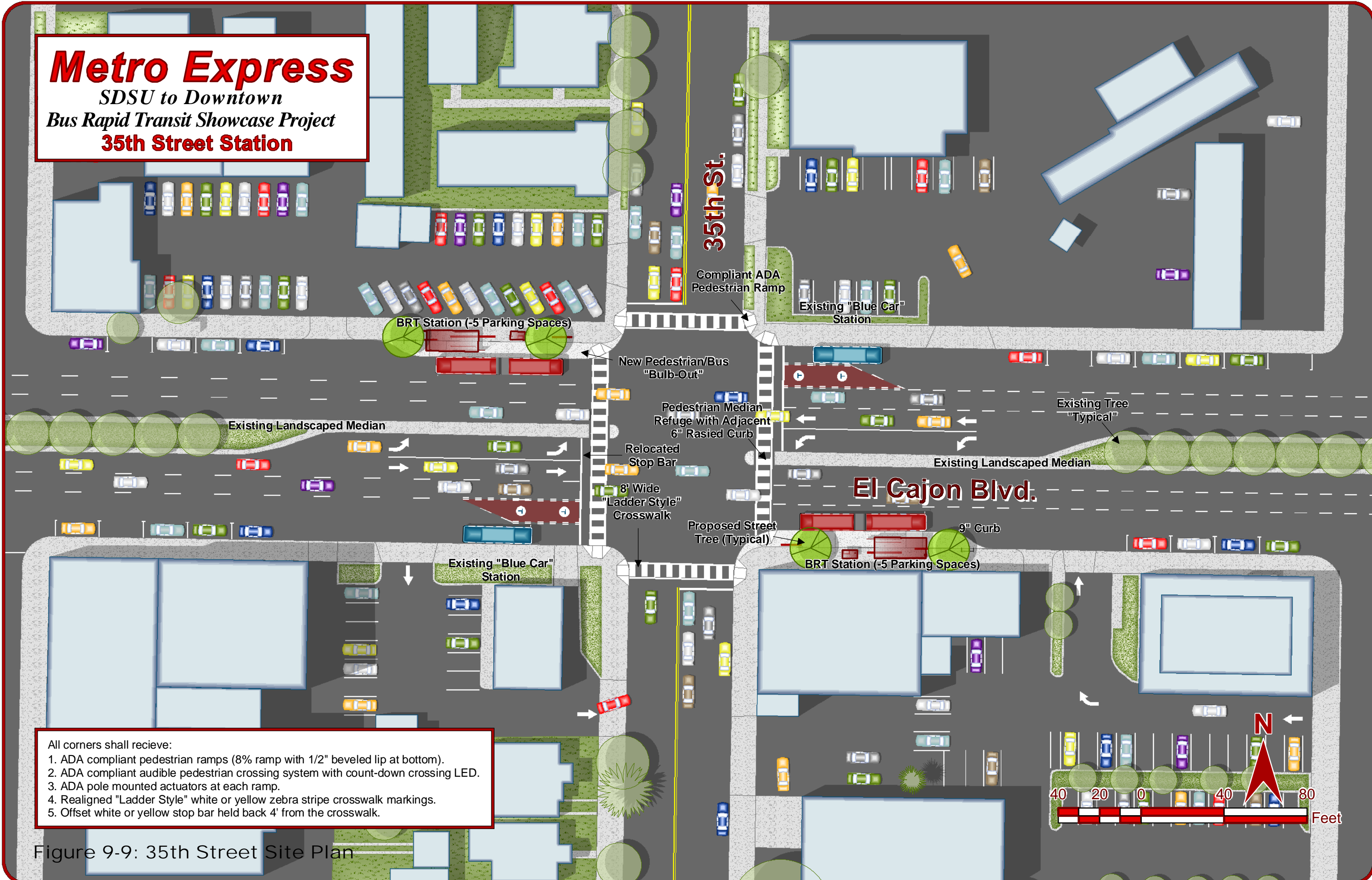


Figure 9-10: 30th Street Site Plan

Metro Express

SDSU to Downtown
Bus Rapid Transit Showcase Project
35th Street Station



All corners shall receive:

1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
3. ADA pole mounted actuators at each ramp.
4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
5. Offset white or yellow stop bar held back 4' from the crosswalk.

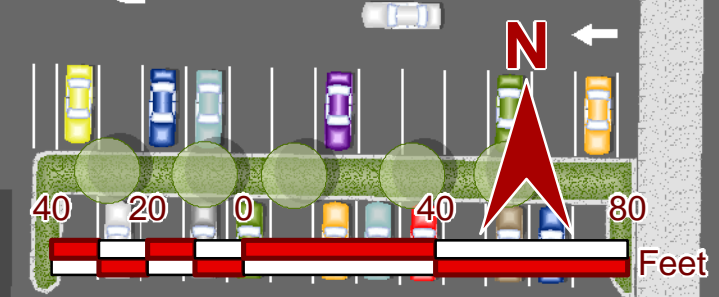
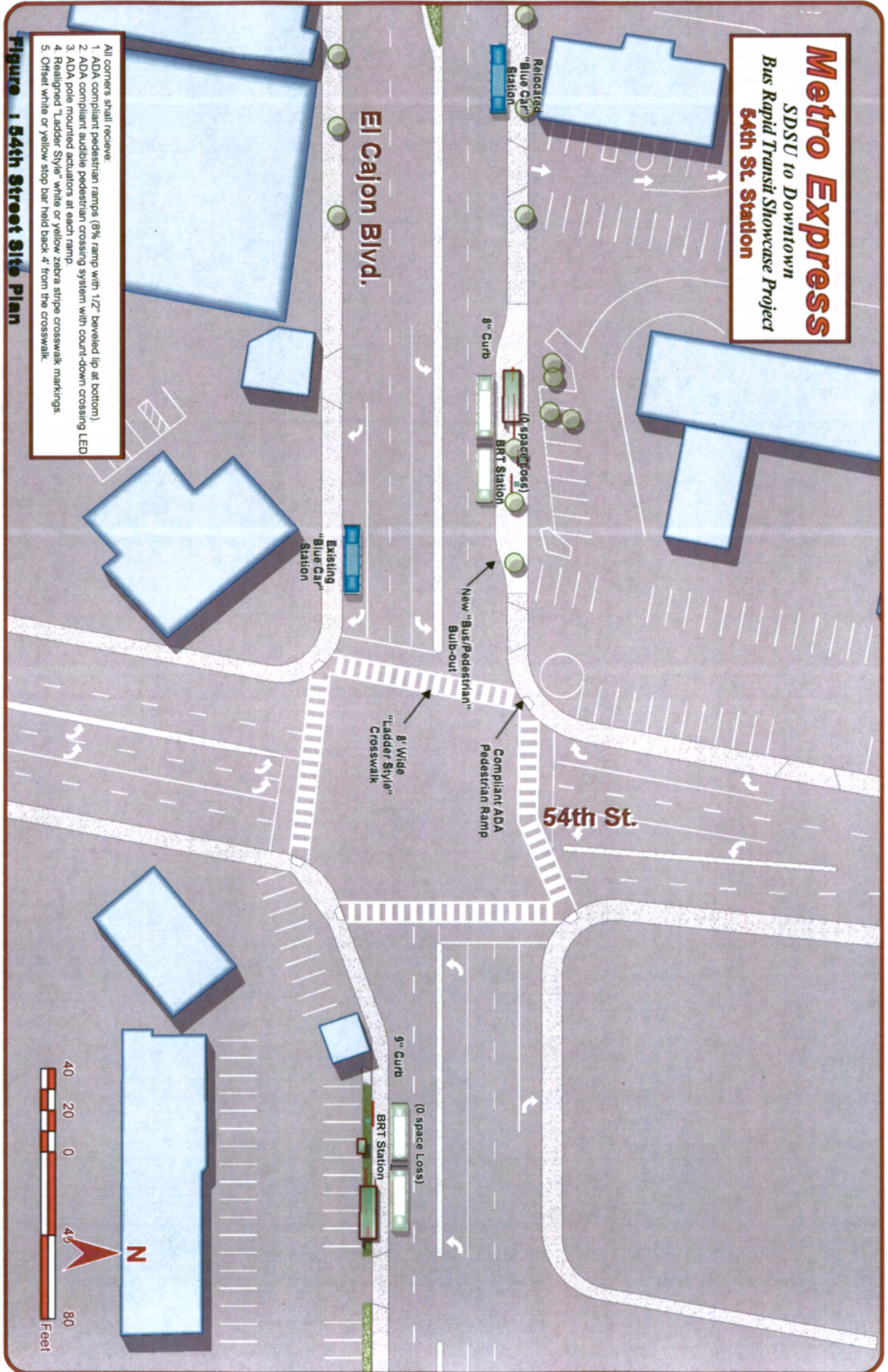


Figure 9-9: 35th Street Site Plan

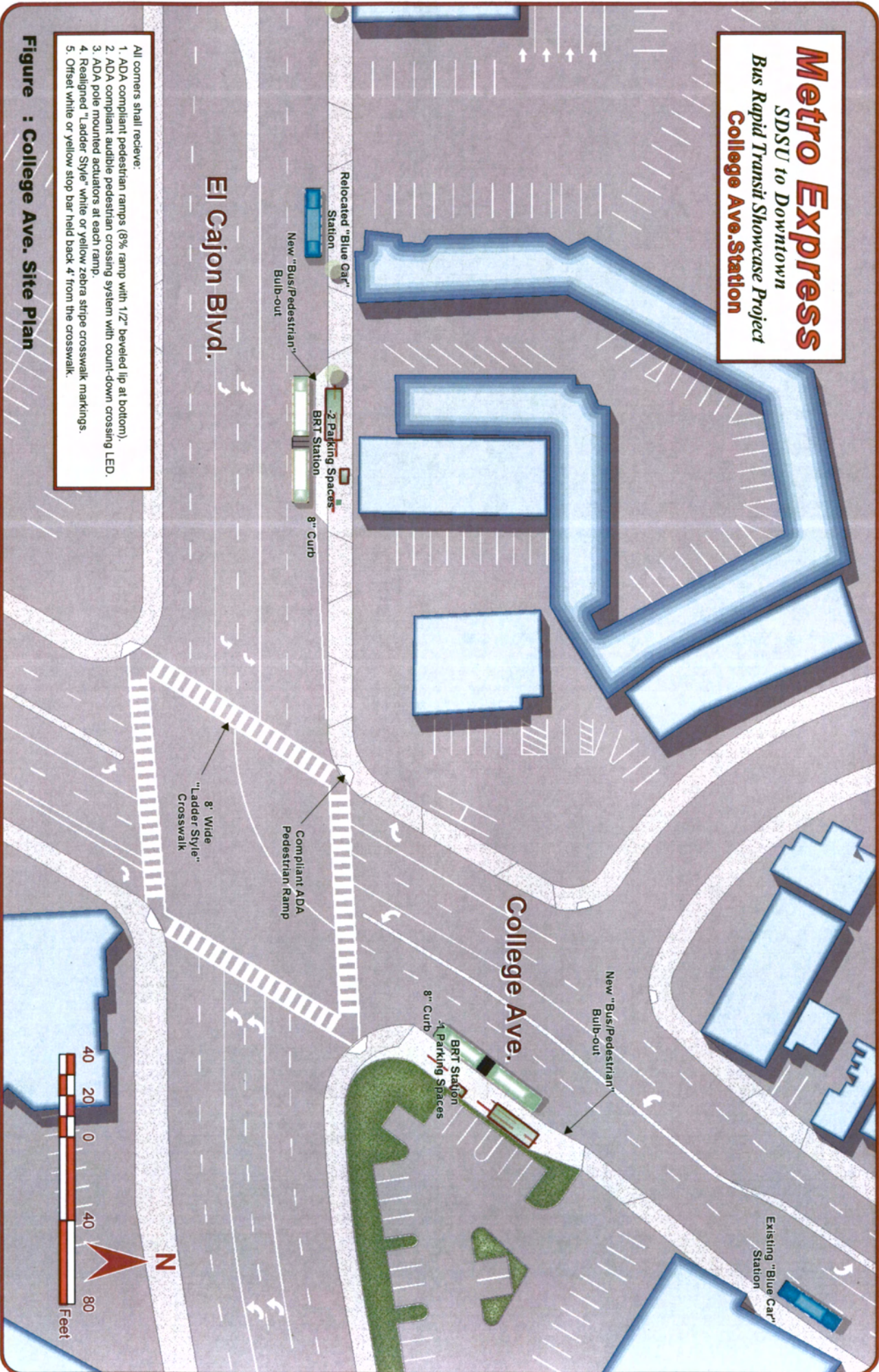
Metro Express
 SDSU to Downtown
 Bus Rapid Transit Showcase Project
54th St. Station



- All corners shall receive:
1. ADA compliant pedestrian ramp (8% ramp with 1/2" beveled lip at bottom)
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "adder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

Figure 1: 54th Street Site Plan

Metro Express
 SDSU to Downtown
 Bus Rapid Transit Showcase Project
College Ave. Station

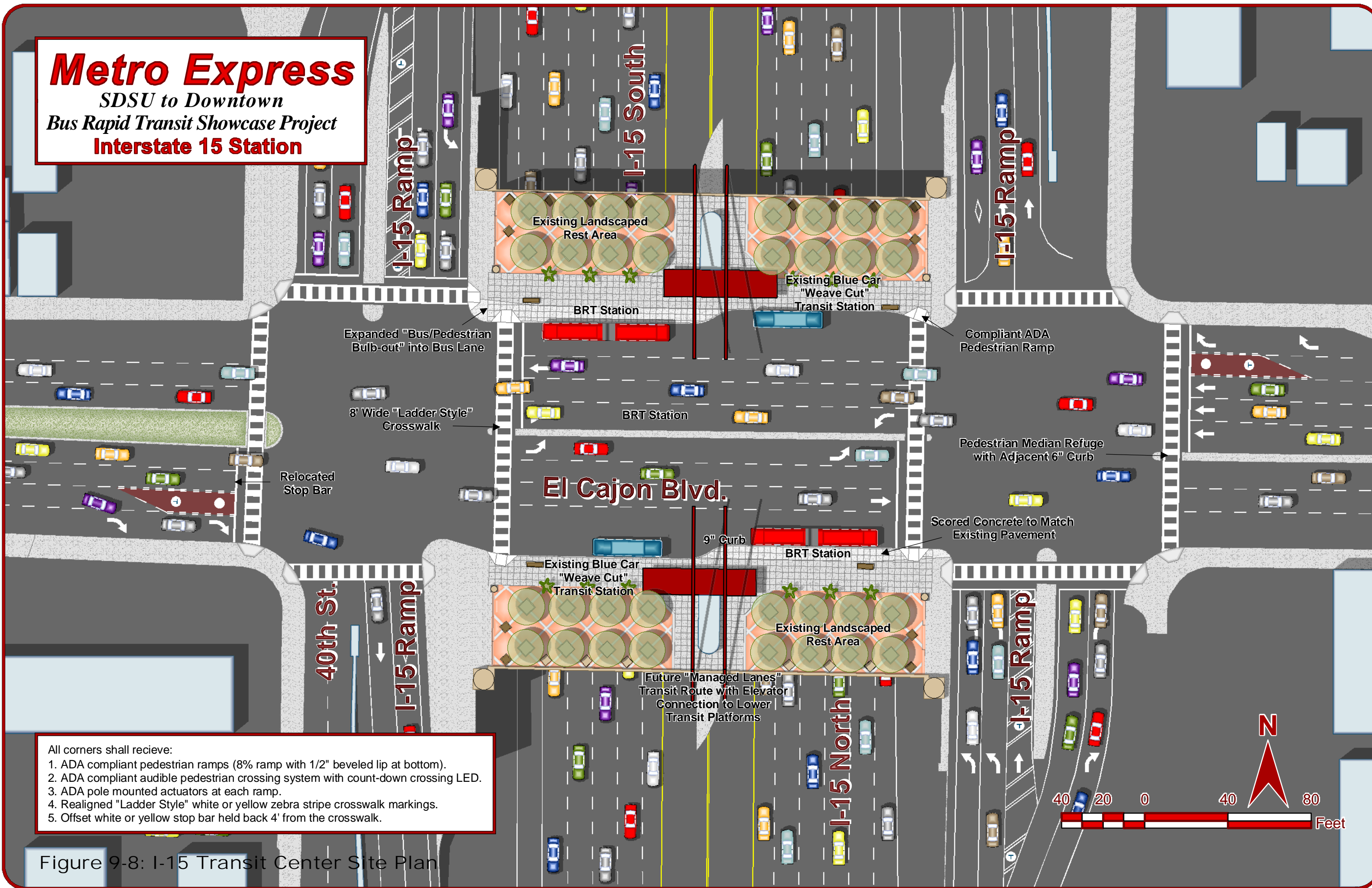


- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "ladder style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

Figure : College Ave. Site Plan

Metro Express

SDSU to Downtown
 Bus Rapid Transit Showcase Project
Interstate 15 Station



All corners shall receive:

1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
3. ADA pole mounted actuators at each ramp.
4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
5. Offset white or yellow stop bar held back 4' from the crosswalk.

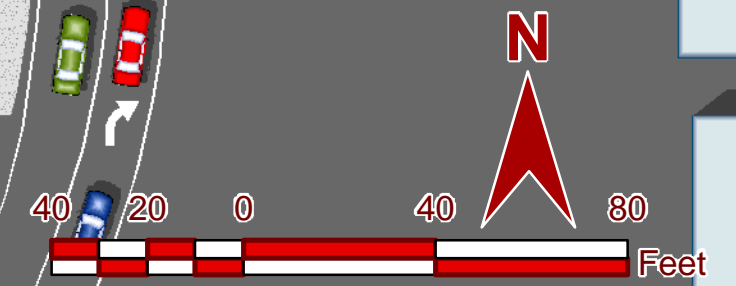


Figure 9-8: I-15 Transit Center Site Plan

Metro Express

SDSU to Downtown

Bus Rapid Transit Showcase Project

Lincoln Ave. Station

- All corners shall receive:
1. ADA compliant pedestrian ramps (3% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar, held back 4' from the crosswalk.

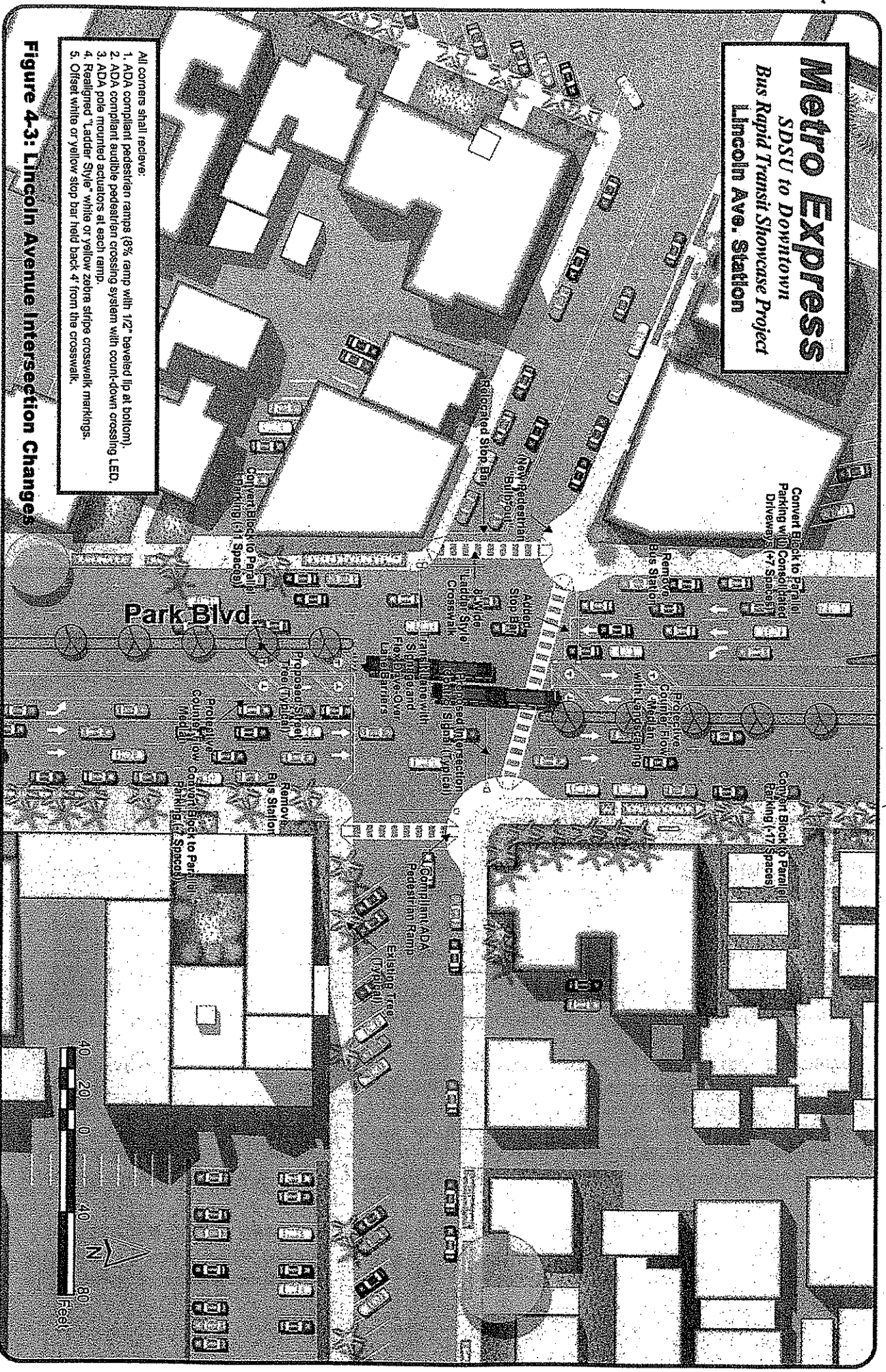
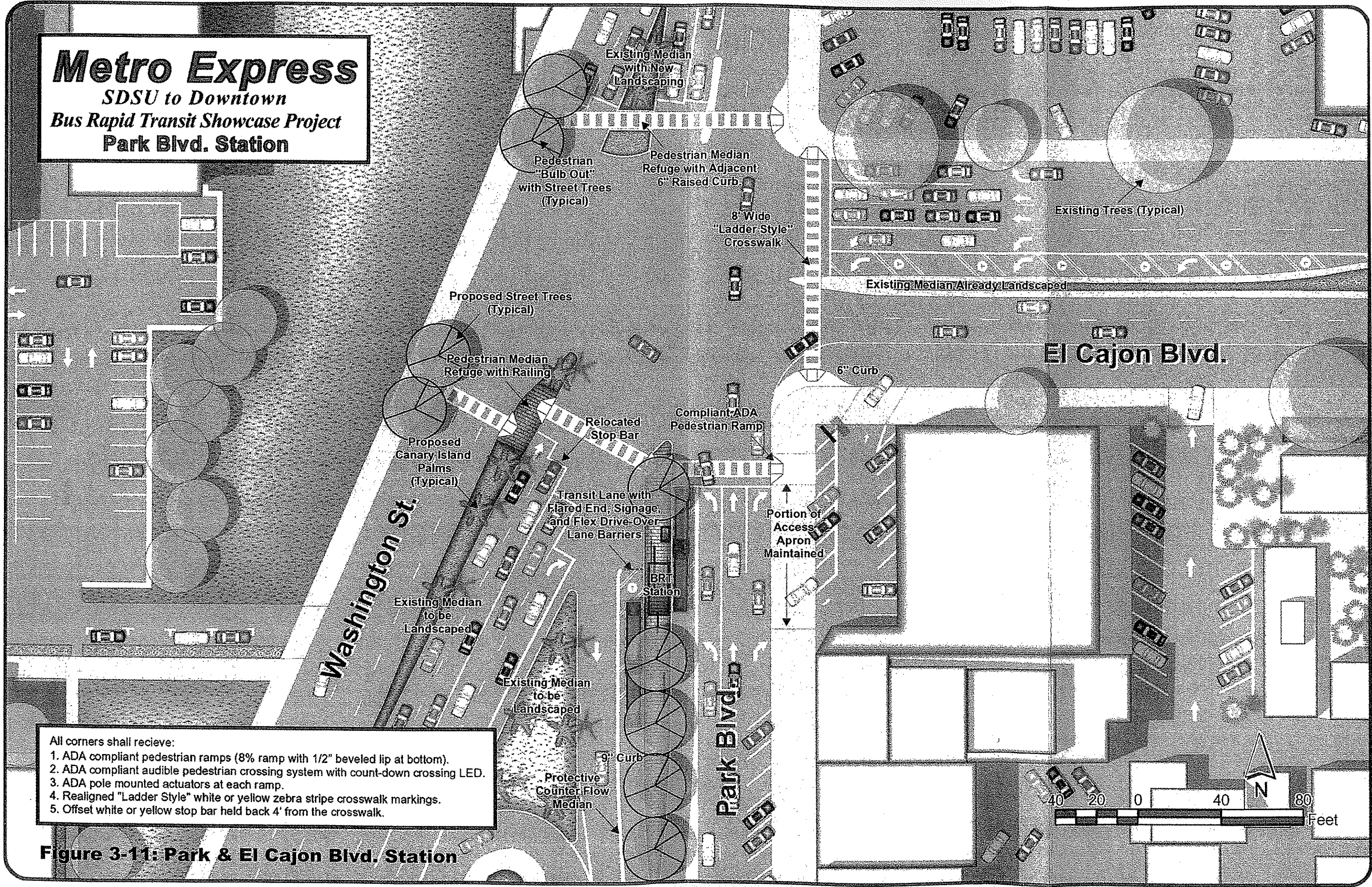


Figure 4-3: Lincoln Avenue Intersection Changes

Metro Express

SDSU to Downtown
Bus Rapid Transit Showcase Project
Park Blvd. Station



- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

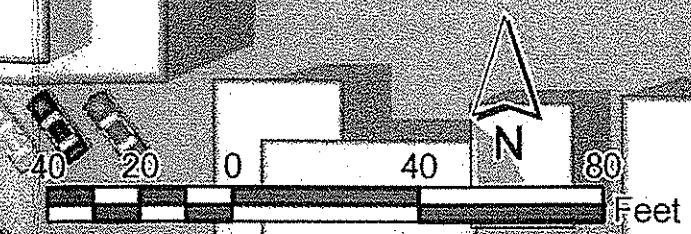
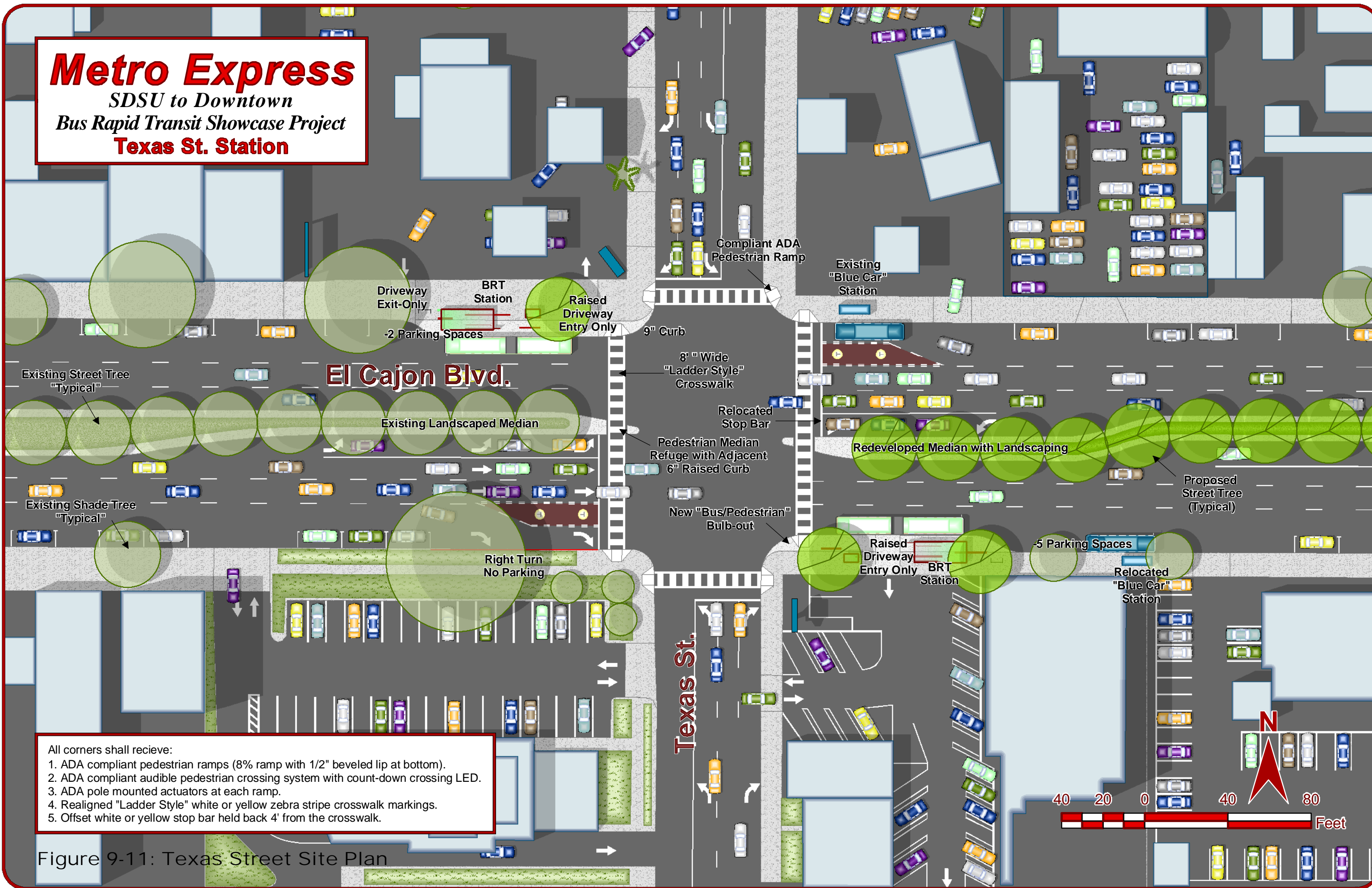


Figure 3-11: Park & El Cajon Blvd. Station

Metro Express

SDSU to Downtown
Bus Rapid Transit Showcase Project
Texas St. Station



- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

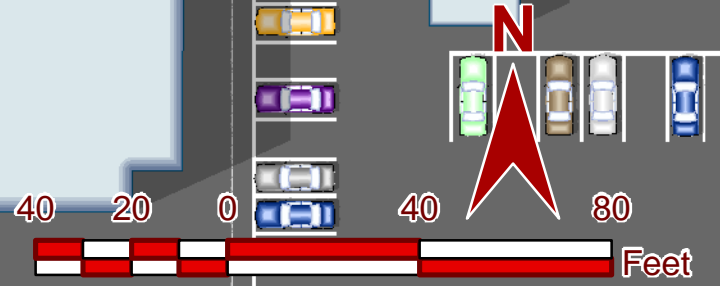
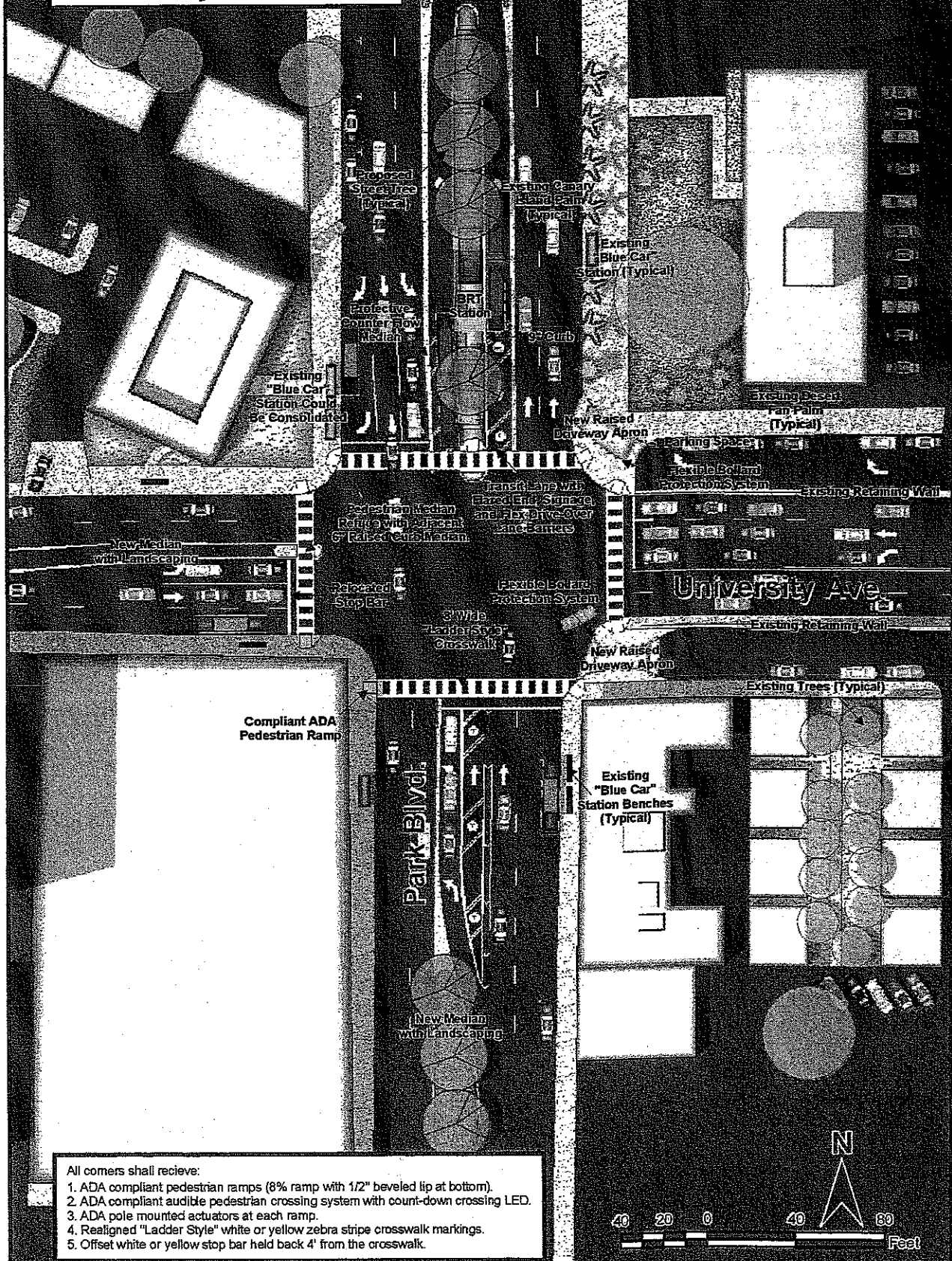


Figure 9-11: Texas Street Site Plan

Metro Express

SDSU to Downtown
Bus Rapid Transit Showcase Project
University Ave. Station



- All corners shall receive:
1. ADA compliant pedestrian ramps (8% ramp with 1/2" beveled lip at bottom).
 2. ADA compliant audible pedestrian crossing system with count-down crossing LED.
 3. ADA pole mounted actuators at each ramp.
 4. Realigned "Ladder Style" white or yellow zebra stripe crosswalk markings.
 5. Offset white or yellow stop bar held back 4' from the crosswalk.

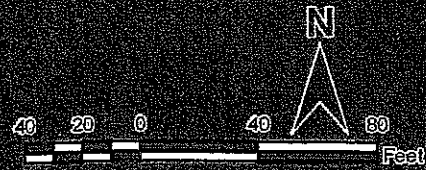


Figure 4-2 University & Park Blvd Sts

**APPENDIX B
TRAFFIC MEMORANDUM**

(bound separately)

APPENDIX B
TRAFFIC MEMORANDUM



Memorandum

■
Suite 301
517 Fourth Avenue
San Diego, California
92101

To: Miriam Kirshner, SANDAG
Steve Celniker, City of San Diego

From: Jon Collins, PE
Adam Dankberg, PE
Kimley-Horn and Associates, Inc.

Date: August 18, 2008

Subject: Park Boulevard Traffic Analysis Summary

The proposed Mid-City Bus Rapid Transit (BRT) route will travel between downtown San Diego and San Diego State University on City of San Diego streets. The route begins in downtown San Diego, heads north on Park Boulevard, turns right on El Cajon Boulevard, turns left on College Avenue and terminates at San Diego State University. The route portion on Park Boulevard between University Avenue and El Cajon Boulevard is planned to operate along the center of the roadway in bus-only lanes. With the addition of the BRT service along Park Boulevard a number of modifications would need to be made to intersection geometrics and signal timing and phasing at the intersections along Park Boulevard. This study analyzes the impact of these changes and determines if the proposed geometry and signal phasing would result in any deficient intersections.

In addition, the Mid-City BRT route may incorporate transit signal priority (TSP) at each of the signalized intersections along the Park Boulevard corridor. The addition of TSP would benefit the bus service by providing early green or green extension, allowing the bus to travel through the traffic light with little to no stopping delay. The additional green time to Park Boulevard movements benefits the private vehicles on Park Boulevard as well, although it has the potential to reduce service for the side streets. Therefore, a scenario incorporating early/extended green at each signalized intersection is analyzed as well.



Study Area

The proposed bus-only lanes are proposed for Park Boulevard between University Avenue and El Cajon Boulevard. Therefore this study analyzes each of the intersections along this corridor. The intersections included in the analysis are:

- Park Boulevard/University Avenue
- Park Boulevard/Lincoln Avenue
- Park Boulevard/Polk Avenue
- Park Boulevard/Howard Avenue
- Park Boulevard/Normal Street/El Cajon Boulevard

Methodology

Analysis Scenarios

Analysis is performed on the following scenarios:

- Existing Conditions
- Existing Conditions with BRT
- Existing Conditions with BRT and Early/Extended Green
- Year 2030 Conditions
- Year 2030 Conditions with BRT and Early/Extended Green

Existing Conditions volumes were obtained from traffic counts performed in July 2008 by National Data Services and from the El Cajon Blvd Mid-City Bus Rapid Transit study prepared by KOA Corporation in March 2008. **Figure 1** shows the existing a.m. and p.m. turning movement volumes.

Year 2030 Conditions volumes were based on the SANDAG Series 11 2030 Traffic Forecast.

Adjustments to Traffic Patterns

In the scenarios incorporating the BRT service, the traffic circulation patterns accessing Park Boulevard are altered with the installation of new traffic signals and the restriction of some turning movements. Therefore, volumes were shifted from Polk Avenue to Lincoln Avenue and Howard Avenue based on a methodology agreed upon by the project team. Most notable of the changes is



the installation of a median along Park Boulevard that restricts traffic on Polk Avenue from making through or left-turn movements, and restricts traffic along Park Boulevard from making left-turn movements onto Polk Avenue. With the change in traffic patterns, Polk Avenue will see a reduction in traffic, and Lincoln Avenue and Howard Avenue will have increased traffic volumes. The redistribution of traffic due to the proposed improvements is described below:

- Vehicles currently making the westbound through and left-turn movements from Polk Avenue were all shifted to Lincoln Avenue
- Vehicles currently making the westbound right-turn movement from Polk Avenue to Park Boulevard were reduced to 25% of the existing volumes, with the other 75% shifted to Lincoln Avenue
- Vehicles currently making the eastbound through and left-turn movements from Polk Avenue were all shifted to Lincoln Avenue
- Vehicles currently making the eastbound right-turn movement from Polk Avenue to Park Boulevard were reduced to 25% of the existing volumes, with the other 75% shifted to Lincoln Avenue
- Vehicles currently making the northbound left-turn from Park Boulevard to Polk Avenue were all shifted to Lincoln Avenue
- Vehicles currently making the northbound right-turn from Park Boulevard to Polk Avenue have been reduced to 25% of the existing volumes, with the other 75% shifted to Lincoln Avenue
- Vehicles currently making the southbound left-turn from Park Boulevard to Polk Avenue were all shifted, 75% to Lincoln Avenue and 25% to Howard Avenue
- Vehicles currently making the southbound right-turn from Park Boulevard to Polk Avenue were reduced to 25% of the existing volumes, with the other 75% shifted to Lincoln Avenue

These changes are incorporated into the Existing Conditions with BRT and Year 2030 Conditions with BRT scenarios.

Figure 2 shows the percentages that were applied for the shifting of traffic. **Figure 3** shows the revised existing conditions a.m. and p.m. peak hour volumes at each intersection. **Figure 4** shows the Year 2030 a.m. and p.m. peak hour volumes at each intersection with the redistribution of traffic.



Intersection/Traffic Signal Modifications

Figures 5-9 show the proposed intersection modifications along the route. The following paragraphs discuss the modifications made at each of the intersections.

University Avenue and Park Boulevard

A northbound bus only pocket is proposed to be added on the south leg of the intersection. The bus only pocket will be the location for transit to enter the median running transit lanes along Park Boulevard. Along Park Boulevard north of University Avenue, the existing roadway width will remain but the lane geometrics will change. The new geometrics will consist of exclusive southbound left-turn, through, and right-turn lanes, two lanes in the median for transit (one in each direction), and two northbound lanes. The existing diagonal parking on the west side will be replaced with parallel parking. The crosswalks on the north side and east side of the intersection will be modified based on the new curb alignments. The crosswalks on the south side and west side of the intersection will remain at their current alignments. The transit indicator will be active with Phase 4 (southbound thru). Phase 4 and Phase 7 will therefore be exclusive phases.

Lincoln Avenue and Park Boulevard

A traffic signal will be installed at the Lincoln Avenue and Park Boulevard intersection. The transit only lanes will consist of a single northbound and a single southbound lane in the median. Northbound and southbound left-turn lanes will be added to provide access to Lincoln Avenue. The diagonal parking on the west side of Park Boulevard on both sides of the intersection will be converted to parallel parking. The transit indicator will be active with Phase 2 (northbound thru). Phase 2 and Phase 5 will therefore be exclusive phases.

Polk Avenue and Park Boulevard

Median running transit only lanes will run through the intersection, with an opening in the median only to allow pedestrian crossings. With the extension of the median, movements to and from both directions of Polk Avenue will be restricted to right-turn only. A pedestrian crossing will be installed from the northeast corner of the intersection directly west to the southwest corner of the intersection. During the pedestrian interval, vehicles movements on Polk Avenue will be restricted by a red light and a "No Right-Turn on Red" sign. Vehicle movements on Park Boulevard will be controlled by a flashing red or solid red.



For the purposes of this analysis, it is assumed that a solid red will prevent northbound and southbound movements on Park Boulevard during the pedestrian phase. The transit indicator will be active with both Phase 2 and Phase 3.

Howard Avenue and Park Boulevard

A traffic signal will be installed at Howard Avenue. Currently the westbound movement on Howard Avenue is limited to right-turn only. With the signal, all movements will be allowed from Howard Avenue. In addition, a southbound left-turn lane will be installed. Northbound and southbound transit-only lanes will be installed in the median. The existing diagonal parking on the east side of Park Boulevard north of the intersection will be converted to parallel parking. A pedestrian crossing will be installed with the traffic signal across the north and east legs of the intersection. The pedestrian crossing on the north side will be split such that pedestrians would cross two travel lanes on Park Boulevard during Phase 8, cross the transit lanes during either Phase 1 or 8, and then cross the remaining two travel lanes on Park Boulevard during Phase 8. Pedestrian barricades will be installed on the southwest and southeast corners of the intersection to prevent pedestrian crossing on the south leg. The transit indicator will be active during Phase 2.

El Cajon Boulevard/Normal Street and Park Boulevard

Median running transit-only lanes will be installed on the south leg of the intersection. At this intersection, the bus route turns from northbound Park Boulevard to eastbound El Cajon Boulevard and from westbound El Cajon Boulevard to southbound Park Boulevard. On the east leg of the intersection, an additional bus-only turn pocket will be installed to the south of the existing westbound left-turn lane to provide access for the BRT to the transit-only lanes in the median. In order to provide the additional turn lane, the lanes on westbound El Cajon east of the intersection will be shifted somewhat to the north. With the addition of the median transit-only lanes, the existing northbound left-turn will be shifted to the east. Diagonal parking currently provided on northbound Park Boulevard south of the intersection will be converted to parallel parking. The two existing southbound thru lanes on Park Boulevard will be reduced to one through lane, as there is only one receiving lane for regular traffic south of the intersection. The existing no right-turn on red for northbound right-turns from Park Boulevard to El Cajon Boulevard will be maintained. The existing lag phase for the westbound left-turn will be maintained and the existing exclusive



phase operation for Phases 2 and 5 will be maintained. The transit indicator will be active during Phase 2.

