HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: October 3, 2022

To: Dominic Boitano, Robson Homes

From: Gary Black
Daniel Choi

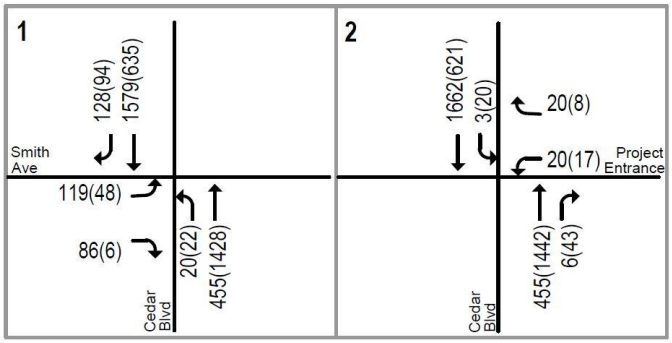
Subject: 38478 Cedar Boulevard Transportation Impact Analysis

Hexagon Transportation Consultants, Inc. completed a transportation analysis dated July 5, 2022, for your proposed residential development at 38478 Cedar Boulevard in Newark. Since then, the city of Newark has requested additional analyses for the intersections of Cedar Boulevard/Smith Avenue and the Cedar Boulevard/Project Entrance. The city has requested that average delay and level of service be calculated under cumulative conditions with the signalization of Cedar Boulevard/Smith Avenue. Additionally, the 95th percentile queue lengths were analyzed for the left-turn pockets along Cedar Boulevard (at Smith Avenue and at the Project Entrance) to ensure that the proposed turn pockets are of adequate length.

Level of service and delay were calculated with Synchro software, which utilizes the Highway Capacity Manual (HCM) 6th Edition methodology. The 95th percentile queue for the northbound left-turn movement at Cedar Boulevard/Smith Avenue and the southbound left-turn movement at Cedar Boulevard/Project Entrance are reported from Synchro.

Traffic volumes for this supplementary analysis (see Figure 1) are the same as the cumulative plus project conditions described in the transportation analysis dated July 5, 2022. Through traffic volumes at the project driveway were interpolated using the traffic volumes at Cedar Boulevard/Smith Avenue. It should be noted that the project-scenario traffic estimates are based on the previously proposed 127-unit development. The newly proposed 118-unit site would result in a slightly smaller number of site-generated traffic. Therefore, similar to the results in the transportation analysis dated July 5, 2022, this analysis represents a conservative calculation for delay, level of service, and queueing.

Figure 1
Peak Hour Traffic Volume



Design Assumptions

The project proposes to construct a median along the project's frontage on Cedar Boulevard. A 150-foot-long left-turn pocket is proposed for the southbound left-turn movement into the project site. Additionally, the project proposes a 160-foot-long left-turn pocket for the northbound left-turn movement at Cedar Boulevard/Smith Avenue. The project proposes to construct a traffic signal at the intersection of Cedar Boulevard/Smith Avenue. It is assumed that the signal cycle length would be 100 seconds during both peak hours.

Analysis

The results of the level of service calculation at Cedar Boulevard/Smith Avenue show that vehicles entering the intersection would experience an average delay of 13.7 seconds in the AM peak hour and 4.7 seconds in the PM peak hour (see Table 1) with the installation of a traffic signal. The intersection would operate at an acceptable level of service with the installation of a traffic signal.

Table 1
Level of Service and Delay

		Cumulative with Project			
		Stop Control		Signal	
Intersection	Peak Hour	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Cedar Boulevard & Smith Avenue	AM	**120+**	**F**	13.7	B
	PM	**48.1**	**E**	4.7	A

Queuing at the proposed left-turn pockets along Cedar Boulevard was calculated with Synchro software and reported below in Table 2. The average delay for the left-turning movements are reported for informational purposes. Since both left-turn pockets would service relatively low traffic, queues would be minimal at both turn-pockets. The proposed turn pockets on Cedar Boulevard along the project frontage would provide adequate length for queuing and would not disrupt traffic flow along Cedar Boulevard.

Table 2
95th Percentile Queue

	Cedar Boulevard & Smith Avenue		Cedar Boulevard & Project Entrance	
	NBL		SBL	
	AM	PM	AM	PM
Cumulative Plus Project				
Cycle Length (sec)	100	100	n/a	n/a
Average Delay (sec)	46.6	26.7	8.4	14.5
Volume (vphpl)	20	22	3	20
95th %. Queue (ft/ln.)	39	0	31	4
95th %. Queue (veh/ln) [2]	2	0	1	0
Storage (ft./ ln.)	160	160	150	150
Adequate (Y/N)	Y	Y	Y	Y

Notes:

NBL = northbound left movement, SBL = southbound left movement

[1] Vehicle queue calculations based on cycle length for signalized intersections and control delay for unsignalized intersections.

[2] Assumes 25 Feet Per Vehicle Queued.

HEXAGON TRANSPORTATION CONSULTANTS, INC.

38478 Cedar Boulevard

Transportation Impact Analysis

Prepared for:

Robson Homes

July 5, 2022

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Hexagon Office: 100 Century Center Court, Suite 501
San Jose, CA 95112
Hexagon Job Number: 20DC14
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Executive Summary

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed residential development at 38478 Cedar Boulevard in Newark, California. The project site is located along the north side of Cedar Boulevard, between Moores Avenue and Smith Avenue. The project proposes to construct 127 units of single-family homes and duplex homes. Currently, the project site is occupied by several businesses, including a cement contractor and several automobile repair shops. Access to the project site would be provided via two access roads along Cedar Boulevard.

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Newark, and the Alameda County Transportation Commission, the administering agency for the Congestion Management Program (CMP) of Alameda County. The traffic study includes an analysis of AM and PM peak hour traffic conditions for three (3) signalized intersections and one (1) unsignalized intersection in the vicinity of the project site. Vehicle Miles Traveled (VMT) per capita was reported and compared to the regional average. Potential impacts to pedestrians, bicycles, and transit were also considered.

Based on trip generation rates recommended by the Institute of Transportation Engineers (ITE), it is estimated that the proposed project would generate 819 net new daily trips, with 72 trips during the AM peak hour and 88 trips during the PM peak hour. Driveway counts were conducted to determine trip generation credits for the existing uses on-site.

The results of the intersection level of service analysis under existing and cumulative scenarios, with and without the project, are summarized in Table ES-1. Due to the ongoing COVID-19 pandemic, the intersection level of service analysis was analyzed with both new counts from September 2020, as well as escalated traffic volumes from pre-pandemic conditions using a 1.94% (AM peak hour) and 1.47% (PM peak hour) compounded growth factor. The results determined that under all scenarios with and without the project, most of the study intersections would operate in accordance with local standards during both AM and PM peak hours. The intersection of Cedar Boulevard/Smith Avenue would operate at LOS E and LOS F under cumulative conditions during the AM and PM peak hours, respectively. However, the addition of project trips would not have a noticeable impact on traffic operations at the intersection.

The Alameda Countywide Travel Model reports the average daily VMT for the City of Newark to be 22.6 miles per resident for existing conditions and 20.4 miles per resident for Year 2040. Therefore, the target VMT for the proposed project should be 19.2 miles per resident (-15% under the existing VMT). The Transportation Analysis Zone (TAZ) in which the project is located in is calculated to have an average daily VMT of 23.3 miles per resident. The Alameda County Transportation Commission (ACTC) has released a Mobility Management VMT Reduction Calculator Tool that calculates the change in VMT as a result of project design features and various Transportation Demand Management (TDM) strategies. After inputting the project information into the ACTC VMT reduction calculator tool,

the project would reduce its VMT by 18.1% based on increasing the residential density of the project site. After applying an 18.1% reduction to existing VMT per resident, the project would be below the VMT target goal, and it can be concluded that the project would have a less than significant impact on VMT.

This report also makes the following conclusions and recommendations for the project:

- The project should coordinate with city staff to determine whether a signal should be installed at the intersection of Cedar Boulevard & Smith Avenue.
- Since the project would add trips to a left-turn pocket that already exceeds capacity during the heaviest cycles, the project should discuss with the City of Newark to determine if the southbound left-turn pocket at the intersection of Cedar Boulevard and Mowry Avenue should be extended.
- The project should coordinate with city staff to determine whether a left turn median refuge along Cedar Boulevard from the project driveway should be installed.
- Signage stating “NO OUTLET”, or similar, should be provided at dead-end aisles.

Table ES-1
Intersection Level of Service Summary

#	Intersection	Peak Hour	Existing						Existing (Factored)						Cumulative					
			No Project		with Project				No Project		with Project				No Project		with Project			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay (sec)	Incr. in Critical V/C	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay (sec)	Incr. in Critical V/C	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay (sec)	Incr. in Critical V/C
1	Cedar Boulevard & Central Avenue	AM	31.4	C	31.5	C	0.0	0.005	33.8	C	33.9	C	0.2	0.005	51.8	D	52.6	D	0.5	0.005
		PM	28.3	C	28.3	C	0.2	0.007	30.1	C	30.1	C	0.0	0.004	**58.5**	**E**	**58.8**	**E**	0.6	0.002
2	Cedar Boulevard & Smith Avenue[1]	AM	10.6	B	10.7	B	0.0	0.001	34.7	D	**35.7**	**E**	0.0	0.008	**120+**	**F**	**120+**	**F**	1.1	0.040
		PM	10.6	B	12.9	B	0.0	0.003	19.9	C	20.5	C	0.0	0.007	**45.7**	**E**	**48.1**	**E**	0.0	0.014
3	Cedar Boulevard & Moores Avenue	AM	10.0	A	9.0	A	-0.8	0.012	3.2	A	3.1	A	-0.1	0.012	3.5	A	3.4	A	-0.1	0.012
		PM	3.7	A	3.4	A	-0.2	0.005	6.0	A	5.7	A	-0.1	0.005	5.0	A	4.9	A	0.0	0.005
4	Cedar Boulevard & Mowry Avenue	AM	22.8	C	23.5	C	1.0	0.021	27.2	C	27.3	C	0.4	0.020	26.2	C	26.3	C	0.1	0.002
		PM	25.8	C	25.9	C	0.3	0.011	27.9	C	27.9	C	0.3	0.010	40.6	D	41.0	D	0.7	0.003

Bold indicates a substandard level of service.

Note:

[1] Cedar Boulevard & Smith Avenue is a two-way stop-controlled intersection. The worst leg delay is reported.

1. Introduction

This report presents the results of the Transportation Impact Analysis (TIA) conducted for the proposed residential development located at 38478 Cedar Boulevard in Newark, California. The project site is located on the north side of Cedar Boulevard, between Moores Avenue and Smith Avenue. The project proposes to construct 127 units of single-family homes and duplex homes. Currently, the project site is occupied by several businesses, including a cement contractor and several automobile repair shops. Access to the project site would be provided via two driveways along Cedar Boulevard.

Due to the ongoing COVID-19 pandemic, most offices and schools are closed, and people are working at home to the extent possible. As a result, current traffic volumes are a fraction of what they were prior to the virus outbreak. It is not known when traffic conditions will return to pre-pandemic levels. The level of service analyses in this report utilize new traffic counts from September 2020, as well as the most recent traffic counts (pre-pandemic).

Scope of Study

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Newark and the Alameda County Transportation Commission, the administering agency for the Congestion Management Program (CMP) of Alameda County. The estimated Vehicle Miles Traveled (VMT) from the proposed development was compared to the regional average. In addition, the traffic study includes an analysis of AM and PM peak hour traffic conditions for three (3) signalized intersections and one (1) unsignalized intersection in the vicinity of the project site. Since the project is expected to generate fewer than 100 net PM peak hour trips, a CMP roadway segment analysis is not required. The study also includes a signal warrant analysis to determine the need for signalization at the study unsignalized intersection. An analysis of site access and on-site circulation, vehicle queuing, and transit, bicycle, and pedestrian access is also included.

Study Intersections

1. Cedar Boulevard & Central Avenue
2. Cedar Boulevard & Smith Avenue (unsignalized)
3. Cedar Boulevard & Moores Avenue
4. Cedar Boulevard & Mowry Avenue

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most traffic congestion occurs on the roadways.

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes at study intersections were based on traffic counts conducted in September 2020 and by escalating the most recent pre-pandemic traffic counts. A 1.94% (AM peak hour) and 1.47% (PM peak hour) compounded annual growth factor was used to escalate pre-pandemic traffic volumes to existing (Factored) conditions. These factors were derived by analyzing historical count data at intersections in Newark. Pre-pandemic traffic volumes were taken from the 2035 General Plan EIR, the Area 3 and 4 Specific Plan EIR, and the Newark Area 4 Specific Plan LOS Tune Up Update. The study intersections were evaluated with a level of service analysis using TRAFFIX software in accordance with the *2000 Highway Capacity Manual* methodology.

Scenario 2: *Existing plus Project Conditions.* Existing traffic volumes with the project were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on the existing roadway network.

Scenario 3: *Cumulative Conditions.* Cumulative traffic volumes represent traffic growth through the year 2035. Cumulative traffic volumes were obtained from the 2035 Newark General Plan. For intersections not included in the general plan, traffic volumes were estimated using nearby intersections. Cumulative plus project conditions were evaluated relative to cumulative conditions to determine project effects.