Coordination

None of the existing signals in the study area are currently running on a coordinated system. With the implementation of the median transit lanes and the BRT, it is assumed that the traffic signals at University Avenue, Lincoln Avenue, Polk Avenue, and Howard Avenue would be coordinated during the AM and PM peak hours. Due to unique traffic patterns at El Cajon Boulevard, it is anticipated that that signal would require a larger cycle length and would not be coordinated.

Transit Signal Priority Treatments

The implementation of transit signal priority along this corridor allows the BRT to travel through the signalized intersections with minimal delay. The transit signal priority is assumed to provide early green or extended green, where the intersection will either terminate the cross-street green phase early and provide it to the phase associated with the transit movement, or extend the green phase associated with the transit movements to allow the BRT to travel through on the green. In essence, the transit signal priority takes time away from phases not associated with the transit movement and provides it to the phase with the transit movement. An intersection analysis was performed to determine the effect of the transit signal priority on intersection operations. In order to model the transit signal priority, the intersection timing splits were modified to provide additional green time to the phase with the transit movement by reducing the split times of the other phases. Ten seconds of additional green time was provided to the phase associated with the transit in order to model the early or extended green treatment.

Findings

Table 1 shows the intersection delay and level-of-service for the existing conditions, the existing conditions with the addition of the BRT, and the existing conditions with active TSP. As the table shows, all of the intersections will operate at LOS D or better both with the BRT and with active TSP.

Table 2 shows the intersection delay and level-of-service for the Year 2030 conditions, the Year 2030 conditions with the addition of the BRT, and the Year



2030 conditions with active TSP. As the table shows, all of the intersections will operate at LOS D or better both with the BRT and with active TSP.

See Appendices for existing timing plans and the Synchro worksheets for all analysis scenarios.

Mid-City

<p>1</p> <table border="1"> <tr> <td>↔ 50 / 63 ↔ 252 / 311 ↔ 53 / 174</td> <td>Park Blvd</td> <td>↔ 117 / 87 ↔ 441 / 423 ↔ 82 / 91</td> </tr> <tr> <td>49 / 119 189 / 665 102 / 152</td> <td>↔ 74 / 121 ↔ 135 / 416 ↔ 51 / 134</td> <td>University Ave</td> </tr> </table>	↔ 50 / 63 ↔ 252 / 311 ↔ 53 / 174	Park Blvd	↔ 117 / 87 ↔ 441 / 423 ↔ 82 / 91	49 / 119 189 / 665 102 / 152	↔ 74 / 121 ↔ 135 / 416 ↔ 51 / 134	University Ave	<p>2</p> <table border="1"> <tr> <td>↔ 17 / 23 ↔ 297 / 337 ↔ 8 / 6</td> <td>Park Blvd</td> <td>↔ 9 / 7 ↔ 57 / 34 ↔ 10 / 17</td> </tr> <tr> <td>20 / 63 24 / 111 93 / 192</td> <td>↔ 124 / 109 ↔ 171 / 461 ↔ 8 / 24</td> <td>Lincoln Ave</td> </tr> </table>	↔ 17 / 23 ↔ 297 / 337 ↔ 8 / 6	Park Blvd	↔ 9 / 7 ↔ 57 / 34 ↔ 10 / 17	20 / 63 24 / 111 93 / 192	↔ 124 / 109 ↔ 171 / 461 ↔ 8 / 24	Lincoln Ave	<p>3</p> <table border="1"> <tr> <td>↔ 27 / 47 ↔ 318 / 338 ↔ 8 / 33</td> <td>Park Blvd</td> <td>↔ 10 / 21 ↔ 185 / 93 ↔ 18 / 39</td> </tr> <tr> <td>11 / 68 38 / 239 48 / 63</td> <td>↔ 34 / 28 ↔ 172 / 493 ↔ 13 / 27</td> <td>Polk Ave</td> </tr> </table>	↔ 27 / 47 ↔ 318 / 338 ↔ 8 / 33	Park Blvd	↔ 10 / 21 ↔ 185 / 93 ↔ 18 / 39	11 / 68 38 / 239 48 / 63	↔ 34 / 28 ↔ 172 / 493 ↔ 13 / 27	Polk Ave	<p>4</p> <table border="1"> <tr> <td>↔ 7 / 16 ↔ 343 / 380 ↔ 22 / 81</td> <td>Park Blvd</td> <td>↔ 38 / 53 ↔ 1 / 0 ↔ 5 / 5</td> </tr> <tr> <td>2 / 2 1 / 0 11 / 20</td> <td>↔ 5 / 4 ↔ 150 / 450 ↔ 18 / 70</td> <td>Howard Ave</td> </tr> </table>	↔ 7 / 16 ↔ 343 / 380 ↔ 22 / 81	Park Blvd	↔ 38 / 53 ↔ 1 / 0 ↔ 5 / 5	2 / 2 1 / 0 11 / 20	↔ 5 / 4 ↔ 150 / 450 ↔ 18 / 70	Howard Ave
↔ 50 / 63 ↔ 252 / 311 ↔ 53 / 174	Park Blvd	↔ 117 / 87 ↔ 441 / 423 ↔ 82 / 91																									
49 / 119 189 / 665 102 / 152	↔ 74 / 121 ↔ 135 / 416 ↔ 51 / 134	University Ave																									
↔ 17 / 23 ↔ 297 / 337 ↔ 8 / 6	Park Blvd	↔ 9 / 7 ↔ 57 / 34 ↔ 10 / 17																									
20 / 63 24 / 111 93 / 192	↔ 124 / 109 ↔ 171 / 461 ↔ 8 / 24	Lincoln Ave																									
↔ 27 / 47 ↔ 318 / 338 ↔ 8 / 33	Park Blvd	↔ 10 / 21 ↔ 185 / 93 ↔ 18 / 39																									
11 / 68 38 / 239 48 / 63	↔ 34 / 28 ↔ 172 / 493 ↔ 13 / 27	Polk Ave																									
↔ 7 / 16 ↔ 343 / 380 ↔ 22 / 81	Park Blvd	↔ 38 / 53 ↔ 1 / 0 ↔ 5 / 5																									
2 / 2 1 / 0 11 / 20	↔ 5 / 4 ↔ 150 / 450 ↔ 18 / 70	Howard Ave																									
<p>5</p> <table border="1"> <tr> <td>↔ 382 / 246 ↔ 192 / 188 ↔ 26 / 77</td> <td>Park Blvd</td> <td>↔ 69 / 68 ↔ 585 / 283 ↔ 144 / 133</td> </tr> <tr> <td>127 / 374 203 / 697 35 / 100</td> <td>↔ 63 / 73 ↔ 80 / 282 ↔ 46 / 194</td> <td>El Cajon Blvd</td> </tr> </table>		↔ 382 / 246 ↔ 192 / 188 ↔ 26 / 77	Park Blvd	↔ 69 / 68 ↔ 585 / 283 ↔ 144 / 133	127 / 374 203 / 697 35 / 100	↔ 63 / 73 ↔ 80 / 282 ↔ 46 / 194	El Cajon Blvd																				
↔ 382 / 246 ↔ 192 / 188 ↔ 26 / 77	Park Blvd	↔ 69 / 68 ↔ 585 / 283 ↔ 144 / 133																									
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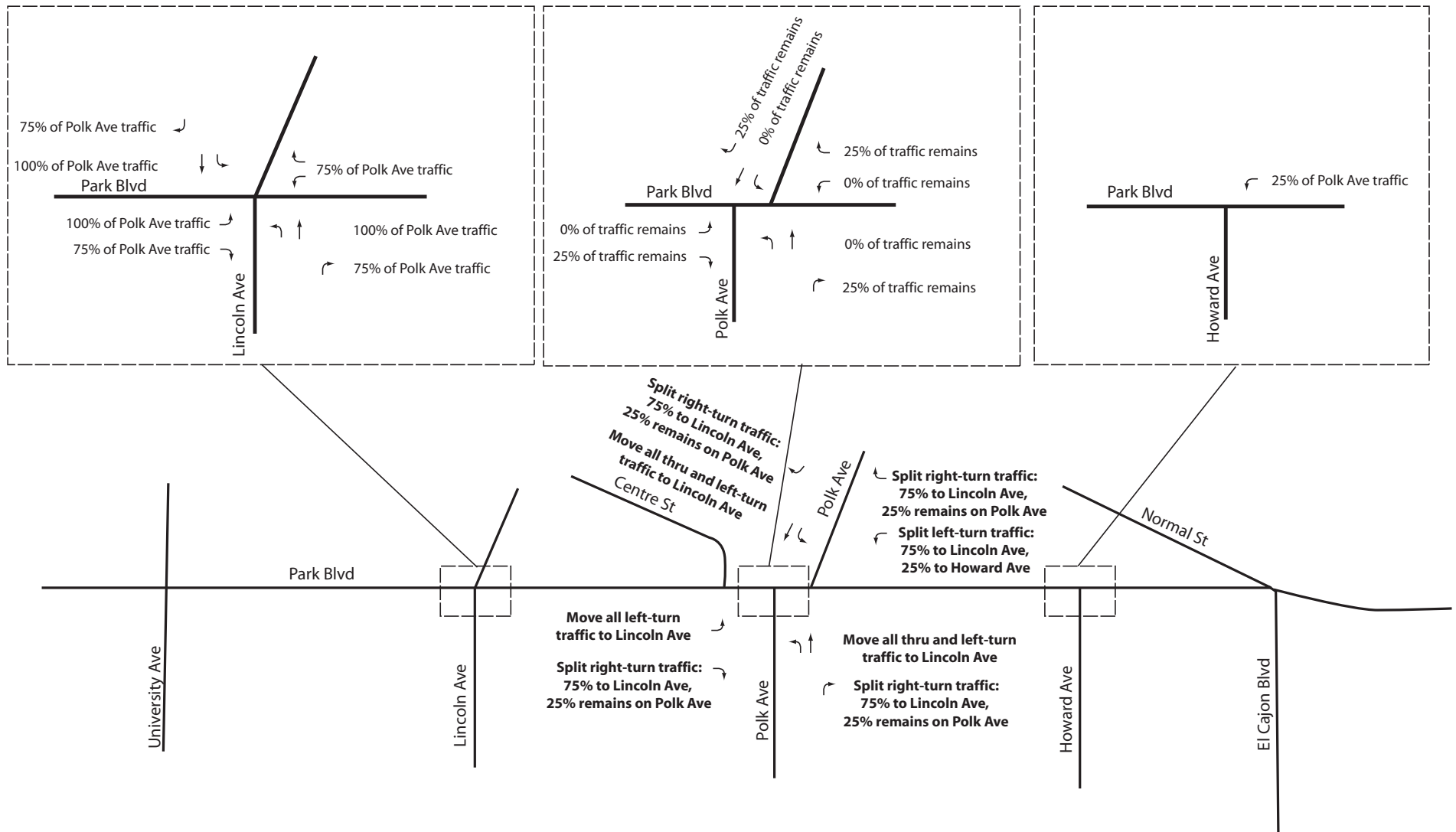
Legend
X / Y = AM / PM PEAK HOUR
TURNING VOLUMES



NOT TO SCALE

K:\TPT\0\05596027\Excel\596027TA01.xlsx\Ex Figure 1-12

Mid-City - SDSU to Downtown BRT



Mid-City

<p>1</p> <table border="1"> <tr> <td>↔ 50 / 63 ↔ 252 / 311 ↔ 53 / 174</td> <td>Park Blvd</td> <td>↔ 117 / 87 ↔ 441 / 423 ↔ 82 / 91</td> </tr> <tr> <td>↔ 49 / 119 ↔ 189 / 665 ↔ 102 / 152</td> <td></td> <td>↔ 74 / 121 ↔ 135 / 416 ↔ 51 / 134</td> </tr> </table>	↔ 50 / 63 ↔ 252 / 311 ↔ 53 / 174	Park Blvd	↔ 117 / 87 ↔ 441 / 423 ↔ 82 / 91	↔ 49 / 119 ↔ 189 / 665 ↔ 102 / 152		↔ 74 / 121 ↔ 135 / 416 ↔ 51 / 134	<p>2</p> <table border="1"> <tr> <td>↔ 37 / 58 ↔ 297 / 337 ↔ 14 / 31</td> <td>Park Blvd</td> <td>↔ 16 / 22 ↔ 242 / 127 ↔ 28 / 56</td> </tr> <tr> <td>↔ 31 / 131 ↔ 62 / 350 ↔ 129 / 258</td> <td></td> <td>↔ 158 / 137 ↔ 171 / 461 ↔ 17 / 44</td> </tr> </table>	↔ 37 / 58 ↔ 297 / 337 ↔ 14 / 31	Park Blvd	↔ 16 / 22 ↔ 242 / 127 ↔ 28 / 56	↔ 31 / 131 ↔ 62 / 350 ↔ 129 / 258		↔ 158 / 137 ↔ 171 / 461 ↔ 17 / 44	<p>3</p> <table border="1"> <tr> <td>↔ 7 / 12 ↔ 318 / 338</td> <td>Park Blvd</td> <td>↔ 3 / 6</td> </tr> <tr> <td>↔ 12 / 19</td> <td></td> <td>↔ 172 / 493 ↔ 4 / 7</td> </tr> </table>	↔ 7 / 12 ↔ 318 / 338	Park Blvd	↔ 3 / 6	↔ 12 / 19		↔ 172 / 493 ↔ 4 / 7	<p>4</p> <table border="1"> <tr> <td>↔ 7 / 16 ↔ 343 / 380 ↔ 24 / 89</td> <td>Park Blvd</td> <td>↔ 38 / 53 ↔ 1 / 0 ↔ 5 / 5</td> </tr> <tr> <td>↔ 2 / 2 ↔ 1 / 0 ↔ 11 / 20</td> <td></td> <td>↔ 5 / 4 ↔ 150 / 450 ↔ 18 / 70</td> </tr> </table>	↔ 7 / 16 ↔ 343 / 380 ↔ 24 / 89	Park Blvd	↔ 38 / 53 ↔ 1 / 0 ↔ 5 / 5	↔ 2 / 2 ↔ 1 / 0 ↔ 11 / 20		↔ 5 / 4 ↔ 150 / 450 ↔ 18 / 70
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Legend
X / Y = AM / PM PEAK HOUR
TURNING VOLUMES

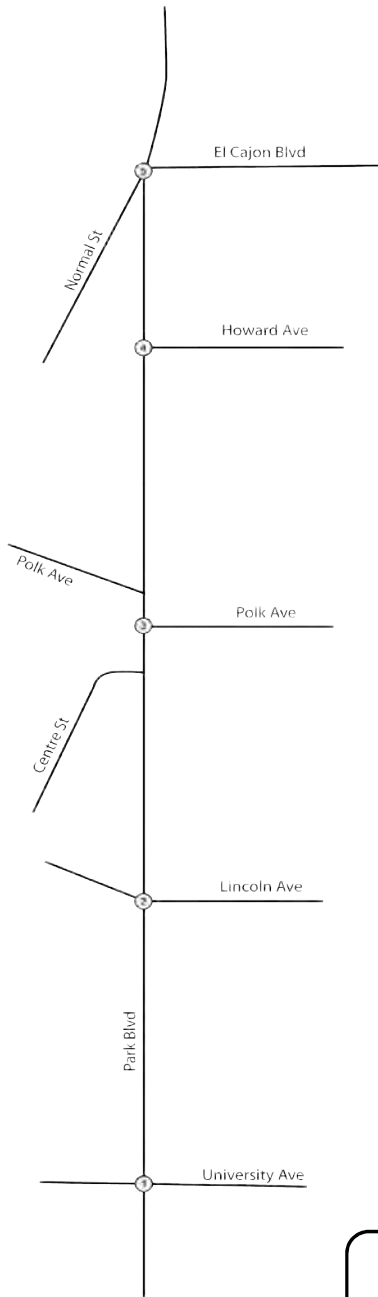


NOT TO SCALE

K:\TPT\0\95596027\Excel\596027TA01.xlsx\Ex Figure 1-12 redist

Mid-City

<p>1</p> <table border="1"> <tr> <td>↔ 54 / 69 ↔ 352 / 442 ↔ 63 / 208</td> <td>Park Blvd</td> <td>↔ 144 / 106 ↔ 476 / 451 ↔ 120 / 132</td> </tr> <tr> <td>↔ 54 / 130 ↔ 198 / 717 ↔ 130 / 198</td> <td>↔ 97 / 158 ↔ 194 / 581 ↔ 73 / 193</td> <td>University Ave</td> </tr> </table>	↔ 54 / 69 ↔ 352 / 442 ↔ 63 / 208	Park Blvd	↔ 144 / 106 ↔ 476 / 451 ↔ 120 / 132	↔ 54 / 130 ↔ 198 / 717 ↔ 130 / 198	↔ 97 / 158 ↔ 194 / 581 ↔ 73 / 193	University Ave	<p>2</p> <table border="1"> <tr> <td>↔ 30 / 52 ↔ 346 / 392 ↔ 15 / 32</td> <td>Park Blvd</td> <td>↔ 21 / 23 ↔ 257 / 130 ↔ 48 / 79</td> </tr> <tr> <td>↔ 26 / 117 ↔ 59 / 379 ↔ 168 / 339</td> <td>↔ 205 / 182 ↔ 196 / 546 ↔ 30 / 70</td> <td>Lincoln Ave</td> </tr> </table>	↔ 30 / 52 ↔ 346 / 392 ↔ 15 / 32	Park Blvd	↔ 21 / 23 ↔ 257 / 130 ↔ 48 / 79	↔ 26 / 117 ↔ 59 / 379 ↔ 168 / 339	↔ 205 / 182 ↔ 196 / 546 ↔ 30 / 70	Lincoln Ave	<p>3</p> <table border="1"> <tr> <td>↔ 8 / 13 ↔ 358 / 376</td> <td>Park Blvd</td> <td>↔ 3 / 7</td> </tr> <tr> <td>↔ 14 / 21</td> <td>↔ 203 / 577 ↔ 5 / 8</td> <td>Polk Ave</td> </tr> </table>	↔ 8 / 13 ↔ 358 / 376	Park Blvd	↔ 3 / 7	↔ 14 / 21	↔ 203 / 577 ↔ 5 / 8	Polk Ave	<p>4</p> <table border="1"> <tr> <td>↔ 3 / 10 ↔ 443 / 505 ↔ 16 / 69</td> <td>Park Blvd</td> <td>↔ 36 / 56 ↔ 3 / 0 ↔ 20 / 21</td> </tr> <tr> <td>↔ 2 / 2 ↔ 1 / 0 ↔ 12 / 21</td> <td>↔ 7 / 10 ↔ 185 / 546 ↔ 39 / 142</td> <td>Howard Ave</td> </tr> </table>	↔ 3 / 10 ↔ 443 / 505 ↔ 16 / 69	Park Blvd	↔ 36 / 56 ↔ 3 / 0 ↔ 20 / 21	↔ 2 / 2 ↔ 1 / 0 ↔ 12 / 21	↔ 7 / 10 ↔ 185 / 546 ↔ 39 / 142	Howard Ave
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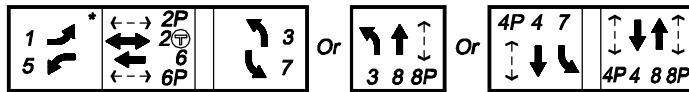
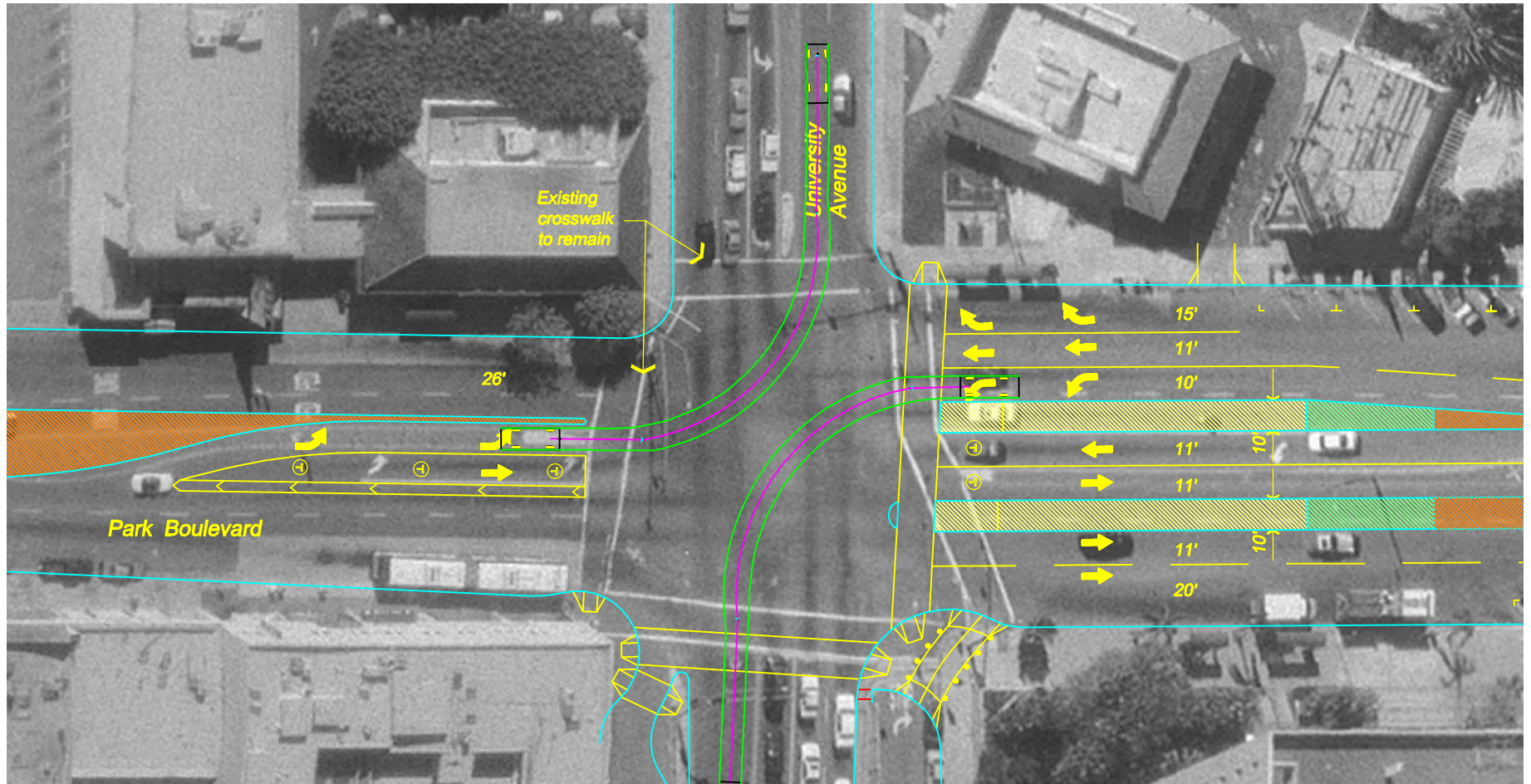
Legend
X / Y = AM / PM PEAK HOUR
TURNING VOLUMES



NOT TO SCALE

K:\TPT\0\95596027\Excel\596027TA01.xlsx\BOWP Figure 1-12

Mid-City - SDSU to Downtown BRT

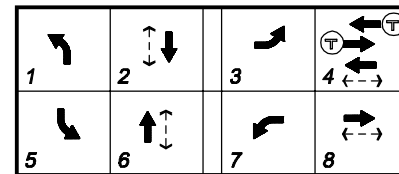


* Phases 1 and 5 terminate at the same time during BRT operation through TOD coordination.

Phases 4 and 7 are exclusive phases.

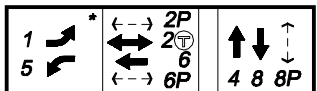
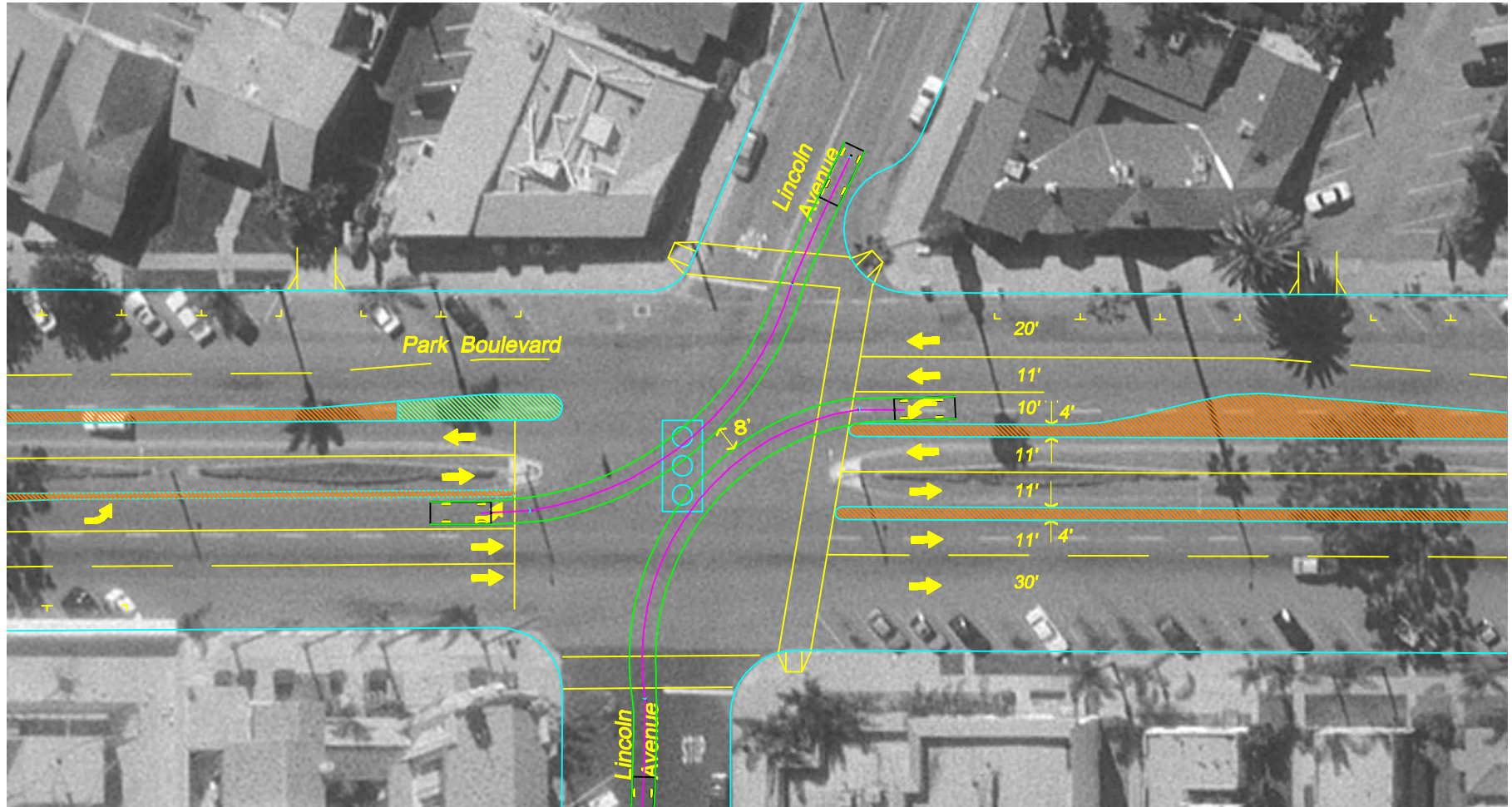
Southbound and northbound left volume= Fairly balanced 77/86 and 79/118

Steady Demand Sequence



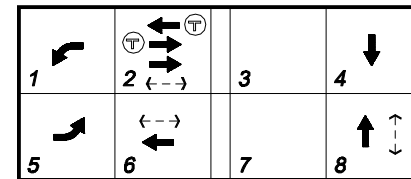
170 Controller

Mid-City - SDSU to Downtown BRT



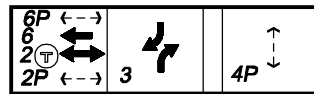
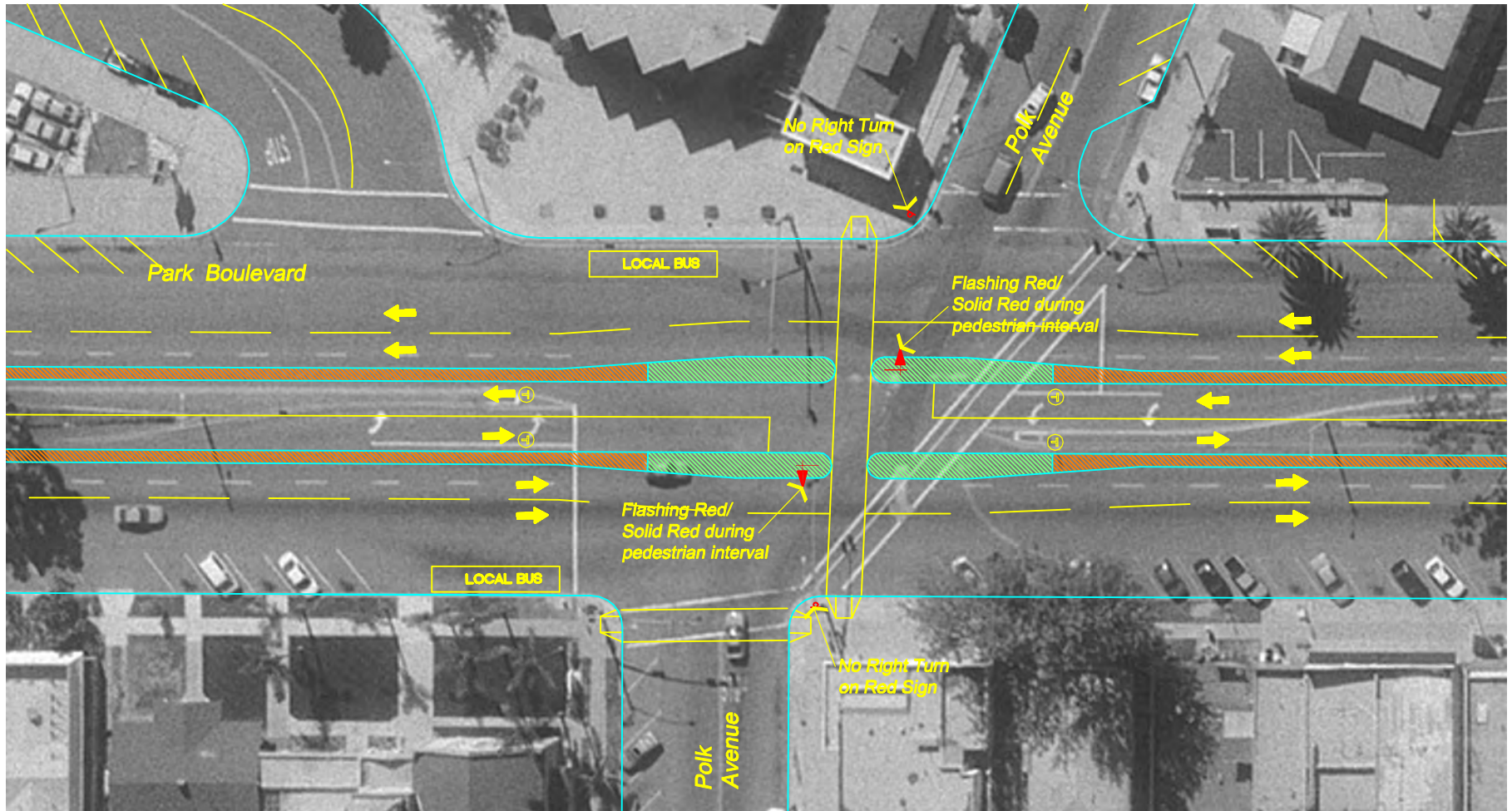
* Phases 1 and 5 terminate at the same time during BRT operation through TOD coordination.

Phases 2 and 5 are exclusive phases.
Steady Demand Sequence

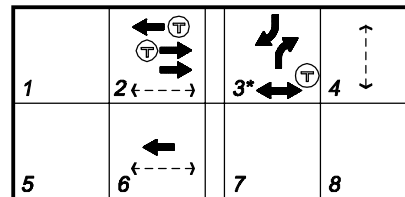


170 Controller

Mid-City - SDSU to Downtown BRT



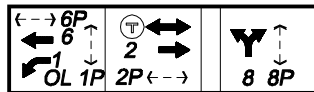
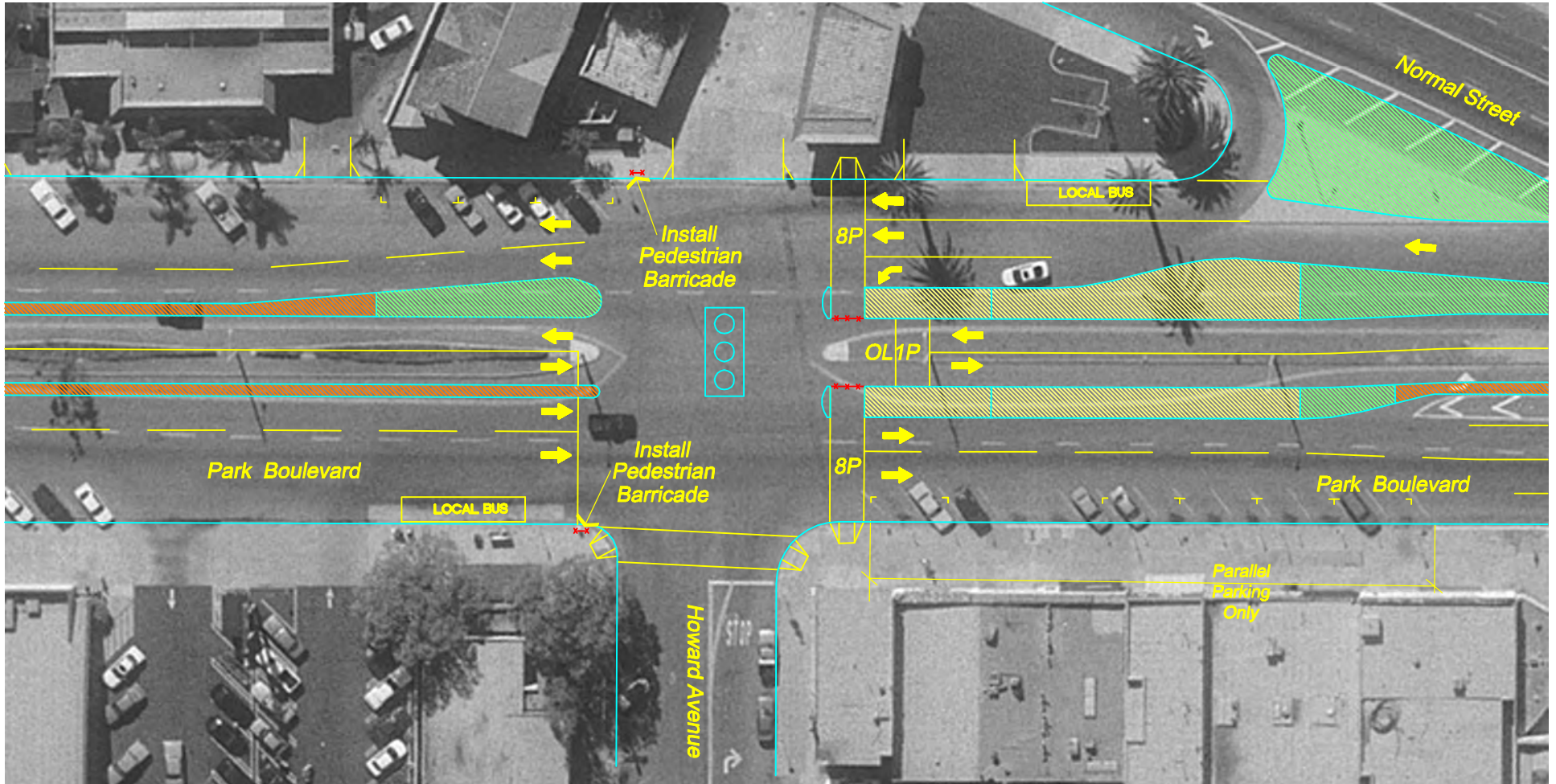
Steady Demand Sequence



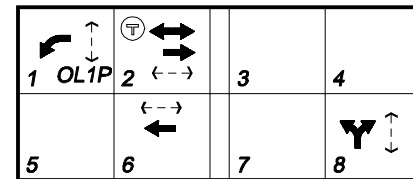
170 Controller

* Use flashing red for Polk Avenue

Mid-City - SDSU to Downtown BRT

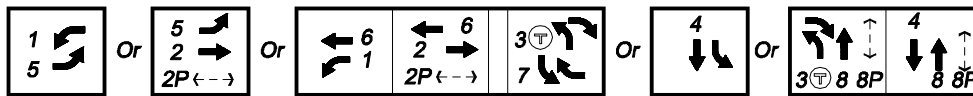
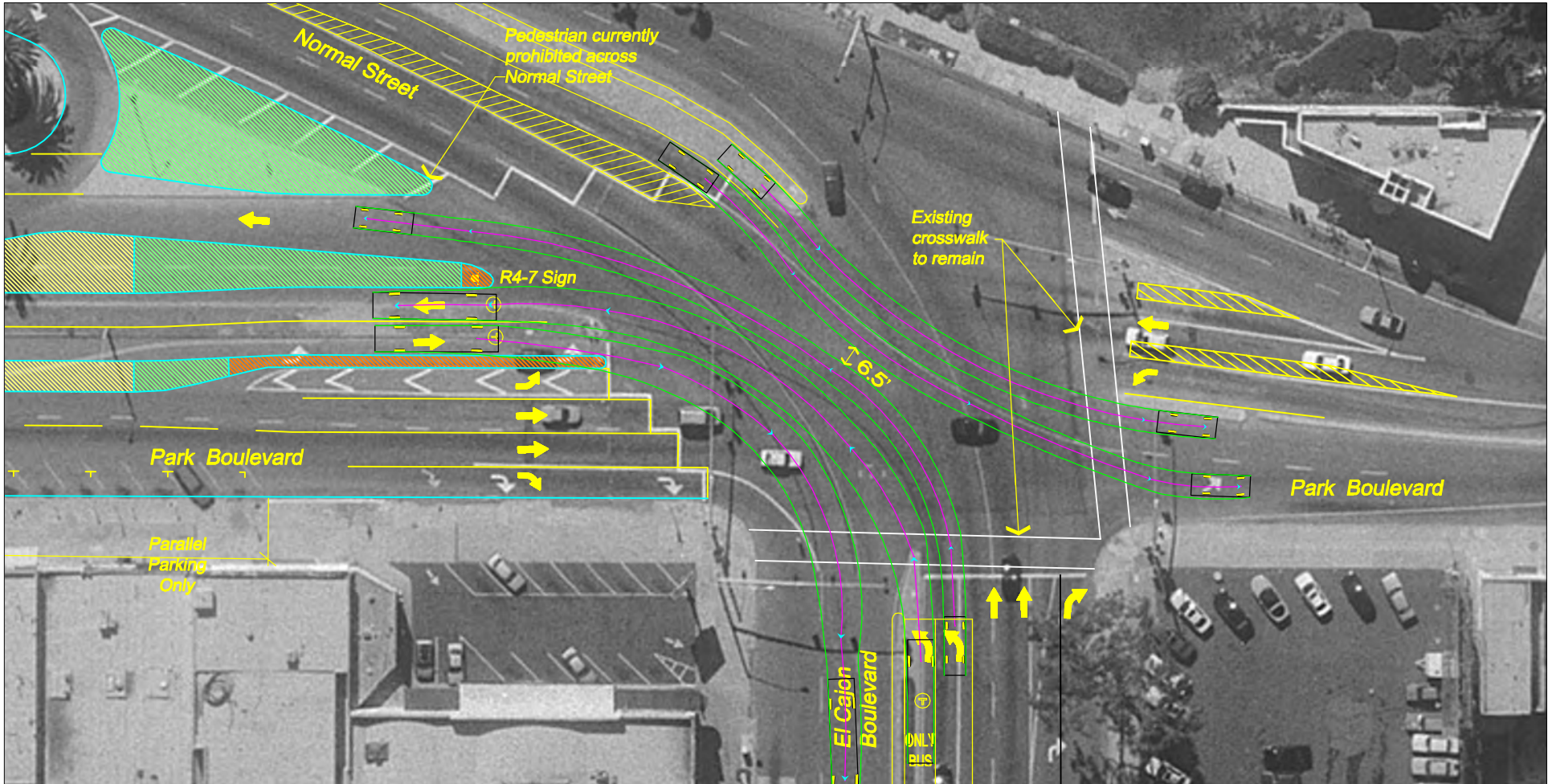


*Pedestrian Phase 8 assumes pedestrians only cross half width of Park Blvd.
 OL 1P is pedestrian crossing in median.
 Steady Demand Sequence*



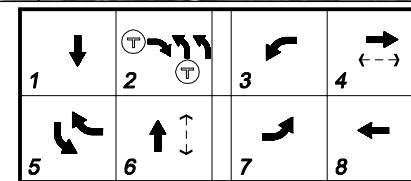
170 Controller

Mid-City - SDSU to Downtown BRT



Westbound and Eastbound left volume= 50/63 and 22/79

Steady Demand Sequence



170 Controller

TABLE 1
EXISTING CONDITIONS
PEAK-HOUR INTERSECTION LEVEL OF SERVICE SUMMARY

INTERSECTION		PEAK HOUR	EXISTING			EXISTING WITH BRT			BRT WITH ACTIVE TSP	
			TRAFFIC CONTROL	DELAY (a)	LOS (b)	TRAFFIC CONTROL	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	University Ave & Park Blvd	AM	Actuated-Uncoordinated Signal	17.3	B	Actuated-Uncoordinated Signal	35.5	D	34.7	C
		PM		37.9	D		40.4	D	40.3	D
2	Lincoln Ave & Park Blvd	AM	All-Way Stop	10.4	B	Actuated-Coordinated Signal	33.4	C	33.0	C
		PM		21.9	C		43.2	D	43.7	D
3	Polk Ave & Park Blvd	AM	Actuated-Uncoordinated Signal	6.9	A	Actuated-Coordinated Signal	2.0	A	2.0	A
		PM		8.4	A		2.5	A	2.5	A
4	Howard Ave & Park Blvd	AM	One-Way Stop	9.0	A	Actuated-Coordinated Signal	7.6	A	7.7	A
		PM		10.5	B		9.1	A	9.0	A
5	Normal St & Park Blvd	AM	Actuated-Uncoordinated Signal	19.7	B	Actuated-Coordinated Signal	20.2	C	20.2	C
		PM		24.9	C		25.7	C	25.7	C

Notes:

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0

TABLE 2
YEAR 2030 CONDITIONS
PEAK-HOUR INTERSECTION LEVEL OF SERVICE SUMMARY

INTERSECTION		PEAK HOUR	YEAR 2030			YEAR 2030 WITH BRT			BRT WITH ACTIVE TSP	
			TRAFFIC CONTROL	DELAY (a)	LOS (b)	TRAFFIC CONTROL	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	University Ave & Park Blvd	AM	Actuated-Uncoordinated Signal	21.4	C	Actuated-Uncoordinated Signal	35.0	D	33.2	C
		PM		45.7	D		46.1	D	47.3	D
2	Lincoln Ave & Park Blvd	AM	All-Way Stop	11.8	B	Actuated-Coordinated Signal	34.7	C	35.0	D
		PM		36.2	E		49.2	D	50.2	D
3	Polk Ave & Park Blvd	AM	Actuated-Uncoordinated Signal	7.4	A	Actuated-Coordinated Signal	1.9	A	1.9	A
		PM		9.9	A		2.0	A	2.5	A
4	Howard Ave & Park Blvd	AM	One-Way Stop	9.2	A	Actuated-Coordinated Signal	7.2	A	7.4	A
		PM		11.3	B		8.6	A	7.4	A
5	Normal St & Park Blvd	AM	Actuated-Uncoordinated Signal	23.5	C	Actuated-Coordinated Signal	23.9	C	23.9	C
		PM		31.4	C		31.8	C	32.7	C

Notes:

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 6.0

APPENDICES

INTERSECTION: UNIVERSITY & PARK

2231 Gram

Group Assignment: 4018
 Field Master Assignment: NONE
 Last Database Change: 08/20/19
 System Ref. Number: 219
 Drawing Number: 25995-2
 Timing Implemented On:

Timing Sheet By: VAC
 Approved By:

Site Name: PARK
 EW Street Name: UNIVERSITY

Row	1	2	3	4	5	6	7	8
Ped Walk	0	0	0	7	0	0	0	7
Ped FDW	0	0	0	19	0	0	0	30
Min Green	4	7	4	6	4	7	4	6
Type 3 Limit	0	0	0	0	0	0	0	0
Add/Veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Veh Extn	3.0	2.0	3.0	2.9	3.0	2.0	2.0	3.3
Max Gap	3.0	2.0	3.0	2.9	3.0	2.0	2.0	3.3
Min Gap	3.0	2.0	3.0	0.2	3.0	2.0	2.0	0.2
Max Limit	25	40	25	40	25	40	25	40
Max Limit 2	0	0	0	0	0	0	0	0
Bus Adv	0	0	0	0	0	0	0	0
Call to Phs	0	0	0	0	0	0	0	0
Reduce By	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Every	0.0	0.0	0.0	1.1	0.0	0.0	0.0	1.0
Yellow	3.4	3.0	3.4	3.0	3.1	3.0	3.4	3.5
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1
 F + Phase + Row

Phase Timing
 F + E + Row

Phase Functions <F Page>
 F + F + Row

Manual Plan	1A
Manual Offset	
Manual Selection	

Manual Plan	0 = Automatic
Manual Offset	1 = Offset A
Manual Selection	2 = Offset B
	3 = Offset C

Manual Plan	1A
Manual Offset	
Manual Selection	

RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	3
EV-B Delay	0
EV-B Clear	3
EV-C Delay	0
EV-C Clear	3
EV-D Delay	0
EV-D Clear	3
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	3
EV-B Delay	0
EV-B Clear	3
EV-C Delay	0
EV-C Clear	3
EV-D Delay	0
EV-D Clear	3
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Permit	12345678
Red Lock	
Yellow Lock	
Min Recall	
Ped Recall	
Peds (View)	2_4_8
Rest In Walk	
Red Rest	
Dbl Entry	
Max Recall	
Soft Recall	2_6
Max 2	
Cond Serv	
Ped Lock	12345678
Yellow Start	2_6
1st Phases	3_7

Green Clear	0.0	0.0	0.0	0.0
Yellow Change	0.0	0.0	0.0	0.0
Red Clear	0.0	0.0	0.0	0.0
Overlap A	0.0	0.0	0.0	0.0
Overlap B	0.0	0.0	0.0	0.0
Overlap C	0.0	0.0	0.0	0.0
Overlap D	0.0	0.0	0.0	0.0

Green Clear	0.0	0.0	0.0	0.0
Yellow Change	0.0	0.0	0.0	0.0
Red Clear	0.0	0.0	0.0	0.0
Overlap A	0.0	0.0	0.0	0.0
Overlap B	0.0	0.0	0.0	0.0
Overlap C	0.0	0.0	0.0	0.0
Overlap D	0.0	0.0	0.0	0.0

Max Initial	0
Red Revert	5.0
All Red Start	0.0
Start / Revert Times	
Drop Number	16
Zone Number	16
Area Number	2
Area Address	83
QuickNet Channel	DIGI73

C + F + O	F	Row
Free Lag	2_4_6_8	0

Downtime Flash	60
Downtime Before Auto Manual Flash	

Disable Ports	234
Disable Communication Ports	D + D + 9

Group Assignment: 4018
 Field Master Assignment: NONE

Timing Sheet By: VAC
 Approved By:

Site Name: PARK
 EW Street Name: UNIVERSITY



Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 00	0		
1	00 : 00	0		
2	00 : 00	0		
3	00 : 00	0		
4	00 : 00	0		
5	00 : 00	0		
6	00 : 00	0		
7	00 : 00	0		
8	00 : 00	0		
9	00 : 00	0		
A	00 : 00	0		
B	00 : 00	0		
C	00 : 00	0		
D	00 : 00	0		
E	00 : 00	0		
F	00 : 00	0		

TOD Function

7 + ROW

<D Page>

D + F + ROW

- I.O.D. Functions
- 0 = Permitted Phases
 - 1 = Red Lock
 - 2 = Yellow Lock
 - 3 = Veh Min Recall
 - 4 = Ped Recall
 - 5 =
 - 6 = Rest In Walk
 - 7 = Red Rest
 - 8 = Double Entry
 - 9 = Veh Max Recall
 - A = Veh Soft Recall
 - B = Maximum 2
 - C = Conditional Service
 - D = Free Lag Phases
 - E = Bit 1 - Local Override
 - Bit 2 - Phase Bank 2
 - Bit 3 - Phase Bank 3
 - Bit 4 - Disable Detector
 - OFF Monitor
 - Bit 7 - Detector Count Monitor
 - Bit 8 - Real Time Split Monitor
 - F = Output Bits 1 thru 4

Row	Configuration
0	F
1	RR Overlap A - Phases
2	RR Overlap B - Phases
3	RR Overlap C - Phases
4	RR Overlap D - Phases
5	Ped 2P
6	Ped 6P
7	Ped 4P
8	Ped 8P
9	Yellow Flash Phases
A	Overlap A - Phases
B	Overlap B - Phases
C	Overlap C - Phases
D	Overlap D - Phases
E	Restricted Phases
F	Assign 5 Outputs

<E Page>

E + F + ROW

Day of Week

- 1 = Sunday
- 2 = Monday
- 3 = Tuesday
- 4 = Wednesday
- 5 = Thursday
- 6 = Friday
- 7 = Saturday

Row	Function	Day of Week	Column F Phases/Bits
0	Exclusive Phases		
1	RR-1 Clear Phases		
2	RR-2 Clear Phases		
3	RR-2 Limited Service		
4	Prot / Perm Phases		
5	Overlap A - Green Omnit		
6	Overlap B - Green Omnit		
7	Overlap C - Green Omnit		
8	Overlap D - Green Omnit		
9	Overlap Yellow Flash		
A	EV-A Phases		2 5
B	EV-B Phases		4 7
C	EV-C Phases		1 6
D	EV-D Phases		3 8
E	Extra 1 Config. Bits		1 3 4 5
F	IC Select (Interconnect)		2

<D Page>

D + F + ROW

- Extra 1 Flags
- 1 = TBC Type 1
 - 2 = NEMA Ext. Coord
 - 3 = Auto Daylight Savings
 - 4 = EV Advance
 - 5 = Remote Download
 - 6 = Special Event
 - 7 = Prelimed Operation
 - 8 = Split Ring Operation

- IC Select Flags
- 1 =
 - 2 = Modem
 - 3 = 7-Wire Slave
 - 4 = Flash / Free
 - 5 =
 - 6 = Simplex Master
 - 7 = 7-Wire Master
 - 8 = Offset Interrupter

Configuration

E + E + ROW

For access, set F + 9 + E = 1

D+B+0

Disable Parity 0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Time and Date

8-0 Hour, Minute, Day-of-Week

8-1 Day-of-Month, Year, Month

8-F Seconds

Program Information

C + C + 0 = program

C + C + F = version

Remote Download

C + 0 + 4 = 1 -255

w/E + E + E bit 5 on

Row	1	3	Carry-over
0	0.0	0.0	0.0
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
7	0.0	1.8	0.0
8	0.0	0.0	0.0
9	0.0	0.0	0.0
A	0.0	0.0	0.0
B	0.0	0.0	0.0
C	0.0	0.0	0.0
D	0.0	0.0	0.0
E	---	---	---
F	---	---	---

Detector Name	332 Input File	Detector Number
	11I	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	2	4	Carry-over
0	0.0	0.0	0.0
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
7	0.0	1.8	0.0
8	0.0	0.0	0.0
9	0.0	0.0	0.0
A	0.0	0.0	0.0
B	0.0	0.0	0.0
C	0.0	0.0	0.0
D	0.0	0.0	0.0
E	---	---	---
F	---	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	A	B	C	D	E	F

Detector Numbers	E
1 2 3 4 5 6 7 8	12345678
9 10 11 12 -- -- -- --	1234
13 14 15 16 17 18 19 20	12345678
-- -- -- -- 21 22 23 24	5678
-- -- -- -- -- -- -- --	1234
-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0	1	2	3	4	5	6	7	8

System Det. #	Detector #
System Det. # 1	0
System Det. # 2	0
System Det. # 3	0
System Det. # 4	0
System Det. # 5	0
System Det. # 6	0
System Det. # 7	0
System Det. # 8	0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.0	F+0+6
Short Failure	0.0	F+0+7

Power Cycle Correction (Default = 0.5)

PARK PHASE TIMING POLK

INTERVAL	PHASE TIMING								PREEMPT	
	1	2	3	4	5	6	7	8		E
WALK	0	7				7		7	RR1 DELAY	0
FLASH D/W	1	11				12		36	RR1 CLEAR	1
MIN GREEN	2	4 10	ABS 7-28-94 4	4		4 10	ABS 7-28-94 4	4 10	EVA DELAY	0 2
TYPE 3 DET	3								EVA CLEAR	3 3
ROD/VEH	4								EVB DELAY	0 4
VEH EXTEN *	5	2.8	ABS 7-28-94 3.0 2.0			2.8	ABS 7-28-94 3.0 2.0	2.8	EVB CLEAR	3 5
MAX GAP *	6	2.8		3.0 2.0		2.8		3.0 2.0	EVC DELAY	0 6
MIN GAP *	7	0.2		3.0 2.0		0.2		3.0 2.0	EVC CLEAR	3 7
MAX EXTEN	8	60		40		60		40	EVD DELAY	0 8
MAX 2	9	60		40		60		40	EVD CLEAR	3 9
	A								RR2 DELAY	A
CALL TO PHASE	B								RR2 CLEAR	B
REDUCE BY	C	0.1				0.1			EU CLR TMR	C
REDUCE EVERY	D	1.1				1.1			EU DLY TMR	D
YELLOW	E	3.0 3.9		3.0 3.9		3.0 3.9		3.0 3.9	RR CLR TMR	E
RED CLEAR	F	1.0		1.0		1.0		1.0	RR DLY TMR	F

4/2/92
5/11/92
SB
05/11/92
4/2/92
5/11/92

MAX INITIAL (F-0-E) = 0 KEYSTROKES: F + PHASE + LOCATION
 RED REVERT (F-0-F) = 5
 ALL RED START (F-C-0) = 0
 * MUST BE SAME FOR NON-DENSITY OPERATION

PHASE FUNCTION FLAGS
 KEYSTROKES: F+F+FUNCTION#

FUNCTION	0	PHASE							
		1	2	3	4	5	6	7	8
PERMIT	0	X	X	X	X				
RED LOCK	1								
YELLOW LOCK	2								
VEH RECALL	3	X			X				
PED RECALL	4								
PEDS	5	X	X	X	X	X	X	X	X
REST IN WALK	6								
RED REST	7								
DOUBLE ENTRY	8	X	X	X	X				
MAX RECALL	9								
SOFT RECALL	A								
MAX 2	B								
COND SERVE	C								
RESERVED	D	X	X	X	X	X	X	X	X
STARTUP	E	X		X					
FIRST PHASES	F		X			X			X

OVERLAP TIMING
 KEYSTROKE: F + COLOR CODE + OVERLAP

	9	C	D
	GREEN	YELLOW	RED
OVERLAP A			
OVERLAP B			
OVERLAP C			
OVERLAP D			

PHASE SEQUENCES (CFO)

	PHASE							
	1	2	3	4	5	6	7	8
LAG 0 (FREE)		X		X		X		X

24794-20

LOC: PARK PL + POLK AV + CENTRE DATE: T.O. 2.6.92 10:30

Column # →	1	2	3	4	5	6	7	8
Phase	Phase							
Ped Walk	0	0	0	0	0	7	0	7
Ped FDW	0	0	0	0	0	28	0	26
Min Green	4	10	4	7	4	10	4	7
Type 3 Limit	0	0	0	0	0	0	0	0
AddVeh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Veh Extn	2.0	4.5-3.2	2.0	3.1-3.4	2.0	4.5-3.8	2.0	4.5-4.3
Max Gap	2.0	4.5-3.2	2.0	3.1-3.4	2.0	4.5-3.8	2.0	4.5-4.3
Min Gap	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
Max Limit	30	60	30	40	30	60	30	40
Max Limit 2	0	0	0	0	0	0	0	0
Bus Adv	0	0	0	0	0	0	0	0
Call to Phs	0	0	0	0	0	0	0	0
Reduce By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Every	0.0	0.1	0.0	0.9	0.0	0.8	0.0	0.7
Yellow	3.4	3.0	3.4	3.5	3.0	3.9	3.4	3.6
Red Clear	2.0-1.5	2.0-1.5	2.0-1.5	2.0-1.5	2.0-1.5	2.0-1.5	2.0-1.5	2.0-1.5

Phase Timing - Bank 1
 F + Phase + Row

RR-1 Delay	0	Permit	12345678
RR-1 Clear	0	Red Lock	
EVA-Delay	0	Yellow Lock	
EVA Clear	0	Min Recall	
EV-B Delay	0	Ped Recall	
EV-B Clear	0	Peds (View)	6-8
EV-C Delay	0	Rest In Wall	
EV-C Clear	0	Red Rest	
EV-D Delay	0	Dbl Entry	
EV-D Clear	0	Max Recall	
RR-2 Delay	0	Sort Recall	2-6
RR-2 Clear	0	Max 2	
View EV Delay	...	Cond Serv	
View EV Clear	...	Ped Lock	12345678
View RR Delay	...	Yellow Start	2-6
View RR Clear	...	1st Phases	3-7

Preempt Timing
 F + E + Row

Phase Functions
 F + F + Row

Max Initial	0	F+0+E
Red Revert	5.0	F+0+F
All Red Start	0.0	F+C+0
Start/Revert Times		
Drop Number	1	C+0+0
Zone Number	1	C+0+1
Area Number	2	C+0+2
Area Address	25	C+0+3
QuickNet Channel		DIGITS: (QuickNet)

Row	A	B	C	D	Green	Yellow	Red	Load-Switch #
Overlap A	0.0	0.0	0.0	0.0				0
Overlap B	0.0	0.0	0.0	0.0				0
Overlap C	0.0	0.0	0.0	0.0				0
Overlap D	0.0	0.0	0.0	0.0				0

Overlap Timing
 <F Page>
 F + COLOR +

<D Page>
 D + 0 + OVERLAP

C + F + 0	1	4	8	8
Free Lag	1	4	8	8

Lag Phases
 <C Page>

Downtime Flash	240
Downtime Before Auto Manual Flash	

F + 0 + 8

Disable Ports	234
Disable Communication Ports	

D + D + 9

Doc
3/14/01
Suk
1/18/02
Doc
2/18/01
EFF
9/18/00
1/21/03

13

Row	Time	Function	Day of Week	Column F
0	00 : 00	0		Phases/Bits
1	00 : 00	0		
2	00 : 00	0		
3	00 : 00	0		
4	00 : 00	0		
5	00 : 00	0		
6	00 : 00	0		
7	00 : 00	0		
8	00 : 00	0		
9	00 : 00	0		
A	00 : 00	0		
B	00 : 00	0		
C	00 : 00	0		
D	00 : 00	0		
E	00 : 00	0		
F	00 : 00	0		

TOD Function

7 + ROW

<D Page>

D + F + ROW

- T.O.D. Functions**
 0 = Permitted Phases
 1 = Red Lock
 2 = Yellow Lock
 3 = Veh Min Recall
 4 = Ped Recall
 5 =
 6 = Rest In Walk
 7 = Red Rast
 8 = Double Entry
 9 = Veh Max Recall
 A = Veh Soft Recall
 B = Maximum 2
 C = Conditional Service
 D = Free Leg Phases
 E = Bit 1 - Local Override
 Bit 2 - Phase Bank 2
 Bit 3 - Phase Bank 3
 Bit 4 - Disable Detector
 OFF Monitor
 Bit 7 - Detector Count Monitor
 Bit 8 - Real Time Split Monitor
 F = Output Bits 1 thru 4

- Extra 1 Flags**
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 = Remote Download
 6 = Special Event
 7 = Prelimed Operation
 8 = Split Ring Operation

- JC Select Flags**
 1 = Modern
 2 = 7-Wire Slave
 3 = Flash / Free
 4 =
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

Row	Function	Day of Week	Column F
0	Exclusive Phases		
1	RR-1 Clear Phases		
2	RR-2 Clear Phases		
3	RR-2 Limited Service		
4	Prot / Perm Phases		
5	Overlap A - Green Omit		
6	Overlap B - Green Omit		
7	Overlap C - Green Omit		
8	Overlap D - Green Omit		
9	Overlap Yellow Flash		
A	EVA Phases		2 5
B	EV-B Phases		4 7
C	EV-C Phases		1 6
D	EV-D Phases		3 8
E	Extra 1 Config. Bits		1, 3, 4, 5
F	JC Select (Interconnect)		2

Configuration

E + E + ROW

For access, set F + 9 + E = 1

Row	Function	Day of Week	Column F
0			
1	RR Overlap A - Phases		
2	RR Overlap B - Phases		
3	RR Overlap C - Phases		
4	RR Overlap D - Phases		
5	Ped 2P		
6	Ped 6P		6
7	Ped 4P		
8	Ped 8P		8
9	Yellow Flash Phases		
A	Overlap A - Phases		
B	Overlap B - Phases		
C	Overlap C - Phases		
D	Overlap D - Phases		
E	Restricted Phases		1 5
F	Assign 5 Outputs		

Configuration

E + F + ROW

<E Page>

- Assign 5 Outputs**
 1 = Right Turn Overlap
 2 = TOD Outputs
 3 = EV Beacon - Steady
 4 = EV Beacon - Flashing
 5 = Special Event Outputs
 6 = Phase 3 & 7 Ped
 7 = Advanced Warning Sign
 8 =

Day of Week

- 1 = Sunday
 2 = Monday
 3 = Tuesday
 4 = Wednesday
 5 = Thursday
 6 = Friday
 7 = Saturday

Time and Date

- 8-0 Hour, Minute, Day-of-Week
 8-1 Day-of-Month, Year, Month
 8-F Seconds

Program Information

- C + C + 0 = program
 C + C + F = version

Remote Download

- C + 0 + 4 = 1 -285
 w/E + E + E bit 5 on

Disable Parity

Dial-Up Telephone Communications

- (if set to a non-zero value, parity will be disabled)
 (This parameter is NOT downloaded)

INTERSECTION: EL CAJON & PARK

223 Program

Coordination Timing By: *MAC*
 Implemented On: *3-14-01*

FOR OBSERVATION ONLY
 Master Plan C+A+2
 Current Plan C+A+3
 Next Plan C+A+4
 T.O.D. Plan C+A+5
 Master Cycle C+A+0
 Ring A Cycle C+B+0
 Ring B Cycle C+D+0
 Min Cycle C+A+E
 Max Cycle C+B+E

Row	Plan Name	1	2	3	4	5	6	7	8	9
0	Cycle Length	130	120	138	130	148	0	0	0	0
1	Phase 1 - ForceOff	20	20	23	28	28	0	0	0	0
2	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0
3	Phase 3 - ForceOff	33	34	48	45	45	0	0	0	0
4	Phase 4 - ForceOff	30	76	83	84	84	0	0	0	0
5	Phase 5 - ForceOff	95	91	104	128	128	0	0	0	0
6	Phase 6 - ForceOff	22	18	21	26	26	0	0	0	0
7	Phase 7 - ForceOff	23	34	38	42	42	0	0	0	0
8	Phase 8 - ForceOff	30	76	83	84	84	0	0	0	0
9	Ring Offset	0	0	0	0	0	0	0	0	0
A	Offset A	29	68	107	33	0	0	0	0	0
B	Offset B	0	0	0	0	0	0	0	0	0
C	Offset C	0	0	0	0	0	0	0	0	0
D	Permissive	12	13	15	15	0	0	0	0	0
E	Hold Release	255	255	255	255	0	0	0	0	0
F	Ped Shift	0	0	0	0	0	0	0	0	0

<C Page>

Coordination

C + Plan + ROW

Row	Time	Plan	Offset	Day of Week
0	07:00	1	A	23456
1	09:00	2	A	23456
2	15:00	3	A	23456
3	18:00	E	A	1234567
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

TOD Coordination

<9 Key with C+0+9=1>

Plan Select
 1 thru 9 = Coordination
 Plan 1 thru 9
 14 or E = Free
 15 or F = Flash

Row	Sync Phases	Lag Phases	<C Page>
0	Free Lag		
1	Plan 1 - Lag	1 4 6 8	
2	Plan 2 - Lag	1 4 6 8	
3	Plan 3 - Lag	1 4 6 8	
4	Plan 4 - Lag		
5	Plan 5 - Lag		
6	Plan 6 - Lag		
7	Plan 7 - Lag		
8	Plan 8 - Lag		
9	Plan 9 - Lag		
A	Coord Max*		
B	Coord Lag*		
C			
D			
E			
F			

Sync Phases

C + E + FUNCTION #

Lag Phases

<C Page>

Transition Type
 TSC Transition
 C + D + D

Transition Type
 0 = Shortway
 Non-zero = Lengthen

Doc 1/2/03

Doc 7/2/02

Doc 7/14/01

Doc 5/14/02

Row	1	3	Carry-over
0	0.0	0.0	0.0
1	0.0	1.8	1.8
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
7	0.0	1.8	1.8
8	0.0	0.0	0.0
9	0.0	0.0	0.0
A	0.0	0.0	0.0
B	0.0	0.0	0.0
C	0.0	0.0	0.0
D	0.0	0.0	0.0
E	---	---	---
F	---	---	---

Detector Name	332 Input File	Detector Number
	11I	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	A	B	C	D	E	F
Detector Numbers	1 2 3 4 5 6 7 8	9 10 11 12	13 14 15 16 17 18 19 20	-- -- -- 21 22 23 24	-- -- -- -- -- -- --	-- 25 26 27 28 -- -- --
E	12345678	1234	12345678	5678	1234	2345

Active Detectors <D Page>

Row	0	1	2	3	4	5	6	7	8
Detector #									
System Det. # 1									0
System Det. # 2									0
System Det. # 3									0
System Det. # 4									0
System Det. # 5									0
System Det. # 6									0
System Det. # 7									0
System Det. # 8									0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor.

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.0	F+0+6
Short Failure	0.0	F+0+7

Power Cycle Correction (Default = 0.5)

Row	2	4	Carry-over
0	0.0	0.0	0.0
1	0.0	1.8	1.8
2	10.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
7	0.0	1.8	1.8
8	10.0	0.0	0.0
9	0.0	0.0	0.0
A	0.0	0.0	0.0
B	0.0	0.0	0.0
C	0.0	0.0	0.0
D	0.0	0.0	0.0
E	---	---	---
F	---	---	---

Detector Delay & Carryover <D Page>

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

D + X (across) + ROW

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔		↔	↔↔		↔	↔↔		↔	↔↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3428		1770	3395		1770	3452	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3353		1770	3428		1770	3395		1770	3452	
Volume (vph)	49	189	102	82	441	117	74	135	51	53	252	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	205	111	89	479	127	80	147	55	58	274	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	316	0	89	606	0	80	202	0	58	328	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	2.5	12.7		3.6	13.8		4.1	12.3		2.6	10.8	
Effective Green, g (s)	2.9	13.6		4.0	14.7		4.5	13.2		3.0	11.7	
Actuated g/C Ratio	0.06	0.27		0.08	0.30		0.09	0.27		0.06	0.23	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	103	916		142	1012		160	900		107	811	
v/s Ratio Prot	0.03	0.09		c0.05	c0.18		c0.05	0.06		0.03	c0.10	
v/s Ratio Perm												
v/c Ratio	0.51	0.34		0.63	0.60		0.50	0.22		0.54	0.40	
Uniform Delay, d1	22.8	14.5		22.2	15.0		21.6	14.3		22.7	16.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.3	0.1		8.4	0.6		2.4	0.1		3.0	0.3	
Delay (s)	27.1	14.6		30.5	15.7		24.0	14.4		25.7	16.4	
Level of Service	C	B		C	B		C	B		C	B	
Approach Delay (s)	16.4			17.6			17.2			17.8		
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	24	93	10	57	9	124	171	8	8	297	17
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	24	29	112	14	78	12	139	192	9	9	334	19
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	165	104	235	105	176	186						
Volume Left (vph)	24	14	139	0	9	0						
Volume Right (vph)	112	12	0	9	0	19						
Hadj (s)	-0.34	-0.01	0.33	-0.03	0.06	-0.04						
Departure Headway (s)	5.5	5.9	6.1	5.7	5.8	5.7						
Degree Utilization, x	0.25	0.17	0.40	0.17	0.28	0.30						
Capacity (veh/h)	599	543	556	597	590	602						
Control Delay (s)	10.3	10.1	11.9	8.7	9.9	9.9						
Approach Delay (s)	10.3	10.1	10.9		9.9							
Approach LOS	B	B	B		A							

Intersection Summary			
Delay	10.4		
HCM Level of Service	B		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.93			0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1729			1843		1770	3502		1770	3498	
Flt Permitted		0.94			0.97		0.50	1.00		0.62	1.00	
Satd. Flow (perm)		1641			1792		938	3502		1152	3498	
Volume (vph)	11	38	48	18	185	10	34	172	13	8	318	27
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	11	39	49	23	237	13	39	198	15	10	393	33
RTOR Reduction (vph)	0	34	0	0	4	0	0	6	0	0	7	0
Lane Group Flow (vph)	0	65	0	0	269	0	39	207	0	10	419	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.9			8.9		13.4	13.4		13.4	13.4	
Effective Green, g (s)		9.8			9.8		14.3	14.3		14.3	14.3	
Actuated g/C Ratio		0.31			0.31		0.45	0.45		0.45	0.45	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		501			547		418	1560		513	1558	
v/s Ratio Prot							0.06			c0.12		
v/s Ratio Perm		0.06			c0.15		0.04			0.01		
v/c Ratio		0.13			0.49		0.09	0.13		0.02	0.27	
Uniform Delay, d1		8.1			9.1		5.1	5.2		5.0	5.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.7		0.1	0.0		0.0	0.1	
Delay (s)		8.2			9.8		5.2	5.3		5.0	5.7	
Level of Service		A			A		A	A		A	A	
Approach Delay (s)		8.2			9.8		5.3			5.7		
Approach LOS		A			A		A			A		
Intersection Summary												
HCM Average Control Delay		6.9			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.37										
Actuated Cycle Length (s)		32.1			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		37.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↕	↕			↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	38	150	18	22	343
Peak Hour Factor	0.79	0.79	0.86	0.86	0.89	0.89
Hourly flow rate (vph)	0	48	174	21	25	385
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			685			440
pX, platoon unblocked	1.00					
vC, conflicting volume	427	98			195	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	420	98			195	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			98	
cM capacity (veh/h)	549	939			1375	
Direction, Lane #						
Volume Total	48	116	79	153	257	
Volume Left	0	0	0	25	0	
Volume Right	48	0	21	0	0	
cSH	939	1700	1700	1375	1700	
Volume to Capacity	0.05	0.07	0.05	0.02	0.15	
Queue Length 95th (ft)	4	0	0	1	0	
Control Delay (s)	9.0	0.0	0.0	1.4	0.0	
Lane LOS	A			A		
Approach Delay (s)	9.0	0.0		0.5		
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		21.5%		ICU Level of Service		A
Analysis Period (min)		15				

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖↗	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787	
Volume (vph)	127	203	35	144	585	69	63	80	46	26	192	382	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	7.5	16.1	68.2	12.0	20.1	20.1	4.4	16.1	16.1	1.4	13.1	26.5	
Effective Green, g (s)	9.4	18.0	68.2	13.4	22.0	22.0	5.8	18.0	18.0	2.8	15.0	28.4	
Actuated g/C Ratio	0.14	0.26	1.00	0.20	0.32	0.32	0.09	0.26	0.26	0.04	0.22	0.42	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	473	934	1583	348	1142	511	151	934	418	73	778	1161	
v/s Ratio Prot	0.04	0.06		0.09	c0.18		c0.04	0.02		0.02	0.06	c0.15	
v/s Ratio Perm			0.02			0.05		0.03					
v/c Ratio	0.29	0.24	0.02	0.45	0.56	0.15	0.45	0.09	0.12	0.38	0.27	0.36	
Uniform Delay, d ₁	26.4	19.7	0.0	24.2	19.1	16.4	29.7	18.9	19.1	31.9	22.1	13.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.1	0.2	0.0	0.3	0.9	0.2	0.8	0.1	0.2	1.2	0.2	0.2	
Delay (s)	26.5	19.9	0.0	24.5	19.9	16.7	30.5	19.0	19.3	33.1	22.3	13.9	
Level of Service	C	B	A	C	B	B	C	B	B	C	C	B	
Approach Delay (s)		20.3			20.5			22.9			17.4		
Approach LOS		C			C			C			B		
Intersection Summary													
HCM Average Control Delay	19.7		HCM Level of Service					B					
HCM Volume to Capacity ratio	0.43												
Actuated Cycle Length (s)	68.2				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	43.0%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕↔		↔	↕↔		↔	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3448		1770	3410		1770	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3448		1770	3410		1770	3450	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	723	165	99	460	95	132	452	146	189	338	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	888	0	99	555	0	132	598	0	189	406	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	4.8	24.0		6.7	25.9		8.9	20.1		6.8	18.0	
Effective Green, g (s)	5.2	24.9		7.1	26.8		9.3	21.0		7.2	18.9	
Actuated g/C Ratio	0.07	0.33		0.09	0.35		0.12	0.28		0.09	0.25	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	121	1124		165	1213		216	940		167	856	
v/s Ratio Prot	c0.07	c0.26		0.06	0.16		0.07	c0.18		c0.11	0.12	
v/s Ratio Perm												
v/c Ratio	1.07	0.79		0.60	0.46		0.61	0.64		1.13	0.47	
Uniform Delay, d1	35.5	23.3		33.2	19.1		31.7	24.2		34.5	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	100.7	3.6		6.0	0.1		5.0	1.5		109.4	0.4	
Delay (s)	136.2	26.9		39.2	19.2		36.8	25.7		143.9	24.8	
Level of Service	F	C		D	B		D	C		F	C	
Approach Delay (s)	40.7		22.2		27.7		62.7					
Approach LOS	D		C		C		E					

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	76.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕↔			↕↔			↕↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	63	111	192	17	34	7	109	461	24	6	337	23
Peak Hour Factor	0.83	0.83	0.83	0.81	0.81	0.81	0.93	0.93	0.93	0.96	0.96	0.96
Hourly flow rate (vph)	76	134	231	21	42	9	117	496	26	6	351	24
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	441	72	365	274	182	199						
Volume Left (vph)	76	21	117	0	6	0						
Volume Right (vph)	231	9	0	26	0	24						
Hadj (s)	-0.25	0.02	0.19	-0.03	0.05	-0.05						
Departure Headway (s)	6.4	7.9	7.3	7.1	7.5	7.4						
Degree Utilization, x	0.78	0.16	0.74	0.54	0.38	0.41						
Capacity (veh/h)	541	408	481	488	454	460						
Control Delay (s)	28.8	12.4	27.2	16.8	13.9	14.4						
Approach Delay (s)	28.8	12.4	22.7	14.2								
Approach LOS	D	B	C	B								

Intersection Summary			
Delay	21.9		
HCM Level of Service	C		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.98		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1803			1805		1770	3511		1770	3475	
Flt Permitted		0.91			0.84		0.49	1.00		0.42	1.00	
Satd. Flow (perm)		1654			1541		914	3511		784	3475	
Volume (vph)	68	239	63	39	93	21	28	493	27	33	338	47
Peak-hour factor, PHF	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	73	257	68	50	119	27	31	542	30	39	398	55
RTOR Reduction (vph)	0	15	0	0	12	0	0	5	0	0	13	0
Lane Group Flow (vph)	0	383	0	0	184	0	31	567	0	39	440	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.2			13.2		11.2	11.2		11.2	11.2	
Effective Green, g (s)		14.1			14.1		12.1	12.1		12.1	12.1	
Actuated g/C Ratio		0.41			0.41		0.35	0.35		0.35	0.35	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		682			635		323	1242		277	1229	
v/s Ratio Prot								c0.16			0.13	
v/s Ratio Perm		c0.24			0.13		0.03			0.05		
v/c Ratio		0.56			0.29		0.10	0.46		0.14	0.36	
Uniform Delay, d1		7.7			6.7		7.4	8.5		7.5	8.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.3		0.1	0.2		0.2	0.2	
Delay (s)		8.8			7.0		7.5	8.8		7.7	8.3	
Level of Service		A			A		A	A		A	A	
Approach Delay (s)		8.8			7.0			8.7			8.3	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay		8.4										A
HCM Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		34.2									8.0	
Intersection Capacity Utilization		52.3%										A
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↕	↕			↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	5	53	450	70	81	380
Peak Hour Factor	0.85	0.85	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	6	62	479	74	90	422
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			685			440
pX, platoon unblocked	0.99					
vC, conflicting volume	907	277			553	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	891	277			553	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	91			91	
cM capacity (veh/h)	253	721			1013	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	62	319	234	231	281	
Volume Left	0	0	0	90	0	
Volume Right	62	0	74	0	0	
cSH	721	1700	1700	1013	1700	
Volume to Capacity	0.09	0.19	0.14	0.09	0.17	
Queue Length 95th (ft)	7	0	0	7	0	
Control Delay (s)	10.5	0.0	0.0	4.0	0.0	
Lane LOS	B			A		
Approach Delay (s)	Err	0.0		1.8		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				Err%	ICU Level of Service	H
Analysis Period (min)				15		

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖↗	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	13.6	26.4	81.2	9.0	21.3	21.3	6.7	18.4	18.4	4.8	16.5	36.0
Effective Green, g (s)	15.5	28.3	81.2	10.4	23.2	23.2	8.1	20.3	20.3	6.2	18.4	37.9
Actuated g/C Ratio	0.19	0.35	1.00	0.13	0.29	0.29	0.10	0.25	0.25	0.08	0.23	0.47
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	655	1233	1583	227	1011	452	177	885	396	135	802	1301
v/s Ratio Prot	0.12	c0.21		c0.08	0.09		0.04	0.09		c0.05	0.06	0.10
v/s Ratio Perm			0.07			0.05			0.13			
v/c Ratio	0.62	0.61	0.07	0.64	0.30	0.16	0.45	0.35	0.53	0.62	0.25	0.21
Uniform Delay, d1	30.2	21.9	0.0	33.6	22.7	21.7	34.4	25.0	26.3	36.4	25.8	12.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	1.2	0.1	4.3	0.3	0.3	0.7	0.4	2.1	6.3	0.2	0.1
Delay (s)	31.5	23.1	0.1	37.9	23.0	22.0	35.1	25.4	28.5	42.6	26.0	12.9
Level of Service	C	C	A	D	C	C	D	C	C	D	C	B
Approach Delay (s)		23.8			27.0			27.8			22.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	24.9		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	81.2				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	52.0%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Flt	1.00	0.95		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3428		1770	3395		1770	3452	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3353		1770	3428		1770	3395		1770	3452	
Volume (vph)	49	189	102	82	441	117	74	135	51	53	252	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	205	111	89	479	127	80	147	55	58	274	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	316	0	89	606	0	80	202	0	58	328	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.7	19.7		9.7	21.7		8.9	49.9		7.1	48.1	
Effective Green, g (s)	8.1	20.6		10.1	22.6		9.3	50.8		7.5	49.0	
Actuated g/C Ratio	0.08	0.20		0.10	0.22		0.09	0.48		0.07	0.47	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	137	658		170	738		157	1643		126	1611	
v/s Ratio Prot	0.03	0.09		0.05	0.18		0.05	0.06		0.03	0.10	
v/s Ratio Perm												
v/c Ratio	0.39	0.48		0.52	0.82		0.51	0.12		0.46	0.20	
Uniform Delay, d1	46.1	37.4		45.2	39.3		45.7	14.9		46.8	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.36	0.76	
Incremental Delay, d2	1.8	0.2		2.9	7.0		2.6	0.2		0.9	0.3	
Delay (s)	47.9	37.7		48.1	46.2		48.3	15.0		64.6	12.8	
Level of Service	D	D		D	D		D	B		E	B	
Approach Delay (s)	39.1		46.5		24.5		20.5					
Approach LOS	D		D		C		C					
Intersection Summary												
HCM Average Control Delay	35.5		HCM Level of Service		D							
HCM Volume to Capacity ratio	0.41											
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		12.0							
Intersection Capacity Utilization	45.3%		ICU Level of Service		A							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		1.00			1.00			1.00		0.95	1.00	0.95
Flt		0.92			0.99			1.00		0.99	1.00	0.98
Flt Protected		0.99			1.00			0.95		1.00	0.95	1.00
Satd. Flow (prot)		1705			1840			1770		3491	1770	3480
Flt Permitted		0.81			0.93			0.95		1.00	0.95	1.00
Satd. Flow (perm)		1388			1714			1770		3491	1770	3480
Volume (vph)	31	62	129	28	242	16	158	171	17	14	297	37
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	37	75	155	38	332	22	178	192	19	16	334	42
RTOR Reduction (vph)	0	61	0	0	3	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	206	0	0	389	0	178	206	0	16	370	0
Turn Type	Perm		Perm		Prot		Prot					
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		8									
Actuated Green, G (s)	26.6		26.6		14.2		61.1		3.1		50.0	
Effective Green, g (s)	27.5		27.5		14.6		62.0		3.5		50.9	
Actuated g/C Ratio	0.26		0.26		0.14		0.59		0.03		0.48	
Clearance Time (s)	4.9		4.9		4.4		4.9		4.4		4.9	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	364		449		246		2061		59		1687	
v/s Ratio Prot					0.10		0.06		0.01		0.11	
v/s Ratio Perm	0.19		0.23									
v/c Ratio	0.57		0.87		0.72		0.10		0.27		0.22	
Uniform Delay, d1	33.6		37.0		43.3		9.4		49.5		15.6	
Progression Factor	1.00		1.00		1.03		0.64		1.09		1.01	
Incremental Delay, d2	2.0		16.0		9.9		0.1		2.5		0.3	
Delay (s)	35.6		52.9		54.5		6.1		56.4		16.0	
Level of Service	D		D		D		A		E		B	
Approach Delay (s)	35.6		52.9		28.2		17.7					
Approach LOS	D		D		C		B					
Intersection Summary												
HCM Average Control Delay	33.5		HCM Level of Service		C							
HCM Volume to Capacity ratio	0.49											
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		12.0							
Intersection Capacity Utilization	47.3%		ICU Level of Service		A							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	12	0	0	3	0	172	4	0	318	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	12	0	0	4	0	198	5	0	393	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	12	0	0	4	0	203	0	0	402	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			2.9			2.9		92.8			92.8	
Effective Green, g (s)			3.3			3.3		93.7			93.7	
Actuated g/C Ratio			0.03			0.03		0.89			0.89	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			51			51		3147			3147	
v/s Ratio Prot			c0.01			0.00		0.06			c0.11	
v/s Ratio Perm												
v/c Ratio			0.24			0.08		0.06			0.13	
Uniform Delay, d1			49.6			49.4		0.6			0.7	
Progression Factor			1.00			1.00		0.84			1.00	
Incremental Delay, d2			2.4			0.7		0.0			0.1	
Delay (s)			52.0			50.0		0.6			0.8	
Level of Service			D			D		A			A	
Approach Delay (s)			52.0			50.0		0.6			0.8	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.0									A
HCM Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			105.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			19.0%					ICU Level of Service				A
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.88		0.98		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1630		3482		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1630		3482		1770	3539
Volume (vph)	5	38	150	18	24	343
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	48	174	21	27	385
RTOR Reduction (vph)	46	0	3	0	0	0
Lane Group Flow (vph)	8	0	192	0	27	385
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	4.4		83.6		3.3	91.3
Effective Green, g (s)	4.8		84.5		3.7	92.2
Actuated g/C Ratio	0.05		0.80		0.04	0.88
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	75		2802		62	3108
v/s Ratio Prot	c0.03		0.06		c0.02	c0.11
v/s Ratio Perm						
v/c Ratio	0.11		0.07		0.44	0.12
Uniform Delay, d1	48.0		2.1		49.6	0.9
Progression Factor	1.00		1.30		1.00	1.00
Incremental Delay, d2	0.6		0.0		4.8	0.1
Delay (s)	48.7		2.8		54.5	1.0
Level of Service	D		A		D	A
Approach Delay (s)	48.7		2.8			4.5
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay			7.6			HCM Level of Service A
HCM Volume to Capacity ratio			0.16			
Actuated Cycle Length (s)			105.0			Sum of lost time (s) 8.0
Intersection Capacity Utilization			21.4%			ICU Level of Service A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Volume (vph)	127	203	35	144	585	69	63	80	46	26	192	382	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	7.6	16.3	69.2	12.2	20.4	20.4	4.4	16.7	16.7	1.4	13.7	27.2	
Effective Green, g (s)	9.5	18.2	69.2	13.6	22.3	22.3	5.8	18.6	18.6	2.8	15.6	29.1	
Actuated g/C Ratio	0.14	0.26	1.00	0.20	0.32	0.32	0.08	0.27	0.27	0.04	0.23	0.42	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	471	931	1583	348	1140	510	148	951	425	72	420	1172	
v/s Ratio Prot	0.04	0.06		0.09	c0.18		c0.04	0.02		0.02	c0.11	c0.15	
v/s Ratio Perm			0.02			0.05		0.03					
v/c Ratio	0.29	0.24	0.02	0.45	0.56	0.15	0.46	0.09	0.12	0.39	0.50	0.35	
Uniform Delay, d ₁	26.8	20.0	0.0	24.5	19.4	16.7	30.2	19.0	19.1	32.4	23.4	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.1	0.2	0.0	0.3	0.9	0.2	0.8	0.1	0.2	1.3	1.2	0.2	
Delay (s)	27.0	20.3	0.0	24.8	20.2	16.9	31.0	19.0	19.3	33.6	24.5	13.9	
Level of Service	C	C	A	C	C	B	C	B	B	C	C	B	
Approach Delay (s)		20.7			20.8			23.1			18.1		
Approach LOS		C			C			C			B		
Intersection Summary													
HCM Average Control Delay	20.2		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.46												
Actuated Cycle Length (s)	69.2				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	46.7%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3448		1770	3410		1770	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3448		1770	3410		1770	3450	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	723	165	99	460	95	132	452	146	189	338	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	888	0	99	555	0	132	598	0	189	406	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	4		8		4		8		4		8	
Actuated Green, G (s)	16.2	31.8		12.1	27.7		12.7	29.7		17.8	34.8	
Effective Green, g (s)	16.6	32.7		12.5	28.6		13.1	30.6		18.2	35.7	
Actuated g/C Ratio	0.15	0.30		0.11	0.26		0.12	0.28		0.17	0.32	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	267	1023		201	896		211	949		293	1120	
v/s Ratio Prot	c0.07	c0.26		0.06	0.16		0.07	c0.18		c0.11	0.12	
v/s Ratio Perm	c0.57		0.23		0.63		0.63		0.65		0.36	
v/c Ratio	0.48	0.87		0.49	0.62		0.63	0.63		0.65	0.36	
Uniform Delay, d1	42.8	36.6		45.8	35.9		46.1	34.7		42.9	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.05	1.06	
Incremental Delay, d2	1.4	7.7		1.9	0.9		5.7	3.2		2.5	0.6	
Delay (s)	44.1	44.3		47.7	36.8		51.8	37.9		47.5	30.7	
Level of Service	D		D		D		D		D		C	
Approach Delay (s)	44.3		38.4		40.4		36.0		44.3		36.0	
Approach LOS	D		D		D		D		D		D	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.99	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Satd. Flow (prot)	1759	3493		1770	3493		1770	3493		1770	3461	
Flt Permitted	0.88	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1554	3127		1770	3493		1770	3493		1770	3461	
Volume (vph)	131	350	258	56	127	22	137	461	44	31	337	58
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	158	422	311	77	174	30	154	518	49	35	379	65
RTOR Reduction (vph)	0	19	0	0	4	0	0	6	0	0	13	0
Lane Group Flow (vph)	0	872	0	0	277	0	154	561	0	35	431	0
Turn Type	Perm		Perm		Prot		Prot		Prot		Prot	
Protected Phases	4			8		5	2			1	6	
Permitted Phases	4		8		4		8		4		8	
Actuated Green, G (s)	62.8			62.8		11.1	30.6			2.4	21.9	
Effective Green, g (s)	63.7			63.7		11.5	31.5			2.8	22.8	
Actuated g/C Ratio	0.58			0.58		0.10	0.29			0.03	0.21	
Clearance Time (s)	4.9			4.9		4.4	4.9			4.4	4.9	
Vehicle Extension (s)	3.0			3.0		3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	900			711		185	1000			45	717	
v/s Ratio Prot						c0.09	c0.16			0.02	0.13	
v/s Ratio Perm	c0.57			0.23		0.83	0.56			0.78	0.60	
v/c Ratio	0.97			0.39		0.83	0.56			0.78	0.60	
Uniform Delay, d1	22.2			12.6		48.3	33.4			53.3	39.5	
Progression Factor	1.00			1.00		1.30	1.23			1.13	0.90	
Incremental Delay, d2	22.5			0.4		24.1	2.1			56.8	3.7	
Delay (s)	44.7			12.9		86.8	43.1			116.9	39.3	
Level of Service	D		B		F		D		F		D	
Approach Delay (s)	44.7		12.9		52.4		45.0		44.7		45.0	
Approach LOS	D		B		D		D		D		D	

Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			0.99	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3521	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3521	
Volume (vph)	0	0	19	0	0	6	0	493	7	0	338	12
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	20	0	0	8	0	567	8	0	417	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	20	0	0	8	0	575	0	0	432	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.6			4.6		96.1			96.1	
Effective Green, g (s)			5.0			5.0		97.0			97.0	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			73			73		3115			3105	
v/s Ratio Prot			c0.01			0.00		c0.16			0.12	
v/s Ratio Perm												
v/c Ratio			0.27			0.11		0.18			0.14	
Uniform Delay, d1			50.7			50.4		0.9			0.9	
Progression Factor			1.00			1.00		0.37			2.22	
Incremental Delay, d2			2.0			0.7		0.1			0.1	
Delay (s)			52.8			51.0		0.4			2.0	
Level of Service			D			D		A			A	
Approach Delay (s)			52.8			51.0		0.4			2.0	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.5			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.19									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			23.9%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.88		0.98		1.00	1.00
Flt Protected	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1625		3468		1770	3539
Flt Permitted	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1625		3468		1770	3539
Volume (vph)	5	53	450	70	89	380
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	67	523	81	100	427
RTOR Reduction (vph)	63	0	5	0	0	0
Lane Group Flow (vph)	10	0	599	0	100	427
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.7		80.9		9.7	95.0
Effective Green, g (s)	6.1		81.8		10.1	95.9
Actuated g/C Ratio	0.06		0.74		0.09	0.87
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	90		2579		163	3085
v/s Ratio Prot	c0.04		c0.17		c0.06	0.12
v/s Ratio Perm						
v/c Ratio	0.11		0.23		0.61	0.14
Uniform Delay, d1	49.4		4.4		48.1	1.0
Progression Factor	1.00		0.45		1.00	1.00
Incremental Delay, d2	0.5		0.2		6.7	0.1
Delay (s)	49.9		2.2		54.8	1.1
Level of Service	D		A		D	A
Approach Delay (s)	49.9		2.2		11.3	
Approach LOS	D		A		B	
Intersection Summary						
HCM Average Control Delay			9.1		HCM Level of Service	A
HCM Volume to Capacity ratio			0.31			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			33.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	13.7	27.1	83.6	9.1	22.0	22.0	6.8	19.9	19.9	4.9	18.0	37.6	
Effective Green, g (s)	15.6	29.0	83.6	10.5	23.9	23.9	8.2	21.8	21.8	6.3	19.9	39.5	
Actuated g/C Ratio	0.19	0.35	1.00	0.13	0.29	0.29	0.10	0.26	0.26	0.08	0.24	0.47	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	641	1228	1583	222	1012	453	174	923	413	133	443	1317	
v/s Ratio Prot	0.12	c0.21		c0.08	0.09		0.04	0.09		c0.05	0.11	0.10	
v/s Ratio Perm			0.07			0.05			0.13				
v/c Ratio	0.63	0.62	0.07	0.65	0.30	0.16	0.45	0.33	0.51	0.63	0.46	0.20	
Uniform Delay, d1	31.4	22.7	0.0	34.8	23.3	22.4	35.6	25.0	26.4	37.5	27.3	12.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	1.2	0.1	5.2	0.3	0.3	0.7	0.4	1.8	7.0	1.0	0.1	
Delay (s)	32.9	23.9	0.1	40.0	23.6	22.7	36.3	25.4	28.1	44.5	28.2	13.0	
Level of Service	C	C	A	D	C	C	D	C	C	D	C	B	
Approach Delay (s)		24.7			28.0			27.8			23.3		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM Average Control Delay	25.7		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.56												
Actuated Cycle Length (s)	83.6				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	53.9%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3353		1770	3428		1770	3395		1770	3452	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3353		1770	3428		1770	3395		1770	3452	
Volume (vph)	49	189	102	82	441	117	74	135	51	53	252	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	205	111	89	479	127	80	147	55	58	274	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	316	0	89	606	0	80	202	0	58	328	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.8	19.0		11.5	22.7		12.1	48.9		7.0	43.8	
Effective Green, g (s)	8.2	19.9		11.9	23.6		12.5	49.8		7.4	44.7	
Actuated g/C Ratio	0.08	0.19		0.11	0.22		0.12	0.47		0.07	0.43	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	138	635		201	770		211	1610		125	1470	
v/s Ratio Prot	0.03	0.09		c0.05	c0.18		c0.05	0.06		c0.03	c0.10	
v/s Ratio Perm												
v/c Ratio	0.38	0.50		0.44	0.79		0.38	0.13		0.46	0.22	
Uniform Delay, d1	46.0	38.1		43.5	38.3		42.7	15.4		46.9	19.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.35	0.77	
Incremental Delay, d2	1.8	0.2		1.6	4.9		1.1	0.2		1.0	0.3	
Delay (s)	47.8	38.3		45.0	43.3		43.8	15.6		64.4	15.0	
Level of Service	D	D		D	D		D	B		E	B	
Approach Delay (s)	39.7				43.5		23.6				22.4	
Approach LOS	D				D		C				C	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00			1.00			1.00	0.95		1.00	0.95	
Frt	0.92			0.99			1.00	0.99		1.00	0.98	
Flt Protected	0.99			1.00			0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1705			1840			1770	3491		1770	3480	
Flt Permitted	0.81			0.93			0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1399			1718			1770	3491		1770	3480	
Volume (vph)	31	62	129	28	242	16	158	171	17	14	297	37
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	37	75	155	38	332	22	178	192	19	16	334	42
RTOR Reduction (vph)	0	57	0	0	2	0	0	5	0	0	7	0
Lane Group Flow (vph)	0	210	0	0	390	0	178	206	0	16	369	0
Turn Type	Perm		Perm		Prot		Prot					
Protected Phases	4			8		5	2			1	6	
Permitted Phases												
Actuated Green, G (s)	27.0				27.0		14.0		60.7		3.1	
Effective Green, g (s)	27.9				27.9		14.4		61.6		3.5	
Actuated g/C Ratio	0.27				0.27		0.14		0.59		0.03	
Clearance Time (s)	4.9				4.9		4.4		4.9		4.4	
Vehicle Extension (s)	3.0				3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	372				456		243		2048		59	
v/s Ratio Prot							c0.10		0.06		0.01	
v/s Ratio Perm	0.19				c0.23						c0.11	
v/c Ratio	0.57				0.85		0.73		0.10		0.27	
Uniform Delay, d1	33.3				36.6		43.5		9.5		49.5	
Progression Factor	1.00				1.00		1.01		0.65		1.09	
Incremental Delay, d2	2.0				14.5		10.6		0.1		2.5	
Delay (s)	35.3				51.1		54.7		6.3		56.2	
Level of Service	D				D		D		A		E	
Approach Delay (s)	35.3				51.1		28.4				17.9	
Approach LOS	D				D		C				B	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Flt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	12	0	0	3	0	172	4	0	318	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	12	0	0	4	0	198	5	0	393	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	12	0	0	4	0	203	0	0	402	0
Turn Type		custom			custom							
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			3.0			3.0		92.7			92.7	
Effective Green, g (s)			3.4			3.4		93.6			93.6	
Actuated g/C Ratio			0.03			0.03		0.89			0.89	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			52			52		3143			3144	
v/s Ratio Prot			c0.01			0.00		0.06			c0.11	
v/s Ratio Perm												
v/c Ratio			0.23			0.08		0.06			0.13	
Uniform Delay, d1			49.5			49.3		0.7			0.7	
Progression Factor			1.00			1.00		0.86			1.00	
Incremental Delay, d2			2.3			0.6		0.0			0.1	
Delay (s)			51.8			49.9		0.6			0.8	
Level of Service			D			D		A			A	
Approach Delay (s)		51.8			49.9			0.6			0.8	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM Average Control Delay		2.0			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.13										
Actuated Cycle Length (s)		105.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		19.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Flt	0.88		0.98		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1630		3482		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1630		3482		1770	3539
Volume (vph)	5	38	150	18	24	343
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	48	174	21	27	385
RTOR Reduction (vph)	45	0	3	0	0	0
Lane Group Flow (vph)	9	0	192	0	27	385
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.5		82.4		3.4	90.2
Effective Green, g (s)	5.9		83.3		3.8	91.1
Actuated g/C Ratio	0.06		0.79		0.04	0.87
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	92		2762		64	3071
v/s Ratio Prot	c0.03		0.06		c0.02	c0.11
v/s Ratio Perm						
v/c Ratio	0.09		0.07		0.42	0.13
Uniform Delay, d1	47.0		2.4		49.5	1.0
Progression Factor	1.00		1.33		1.00	1.00
Incremental Delay, d2	0.4		0.0		4.4	0.1
Delay (s)	47.5		3.2		54.0	1.1
Level of Service	D		A		D	A
Approach Delay (s)	47.5		3.2		4.6	4.6
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay		7.7			HCM Level of Service	A
HCM Volume to Capacity ratio		0.16				
Actuated Cycle Length (s)		105.0			Sum of lost time (s)	8.0
Intersection Capacity Utilization		21.4%			ICU Level of Service	A
Analysis Period (min)		15				
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔	↔	↕	↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Volume (vph)	127	203	35	144	585	69	63	80	46	26	192	382	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	7.6	16.3	69.2	12.2	20.4	20.4	4.4	16.7	16.7	1.4	13.7	27.2	
Effective Green, g (s)	9.5	18.2	69.2	13.6	22.3	22.3	5.8	18.6	18.6	2.8	15.6	29.1	
Actuated g/C Ratio	0.14	0.26	1.00	0.20	0.32	0.32	0.08	0.27	0.27	0.04	0.23	0.42	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	471	931	1583	348	1140	510	148	951	425	72	420	1172	
v/s Ratio Prot	0.04	0.06		0.09	c0.18		c0.04	0.02		0.02	c0.11	c0.15	
v/s Ratio Perm			0.02			0.05		0.03					
v/c Ratio	0.29	0.24	0.02	0.45	0.56	0.15	0.46	0.09	0.12	0.39	0.50	0.35	
Uniform Delay, d1	26.8	20.0	0.0	24.5	19.4	16.7	30.2	19.0	19.1	32.4	23.4	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2	0.0	0.3	0.9	0.2	0.8	0.1	0.2	1.3	1.2	0.2	
Delay (s)	27.0	20.3	0.0	24.8	20.2	16.9	31.0	19.0	19.3	33.6	24.5	13.9	
Level of Service	C	C	A	C	C	B	C	B	B	C	C	B	
Approach Delay (s)		20.7			20.8			23.1			18.1		
Approach LOS		C			C			C			B		
Intersection Summary													
HCM Average Control Delay	20.2		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.46												
Actuated Cycle Length (s)	69.2				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	46.7%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis

Existing Conditions With BRT (TSP Active)

1: University Ave & Park Blvd

Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔		↔		↔		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3448		1770	3410		1770	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3448		1770	3410		1770	3450	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	723	165	99	460	95	132	452	146	189	338	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	888	0	99	555	0	132	598	0	189	406	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	18.9	31.8		15.1	28.0		13.1	28.6		15.9	31.4	
Effective Green, g (s)	19.3	32.7		15.5	28.9		13.5	29.5		16.3	32.3	
Actuated g/C Ratio	0.18	0.30		0.14	0.26		0.12	0.27		0.15	0.29	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	311	1023		249	906		217	915		262	1013	
v/s Ratio Prot	c0.07	c0.26		0.06	0.16		0.07	c0.18		c0.11	c0.12	
v/s Ratio Perm												
v/c Ratio	0.41	0.87		0.40	0.61		0.61	0.65		0.72	0.40	
Uniform Delay, d1	40.3	36.6		43.0	35.6		45.7	35.7		44.7	31.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.10	0.85	
Incremental Delay, d2	0.9	7.7		1.0	0.9		4.8	3.6		6.2	0.9	
Delay (s)	41.2	44.3		44.0	36.5		50.5	39.3		55.5	27.4	
Level of Service	D	D		D	D		D	D		E	C	
Approach Delay (s)	43.9				37.6		41.4				36.3	
Approach LOS	D				D		D				D	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis

Existing Conditions With BRT (TSP Active)

2: Lincoln Ave & Park Blvd

Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔		↔		↔		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		1.00			1.00			1.00			1.00	0.95
Frt		0.95			0.99			1.00			0.99	0.98
Flt Protected		0.99			0.99			0.95			0.95	1.00
Satd. Flow (prot)		1759			1811			1770			3493	1770
Flt Permitted		0.88			0.68			0.95			1.00	0.95
Satd. Flow (perm)		1557			1242			1770			3493	1770
Volume (vph)	131	350	258	56	127	22	137	461	44	31	337	58
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	158	422	311	77	174	30	154	518	49	35	379	65
RTOR Reduction (vph)	0	14	0	0	3	0	0	7	0	0	15	0
Lane Group Flow (vph)	0	877	0	0	278	0	154	560	0	35	429	0
Turn Type	Perm		Perm		Prot		Prot		Prot		Prot	
Protected Phases	4		8		5		2		1		6	
Permitted Phases												
Actuated Green, G (s)	65.5		65.5		10.6		27.9		2.4		19.7	
Effective Green, g (s)	66.4		66.4		11.0		28.8		2.8		20.6	
Actuated g/C Ratio	0.60		0.60		0.10		0.26		0.03		0.19	
Clearance Time (s)	4.9		4.9		4.4		4.9		4.4		4.9	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	940		750		177		915		45		648	
v/s Ratio Prot					c0.09		c0.16		0.02		0.13	
v/s Ratio Perm	c0.57		0.23									
v/c Ratio	0.93		0.37		0.87		0.61		0.78		0.66	
Uniform Delay, d1	19.8		11.1		48.8		35.7		53.3		41.5	
Progression Factor	1.00		1.00		1.22		1.52		1.13		0.90	
Incremental Delay, d2	15.6		0.3		31.8		2.8		56.8		5.3	
Delay (s)	35.3		11.4		91.6		57.0		117.1		42.7	
Level of Service	D		B		F		E		F		D	
Approach Delay (s)	35.3		11.4		64.4		48.1		48.1		48.1	
Approach LOS	D		B		E		D		D		D	

Intersection Summary			
HCM Average Control Delay	43.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			0.99	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3521	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3521	
Volume (vph)	0	0	19	0	0	6	0	493	7	0	338	12
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	20	0	0	8	0	567	8	0	417	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	20	0	0	8	0	575	0	0	431	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.7			4.7		96.0			96.0	
Effective Green, g (s)			5.1			5.1		96.9			96.9	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			75			75		3111			3102	
v/s Ratio Prot			c0.01			0.00		c0.16			0.12	
v/s Ratio Perm												
v/c Ratio			0.27			0.11		0.18			0.14	
Uniform Delay, d1			50.6			50.3		0.9			0.9	
Progression Factor			1.00			1.00		0.38			2.17	
Incremental Delay, d2			1.9			0.6		0.1			0.1	
Delay (s)			52.6			50.9		0.5			2.0	
Level of Service			D			D		A			A	
Approach Delay (s)			52.6			50.9		0.5			2.0	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.5			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.19									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			23.9%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.88		0.98		1.00	1.00
Flt Protected	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1625		3468		1770	3539
Flt Permitted	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1625		3468		1770	3539
Volume (vph)	5	53	450	70	89	380
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	67	523	81	100	427
RTOR Reduction (vph)	63	0	5	0	0	0
Lane Group Flow (vph)	10	0	599	0	100	427
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.7		80.8		9.8	95.0
Effective Green, g (s)	6.1		81.7		10.2	95.9
Actuated g/C Ratio	0.06		0.74		0.09	0.87
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	90		2576		164	3085
v/s Ratio Prot	c0.04		c0.17		c0.06	0.12
v/s Ratio Perm						
v/c Ratio	0.11		0.23		0.61	0.14
Uniform Delay, d1	49.4		4.4		48.0	1.0
Progression Factor	1.00		0.43		1.00	1.00
Incremental Delay, d2	0.5		0.2		6.3	0.1
Delay (s)	49.9		2.1		54.3	1.1
Level of Service	D		A		D	A
Approach Delay (s)	49.9		2.1		11.2	
Approach LOS	D		A		B	
Intersection Summary						
HCM Average Control Delay			9.0		HCM Level of Service	A
HCM Volume to Capacity ratio			0.31			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			33.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	13.7	26.7	83.6	9.5	22.0	22.0	6.8	19.9	19.9	4.9	18.0	37.6
Effective Green, g (s)	15.6	28.6	83.6	10.9	23.9	23.9	8.2	21.8	21.8	6.3	19.9	39.5
Actuated g/C Ratio	0.19	0.34	1.00	0.13	0.29	0.29	0.10	0.26	0.26	0.08	0.24	0.47
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	641	1211	1583	231	1012	453	174	923	413	133	443	1317
v/s Ratio Prot	0.12	c0.21		c0.08	0.09		0.04	0.09		c0.05	0.11	0.10
v/s Ratio Perm			0.07			0.05			0.13			
v/c Ratio	0.63	0.63	0.07	0.63	0.30	0.16	0.45	0.33	0.51	0.63	0.46	0.20
Uniform Delay, d1	31.4	23.0	0.0	34.4	23.3	22.4	35.6	25.0	26.4	37.5	27.3	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.3	0.1	3.8	0.3	0.3	0.7	0.4	1.8	7.0	1.0	0.1
Delay (s)	32.9	24.3	0.1	38.2	23.6	22.7	36.3	25.4	28.1	44.5	28.2	13.0
Level of Service	C	C	A	D	C	C	D	C	C	D	C	B
Approach Delay (s)		25.0			27.5			27.8			23.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	25.7		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	83.6				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	53.9%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3329		1770	3416		1770	3395		1770	3468	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3329		1770	3416		1770	3395		1770	3468	
Volume (vph)	54	198	130	120	476	144	97	194	73	63	352	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	215	141	130	517	157	105	211	79	68	383	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	356	0	130	674	0	105	290	0	68	442	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.0	19.4		13.9	25.3		11.6	43.8		9.3	41.5	
Effective Green, g (s)	8.4	20.3		14.3	26.2		12.0	44.7		9.7	42.4	
Actuated g/C Ratio	0.08	0.19		0.14	0.25		0.11	0.43		0.09	0.40	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	142	644		241	852		202	1445		164	1400	
v/s Ratio Prot	0.03	0.11		0.07	0.20		0.06	0.09		0.04	0.13	
v/s Ratio Perm												
v/c Ratio	0.42	0.55		0.54	0.79		0.52	0.20		0.41	0.32	
Uniform Delay, d1	46.0	38.3		42.3	36.8		43.8	18.9		45.0	21.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.01	1.07	
Incremental Delay, d2	2.0	0.6		2.3	4.7		2.3	0.3		0.6	0.6	
Delay (s)	47.9	38.8		44.6	41.6		46.0	19.2		46.2	23.5	
Level of Service	D	D		D	D		D	B		D	C	
Approach Delay (s)	40.1		42.1		26.4		26.6					
Approach LOS	D		D		C		C					

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		1.00			1.00			1.00			1.00	0.95
Frt		0.91			0.99			1.00			0.98	0.99
Flt Protected		0.99			0.99			0.95			0.95	1.00
Satd. Flow (prot)		1687			1833			1770			3468	3497
Flt Permitted		0.90			0.85			0.95			0.95	1.00
Satd. Flow (perm)		1518			1573			1770			3468	3497
Volume (vph)	26	59	168	48	257	21	205	196	30	15	346	30
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	31	71	202	66	352	29	230	220	34	17	389	34
RTOR Reduction (vph)	0	81	0	0	3	0	0	9	0	0	5	0
Lane Group Flow (vph)	0	223	0	0	444	0	230	245	0	17	418	0
Turn Type	Perm		Perm		Prot		Prot		Prot		Prot	
Protected Phases	4		8		5		2		1		6	
Permitted Phases												
Actuated Green, G (s)	31.5		31.5		18.9		56.3		3.0		40.4	
Effective Green, g (s)	32.4		32.4		19.3		57.2		3.4		41.3	
Actuated g/C Ratio	0.31		0.31		0.18		0.54		0.03		0.39	
Clearance Time (s)	4.9		4.9		4.4		4.9		4.4		4.9	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	468		485		325		1889		57		1375	
v/s Ratio Prot					0.13		0.07		0.01		0.12	
v/s Ratio Perm	0.20		0.28									
v/c Ratio	0.48		0.92		0.71		0.13		0.30		0.30	
Uniform Delay, d1	29.4		35.0		40.2		11.7		49.6		21.9	
Progression Factor	1.00		1.00		1.05		0.82		0.99		0.93	
Incremental Delay, d2	0.8		21.9		6.7		0.1		2.9		0.6	
Delay (s)	30.2		56.9		48.9		9.8		52.1		21.0	
Level of Service	C		E		D		A		D		C	
Approach Delay (s)	30.2		56.9		28.4		22.2					
Approach LOS	C		E		C		C					

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	14	0	0	3	0	203	5	0	358	8
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	14	0	0	4	0	233	6	0	442	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	14	0	0	4	0	239	0	0	452	0
Turn Type	custom			custom								
Protected Phases	3			3			2			6		
Permitted Phases												
Actuated Green, G (s)	3.0			3.0			92.7			92.7		
Effective Green, g (s)	3.4			3.4			93.6			93.6		
Actuated g/C Ratio	0.03			0.03			0.89			0.89		
Clearance Time (s)	4.4			4.4			4.9			4.9		
Vehicle Extension (s)	3.0			3.0			2.8			2.8		
Lane Grp Cap (vph)	52			52			3143			3144		
v/s Ratio Prot	c0.01			0.00			0.07			c0.13		
v/s Ratio Perm												
v/c Ratio	0.27			0.08			0.08			0.14		
Uniform Delay, d1	49.6			49.3			0.7			0.7		
Progression Factor	1.00			1.00			0.40			0.97		
Incremental Delay, d2	2.8			0.6			0.0			0.1		
Delay (s)	52.4			49.9			0.3			0.8		
Level of Service	D			D			A			A		
Approach Delay (s)	52.4			49.9			0.3			0.8		
Approach LOS	D			D			A			A		
Intersection Summary												
HCM Average Control Delay	1.9			HCM Level of Service			A					
HCM Volume to Capacity ratio	0.15											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	20.2%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1670		3447		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1670		3447		1770	3539
Volume (vph)	20	36	185	39	16	443
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	25	46	215	45	18	498
RTOR Reduction (vph)	43	0	5	0	0	0
Lane Group Flow (vph)	28	0	255	0	18	498
Turn Type			Prot			
Protected Phases	8		2		1 6	
Permitted Phases						
Actuated Green, G (s)	6.2		83.5		1.6 89.5	
Effective Green, g (s)	6.6		84.4		2.0 90.4	
Actuated g/C Ratio	0.06		0.80		0.02 0.86	
Clearance Time (s)	4.4		4.9		4.4 4.9	
Vehicle Extension (s)	3.0		3.0		3.0 3.0	
Lane Grp Cap (vph)	105		2771		34 3047	
v/s Ratio Prot	c0.04		0.08		c0.01 c0.14	
v/s Ratio Perm						
v/c Ratio	0.27		0.09		0.53 0.16	
Uniform Delay, d1	46.9		2.2		51.0 1.2	
Progression Factor	1.00		1.51		1.00 1.00	
Incremental Delay, d2	1.4		0.1		14.1 0.1	
Delay (s)	48.2		3.4		65.1 1.3	
Level of Service	D		A		E A	
Approach Delay (s)	48.2		3.4		3.5	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay	7.2		HCM Level of Service		A	
HCM Volume to Capacity ratio	0.20					
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		8.0	
Intersection Capacity Utilization	23.0%		ICU Level of Service		A	
Analysis Period (min)	15					
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	142	254	44	182	737	79	77	89	59	30	216	427
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	8.4	18.9	80.8	16.3	26.3	26.3	6.8	20.6	20.6	2.4	16.2	30.5
Effective Green, g (s)	10.3	20.8	80.8	17.7	28.2	28.2	8.2	22.5	22.5	3.8	18.1	32.4
Actuated g/C Ratio	0.13	0.26	1.00	0.22	0.35	0.35	0.10	0.28	0.28	0.05	0.22	0.40
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	438	911	1583	388	1235	552	180	985	441	83	417	1118
v/s Ratio Prot	0.04	0.08		0.11	c0.23		c0.05	0.03		0.02	c0.13	c0.17
v/s Ratio Perm			0.03			0.05			0.04			
v/c Ratio	0.35	0.30	0.03	0.51	0.65	0.16	0.47	0.10	0.15	0.40	0.56	0.42
Uniform Delay, d1	32.2	24.2	0.0	27.7	22.1	18.1	34.2	21.6	21.9	37.4	27.8	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.0	0.5	1.5	0.2	0.7	0.1	0.3	1.1	2.0	0.3
Delay (s)	32.4	24.5	0.0	28.2	23.6	18.3	34.9	21.7	22.2	38.5	29.8	17.7
Level of Service	C	C	A	C	C	B	C	C	C	D	C	B
Approach Delay (s)		24.6			24.0			26.4			22.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	23.9		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	80.8				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	53.4%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis

Buildout Conditions With BRT

1: University Ave & Park Blvd

Timing Plan: PM PEAK



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3424		1770	3438		1770	3407		1770	3467	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3424		1770	3438		1770	3407		1770	3467	
Volume (vph)	130	717	198	132	451	106	158	581	193	208	442	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	779	215	143	490	115	172	632	210	226	480	75
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	141	994	0	143	605	0	172	842	0	226	555	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	13.2	33.8		13.2	33.8		15.1	31.5		12.9	29.3	
Effective Green, g (s)	13.6	34.7		13.6	34.7		15.5	32.4		13.3	30.2	
Actuated g/C Ratio	0.12	0.32		0.12	0.32		0.14	0.29		0.12	0.27	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	219	1080		219	1085		249	1004		214	952	
v/s Ratio Prot	0.08	c0.29		c0.08	0.18		0.10	c0.25		c0.13	0.16	
v/s Ratio Perm												
v/c Ratio	0.64	0.92		0.65	0.56		0.69	0.84		1.06	0.58	
Uniform Delay, d1	45.9	36.3		46.0	31.3		45.0	36.4		48.3	34.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.88	0.89	
Incremental Delay, d2	6.3	12.3		6.8	0.4		8.0	8.4		59.0	1.3	
Delay (s)	52.2	48.6		52.8	31.6		53.0	44.7		101.4	32.1	
Level of Service	D	D		D	C		D	D		F	C	
Approach Delay (s)		49.1			35.7			46.1			52.2	
Approach LOS		D			D			D			D	

Intersection Summary


HCM Average Control Delay	46.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis

Buildout Conditions With BRT

2: Lincoln Ave & Park Blvd

Timing Plan: PM PEAK



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	0.95	0.99		0.99	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.99	1.00		0.98	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1749	3479		1807	3479		1770	3479		1770	3477	
Flt Permitted	0.90	1.00		0.55	0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1576	3479		1005	3479		1770	3479		1770	3477	
Volume (vph)	117	379	339	79	130	23	182	546	70	32	392	52
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	141	457	408	108	178	32	204	613	79	36	440	58
RTOR Reduction (vph)	0	22	0	0	4	0	0	9	0	0	9	0
Lane Group Flow (vph)	0	984	0	0	314	0	204	683	0	36	489	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		65.3			65.3		12.0	28.0		2.5	18.5	
Effective Green, g (s)		66.2			66.2		12.4	28.9		2.9	19.4	
Actuated g/C Ratio		0.60			0.60		0.11	0.26		0.03	0.18	
Clearance Time (s)		4.9			4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		948			605		200	914		47	613	
v/s Ratio Prot							c0.12	c0.20		0.02	0.14	
v/s Ratio Perm	c0.64				0.32							
v/c Ratio	1.04				0.52		1.02	0.75		0.77	0.80	
Uniform Delay, d1	21.9				12.7		48.8	37.2		53.2	43.4	
Progression Factor	1.00				1.00		0.69	0.76		1.09	0.93	
Incremental Delay, d2	39.6				0.8		60.3	4.2		52.1	10.4	
Delay (s)	61.5				13.4		94.0	32.4		109.9	50.6	
Level of Service	E				B		F	C		F	D	
Approach Delay (s)	61.5				13.4		46.4			54.6		
Approach LOS	E				B		D			D		

Intersection Summary

HCM Average Control Delay	49.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3522	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3522	
Volume (vph)	0	0	21	0	0	7	0	577	8	0	376	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	22	0	0	9	0	663	9	0	464	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	22	0	0	9	0	672	0	0	480	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.8			4.8		95.9			95.9	
Effective Green, g (s)			5.2			5.2		96.8			96.8	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			76			76		3108			3099	
v/s Ratio Prot			c0.01			0.01		c0.19			0.14	
v/s Ratio Perm												
v/c Ratio			0.29			0.12		0.22			0.15	
Uniform Delay, d1			50.6			50.2		1.0			0.9	
Progression Factor			1.00			1.00		0.29			0.98	
Incremental Delay, d2			2.1			0.7		0.1			0.1	
Delay (s)			52.7			50.9		0.4			1.0	
Level of Service			D			D		A			A	
Approach Delay (s)			52.7			50.9		0.4			1.0	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.0			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.22									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			26.2%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.90		0.97		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1658		3430		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1658		3430		1770	3539
Volume (vph)	21	56	546	142	69	505
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	27	71	635	165	78	567
RTOR Reduction (vph)	66	0	9	0	0	0
Lane Group Flow (vph)	32	0	791	0	78	567
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.7		80.9		8.7	94.0
Effective Green, g (s)	7.1		81.8		9.1	94.9
Actuated g/C Ratio	0.06		0.74		0.08	0.86
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	107		2551		146	3053
v/s Ratio Prot	c0.06		c0.23		c0.04	0.16
v/s Ratio Perm						
v/c Ratio	0.30		0.31		0.53	0.19
Uniform Delay, d1	49.1		4.7		48.4	1.2
Progression Factor	1.00		0.87		1.00	1.00
Incremental Delay, d2	1.5		0.3		3.7	0.1
Delay (s)	50.6		4.4		52.1	1.4
Level of Service	D		A		D	A
Approach Delay (s)	50.6		4.4		7.5	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay			8.6		HCM Level of Service	A
HCM Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			38.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔	↔	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	415	873	125	168	359	79	91	317	247	89	208	275
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	14.9	31.0	95.7	12.9	28.5	28.5	8.0	24.3	24.3	4.9	21.2	42.0
Effective Green, g (s)	16.8	32.9	95.7	14.3	30.4	30.4	9.4	26.2	26.2	6.3	23.1	43.9
Actuated g/C Ratio	0.18	0.34	1.00	0.15	0.32	0.32	0.10	0.27	0.27	0.07	0.24	0.46
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	603	1217	1583	264	1124	503	174	969	433	117	450	1278
v/s Ratio Prot	0.13	c0.27		c0.10	0.11		0.06	0.10		c0.05	0.12	0.11
v/s Ratio Perm			0.09			0.05			0.17			
v/c Ratio	0.75	0.78	0.09	0.69	0.35	0.17	0.57	0.36	0.62	0.83	0.50	0.23
Uniform Delay, d1	37.4	28.2	0.0	38.6	25.0	23.6	41.2	28.0	30.4	44.2	31.3	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	3.6	0.1	6.2	0.3	0.3	2.5	0.4	3.4	34.7	1.1	0.1
Delay (s)	41.9	31.8	0.1	44.8	25.4	23.8	43.7	28.4	33.8	78.9	32.4	15.8
Level of Service	D	C	A	D	C	C	D	C	C	E	C	B
Approach Delay (s)		31.9			30.6			32.5			31.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	31.8		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.72											
Actuated Cycle Length (s)	95.7				Sum of lost time (s)				16.0			
Intersection Capacity Utilization	62.8%		ICU Level of Service				B					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis Buildout Conditions With BRT (TSP Active)
1: University Ave & Park Blvd Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔↔		↔	↔↔		↔	↔↔		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Flt	1.00	0.94		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3329		1770	3416		1770	3395		1770	3468	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3329		1770	3416		1770	3395		1770	3468	
Volume (vph)	54	198	130	120	476	144	97	194	73	63	352	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	215	141	130	517	157	105	211	79	68	383	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	356	0	130	674	0	105	290	0	68	442	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.3	17.8		19.4	28.9		15.6	41.5		7.7	33.6	
Effective Green, g (s)	8.7	18.7		19.8	29.8		16.0	42.4		8.1	34.5	
Actuated g/C Ratio	0.08	0.18		0.19	0.28		0.15	0.40		0.08	0.33	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	147	593		334	969		270	1371		137	1139	
v/s Ratio Prot	0.03	0.11		c0.07	c0.20		c0.06	0.09		c0.04	c0.13	
v/s Ratio Perm												
v/c Ratio	0.40	0.60		0.39	0.70		0.39	0.21		0.50	0.39	
Uniform Delay, d1	45.7	39.7		37.3	33.6		40.1	20.4		46.5	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.07	0.86	
Incremental Delay, d2	1.8	1.2		0.8	1.8		0.9	0.4		1.0	0.9	
Delay (s)	47.5	40.9		38.1	35.3		41.0	20.8		50.6	24.3	
Level of Service	D		D		D		D		C		C	
Approach Delay (s)	41.8		35.8		26.1		27.8					
Approach LOS	D		D		C		C					
Intersection Summary												
HCM Average Control Delay	33.2		HCM Level of Service		C							
HCM Volume to Capacity ratio	0.50											
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		16.0							
Intersection Capacity Utilization	51.2%		ICU Level of Service		A							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis Buildout Conditions With BRT (TSP Active)
2: Lincoln Ave & Park Blvd Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔				↔↔					↔↔		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00				1.00				1.00		0.95	
Flt	0.91				0.99				1.00		0.98	
Flt Protected	0.99				0.99				0.95		1.00	
Satd. Flow (prot)	1687				1833				1770		3468	
Flt Permitted	0.89				0.85				0.95		1.00	
Satd. Flow (perm)	1515				1570				1770		3468	
Volume (vph)	26	59	168	48	257	21	205	196	30	15	346	30
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	31	71	202	66	352	29	230	220	34	17	389	34
RTOR Reduction (vph)	0	76	0	0	3	0	0	10	0	0	5	0
Lane Group Flow (vph)	0	228	0	0	444	0	230	244	0	17	418	0
Turn Type	Perm				Perm				Prot		Prot	
Protected Phases	4				8		5		2		1	
Permitted Phases												
Actuated Green, G (s)	31.3				31.3		18.7		57.3		2.2	
Effective Green, g (s)	32.2				32.2		19.1		58.2		2.6	
Actuated g/C Ratio	0.31				0.31		0.18		0.55		0.02	
Clearance Time (s)	4.9				4.9		4.4		4.9		4.4	
Vehicle Extension (s)	3.0				3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	465				481		322		1922		44	
v/s Ratio Prot							c0.13		0.07		0.01	
v/s Ratio Perm	0.20				c0.28							
v/c Ratio	0.49				0.92		0.71		0.13		0.39	
Uniform Delay, d1	29.7				35.2		40.4		11.2		50.4	
Progression Factor	1.00				1.00		1.02		0.80		0.96	
Incremental Delay, d2	0.8				23.4		7.1		0.1		5.5	
Delay (s)	30.5				58.7		48.5		9.1		53.7	
Level of Service	C				E		D		A		D	
Approach Delay (s)	30.5				58.7		27.8		22.0			
Approach LOS	C				E		C		C			
Intersection Summary												
HCM Average Control Delay	35.0		HCM Level of Service		D							
HCM Volume to Capacity ratio	0.60											
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		12.0							
Intersection Capacity Utilization	57.9%		ICU Level of Service		B							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	14	0	0	3	0	203	5	0	358	8
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	14	0	0	4	0	233	6	0	442	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	14	0	0	4	0	239	0	0	452	0
Turn Type	custom			custom								
Protected Phases	3			3			2			6		
Permitted Phases												
Actuated Green, G (s)	3.1			3.1			92.6			92.6		
Effective Green, g (s)	3.5			3.5			93.5			93.5		
Actuated g/C Ratio	0.03			0.03			0.89			0.89		
Clearance Time (s)	4.4			4.4			4.9			4.9		
Vehicle Extension (s)	3.0			3.0			2.8			2.8		
Lane Grp Cap (vph)	54			54			3140			3141		
v/s Ratio Prot	c0.01			0.00			0.07			c0.13		
v/s Ratio Perm												
v/c Ratio	0.26			0.07			0.08			0.14		
Uniform Delay, d1	49.5			49.2			0.7			0.7		
Progression Factor	1.00			1.00			0.42			0.97		
Incremental Delay, d2	2.5			0.6			0.0			0.1		
Delay (s)	52.0			49.8			0.3			0.8		
Level of Service	D			D			A			A		
Approach Delay (s)	52.0			49.8			0.3			0.8		
Approach LOS	D			D			A			A		
Intersection Summary												
HCM Average Control Delay	1.9			HCM Level of Service			A					
HCM Volume to Capacity ratio	0.15											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	20.2%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1670		3447		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1670		3447		1770	3539
Volume (vph)	20	36	185	39	16	443
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	25	46	215	45	18	498
RTOR Reduction (vph)	43	0	6	0	0	0
Lane Group Flow (vph)	28	0	254	0	18	498
Turn Type					Prot	
Protected Phases	8		2		1 6	
Permitted Phases						
Actuated Green, G (s)	6.3		82.0		3.0 89.4	
Effective Green, g (s)	6.7		82.9		3.4 90.3	
Actuated g/C Ratio	0.06		0.79		0.03 0.86	
Clearance Time (s)	4.4		4.9		4.4 4.9	
Vehicle Extension (s)	3.0		3.0		3.0 3.0	
Lane Grp Cap (vph)	107		2721		57 3044	
v/s Ratio Prot	c0.04		0.08		c0.01 c0.14	
v/s Ratio Perm						
v/c Ratio	0.26		0.09		0.32 0.16	
Uniform Delay, d1	46.8		2.5		49.7 1.2	
Progression Factor	1.00		1.91		1.00 1.00	
Incremental Delay, d2	1.3		0.1		3.2 0.1	
Delay (s)	48.1		4.9		52.8 1.3	
Level of Service	D		A		D A	
Approach Delay (s)	48.1		4.9		3.1	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay	7.4		HCM Level of Service		A	
HCM Volume to Capacity ratio	0.20					
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		8.0	
Intersection Capacity Utilization	23.0%		ICU Level of Service		A	
Analysis Period (min)	15					
c Critical Lane Group						


Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	142	254	44	182	737	79	77	89	59	30	216	427
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	8.4	18.9	80.8	16.3	26.3	26.3	6.8	20.6	20.6	2.4	16.2	30.5
Effective Green, g (s)	10.3	20.8	80.8	17.7	28.2	28.2	8.2	22.5	22.5	3.8	18.1	32.4
Actuated g/C Ratio	0.13	0.26	1.00	0.22	0.35	0.35	0.10	0.28	0.28	0.05	0.22	0.40
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	438	911	1583	388	1235	552	180	985	441	83	417	1118
v/s Ratio Prot	0.04	0.08		0.11	c0.23		c0.05	0.03		0.02	c0.13	c0.17
v/s Ratio Perm			0.03			0.05			0.04			
v/c Ratio	0.35	0.30	0.03	0.51	0.65	0.16	0.47	0.10	0.15	0.40	0.56	0.42
Uniform Delay, d1	32.2	24.2	0.0	27.7	22.1	18.1	34.2	21.6	21.9	37.4	27.8	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.0	0.5	1.5	0.2	0.7	0.1	0.3	1.1	2.0	0.3
Delay (s)	32.4	24.5	0.0	28.2	23.6	18.3	34.9	21.7	22.2	38.5	29.8	17.7
Level of Service	C	C	A	C	C	B	C	C	C	D	C	B
Approach Delay (s)		24.6			24.0			26.4			22.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	23.9		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	80.8				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	53.4%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3424		1770	3438		1770	3407		1770	3467	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3424		1770	3438		1770	3407		1770	3467	
Volume (vph)	130	717	198	132	451	106	158	581	193	208	442	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	779	215	143	490	115	172	632	210	226	480	75
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	141	994	0	143	605	0	172	842	0	226	555	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2	1		6	3		8	7		4	
Permitted Phases												
Actuated Green, G (s)	11.4	33.8	13.4		35.8	11.7		31.4	12.8		32.5	
Effective Green, g (s)	11.8	34.7	13.8		36.7	12.1		32.3	13.2		33.4	
Actuated g/C Ratio	0.11	0.32	0.13		0.33	0.11		0.29	0.12		0.30	
Clearance Time (s)	4.4	4.9	4.4		4.9	4.4		4.9	4.4		4.9	
Vehicle Extension (s)	3.0	2.0	3.0		2.0	3.0		3.3	2.0		2.9	
Lane Grp Cap (vph)	190	1080	222		1147	195		1000	212		1053	
v/s Ratio Prot	c0.08	c0.29	0.08		0.18	0.10		c0.25	c0.13		0.16	
v/s Ratio Perm												
v/c Ratio	0.74	0.92	0.64		0.53	0.88		0.84	1.07		0.53	
Uniform Delay, d1	47.6	36.3	45.8		29.6	48.2		36.5	48.4		31.8	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00	0.89		0.88	
Incremental Delay, d2	14.4	12.3	6.3		0.2	34.0		8.6	67.9		1.2	
Delay (s)	62.1	48.6	52.0		29.8	82.2		45.0	111.1		29.1	
Level of Service	E	D	D		C	F		D	F		C	
Approach Delay (s)	50.3		34.1		51.3		52.8					
Approach LOS	D		C		D		D					

Intersection Summary

HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	0.95	0.99		0.99	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.99	0.98		0.98	0.95		1.00	0.95		0.95	1.00	
Satd. Flow (prot)	1749	1807		1770	3479		1770	3477		1770	3477	
Flt Permitted	0.89	0.54		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1576	998		1770	3479		1770	3477		1770	3477	
Volume (vph)	117	379	339	79	130	23	182	546	70	32	392	52
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	141	457	408	108	178	32	204	613	79	36	440	58
RTOR Reduction (vph)	0	18	0	0	3	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	988	0	0	315	0	204	682	0	36	487	0
Turn Type	Perm		Perm		Prot		Prot		Prot		Prot	
Protected Phases	4	8		8		5	2	1		6		
Permitted Phases												
Actuated Green, G (s)	64.3		64.3		12.0		28.4	3.1		19.5		
Effective Green, g (s)	65.2		65.2		12.4		29.3	3.5		20.4		
Actuated g/C Ratio	0.59		0.59		0.11		0.27	0.03		0.19		
Clearance Time (s)	4.9		4.9		4.4		4.9	4.4		4.9		
Vehicle Extension (s)	3.0		3.0		3.0		3.0	3.0		3.0		
Lane Grp Cap (vph)	934		592		200		927	56		645		
v/s Ratio Prot	c0.64		0.32		c0.12		c0.20	0.02		0.14		
v/s Ratio Perm	1.06		0.53		1.02		0.74	0.64		0.76		
Uniform Delay, d1	22.4		13.3		48.8		36.8	52.6		42.4		
Progression Factor	1.00		1.00		0.69		0.73	1.17		0.90		
Incremental Delay, d2	46.0		0.9		59.7		3.8	22.5		8.0		
Delay (s)	68.4		14.3		93.5		30.8	84.1		46.3		
Level of Service	E		B		F		C	F		D		
Approach Delay (s)	68.4		14.3		45.1		48.9					
Approach LOS	E		B		D		D					