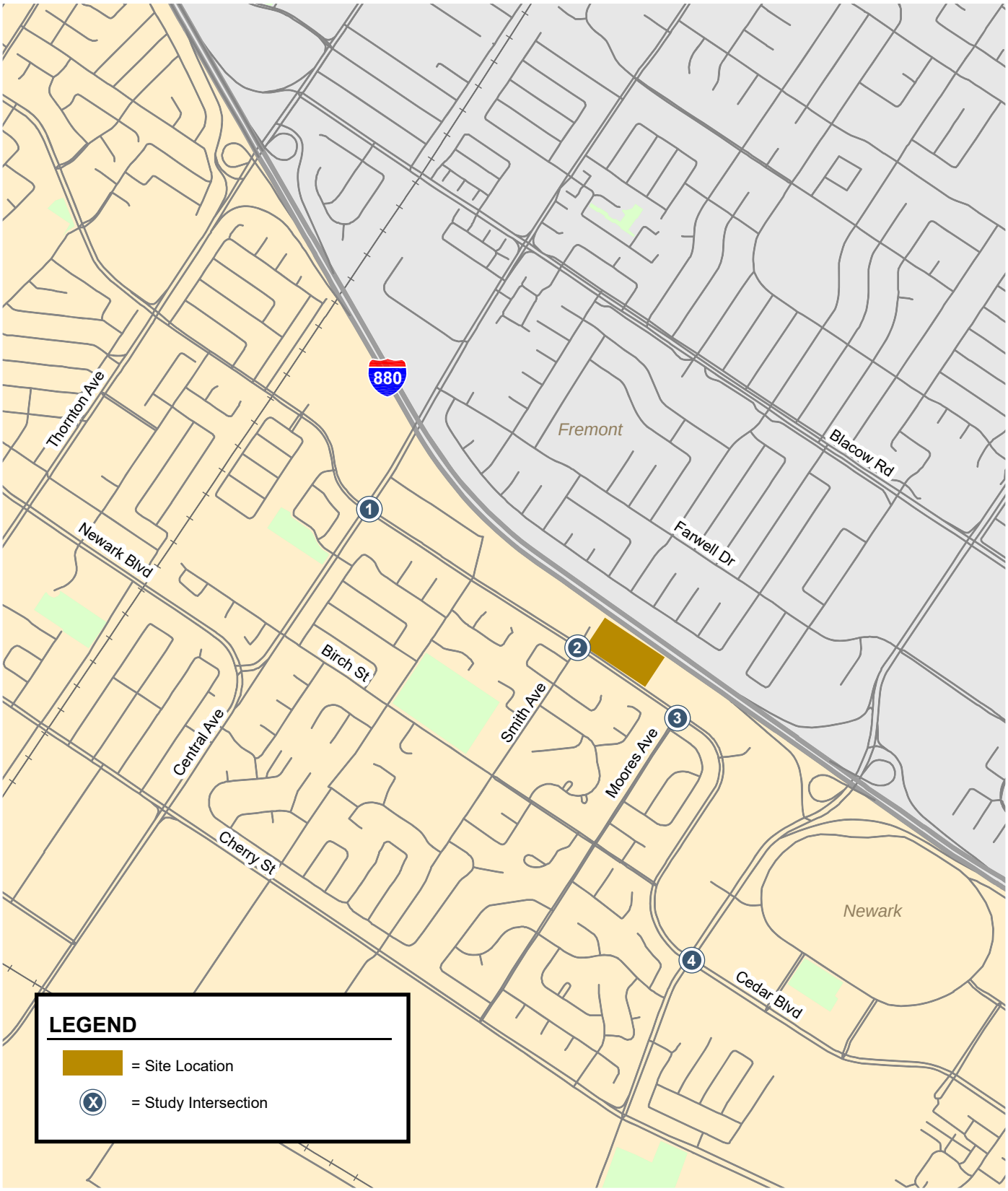


Figure 1
Site Location and Study Intersections

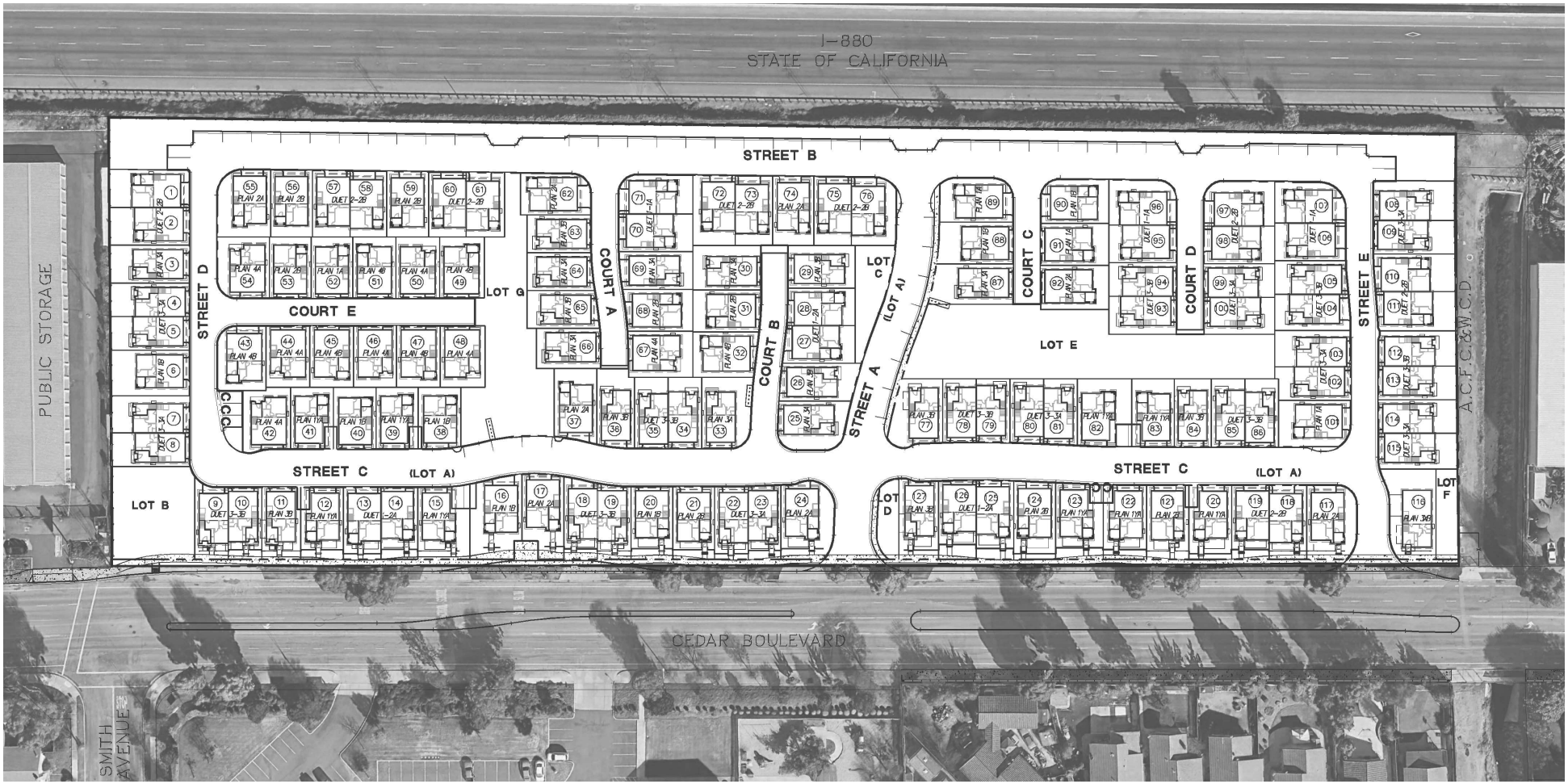


Figure 2
Site Plan

HEXAGON

NORTH
Not to Scale

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, driveway counts, local traffic studies and EIRs, and field observations. The following data were collected from these sources:

- existing peak-hour intersection turning-movement volumes
- existing driveway counts
- lane configurations
- intersection signal timing and phasing

Vehicle Miles Traveled Standard and Analysis Methodology

Senate Bill 743 (SB 743) was signed in 2013 and requires that, for land use projects, vehicle miles traveled (VMT) per capita, employee, or net VMT are to be used as metrics for transportation analysis. SB 743 requires lead agencies to implement its guidelines, requiring them to select a VMT methodology, choose significance thresholds, and determine feasible mitigation measures. VMT should be reduced to minimize the transportation impact a development has on a community. The goal of SB 743 is to encourage development that reduces VMT.

In accordance with SB 743, average daily VMT per resident for the proposed project zone versus the average daily VMT per resident for the City of Newark were determined based on Alameda Countywide Travel Model. The average daily VMT per resident of the proposed project's Transportation Analysis Zone (TAZ) will be reported from the tabulated VMT TAZ Tables found on the Alameda County Transportation Commission website.

Since the City of Newark has not established standards regarding VMT, the Office of Planning and Research (OPR) recommends that new developments should utilize a threshold that is 15% below baseline (existing) conditions.

Level of Service Standards and Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

Signalized Intersections

The City of Newark utilizes TRAFFIX software and the *Highway Capacity Manual* (HCM) methodology to evaluate intersection operations. The HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Control delay is the amount of delay that is attributed to the particular traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The correlation between average delay and level of service is shown in Table 1. In the city of Newark, the level of service standard for signalized intersections is LOS D.

Table 1
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though some vehicles may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000), p.10-16.

Unsignalized Intersections

Level of service analysis at unsignalized intersections is generally used to determine the need for modification in the type of intersection control (i.e., all-way stop or signalization). As part of the evaluation, traffic volumes, delays and traffic signal warrants are evaluated to determine if the existing intersection control is appropriate.

The City of Newark does not have formal significance criteria to apply to unsignalized intersections. Unlike signalized intersections, which typically represent constraint points for the roadway network, unsignalized intersections rarely limit the potential capacity of a roadway. In addition to the calculated movement and approach delays, the determination of appropriate improvements to unsignalized intersections typically includes traffic signal warrants, movement traffic volumes, availability of alternate routes, and intersection safety. For this reason, improvements to unsignalized intersections are frequently determined on the basis of professional engineering judgment.

Table 2 shows the level of service definitions for unsignalized intersections.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Delay Per Vehicle (Sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p17-2.

Traffic Signal Warrant

The level of service calculations at the unsignalized intersection were supplemented with an assessment of the need for installation of a traffic signal, known as a signal warrant analysis. The need for signalization of unsignalized intersections in an urban or suburban context is typically assessed based on the Peak Hour Volume Warrant (Warrant 3) described in the *California Manual on Uniform Traffic Control Devices for Streets and Highways* (CA MUTCD), Part 4, Highway Traffic Signals. This method makes no evaluation of intersection level of service, but simply provides an indication whether vehicular peak hour volumes are, or would be, sufficiently high to justify installation of a traffic signal.

Intersection Operations

The analysis of intersection operations was supplemented with a vehicle queuing analysis at intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled approaches. The queuing analysis is presented for informational purposes only, since the City of Newark has not defined a policy related to queuing. Vehicle queues were calculated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average # of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles, or a queue length longer than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 1-2 cycles during the peak hour for a signal with a 120-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement. Vehicle queuing at unsignalized intersections is evaluated based on the delay experienced by the specific study turn movement.

Significant Impact Criteria

Since the City of Newark has not established standards regarding VMT, the Office of Planning and Research (OPR) recommends that new developments should utilize a threshold that is 15% below baseline (existing) conditions. Therefore, for the purposes of this report, a significant impact related to VMT is assumed to occur if the proposed project's VMT is greater than 15% below the existing VMT within the City of Newark.

Adverse Operational Effects on Nearby Intersections

According to the City of Newark, adverse operational effects at signalized intersections occur when, for any peak hour:

1. The level of service at the intersection degrades from an acceptable LOS under no project conditions to an unacceptable LOS under project conditions; or

2. The level of service at the intersection is an unacceptable LOS under no project conditions and the addition of project trips causes the average delay at the intersection to increase by four (4) or more seconds.

An adverse operational effect can be addressed by the City of Newark standards if (1) measures are implemented that would restore an intersection's level of service to its level of service standard or (2) return the intersection average delay to no project conditions or better.

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes the existing roadway network, transit services, and pedestrian facilities. Chapter 3 presents a discussion on Vehicle Miles Traveled. Chapter 4 describes project conditions, adding estimated traffic from the proposed development to existing traffic. Chapter 5 describes the cumulative conditions, utilizing estimated traffic conditions from the 2035 Newark General Plan and analyzed with project traffic. Chapter 6 includes the analysis of signal warrants for the unsignalized intersections and project effects on other transportation issues including transit, bicycle and pedestrian facilities, on-site circulation, and vehicle queuing.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, and pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the project site is provided via I-880. Local access to the site is provided on Mowry Avenue, Central Avenue, Thornton Avenue, and Cedar Boulevard. These roadways are described below. Although all streets in the study area run at a diagonal compared to the ordinal directions, for the purposes of this study, I-880 and Cedar Boulevard are considered to run north-south, and cross streets are considered to run east-west.

I-880 is a north/south, eight-lane freeway in the vicinity of the site. I-880 extends northward towards Oakland and southward through San Jose. Access to and from the project study area is provided via full interchanges at Mowry Avenue and Thornton Avenue.

Mowry Avenue is an east/west arterial that extends from Mission Boulevard in the east to near the shore of the bay, where it terminates. Mowry Avenue provides access to I-880 and also connects Newark to the Central District of Fremont. Mowry Avenue varies in width from four- to six-lanes with left-turn pockets at the major intersections. The posted speed limit in the project area is 35 mph. Sidewalks are present on both sides, and parking is prohibited along Mowry Avenue in the project vicinity. Access to the project site from Mowry Avenue is provided via Cedar Boulevard.

Central Avenue is an east/west arterial that extends from Willow Street in the west to Fremont Boulevard in the east. In the project area, Central Avenue is four-lanes with left-turn pockets at the major intersections. The posted speed limit in the project area is 35 mph. Sidewalks are present on both sides of Central Avenue. Bike lanes are present, and parking is prohibited along Central Avenue in the project vicinity. Access to the project site from Central Avenue is provided via Cedar Boulevard.

Thornton Avenue is an east/west arterial that extends from the SR-84 interchange in the west to Paseo Padre Parkway in the east, where it terminates. Thornton Avenue provides access to SR-84 and I-880. Thornton Avenue varies in width from four- to five-lanes and provides left-turn pockets at the major intersections. The posted speed limit in the project area is 35 mph. Sidewalks are present on both sides, and parking is prohibited along Thornton Avenue in the project vicinity. Access to the project site from Thornton Avenue is provided via Cedar Boulevard.

Cedar Boulevard is a north/south arterial that extends from Haley Street in the west to Paseo Stevenson Boulevard in the east, where it terminates. Along the project frontage, Cedar Boulevard is two lanes in each direction with a two-way left-turn lane median. The posted speed limit in the project

area is 35 mph. Sidewalks are present on both sides of Cedar Boulevard. Bike lanes are present, and parking is prohibited along Cedar Boulevard in the project vicinity. The project proposes two driveways along Cedar Boulevard.

Existing Pedestrian and Bicycle Facilites

Existing Pedestrian Facilites

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the vicinity of the project site, sidewalks exist along both sides of Cedar Boulevard. Near the project site, crosswalks with pedestrian signal heads and push buttons are provided on the south and west approaches of the Cedar Boulevard/Moores Avenue intersection. Crosswalks are provided along the north and west approaches of the unsignalized intersection of Cedar Boulevard and Smith Avenue. Additionally, crosswalks with pedestrian signal heads and push buttons are provided along all approaches of the Cedar Boulevard/Mowry Avenue and Cedar Boulevard/Central Avenue intersections.

Existing Bicycle Facilites

Bicycle facilities in the vicinity of the project site include bike lanes. Bike lanes (Class II facilities) are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. The existing bicycle facilities within the study area are described below and are shown on Figure 3.

North-South bicycle connections in the study area consist of a Class II bike lane along Cedar Boulevard. The bike lanes along Cedar Boulevard provide a connection to the project site from transit facilities and other points on interest in the area.

East-West bicycle connections in the study area consist of a Class II bike lane along Central Avenue, connecting the project site to central Newark and Fremont.

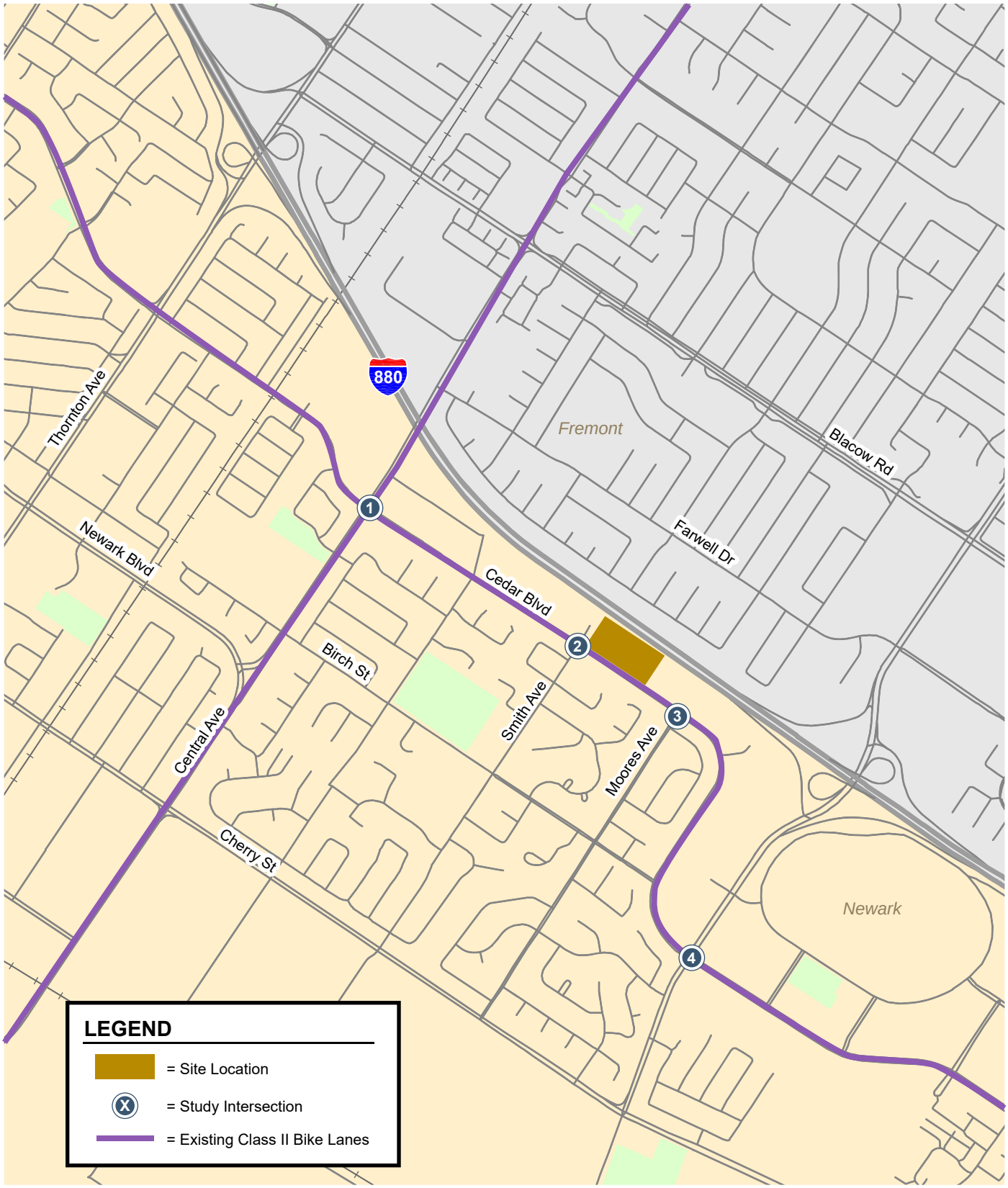


Figure 3
Existing Bicycle Facilities

Existing Transit Service

Existing AC Transit bus stops are present along the project frontage. The closest bus stop is located at the intersection of Cedar Boulevard and Smith Avenue, near the northwest corner of the project site. Additionally, there are bus stops just south of the intersection of Cedar Boulevard and Moores Avenue. Routes 200 and 232 run along Cedar Boulevard in the project vicinity and provide service to nearby points of interest and regional transit connections. Transit services in the region are shown on Figure 4.