Intersection Summary

HCM Average Control Delay	50.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3522	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3522	
Volume (vph)	0	0	21	0	0	7	0	577	8	0	376	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	22	0	0	9	0	663	9	0	464	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	22	0	0	9	0	672	0	0	479	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.8			4.8		95.9			95.9	
Effective Green, g (s)			5.2			5.2		96.8			96.8	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			76			76		3108			3099	
v/s Ratio Prot			c0.01			0.01		c0.19			0.14	
v/s Ratio Perm												
v/c Ratio			0.29			0.12		0.22			0.15	
Uniform Delay, d1			50.6			50.2		1.0			0.9	
Progression Factor			1.00			1.00		0.32			2.16	
Incremental Delay, d2			2.1			0.7		0.1			0.1	
Delay (s)			52.7			50.9		0.4			2.1	
Level of Service			D			D		A			A	
Approach Delay (s)			52.7			50.9		0.4			2.1	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.5			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.22									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			26.2%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.90		0.97		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1658		3430		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1658		3430		1770	3539
Volume (vph)	21	56	546	142	69	505
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	27	71	635	165	78	567
RTOR Reduction (vph)	66	0	11	0	0	0
Lane Group Flow (vph)	32	0	789	0	78	567
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.7		80.8		8.8	94.0
Effective Green, g (s)	7.1		81.7		9.2	94.9
Actuated g/C Ratio	0.06		0.74		0.08	0.86
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	107		2548		148	3053
v/s Ratio Prot	c0.06		c0.23		c0.04	0.16
v/s Ratio Perm						
v/c Ratio	0.30		0.31		0.53	0.19
Uniform Delay, d1	49.1		4.7		48.3	1.2
Progression Factor	1.00		0.38		1.00	1.00
Incremental Delay, d2	1.5		0.3		3.4	0.1
Delay (s)	50.6		2.1		51.7	1.4
Level of Service	D		A		D	A
Approach Delay (s)	50.6		2.1		7.5	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay			7.4		HCM Level of Service	A
HCM Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			38.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔	↔	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	415	873	125	168	359	79	91	317	247	89	208	275
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	14.8	31.0	97.3	14.1	29.8	29.8	8.3	24.8	24.8	4.8	21.3	42.0
Effective Green, g (s)	16.7	32.9	97.3	15.5	31.7	31.7	9.7	26.7	26.7	6.2	23.2	43.9
Actuated g/C Ratio	0.17	0.34	1.00	0.16	0.33	0.33	0.10	0.27	0.27	0.06	0.24	0.45
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	589	1197	1583	282	1153	516	176	971	434	113	444	1257
v/s Ratio Prot	0.13	c0.27		c0.10	0.11		0.06	0.10		c0.05	0.12	0.11
v/s Ratio Perm			0.09			0.05			0.17			
v/c Ratio	0.77	0.79	0.09	0.65	0.34	0.17	0.56	0.36	0.62	0.86	0.51	0.24
Uniform Delay, d1	38.4	29.1	0.0	38.3	24.9	23.4	41.8	28.4	30.8	45.1	32.1	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	4.1	0.1	3.8	0.3	0.3	2.4	0.4	3.4	42.3	1.2	0.1
Delay (s)	43.8	33.2	0.1	42.2	25.2	23.6	44.2	28.8	34.2	87.5	33.3	16.5
Level of Service	D	C	A	D	C	C	D	C	C	F	C	B
Approach Delay (s)		33.4			29.7			33.0			33.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	32.7		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.71											
Actuated Cycle Length (s)	97.3				Sum of lost time (s)				16.0			
Intersection Capacity Utilization	62.8%		ICU Level of Service				B					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕↔		↔	↕↔		↔	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3329		1770	3416		1770	3395		1770	3468	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3329		1770	3416		1770	3395		1770	3468	
Volume (vph)	54	198	130	120	476	144	97	194	73	63	352	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	215	141	130	517	157	105	211	79	68	383	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	356	0	130	674	0	105	290	0	68	442	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	3.0	16.3		8.9	22.2		7.1	16.8		3.4	13.1	
Effective Green, g (s)	3.4	17.2		9.3	23.1		7.5	17.7		3.8	14.0	
Actuated g/C Ratio	0.05	0.27		0.15	0.36		0.12	0.28		0.06	0.22	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	94	895		257	1233		207	939		105	759	
v/s Ratio Prot	0.03	0.11		c0.07	c0.20		c0.06	c0.09		0.04	c0.13	
v/s Ratio Perm												
v/c Ratio	0.63	0.40		0.51	0.55		0.51	0.31		0.65	0.58	
Uniform Delay, d1	29.7	19.2		25.2	16.3		26.5	18.3		29.4	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.4	0.1		1.6	0.3		2.0	0.2		9.8	1.1	
Delay (s)	42.1	19.3		26.8	16.5		28.5	18.5		39.3	23.5	
Level of Service	D	B		C	B		C	B		D	C	
Approach Delay (s)	22.5		18.2		21.2		25.6					
Approach LOS	C		B		C		C					
Intersection Summary												
HCM Average Control Delay	21.4		HCM Level of Service		C							
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	64.0		Sum of lost time (s)		16.0							
Intersection Capacity Utilization	51.2%		ICU Level of Service		A							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕↔			↕↔			↕↔	
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Volume (vph)	13	19	121	24	50	11	154	200	17	9	349	11
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	16	23	146	33	68	15	173	225	19	10	392	12
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	184	116	285	131	206	208						
Volume Left (vph)	16	33	173	0	10	0						
Volume Right (vph)	146	15	0	19	0	12						
Hadj (s)	-0.42	0.01	0.34	-0.07	0.06	-0.01						
Departure Headway (s)	5.8	6.4	6.4	6.0	6.1	6.1						
Degree Utilization, x	0.30	0.21	0.51	0.22	0.35	0.35						
Capacity (veh/h)	565	503	536	575	560	568						
Control Delay (s)	11.2	11.0	14.5	9.4	11.2	11.1						
Approach Delay (s)	11.2		11.0		12.9		11.1					
Approach LOS	B		B		B		B					
Intersection Summary												
Delay	11.8											
HCM Level of Service	B											
Intersection Capacity Utilization	41.3%		ICU Level of Service		A							
Analysis Period (min)	15											

Park Blvd Analysis
3: Polk Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.94			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1729			1841		1770	3506		1770	3484	
Flt Permitted		0.91			0.97		0.47	1.00		0.60	1.00	
Satd. Flow (perm)		1592			1792		882	3506		1125	3484	
Volume (vph)	19	42	55	21	219	14	37	194	13	16	355	41
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	20	43	57	27	281	18	43	223	15	20	438	51
RTOR Reduction (vph)	0	36	0	0	4	0	0	6	0	0	10	0
Lane Group Flow (vph)	0	84	0	0	322	0	43	232	0	20	479	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.0			11.0		11.7	11.7		11.7	11.7	
Effective Green, g (s)		11.9			11.9		12.6	12.6		12.6	12.6	
Actuated g/C Ratio		0.37			0.37		0.39	0.39		0.39	0.39	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		583			656		342	1359		436	1351	
v/s Ratio Prot							0.07			c0.14		
v/s Ratio Perm		0.08			c0.18		0.05			0.02		
v/c Ratio		0.14			0.49		0.13	0.17		0.05	0.35	
Uniform Delay, d1		6.9			8.0		6.4	6.5		6.2	7.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.6		0.1	0.1		0.0	0.1	
Delay (s)		7.0			8.5		6.6	6.6		6.2	7.2	
Level of Service		A			A		A	A		A	A	
Approach Delay (s)		7.0			8.5		6.6			7.2		
Approach LOS		A			A		A			A		
Intersection Summary												
HCM Average Control Delay		7.4								A		
HCM Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		32.5								8.0		
Intersection Capacity Utilization		40.0%								A		
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↕	↕			↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	33	188	38	15	439
Peak Hour Factor	0.79	0.79	0.86	0.86	0.89	0.89
Hourly flow rate (vph)	0	42	219	44	17	493
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			685			440
pX, platoon unblocked	0.97					
vC, conflicting volume	521	131			263	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	481	131			263	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			99	
cM capacity (veh/h)	494	894			1298	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	42	146	117	181	329	
Volume Left	0	0	0	17	0	
Volume Right	42	0	44	0	0	
cSH	894	1700	1700	1298	1700	
Volume to Capacity	0.05	0.09	0.07	0.01	0.19	
Queue Length 95th (ft)	4	0	0	1	0	
Control Delay (s)	9.2	0.0	0.0	0.8	0.0	
Lane LOS	A			A		
Approach Delay (s)	9.2	0.0		0.3		
Approach LOS	A					
Intersection Summary						
Average Delay		0.7				
Intersection Capacity Utilization		25.6%			ICU Level of Service	A
Analysis Period (min)		15				

Park Blvd Analysis
5: Normal St & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Volume (vph)	142	254	44	182	737	79	77	89	59	30	216	427
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	8.4	18.8	80.2	16.2	26.1	26.1	6.8	20.2	20.2	2.4	15.8	30.1
Effective Green, g (s)	10.3	20.7	80.2	17.6	28.0	28.0	8.2	22.1	22.1	3.8	17.7	32.0
Actuated g/C Ratio	0.13	0.26	1.00	0.22	0.35	0.35	0.10	0.28	0.28	0.05	0.22	0.40
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	441	913	1583	388	1236	553	181	975	436	84	781	1112
v/s Ratio Prot	0.04	0.08		0.11	c0.23		c0.05	0.03		0.02	0.07	c0.17
v/s Ratio Perm			0.03			0.05			0.04			
v/c Ratio	0.35	0.30	0.03	0.51	0.65	0.16	0.46	0.10	0.15	0.39	0.30	0.42
Uniform Delay, d1	31.9	23.9	0.0	27.5	22.0	18.0	33.9	21.6	21.9	37.1	26.1	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.0	0.5	1.5	0.2	0.7	0.1	0.3	1.1	0.3	0.3
Delay (s)	32.1	24.3	0.0	28.0	23.4	18.2	34.6	21.7	22.2	38.2	26.4	17.7
Level of Service	C	C	A	C	C	B	C	C	C	D	C	B
Approach Delay (s)		24.3			23.8			26.3			21.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	23.5		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.52											
Actuated Cycle Length (s)	80.2				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	49.6%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕↔		↔	↕↔		↔	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3424		1770	3438		1770	3407		1770	3467	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3424		1770	3438		1770	3407		1770	3467	
Volume (vph)	130	717	198	132	451	106	158	581	193	208	442	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	779	215	143	490	115	172	632	210	226	480	75
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	141	994	0	143	605	0	172	842	0	226	555	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.7	33.1		10.0	34.4		14.7	30.5		13.7	29.5	
Effective Green, g (s)	9.1	34.0		10.4	35.3		15.1	31.4		14.1	30.4	
Actuated g/C Ratio	0.09	0.32		0.10	0.33		0.14	0.30		0.13	0.29	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	152	1099		174	1146		252	1010		236	995	
v/s Ratio Prot	0.08	c0.29		c0.08	0.18		0.10	c0.25		c0.13	0.16	
v/s Ratio Perm												
v/c Ratio	0.93	0.90		0.82	0.53		0.68	0.83		0.96	0.56	
Uniform Delay, d1	48.1	34.4		46.8	28.6		43.1	34.8		45.6	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	51.4	10.3		25.7	0.2		7.4	6.1		46.0	0.7	
Delay (s)	99.4	44.7		72.6	28.8		50.5	40.9		91.6	32.7	
Level of Service	F	D		E	C		D	D		F	C	
Approach Delay (s)	51.5		37.1		42.6		49.7					
Approach LOS	D		D		D		D					
Intersection Summary												
HCM Average Control Delay	45.7		HCM Level of Service		D							
HCM Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	105.9		Sum of lost time (s)		12.0							
Intersection Capacity Utilization	80.5%		ICU Level of Service		D							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕↔			↕↔			↕↔	
Sign Control	Stop		Stop		Stop		Stop					
Volume (vph)	40	100	262	29	28	8	138	545	47	7	388	16
Peak Hour Factor	0.83	0.83	0.83	0.81	0.81	0.81	0.93	0.93	0.93	0.96	0.96	0.96
Hourly flow rate (vph)	48	120	316	36	35	10	148	586	51	7	404	17
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	484	80	441	344	209	219						
Volume Left (vph)	48	36	148	0	7	0						
Volume Right (vph)	316	10	0	51	0	17						
Hadj (s)	-0.34	0.05	0.20	-0.07	0.05	-0.02						
Departure Headway (s)	6.7	8.7	7.8	7.5	8.1	8.0						
Degree Utilization, x	0.90	0.19	0.95	0.72	0.47	0.49						
Capacity (veh/h)	527	396	457	470	438	433						
Control Delay (s)	44.1	13.8	58.2	26.1	16.9	17.2						
Approach Delay (s)	44.1	13.8	44.1	17.1								
Approach LOS	E	B	E	C								
Intersection Summary												
Delay	36.2											
HCM Level of Service	E											
Intersection Capacity Utilization	66.0%		ICU Level of Service		C							
Analysis Period (min)	15											

Park Blvd Analysis
3: Polk Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.98		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805			1798		1770	3512		1770	3464	
Flt Permitted		0.88			0.85		0.44	1.00		0.35	1.00	
Satd. Flow (perm)		1602			1538		821	3512		654	3464	
Volume (vph)	97	279	68	43	109	32	30	554	30	49	379	63
Peak-hour factor, PHF	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	104	300	73	55	140	41	33	609	33	58	446	74
RTOR Reduction (vph)	0	12	0	0	14	0	0	5	0	0	16	0
Lane Group Flow (vph)	0	465	0	0	222	0	33	637	0	58	504	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.5			16.5		12.5	12.5		12.5	12.5	
Effective Green, g (s)		17.4			17.4		13.4	13.4		13.4	13.4	
Actuated g/C Ratio		0.45			0.45		0.35	0.35		0.35	0.35	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		718			690		284	1213		226	1196	
v/s Ratio Prot								c0.18			0.15	
v/s Ratio Perm		c0.30			0.15		0.04			0.09		
v/c Ratio		0.65			0.32		0.12	0.53		0.26	0.42	
Uniform Delay, d1		8.3			6.9		8.7	10.2		9.1	9.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			0.3		0.2	0.4		0.5	0.2	
Delay (s)		10.3			7.2		8.8	10.5		9.7	9.9	
Level of Service		B			A		A	B		A	A	
Approach Delay (s)		10.3			7.2			10.4			9.9	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM Average Control Delay		9.9										A
HCM Volume to Capacity ratio		0.61										
Actuated Cycle Length (s)		38.8										8.0
Intersection Capacity Utilization		61.2%										B
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕	↕		↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	21	56	546	140	61	502
Peak Hour Factor	0.85	0.85	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	25	66	581	149	68	558
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
tC, single (s)						
tC, 2 stage (s)						
tF (s)						
p0 queue free %						
cM capacity (veh/h)						
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	66	387	343	254	372	
Volume Left	0	0	0	68	0	
Volume Right	66	0	149	0	0	
cSH	632	1700	1700	870	1700	
Volume to Capacity	0.10	0.23	0.20	0.08	0.22	
Queue Length 95th (ft)	9	0	0	6	0	
Control Delay (s)	11.4	0.0	0.0	3.1	0.0	
Lane LOS	B			A		
Approach Delay (s)	Err	0.0		1.3		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				Err%	ICU Level of Service	H
Analysis Period (min)				15		

Park Blvd Analysis
5: Normal St & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

	↖	→	↘	↙	←	↖	↙	↑	↘	↙	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Volume (vph)	415	873	125	168	359	79	91	317	247	89	208	275
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	14.9	30.9	95.0	12.9	28.4	28.4	8.0	23.7	23.7	4.9	20.6	41.4
Effective Green, g (s)	16.8	32.8	95.0	14.3	30.3	30.3	9.4	25.6	25.6	6.3	22.5	43.3
Actuated g/C Ratio	0.18	0.35	1.00	0.15	0.32	0.32	0.10	0.27	0.27	0.07	0.24	0.46
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	607	1222	1583	266	1129	505	175	954	427	117	838	1270
v/s Ratio Prot	0.13	c0.27		c0.10	0.11		0.06	0.10		c0.05	0.06	0.11
v/s Ratio Perm			0.09			0.05			0.17			
v/c Ratio	0.74	0.78	0.09	0.69	0.35	0.17	0.57	0.36	0.63	0.83	0.27	0.24
Uniform Delay, d1	37.1	27.8	0.0	38.2	24.8	23.3	40.9	28.1	30.5	43.8	29.6	15.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	3.6	0.1	5.8	0.3	0.3	2.5	0.4	3.6	34.7	0.2	0.1
Delay (s)	41.4	31.4	0.1	44.0	25.1	23.6	43.3	28.5	34.2	78.6	29.8	15.9
Level of Service	D	C	A	D	C	C	D	C	C	E	C	B
Approach Delay (s)		31.5			30.1			32.7			30.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	31.4		HCM Level of Service					C				
HCM Volume to Capacity ratio	0.72											
Actuated Cycle Length (s)	95.0					Sum of lost time (s)			16.0			
Intersection Capacity Utilization	60.5%		ICU Level of Service					B				
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕↔		↔	↕↔		↔	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3448		1770	3410		1770	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3448		1770	3410		1770	3450	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	723	165	99	460	95	132	452	146	189	338	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	888	0	99	555	0	132	598	0	189	406	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	4.8	24.0		6.7	25.9		8.9	20.1		6.8	18.0	
Effective Green, g (s)	5.2	24.9		7.1	26.8		9.3	21.0		7.2	18.9	
Actuated g/C Ratio	0.07	0.33		0.09	0.35		0.12	0.28		0.09	0.25	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	121	1124		165	1213		216	940		167	856	
v/s Ratio Prot	c0.07	c0.26		0.06	0.16		0.07	c0.18		c0.11	0.12	
v/s Ratio Perm												
v/c Ratio	1.07	0.79		0.60	0.46		0.61	0.64		1.13	0.47	
Uniform Delay, d1	35.5	23.3		33.2	19.1		31.7	24.2		34.5	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	100.7	3.6		6.0	0.1		5.0	1.5		109.4	0.4	
Delay (s)	136.2	26.9		39.2	19.2		36.8	25.7		143.9	24.8	
Level of Service	F	C		D	B		D	C		F	C	
Approach Delay (s)	40.7		22.2		27.7		62.7					
Approach LOS	D		C		C		E					

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	76.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕↔			↕↔			↕↔	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	63	111	192	17	34	7	109	461	24	6	337	23
Peak Hour Factor	0.83	0.83	0.83	0.81	0.81	0.81	0.93	0.93	0.93	0.96	0.96	0.96
Hourly flow rate (vph)	76	134	231	21	42	9	117	496	26	6	351	24
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	441	72	365	274	182	199						
Volume Left (vph)	76	21	117	0	6	0						
Volume Right (vph)	231	9	0	26	0	24						
Hadj (s)	-0.25	0.02	0.19	-0.03	0.05	-0.05						
Departure Headway (s)	6.4	7.9	7.3	7.1	7.5	7.4						
Degree Utilization, x	0.78	0.16	0.74	0.54	0.38	0.41						
Capacity (veh/h)	541	408	481	488	454	460						
Control Delay (s)	28.8	12.4	27.2	16.8	13.9	14.4						
Approach Delay (s)	28.8	12.4	22.7	14.2								
Approach LOS	D	B	C	B								

Intersection Summary			
Delay	21.9		
HCM Level of Service	C		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.98		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1803			1805		1770	3511		1770	3475	
Flt Permitted		0.91			0.84		0.49	1.00		0.42	1.00	
Satd. Flow (perm)		1654			1541		914	3511		784	3475	
Volume (vph)	68	239	63	39	93	21	28	493	27	33	338	47
Peak-hour factor, PHF	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	73	257	68	50	119	27	31	542	30	39	398	55
RTOR Reduction (vph)	0	15	0	0	12	0	0	5	0	0	13	0
Lane Group Flow (vph)	0	383	0	0	184	0	31	567	0	39	440	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.2			13.2		11.2	11.2		11.2	11.2	
Effective Green, g (s)		14.1			14.1		12.1	12.1		12.1	12.1	
Actuated g/C Ratio		0.41			0.41		0.35	0.35		0.35	0.35	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		682			635		323	1242		277	1229	
v/s Ratio Prot								c0.16			0.13	
v/s Ratio Perm		c0.24			0.13		0.03			0.05		
v/c Ratio		0.56			0.29		0.10	0.46		0.14	0.36	
Uniform Delay, d1		7.7			6.7		7.4	8.5		7.5	8.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			0.3		0.1	0.2		0.2	0.2	
Delay (s)		8.8			7.0		7.5	8.8		7.7	8.3	
Level of Service		A			A		A	A		A	A	
Approach Delay (s)		8.8			7.0			8.7			8.3	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM Average Control Delay		8.4										A
HCM Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		34.2										8.0
Intersection Capacity Utilization		52.3%										A
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↕	↕			↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	5	53	450	70	81	380
Peak Hour Factor	0.85	0.85	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	6	62	479	74	90	422
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			685			440
pX, platoon unblocked	0.99					
vC, conflicting volume	907	277			553	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	891	277			553	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	91			91	
cM capacity (veh/h)	253	721			1013	
Direction, Lane #						
	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	62	319	234	231	281	
Volume Left	0	0	0	90	0	
Volume Right	62	0	74	0	0	
cSH	721	1700	1700	1013	1700	
Volume to Capacity	0.09	0.19	0.14	0.09	0.17	
Queue Length 95th (ft)	7	0	0	7	0	
Control Delay (s)	10.5	0.0	0.0	4.0	0.0	
Lane LOS	B			A		
Approach Delay (s)	Err	0.0		1.8		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				Err%	ICU Level of Service	H
Analysis Period (min)				15		

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖↗	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787	
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	13.6	26.4	81.2	9.0	21.3	21.3	6.7	18.4	18.4	4.8	16.5	36.0	
Effective Green, g (s)	15.5	28.3	81.2	10.4	23.2	23.2	8.1	20.3	20.3	6.2	18.4	37.9	
Actuated g/C Ratio	0.19	0.35	1.00	0.13	0.29	0.29	0.10	0.25	0.25	0.08	0.23	0.47	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	655	1233	1583	227	1011	452	177	885	396	135	802	1301	
v/s Ratio Prot	0.12	c0.21		c0.08	0.09		0.04	0.09		c0.05	0.06	0.10	
v/s Ratio Perm			0.07			0.05			0.13				
v/c Ratio	0.62	0.61	0.07	0.64	0.30	0.16	0.45	0.35	0.53	0.62	0.25	0.21	
Uniform Delay, d1	30.2	21.9	0.0	33.6	22.7	21.7	34.4	25.0	26.3	36.4	25.8	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	1.2	0.1	4.3	0.3	0.3	0.7	0.4	2.1	6.3	0.2	0.1	
Delay (s)	31.5	23.1	0.1	37.9	23.0	22.0	35.1	25.4	28.5	42.6	26.0	12.9	
Level of Service	C	C	A	D	C	C	D	C	C	D	C	B	
Approach Delay (s)		23.8			27.0			27.8			22.2		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM Average Control Delay	24.9		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.56												
Actuated Cycle Length (s)	81.2				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	52.0%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95		
Frt	1.00	0.95		1.00	0.97		1.00	0.96		1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1770	3353		1770	3428		1770	3395		1770	3452		
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (perm)	1770	3353		1770	3428		1770	3395		1770	3452		
Volume (vph)	49	189	102	82	441	117	74	135	51	53	252	50	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	53	205	111	89	479	127	80	147	55	58	274	54	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	53	316	0	89	606	0	80	202	0	58	328	0	
Turn Type	Prot			Prot			Prot			Prot			
Protected Phases	5	2		1	6		3	8		7	4		
Permitted Phases													
Actuated Green, G (s)	7.7	19.7		9.7	21.7		8.9	49.9		7.1	48.1		
Effective Green, g (s)	8.1	20.6		10.1	22.6		9.3	50.8		7.5	49.0		
Actuated g/C Ratio	0.08	0.20		0.10	0.22		0.09	0.48		0.07	0.47		
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9		
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9		
Lane Grp Cap (vph)	137	658		170	738		157	1643		126	1611		
v/s Ratio Prot	0.03	0.09		0.05	0.18		0.05	0.06		0.03	0.10		
v/s Ratio Perm													
v/c Ratio	0.39	0.48		0.52	0.82		0.51	0.12		0.46	0.20		
Uniform Delay, d1	46.1	37.4		45.2	39.3		45.7	14.9		46.8	16.5		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.36	0.76		
Incremental Delay, d2	1.8	0.2		2.9	7.0		2.6	0.2		0.9	0.3		
Delay (s)	47.9	37.7		48.1	46.2		48.3	15.0		64.6	12.8		
Level of Service	D	D		D	D		D	B		E	B		
Approach Delay (s)		39.1			46.5			24.5			20.5		
Approach LOS		D			D			C			C		
Intersection Summary													
HCM Average Control Delay	35.5			HCM Level of Service				D					
HCM Volume to Capacity ratio	0.41												
Actuated Cycle Length (s)	105.0			Sum of lost time (s)				12.0					
Intersection Capacity Utilization	45.3%			ICU Level of Service				A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		1.00			1.00			1.00			1.00		
Frt		0.92			0.99			1.00			0.99		
Flt Protected		0.99			1.00			0.95			0.95		
Satd. Flow (prot)		1705			1840			1770			3491		
Flt Permitted		0.81			0.93			0.95			1.00		
Satd. Flow (perm)		1388			1714			1770			3491		
Volume (vph)	31	62	129	28	242	16	158	171	17	14	297	37	
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89	
Adj. Flow (vph)	37	75	155	38	332	22	178	192	19	16	334	42	
RTOR Reduction (vph)	0	61	0	0	3	0	0	5	0	0	6	0	
Lane Group Flow (vph)	0	206	0	0	389	0	178	206	0	16	370	0	
Turn Type	Perm			Perm			Prot			Prot			
Protected Phases		4			8		5	2		1	6		
Permitted Phases	4			8									
Actuated Green, G (s)		26.6			26.6		14.2	61.1		3.1	50.0		
Effective Green, g (s)		27.5			27.5		14.6	62.0		3.5	50.9		
Actuated g/C Ratio		0.26			0.26		0.14	0.59		0.03	0.48		
Clearance Time (s)		4.9			4.9		4.4	4.9		4.4	4.9		
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)		364			449		246	2061		59	1687		
v/s Ratio Prot							0.10	0.06		0.01	0.11		
v/s Ratio Perm		0.19			0.23								
v/c Ratio		0.57			0.87		0.72	0.10		0.27	0.22		
Uniform Delay, d1		33.6			37.0		43.3	9.4		49.5	15.6		
Progression Factor		1.00			1.00		1.03	0.64		1.09	1.01		
Incremental Delay, d2		2.0			16.0		9.9	0.1		2.5	0.3		
Delay (s)		35.6			52.9		54.5	6.1		56.4	16.0		
Level of Service		D			D		D	A		E	B		
Approach Delay (s)		35.6			52.9			28.2			17.7		
Approach LOS		D			D			C			B		
Intersection Summary													
HCM Average Control Delay	33.5			HCM Level of Service				C					
HCM Volume to Capacity ratio	0.49												
Actuated Cycle Length (s)	105.0			Sum of lost time (s)				12.0					
Intersection Capacity Utilization	47.3%			ICU Level of Service				A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	12	0	0	3	0	172	4	0	318	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	12	0	0	4	0	198	5	0	393	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	12	0	0	4	0	203	0	0	402	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			2.9			2.9		92.8			92.8	
Effective Green, g (s)			3.3			3.3		93.7			93.7	
Actuated g/C Ratio			0.03			0.03		0.89			0.89	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			51			51		3147			3147	
v/s Ratio Prot			c0.01			0.00		0.06			c0.11	
v/s Ratio Perm												
v/c Ratio			0.24			0.08		0.06			0.13	
Uniform Delay, d1			49.6			49.4		0.6			0.7	
Progression Factor			1.00			1.00		0.84			1.00	
Incremental Delay, d2			2.4			0.7		0.0			0.1	
Delay (s)			52.0			50.0		0.6			0.8	
Level of Service			D			D		A			A	
Approach Delay (s)			52.0			50.0		0.6			0.8	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.0					HCM Level of Service			A	
HCM Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			105.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			19.0%					ICU Level of Service			A	
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)			4.0		4.0	4.0	
Lane Util. Factor	1.00		0.95		1.00	0.95	
Frt	0.88		0.98		1.00	1.00	
Flt Protected	0.99		1.00		0.95	1.00	
Satd. Flow (prot)	1630		3482		1770	3539	
Flt Permitted	0.99		1.00		0.95	1.00	
Satd. Flow (perm)	1630		3482		1770	3539	
Volume (vph)	5	38	150	18	24	343	
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89	
Adj. Flow (vph)	6	48	174	21	27	385	
RTOR Reduction (vph)	46	0	3	0	0	0	
Lane Group Flow (vph)	8	0	192	0	27	385	
Turn Type					Prot		
Protected Phases	8		2		1	6	
Permitted Phases							
Actuated Green, G (s)	4.4		83.6		3.3	91.3	
Effective Green, g (s)	4.8		84.5		3.7	92.2	
Actuated g/C Ratio	0.05		0.80		0.04	0.88	
Clearance Time (s)	4.4		4.9		4.4	4.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	75		2802		62	3108	
v/s Ratio Prot	c0.03		0.06		c0.02	c0.11	
v/s Ratio Perm							
v/c Ratio	0.11		0.07		0.44	0.12	
Uniform Delay, d1	48.0		2.1		49.6	0.9	
Progression Factor	1.00		1.30		1.00	1.00	
Incremental Delay, d2	0.6		0.0		4.8	0.1	
Delay (s)	48.7		2.8		54.5	1.0	
Level of Service	D		A		D	A	
Approach Delay (s)	48.7		2.8		4.5	4.5	
Approach LOS	D		A			A	
Intersection Summary							
HCM Average Control Delay			7.6			HCM Level of Service	A
HCM Volume to Capacity ratio			0.16				
Actuated Cycle Length (s)			105.0			Sum of lost time (s)	8.0
Intersection Capacity Utilization			21.4%			ICU Level of Service	A
Analysis Period (min)			15				
c Critical Lane Group							

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Volume (vph)	127	203	35	144	585	69	63	80	46	26	192	382	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	7.6	16.3	69.2	12.2	20.4	20.4	4.4	16.7	16.7	1.4	13.7	27.2	
Effective Green, g (s)	9.5	18.2	69.2	13.6	22.3	22.3	5.8	18.6	18.6	2.8	15.6	29.1	
Actuated g/C Ratio	0.14	0.26	1.00	0.20	0.32	0.32	0.08	0.27	0.27	0.04	0.23	0.42	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	471	931	1583	348	1140	510	148	951	425	72	420	1172	
v/s Ratio Prot	0.04	0.06		0.09	c0.18		c0.04	0.02		0.02	c0.11	c0.15	
v/s Ratio Perm			0.02			0.05		0.03					
v/c Ratio	0.29	0.24	0.02	0.45	0.56	0.15	0.46	0.09	0.12	0.39	0.50	0.35	
Uniform Delay, d ₁	26.8	20.0	0.0	24.5	19.4	16.7	30.2	19.0	19.1	32.4	23.4	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.1	0.2	0.0	0.3	0.9	0.2	0.8	0.1	0.2	1.3	1.2	0.2	
Delay (s)	27.0	20.3	0.0	24.8	20.2	16.9	31.0	19.0	19.3	33.6	24.5	13.9	
Level of Service	C	C	A	C	C	B	C	B	B	C	C	B	
Approach Delay (s)		20.7			20.8			23.1			18.1		
Approach LOS		C			C			C			B		
Intersection Summary													
HCM Average Control Delay	20.2		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.46												
Actuated Cycle Length (s)	69.2				Sum of lost time (s)				12.0				
Intersection Capacity Utilization	46.7%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3448		1770	3410		1770	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3448		1770	3410		1770	3450	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	723	165	99	460	95	132	452	146	189	338	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	888	0	99	555	0	132	598	0	189	406	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	4		8		4		8		4		8	
Actuated Green, G (s)	16.2	31.8		12.1	27.7		12.7	29.7		17.8	34.8	
Effective Green, g (s)	16.6	32.7		12.5	28.6		13.1	30.6		18.2	35.7	
Actuated g/C Ratio	0.15	0.30		0.11	0.26		0.12	0.28		0.17	0.32	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	267	1023		201	896		211	949		293	1120	
v/s Ratio Prot	c0.07	c0.26		0.06	0.16		0.07	c0.18		c0.11	0.12	
v/s Ratio Perm	c0.57		0.23		0.39		0.83		0.56		0.78	
v/c Ratio	0.48	0.87		0.49	0.62		0.63	0.63		0.65	0.36	
Uniform Delay, d1	42.8	36.6		45.8	35.9		46.1	34.7		42.9	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.05	1.06	
Incremental Delay, d2	1.4	7.7		1.9	0.9		5.7	3.2		2.5	0.6	
Delay (s)	44.1	44.3		47.7	36.8		51.8	37.9		47.5	30.7	
Level of Service	D		D		D		D		D		C	
Approach Delay (s)	44.3		38.4		40.4		36.0		44.7		45.0	
Approach LOS	D		D		D		D		D		D	
Intersection Summary												
HCM Average Control Delay	40.4		HCM Level of Service		D		43.3		HCM Level of Service		D	
HCM Volume to Capacity ratio	0.70		Sum of lost time (s)		16.0		0.85		Sum of lost time (s)		8.0	
Actuated Cycle Length (s)	110.0		ICU Level of Service		C		110.0		ICU Level of Service		D	
Intersection Capacity Utilization	67.0%		Analysis Period (min)		15		77.7%		Analysis Period (min)		15	
Analysis Period (min)	15		c Critical Lane Group				c Critical Lane Group					

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		1.00			1.00			1.00			1.00	0.95
Frt		0.95			0.99			1.00			0.99	0.98
Flt Protected		0.99			0.99			0.95			0.95	1.00
Satd. Flow (prot)		1759			1811			1770			3493	3461
Flt Permitted		0.88			0.67			0.95			0.95	1.00
Satd. Flow (perm)		1554			1227			1770			3493	3461
Volume (vph)	131	350	258	56	127	22	137	461	44	31	337	58
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	158	422	311	77	174	30	154	518	49	35	379	65
RTOR Reduction (vph)	0	19	0	0	4	0	0	6	0	0	13	0
Lane Group Flow (vph)	0	872	0	0	277	0	154	561	0	35	431	0
Turn Type	Perm		Perm		Prot		Prot		Prot		Prot	
Protected Phases	4		8		5		2		1		6	
Permitted Phases	4		8		8		5		2		1	
Actuated Green, G (s)	62.8		62.8		11.1		30.6		2.4		21.9	
Effective Green, g (s)	63.7		63.7		11.5		31.5		2.8		22.8	
Actuated g/C Ratio	0.58		0.58		0.10		0.29		0.03		0.21	
Clearance Time (s)	4.9		4.9		4.4		4.9		4.4		4.9	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	900		711		185		1000		45		717	
v/s Ratio Prot	c0.57		0.23		c0.09		c0.16		0.02		0.13	
v/s Ratio Perm	0.97		0.39		0.83		0.56		0.78		0.60	
Uniform Delay, d1	22.2		12.6		48.3		33.4		53.3		39.5	
Progression Factor	1.00		1.00		1.30		1.23		1.13		0.90	
Incremental Delay, d2	22.5		0.4		24.1		2.1		56.8		3.7	
Delay (s)	44.7		12.9		86.8		43.1		116.9		39.3	
Level of Service	D		B		F		D		F		D	
Approach Delay (s)	44.7		12.9		52.4		45.0		44.7		45.0	
Approach LOS	D		B		D		D		D		D	
Intersection Summary												
HCM Average Control Delay	43.3		HCM Level of Service		D		43.3		HCM Level of Service		D	
HCM Volume to Capacity ratio	0.85		Sum of lost time (s)		8.0		0.85		Sum of lost time (s)		8.0	
Actuated Cycle Length (s)	110.0		ICU Level of Service		D		110.0		ICU Level of Service		D	
Intersection Capacity Utilization	77.7%		Analysis Period (min)		15		77.7%		Analysis Period (min)		15	
Analysis Period (min)	15		c Critical Lane Group				c Critical Lane Group					

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			0.99	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3521	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3521	
Volume (vph)	0	0	19	0	0	6	0	493	7	0	338	12
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	20	0	0	8	0	567	8	0	417	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	20	0	0	8	0	575	0	0	432	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.6			4.6		96.1			96.1	
Effective Green, g (s)			5.0			5.0		97.0			97.0	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			73			73		3115			3105	
v/s Ratio Prot			c0.01			0.00		c0.16			0.12	
v/s Ratio Perm												
v/c Ratio			0.27			0.11		0.18			0.14	
Uniform Delay, d1			50.7			50.4		0.9			0.9	
Progression Factor			1.00			1.00		0.37			2.22	
Incremental Delay, d2			2.0			0.7		0.1			0.1	
Delay (s)			52.8			51.0		0.4			2.0	
Level of Service			D			D		A			A	
Approach Delay (s)			52.8			51.0		0.4			2.0	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.5			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.19									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			23.9%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.88		0.98		1.00	1.00
Flt Protected	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1625		3468		1770	3539
Flt Permitted	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1625		3468		1770	3539
Volume (vph)	5	53	450	70	89	380
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	67	523	81	100	427
RTOR Reduction (vph)	63	0	5	0	0	0
Lane Group Flow (vph)	10	0	599	0	100	427
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.7		80.9		9.7	95.0
Effective Green, g (s)	6.1		81.8		10.1	95.9
Actuated g/C Ratio	0.06		0.74		0.09	0.87
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	90		2579		163	3085
v/s Ratio Prot	c0.04		c0.17		c0.06	0.12
v/s Ratio Perm						
v/c Ratio	0.11		0.23		0.61	0.14
Uniform Delay, d1	49.4		4.4		48.1	1.0
Progression Factor	1.00		0.45		1.00	1.00
Incremental Delay, d2	0.5		0.2		6.7	0.1
Delay (s)	49.9		2.2		54.8	1.1
Level of Service	D		A		D	A
Approach Delay (s)	49.9		2.2		11.3	
Approach LOS	D		A		B	
Intersection Summary						
HCM Average Control Delay			9.1		HCM Level of Service	A
HCM Volume to Capacity ratio			0.31			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			33.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT
Timing Plan: PM PEAK

	↖	→	↘	↙	←	↖	↙	↑	↘	↙	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖	↖	↖	↖↖
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	13.7	27.1	83.6	9.1	22.0	22.0	6.8	19.9	19.9	4.9	18.0	37.6
Effective Green, g (s)	15.6	29.0	83.6	10.5	23.9	23.9	8.2	21.8	21.8	6.3	19.9	39.5
Actuated g/C Ratio	0.19	0.35	1.00	0.13	0.29	0.29	0.10	0.26	0.26	0.08	0.24	0.47
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	641	1228	1583	222	1012	453	174	923	413	133	443	1317
v/s Ratio Prot	0.12	c0.21		c0.08	0.09		0.04	0.09		c0.05	0.11	0.10
v/s Ratio Perm			0.07			0.05			0.13			
v/c Ratio	0.63	0.62	0.07	0.65	0.30	0.16	0.45	0.33	0.51	0.63	0.46	0.20
Uniform Delay, d1	31.4	22.7	0.0	34.8	23.3	22.4	35.6	25.0	26.4	37.5	27.3	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.2	0.1	5.2	0.3	0.3	0.7	0.4	1.8	7.0	1.0	0.1
Delay (s)	32.9	23.9	0.1	40.0	23.6	22.7	36.3	25.4	28.1	44.5	28.2	13.0
Level of Service	C	C	A	D	C	C	D	C	C	D	C	B
Approach Delay (s)		24.7			28.0			27.8			23.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	25.7		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	83.6				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	53.9%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis

Existing Conditions With BRT (TSP Active)

1: University Ave & Park Blvd

Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frt	1.00	0.95	1.00	0.97	1.00	0.96	1.00	0.98	1.00	0.98	1.00	0.98
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3353	1770	3428	1770	3395	1770	3452	1770	3452	1770	3452
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	3353	1770	3428	1770	3395	1770	3452	1770	3452	1770	3452
Volume (vph)	49	189	102	82	441	117	74	135	51	53	252	50
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	205	111	89	479	127	80	147	55	58	274	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	316	0	89	606	0	80	202	0	58	328	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.8	19.0		11.5	22.7		12.1	48.9		7.0	43.8	
Effective Green, g (s)	8.2	19.9		11.9	23.6		12.5	49.8		7.4	44.7	
Actuated g/C Ratio	0.08	0.19		0.11	0.22		0.12	0.47		0.07	0.43	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	138	635		201	770		211	1610		125	1470	
v/s Ratio Prot	0.03	0.09		0.05	0.18		0.05	0.06		0.03	0.10	
v/s Ratio Perm												
v/c Ratio	0.38	0.50		0.44	0.79		0.38	0.13		0.46	0.22	
Uniform Delay, d1	46.0	38.1		43.5	38.3		42.7	15.4		46.9	19.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.35	0.77	
Incremental Delay, d2	1.8	0.2		1.6	4.9		1.1	0.2		1.0	0.3	
Delay (s)	47.8	38.3		45.0	43.3		43.8	15.6		64.4	15.0	
Level of Service	D	D		D	D		D	B		E	B	
Approach Delay (s)		39.7			43.5			23.6			22.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis

Existing Conditions With BRT (TSP Active)

2: Lincoln Ave & Park Blvd

Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt	0.92	0.99	0.99	1.00	0.99	1.00	1.00	0.99	1.00	0.98	1.00	0.98
Flt Protected	0.99	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1705	1840	1840	1770	3491	1770	3491	1770	3480	1770	3480	1770
Flt Permitted	0.81	0.93	0.93	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (perm)	1399	1718	1718	1770	3491	1770	3491	1770	3480	1770	3480	1770
Volume (vph)	31	62	129	28	242	16	158	171	17	14	297	37
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	37	75	155	38	332	22	178	192	19	16	334	42
RTOR Reduction (vph)	0	57	0	0	2	0	0	5	0	0	7	0
Lane Group Flow (vph)	0	210	0	0	390	0	178	206	0	16	369	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		27.0			27.0		14.0	60.7		3.1	49.8	
Effective Green, g (s)		27.9			27.9		14.4	61.6		3.5	50.7	
Actuated g/C Ratio		0.27			0.27		0.14	0.59		0.03	0.48	
Clearance Time (s)		4.9			4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		372			456		243	2048		59	1680	
v/s Ratio Prot							0.10	0.06		0.01	0.11	
v/s Ratio Perm		0.19			0.23							
v/c Ratio		0.57			0.85		0.73	0.10		0.27	0.22	
Uniform Delay, d1		33.3			36.6		43.5	9.5		49.5	15.7	
Progression Factor		1.00			1.00		1.01	0.65		1.09	1.02	
Incremental Delay, d2		2.0			14.5		10.6	0.1		2.5	0.3	
Delay (s)		35.3			51.1		54.7	6.3		56.2	16.3	
Level of Service		D			D		D	A		E	B	
Approach Delay (s)		35.3			51.1			28.4			17.9	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Flt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	12	0	0	3	0	172	4	0	318	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	12	0	0	4	0	198	5	0	393	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	12	0	0	4	0	203	0	0	402	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			3.0			3.0		92.7			92.7	
Effective Green, g (s)			3.4			3.4		93.6			93.6	
Actuated g/C Ratio			0.03			0.03		0.89			0.89	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			52			52		3143			3144	
v/s Ratio Prot			c0.01			0.00		0.06			c0.11	
v/s Ratio Perm												
v/c Ratio			0.23			0.08		0.06			0.13	
Uniform Delay, d1			49.5			49.3		0.7			0.7	
Progression Factor			1.00			1.00		0.86			1.00	
Incremental Delay, d2			2.3			0.6		0.0			0.1	
Delay (s)			51.8			49.9		0.6			0.8	
Level of Service			D			D		A			A	
Approach Delay (s)			51.8			49.9		0.6			0.8	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.0			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.13									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			19.0%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Flt	0.88		0.98		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1630		3482		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1630		3482		1770	3539
Volume (vph)	5	38	150	18	24	343
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	48	174	21	27	385
RTOR Reduction (vph)	45	0	3	0	0	0
Lane Group Flow (vph)	9	0	192	0	27	385
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.5		82.4		3.4	90.2
Effective Green, g (s)	5.9		83.3		3.8	91.1
Actuated g/C Ratio	0.06		0.79		0.04	0.87
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	92		2762		64	3071
v/s Ratio Prot	c0.03		0.06		c0.02	c0.11
v/s Ratio Perm						
v/c Ratio	0.09		0.07		0.42	0.13
Uniform Delay, d1	47.0		2.4		49.5	1.0
Progression Factor	1.00		1.33		1.00	1.00
Incremental Delay, d2	0.4		0.0		4.4	0.1
Delay (s)	47.5		3.2		54.0	1.1
Level of Service	D		A		D	A
Approach Delay (s)	47.5		3.2		4.6	4.6
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay			7.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.16			
Actuated Cycle Length (s)			105.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			21.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔	↔	↕	↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Volume (vph)	127	203	35	144	585	69	63	80	46	26	192	382	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	138	221	38	157	636	75	68	87	50	28	209	415	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	7.6	16.3	69.2	12.2	20.4	20.4	4.4	16.7	16.7	1.4	13.7	27.2	
Effective Green, g (s)	9.5	18.2	69.2	13.6	22.3	22.3	5.8	18.6	18.6	2.8	15.6	29.1	
Actuated g/C Ratio	0.14	0.26	1.00	0.20	0.32	0.32	0.08	0.27	0.27	0.04	0.23	0.42	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	471	931	1583	348	1140	510	148	951	425	72	420	1172	
v/s Ratio Prot	0.04	0.06		0.09	c0.18		c0.04	0.02		0.02	c0.11	c0.15	
v/s Ratio Perm			0.02			0.05		0.03					
v/c Ratio	0.29	0.24	0.02	0.45	0.56	0.15	0.46	0.09	0.12	0.39	0.50	0.35	
Uniform Delay, d1	26.8	20.0	0.0	24.5	19.4	16.7	30.2	19.0	19.1	32.4	23.4	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.2	0.0	0.3	0.9	0.2	0.8	0.1	0.2	1.3	1.2	0.2	
Delay (s)	27.0	20.3	0.0	24.8	20.2	16.9	31.0	19.0	19.3	33.6	24.5	13.9	
Level of Service	C	C	A	C	C	B	C	B	B	C	C	B	
Approach Delay (s)		20.7			20.8			23.1			18.1		
Approach LOS		C			C			C			B		
Intersection Summary													
HCM Average Control Delay	20.2		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.46												
Actuated Cycle Length (s)	69.2					Sum of lost time (s)			12.0				
Intersection Capacity Utilization	46.7%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3448		1770	3410		1770	3450	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3448		1770	3410		1770	3450	
Volume (vph)	119	665	152	91	423	87	121	416	134	174	311	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	723	165	99	460	95	132	452	146	189	338	68
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	129	888	0	99	555	0	132	598	0	189	406	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	18.9	31.8		15.1	28.0		13.1	28.6		15.9	31.4	
Effective Green, g (s)	19.3	32.7		15.5	28.9		13.5	29.5		16.3	32.3	
Actuated g/C Ratio	0.18	0.30		0.14	0.26		0.12	0.27		0.15	0.29	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	311	1023		249	906		217	915		262	1013	
v/s Ratio Prot	c0.07	c0.26		0.06	0.16		0.07	c0.18		c0.11	c0.12	
v/s Ratio Perm												
v/c Ratio	0.41	0.87		0.40	0.61		0.61	0.65		0.72	0.40	
Uniform Delay, d1	40.3	36.6		43.0	35.6		45.7	35.7		44.7	31.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.10	0.85	
Incremental Delay, d2	0.9	7.7		1.0	0.9		4.8	3.6		6.2	0.9	
Delay (s)	41.2	44.3		44.0	36.5		50.5	39.3		55.5	27.4	
Level of Service	D	D		D	D		D	D		E	C	
Approach Delay (s)	43.9			37.6			41.4			36.3		
Approach LOS	D			D			D			D		
Intersection Summary												
HCM Average Control Delay	40.4			HCM Level of Service			D					
HCM Volume to Capacity ratio	0.73											
Actuated Cycle Length (s)	110.0			Sum of lost time (s)			20.0					
Intersection Capacity Utilization	67.0%			ICU Level of Service			C					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00			1.00			1.00	0.95		1.00	0.95	
Frt	0.95			0.99			1.00	0.99		1.00	0.98	
Flt Protected	0.99			0.99			0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1759			1811			1770	3493		1770	3461	
Flt Permitted	0.88			0.68			0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1557			1242			1770	3493		1770	3461	
Volume (vph)	131	350	258	56	127	22	137	461	44	31	337	58
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	158	422	311	77	174	30	154	518	49	35	379	65
RTOR Reduction (vph)	0	14	0	0	3	0	0	7	0	0	15	0
Lane Group Flow (vph)	0	877	0	0	278	0	154	560	0	35	429	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases	4			8			5		2	1		6
Permitted Phases												
Actuated Green, G (s)	65.5			65.5			10.6		27.9	2.4		19.7
Effective Green, g (s)	66.4			66.4			11.0		28.8	2.8		20.6
Actuated g/C Ratio	0.60			0.60			0.10		0.26	0.03		0.19
Clearance Time (s)	4.9			4.9			4.4		4.9	4.4		4.9
Vehicle Extension (s)	3.0			3.0			3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	940			750			177		915	45		648
v/s Ratio Prot	c0.57			0.23			c0.09		c0.16	0.02		0.13
v/s Ratio Perm	0.93			0.37			0.87		0.61	0.78		0.66
Uniform Delay, d1	19.8			11.1			48.8		35.7	53.3		41.5
Progression Factor	1.00			1.00			1.22		1.52	1.13		0.90
Incremental Delay, d2	15.6			0.3			31.8		2.8	56.8		5.3
Delay (s)	35.3			11.4			91.6		57.0	117.1		42.7
Level of Service	D			B			F		E	F		D
Approach Delay (s)	35.3			11.4			64.4			48.1		
Approach LOS	D			B			E			D		
Intersection Summary												
HCM Average Control Delay	43.9			HCM Level of Service			D					
HCM Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	110.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	77.7%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
3: Polk Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			0.99	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3521	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3521	
Volume (vph)	0	0	19	0	0	6	0	493	7	0	338	12
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	20	0	0	8	0	567	8	0	417	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	20	0	0	8	0	575	0	0	431	0
Turn Type		custom			custom							
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.7			4.7		96.0			96.0	
Effective Green, g (s)			5.1			5.1		96.9			96.9	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			75			75		3111			3102	
v/s Ratio Prot			c0.01			0.00		c0.16			0.12	
v/s Ratio Perm												
v/c Ratio			0.27			0.11		0.18			0.14	
Uniform Delay, d1			50.6			50.3		0.9			0.9	
Progression Factor			1.00			1.00		0.38			2.17	
Incremental Delay, d2			1.9			0.6		0.1			0.1	
Delay (s)			52.6			50.9		0.5			2.0	
Level of Service			D			D		A			A	
Approach Delay (s)		52.6			50.9			0.5			2.0	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM Average Control Delay		2.5			HCM Level of Service			A				
HCM Volume to Capacity ratio		0.19										
Actuated Cycle Length (s)		110.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		23.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.88		0.98		1.00	1.00
Flt Protected	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1625		3468		1770	3539
Flt Permitted	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1625		3468		1770	3539
Volume (vph)	5	53	450	70	89	380
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	6	67	523	81	100	427
RTOR Reduction (vph)	63	0	5	0	0	0
Lane Group Flow (vph)	10	0	599	0	100	427
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	5.7		80.8		9.8	95.0
Effective Green, g (s)	6.1		81.7		10.2	95.9
Actuated g/C Ratio	0.06		0.74		0.09	0.87
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	90		2576		164	3085
v/s Ratio Prot	c0.04		c0.17		c0.06	0.12
v/s Ratio Perm						
v/c Ratio	0.11		0.23		0.61	0.14
Uniform Delay, d1	49.4		4.4		48.0	1.0
Progression Factor	1.00		0.43		1.00	1.00
Incremental Delay, d2	0.5		0.2		6.3	0.1
Delay (s)	49.9		2.1		54.3	1.1
Level of Service	D		A		D	A
Approach Delay (s)	49.9		2.1		11.2	
Approach LOS	D		A		B	
Intersection Summary						
HCM Average Control Delay		9.0			HCM Level of Service	A
HCM Volume to Capacity ratio		0.31				
Actuated Cycle Length (s)		110.0			Sum of lost time (s)	12.0
Intersection Capacity Utilization		33.2%			ICU Level of Service	A
Analysis Period (min)		15				
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Existing Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↔↔	↔↔	↕↕	↔↔	↔↔	↕↕	↔↔	↔↔	↕↕	↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	374	697	100	133	283	68	73	282	194	77	188	246
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	407	758	109	145	308	74	79	307	211	84	204	267
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	13.7	26.7	83.6	9.5	22.0	22.0	6.8	19.9	19.9	4.9	18.0	37.6
Effective Green, g (s)	15.6	28.6	83.6	10.9	23.9	23.9	8.2	21.8	21.8	6.3	19.9	39.5
Actuated g/C Ratio	0.19	0.34	1.00	0.13	0.29	0.29	0.10	0.26	0.26	0.08	0.24	0.47
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	641	1211	1583	231	1012	453	174	923	413	133	443	1317
v/s Ratio Prot	0.12	c0.21		c0.08	0.09		0.04	0.09		c0.05	0.11	0.10
v/s Ratio Perm			0.07			0.05			0.13			
v/c Ratio	0.63	0.63	0.07	0.63	0.30	0.16	0.45	0.33	0.51	0.63	0.46	0.20
Uniform Delay, d1	31.4	23.0	0.0	34.4	23.3	22.4	35.6	25.0	26.4	37.5	27.3	12.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.3	0.1	3.8	0.3	0.3	0.7	0.4	1.8	7.0	1.0	0.1
Delay (s)	32.9	24.3	0.1	38.2	23.6	22.7	36.3	25.4	28.1	44.5	28.2	13.0
Level of Service	C	C	A	D	C	C	D	C	C	D	C	B
Approach Delay (s)		25.0			27.5			27.8			23.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	25.7		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	83.6				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	53.9%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕↔		↔	↕↔		↔	↕↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3329		1770	3416		1770	3395		1770	3468	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3329		1770	3416		1770	3395		1770	3468	
Volume (vph)	54	198	130	120	476	144	97	194	73	63	352	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	215	141	130	517	157	105	211	79	68	383	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	356	0	130	674	0	105	290	0	68	442	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	3.0	16.3		8.9	22.2		7.1	16.8		3.4	13.1	
Effective Green, g (s)	3.4	17.2		9.3	23.1		7.5	17.7		3.8	14.0	
Actuated g/C Ratio	0.05	0.27		0.15	0.36		0.12	0.28		0.06	0.22	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	94	895		257	1233		207	939		105	759	
v/s Ratio Prot	0.03	0.11		c0.07	c0.20		c0.06	c0.09		0.04	c0.13	
v/s Ratio Perm												
v/c Ratio	0.63	0.40		0.51	0.55		0.51	0.31		0.65	0.58	
Uniform Delay, d1	29.7	19.2		25.2	16.3		26.5	18.3		29.4	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.4	0.1		1.6	0.3		2.0	0.2		9.8	1.1	
Delay (s)	42.1	19.3		26.8	16.5		28.5	18.5		39.3	23.5	
Level of Service	D	B		C	B		C	B		D	C	
Approach Delay (s)	22.5		18.2		21.2		25.6					
Approach LOS	C		B		C		C					
Intersection Summary												
HCM Average Control Delay	21.4		HCM Level of Service		C							
HCM Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	64.0		Sum of lost time (s)		16.0							
Intersection Capacity Utilization	51.2%		ICU Level of Service		A							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔			↕↔			↕↔			↕↔	
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Volume (vph)	13	19	121	24	50	11	154	200	17	9	349	11
Peak Hour Factor	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	16	23	146	33	68	15	173	225	19	10	392	12
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	184	116	285	131	206	208						
Volume Left (vph)	16	33	173	0	10	0						
Volume Right (vph)	146	15	0	19	0	12						
Hadj (s)	-0.42	0.01	0.34	-0.07	0.06	-0.01						
Departure Headway (s)	5.8	6.4	6.4	6.0	6.1	6.1						
Degree Utilization, x	0.30	0.21	0.51	0.22	0.35	0.35						
Capacity (veh/h)	565	503	536	575	560	568						
Control Delay (s)	11.2	11.0	14.5	9.4	11.2	11.1						
Approach Delay (s)	11.2		11.0		12.9		11.1					
Approach LOS	B		B		B		B					
Intersection Summary												
Delay	11.8											
HCM Level of Service	B											
Intersection Capacity Utilization	41.3%		ICU Level of Service		A							
Analysis Period (min)	15											

Park Blvd Analysis
3: Polk Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.94			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1729			1841		1770	3506		1770	3484	
Flt Permitted		0.91			0.97		0.47	1.00		0.60	1.00	
Satd. Flow (perm)		1592			1792		882	3506		1125	3484	
Volume (vph)	19	42	55	21	219	14	37	194	13	16	355	41
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	20	43	57	27	281	18	43	223	15	20	438	51
RTOR Reduction (vph)	0	36	0	0	4	0	0	6	0	0	10	0
Lane Group Flow (vph)	0	84	0	0	322	0	43	232	0	20	479	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.0			11.0		11.7	11.7		11.7	11.7	
Effective Green, g (s)		11.9			11.9		12.6	12.6		12.6	12.6	
Actuated g/C Ratio		0.37			0.37		0.39	0.39		0.39	0.39	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		583			656		342	1359		436	1351	
v/s Ratio Prot							0.07			c0.14		
v/s Ratio Perm		0.08			c0.18		0.05			0.02		
v/c Ratio		0.14			0.49		0.13	0.17		0.05	0.35	
Uniform Delay, d1		6.9			8.0		6.4	6.5		6.2	7.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.6		0.1	0.1		0.0	0.1	
Delay (s)		7.0			8.5		6.6	6.6		6.2	7.2	
Level of Service		A			A		A	A		A	A	
Approach Delay (s)		7.0			8.5		6.6			7.2		
Approach LOS		A			A		A			A		
Intersection Summary												
HCM Average Control Delay		7.4								A		
HCM Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		32.5								8.0		
Intersection Capacity Utilization		40.0%								A		
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↕	↕			↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	0	33	188	38	15	439
Peak Hour Factor	0.79	0.79	0.86	0.86	0.89	0.89
Hourly flow rate (vph)	0	42	219	44	17	493
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)			685			440
pX, platoon unblocked	0.97					
vC, conflicting volume	521	131			263	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	481	131			263	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			99	
cM capacity (veh/h)	494	894			1298	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	42	146	117	181	329	
Volume Left	0	0	0	17	0	
Volume Right	42	0	44	0	0	
cSH	894	1700	1700	1298	1700	
Volume to Capacity	0.05	0.09	0.07	0.01	0.19	
Queue Length 95th (ft)	4	0	0	1	0	
Control Delay (s)	9.2	0.0	0.0	0.8	0.0	
Lane LOS	A			A		
Approach Delay (s)	9.2	0.0		0.3		
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			25.6%		ICU Level of Service	A
Analysis Period (min)			15			

Park Blvd Analysis
5: Normal St & Park Blvd

Year 2030 Conditions
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔	↔	↕↕	↔↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787
Volume (vph)	142	254	44	182	737	79	77	89	59	30	216	427
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	8.4	18.8	80.2	16.2	26.1	26.1	6.8	20.2	20.2	2.4	15.8	30.1
Effective Green, g (s)	10.3	20.7	80.2	17.6	28.0	28.0	8.2	22.1	22.1	3.8	17.7	32.0
Actuated g/C Ratio	0.13	0.26	1.00	0.22	0.35	0.35	0.10	0.28	0.28	0.05	0.22	0.40
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	441	913	1583	388	1236	553	181	975	436	84	781	1112
v/s Ratio Prot	0.04	0.08		0.11	c0.23		c0.05	0.03		0.02	0.07	c0.17
v/s Ratio Perm			0.03			0.05			0.04			
v/c Ratio	0.35	0.30	0.03	0.51	0.65	0.16	0.46	0.10	0.15	0.39	0.30	0.42
Uniform Delay, d1	31.9	23.9	0.0	27.5	22.0	18.0	33.9	21.6	21.9	37.1	26.1	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.0	0.5	1.5	0.2	0.7	0.1	0.3	1.1	0.3	0.3
Delay (s)	32.1	24.3	0.0	28.0	23.4	18.2	34.6	21.7	22.2	38.2	26.4	17.7
Level of Service	C	C	A	C	C	B	C	C	C	D	C	B
Approach Delay (s)		24.3			23.8			26.3			21.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	23.5		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.52											
Actuated Cycle Length (s)	80.2				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	49.6%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3424		1770	3438		1770	3407		1770	3467	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3424		1770	3438		1770	3407		1770	3467	
Volume (vph)	130	717	198	132	451	106	158	581	193	208	442	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	779	215	143	490	115	172	632	210	226	480	75
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	141	994	0	143	605	0	172	842	0	226	555	0
Turn Type	Prot		Prot		Prot		Prot		Prot		Prot	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.7	33.1		10.0	34.4		14.7	30.5		13.7	29.5	
Effective Green, g (s)	9.1	34.0		10.4	35.3		15.1	31.4		14.1	30.4	
Actuated g/C Ratio	0.09	0.32		0.10	0.33		0.14	0.30		0.13	0.29	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	152	1099		174	1146		252	1010		236	995	
v/s Ratio Prot	0.08	c0.29		c0.08	0.18		0.10	c0.25		c0.13	0.16	
v/s Ratio Perm												
v/c Ratio	0.93	0.90		0.82	0.53		0.68	0.83		0.96	0.56	
Uniform Delay, d1	48.1	34.4		46.8	28.6		43.1	34.8		45.6	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	51.4	10.3		25.7	0.2		7.4	6.1		46.0	0.7	
Delay (s)	99.4	44.7		72.6	28.8		50.5	40.9		91.6	32.7	
Level of Service	F	D		E	C		D	D		F	C	
Approach Delay (s)	51.5		37.1		42.6		49.7					
Approach LOS	D		D		D		D					
Intersection Summary												
HCM Average Control Delay	45.7		HCM Level of Service		D							
HCM Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	105.9		Sum of lost time (s)		12.0							
Intersection Capacity Utilization	80.5%		ICU Level of Service		D							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Sign Control	Stop		Stop		Stop		Stop		Stop		Stop	
Volume (vph)	40	100	262	29	28	8	138	545	47	7	388	16
Peak Hour Factor	0.83	0.83	0.83	0.81	0.81	0.81	0.93	0.93	0.93	0.96	0.96	0.96
Hourly flow rate (vph)	48	120	316	36	35	10	148	586	51	7	404	17
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	484	80	441	344	209	219						
Volume Left (vph)	48	36	148	0	7	0						
Volume Right (vph)	316	10	0	51	0	17						
Hadj (s)	-0.34	0.05	0.20	-0.07	0.05	-0.02						
Departure Headway (s)	6.7	8.7	7.8	7.5	8.1	8.0						
Degree Utilization, x	0.90	0.19	0.95	0.72	0.47	0.49						
Capacity (veh/h)	527	396	457	470	438	433						
Control Delay (s)	44.1	13.8	58.2	26.1	16.9	17.2						
Approach Delay (s)	44.1	13.8	44.1	17.1								
Approach LOS	E	B	E	C								
Intersection Summary												
Delay	36.2											
HCM Level of Service	E											
Intersection Capacity Utilization	66.0%		ICU Level of Service		C							
Analysis Period (min)	15											

Park Blvd Analysis
3: Polk Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.98			0.98		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805			1798		1770	3512		1770	3464	
Flt Permitted		0.88			0.85		0.44	1.00		0.35	1.00	
Satd. Flow (perm)		1602			1538		821	3512		654	3464	
Volume (vph)	97	279	68	43	109	32	30	554	30	49	379	63
Peak-hour factor, PHF	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.85	0.85	0.85
Adj. Flow (vph)	104	300	73	55	140	41	33	609	33	58	446	74
RTOR Reduction (vph)	0	12	0	0	14	0	0	5	0	0	16	0
Lane Group Flow (vph)	0	465	0	0	222	0	33	637	0	58	504	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.5			16.5		12.5	12.5		12.5	12.5	
Effective Green, g (s)		17.4			17.4		13.4	13.4		13.4	13.4	
Actuated g/C Ratio		0.45			0.45		0.35	0.35		0.35	0.35	
Clearance Time (s)		4.9			4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		3.0			3.0		2.8	2.8		2.8	2.8	
Lane Grp Cap (vph)		718			690		284	1213		226	1196	
v/s Ratio Prot								c0.18			0.15	
v/s Ratio Perm		c0.30			0.15		0.04			0.09		
v/c Ratio		0.65			0.32		0.12	0.53		0.26	0.42	
Uniform Delay, d1		8.3			6.9		8.7	10.2		9.1	9.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			0.3		0.2	0.4		0.5	0.2	
Delay (s)		10.3			7.2		8.8	10.5		9.7	9.9	
Level of Service		B			A		A	B		A	A	
Approach Delay (s)		10.3			7.2			10.4			9.9	
Approach LOS		B			A			B			A	
Intersection Summary												
HCM Average Control Delay		9.9										A
HCM Volume to Capacity ratio		0.61										
Actuated Cycle Length (s)		38.8										8.0
Intersection Capacity Utilization		61.2%										B
Analysis Period (min)		15										
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↕	↕			↕
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	21	56	546	140	61	502
Peak Hour Factor	0.85	0.85	0.94	0.94	0.90	0.90
Hourly flow rate (vph)	25	66	581	149	68	558
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
tC, single (s)						
tC, 2 stage (s)						
tF (s)						
p0 queue free %						
cM capacity (veh/h)						
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	66	387	343	254	372	
Volume Left	0	0	0	68	0	
Volume Right	66	0	149	0	0	
cSH	632	1700	1700	870	1700	
Volume to Capacity	0.10	0.23	0.20	0.08	0.22	
Queue Length 95th (ft)	9	0	0	6	0	
Control Delay (s)	11.4	0.0	0.0	3.1	0.0	
Lane LOS	B			A		
Approach Delay (s)	Err	0.0		1.3		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				Err%		ICU Level of Service
Analysis Period (min)				15		H

Park Blvd Analysis
5: Normal St & Park Blvd

Year 2030 Conditions
Timing Plan: PM Peak

	↖	→	↘	↙	←	↖	↙	↑	↘	↙	↓	↘	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖	↖	↖↖	↖↖	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.88	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	3539	2787	
Volume (vph)	415	873	125	168	359	79	91	317	247	89	208	275	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	14.9	30.9	95.0	12.9	28.4	28.4	8.0	23.7	23.7	4.9	20.6	41.4	
Effective Green, g (s)	16.8	32.8	95.0	14.3	30.3	30.3	9.4	25.6	25.6	6.3	22.5	43.3	
Actuated g/C Ratio	0.18	0.35	1.00	0.15	0.32	0.32	0.10	0.27	0.27	0.07	0.24	0.46	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	607	1222	1583	266	1129	505	175	954	427	117	838	1270	
v/s Ratio Prot	0.13	c0.27		c0.10	0.11		0.06	0.10		c0.05	0.06	0.11	
v/s Ratio Perm			0.09			0.05			0.17				
v/c Ratio	0.74	0.78	0.09	0.69	0.35	0.17	0.57	0.36	0.63	0.83	0.27	0.24	
Uniform Delay, d1	37.1	27.8	0.0	38.2	24.8	23.3	40.9	28.1	30.5	43.8	29.6	15.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3	3.6	0.1	5.8	0.3	0.3	2.5	0.4	3.6	34.7	0.2	0.1	
Delay (s)	41.4	31.4	0.1	44.0	25.1	23.6	43.3	28.5	34.2	78.6	29.8	15.9	
Level of Service	D	C	A	D	C	C	D	C	C	E	C	B	
Approach Delay (s)		31.5			30.1			32.7			30.7		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM Average Control Delay	31.4		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.72												
Actuated Cycle Length (s)	95.0				Sum of lost time (s)				16.0				
Intersection Capacity Utilization	60.5%		ICU Level of Service					B					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis
1: University Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3329		1770	3416		1770	3395		1770	3468	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3329		1770	3416		1770	3395		1770	3468	
Volume (vph)	54	198	130	120	476	144	97	194	73	63	352	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	215	141	130	517	157	105	211	79	68	383	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	356	0	130	674	0	105	290	0	68	442	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.0	19.4		13.9	25.3		11.6	43.8		9.3	41.5	
Effective Green, g (s)	8.4	20.3		14.3	26.2		12.0	44.7		9.7	42.4	
Actuated g/C Ratio	0.08	0.19		0.14	0.25		0.11	0.43		0.09	0.40	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	142	644		241	852		202	1445		164	1400	
v/s Ratio Prot	0.03	0.11		c0.07	c0.20		c0.06	0.09		0.04	c0.13	
v/s Ratio Perm												
v/c Ratio	0.42	0.55		0.54	0.79		0.52	0.20		0.41	0.32	
Uniform Delay, d1	46.0	38.3		42.3	36.8		43.8	18.9		45.0	21.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.01	1.07	
Incremental Delay, d2	2.0	0.6		2.3	4.7		2.3	0.3		0.6	0.6	
Delay (s)	47.9	38.8		44.6	41.6		46.0	19.2		46.2	23.5	
Level of Service	D	D		D	D		D	B		D	C	
Approach Delay (s)	40.1		42.1		26.4		26.6					
Approach LOS	D		D		C		C					
Intersection Summary												
HCM Average Control Delay	35.0		HCM Level of Service		D							
HCM Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		16.0							
Intersection Capacity Utilization	51.2%		ICU Level of Service		A							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		1.00			1.00			1.00			1.00	0.95
Frt		0.91			0.99			1.00			0.98	0.99
Flt Protected		0.99			0.99			0.95			0.95	1.00
Satd. Flow (prot)		1687			1833			1770			3468	3497
Flt Permitted		0.90			0.85			0.95			0.95	1.00
Satd. Flow (perm)		1518			1573			1770			3468	3497
Volume (vph)	26	59	168	48	257	21	205	196	30	15	346	30
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	31	71	202	66	352	29	230	220	34	17	389	34
RTOR Reduction (vph)	0	81	0	0	3	0	0	9	0	0	5	0
Lane Group Flow (vph)	0	223	0	0	444	0	230	245	0	17	418	0
Turn Type	Perm		Perm		Prot		Prot					
Protected Phases	4		8		5		2		1		6	
Permitted Phases												
Actuated Green, G (s)	31.5		31.5		18.9		56.3		3.0		40.4	
Effective Green, g (s)	32.4		32.4		19.3		57.2		3.4		41.3	
Actuated g/C Ratio	0.31		0.31		0.18		0.54		0.03		0.39	
Clearance Time (s)	4.9		4.9		4.4		4.9		4.4		4.9	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	468		485		325		1889		57		1375	
v/s Ratio Prot					c0.13		0.07		0.01		c0.12	
v/s Ratio Perm	0.20		c0.28									
v/c Ratio	0.48		0.92		0.71		0.13		0.30		0.30	
Uniform Delay, d1	29.4		35.0		40.2		11.7		49.6		21.9	
Progression Factor	1.00		1.00		1.05		0.82		0.99		0.93	
Incremental Delay, d2	0.8		21.9		6.7		0.1		2.9		0.6	
Delay (s)	30.2		56.9		48.9		9.8		52.1		21.0	
Level of Service	C		E		D		A		D		C	
Approach Delay (s)	30.2		56.9		28.4		22.2					
Approach LOS	C		E		C		C					
Intersection Summary												
HCM Average Control Delay	34.7		HCM Level of Service		C							
HCM Volume to Capacity ratio	0.60											
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		12.0							
Intersection Capacity Utilization	57.9%		ICU Level of Service		B							
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	14	0	0	3	0	203	5	0	358	8
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	14	0	0	4	0	233	6	0	442	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	14	0	0	4	0	239	0	0	452	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			3.0			3.0		92.7			92.7	
Effective Green, g (s)			3.4			3.4		93.6			93.6	
Actuated g/C Ratio			0.03			0.03		0.89			0.89	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			52			52		3143			3144	
v/s Ratio Prot			c0.01			0.00		0.07			c0.13	
v/s Ratio Perm												
v/c Ratio			0.27			0.08		0.08			0.14	
Uniform Delay, d1			49.6			49.3		0.7			0.7	
Progression Factor			1.00			1.00		0.40			0.97	
Incremental Delay, d2			2.8			0.6		0.0			0.1	
Delay (s)			52.4			49.9		0.3			0.8	
Level of Service			D			D		A			A	
Approach Delay (s)		52.4			49.9		0.3				0.8	
Approach LOS		D			D		A				A	
Intersection Summary												
HCM Average Control Delay			1.9			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.15									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			20.2%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1670		3447		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1670		3447		1770	3539
Volume (vph)	20	36	185	39	16	443
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	25	46	215	45	18	498
RTOR Reduction (vph)	43	0	5	0	0	0
Lane Group Flow (vph)	28	0	255	0	18	498
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.2		83.5		1.6	89.5
Effective Green, g (s)	6.6		84.4		2.0	90.4
Actuated g/C Ratio	0.06		0.80		0.02	0.86
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	105		2771		34	3047
v/s Ratio Prot	c0.04		0.08		c0.01	c0.14
v/s Ratio Perm						
v/c Ratio	0.27		0.09		0.53	0.16
Uniform Delay, d1	46.9		2.2		51.0	1.2
Progression Factor	1.00		1.51		1.00	1.00
Incremental Delay, d2	1.4		0.1		14.1	0.1
Delay (s)	48.2		3.4		65.1	1.3
Level of Service	D		A		E	A
Approach Delay (s)	48.2		3.4			3.5
Approach LOS	D		A			A
Intersection Summary						
HCM Average Control Delay			7.2		HCM Level of Service	A
HCM Volume to Capacity ratio			0.20			
Actuated Cycle Length (s)			105.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			23.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	142	254	44	182	737	79	77	89	59	30	216	427
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	8.4	18.9	80.8	16.3	26.3	26.3	6.8	20.6	20.6	2.4	16.2	30.5
Effective Green, g (s)	10.3	20.8	80.8	17.7	28.2	28.2	8.2	22.5	22.5	3.8	18.1	32.4
Actuated g/C Ratio	0.13	0.26	1.00	0.22	0.35	0.35	0.10	0.28	0.28	0.05	0.22	0.40
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	438	911	1583	388	1235	552	180	985	441	83	417	1118
v/s Ratio Prot	0.04	0.08		0.11	c0.23		c0.05	0.03		0.02	c0.13	c0.17
v/s Ratio Perm			0.03			0.05			0.04			
v/c Ratio	0.35	0.30	0.03	0.51	0.65	0.16	0.47	0.10	0.15	0.40	0.56	0.42
Uniform Delay, d1	32.2	24.2	0.0	27.7	22.1	18.1	34.2	21.6	21.9	37.4	27.8	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.0	0.5	1.5	0.2	0.7	0.1	0.3	1.1	2.0	0.3
Delay (s)	32.4	24.5	0.0	28.2	23.6	18.3	34.9	21.7	22.2	38.5	29.8	17.7
Level of Service	C	C	A	C	C	B	C	C	C	D	C	B
Approach Delay (s)		24.6			24.0			26.4			22.5	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	23.9		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.55											
Actuated Cycle Length (s)	80.8				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	53.4%		ICU Level of Service				A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
1: University Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3424		1770	3438		1770	3407		1770	3467	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3424		1770	3438		1770	3407		1770	3467	
Volume (vph)	130	717	198	132	451	106	158	581	193	208	442	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	779	215	143	490	115	172	632	210	226	480	75
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	141	994	0	143	605	0	172	842	0	226	555	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	13.2	33.8		13.2	33.8		15.1	31.5		12.9	29.3	
Effective Green, g (s)	13.6	34.7		13.6	34.7		15.5	32.4		13.3	30.2	
Actuated g/C Ratio	0.12	0.32		0.12	0.32		0.14	0.29		0.12	0.27	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	219	1080		219	1085		249	1004		214	952	
v/s Ratio Prot	0.08	c0.29		c0.08	0.18		0.10	c0.25		c0.13	0.16	
v/s Ratio Perm												
v/c Ratio	0.64	0.92		0.65	0.56		0.69	0.84		1.06	0.58	
Uniform Delay, d1	45.9	36.3		46.0	31.3		45.0	36.4		48.3	34.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.88	0.89	
Incremental Delay, d2	6.3	12.3		6.8	0.4		8.0	8.4		59.0	1.3	
Delay (s)	52.2	48.6		52.8	31.6		53.0	44.7		101.4	32.1	
Level of Service	D	D		D	C		D	D		F	C	
Approach Delay (s)		49.1			35.7			46.1			52.2	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM Average Control Delay	46.2		HCM Level of Service				D					
HCM Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	110.0		Sum of lost time (s)				12.0					
Intersection Capacity Utilization	80.5%		ICU Level of Service				D					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
2: Lincoln Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↕	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		1.00			1.00			1.00			1.00	0.95
Frt		0.95			0.99			0.99			1.00	0.98
Flt Protected		0.99			0.98			0.95			1.00	0.95
Satd. Flow (prot)		1749			1807			1770			3479	1770
Flt Permitted		0.90			0.55			0.95			1.00	0.95
Satd. Flow (perm)		1576			1005			1770			3479	1770
Volume (vph)	117	379	339	79	130	23	182	546	70	32	392	52
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	141	457	408	108	178	32	204	613	79	36	440	58
RTOR Reduction (vph)	0	22	0	0	4	0	0	9	0	0	9	0
Lane Group Flow (vph)	0	984	0	0	314	0	204	683	0	36	489	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		65.3			65.3		12.0	28.0		2.5	18.5	
Effective Green, g (s)		66.2			66.2		12.4	28.9		2.9	19.4	
Actuated g/C Ratio		0.60			0.60		0.11	0.26		0.03	0.18	
Clearance Time (s)		4.9			4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		948			605		200	914		47	613	
v/s Ratio Prot							c0.12	c0.20		0.02	0.14	
v/s Ratio Perm		c0.64			0.32							
v/c Ratio		1.04			0.52		1.02	0.75		0.77	0.80	
Uniform Delay, d1		21.9			12.7		48.8	37.2		53.2	43.4	
Progression Factor		1.00			1.00		0.69	0.76		1.09	0.93	
Incremental Delay, d2		39.6			0.8		60.3	4.2		52.1	10.4	
Delay (s)		61.5			13.4		94.0	32.4		109.9	50.6	
Level of Service		E			B		F	C		F	D	
Approach Delay (s)		61.5			13.4		46.4			54.6		
Approach LOS		E			B		D			D		
Intersection Summary												
HCM Average Control Delay	49.7		HCM Level of Service				D					
HCM Volume to Capacity ratio	0.98											
Actuated Cycle Length (s)	110.0		Sum of lost time (s)				8.0					
Intersection Capacity Utilization	83.7%		ICU Level of Service				E					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3522	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3522	
Volume (vph)	0	0	21	0	0	7	0	577	8	0	376	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	22	0	0	9	0	663	9	0	464	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	22	0	0	9	0	672	0	0	480	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.8			4.8		95.9			95.9	
Effective Green, g (s)			5.2			5.2		96.8			96.8	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			76			76		3108			3099	
v/s Ratio Prot			c0.01			0.01		c0.19			0.14	
v/s Ratio Perm												
v/c Ratio			0.29			0.12		0.22			0.15	
Uniform Delay, d1			50.6			50.2		1.0			0.9	
Progression Factor			1.00			1.00		0.29			0.98	
Incremental Delay, d2			2.1			0.7		0.1			0.1	
Delay (s)			52.7			50.9		0.4			1.0	
Level of Service			D			D		A			A	
Approach Delay (s)			52.7			50.9		0.4			1.0	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.0			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.22									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			26.2%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↕	↖	↖	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.90		0.97		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1658		3430		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1658		3430		1770	3539
Volume (vph)	21	56	546	142	69	505
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	27	71	635	165	78	567
RTOR Reduction (vph)	66	0	9	0	0	0
Lane Group Flow (vph)	32	0	791	0	78	567
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.7		80.9		8.7	94.0
Effective Green, g (s)	7.1		81.8		9.1	94.9
Actuated g/C Ratio	0.06		0.74		0.08	0.86
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	107		2551		146	3053
v/s Ratio Prot	c0.06		c0.23		c0.04	0.16
v/s Ratio Perm						
v/c Ratio	0.30		0.31		0.53	0.19
Uniform Delay, d1	49.1		4.7		48.4	1.2
Progression Factor	1.00		0.87		1.00	1.00
Incremental Delay, d2	1.5		0.3		3.7	0.1
Delay (s)	50.6		4.4		52.1	1.4
Level of Service	D		A		D	A
Approach Delay (s)	50.6		4.4		7.5	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay			8.6		HCM Level of Service	A
HCM Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			38.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	415	873	125	168	359	79	91	317	247	89	208	275
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	14.9	31.0	95.7	12.9	28.5	28.5	8.0	24.3	24.3	4.9	21.2	42.0
Effective Green, g (s)	16.8	32.9	95.7	14.3	30.4	30.4	9.4	26.2	26.2	6.3	23.1	43.9
Actuated g/C Ratio	0.18	0.34	1.00	0.15	0.32	0.32	0.10	0.27	0.27	0.07	0.24	0.46
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	603	1217	1583	264	1124	503	174	969	433	117	450	1278
v/s Ratio Prot	0.13	c0.27		c0.10	0.11		0.06	0.10		c0.05	0.12	0.11
v/s Ratio Perm			0.09			0.05			0.17			
v/c Ratio	0.75	0.78	0.09	0.69	0.35	0.17	0.57	0.36	0.62	0.83	0.50	0.23
Uniform Delay, d1	37.4	28.2	0.0	38.6	25.0	23.6	41.2	28.0	30.4	44.2	31.3	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	3.6	0.1	6.2	0.3	0.3	2.5	0.4	3.4	34.7	1.1	0.1
Delay (s)	41.9	31.8	0.1	44.8	25.4	23.8	43.7	28.4	33.8	78.9	32.4	15.8
Level of Service	D	C	A	D	C	C	D	C	C	E	C	B
Approach Delay (s)		31.9			30.6			32.5			31.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	31.8		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.72											
Actuated Cycle Length (s)	95.7				Sum of lost time (s)				16.0			
Intersection Capacity Utilization	62.8%		ICU Level of Service				B					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis

Buildout Conditions With BRT (TSP Active)

1: University Ave & Park Blvd

Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Flt	1.00	0.94		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3329		1770	3416		1770	3395		1770	3468	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3329		1770	3416		1770	3395		1770	3468	
Volume (vph)	54	198	130	120	476	144	97	194	73	63	352	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	215	141	130	517	157	105	211	79	68	383	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	356	0	130	674	0	105	290	0	68	442	0
Turn Type	Prot		Prot		Prot		Prot					
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.3	17.8		19.4	28.9		15.6	41.5		7.7	33.6	
Effective Green, g (s)	8.7	18.7		19.8	29.8		16.0	42.4		8.1	34.5	
Actuated g/C Ratio	0.08	0.18		0.19	0.28		0.15	0.40		0.08	0.33	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	147	593		334	969		270	1371		137	1139	
v/s Ratio Prot	0.03	0.11		c0.07	c0.20		c0.06	0.09		c0.04	c0.13	
v/s Ratio Perm												
v/c Ratio	0.40	0.60		0.39	0.70		0.39	0.21		0.50	0.39	
Uniform Delay, d1	45.7	39.7		37.3	33.6		40.1	20.4		46.5	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.07	0.86	
Incremental Delay, d2	1.8	1.2		0.8	1.8		0.9	0.4		1.0	0.9	
Delay (s)	47.5	40.9		38.1	35.3		41.0	20.8		50.6	24.3	
Level of Service	D	D		D	D		D	C		D	C	
Approach Delay (s)	41.8		35.8		26.1		27.8					
Approach LOS	D		D		C		C					

Intersection Summary			
HCM Average Control Delay	33.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis

Buildout Conditions With BRT (TSP Active)

2: Lincoln Ave & Park Blvd

Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Flt	0.91	0.99		0.99	1.00		0.98	0.98		1.00	0.99	
Flt Protected	0.99	0.99		0.99	0.95		1.00	0.95		0.95	1.00	
Satd. Flow (prot)	1687	1833		1770	3468		1770	3468		1770	3497	
Flt Permitted	0.89	0.85		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1515	1570		1770	3468		1770	3468		1770	3497	
Volume (vph)	26	59	168	48	257	21	205	196	30	15	346	30
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	31	71	202	66	352	29	230	220	34	17	389	34
RTOR Reduction (vph)	0	76	0	0	3	0	0	10	0	0	5	0
Lane Group Flow (vph)	0	228	0	0	444	0	230	244	0	17	418	0
Turn Type	Perm		Perm		Prot		Prot					
Protected Phases	4			8		5	2			1	6	
Permitted Phases												
Actuated Green, G (s)	31.3		31.3		18.7		57.3		2.2		40.8	
Effective Green, g (s)	32.2		32.2		19.1		58.2		2.6		41.7	
Actuated g/C Ratio	0.31		0.31		0.18		0.55		0.02		0.40	
Clearance Time (s)	4.9		4.9		4.4		4.9		4.4		4.9	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	465		481		322		1922		44		1389	
v/s Ratio Prot					c0.13		0.07		0.01		c0.12	
v/s Ratio Perm	0.20		c0.28									
v/c Ratio	0.49		0.92		0.71		0.13		0.39		0.30	
Uniform Delay, d1	29.7		35.2		40.4		11.2		50.4		21.7	
Progression Factor	1.00		1.00		1.02		0.80		0.96		0.93	
Incremental Delay, d2	0.8		23.4		7.1		0.1		5.5		0.6	
Delay (s)	30.5		58.7		48.5		9.1		53.7		20.7	
Level of Service	C		E		D		A		D		C	
Approach Delay (s)	30.5		58.7		27.8		22.0					
Approach LOS	C		E		C		C					

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3526			3527	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3526			3527	
Volume (vph)	0	0	14	0	0	3	0	203	5	0	358	8
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	14	0	0	4	0	233	6	0	442	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	14	0	0	4	0	239	0	0	452	0
Turn Type	custom			custom								
Protected Phases	3			3			2			6		
Permitted Phases												
Actuated Green, G (s)	3.1			3.1			92.6			92.6		
Effective Green, g (s)	3.5			3.5			93.5			93.5		
Actuated g/C Ratio	0.03			0.03			0.89			0.89		
Clearance Time (s)	4.4			4.4			4.9			4.9		
Vehicle Extension (s)	3.0			3.0			2.8			2.8		
Lane Grp Cap (vph)	54			54			3140			3141		
v/s Ratio Prot	c0.01			0.00			0.07			c0.13		
v/s Ratio Perm												
v/c Ratio	0.26			0.07			0.08			0.14		
Uniform Delay, d1	49.5			49.2			0.7			0.7		
Progression Factor	1.00			1.00			0.42			0.97		
Incremental Delay, d2	2.5			0.6			0.0			0.1		
Delay (s)	52.0			49.8			0.3			0.8		
Level of Service	D			D			A			A		
Approach Delay (s)	52.0			49.8			0.3			0.8		
Approach LOS	D			D			A			A		
Intersection Summary												
HCM Average Control Delay	1.9			HCM Level of Service			A					
HCM Volume to Capacity ratio	0.15											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	20.2%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.91		0.97		1.00	1.00
Flt Protected	0.98		1.00		0.95	1.00
Satd. Flow (prot)	1670		3447		1770	3539
Flt Permitted	0.98		1.00		0.95	1.00
Satd. Flow (perm)	1670		3447		1770	3539
Volume (vph)	20	36	185	39	16	443
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	25	46	215	45	18	498
RTOR Reduction (vph)	43	0	6	0	0	0
Lane Group Flow (vph)	28	0	254	0	18	498
Turn Type					Prot	
Protected Phases	8		2		1 6	
Permitted Phases						
Actuated Green, G (s)	6.3		82.0		3.0 89.4	
Effective Green, g (s)	6.7		82.9		3.4 90.3	
Actuated g/C Ratio	0.06		0.79		0.03 0.86	
Clearance Time (s)	4.4		4.9		4.4 4.9	
Vehicle Extension (s)	3.0		3.0		3.0 3.0	
Lane Grp Cap (vph)	107		2721		57 3044	
v/s Ratio Prot	c0.04		0.08		c0.01 c0.14	
v/s Ratio Perm						
v/c Ratio	0.26		0.09		0.32 0.16	
Uniform Delay, d1	46.8		2.5		49.7 1.2	
Progression Factor	1.00		1.91		1.00 1.00	
Incremental Delay, d2	1.3		0.1		3.2 0.1	
Delay (s)	48.1		4.9		52.8 1.3	
Level of Service	D		A		D A	
Approach Delay (s)	48.1		4.9		3.1	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay	7.4		HCM Level of Service		A	
HCM Volume to Capacity ratio	0.20					
Actuated Cycle Length (s)	105.0		Sum of lost time (s)		8.0	
Intersection Capacity Utilization	23.0%		ICU Level of Service		A	
Analysis Period (min)	15					
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: AM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88	
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787	
Volume (vph)	142	254	44	182	737	79	77	89	59	30	216	427	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	154	276	48	198	801	86	84	97	64	33	235	464	
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov	
Protected Phases	5	2		1	6		3	8		7	4	4.5	
Permitted Phases			Free			6			8				
Actuated Green, G (s)	8.4	18.9	80.8	16.3	26.3	26.3	6.8	20.6	20.6	2.4	16.2	30.5	
Effective Green, g (s)	10.3	20.8	80.8	17.7	28.2	28.2	8.2	22.5	22.5	3.8	18.1	32.4	
Actuated g/C Ratio	0.13	0.26	1.00	0.22	0.35	0.35	0.10	0.28	0.28	0.05	0.22	0.40	
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9		
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7		
Lane Grp Cap (vph)	438	911	1583	388	1235	552	180	985	441	83	417	1118	
v/s Ratio Prot	0.04	0.08		0.11	c0.23		c0.05	0.03		0.02	c0.13	c0.17	
v/s Ratio Perm			0.03			0.05			0.04				
v/c Ratio	0.35	0.30	0.03	0.51	0.65	0.16	0.47	0.10	0.15	0.40	0.56	0.42	
Uniform Delay, d1	32.2	24.2	0.0	27.7	22.1	18.1	34.2	21.6	21.9	37.4	27.8	17.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.0	0.5	1.5	0.2	0.7	0.1	0.3	1.1	2.0	0.3	
Delay (s)	32.4	24.5	0.0	28.2	23.6	18.3	34.9	21.7	22.2	38.5	29.8	17.7	
Level of Service	C	C	A	C	C	B	C	C	C	D	C	B	
Approach Delay (s)		24.6			24.0			26.4			22.5		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM Average Control Delay	23.9		HCM Level of Service					C					
HCM Volume to Capacity ratio	0.55												
Actuated Cycle Length (s)	80.8					Sum of lost time (s)			12.0				
Intersection Capacity Utilization	53.4%		ICU Level of Service					A					
Analysis Period (min)	15												
c Critical Lane Group													