Route 200 provides service between the Fremont BART Station and the Union City BART Station via Mowry Avenue, Cedar Boulevard, central Newark, and Decoto Road. Route 200 operates every weekday between 6:00 AM and 12:30 AM with 20-minute headways during the AM and PM peak commute hours.

Route 232 provides service between the Fremont BART Station and New Park Mall via Mission Boulevard, Union City BART, Paseo Padre Parkway, and Cedar Boulevard. Route 232 operates every weekday between 7:00 AM and 9:00 PM with one-hour headways during the AM and PM peak commute hours.

Existing Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 5. Existing traffic volumes were obtained from peak hour counts collected in September 2020. Existing (Factored) traffic volumes were obtained by escalating the most recent pre-pandemic traffic counts. A 1.94% (AM peak hour) and 1.47% (PM peak hour) compounded annual growth factor was used to escalate pre-pandemic traffic volumes to existing (Factored) conditions. The growth factor is obtained using the following formula:

$$f = 1 + (p)^y$$

where: f = growth factor
p = growth rate (1.94% or 1.47%)
y = years

Calculations for existing (Factored) conditions can be found in Appendix A. Pre-pandemic traffic volumes were taken from the 2035 General Plan EIR, the Area 3 and 4 Specific Plan EIR, and the Newark Area 4 Specific Plan LOS Tune Up Update. The existing peak-hour intersection volumes are shown on Figure 6. The existing (factored) peak-hour intersection volumes are shown on Figure 7. Intersection turning-movement counts conducted for this analysis are presented in Appendix B.

Figure 4
Existing Transit Services

NORTH
Not to Scale

38478 Cedar Blvd

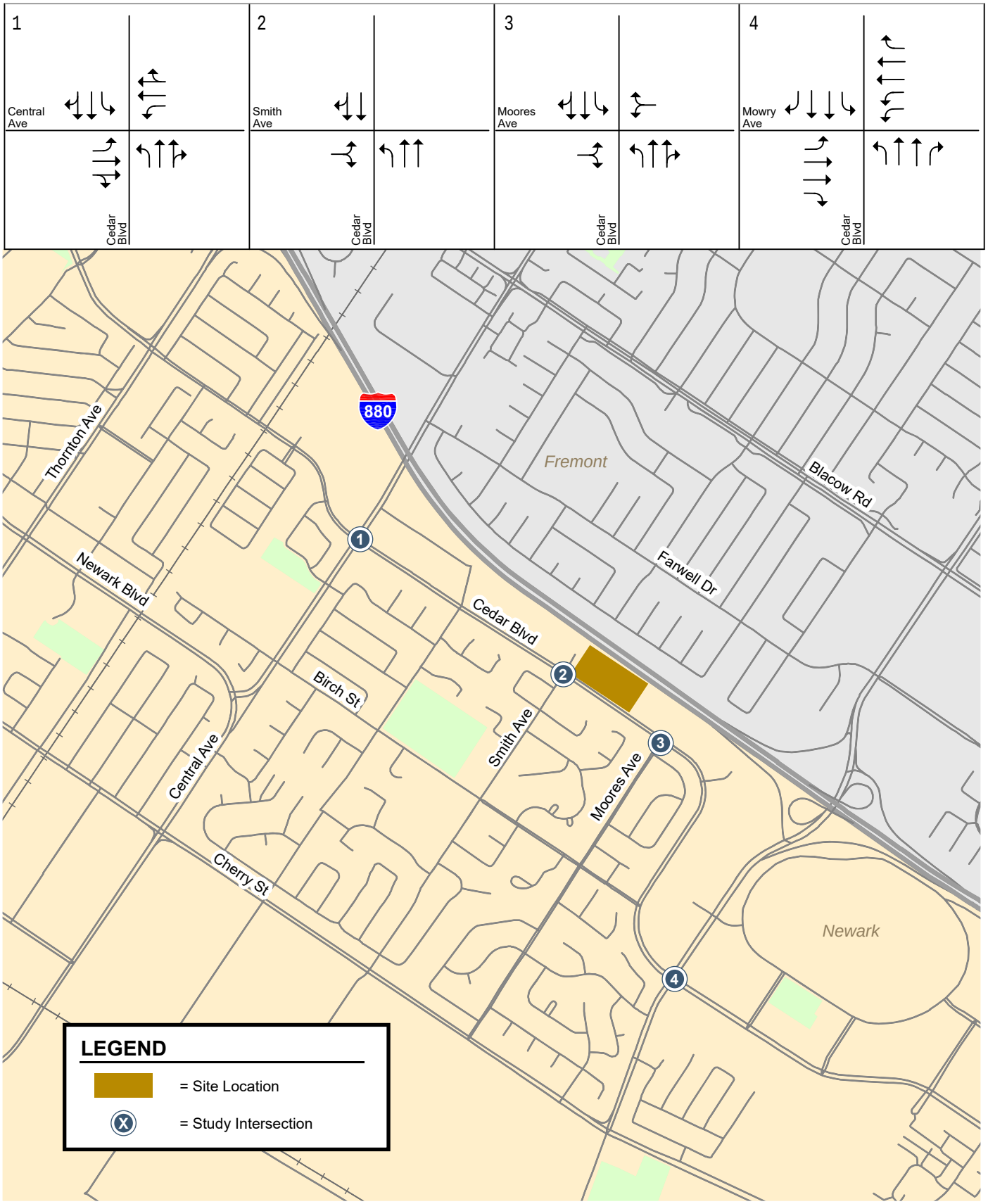


Figure 5
Existing Lane Configuration

NORTH
Not to Scale

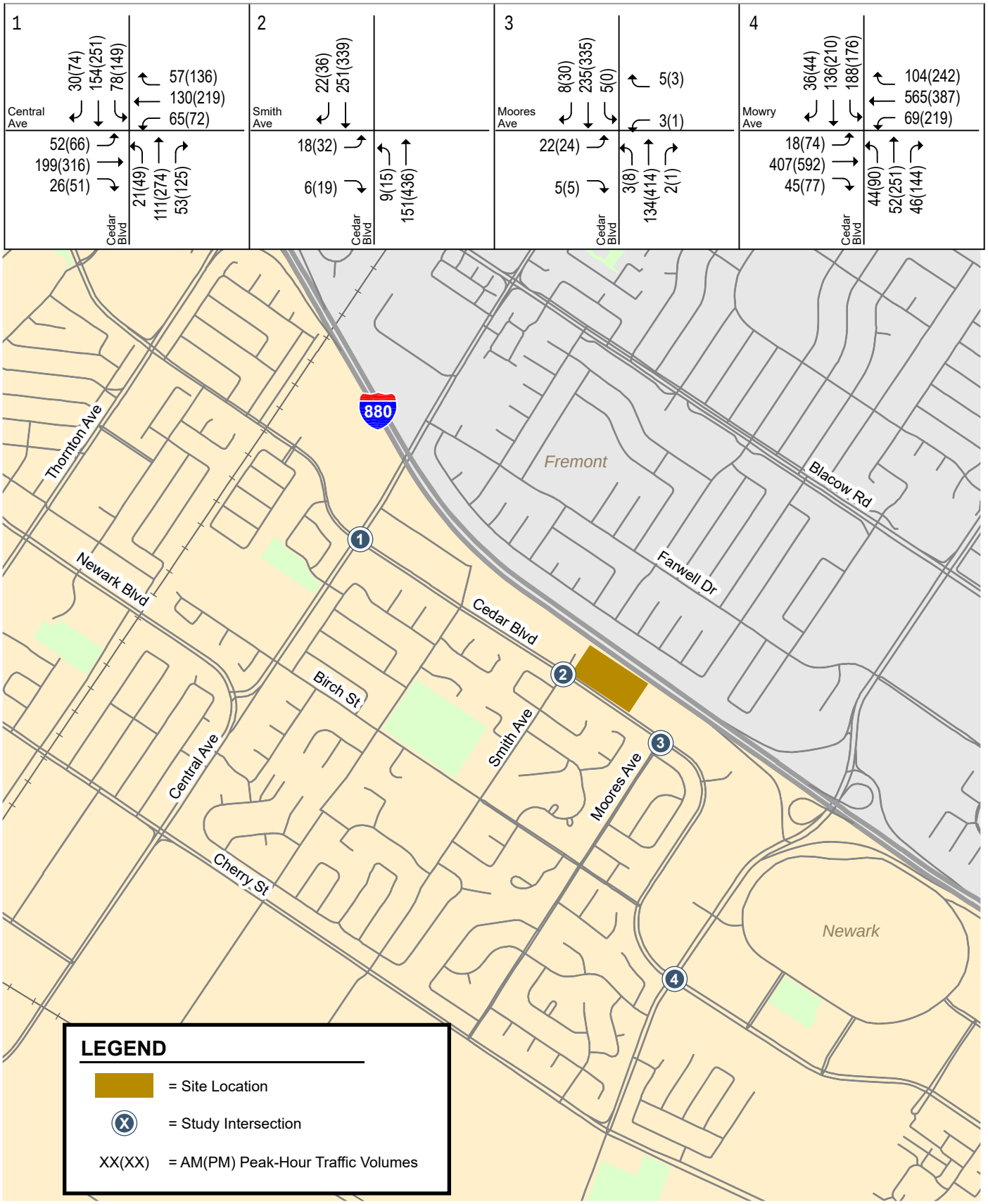


Figure 6
Existing Traffic Volumes

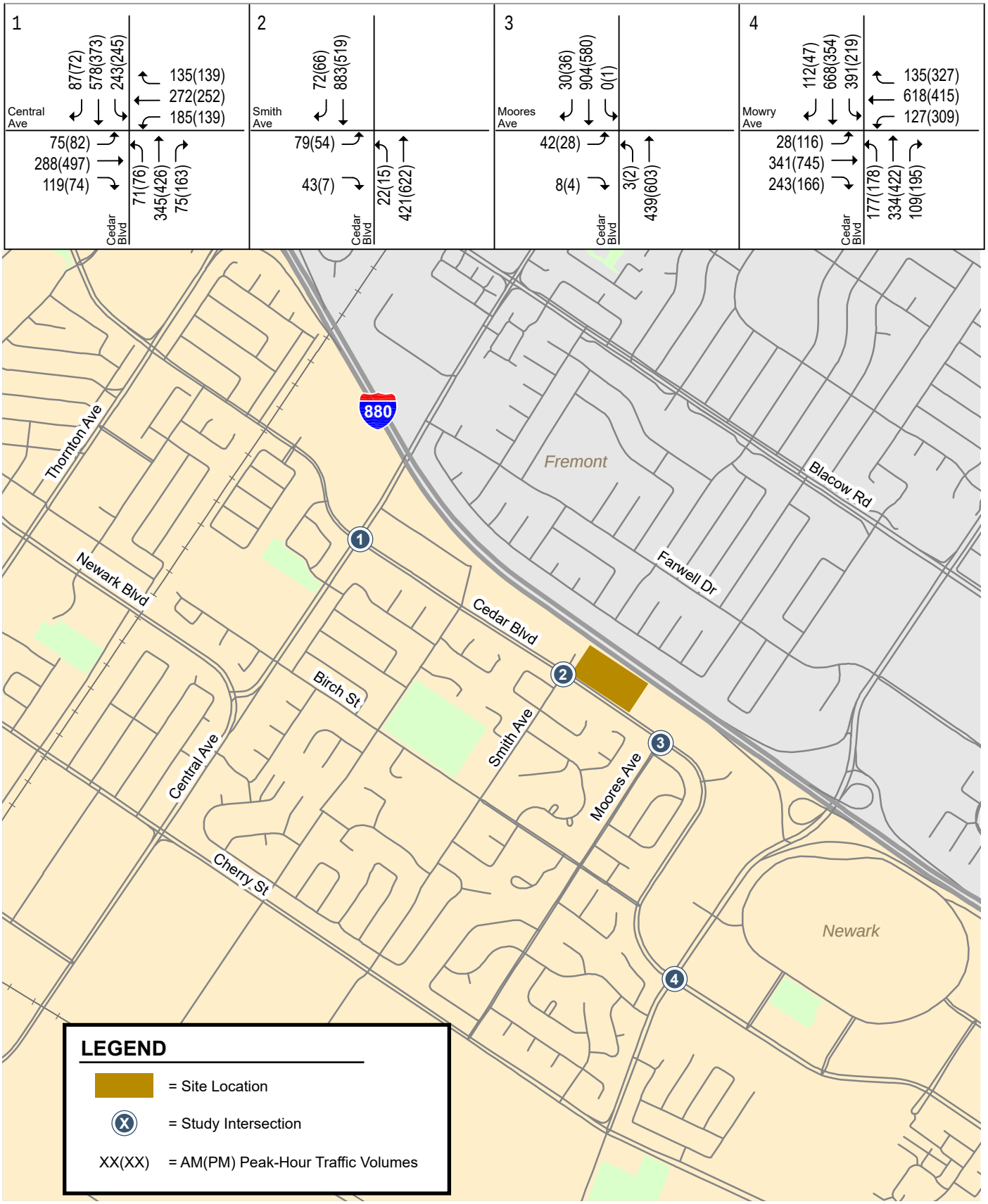


Figure 7
Existing (Factored) Traffic Volumes

Existing Intersection Levels of Service

The results of the analysis show that all of the study intersections operate at an acceptable level of service during both AM and PM peak hours (see Table 3). The intersection levels of service calculation sheets are included in Appendix C.