Park Blvd Analysis

Buildout Conditions With BRT (TSP Active)

1: University Ave & Park Blvd

Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.97		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3424		1770	3438		1770	3407		1770	3467	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3424		1770	3438		1770	3407		1770	3467	
Volume (vph)	130	717	198	132	451	106	158	581	193	208	442	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	779	215	143	490	115	172	632	210	226	480	75
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	141	994	0	143	605	0	172	842	0	226	555	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	11.4	33.8		13.4	35.8		11.7	31.4		12.8	32.5	
Effective Green, g (s)	11.8	34.7		13.8	36.7		12.1	32.3		13.2	33.4	
Actuated g/C Ratio	0.11	0.32		0.13	0.33		0.11	0.29		0.12	0.30	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.3		2.0	2.9	
Lane Grp Cap (vph)	190	1080		222	1147		195	1000		212	1053	
v/s Ratio Prot	c0.08	c0.29		0.08	0.18		0.10	c0.25		c0.13	0.16	
v/s Ratio Perm												
v/c Ratio	0.74	0.92		0.64	0.53		0.88	0.84		1.07	0.53	
Uniform Delay, d1	47.6	36.3		45.8	29.6		48.2	36.5		48.4	31.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.89	0.88	
Incremental Delay, d2	14.4	12.3		6.3	0.2		34.0	8.6		67.9	1.2	
Delay (s)	62.1	48.6		52.0	29.8		82.2	45.0		111.1	29.1	
Level of Service	E	D		D	C		F	D		F	C	
Approach Delay (s)		50.3			34.1			51.3			52.8	
Approach LOS		D			C			D			D	

Intersection Summary

HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis

Buildout Conditions With BRT (TSP Active)

2: Lincoln Ave & Park Blvd

Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔	↔	↕↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	0.95	0.99		0.99	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.99	0.98		0.98	0.95		1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1749	1807		1770	3479		1770	3479		1770	3477	
Flt Permitted	0.89	0.54		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1576	998		1770	3479		1770	3479		1770	3477	
Volume (vph)	117	379	339	79	130	23	182	546	70	32	392	52
Peak-hour factor, PHF	0.83	0.83	0.83	0.73	0.73	0.73	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	141	457	408	108	178	32	204	613	79	36	440	58
RTOR Reduction (vph)	0	18	0	0	3	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	988	0	0	315	0	204	682	0	36	487	0
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		64.3			64.3		12.0	28.4		3.1	19.5	
Effective Green, g (s)		65.2			65.2		12.4	29.3		3.5	20.4	
Actuated g/C Ratio		0.59			0.59		0.11	0.27		0.03	0.19	
Clearance Time (s)		4.9			4.9		4.4	4.9		4.4	4.9	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		934			592		200	927		56	645	
v/s Ratio Prot							c0.12	c0.20		0.02	0.14	
v/s Ratio Perm	c0.64				0.32							
v/c Ratio	1.06				0.53		1.02	0.74		0.64	0.76	
Uniform Delay, d1	22.4				13.3		48.8	36.8		52.6	42.4	
Progression Factor	1.00				1.00		0.69	0.73		1.17	0.90	
Incremental Delay, d2	46.0				0.9		59.7	3.8		22.5	8.0	
Delay (s)	68.4				14.3		93.5	30.8		84.1	46.3	
Level of Service	E				B		F	C		F	D	
Approach Delay (s)	68.4				14.3		45.1			48.9		
Approach LOS	E				B		D			D		

Intersection Summary

HCM Average Control Delay	50.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Park Blvd Analysis
3: Polk Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↕			↕		↕↕			↕↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0			4.0		4.0			4.0	
Lane Util. Factor			1.00			1.00		0.95			0.95	
Frt			0.86			0.86		1.00			1.00	
Flt Protected			1.00			1.00		1.00			1.00	
Satd. Flow (prot)			1611			1611		3532			3522	
Flt Permitted			1.00			1.00		1.00			1.00	
Satd. Flow (perm)			1611			1611		3532			3522	
Volume (vph)	0	0	21	0	0	7	0	577	8	0	376	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.78	0.78	0.78	0.87	0.87	0.87	0.81	0.81	0.81
Adj. Flow (vph)	0	0	22	0	0	9	0	663	9	0	464	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	0	22	0	0	9	0	672	0	0	479	0
Turn Type			custom			custom						
Protected Phases			3			3		2			6	
Permitted Phases												
Actuated Green, G (s)			4.8			4.8		95.9			95.9	
Effective Green, g (s)			5.2			5.2		96.8			96.8	
Actuated g/C Ratio			0.05			0.05		0.88			0.88	
Clearance Time (s)			4.4			4.4		4.9			4.9	
Vehicle Extension (s)			3.0			3.0		2.8			2.8	
Lane Grp Cap (vph)			76			76		3108			3099	
v/s Ratio Prot			c0.01			0.01		c0.19			0.14	
v/s Ratio Perm												
v/c Ratio			0.29			0.12		0.22			0.15	
Uniform Delay, d1			50.6			50.2		1.0			0.9	
Progression Factor			1.00			1.00		0.32			2.16	
Incremental Delay, d2			2.1			0.7		0.1			0.1	
Delay (s)			52.7			50.9		0.4			2.1	
Level of Service			D			D		A			A	
Approach Delay (s)			52.7			50.9		0.4			2.1	
Approach LOS			D			D		A			A	
Intersection Summary												
HCM Average Control Delay			2.5			HCM Level of Service		A				
HCM Volume to Capacity ratio			0.22									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			26.2%			ICU Level of Service		A				
Analysis Period (min)			15									
c Critical Lane Group												

Park Blvd Analysis
4: Howard Ave & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↕	↕↕	↕	↕	↕↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0
Lane Util. Factor	1.00		0.95		1.00	0.95
Frt	0.90		0.97		1.00	1.00
Flt Protected	0.99		1.00		0.95	1.00
Satd. Flow (prot)	1658		3430		1770	3539
Flt Permitted	0.99		1.00		0.95	1.00
Satd. Flow (perm)	1658		3430		1770	3539
Volume (vph)	21	56	546	142	69	505
Peak-hour factor, PHF	0.79	0.79	0.86	0.86	0.89	0.89
Adj. Flow (vph)	27	71	635	165	78	567
RTOR Reduction (vph)	66	0	11	0	0	0
Lane Group Flow (vph)	32	0	789	0	78	567
Turn Type					Prot	
Protected Phases	8		2		1	6
Permitted Phases						
Actuated Green, G (s)	6.7		80.8		8.8	94.0
Effective Green, g (s)	7.1		81.7		9.2	94.9
Actuated g/C Ratio	0.06		0.74		0.08	0.86
Clearance Time (s)	4.4		4.9		4.4	4.9
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	107		2548		148	3053
v/s Ratio Prot	c0.06		c0.23		c0.04	0.16
v/s Ratio Perm						
v/c Ratio	0.30		0.31		0.53	0.19
Uniform Delay, d1	49.1		4.7		48.3	1.2
Progression Factor	1.00		0.38		1.00	1.00
Incremental Delay, d2	1.5		0.3		3.4	0.1
Delay (s)	50.6		2.1		51.7	1.4
Level of Service	D		A		D	A
Approach Delay (s)	50.6		2.1		7.5	
Approach LOS	D		A		A	
Intersection Summary						
HCM Average Control Delay			7.4		HCM Level of Service	A
HCM Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			110.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			38.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Park Blvd Analysis
5: Normal St & Park Blvd

Buildout Conditions With BRT (TSP Active)
Timing Plan: PM PEAK

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.88
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3539	1583	1770	3539	1583	1770	1863	2787
Volume (vph)	415	873	125	168	359	79	91	317	247	89	208	275
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	451	949	136	183	390	86	99	345	268	97	226	299
Turn Type	Prot		Free	Prot		Perm	Prot		Perm	Prot		pt+ov
Protected Phases	5	2		1	6		3	8		7	4	4.5
Permitted Phases			Free			6			8			
Actuated Green, G (s)	14.8	31.0	97.3	14.1	29.8	29.8	8.3	24.8	24.8	4.8	21.3	42.0
Effective Green, g (s)	16.7	32.9	97.3	15.5	31.7	31.7	9.7	26.7	26.7	6.2	23.2	43.9
Actuated g/C Ratio	0.17	0.34	1.00	0.16	0.33	0.33	0.10	0.27	0.27	0.06	0.24	0.45
Clearance Time (s)	5.9	5.9		5.4	5.9	5.9	5.4	5.9	5.9	5.4	5.9	
Vehicle Extension (s)	2.0	4.5		2.0	4.5	4.5	2.0	4.5	4.5	2.0	3.7	
Lane Grp Cap (vph)	589	1197	1583	282	1153	516	176	971	434	113	444	1257
v/s Ratio Prot	0.13	c0.27		c0.10	0.11		0.06	0.10		c0.05	0.12	0.11
v/s Ratio Perm			0.09			0.05			0.17			
v/c Ratio	0.77	0.79	0.09	0.65	0.34	0.17	0.56	0.36	0.62	0.86	0.51	0.24
Uniform Delay, d1	38.4	29.1	0.0	38.3	24.9	23.4	41.8	28.4	30.8	45.1	32.1	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	4.1	0.1	3.8	0.3	0.3	2.4	0.4	3.4	42.3	1.2	0.1
Delay (s)	43.8	33.2	0.1	42.2	25.2	23.6	44.2	28.8	34.2	87.5	33.3	16.5
Level of Service	D	C	A	D	C	C	D	C	C	F	C	B
Approach Delay (s)		33.4			29.7			33.0			33.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay	32.7		HCM Level of Service				C					
HCM Volume to Capacity ratio	0.71											
Actuated Cycle Length (s)	97.3				Sum of lost time (s)				16.0			
Intersection Capacity Utilization	62.8%		ICU Level of Service				B					
Analysis Period (min)	15											
c Critical Lane Group												

**APPENDIX C
TECHNICAL MEMORANDUM
EL CAJON BOULEVARD/I-15 INTERSECTION ANALYSIS**

(bound separately)

TECHNICAL MEMORANDUM

Attn: Miriam Kirshner
Senior Transit Planner
SANDAG

From: Joe De La Garza, P.E.
KOA Corporation, San Diego

Phone: (619) 699-6995

Date: October 22, 2008

Subject: El Cajon Boulevard/I-15 Intersection Analysis

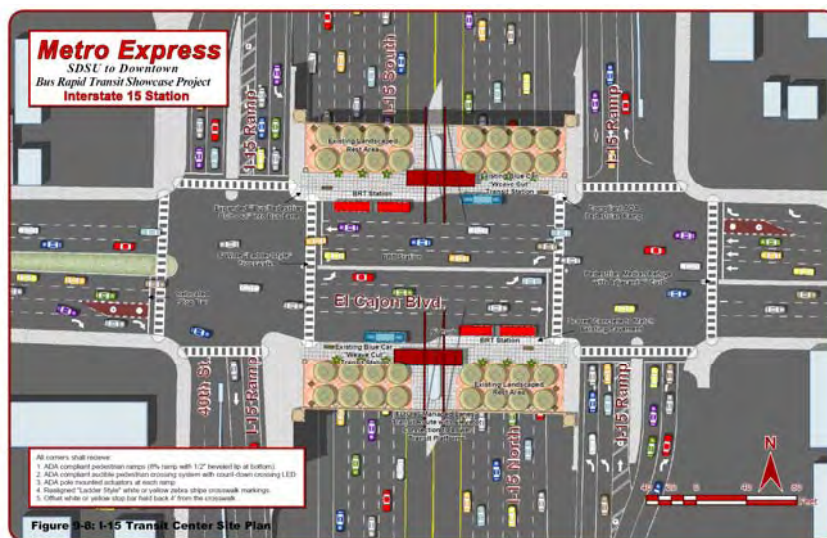
Memo:

In response to your request, KOA conducted an analysis of near-term and long-term conditions at the El Cajon Boulevard intersections with the I-15 northbound and southbound ramps. The analysis was intended to determine the potential traffic impacts of completing the bus storage pockets for the Mid-City Rapid project, which reduced the number of through lanes at the intersections. Although the bus lanes are not used for queue jumping, they will effectively reduce the number of through lanes approaching the signalized intersections.

In order to evaluate the effects to the traffic operations of these lane reductions, analysis was performed utilizing data and traffic models (Synchro) used in our October 2007 Traffic Study. The analysis was performed for the following scenarios:

- No Project
- With Project
- With Project Including the application of Transit Signal Priority, which increases the amount of green time in the through direction (east-west on El Cajon Boulevard)

Each of these scenarios were tested for the Near-Term (morning peak and afternoon peak), and the Long-Term (morning peak and afternoon peak). Below is a graphic of the proposed lane configurations.



Los Angeles
P: 323-260-4703
F: 323-260-4705

San Diego
P: 619-683-2933
F: 619-683-7982

Tustin
P: 714-573-0317
F: 714-573-9534

Ontario
P: 909-890-9693
F: 909-890-9694

Oakland
P: 510-839-0061
F: 510-834-0964

Although not shown in the graphic, the analysis assumed the reduction of lanes between the intersections would also occur and therefore the analysis evaluated a more conservative scenario.

The analysis yielded the following results:

INTERSECTION	El Cajon Blvd I-15 NB Ramps (#11)		El Cajon Blvd I-15 SB Ramps (#12)	
	Delay (sec)	LOS	Delay (sec)	LOS
Near Term AM Peak				
No Project	9.2	A	15.3	B
With Project	9.3	A	15.7	B
With Project & TSP Activated	10.2	B	16.5	B
Near Term PM Peak				
No Project	15.2	B	17.7	B
With Project	15.1	B	24.0	C
With Project & TSP Activated	15.3	B	21.9	C
Long Term AM Peak				
No Project	9.9	A	15.7	B
With Project	10.1	B	16.0	B
With Project & TSP Activated	10.4	B	17.1	B
Long Term PM Peak				
No Project	15.8	B	18.5	B
With Project	16.3	B	38.5	D
With Project & TSP Activated	52.8	D	30.4	C

The reduction in through lanes results in a drop in level of service and an increase in delay, especially at the southbound ramp intersection, in the long-term condition in the afternoon peak. However, the project Level of Service D at the signalized intersections with less than 80 seconds of delay is considered to be acceptable.

cc: **KOA Project: JA64C5X**

Attachments: Near-term and Long-term Traffic Volumes
Synchro Analysis worksheets

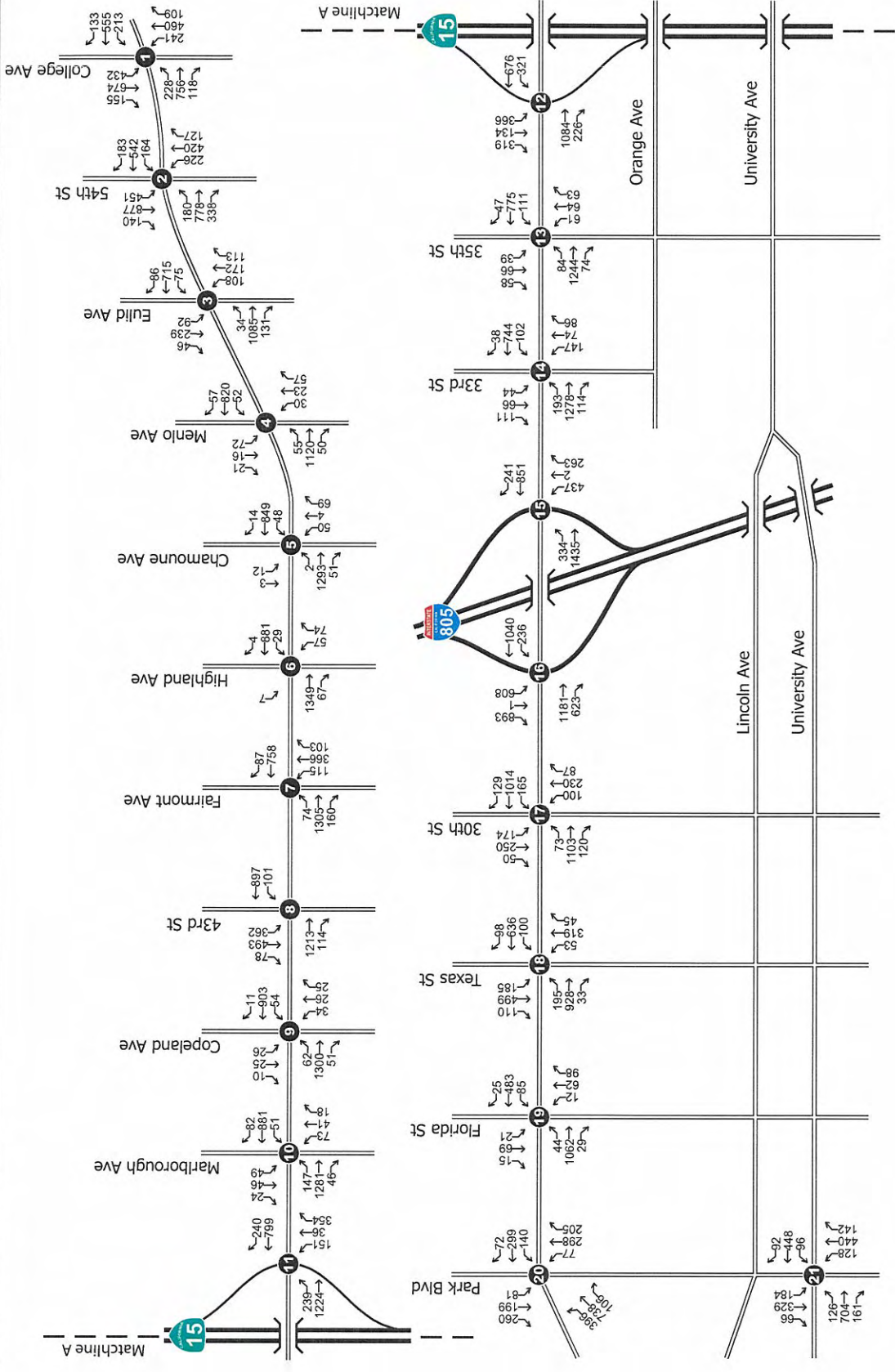
Los Angeles
P: 323-260-4703
F: 323-260-4705

San Diego
P: 619-683-2933
F: 619-683-7982

Tustin
P: 714-573-0317
F: 714-573-9534

Ontario
P: 909-890-9693
F: 909-890-9694

Oakland
P: 510-839-0061
F: 510-834-0964



LEGEND	
10	PM Peak Hour Volume

*Volumes could be off due to rounding

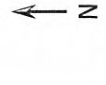


Figure 4-2
Near-Term PM Peak Hour Intersection Volumes

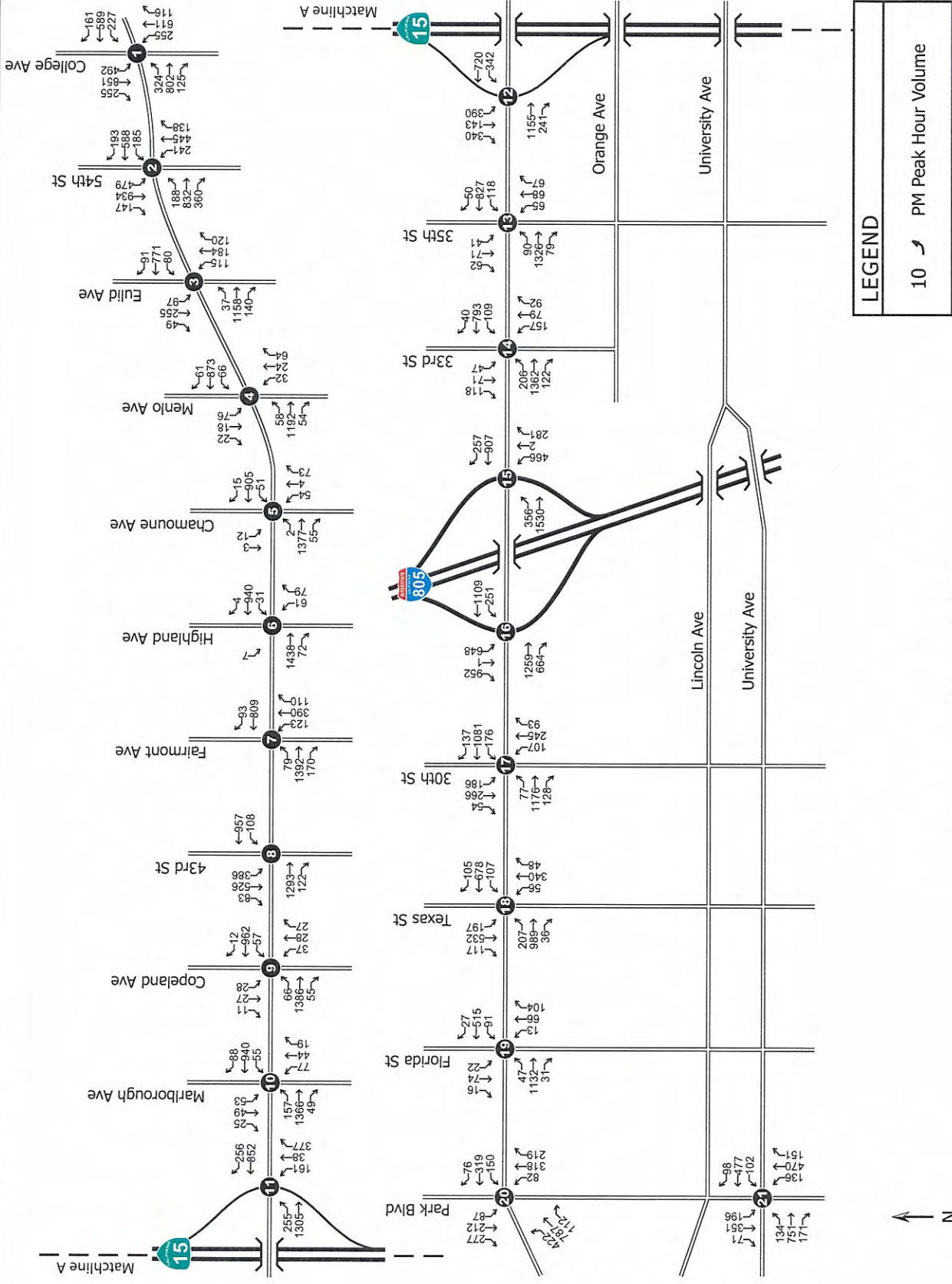


Figure 5-2 Horizon Year PM Peak Hour Intersection Volumes

Not To Scale

*Volumes could be off due to rounding

El Cajon Blvd & I-15 NB Near-Term AM w/o Project

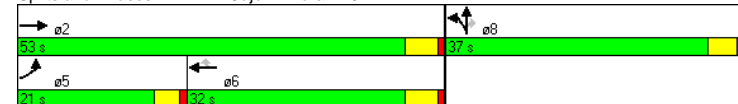
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕↕			↕↕↕	↕	↕↕	↕	↕			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950				0.950				0.950			
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red	Yes				Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)					302		127		130			
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			226			1453			1618		
Travel Time (s)	8.6				5.1		33.0		36.8			
Volume (vph)	167	446	0	0	695	287	91	22	244	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%		0%			
Lane Group Flow (vph)	176	469	0	0	732	302	96	150	130	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8		8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	21.0	53.0	0.0	0.0	32.0	32.0	37.0	37.0	37.0	0.0	0.0	0.0
Total Split (%)	23.3%	58.9%	0.0%	0.0%	35.6%	35.6%	41.1%	41.1%	41.1%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	48.0			27.0	27.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None		None		None	
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	13.0	74.1			57.1	57.1	7.9	7.9	7.9			

NT AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.82			0.63	0.63	0.09	0.09	0.09			
v/c Ratio	0.69	0.11			0.18	0.27	0.32	0.60	0.52			
Control Delay	34.8	0.1			7.8	2.0	37.9	11.4	8.1			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	34.8	0.1			7.8	2.0	37.9	11.4	8.1			
LOS	C	A			A	A	D	B	A			
Approach Delay	9.6				6.1		17.0					
Approach LOS	A				A		B					
90th %ile Green (s)	18.9	69.2			46.1	46.1	11.2	11.2	11.2			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	15.3	72.5			53.0	53.0	7.9	7.9	7.9			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	13.0	73.8			56.6	56.6	6.6	6.6	6.6			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	10.7	74.6			59.7	59.7	5.8	5.8	5.8			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	6.0	75.4			65.2	65.2	5.0	5.0	5.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	Min	Min	Min			

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	9.2
Intersection LOS:	A
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Near-Term AM w/o Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↑	↑	↑↑↑	↑	↑	↑	↑	↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1587	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1587	1504
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		112									63 80	
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	464	106	318	507		0	0	0	149	28	136
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	488	112	335	534	0	0	0	0	157	92	80
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1		6					4		4
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	38.0	38.0	17.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	42.2%	42.2%	18.9%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	33.0	33.0	12.8	50.0						30.4	30.4	30.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag	Lag		Lag		Lead							
Lead-Lag Optimize?	Yes		Yes		Yes							
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	3.0	3.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Time To Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Recall Mode	C-Max		C-Max		None		C-Max			None	None	None
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0	0		0						0	0	0
Act Effct Green (s)	36.5	36.5	32.9	73.4						8.6	8.6	8.6

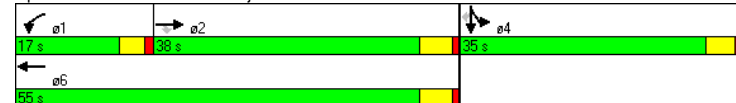
NT AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.41	0.41	0.37	0.82						0.10	0.10	0.10
v/c Ratio	0.19	0.16	0.52	0.13						0.48	0.44	0.37
Control Delay	17.5	4.3	23.2	4.2						38.5	16.6	9.9
Queue Delay	0.0	0.0	0.0	0.0						0.0	0.0	0.0
Total Delay	17.5	4.3	23.2	4.2						38.5	16.6	9.9
LOS	B	A	C	A						D	B	A
Approach Delay	15.1			11.6						25.4		
Approach LOS	B			B						C		
90th %ile Green (s)	33.0	33.0	32.8	70.0						10.4	10.4	10.4
90th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap
70th %ile Green (s)	36.5	36.5	30.7	71.4						9.0	9.0	9.0
70th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
50th %ile Green (s)	37.9	37.9	30.3	72.4						8.0	8.0	8.0
50th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
30th %ile Green (s)	37.0	37.0	32.2	73.4						7.0	7.0	7.0
30th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
10th %ile Green (s)	33.0	33.0	37.5	74.7						5.7	5.7	5.7
10th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	15.3
Intersection LOS:	B
Intersection Capacity Utilization:	43.2%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Near-Term PM w/o Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Flt Permitted	0.950				0.950							
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1550	1504	0	0	0
Right Turn on Red	Yes				Yes		Yes				Yes	
Satd. Flow (RTOR)					240		42				42	
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			225			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	239	1224	0	0	799	240	151	36	354	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	252	1288	0	0	841	253	159	222	189	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8				8	
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	24.0	52.0	0.0	0.0	28.0	28.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	26.7%	57.8%	0.0%	0.0%	31.1%	31.1%	42.2%	42.2%	42.2%	0.0%	0.0%	0.0%
Maximum Green (s)	19.8	47.0			23.0	23.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None		None		None	
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	17.0	66.2			45.1	45.1	15.8	15.8	15.8			

NT PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.74			0.50	0.50	0.18	0.18	0.18			
v/c Ratio	0.75	0.34			0.26	0.28	0.26	0.72	0.63			
Control Delay	33.2	7.7			15.0	4.1	30.7	28.9	26.8			
Queue Delay	0.0	0.4			0.0	0.0	0.0	0.0	0.0			
Total Delay	33.2	8.1			15.0	4.1	30.7	28.9	26.8			
LOS	C A				B A		C C		C C			
Approach Delay	12.2			12.5			28.7					
Approach LOS	B			B			C					
90th %ile Green (s)	23.8	57.5			29.5	29.5	21.9	21.9	21.9			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	19.7	62.6			38.7	38.7	16.8	16.8	16.8			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	16.7	65.5			44.6	44.6	13.9	13.9	13.9			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	13.9	68.2			50.1	50.1	11.2	11.2	11.2			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	10.1	72.0			57.7	57.7	7.4	7.4	7.4			
10th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	15.2
Intersection LOS:	B
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Near-Term PM w/o Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↑	↑↑	↑↑↑	↑	↑	↑	↑	↑↑	↑↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1663	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1663	1504
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		217								40		211
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	1084	226	321	676	0	0	0	0	366	134	319
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	1141	238	338	712	0	0	0	0	385	234	243
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1	6	4		4					
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0			5.0			5.0	
Minimum Split (s)	23.0	23.0	9.2	29.0	34.6			34.6			34.6	
Total Split (s)	0.0	25.0	25.0	30.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	27.8%	27.8%	33.3%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	20.0	20.0	25.8	50.0	30.4			30.4			30.4	
Yellow Time (s)	4.0	4.0	3.2	4.0	3.6			3.6			3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			1.0			1.0	
Lead/Lag	Lag	Lag	Lead									
Lead-Lag Optimize?	Yes	Yes	Yes									
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.0			2.0			2.0	
Minimum Gap (s)	6.0	6.0	2.0	6.0	2.0			2.0			2.0	
Time Before Reduce (s)	0.1	0.1	0.0	0.1	0.0			0.0			0.0	
Time To Reduce (s)	1.0	1.0	0.0	1.0	0.0			0.0			0.0	
Recall Mode	C-Max	C-Max	None	C-Max	None			None			None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		17.0	23.0			23.0			23.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	41.1	41.1	21.0	66.0	16.0			16.0			16.0	

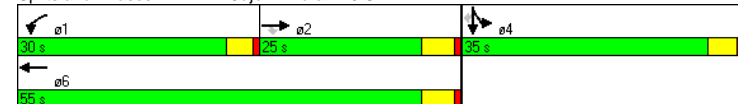
NT PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Actuated g/C Ratio		0.46	0.46	0.23	0.73						0.18	0.18	0.18
v/c Ratio		0.39	0.28	0.82	0.19						0.63	0.71	0.55
Control Delay		18.8	5.4	29.9	4.6						34.2	29.8	8.2
Queue Delay		0.0	0.0	0.2	0.0						0.0	0.0	0.0
Total Delay		18.8	5.4	30.1	4.6						34.2	29.8	8.2
LOS		B	A	C	A						C	C	A
Approach Delay		16.5			12.8			25.7					
Approach LOS		B			B			C					
90th %ile Green (s)		23.8	23.8	29.7	57.7						22.7	22.7	22.7
90th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap	Gap
70th %ile Green (s)		34.5	34.5	24.0	62.7						17.7	17.7	17.7
70th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap	Gap
50th %ile Green (s)		40.8	40.8	20.4	65.4						15.0	15.0	15.0
50th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap	Gap
30th %ile Green (s)		47.3	47.3	17.1	68.6						11.8	11.8	11.8
30th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap	Gap
10th %ile Green (s)		53.9	53.9	12.7	70.8						9.6	9.6	9.6
10th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap	Gap

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	17.7
Intersection LOS:	B
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Near-Term AM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↕	↔	↕	↕	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2824	1441	0	0	0
Flt Permitted	0.950				0.950		0.995					
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2824	1441	0	0	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)				277			128			129		
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			226			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	167	446	0	0	695	287	91	22	244	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	176	469	0	0	732	302	79	168	129	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8		8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	21.0	53.0	0.0	0.0	32.0	32.0	37.0	37.0	37.0	0.0	0.0	0.0
Total Split (%)	23.3%	58.9%	0.0%	0.0%	35.6%	35.6%	41.1%	41.1%	41.1%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	48.0			27.0	27.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None		None		None	
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	13.0	73.1			56.1	56.1	8.9	8.9	8.9			

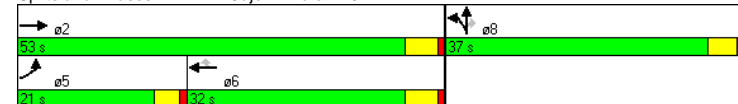
NT AM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.81			0.62	0.62	0.10	0.10	0.10			
v/c Ratio	0.69	0.16			0.23	0.28	0.50	0.43	0.50			
Control Delay	33.2	0.4			8.7	2.5	38.3	11.8	8.1			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	33.2	0.4			8.7	2.5	38.3	11.8	8.1			
LOS	C A				A A		D	B	A			
Approach Delay	9.3			6.9			16.1					
Approach LOS	A			A			B					
90th %ile Green (s)	18.9	68.6			45.5	45.5	11.8	11.8	11.8			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	15.3	70.7			51.2	51.2	9.7	9.7	9.7			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	12.9	72.2			55.1	55.1	8.2	8.2	8.2			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	10.8	73.7			58.7	58.7	6.7	6.7	6.7			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	6.0	75.4			65.2	65.2	5.0	5.0	5.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	Min	Min	Min			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	9.3
Intersection LOS:	A
Intersection Capacity Utilization:	44.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Near-Term AM w/ Proj no TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	2958	1441
Flt Permitted				0.950						0.950	0.977	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	2958	1441
Right Turn on Red		Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		112									62 81	
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	464	106	318	507	0	0	0	0	149	28	136
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%		0%		0%		0%		0%		0%	
Lane Group Flow (vph)	0	488	112	335	534	0	0	0	0	79	169	81
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1		6						4 4	
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	38.0	38.0	17.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	42.2%	42.2%	18.9%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	33.0	33.0	12.8	50.0						30.4	30.4	30.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead									
Lead-Lag Optimize?	Yes	Yes	Yes									
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	3.0	3.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Time To Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Recall Mode	C-Max	C-Max	None	C-Max						None	None	None
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0	0		0						0	0	0
Act Effct Green (s)	36.3	36.3	32.8	73.1						8.9	8.9	8.9

NT AM w/ Proj no TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.40	0.40	0.36	0.81						0.10	0.10	0.10
v/c Ratio	0.34	0.16	0.52	0.19						0.50	0.48	0.38
Control Delay	19.5	4.3	22.4	5.6						38.3	23.8	9.6
Queue Delay	0.0	0.0	0.0	0.0						0.0	0.0	0.0
Total Delay	19.5	4.3	22.4	5.6						38.3	23.8	9.6
LOS	B	A	C	A						D	C	A
Approach Delay	16.7				12.1				23.8			
Approach LOS	B				B				C			
90th %ile Green (s)	33.0	33.0	31.3	68.5						11.9	11.9	11.9
90th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap
70th %ile Green (s)	35.8	35.8	30.7	70.7						9.7	9.7	9.7
70th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
50th %ile Green (s)	37.6	37.6	30.4	72.2						8.2	8.2	8.2
50th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
30th %ile Green (s)	37.2	37.2	32.2	73.6						6.8	6.8	6.8
30th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
10th %ile Green (s)	33.0	33.0	38.2	75.4						5.0	5.0	5.0
10th %ile Term Code	Coord	Coord	Max	Coord						Min	Min	Min

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.52
Intersection Signal Delay:	15.7
Intersection LOS:	B
Intersection Capacity Utilization:	44.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Near-Term PM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2838	1441	0	0	0
Flt Permitted	0.950				0.950		0.994					
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2838	1441	0	0	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)				193			45			45		
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			225			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	239	1224	0	0	799	240	151	36	354	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	252	1288	0	0	841	253	126	257	187	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8		8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	24.0	53.0	0.0	0.0	29.0	29.0	37.0	37.0	37.0	0.0	0.0	0.0
Total Split (%)	26.7%	58.9%	0.0%	0.0%	32.2%	32.2%	41.1%	41.1%	41.1%	0.0%	0.0%	0.0%
Maximum Green (s)	19.8	48.0			24.0	24.0	31.4	31.4	31.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None		None		None	
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	16.7	67.5			46.8	46.8	14.5	14.5	14.5			

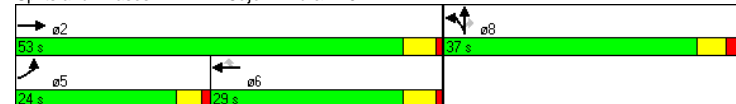
NT PM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.75			0.52	0.52	0.16	0.16	0.16			
v/c Ratio	0.77	0.49			0.32	0.28	0.48	0.52	0.69			
Control Delay	29.4	6.7			14.7	5.8	33.8	27.8	27.5			
Queue Delay	0.0	1.6			0.0	0.0	0.0	0.0	0.0			
Total Delay	29.4	8.3			14.7	5.8	33.8	27.8	27.5			
LOS	C A				B A		C C		C C			
Approach Delay	11.7			12.7			29.0					
Approach LOS	B			B			C					
90th %ile Green (s)	24.5	59.1			30.4	30.4	20.3	20.3	20.3			
90th %ile Term Code	Gap Coord				Coord Coord		Gap Gap		Gap			
70th %ile Green (s)	18.9	64.1			41.0	41.0	15.3	15.3	15.3			
70th %ile Term Code	Gap Coord				Coord Coord		Gap Gap		Gap			
50th %ile Green (s)	15.0	66.9			47.7	47.7	12.5	12.5	12.5			
50th %ile Term Code	Gap Coord				Coord Coord		Gap Gap		Gap			
30th %ile Green (s)	13.8	69.6			51.6	51.6	9.8	9.8	9.8			
30th %ile Term Code	Gap Coord				Coord Coord		Gap Gap		Gap			
10th %ile Green (s)	10.1	72.7			58.4	58.4	6.7	6.7	6.7			
10th %ile Term Code	Gap Coord				Coord Coord		Gap Gap		Gap			

Intersection Summary

Area Type:	Other	
Cycle Length:	90	
Actuated Cycle Length:	90	
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow	
Control Type:	Actuated-Coordinated	
Maximum v/c Ratio:	0.77	
Intersection Signal Delay:	15.1	Intersection LOS: B
Intersection Capacity Utilization:	69.6%	ICU Level of Service C
Analysis Period (min):	15	

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Near-Term PM w/ Proj no TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%			0%			0%			
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	3030	1441
Flt Permitted				0.950						0.950	0.979	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	3030	1441
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		137								39		211
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	1084	226	321	676	0	0	0	0	366	134	319
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	1141	238	338	712	0	0	0	0	205	416	241
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1		6				4		4	
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	33.7	33.7	21.3	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	37.4%	37.4%	23.7%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	28.7	28.7	17.1	50.0						30.4	30.4	30.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?	Yes		Yes		Yes							
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	6.0	6.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Recall Mode	C-Max		C-Max		None		C-Max		None		None	
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0	0		0						0	0	0
Act Effct Green (s)	36.3	36.3	25.2	65.5						16.5	16.5	16.5

NT PM w/ Proj no TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40	0.40	0.28	0.73						0.18	0.18
v/c Ratio		0.80	0.33	0.68	0.28						0.69	0.71
Control Delay		31.0	10.7	28.6	6.4						35.4	31.4
Queue Delay		3.8	0.0	0.0	0.3						0.0	0.0
Total Delay		34.9	10.7	28.6	6.7						35.4	31.4
LOS		C	B	C	A						D	C
Approach Delay		30.7			13.7						25.9	
Approach LOS		C			B						C	
90th %ile Green (s)		28.7	28.7	24.5	57.4						23.0	23.0
90th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap
70th %ile Green (s)		29.5	29.5	28.4	62.1						18.3	18.3
70th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap
50th %ile Green (s)		34.2	34.2	26.3	64.7						15.7	15.7
50th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap
30th %ile Green (s)		39.1	39.1	24.4	67.7						12.7	12.7
30th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap
10th %ile Green (s)		44.8	44.8	21.4	70.4						10.0	10.0
10th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	24.0
Intersection LOS:	C
Intersection Capacity Utilization:	69.6%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Near-Term AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↕	↔	↕	↕	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2825	1441	0	0	0
Flt Permitted	0.950				0.950	0.994						
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2825	1441	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						302		128	129			
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378		225		1453		1618		1618		1618	
Travel Time (s)	8.6		5.1		33.0		36.8		36.8		36.8	
Volume (vph)	167	446	0	0	695	287	91	22	244	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%		0%		0%		0%		0%		0%	
Lane Group Flow (vph)	176	469	0	0	732	302	77	170	129	0	0	0
Turn Type	Prot				Perm		Split	Perm				
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8					
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	21.0	63.0	0.0	0.0	42.0	42.0	27.0	27.0	27.0	0.0	0.0	0.0
Total Split (%)	23.3%	70.0%	0.0%	0.0%	46.7%	46.7%	30.0%	30.0%	30.0%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	58.0			37.0	37.0	22.4	22.4	22.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None	None	None			
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	13.3	73.0			55.7	55.7	9.0	9.0	9.0			

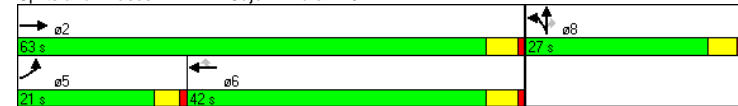
NT AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.15	0.81			0.62	0.62	0.10	0.10	0.10			
v/c Ratio	0.67	0.16			0.23	0.28	0.48	0.43	0.50			
Control Delay	34.0	3.6			8.8	2.1	38.6	12.1	8.7			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	34.0	3.6			8.8	2.1	38.6	12.1	8.7			
LOS	C	A			A	A	D	B	A			
Approach Delay	11.9				6.8				16.4			
Approach LOS	B				A				B			
90th %ile Green (s)	18.9	68.3			45.2	45.2	12.1	12.1	12.1			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	15.3	70.6			51.1	51.1	9.8	9.8	9.8			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	13.0	72.1			54.9	54.9	8.3	8.3	8.3			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	10.7	73.6			58.7	58.7	6.8	6.8	6.8			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	7.5	75.4			63.7	63.7	5.0	5.0	5.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	Min	Min	Min			

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 10.2 Intersection LOS: B
 Intersection Capacity Utilization 44.8% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Near-Term AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	2964	1441
Flt Permitted				0.950						0.950	0.977	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	2964	1441
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112								59	84
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	464	106	318	507	0	0	0	0	149	28	136
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	488	112	335	534	0	0	0	0	79	166	84
Turn Type			Perm	Prot						Split		Perm
Protected Phases	2		1		6				4		4	
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	48.0	48.0	17.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	53.3%	53.3%	18.9%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)	43.0	43.0	12.8	60.0						20.4	20.4	20.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead									
Lead-Lag Optimize?	Yes	Yes	Yes									
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	3.0	3.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Time To Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Recall Mode	C-Max	C-Max	None	C-Max						None	None	None
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0	0		0						0	0	0
Act Effct Green (s)	44.0	44.0	24.8	72.8						9.2	9.2	9.2

NT AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Actuated g/C Ratio		0.49	0.49	0.28	0.81						0.10	0.10	0.10
v/c Ratio		0.28	0.13	0.69	0.19						0.48	0.47	0.38
Control Delay		14.2	3.0	34.2	5.8						38.7	24.4	9.9
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0	0.0
Total Delay		14.2	3.0	34.2	5.8						38.7	24.4	9.9
LOS		B	A	C	A						D	C	A
Approach Delay	12.1				16.7				24.1				
Approach LOS	B				B				C				
90th %ile Green (s)	43.0	43.0	20.8	68.0						12.4	12.4	12.4	
90th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap	
70th %ile Green (s)	43.0	43.0	23.1	70.3						10.1	10.1	10.1	
70th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap	
50th %ile Green (s)	43.0	43.0	24.7	71.9						8.5	8.5	8.5	
50th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap	
30th %ile Green (s)	43.0	43.0	26.3	73.5						6.9	6.9	6.9	
30th %ile Term Code	Coord	Coord	Max	Coord						Gap	Gap	Gap	
10th %ile Green (s)	43.0	43.0	28.2	75.4						5.0	5.0	5.0	
10th %ile Term Code	Coord	Coord	Max	Coord						Min	Min	Min	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	16.5
Intersection LOS:	B
Intersection Capacity Utilization:	44.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Near-Term PM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↕	↔	↕	↕	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2841	1441	0	0	0
Flt Permitted	0.950						0.950	0.993				
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2841	1441	0	0	0
Right Turn on Red	Yes				Yes		Yes				Yes	
Satd. Flow (RTOR)					224		76				76	
Link Speed (mph)	30				30		30				30	
Link Distance (ft)	378				225		1453				1618	
Travel Time (s)	8.6				5.1		33.0				36.8	
Volume (vph)	239	1224	0	0	799	240	151	36	354	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%				0%	
Lane Group Flow (vph)	252	1288	0	0	841	253	123	260	187	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8				8	
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	24.0	62.0	0.0	0.0	38.0	38.0	28.0	28.0	28.0	0.0	0.0	0.0
Total Split (%)	26.7%	68.9%	0.0%	0.0%	42.2%	42.2%	31.1%	31.1%	31.1%	0.0%	0.0%	0.0%
Maximum Green (s)	19.8	57.0			33.0	33.0	22.4	22.4	22.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None	None	None			
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	16.8	68.5			47.7	47.7	13.5	13.5	13.5			