Table 3
Existing Intersection Level of Service

Study Number	Intersection	Existing Conditions				Existing Conditions (Factored)			
		Count Date	Peak Hour	Avg. Delay (sec)	LOS	Count Date	Peak Hour	Avg. Delay (sec)	LOS
1	Cedar Boulevard & Central Avenue	9/23/2020	AM	31.4	C	10/31/2012	AM	33.8	C
		9/23/2020	PM	28.3	C	10/31/2012	PM	30.1	C
2	Cedar Boulevard & Smith Avenue[1,2]	9/29/2020	AM	10.6	B	-	AM	34.7	D
		9/23/2020	PM	10.6	B	-	PM	19.9	C
3	Cedar Boulevard & Moores Avenue	9/23/2020	AM	10.0	A	5/22/2007	AM	3.2	A
		9/23/2020	PM	3.7	A	5/22/2007	PM	6.0	A
4	Cedar Boulevard & Mowry Avenue	9/23/2020	AM	22.8	C	4/10/2018	AM	27.2	C
		9/23/2020	PM	25.8	C	4/10/2018	PM	27.9	C

Note:
[1] Cedar Boulevard & Smith Avenue is a two-way stop-controlled intersection. Worst leg delay is reported.
[2] Existing Conditions (Factored) Count Date is taken from the General Plan Housing Element Update Traffic Impact Analysis Report, Prepared by Omni Means Engineers & Planners, April 2009.

3. Vehicle Miles Traveled

Senate Bill 743 (SB 743) was signed in 2013 and requires that, for land use projects, vehicle miles traveled (VMT) per capita, employee, or net VMT are to be used as metrics for transportation analysis. SB 743 requires lead agencies to implement its guidelines, requiring them to select a VMT methodology, choose significance thresholds, and determine feasible mitigation measures. VMT should be reduced to minimize the transportation impact a development has on a community. The goal of SB 743 is to encourage development that reduces VMT. SB 743 required VMT to be used as metrics for transportation analysis by July 2020. Additionally, level of service (LOS) would no longer be considered California Environmental Quality Act (CEQA) impacts. To help guide lead agencies, the Office of Planning and Research (OPR) has published VMT-focused transportation impact guidelines in May 2020.

Since the City of Newark has not established standards regarding VMT, the Office of Planning and Research (OPR) recommends that new developments should utilize a threshold that is 15% below baseline (existing) conditions. For the purposes of analysis, it is assumed that the target threshold for new developments is 15% below baseline conditions within the City of Newark.

In accordance with SB 743, daily vehicle miles traveled (VMT) for the proposed project zone versus the average for the city of Newark were determined based on the Alameda Countywide Travel Model. The Alameda County Transportation Commission (ACTC) provides tabulated estimated calculations of VMT per resident in each Transportation Analysis Zone (TAZ) within the Alameda Countywide Travel Model. The ACTC provides an online mapping tool that allows users to locate the Transportation Analysis Zone (TAZ) in which a project is located.[1] The VMT calculations for the TAZ in which the project is located are considered to be representative of the project itself because the project (single family homes) is equivalent to the other residential development in the zone. Thus, there is no need to run the Alameda Countywide Travel Model for the project.

The project is located within TAZ 934 of the Alameda Countywide Travel Model. Table 4 shows a summary of Vehicle Miles Traveled per Capita, as reported from the VMT calculations using the Alameda Countywide Travel Model. The TAZ in which the project is located in is calculated to have an average daily VMT of 23.3 miles per resident for existing conditions (Year 2020) and 20.6 miles per resident for Year 2040.

[1] The online mapping tool and the tabulation of VMT per resident in each TAZ can be found on the ACTC website: https://www.alamedactc.org/planning/sb743-vmt/

Table 4
Vehicle Miles Traveled per Capita

	VMT/Capita	
	2020	2040
Project	23.3	20.6
Newark	22.6	20.4
Newark Target VMT (-15%)	19.2	17.3

The Alameda Countywide Travel Model reports the average daily VMT for the City of Newark to be 22.6 miles per resident for existing conditions and 20.4 miles per resident for Year 2040. Therefore, the target VMT for the proposed project should be 19.2 miles per resident, which is 15% below existing conditions. The Alameda County Transportation Commission (ACTC) has released a Mobility Management VMT Reduction Calculator Tool that calculates the change in VMT as a result of project design features and various Transportation Demand Management (TDM) strategies. The project's TAZ and relevant project information were input to the appropriate tabs in the ACTC VMT Reduction Calculator. After inputting the project information into the ACTC VMT reduction calculator tool, the tool calculates that the project VMT would be 19.1 per resident, which is 18.1% lower than the baseline. The reason for the reduction is that the project would build homes at a higher density than typical in its area. A project that is designed with a higher density compared to average residential density results in shorter and fewer trips by single occupancy vehicles. The results of the ACTC VMT reduction calculator tool can be found in Appendix D. After applying an 18.1% reduction to existing VMT per resident, the project would be below the VMT target goal, and it can be concluded that the project would have a less than significant impact on VMT. Table 5 shows the summary of Vehicle Miles Traveled per Capita after applying the VMT reduction based on results from the ACTC VMT reduction calculator tool.

Table 5
Vehicle Miles Traveled

	VMT/Capita
	2020
Newark	22.6
Newark Target VMT (-15%)	19.2
Project (Based on Location)	23.3
Project (-18.1%)[1]	**19.1**

Notes:
[1] -18.1% reduction is based on results from the ACTC VMT Reduction Tool

4. Existing Plus Project Conditions

This chapter describes traffic conditions with the project and includes: (1) the method by which project traffic is estimated and (2) a level of service summary. Existing plus project conditions are represented by existing traffic conditions with the addition of traffic generated by the project.

Roadway Network

It is assumed in this analysis that the transportation network under project conditions would be the same as the existing transportation network.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed mixed-use development was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that indicate the amount of traffic that can be expected to be generated by many types of land uses. The standard trip generation rates can be applied to predict the future traffic increases that would result from a new development. The standard trip generation rates come from the publication titled Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition.*

Project trip generation was estimated by applying to the size and uses of the development by the appropriate trip generation rates obtained from the ITE *Trip Generation Manual, 10th Edition* (2017). The average trip generation rates for Single-Family Detached Housing (ITE Land Use 210) were applied to the project. Since the project consists of single-family homes and duplex townhomes, it is the most appropriate category.

Trips that are generated by the existing occupied buildings on the site were subtracted from the gross project trip generation estimates. Trip credits for the existing buildings were determined by driveway counts conducted on October 14, 2020. Some businesses were not open during the AM peak hour driveway counts. However, since it was observed that all of the business were open during the PM

peak hour, it can be concluded that the driveway counts are an accurate estimate of vehicle traffic to and from the project site. However, due to the ongoing COVID-19 pandemic, these businesses operating at the existing site are likely to have reduced operations/customers. The existing driveway counts may be lower than that of pre-COVID conditions. However, the trip credits taken for the driveway counts conducted will serve as a conservative estimate of trips generated by the existing uses on-site.

Net Project Trips

Table 6 shows the trip generation estimates. After accounting for trip credits, the project is estimated to generate 819 new daily trips, with 72 net new trips (9 inbound and 63 outbound) during the AM peak hour and 88 net new trips (63 inbound and 25 outbound) during the PM peak hour.

Table 6
Project Trip Generation Estimates

Land Use	ITE Land Use Code	Size	Daily		AM Peak Hour				PM Peak Hour			
						Trip				Trip		
			Rate	Trip	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Uses												
Single Family and Duplex Homes[1]	**210**	**127** Dwelling Units	9.44	1,199	0.74	24	70	94	0.99	79	47	126
Existing Uses												
Various Uses[2,3]				(380)		(15)	(7)	(22)		(16)	(22)	(38)
Total Project Trip				**819**		**9**	**63**	**72**		**63**	**25**	**88**

Source: ITE Trip Generation Manual, 10th Edition 2017

Notes:

[1] Single-Family Detached Housing (ITE Land Use Code 210) was selected for the proposed use.

[2] Existing Trip Credits are based on driveway counts conducted on October 14, 2020.

[3] Existing Daily Trips are estimated to be 10 times the PM Peak Hour trips.

Trip Distribution and Trip Assignment

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. Since the local areas (non-freeway trips) north of the project site are more residential, and local areas to the south consist of more employment and retail uses, the trip distribution is skewed more towards the land uses south of the project area. The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern. Given that the project site is located between two interchanges accessing I-880, it is assumed all traffic heading to/from southbound I-880 would utilize Mowry Avenue. It is assumed that 25% of traffic heading to/from northbound I-880 would utilize Mowry Avenue and 75% would utilize Thornton Avenue. Figure 8 shows the trip distribution pattern for the project site. Figure 9 shows the trip assignment.

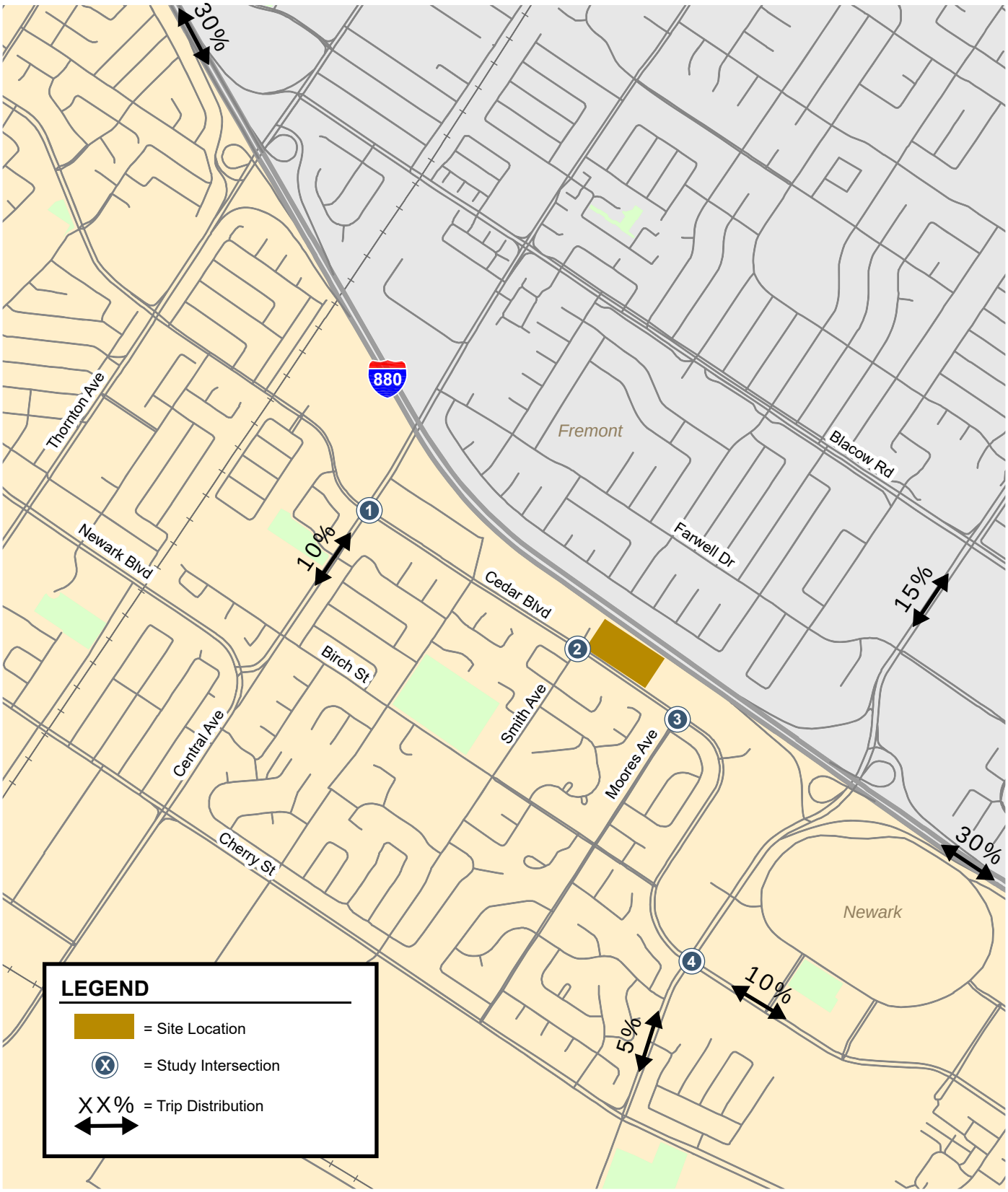


Figure 8
Trip Distribution

38478 Cedar Blvd

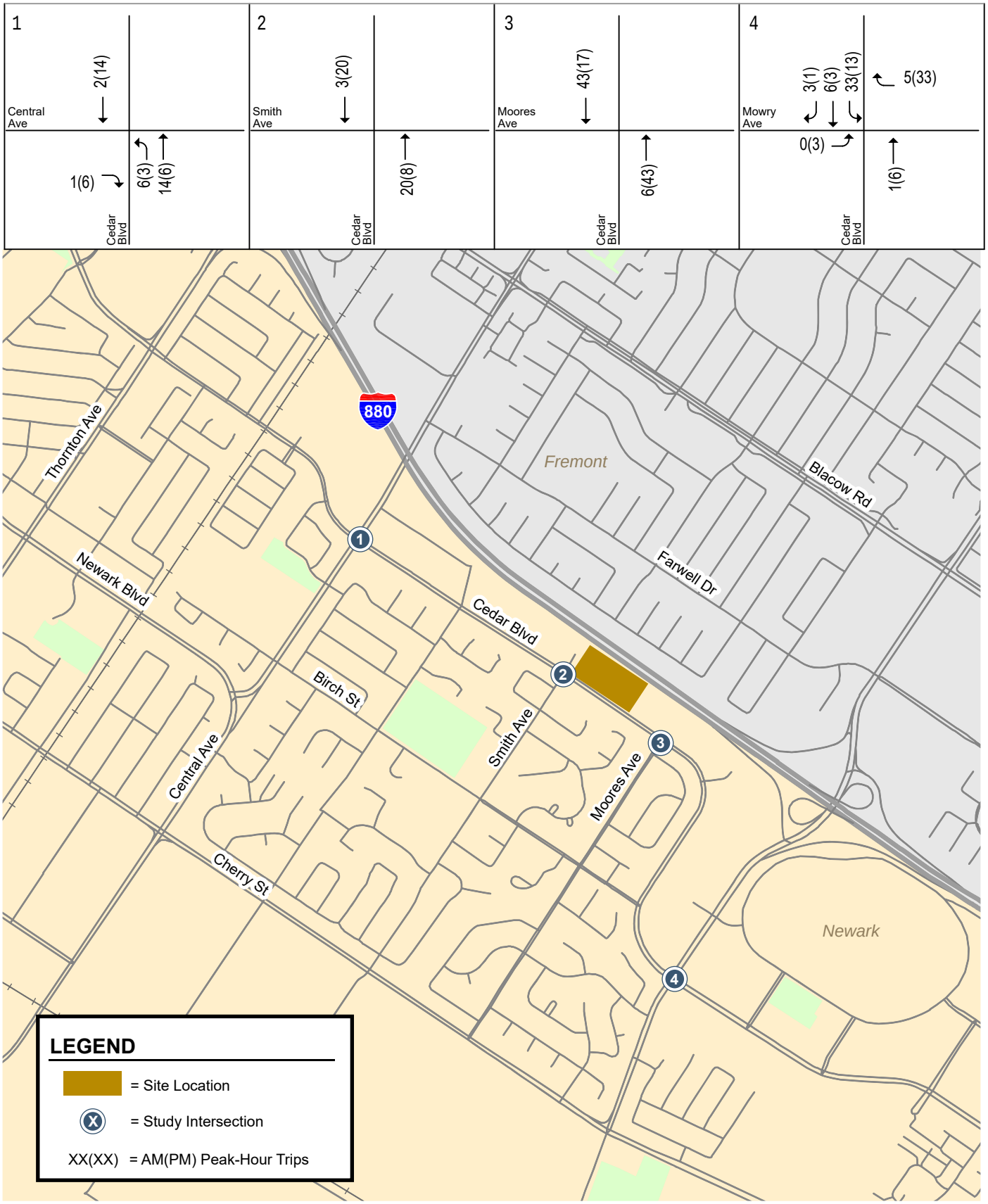


Figure 9
Trip Assignment

NORTH
Not to Scale

Existing Plus Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 10. The existing (factored) plus project traffic volumes are shown on Figure 11.

Existing Plus Project Intersection Analysis

Table 7 shows that all of the signalized study intersections would continue to operate at an acceptable level of service during both AM and PM peak hours. The intersection levels of service calculation sheets are included in Appendix B. Since the project would add trips to existing low-delay movements, there would be a decrease in overall average delay at some intersections. The worst leg delay at the unsignalized intersection of Cedar Boulevard & Smith Avenue would increase by 1 second during the AM peak hour and would degrade the level of service from LOS D to LOS E. The addition of project-generated trips would increase the average delay of the worst leg movement by 1 second. It should be noted that the City of Newark does not have a formal significance criterion for evaluating unsignalized intersections. Therefore, the level of service analysis for unsignalized intersections is presented for informational purposes only. Additional analyses (including a signal warrant analysis) for the unsignalized intersection are presented in Chapter 6.

Table 7
Existing Plus Project Intersection Level of Service

Study Number	Intersection	Peak Hour	Existing Conditions					Existing Conditions				
			No Project		With Project			No Project		With Project		
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Incr. in Critical Delay
1	Cedar Boulevard & Central Avenue	AM	31.4	C	31.5	C	0.0	33.8	C	33.9	C	0.2
		PM	28.3	C	28.3	C	0.2	30.1	C	30.1	C	0.0
2	Cedar Boulevard & Smith Avenue[1]	AM	10.6	B	10.7	B	0.0	34.7	D	**35.7**	**E**	0.0
		PM	10.6	B	12.9	B	0.0	19.9	C	20.5	C	0.0
3	Cedar Boulevard & Moores Avenue	AM	10.0	A	9.0	A	-0.8	3.2	A	3.1	A	-0.1
		PM	3.7	A	3.4	A	-0.2	6.0	A	5.7	A	-0.1
4	Cedar Boulevard & Mowry Avenue	AM	22.8	C	23.5	C	1.0	27.2	C	27.3	C	0.4
		PM	25.8	C	25.9	C	0.3	27.9	C	27.9	C	0.3

Bold indicates a substandard level of service.

Note:

[1] Cedar Boulevard & Smith Avenue is a two-way stop-controlled intersection. The worst leg delay is reported.

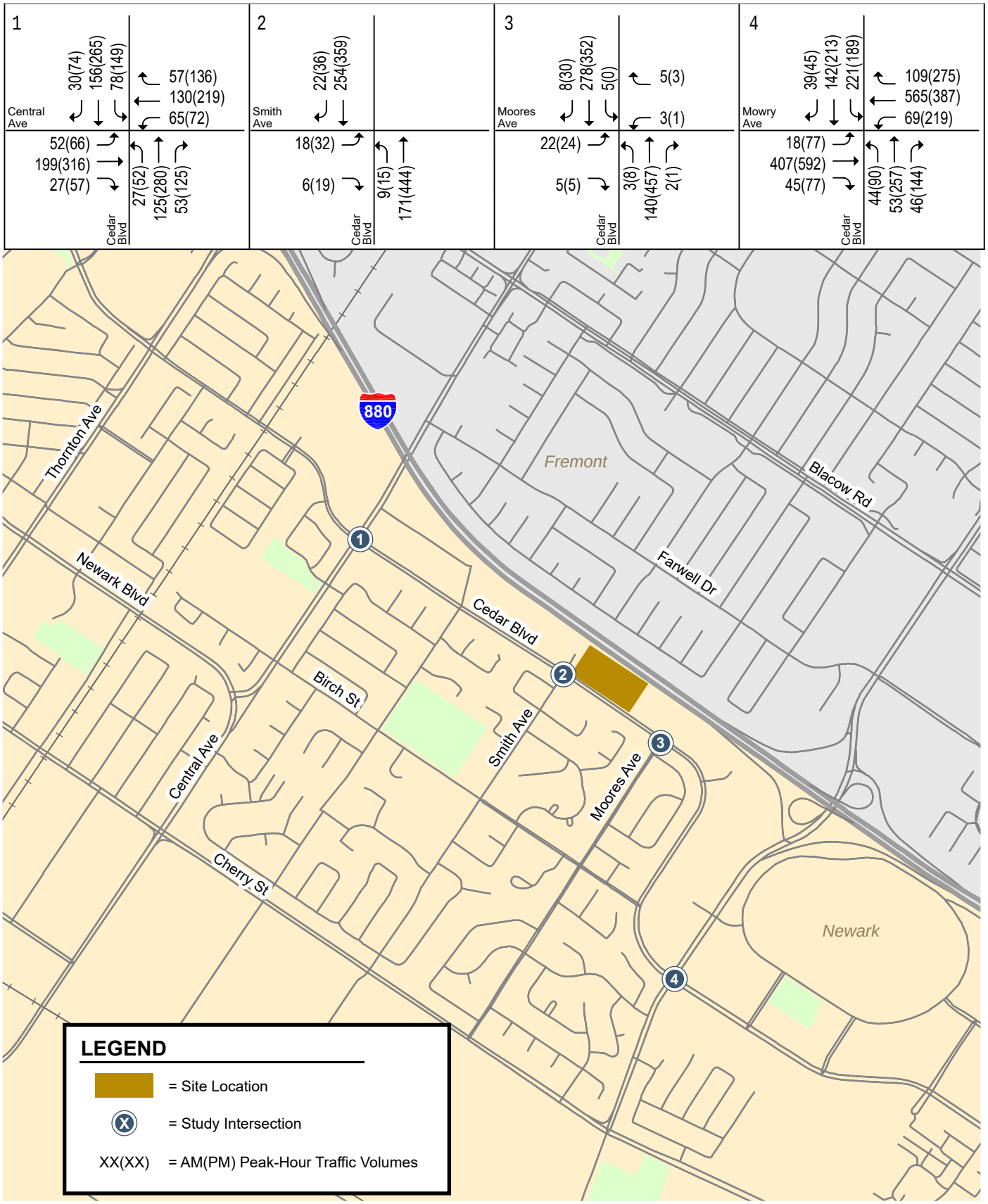


Figure 10
Existing Plus Project Traffic Volumes

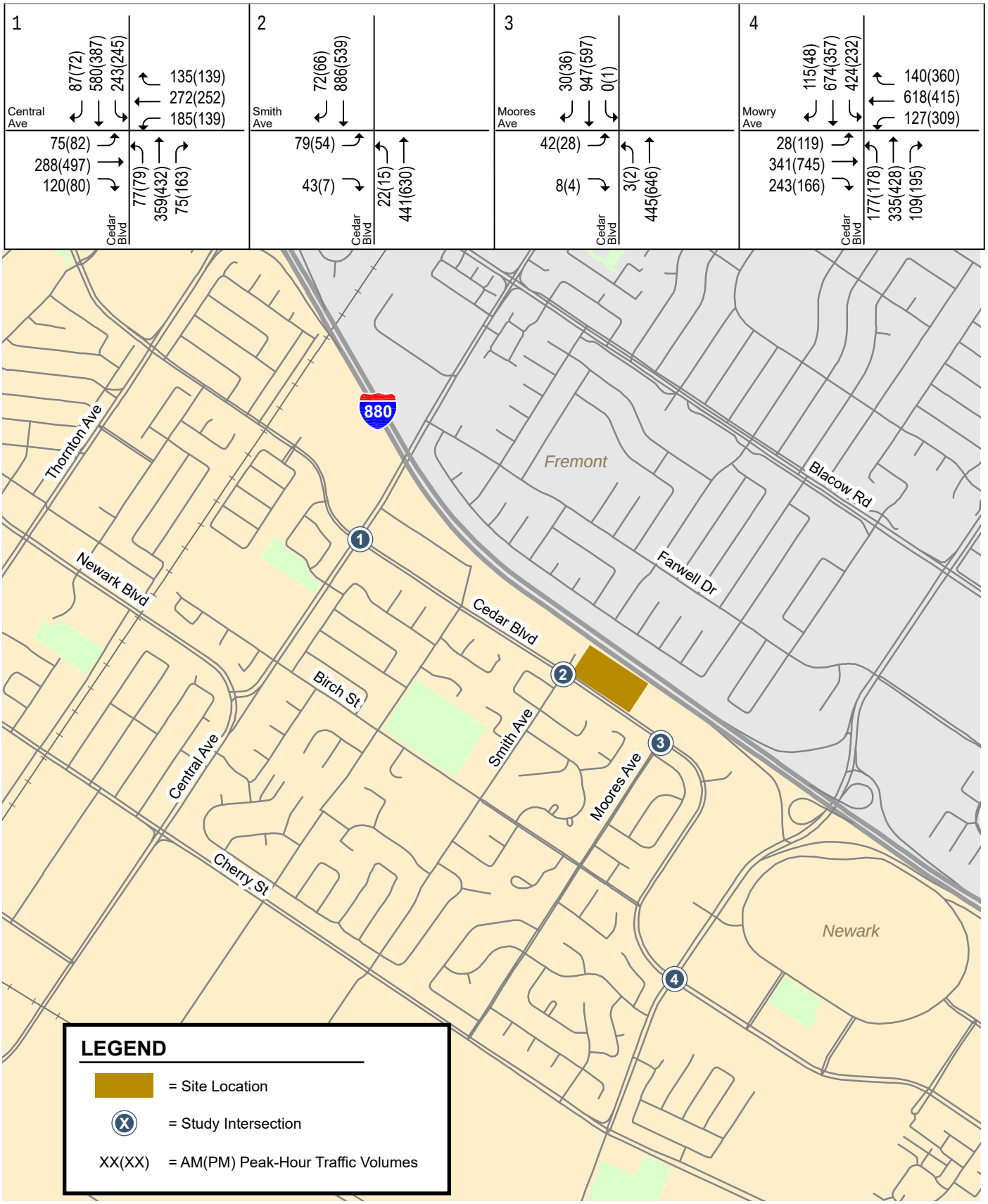


Figure 11
Existing (Factored) Plus Project Traffic Volumes

NORTH
Not to Scale

5. Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions with the proposed project. Cumulative conditions represent future traffic conditions with expected growth in the area. The expected future traffic volumes were obtained from the 2035 Newark General Plan traffic volumes.

Roadway Network and Traffic Volumes

The intersection lane configurations under cumulative conditions were assumed to be the same as described under existing conditions. Cumulative traffic volumes were taken from the 2035 General Plan traffic study. Traffic volume for the intersection of Cedar Boulevard & Moores Avenue is not included in the 2035 General Plan. Traffic volumes at this intersection were estimated by using the closest intersections. Based on the closest intersections, the intersection of Cedar Boulevard & Moores Avenue is calculated to have a growth factor of 1.36 and 1.54 for the AM and PM peak hours, respectively. The growth factors were calculated by comparing existing traffic volumes to cumulative scenario traffic volumes found in the 2035 General Plan. Calculations for estimating cumulative traffic volumes at the intersection of Cedar Boulevard & Moores Avenue can be found in Appendix A. Figure 12 shows the traffic volumes under cumulative conditions (no project). Figure 13 shows the traffic volumes under cumulative plus project conditions.

Intersection Levels of Service Analysis

The results of the level of service analysis under cumulative conditions show that most of the study intersections would operate at an acceptable level of service during both AM and PM peak hours (see Table 8). The intersection of Cedar Boulevard and Central Avenue would operate at LOS E during the PM peak hour. The addition of project trips would not adversely affect traffic operations at the intersection because these trips would not increase the average delay at the intersection by more than 5 seconds. The unsignalized intersection of Cedar Boulevard and Smith Avenue would operate at LOS F and LOS E, both with and without the project during the AM and PM peak hours, respectively. The City of Newark does not have operational standards for unsignalized intersections. The addition of project trips would not adversely affect traffic operations at the intersection because these trips would not increase average delay of the worst leg by more than 5 seconds. The proposed project would not add any trips to the stop-controlled leg of Smith Avenue and would add a small number of trips relative to projected traffic volumes along Cedar Boulevard. A signal warrant analysis is provided in Chapter 6 to determine whether the intersection should be evaluated for a change in traffic control. The intersection level of service calculation sheets are provided in Appendix B.

Table 8
Cumulative Plus Project Intersection Level of Service

Study Number	Intersection	Peak Hour	Cumulative Conditions					
			No Project		With Project			
			Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Critical Delay (sec)	Incr. In Crit. V/C
1	Cedar Boulevard & Central Avenue	AM	51.8	D	52.6	D	0.5	0.005
		PM	**58.5**	**E**	**58.8**	**E**	0.6	0.002
2	Cedar Boulevard & Smith Avenue[1]	AM	**120+**	**F**	**120+**	**F**	1.1	0.040
		PM	**45.7**	**E**	**48.1**	**E**	0.0	0.014
3	Cedar Boulevard & Moores Avenue	AM	3.5	A	3.4	A	-0.1	0.012
		PM	5.0	A	4.9	A	0.0	0.005
4	Cedar Boulevard & Mowry Avenue	AM	26.2	C	26.3	C	0.1	0.002
		PM	40.6	D	41.0	D	0.7	0.003

Bold indicates a substandard level of service.
Note:
[1] Cedar Boulevard & Smith Avenue is a two-way stop-controlled intersection. The worst leg delay is reported.