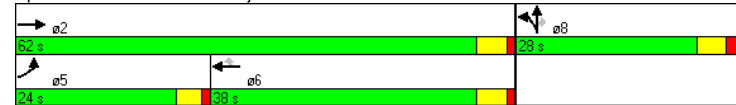
NT PM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.76			0.53	0.53	0.15	0.15	0.15			
v/c Ratio	0.76	0.48			0.31	0.27	0.51	0.53	0.67			
Control Delay	31.0	8.8			14.0	4.2	35.6	24.7	23.2			
Queue Delay	0.0	1.4			0.0	0.0	0.0	0.0	0.0			
Total Delay	31.0	10.2			14.0	4.2	35.6	24.7	23.2			
LOS	C	B			B	A	D	C	C			
Approach Delay	13.6				11.8		26.6					
Approach LOS	B				B		C					
90th %ile Green (s)	23.1	60.3			33.0	33.0	19.1	19.1	19.1			
90th %ile Term Code	Max	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	19.7	65.3			41.4	41.4	14.1	14.1	14.1			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	16.7	68.2			47.3	47.3	11.2	11.2	11.2			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	13.4	70.6			53.0	53.0	8.8	8.8	8.8			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	10.1	73.3			59.0	59.0	6.1	6.1	6.1			
10th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	15.3
Intersection LOS:	B
Intersection Capacity Utilization:	69.6%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Near-Term PM w/ Proj w/ TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	3058	1441
Flt Permitted				0.950						0.950	0.976	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	3058	1441
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		165								17		278
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	1084	226	321	676		0	0	0	366	134	319
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	1141	238	338	712	0	0	0	0	193	389	280
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1		6				4		4	
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	44.0	44.0	21.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	48.9%	48.9%	23.3%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)	39.0	39.0	16.8	60.0						20.4	20.4	20.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag	Lag	Lag	Lead									
Lead-Lag Optimize?	Yes	Yes	Yes									
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	6.0	6.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Recall Mode	C-Max		C-Max	None	C-Max					None	None	None
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0	0		0						0	0	0
Act Effct Green (s)	40.8	40.8	21.1	65.9						16.1	16.1	16.1

NT PM w/ Proj w/ TSP

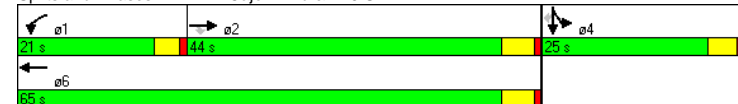


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Actuated g/C Ratio		0.45	0.45	0.23	0.73						0.18	0.18	0.18
v/c Ratio		0.67	0.29	0.81	0.27						0.67	0.69	0.58
Control Delay		23.1	6.4	44.3	6.3						38.8	35.3	7.6
Queue Delay		1.1	0.0	0.0	0.3						0.0	0.0	0.0
Total Delay		24.2	6.4	44.3	6.6						38.8	35.3	7.6
LOS		C	A	D	A						D	D	A
Approach Delay		21.1		18.7							27.1		
Approach LOS		C		B							C		
90th %ile Green (s)		39.0	39.0	16.8	60.0						20.4	20.4	20.4
90th %ile Term Code		Coord	Coord	Max	Coord						Max	Max	Max
70th %ile Green (s)		39.0	39.0	19.2	62.4						18.0	18.0	18.0
70th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
50th %ile Green (s)		39.0	39.0	21.4	64.6						15.8	15.8	15.8
50th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
30th %ile Green (s)		39.0	39.0	24.2	67.4						13.0	13.0	13.0
30th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
10th %ile Green (s)		43.1	43.1	22.8	70.1						10.3	10.3	10.3
10th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap	Gap

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	21.9
Intersection LOS:	C
Intersection Capacity Utilization:	69.6%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Long-Term AM w/o Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↔	↔	↕	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Flt Permitted	0.950				0.950							
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1545	1504	0	0	0
Right Turn on Red	Yes				Yes		Yes				Yes	
Satd. Flow (RTOR)					322		136				139	
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			225			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	178	475	0	0	741	306	97	23	261	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	187	500	0	0	780	322	102	160	139	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases	6											
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	22.7	52.0	0.0	0.0	29.3	29.3	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	25.2%	57.8%	0.0%	0.0%	32.6%	32.6%	42.2%	42.2%	42.2%	0.0%	0.0%	0.0%
Maximum Green (s)	18.5	47.0			24.3	24.3	33.4	33.4	33.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None None None					
Walk Time (s)	7.0				7.0 7.0		7.0 7.0					
Flash Dont Walk (s)	17.0				16.0 16.0		25.0 25.0					
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	13.7	74.0			56.2	56.2	8.0	8.0	8.0			

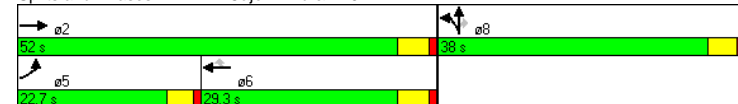
LT AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.15	0.82			0.62	0.62	0.09	0.09	0.09			
v/c Ratio	0.69	0.12			0.19	0.29	0.33	0.61	0.53			
Control Delay	34.4	2.8			8.2	2.0	37.8	11.1	7.9			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	34.4	2.8			8.2	2.0	37.8	11.1	7.9			
LOS	C	A			A	A	D	B	A			
Approach Delay	11.4			6.4			16.8					
Approach LOS	B			A			B					
90th %ile Green (s)	19.5	68.9			45.2	45.2	11.5	11.5	11.5			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	15.8	72.4			52.4	52.4	8.0	8.0	8.0			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	13.4	73.7			56.1	56.1	6.7	6.7	6.7			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	11.1	74.5			59.2	59.2	5.9	5.9	5.9			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	7.9	75.4			63.3	63.3	5.0	5.0	5.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	Min	Min	Min			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	9.9
Intersection LOS:	A
Intersection Capacity Utilization:	45.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Long-Term AM w/o Project

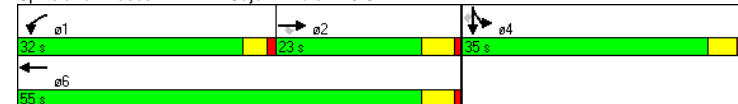
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑↑↑	↑	↑	↑↑↑					↓	↓	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1591	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1591	1504
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		118								66		87
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	494	112	338	541	0	0	0	0	159	30	145
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	520	118	356	569	0	0	0	0	167	98	87
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1		6					4		4
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	23.0	23.0	32.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	25.6%	25.6%	35.6%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	18.0	18.0	27.8	50.0						30.4	30.4	30.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag	Lag		Lag		Lead							
Lead-Lag Optimize?	Yes		Yes		Yes							
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	3.0	3.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Time To Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Recall Mode	C-Max		C-Max		None		C-Max			None	None	None
Walk Time (s)	7.0		7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	47.6	47.6	21.6	73.2						8.8	8.8	8.8

LT AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Actuated g/C Ratio		0.53	0.53	0.24	0.81						0.10	0.10	0.10
v/c Ratio		0.15	0.13	0.84	0.14						0.50	0.46	0.38
Control Delay		12.4	3.6	32.8	4.5						38.4	16.5	9.5
Queue Delay		0.0	0.0	0.2	0.0						0.0	0.0	0.0
Total Delay		12.4	3.6	32.9	4.5						38.4	16.5	9.5
LOS		B	A	C	A						D	B	A
Approach Delay	10.8				15.5				25.1				
Approach LOS	B				B				C				
90th %ile Green (s)	35.0		35.0		30.5		69.7		10.7		10.7		10.7
90th %ile Term Code	Coord	Coord	Gap	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	42.3		42.3		24.7		71.2		9.2		9.2		9.2
70th %ile Term Code	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	47.0		47.0		21.0		72.2		8.2		8.2		8.2
50th %ile Term Code	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	51.5		51.5		17.5		73.2		7.2		7.2		7.2
30th %ile Term Code	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	57.3		57.3		13.1		74.6		5.8		5.8		5.8
10th %ile Term Code	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	15.7
Intersection LOS:	B
Intersection Capacity Utilization:	45.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Long-Term PM w/o Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔			↑↑↑	↔	↔↔	↔	↔			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50				
Trailing Detector (ft)	0	0			0	0	0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	5085	0	0	6408	1583	3433	1548	1504	0	0	0
Flt Permitted	0.950				0.950							
Satd. Flow (perm)	1770	5085	0	0	6408	1583	3433	1548	1504	0	0	0
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)					238				34		34	
Link Speed (mph)	30				30				30			
Link Distance (ft)	378				225				1453			
Travel Time (s)	8.6				5.1				33.0			
Volume (vph)	255	1305	0	0	852	256	161	38	377	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%			
Lane Group Flow (vph)	268	1374	0	0	897	269	169	236	201	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6			8	8			
Permitted Phases					6				8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	24.0	52.0	0.0	0.0	28.0	28.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	26.7%	57.8%	0.0%	0.0%	31.1%	31.1%	42.2%	42.2%	42.2%	0.0%	0.0%	0.0%
Maximum Green (s)	19.8	47.0			23.0	23.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None None None					
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0				0	0	0	0	0			
Act Effct Green (s)	18.1	64.9			42.9	42.9	17.1	17.1	17.1			

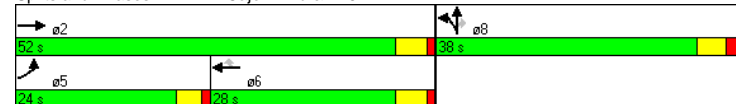
LT PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.20	0.72			0.48	0.48	0.19	0.19	0.19			
v/c Ratio	0.75	0.37			0.29	0.31	0.26	0.74	0.64			
Control Delay	31.2	7.8			16.7	5.2	29.8	30.1	28.2			
Queue Delay	0.0	0.5			0.0	0.0	0.0	0.0	0.0			
Total Delay	31.2	8.3			16.7	5.2	29.8	30.1	28.2			
LOS	C	A			B	A	C	C	C			
Approach Delay	12.0				14.0		29.4					
Approach LOS	B				B		C					
90th %ile Green (s)	25.3	56.0			26.5	26.5	23.4	23.4	23.4			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	20.8	61.3			36.3	36.3	18.1	18.1	18.1			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	17.7	64.2			42.3	42.3	15.2	15.2	15.2			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	14.8	67.1			48.1	48.1	12.3	12.3	12.3			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	10.8	71.1			56.1	56.1	8.3	8.3	8.3			
10th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	15.8
Intersection LOS:	B
Intersection Capacity Utilization:	60.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Long-Term PM w/o Project

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑		↑	↑↑↑						↑↑		↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%						0%		
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	2		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	6408	1583	1770	5085	0	0	0	0	3433	1662	1504
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	6408	1583	1770	5085	0	0	0	0	3433	1662	1504
Right Turn on Red		Yes				Yes			Yes			Yes
Satd. Flow (RTOR)		218										42
Link Speed (mph)	30				30		30				30	
Link Distance (ft)	1320				378		1484				1611	
Travel Time (s)	30.0				8.6		33.7				36.6	
Volume (vph)	0	1155	241	342	720	0	0	0	0	390	143	340
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%				0%	
Lane Group Flow (vph)	0	1216	254	360	758	0	0	0	0	411	254	255
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2			1	6					4	4	
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	25.0	25.0	30.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	27.8%	27.8%	33.3%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	20.0	20.0	20.0	25.8	50.0					30.4	30.4	30.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?	Yes		Yes	Yes								
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	6.0	6.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Recall Mode	C-Max		C-Max	None	C-Max					None	None	None
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0		0	0						0	0	0
Act Effct Green (s)	38.9	38.9	22.3	65.2						16.8	16.8	16.8

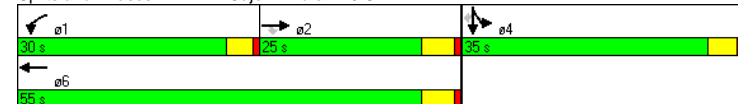
LT PM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.43	0.43	0.25	0.72						0.19	0.19	0.19
v/c Ratio	0.44	0.31	0.82	0.21						0.64	0.74	0.59
Control Delay	20.9	6.6	28.7	4.0						33.7	29.7	11.2
Queue Delay	0.0	0.0	0.6	0.0						0.0	0.0	0.0
Total Delay	20.9	6.6	29.3	4.0						33.8	29.7	11.2
LOS	C	A	C	A						C	C	B
Approach Delay	18.4			12.2						26.4		
Approach LOS	B			B						C		
90th %ile Green (s)	21.0	21.0	31.3	56.5						23.9	23.9	23.9
90th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
70th %ile Green (s)	31.8	31.8	25.6	61.6						18.8	18.8	18.8
70th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
50th %ile Green (s)	38.5	38.5	21.8	64.5						15.9	15.9	15.9
50th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
30th %ile Green (s)	45.6	45.6	18.2	68.0						12.4	12.4	12.4
30th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap
10th %ile Green (s)	52.5	52.5	13.6	70.3						10.1	10.1	10.1
10th %ile Term Code	Coord	Coord	Gap	Coord						Gap	Gap	Gap

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	18.5
Intersection LOS:	B
Intersection Capacity Utilization:	60.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Long-Term AM w/ Proj no TSP

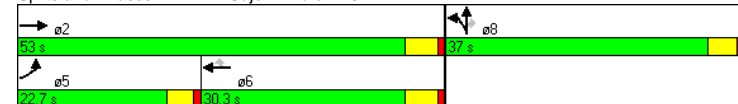
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↕	↔	↕	↕	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2821	1441	0	0	0
Flt Permitted	0.950				0.950	0.995						
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2821	1441	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						270		137	138			
Link Speed (mph)	30				30		30		30			
Link Distance (ft)	378				225		1453		1618			
Travel Time (s)	8.6				5.1		33.0		36.8			
Volume (vph)	178	475	0	0	741	306	97	23	261	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%		0%		0%			
Lane Group Flow (vph)	187	500	0	0	780	322	84	179	138	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8		8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	36.6	36.6	36.6			
Total Split (s)	22.7	53.0	0.0	0.0	30.3	30.3	37.0	37.0	37.0	0.0	0.0	0.0
Total Split (%)	25.2%	58.9%	0.0%	0.0%	33.7%	33.7%	41.1%	41.1%	41.1%	0.0%	0.0%	0.0%
Maximum Green (s)	18.5	48.0			25.3	25.3	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0	1.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	3.0			3.0	3.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None	None	None			
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	13.7	72.9			55.2	55.2	9.1	9.1	9.1			

LT AM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.15	0.81			0.61	0.61	0.10	0.10	0.10			
v/c Ratio	0.70	0.17			0.25	0.30	0.52	0.44	0.51			
Control Delay	32.5	3.0			9.1	3.1	38.2	11.4	7.8			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	32.5	3.0			9.2	3.1	38.2	11.4	7.8			
LOS	C	A			A	A	D	B	A			
Approach Delay	11.1				7.4		15.8					
Approach LOS	B				A		B					
90th %ile Green (s)	19.5	68.2			44.5	44.5	12.2	12.2	12.2			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	15.7	70.5			50.6	50.6	9.9	9.9	9.9			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	13.3	72.0			54.5	54.5	8.4	8.4	8.4			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	11.0	73.4			58.2	58.2	7.0	7.0	7.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	7.8	75.4			63.4	63.4	5.0	5.0	5.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	Min	Min	Min			

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	10.1
Intersection LOS:	B
Intersection Capacity Utilization:	47.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Long-Term AM w/ Proj no TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%			0%			0%			
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	2961	1441
Flt Permitted				0.950						0.950	0.978	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	2961	1441
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		118								66		87
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	1320			378			1484			1611		
Travel Time (s)	30.0			8.6			33.7			36.6		
Volume (vph)	0	494	112	338	541	0	0	0	0	159	30	145
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	0	520	118	356	569	0	0	0	0	84	181	87
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2		1		6				4		4	
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0				5.0			5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0				34.6			34.6	34.6
Total Split (s)	0.0	23.0	23.0	32.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	25.6%	25.6%	35.6%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	18.0	18.0	27.8	50.0				30.4			30.4	30.4
Yellow Time (s)	4.0	4.0	3.2	4.0				3.6			3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0				1.0			1.0	1.0
Lead/Lag	Lag		Lag		Lead							
Lead-Lag Optimize?	Yes		Yes		Yes							
Vehicle Extension (s)	4.0	4.0	2.0	4.0				2.0			2.0	2.0
Minimum Gap (s)	3.0	3.0	2.0	6.0				2.0			2.0	2.0
Time Before Reduce (s)	1.0	1.0	0.0	1.0				0.0			0.0	0.0
Time To Reduce (s)	0.1	0.1	0.0	0.1				0.0			0.0	0.0
Recall Mode	C-Max		C-Max		None		C-Max				None	
Walk Time (s)	7.0		7.0		7.0						7.0	
Flash Dont Walk (s)	11.0		11.0		17.0						23.0	
Pedestrian Calls (#/hr)	0		0		0						0	
Act Effct Green (s)	47.3	47.3	21.5	72.8				9.2			9.2	9.2

LT AM w/ Proj no TSP

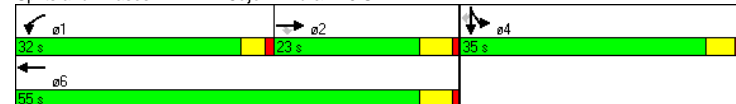


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.53					0.53	0.24	0.81				
v/c Ratio	0.28					0.13	0.84	0.20				
Control Delay	14.2					3.8	31.6	5.8				
Queue Delay	0.0					0.0	0.2	0.0				
Total Delay	14.2					3.8	31.7	5.8				
LOS	B					A	C	A				
Approach Delay	12.3					15.7					23.6	
Approach LOS	B					B					C	
90th %ile Green (s)	33.3					33.3	30.6	68.1				
90th %ile Term Code	Coord					Coord	Gap	Coord				
70th %ile Green (s)	41.6					41.6	24.6	70.4				
70th %ile Term Code	Coord					Coord	Gap	Coord				
50th %ile Green (s)	46.7					46.7	21.0	71.9				
50th %ile Term Code	Coord					Coord	Gap	Coord				
30th %ile Green (s)	51.7					51.7	17.5	73.4				
30th %ile Term Code	Coord					Coord	Gap	Coord				
10th %ile Green (s)	58.2					58.2	13.0	75.4				
10th %ile Term Code	Coord					Coord	Gap	Coord				
								Min				

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	16.0
Intersection LOS:	B
Intersection Capacity Utilization:	47.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon blvd & I-15 NB Long-Term PM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2838	1441	0	0	0
Flt Permitted	0.950				0.950		0.994					
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2838	1441	0	0	0
Right Turn on Red	Yes			Yes			Yes			Yes		
Satd. Flow (RTOR)				189			34			34		
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			225			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	255	1305	0	0	852	256	161	38	377	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	268	1374	0	0	897	269	134	273	199	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2			6	8	8					
Permitted Phases					6		8		8			
Minimum Initial (s)	5.0	15.0			5.0	5.0	5.0	5.0	5.0			
Minimum Split (s)	9.2	29.0			28.0	28.0	37.6	37.6	37.6			
Total Split (s)	24.0	52.0	0.0	0.0	28.0	28.0	38.0	38.0	38.0	0.0	0.0	0.0
Total Split (%)	26.7%	57.8%	0.0%	0.0%	31.1%	31.1%	42.2%	42.2%	42.2%	0.0%	0.0%	0.0%
Maximum Green (s)	19.8	47.0			23.0	23.0	32.4	32.4	32.4			
Yellow Time (s)	3.2	4.0			4.0	4.0	3.6	3.6	3.6			
All-Red Time (s)	1.0	1.0			1.0	1.0	2.0	2.0	2.0			
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0			4.0	4.0	2.0	2.0	2.0			
Minimum Gap (s)	2.0	6.0			6.0	6.0	2.0	2.0	2.0			
Time Before Reduce (s)	0.0	0.8			0.9	0.9	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.1			0.1	0.1	0.0	0.0	0.0			
Recall Mode	None C-Max				C-Max C-Max		None		None		None	
Walk Time (s)	7.0				7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	17.0				16.0	16.0	25.0	25.0	25.0			
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	17.4	66.3			44.9	44.9	15.7	15.7	15.7			

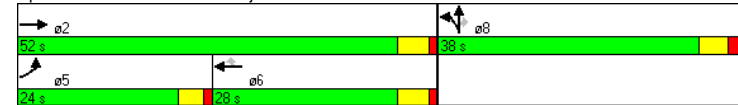
LT PM w/ Proj no TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.74			0.50	0.50	0.17	0.17	0.17			
v/c Ratio	0.79	0.53			0.35	0.30	0.48	0.52	0.71			
Control Delay	28.4	7.1			16.3	7.1	32.8	28.8	29.5			
Queue Delay	0.0	2.7			0.0	0.0	0.0	0.0	0.0			
Total Delay	28.4	9.8			16.3	7.1	32.8	28.8	29.5			
LOS	C		A		B		A	C	C	C		
Approach Delay	12.9			14.2			29.9					
Approach LOS	B			B			C					
90th %ile Green (s)	24.9	57.6			28.5	28.5	21.8	21.8	21.8			
90th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
70th %ile Green (s)	20.4	62.7			38.1	38.1	16.7	16.7	16.7			
70th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
50th %ile Green (s)	16.4	65.6			45.0	45.0	13.8	13.8	13.8			
50th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
30th %ile Green (s)	13.5	68.4			50.7	50.7	11.0	11.0	11.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			
10th %ile Green (s)	10.6	72.1			57.3	57.3	7.3	7.3	7.3			
10th %ile Term Code	Gap	Coord			Coord	Coord	Gap	Gap	Gap			

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 16.3
 Intersection LOS: B
 Intersection Capacity Utilization 73.5%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Long-Term PM w/ Proj no TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%			0%			0%			
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	3027	1441
Flt Permitted				0.950						0.950	0.979	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	3027	1441
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		136								41		189
Link Speed (mph)	30				30				30			30
Link Distance (ft)	1320				378				1484			1611
Travel Time (s)	30.0				8.6				33.7			36.6
Volume (vph)	0	1155	241	342	720		0	0	0	390	143	340
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%			0%
Lane Group Flow (vph)	0	1216	254	360	758	0	0	0	0	219	447	254
Turn Type		Perm		Prot					Split			Perm
Protected Phases	2			1	6				4			4
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0				5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0	9.2	29.0				34.6		34.6	34.6	
Total Split (s)	0.0	33.0	33.0	22.0	55.0	0.0	0.0	0.0	0.0	35.0	35.0	35.0
Total Split (%)	0.0%	36.7%	36.7%	24.4%	61.1%	0.0%	0.0%	0.0%	0.0%	38.9%	38.9%	38.9%
Maximum Green (s)	28.0	28.0	17.8	50.0				30.4		30.4	30.4	
Yellow Time (s)	4.0	4.0	3.2	4.0				3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0				1.0		1.0	1.0	
Lead/Lag	Lag		Lag		Lead					Lag		
Lead-Lag Optimize?	Yes		Yes		Yes							
Vehicle Extension (s)	4.0	4.0	2.0	4.0				2.0		2.0	2.0	
Minimum Gap (s)	6.0	6.0	2.0	6.0				2.0		2.0	2.0	
Time Before Reduce (s)	0.1	0.1	0.0	0.1				0.0		0.0	0.0	
Time To Reduce (s)	1.0	1.0	0.0	1.0				0.0		0.0	0.0	
Recall Mode	C-Max		C-Max		None					None		None
Walk Time (s)	7.0	7.0			7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			17.0				23.0	23.0	23.0	
Pedestrian Calls (#/hr)	0		0					0		0	0	
Act Effct Green (s)	34.0	34.0	26.7	64.7				17.3		17.3	17.3	

LT PM w/ Proj no TSP

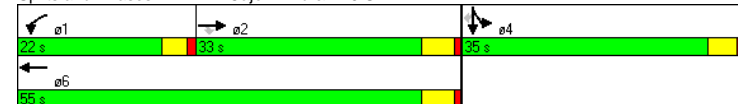


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.38	0.38	0.30	0.72						0.19	0.19
v/c Ratio		0.91	0.37	0.69	0.30						0.71	0.73
Control Delay		39.9	12.2	27.3	6.2						35.2	31.3
Queue Delay		36.3	0.0	0.0	0.3						0.0	0.0
Total Delay		76.2	12.2	27.3	6.5						35.2	31.3
LOS		E	B	C	A						D	C
Approach Delay		65.1			13.2						26.6	
Approach LOS		E			B						C	
90th %ile Green (s)		28.0	28.0	24.2	56.4						24.0	24.0
90th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap
70th %ile Green (s)		28.0	28.0	29.1	61.3						19.1	19.1
70th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap
50th %ile Green (s)		31.7	31.7	28.1	64.0						16.4	16.4
50th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap
30th %ile Green (s)		36.2	36.2	26.5	66.9						13.5	13.5
30th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap
10th %ile Green (s)		41.1	41.1	24.5	69.8						10.6	10.6
10th %ile Term Code		Coord	Coord	Gap	Coord						Gap	Gap

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	38.5
Intersection LOS:	D
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon Blvd & I-15 NB Long-Term AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2825	1441	0	0	0
Flt Permitted	0.950				0.950	0.994						
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2825	1441	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						322			137			138
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			225			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	178	475	0	0	741	306	97	23	261	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	187	500	0	0	780	322	81	182	138	0	0	0
Turn Type	Prot				Perm		Split		Perm			
Protected Phases	5	2				6	8	8				
Permitted Phases					6		8		8			
Minimum Initial (s)	5.0	15.0				5.0	5.0	5.0	5.0	5.0		
Minimum Split (s)	9.2	29.0				28.0	28.0	36.6	36.6	36.6		
Total Split (s)	21.0	63.0	0.0	0.0	42.0	42.0	27.0	27.0	27.0	0.0	0.0	0.0
Total Split (%)	23.3%	70.0%	0.0%	0.0%	46.7%	46.7%	30.0%	30.0%	30.0%	0.0%	0.0%	0.0%
Maximum Green (s)	16.8	58.0				37.0	37.0	22.4	22.4	22.4		
Yellow Time (s)	3.2	4.0				4.0	4.0	3.6	3.6	3.6		
All-Red Time (s)	1.0	1.0				1.0	1.0	1.0	1.0	1.0		
Lead/Lag	Lead				Lag		Lag					
Lead-Lag Optimize?	Yes				Yes		Yes					
Vehicle Extension (s)	2.0	4.0				4.0	4.0	2.0	2.0	2.0		
Minimum Gap (s)	2.0	3.0				3.0	3.0	2.0	2.0	2.0		
Time Before Reduce (s)	0.0	0.8				0.9	0.9	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.1				0.1	0.1	0.0	0.0	0.0		
Recall Mode	None C-Max				C-Max C-Max		None		None		None	
Walk Time (s)	7.0				7.0		7.0		7.0		7.0	
Flash Dont Walk (s)	17.0				16.0		16.0		25.0		25.0	
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	13.9	72.8				54.9	54.9	9.2	9.2	9.2		

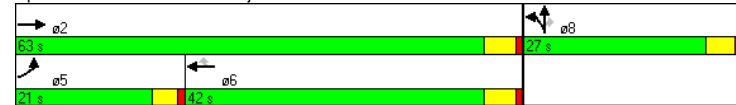
LT AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.15	0.81				0.61	0.61	0.10	0.10	0.10		
v/c Ratio	0.69	0.17				0.25	0.29	0.49	0.44	0.51		
Control Delay	34.1	3.7				9.3	2.2	38.5	11.9	8.5		
Queue Delay	0.0	0.0				0.0	0.0	0.0	0.0	0.0		
Total Delay	34.1	3.7				9.3	2.2	38.5	11.9	8.5		
LOS	C		A		A			A	D	B		A
Approach Delay	12.0				7.2				16.1			
Approach LOS	B				A				B			
90th %ile Green (s)	19.7	68.0				44.1	44.1	12.4	12.4	12.4		
90th %ile Term Code	Gap	Coord				Coord	Coord	Gap	Gap	Gap		
70th %ile Green (s)	16.0	70.3				50.1	50.1	10.1	10.1	10.1		
70th %ile Term Code	Gap	Coord				Coord	Coord	Gap	Gap	Gap		
50th %ile Green (s)	13.5	71.9				54.2	54.2	8.5	8.5	8.5		
50th %ile Term Code	Gap	Coord				Coord	Coord	Gap	Gap	Gap		
30th %ile Green (s)	11.2	73.4				58.0	58.0	7.0	7.0	7.0		
30th %ile Term Code	Gap	Coord				Coord	Coord	Gap	Gap	Gap		
10th %ile Green (s)	7.9	75.4				63.3	63.3	5.0	5.0	5.0		
10th %ile Term Code	Gap	Coord				Coord	Coord	Min	Min	Min		

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 10.4
 Intersection LOS: B
 Intersection Capacity Utilization 47.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon Blvd & I-15 SB Long-Term AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%				0%		0%	
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	2964	1441
Flt Permitted				0.950						0.950	0.977	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	2964	1441
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118								63	90
Link Speed (mph)		30			30				30			30
Link Distance (ft)		1320			378			1484			1611	
Travel Time (s)		30.0			8.6			33.7			36.6	
Volume (vph)	0	494	112	338	541	0	0	0	0	159	30	145
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Lane Group Flow (vph)	0	520	118	356	569	0	0	0	0	84	178	90
Turn Type			Perm	Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Minimum Initial (s)		5.0	5.0	5.0	5.0					5.0	5.0	5.0
Minimum Split (s)		23.0	23.0	9.2	29.0					34.6	34.6	34.6
Total Split (s)		0.0	48.0	48.0	17.0	65.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)		0.0%	53.3%	53.3%	18.9%	72.2%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)		43.0	43.0	12.8	60.0					20.4	20.4	20.4
Yellow Time (s)		4.0	4.0	3.2	4.0					3.6	3.6	3.6
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		4.0	4.0	2.0	4.0					2.0	2.0	2.0
Minimum Gap (s)		3.0	3.0	2.0	6.0					2.0	2.0	2.0
Time Before Reduce (s)		1.0	1.0	0.0	1.0					0.0	0.0	0.0
Time To Reduce (s)		0.1	0.1	0.0	0.1					0.0	0.0	0.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		17.0					23.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		44.0	44.0	24.6	72.6					9.4	9.4	9.4

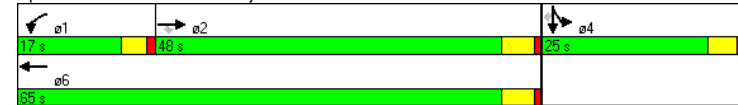
LT AM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Actuated g/C Ratio		0.49	0.49	0.27	0.81						0.10	0.10	0.10
v/c Ratio		0.30	0.14	0.74	0.20						0.50	0.49	0.39
Control Delay		14.4	3.0	36.6	5.9						38.7	24.4	9.6
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0	0.0
Total Delay		14.4	3.0	36.6	5.9						38.7	24.4	9.6
LOS		B	A	D	A						D	C	A
Approach Delay		12.3			17.7							24.1	
Approach LOS		B			B							C	
90th %ile Green (s)		43.0	43.0	20.5	67.7						12.7	12.7	12.7
90th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
70th %ile Green (s)		43.0	43.0	22.9	70.1						10.3	10.3	10.3
70th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
50th %ile Green (s)		43.0	43.0	24.5	71.7						8.7	8.7	8.7
50th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
30th %ile Green (s)		43.0	43.0	26.0	73.2						7.2	7.2	7.2
30th %ile Term Code		Coord	Coord	Max	Coord						Gap	Gap	Gap
10th %ile Green (s)		43.0	43.0	28.2	75.4						5.0	5.0	5.0
10th %ile Term Code		Coord	Coord	Max	Coord						Min	Min	Min

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	45 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	17.1
Intersection LOS:	B
Intersection Capacity Utilization:	47.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB



El Cajon blvd & I-15 NB Long-Term PM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕	↔	↔	↕	↕	↔	↕	↕	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%		0%		0%		0%		0%		0%	
Storage Length (ft)	180		0	0		81	136		200	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50			50	50	50	50				
Trailing Detector (ft)	0	0			0	0	0	0				
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	3539	0	0	5085	1583	1610	2838	1441	0	0	0
Flt Permitted	0.950						0.950	0.993				
Satd. Flow (perm)	1770	3539	0	0	5085	1583	1610	2838	1441	0	0	0
Right Turn on Red			Yes			Yes		Yes				Yes
Satd. Flow (RTOR)						139		63				63
Link Speed (mph)	30			30			30			30		
Link Distance (ft)	378			225			1453			1618		
Travel Time (s)	8.6			5.1			33.0			36.8		
Volume (vph)	255	1305	0	0	852	256	161	38	377	0	0	0
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%			0%			0%			0%		
Lane Group Flow (vph)	268	1374	0	0	897	269	131	276	199	0	0	0
Turn Type	Prot				NA		Split		Perm			
Protected Phases	5	2			6	8		8				
Permitted Phases	8											
Minimum Initial (s)	5.0	15.0			5.0	5.0		5.0				
Minimum Split (s)	9.2	29.0			28.0	37.6		37.6				
Total Split (s)	24.0	62.0	0.0	0.0	38.0	0.0	28.0	28.0	28.0	0.0	0.0	0.0
Total Split (%)	26.7%	68.9%	0.0%	0.0%	42.2%	0.0%	31.1%	31.1%	31.1%	0.0%	0.0%	0.0%
Maximum Green (s)	19.8	57.0			33.0	22.4		22.4				
Yellow Time (s)	3.2	4.0			4.0	3.6		3.6				
All-Red Time (s)	1.0	1.0			1.0	2.0		2.0				
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	2.0	4.0			4.0	2.0		2.0				
Minimum Gap (s)	2.0	6.0			6.0	2.0		2.0				
Time Before Reduce (s)	0.0	0.8			0.9	0.0		0.0				
Time To Reduce (s)	0.0	0.1			0.1	0.0		0.0				
Recall Mode	None C-Max				C-Max	None		None				
Walk Time (s)	7.0				7.0	7.0		7.0				
Flash Dont Walk (s)	17.0				16.0	25.0		25.0				
Pedestrian Calls (#/hr)	0											
Act Effct Green (s)	17.1	67.2			46.1	0.0	14.8	14.8	14.8			

LT PM w/ Proj w/ TSP

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.19	0.75			0.51	0.00	0.16	0.16	0.16			
v/c Ratio	0.80	0.52			0.34	1.94	0.50	0.53	0.69			
Control Delay	31.7	10.0			15.1	461.2	34.6	26.4	26.5			
Queue Delay	0.0	2.4			0.0	0.0	0.0	0.0	0.0			
Total Delay	31.7	12.3			15.1	461.2	34.6	26.4	26.5			
LOS	C	B			B	F	C	C	C			
Approach Delay	15.5				118.1				28.2			
Approach LOS	B				F				C			
90th %ile Green (s)	21.2	58.4			33.0	21.0		21.0	21.0			
90th %ile Term Code	Max	Coord			Coord	Gap		Gap	Gap			
70th %ile Green (s)	20.8	63.7			38.7	15.7		15.7	15.7			
70th %ile Term Code	Gap	Coord			Coord	Gap		Gap	Gap			
50th %ile Green (s)	17.7	66.7			44.8	12.7		12.7	12.7			
50th %ile Term Code	Gap	Coord			Coord	Gap		Gap	Gap			
30th %ile Green (s)	14.4	69.7			51.1	9.7		9.7	9.7			
30th %ile Term Code	Gap	Coord			Coord	Gap		Gap	Gap			
10th %ile Green (s)	10.5	72.7			58.0	6.7		6.7	6.7			
10th %ile Term Code	Gap	Coord			Coord	Gap		Gap	Gap			

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.94
Intersection Signal Delay:	52.8
Intersection LOS:	D
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 11: El Cajon Blvd & I-15 NB



El Cajon blvd & I-15 SB Long-Term PM w/ Proj w/ TSP



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑	↓	↑↑					↓	↓↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	0		120	190		0	0		0	200		205
Storage Lanes	0		1	1		0	0		0	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	0	3539	1583	1770	3539	0	0	0	0	1610	3061	1441
Flt Permitted				0.950						0.950	0.976	
Satd. Flow (perm)	0	3539	1583	1770	3539	0	0	0	0	1610	3061	1441
Right Turn on Red		Yes				Yes				Yes		Yes
Satd. Flow (RTOR)		166								17		260
Link Speed (mph)	30				30				30			30
Link Distance (ft)	1320				378				1484			1611
Travel Time (s)	30.0				8.6				33.7			36.6
Volume (vph)	0	1155	241	342	720		0	0	0	390	143	340
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)	0%				0%				0%			0%
Lane Group Flow (vph)	0	1216	254	360	758	0	0	0	0	206	415	299
Turn Type		Perm		Prot						Split		Perm
Protected Phases	2			1	6					4		4
Permitted Phases	4											
Minimum Initial (s)	5.0	5.0	5.0	5.0						5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	9.2	29.0						34.6	34.6	34.6
Total Split (s)	0.0	44.0	44.0	22.0	66.0	0.0	0.0	0.0	0.0	24.0	24.0	24.0
Total Split (%)	0.0%	48.9%	48.9%	24.4%	73.3%	0.0%	0.0%	0.0%	0.0%	26.7%	26.7%	26.7%
Maximum Green (s)	39.0	39.0	17.8	61.0						19.4	19.4	19.4
Yellow Time (s)	4.0	4.0	3.2	4.0						3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0						1.0	1.0	1.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	4.0	4.0	2.0	4.0						2.0	2.0	2.0
Minimum Gap (s)	6.0	6.0	2.0	6.0						2.0	2.0	2.0
Time Before Reduce (s)	0.1	0.1	0.0	0.1						0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0	0.0	1.0						0.0	0.0	0.0
Recall Mode	C-Max		C-Max	None	C-Max					None	None	None
Walk Time (s)	7.0	7.0		7.0						7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		17.0						23.0	23.0	23.0
Pedestrian Calls (#/hr)	0	0		0						0	0	0
Act Effct Green (s)	40.4	40.4	21.1	65.5						16.5	16.5	16.5

LT PM w/ Proj w/ TSP

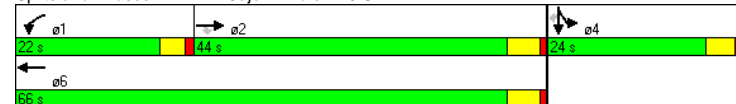


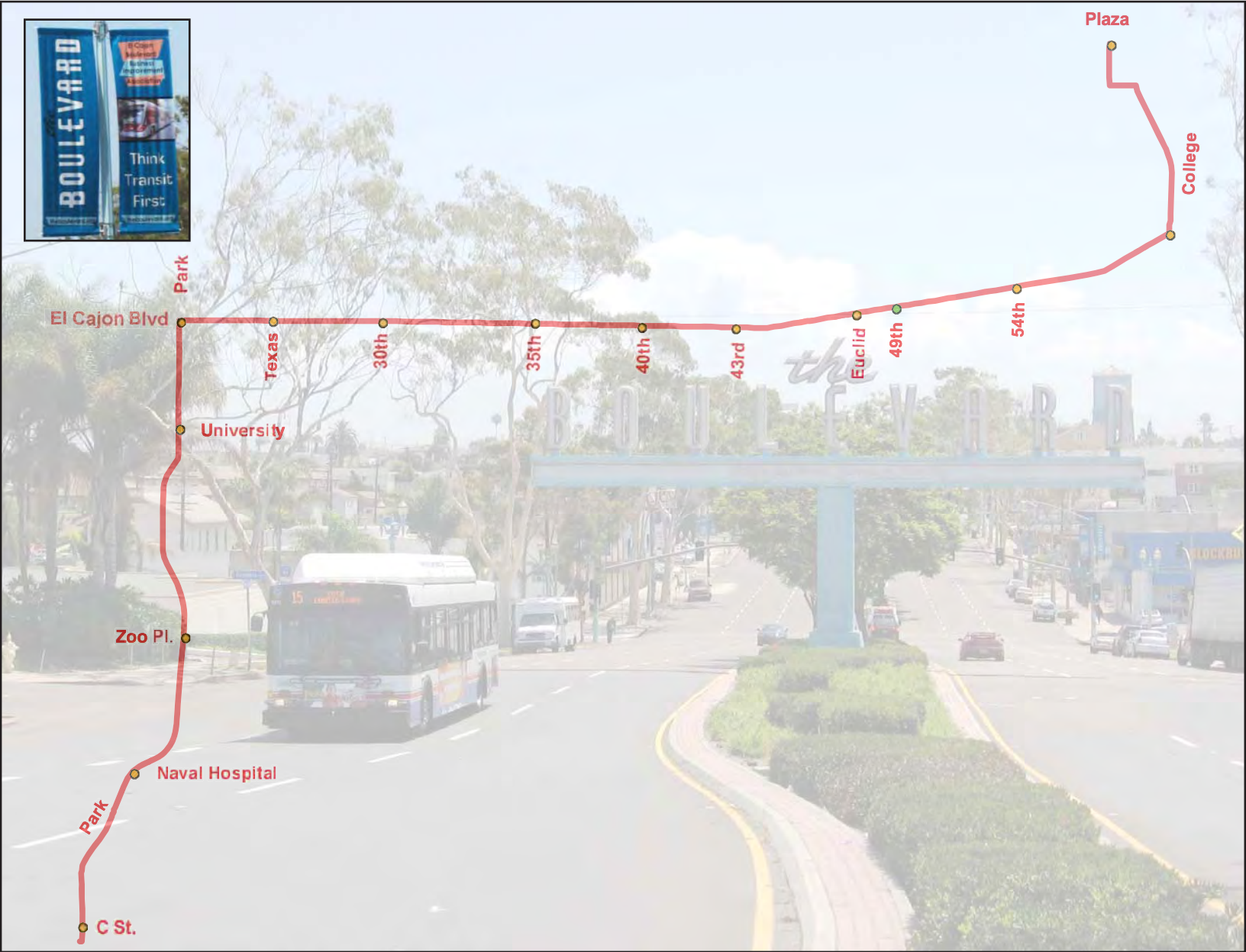
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Actuated g/C Ratio		0.45	0.45	0.23	0.73						0.18	0.18	0.18	
v/c Ratio		0.77	0.32	0.87	0.29						0.70	0.72	0.63	
Control Delay		25.0	7.0	49.1	6.2						40.6	36.5	11.1	
Queue Delay		20.7	0.0	0.0	0.3						0.0	0.0	0.0	
Total Delay		45.7	7.0	49.1	6.5						40.6	36.5	11.1	
LOS		D	A	D	A						D	D	B	
Approach Delay	39.0				20.2				29.2					
Approach LOS	D				C				C					
90th %ile Green (s)	39.0			39.0			17.8		61.0		19.4		19.4	
90th %ile Term Code	Coord		Coord		Max		Coord		Max		Max		Max	
70th %ile Green (s)	39.0			39.0			18.1		61.3		19.1		19.1	
70th %ile Term Code	Coord		Coord		Max		Coord		Gap		Gap		Gap	
50th %ile Green (s)	39.0			39.0			20.8		64.0		16.4		16.4	
50th %ile Term Code	Coord		Coord		Max		Coord		Gap		Gap		Gap	
30th %ile Green (s)	39.0			39.0			23.5		66.7		13.7		13.7	
30th %ile Term Code	Coord		Coord		Max		Coord		Gap		Gap		Gap	
10th %ile Green (s)	40.8			40.8			24.5		69.5		10.9		10.9	
10th %ile Term Code	Coord		Coord		Gap		Coord		Gap		Gap		Gap	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	40 (44%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	30.4
Intersection LOS:	C
Intersection Capacity Utilization:	73.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 12: El Cajon Blvd & I-15 SB





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