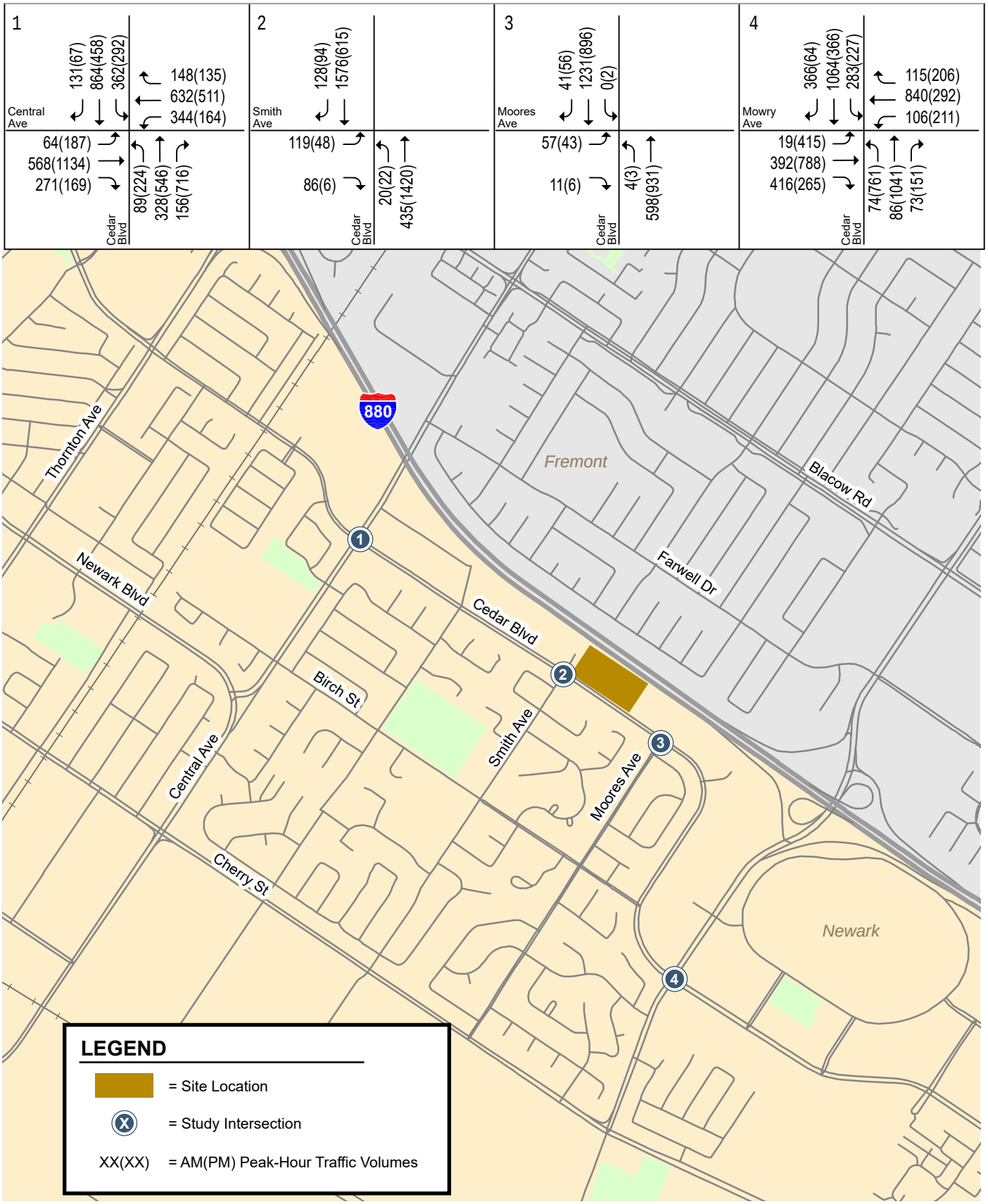


Figure 12
Cumulative Traffic Volumes

38478 Cedar Blvd

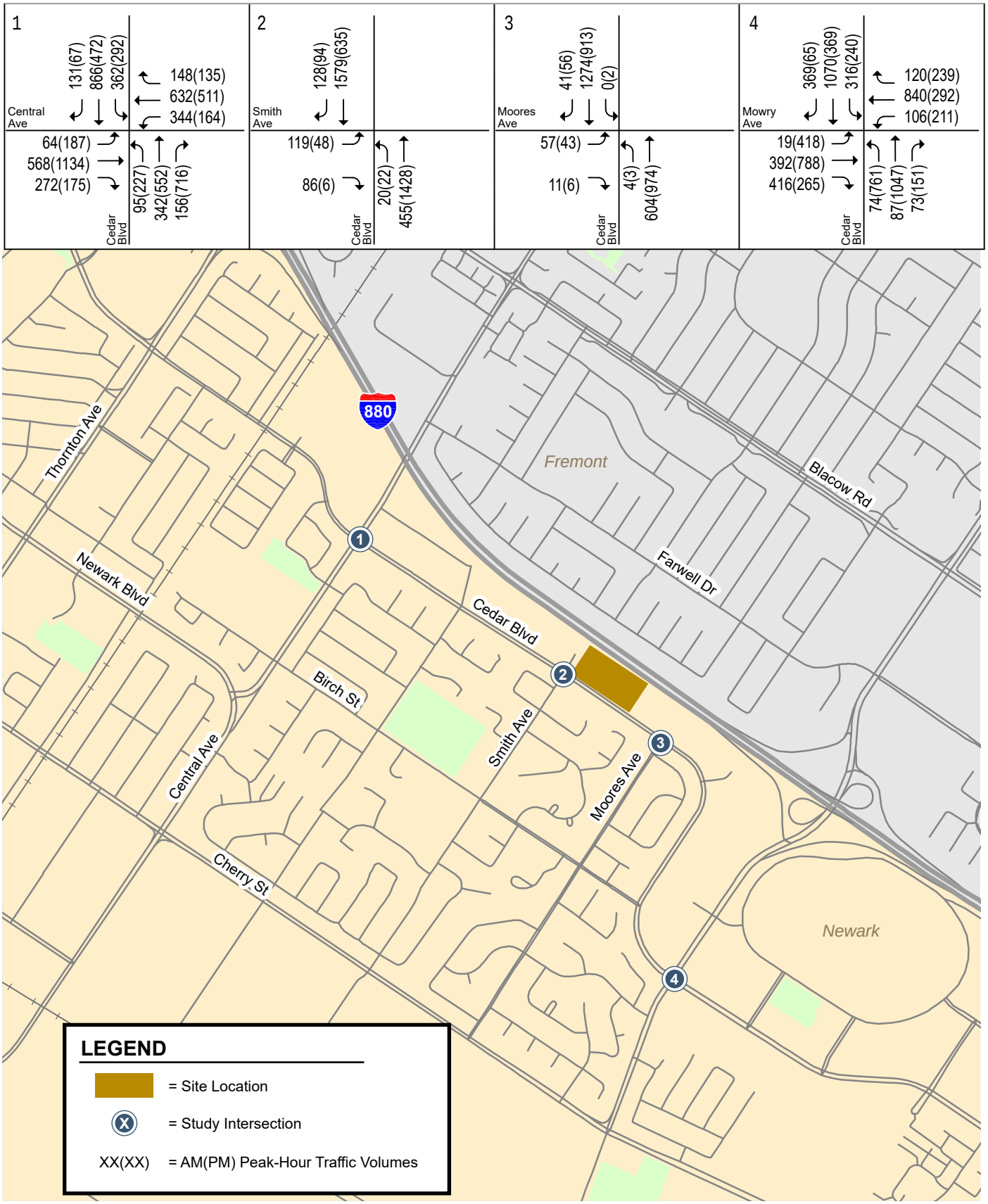


Figure 13
Cumulative Plus Project Traffic Volumes

6. Other Transportation Issues

This chapter presents other transportation issues associated with the project. These include an analysis of:

- Signal warrants
- Intersection queuing analysis
- Site access and circulation
- Truck access and circulation
- Parking analysis
- Potential impacts to pedestrian, bicycle, and transit facilities

The analyses in this chapter are based on professional judgement in accordance with the standards and methods employed by traffic engineering professionals. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the effects of added project traffic.

Signal Warrant Analysis

A signal warrant check (*MUTCD 2014 edition, Section 4C, Warrant 3*) was conducted for the unsignalized study intersection of Cedar Boulevard and Smith Avenue based on the peak-hour traffic warrant. The minor street threshold is 100 vehicles for a single lane minor road.

For the signal warrant analysis, Cedar Boulevard was considered the major street, while Smith Avenue was considered the minor road. Additionally, the City has recently conducted a speed study along Cedar Boulevard that shows the average vehicle speed along Cedar Boulevard in the vicinity of the intersection is 44 mph. Therefore, 70% factor values were used for the evaluation of signal warrants. The analysis revealed that the signal warrant is met under the Existing AM (Factored) and Cumulative AM peak hour scenarios. The project would not add any trips to the minor road approach and would add a small number of trips relative to the existing and estimated future volume along Cedar Boulevard. The project would not change traffic operations at this intersection in any noticeable way. The peak-hour signal warrant calculation sheets can be found in Appendix E.

Since the peak-hour signal warrant was met under the existing (factored) scenario, a supplemental signal warrant analysis was conducted in September 2021 to provide city staff with information to determine whether a signal should be installed. The following signal warrants were analyzed using data collected in September 2021:

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume

- Warrant 3 – Peak Hour
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 7 – Crash Experience

The supplemental signal warrant analysis memo to City of Newark staff can be found in Appendix F. The MUTCD notes that the satisfaction of a traffic signal warrant or warrants shall not itself require the installation of a traffic control signal. Therefore, the analysis presented in the signal warrant analyses is for informational purposes for City of Newark staff to determine whether a traffic signal should be installed at the intersection.

The results of the supplemental signal warrant analysis finds that the peak-hour warrant (Warrant 3) is met. Warrants 1, 2, 4, 5, and 7 are not met based on roadway volume data, peak-hour turning movement counts, and historical crash data. Since the peak-hour warrant is met, the installation of a traffic signal at the intersection should be considered.

Recommendation: The project should coordinate with city staff to determine whether a signal should be installed at the intersection of Cedar Boulevard & Smith Avenue.

Intersection Queueing Analysis

The operations analysis is based on vehicle queuing for turning movements where the project would add at least 10 new peak-hour trips (see Table 9). The following turn movements were examined as part of the queuing analysis for this project:

- Left turn from southbound Cedar Boulevard to eastbound Mowry Avenue (AM)
- Right turn from westbound Mowry Avenue to northbound Cedar Boulevard (PM)

Locations where the vehicular queues would be deficient are discussed below.

Cedar Boulevard and Mowry Avenue

Under all scenarios, the Cedar Boulevard and Mowry Avenue intersection was calculated to have insufficient storage for the southbound left turn movement during the AM peak hour. Since the southbound left turn movement exceeds the storage capacity during the heaviest cycles under existing conditions, the City of Newark should consider adding additional storage for the southbound left turn pocket at Cedar Boulevard and Mowry Avenue. A portion of the existing median could be removed to accommodate additional storage space.

Under existing and cumulative conditions, the project would add one vehicle to the southbound left turn maximum queue. The applicant should discuss with the City of Newark whether the left-turn pocket length should be extended.

Recommendation: Since the project would add trips to a left-turn pocket that already has insufficient storage capacity during the heaviest cycles, the project should discuss with the City of Newark whether the left turn pocket should be extended.

Table 9
Queuing Analysis

Measurement	Cedar Boulevard & Mowry Avenue SBL AM	Cedar Boulevard & Mowry Avenue WBR PM
Existing		
Cycle/Delay [1] (sec)	90	90
Volume (vphpl)	188	242
95th %. Queue (veh/ln.)	9	10
95th %. Queue (ft./ln) [2]	225	250
Storage (ft./ ln.)	200	600
Adequate (Y/N)	**N**	Y
Existing Plus Project		
Cycle/Delay [1] (sec)	90	90
Volume (vphpl)	221	275
95th %. Queue (veh/ln.)	10	11
95th %. Queue (ft./ln) [2]	250	275
Storage (ft./ ln.)	200	600
Adequate (Y/N)	**N**	Y
Existing (Factored)		
Cycle/Delay [1] (sec)	90	90
Volume (vphpl)	391	327
95th %. Queue (veh/ln.)	15	13
95th %. Queue (ft./ln) [2]	375	325
Storage (ft./ ln.)	200	600
Adequate (Y/N)	**N**	Y
Existing (Factored) Plus Project		
Cycle/Delay [1] (sec)	90	90
Volume (vphpl)	424	360
95th %. Queue (veh/ln.)	16	14
95th %. Queue (ft./ln) [2]	400	350
Storage (ft./ ln.)	200	600
Adequate (Y/N)	**N**	Y
Cumulative		
Cycle/Delay [1] (sec)	90	90
Volume (vphpl)	283	206
95th %. Queue (veh/ln.)	12	13
95th %. Queue (ft./ln) [2]	300	325
Storage (ft./ ln.)	200	600
Adequate (Y/N)	**N**	Y
Cumulative Plus Project		
Cycle/Delay [1] (sec)	90	90
Volume (vphpl)	316	239
95th %. Queue (veh/ln.)	13	13
95th %. Queue (ft./ln) [2]	325	325
Storage (ft./ ln.)	200	600
Adequate (Y/N)	**N**	Y

Notes:

SBL = southbound left movement, WBR = westbound right movement.

[1] Vehicle queue calculations based on cycle length for signalized intersections and control delay for unsignalized intersections.

[2] Assumes 25 Feet Per Vehicle Queued.

Site Access and Circulation

The site access and on-site circulation evaluation is based on the July 29, 2021 site plan prepared by Ruggeri Jensen Azar. Site access was evaluated to determine the adequacy of the site's driveways with regard to the following: traffic volume, delays, vehicle queues, geometric design, and sight distance. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Project Driveway Design

The proposed driveways measure approximately 28 to 29 feet in width, providing adequate width for a two-way driveway. The project plans do not show any entry control device. Therefore, it is unlikely there will be any queuing for inbound traffic. Some minor on-site vehicle queuing for exiting vehicles may occur due to the random occurrence of gaps in traffic along Cedar Boulevard.

Sight Distance

Sight distance was checked for the proposed driveways. Sight distance requirements vary depending on the roadway speeds. The posted speed limit along Cedar Boulevard is 35 mph. Therefore, the Caltrans stopping sight distance for both driveways is 300 feet (based on a design speed of 40 mph). The project plans do not show any landscaping or signage that would impede the vision of exiting drivers. Since drivers would have adequate sight distance and there are no obstructions, it can be concluded that exiting drivers would have adequate sight distance.

Project Driveway Operations

The project-generated gross trips that are estimated to occur at the project driveways are 24 inbound, 70 outbound during the AM peak hour and 79 inbound, 47 outbound during the PM peak hour. In a worse-case scenario where all vehicles utilize one driveway, the 70 outbound trips in the AM peak hour is equivalent to approximately one vehicle exiting every 50 seconds. Because of the fairly low project trips at the driveways and moderate volume on Cedar Boulevard, vehicles will easily be able to exit the project driveways. Vehicles turning right onto the project site from Cedar Boulevard may block the travel lane momentarily due to vehicles slowing down to turn into the driveway, but this is unlikely to have a significant effect on traffic operations. The project proposes a southbound left-turn pocket in a newly constructed median along Cedar Boulevard. The proposed left-turn pocket is expected to provide enough storage space for inbound vehicles. Some minor queuing may occur due to the unpredictability of oncoming vehicles, but since there is an upstream signal at Cedar Boulevard and Moores Avenue, vehicles would be able to find a gap in traffic.

A level of service analysis was conducted for project driveway operations using Synchro software. The driveway would create an unsignalized intersection with Cedar Boulevard. It is assumed that the project driveway leg is controlled with a stop sign. Table 10 summarizes the delay and corresponding level of service of the project driveway and the proposed left-turn pocket along Cedar Boulevard. The results show that under cumulative conditions, exiting vehicles would experience an average delay of 37.9 seconds and 85.9 seconds during the AM and PM peak hours, respectively. However, since the exiting volume is relatively low, the 95th percentile queue length would be less than 2 vehicles during both peak hours. Additionally, if left-turning vehicles experience long delays, they have the option to make a right-turn onto Cedar Boulevard and a U-turn at Smith Avenue. Alternatively, the proposed median along Cedar Boulevard could be modified to provide a merging lane for left-turning vehicles from the project driveway onto southbound Cedar Boulevard. By providing a merging lane, vehicles would be able to make a left turn once there is a gap in northbound traffic.

Table 10
Project Driveway Level of Service

Intersection	Peak Hour	Existing with Project Avg. Delay (sec)	Existing with Project LOS	Existing (Factored) with Project Avg. Delay (sec)	Existing (Factored) with Project LOS	Cumulative with Project Avg. Delay (sec)	Cumulative with Project LOS
Cedar Boulevard & Project Driveway	AM	10.6	B	20.1	C	**37.9**	**E**
	PM	14.4	B	19.5	C	**85.9**	**F**

Bold indicates a substandard level of service.
Note:
Cedar Boulevard & Project Driveway is a two-way stop-controlled intersection. The worst leg delay is reported.

Recommendation: The project should coordinate with city staff to determine whether a left turn median refuge along Cedar Boulevard from the project driveway should be installed.

Parking

The City of Newark Zoning Code (Chapter 17.23) requires single-unit dwellings and two-unit dwellings with two or more bedrooms to provide two parking spaces per unit. Since the project proposes a two-car garage on the ground level of each residence, the proposed parking is adequate. Additionally, the site plan shows 61 parking spaces for guests. The Zoning Code does not require guest parking for single-unit dwellings. The provided guest parking is compliant with the zoning code and would be beneficial for visitors and guests.

On-Site Circulation

On-site vehicular circulation was reviewed in accordance with the City of Newark Zoning Code and generally accepted traffic engineering standards. Generally, the proposed site plan would provide vehicle traffic with adequate connectivity through the parking areas. The preliminary site plan shows minimum 20-foot drive aisles throughout the project site. The site plan shows several dead-ends. However, the dead ends lead to residents' garages only. Signage should be posted at the entrance to dead-end aisles.

The project would provide parking within ground level garages in each residence. The site plan shows a two-car garage on the ground level of each residence. The project proposes 20-foot minimum drive aisles throughout the project site. Each residence also shows a 3 to 4-foot driveway in front of each garage. Therefore, residents should have adequate space to back out of their garages.

The site plan provides adequate pedestrian circulation throughout the site, as well as between the site and the surrounding pedestrian facilities. The site plan shows some pedestrian walkways leading to access roads.

Recommendation: Signage stating "NO OUTLET", or similar, should be provided at dead-end aisles.

Truck Access and Circulation

Trash is to be stored adjacent to each unit in a fenced area. The trash pick-up plan shows that residents will wheel trash bins to designated locations in-front-of or behind their residences on trash pick-up days. Trash vehicles would need to back out of dead-end drive aisles on trash pick-up days. The 20-foot access roads provide adequate circulation for trash and emergency vehicles.

The fire access plan provided by Ruggeri Jensen Azar shows that all buildings are within 150' of a fire hydrant or a wharf hydrant. Additionally, the plan shows adequate access and turn radii for City of Newark fire trucks.

Pedestrian, Bicycle, and Transit Analysis

Pedestrian Facilites

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections (see Chapter 2 for details). The project proposes to construct a new 5-foot wide sidewalk along its frontage on Cedar Boulevard. Additionally, the project proposes to work with the City of Newark for a new cross-section along Cedar Boulevard. Since a design has not been finalized, it is unknown as to whether any new pedestrian facilities will be constructed. The existing sidewalks and crosswalks provide adequate access to transit and nearby points of interest.

Bicycle Facilites

There are some bicycle facilities in the immediate vicinity of the project site (see Chapter 2 for details). In the project vicinity, the City of Newark Pedestrian and Bicycle Master Plan proposes to construct Class III bicycle boulevards along Smith Avenue and Moores Avenue. The project would not remove any bicycle facilities, nor would it conflict with any adopted plans or policies for new bicycle facilities. Any off-site modifications to the bike lanes along Cedar Boulevard would be restriped in a new cross-section design.

Transit Services

The project site is served by two local bus routes (see Chapter 2 for details). A bus stop for the two local bus routes is located along the project frontage. Since the project would reconstruct the sidewalk along its frontage, the existing bus stop should be replaced at a similar location. Assuming a conservative estimate of up to 10% of the total trips are made by transit, that translates to approximately 7-9 new transit riders during the peak hours. Route 200 runs on a 20-minute headway, and Route 232 runs on a one-hour headway during peak commute hours. If it is assumed each bus has approximately 50 seats per bus, this equates to 200 seats per hour in each direction, totaling 400 seats per hour. The conservative estimate of 9 new transit riders during the peak hour represents approximately a 2% increase in ridership-to-capacity.

The AC Transit website also provides live transit arrival times for each stop and the ridership-to-capacity expectations for each route. The three ridership-to-capacity expectations consists of low, moderate, and busy. For the two routes that serve the project site (Routes 200 and 232), all times were observed to have shown "low" ridership at all times during peak hours on weekdays. Due to the relatively low ridership indication, the existing bus service is expected to have sufficient capacity to accommodate new riders as a result of the project. The project would not remove any transit facilities, nor would it conflict with any adopted plans or policies associated with new transit facilities.

38478 Cedar Boulevard

Technical Appendices

Appendix A

Volume Adjustment Calculations

Existing Volumes from previous counts - AM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Count Year	Years to Today (y)	Compounded Growth Factor (f)
1	61	296	64	208	496	75	64	247	102	159	233	116	2012	8	1.1662
2	18	341	0	0	715	58	64	0	35	0	0	0	2009	11	1.2354
3	2	342	0	0	704	23	33	0	6	0	0	0	2007	13	1.2837
4	170	321	105	376	643	108	27	328	234	122	595	130	2018	2	1.0392

Existing (Factored) Volumes - AM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	71	345	75	243	578	87	75	288	119	185	272	135
2	22	421	0	0	883	72	79	0	43	0	0	0
3	3	439	0	0	904	30	42	0	8	0	0	0
4	177	334	109	391	668	112	28	341	243	127	618	135

$f = 1 + (p)^y$

where: f = growth factor
p = growth rate (1.94% or 1.47%)
y = years

Existing Volumes from previous counts - PM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Count Year	Years to Today (y)	Compounded Growth Factor (f)
1	68	379	145	218	332	64	73	442	66	124	224	124	2012	8	1.1662
2	13	530	0	0	442	56	46	0	6	0	0	0	2009	11	1.2354
3	2	499	0	1	480	30	23	0	3	0	0	0	2007	13	1.2837
4	173	410	189	213	344	46	113	724	161	300	403	318	2018	2	1.0392

Existing (Factored) Volumes - PM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	79	442	169	254	387	75	85	515	77	145	261	145
2	16	655	0	0	546	69	57	0	7	0	0	0
3	3	641	0	1	616	39	30	0	4	0	0	0
4	180	426	196	221	357	48	117	752	167	312	419	330

$f = 1 + (p)^y$

where: f = growth factor
p = growth rate (1.94% or 1.47%)
y = years

Cumulative Volumes General Plan - AM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total	Existing (Factored) Total	Compounded Growth Factor (f)
2	20	435	0	0	1576	128	119	0	86	0	0	0	2364	1520	1.5553
4	74	86	73	283	1064	366	19	392	416	106	840	115	3834	3283	1.1678
														Average:	1.3615

Existing (Factored) Volumes - AM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
3	3	439	0	0	904	30	42	0	8	0	0	0
Cumulative Volumes (Calculated) - AM												
Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
3	4	598	0	0	1231	41	57	0	11	0	0	0

Cumulative Volumes General Plan - PM

Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Total	Existing (Factored) Total	Compounded Growth Factor (f)
2	22	1420	0	0	615	94	48	0	6	0	0	0	2205	1283	1.7186
4	761	1041	151	227	366	64	415	788	265	211	292	206	4787	3493	1.3705
														Average:	1.5445

Existing (Factored) Volumes - PM

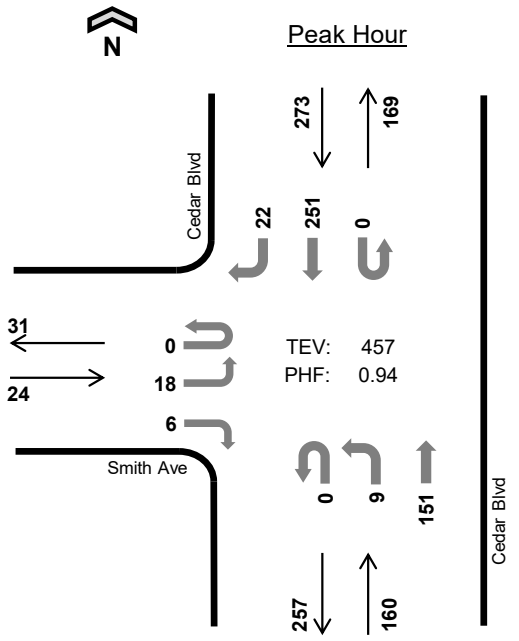
Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
3	2	603	0	1	580	36	28	0	4	0	0	0
Cumulative Volumes (Calculated) - PM												
Int #	NBL	NBT	NBT	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
3	3	931	0	2	896	56	43	0	6	0	0	0

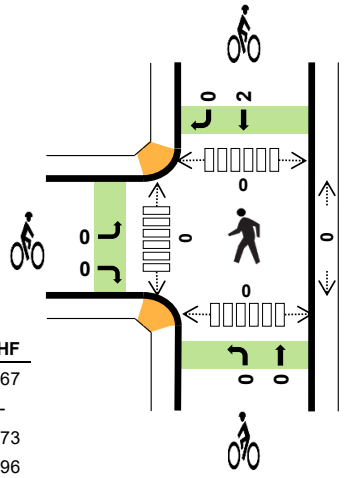
Appendix B

Traffic Counts

Cedar Blvd
Smith Ave

Date: 09/29/2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	8.3%	0.67
WB	-	-
NB	4.4%	0.73
SB	4.4%	0.96
TOTAL	4.6%	0.94

Two-Hour Count Summaries

Interval Start		Smith Ave Eastbound				n/a Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	3	0	2	0	0	0	0	0	0	7	0	0	0	21	2	35	0
7:15 AM		0	4	0	1	0	0	0	0	0	1	16	0	0	0	40	3	65	0
7:30 AM		0	4	0	3	0	0	0	0	0	0	25	0	0	0	54	5	91	0
7:45 AM		0	8	0	7	0	0	0	0	0	1	23	0	0	0	60	6	105	296
8:00 AM		**0**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**28**	**0**	**0**	**0**	**60**	**7**	**107**	368
8:15 AM		**0**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**37**	**0**	**0**	**0**	**66**	**5**	**115**	418
8:30 AM		**0**	**6**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**0**	**0**	**64**	**6**	**113**	440
8:45 AM		**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**51**	**0**	**0**	**0**	**61**	**4**	**122**	**457**
Count Total		0	37	0	19	0	0	0	0	0	11	222	0	0	0	426	38	753	0
Peak Hour	**All**	**0**	**18**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**9**	**151**	**0**	**0**	**0**	**251**	**22**	**457**	**0**
	HV	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**10**	**2**	**21**	**0**
	HV%	**-**	**11%**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**5%**	**-**	**-**	**-**	**4%**	**9%**	**5%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	0	0	1	0	*1*	0	0	0	0	*0*
7:15 AM	0	0	1	3	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	0	2	1	*3*	0	0	1	1	*2*	0	0	0	0	*0*
7:45 AM	0	0	2	2	*4*	1	0	0	0	*1*	0	0	0	0	*0*
8:00 AM	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**2**	**0**	**3**	**2**	***7***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	2	0	12	18	*32*	1	0	2	3	*6*	0	0	0	0	*0*
Peak Hr	**2**	**0**	**7**	**12**	***21***	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Smith Ave				n/a				Cedar Blvd				Cedar Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	11
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**7**	18
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**4**	18
8:30 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**7**	22
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**3**	**21**
Count Total	0	2	0	0	0	0	0	0	0	0	12	0	0	0	16	2	32	0
Peak Hour	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**10**	**2**	**21**	**0**

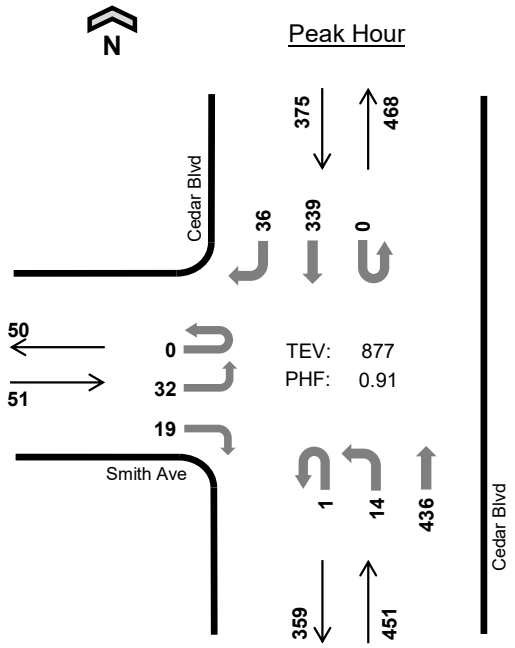
Two-Hour Count Summaries - Bikes

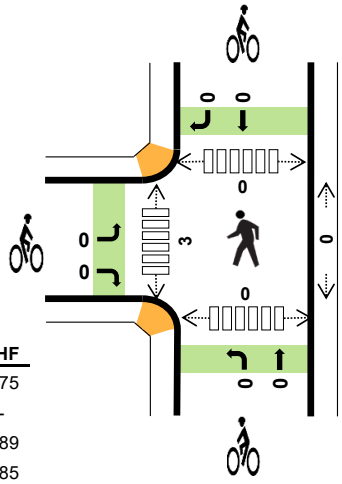
Interval Start	Smith Ave			n/a			Cedar Blvd			Cedar Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2	0
7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	4
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	4
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	3
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Count Total	0	0	1	0	0	0	0	2	0	0	3	0	6	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Cedar Blvd
Smith Ave

Date: 09/23/2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV %:	PHF
EB	2.0%	0.75
WB	-	-
NB	1.3%	0.89
SB	2.1%	0.85
TOTAL	1.7%	0.91

Two-Hour Count Summaries

Interval Start		Smith Ave Eastbound				n/a Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	9	0	3	0	0	0	0	0	2	96	0	0	0	69	11	190	0
4:15 PM		0	8	0	1	0	0	0	0	0	5	89	0	0	0	63	10	176	0
4:30 PM		0	9	0	2	0	0	0	0	0	3	88	0	0	0	87	10	199	0
4:45 PM		0	9	0	10	0	0	0	0	0	5	85	0	0	0	75	9	193	758
5:00 PM		**0**	**9**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**123**	**0**	**0**	**0**	**86**	**12**	**241**	809
5:15 PM		**0**	**10**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**2**	**107**	**0**	**0**	**0**	**63**	**9**	**195**	828
5:30 PM		**0**	**8**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**3**	**97**	**0**	**0**	**0**	**100**	**10**	**224**	853
5:45 PM		**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	**109**	**0**	**0**	**0**	**90**	**5**	**217**	**877**
Count Total		0	67	0	35	0	0	0	0	1	29	794	0	0	0	633	76	1,635	0
Peak Hour	**All**	**0**	**32**	**0**	**19**	**0**	**0**	**0**	**0**	**1**	**14**	**436**	**0**	**0**	**0**	**339**	**36**	**877**	**0**
	HV	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**8**	**0**	**15**	**0**
	HV%	**-**	**3%**	**-**	**0%**	**-**	**-**	**-**	**-**	**0%**	**0%**	**1%**	**-**	**-**	**-**	**2%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	3	0	0	*3*
5:00 PM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:15 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:30 PM	**1**	**0**	**1**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**0**	**3**	**4**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
Count Total	1	0	13	13	*27*	0	0	0	0	*0*	0	7	0	0	*7*
Peak Hr	**1**	**0**	**6**	**8**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Smith Ave				n/a				Cedar Blvd				Cedar Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	12
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**4**	11
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	9
5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	9
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**7**	**15**
Count Total	0	1	0	0	0	0	0	0	0	0	13	0	0	0	13	0	27	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**8**	**0**	**15**	**0**

Two-Hour Count Summaries - Bikes

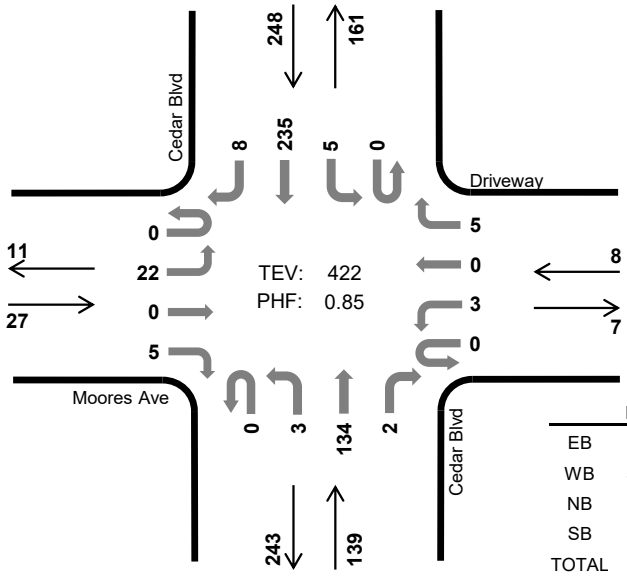
Interval Start	Smith Ave			n/a			Cedar Blvd			Cedar Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

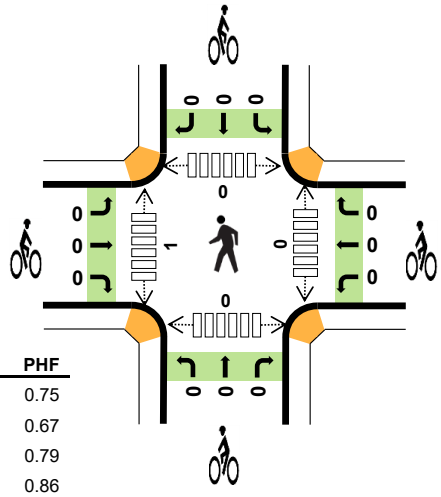
Cedar Blvd
Moores Ave

Date: 09/23/2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	0.0%	0.75
WB	50.0%	0.67
NB	6.5%	0.79
SB	5.2%	0.86
TOTAL	6.2%	0.85



Two-Hour Count Summaries

Interval Start		Moores Ave Eastbound				Driveway Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	4	0	0	0	0	0	0	0	0	12	0	0	1	30	0	47	0
7:15 AM		0	0	0	0	0	0	0	0	0	0	18	0	0	0	44	1	63	0
7:30 AM		0	5	0	0	0	0	0	0	0	0	13	2	0	1	47	1	69	0
7:45 AM		0	4	0	0	0	0	0	0	0	1	19	4	0	1	61	1	91	270
8:00 AM		**0**	**6**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**33**	**1**	**0**	**2**	**48**	**0**	**92**	315
8:15 AM		**0**	**5**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**28**	**1**	**0**	**1**	**53**	**3**	**95**	347
8:30 AM		**0**	**6**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**2**	**42**	**0**	**0**	**1**	**65**	**3**	**124**	402
8:45 AM		**0**	**5**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**31**	**0**	**0**	**1**	**69**	**2**	**111**	**422**
Count Total		0	35	0	5	0	3	0	5	0	4	196	8	0	8	417	11	692	0
Peak Hour	**All**	**0**	**22**	**0**	**5**	**0**	**3**	**0**	**5**	**0**	**3**	**134**	**2**	**0**	**5**	**235**	**8**	**422**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**8**	**1**	**0**	**1**	**12**	**0**	**26**	**0**
	HV%	**-**	**0%**	**-**	**0%**	**-**	**33%**	**-**	**60%**	**-**	**0%**	**6%**	**50%**	**-**	**20%**	**5%**	**0%**	**6%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	3	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	0	4	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	1	0	1	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	0	3	2	*5*	0	0	0	0	*0*	0	1	0	0	*1*
8:00 AM	**0**	**1**	**5**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**2**	**1**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**0**	**1**	**2**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**0**	**0**	**1**	**6**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
Count Total	1	4	13	24	*42*	0	0	0	0	*0*	0	2	0	0	*2*
Peak Hour	**0**	**4**	**9**	**13**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Moores Ave Eastbound				Driveway Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0	4	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	5	16
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**0**	**3**	**0**	**9**	22
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**4**	22
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**6**	24
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**7**	**26**
Count Total	0	1	0	0	0	1	0	3	0	0	9	4	0	1	23	0	42	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**8**	**1**	**0**	**1**	**12**	**0**	**26**	**0**

Two-Hour Count Summaries - Bikes

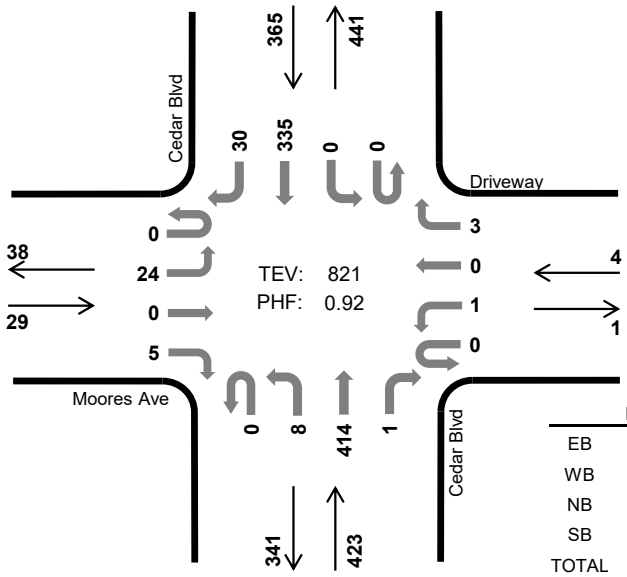
Interval Start	Moores Ave Eastbound			Driveway Westbound			Cedar Blvd Northbound			Cedar Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

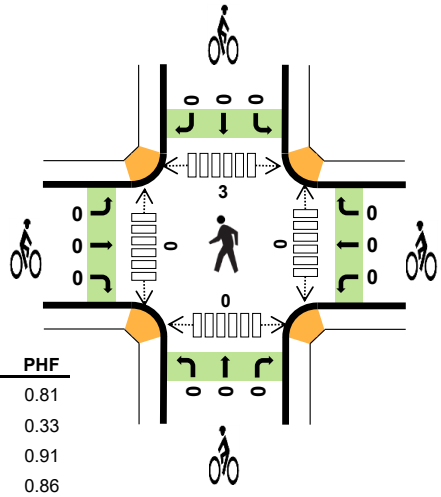
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Cedar Blvd
Moores Ave

Date: 09/23/2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	0.0%	0.81
WB	0.0%	0.33
NB	1.4%	0.91
SB	2.2%	0.86
TOTAL	1.7%	0.92

Two-Hour Count Summaries

Interval Start		Moores Ave Eastbound				Driveway Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	1	2	0	1	0	3	0	1	88	0	0	1	61	6	166	0
4:15 PM		0	8	0	0	0	1	0	1	0	0	84	1	0	0	68	3	166	0
4:30 PM		0	5	0	1	0	1	0	0	0	2	86	1	0	0	77	6	179	0
4:45 PM		0	4	0	1	0	0	0	3	0	1	81	0	0	0	80	7	177	688
5:00 PM		**0**	**7**	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**2**	**113**	**1**	**0**	**0**	**87**	**10**	**224**	746
5:15 PM		**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**104**	**0**	**0**	**0**	**63**	**7**	**182**	762
5:30 PM		**0**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**98**	**0**	**0**	**0**	**97**	**9**	**213**	796
5:45 PM		**0**	**8**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**99**	**0**	**0**	**0**	**88**	**4**	**202**	**821**
Count Total		0	43	1	9	0	4	0	10	0	12	753	3	0	1	621	52	1,509	0
Peak Hour	**All**	**0**	**24**	**0**	**5**	**0**	**1**	**0**	**3**	**0**	**8**	**414**	**1**	**0**	**0**	**335**	**30**	**821**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**8**	**0**	**14**	**0**
	HV%	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**1%**	**0%**	**-**	**-**	**2%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	2	4	*7*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	1	1	1	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	3	0	*4*
5:00 PM	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:15 PM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:45 PM	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
Count Total	1	2	11	13	*27*	0	0	0	0	*0*	0	2	6	0	*8*
Peak Hour	**0**	**0**	**6**	**8**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Moores Ave				Driveway				Cedar Blvd				Cedar Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	1	3	0	7	0
4:15 PM	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**5**	11
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	11
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	10
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**4**	**14**
Count Total	0	1	0	0	0	1	0	1	0	0	11	0	0	1	12	0	27	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**8**	**0**	**14**	**0**

Two-Hour Count Summaries - Bikes

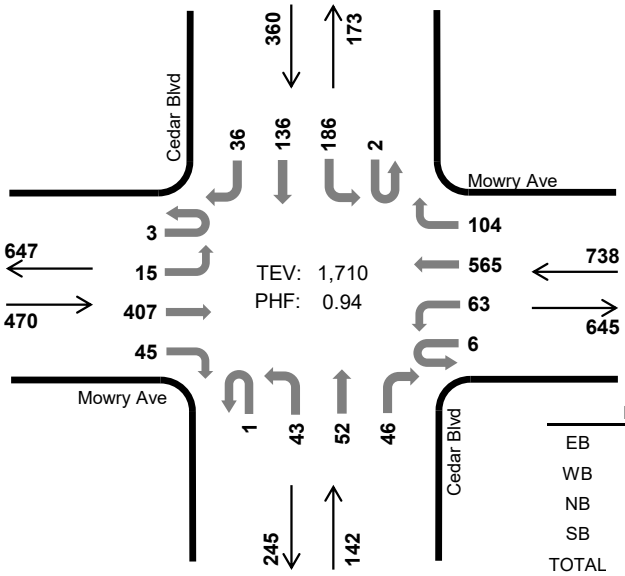
Interval Start	Moores Ave			Driveway			Cedar Blvd			Cedar Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

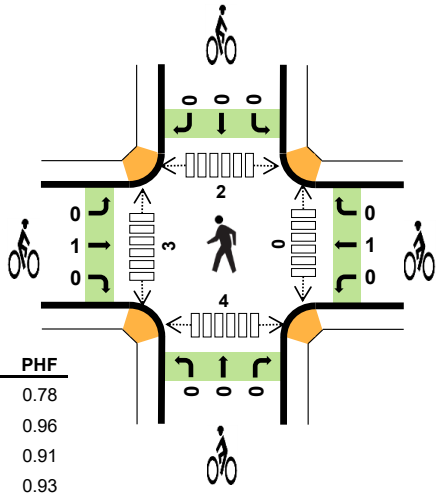
Cedar Blvd
Mowry Ave

Date: 09/23/2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour



	HV %:	PHF
EB	11.1%	0.78
WB	6.8%	0.96
NB	4.9%	0.91
SB	3.3%	0.93
TOTAL	7.1%	0.94



Two-Hour Count Summaries

Interval Start		Mowry Ave Eastbound				Mowry Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	3	45	8	1	10	95	6	0	7	5	11	2	25	17	4	239	0
7:15 AM		0	1	59	8	0	7	137	10	0	6	10	13	0	42	24	9	326	0
7:30 AM		0	4	69	13	1	12	130	15	0	6	2	4	1	32	23	7	319	0
7:45 AM		**1**	**2**	**86**	**18**	**0**	**12**	**156**	**18**	**0**	**12**	**16**	**6**	**0**	**43**	**37**	**13**	**420**	1,304
8:00 AM		**0**	**4**	**108**	**11**	**2**	**11**	**159**	**20**	**1**	**13**	**14**	**11**	**1**	**42**	**32**	**9**	**438**	1,503
8:15 AM		**1**	**8**	**129**	**12**	**1**	**19**	**139**	**29**	**0**	**6**	**8**	**17**	**1**	**46**	**32**	**7**	**455**	1,632
8:30 AM		**1**	**1**	**84**	**4**	**3**	**21**	**111**	**37**	**0**	**12**	**14**	**12**	**0**	**55**	**35**	**7**	**397**	**1,710**
8:45 AM		0	0	66	14	3	17	100	30	0	5	15	12	0	52	42	7	363	1,653
Count Total		3	23	646	88	11	109	1,027	165	1	67	84	86	5	337	242	63	2,957	0
Peak Hour	**All**	**3**	**15**	**407**	**45**	**6**	**63**	**565**	**104**	**1**	**43**	**52**	**46**	**2**	**186**	**136**	**36**	**1,710**	**0**
	HV	**0**	**2**	**49**	**1**	**0**	**2**	**42**	**6**	**0**	**1**	**3**	**3**	**0**	**9**	**2**	**1**	**121**	**0**
	HV%	**0%**	**13%**	**12%**	**2%**	**0%**	**3%**	**7%**	**6%**	**0%**	**2%**	**6%**	**7%**	**0%**	**5%**	**1%**	**3%**	**7%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	15	14	2	3	*34*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	12	15	0	5	*32*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	17	17	3	3	*40*	0	1	0	0	*1*	0	0	0	0	*0*
7:45 AM	**10**	**11**	**1**	**2**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**14**	**17**	**1**	**3**	***35***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**1**	**1**	*5*
8:15 AM	**13**	**13**	**1**	**1**	***28***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**3**	*4*
8:30 AM	**15**	**9**	**4**	**6**	***34***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
8:45 AM	16	19	0	6	*41*	0	0	0	0	*0*	0	1	0	0	*1*
Count Total	112	115	12	29	*268*	1	2	0	0	*3*	0	4	2	4	*10*
Peak Hour	**52**	**50**	**7**	**12**	***121***	**1**	**1**	**0**	**0**	***2***	**0**	**3**	**2**	**4**	***9***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Mowry Ave Eastbound				Mowry Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	14	1	0	2	12	0	0	0	0	2	0	2	0	1	34	0
7:15 AM	0	0	12	0	0	0	15	0	0	0	0	0	0	3	2	0	32	0
7:30 AM	0	1	16	0	0	0	17	0	0	0	1	2	0	1	1	1	40	0
7:45 AM	**0**	**1**	**8**	**1**	**0**	**0**	**10**	**1**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**24**	130
8:00 AM	**0**	**1**	**13**	**0**	**0**	**1**	**14**	**2**	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**35**	131
8:15 AM	**0**	**0**	**13**	**0**	**0**	**0**	**12**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**28**	127
8:30 AM	**0**	**0**	**15**	**0**	**0**	**1**	**6**	**2**	**0**	**1**	**1**	**2**	**0**	**4**	**1**	**1**	**34**	**121**
8:45 AM	0	0	16	0	0	0	17	2	0	0	0	0	0	2	3	1	41	138
Count Total	0	3	107	2	0	4	103	8	0	1	4	7	0	17	8	4	268	0
Peak Hour	**0**	**2**	**49**	**1**	**0**	**2**	**42**	**6**	**0**	**1**	**3**	**3**	**0**	**9**	**2**	**1**	**121**	**0**

Two-Hour Count Summaries - Bikes

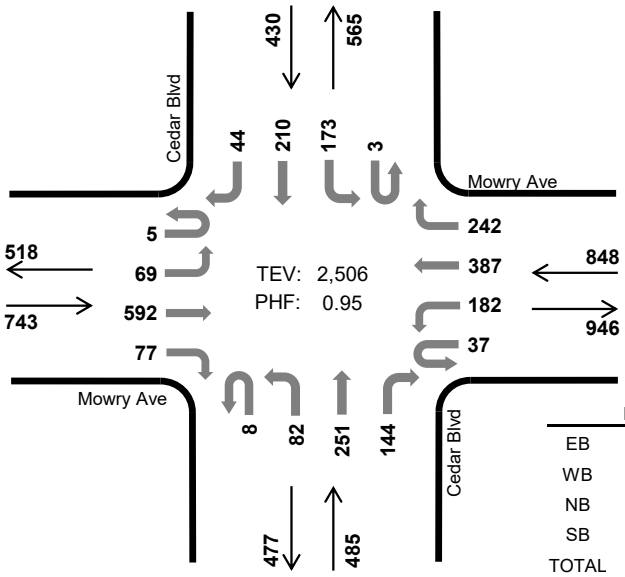
Interval Start	Mowry Ave Eastbound			Mowry Ave Westbound			Cedar Blvd Northbound			Cedar Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	2
8:30 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	1	0	1	1	0	0	0	0	0	0	0	3	0
Peak Hour	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

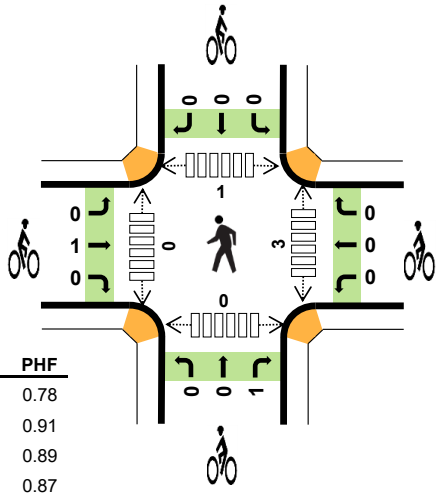
Cedar Blvd
Mowry Ave

Date: 09/23/2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	3.0%	0.78
WB	4.1%	0.91
NB	1.0%	0.89
SB	2.3%	0.87
TOTAL	2.9%	0.95



Two-Hour Count Summaries

Interval Start		Mowry Ave Eastbound				Mowry Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	29	154	17	6	42	83	52	5	18	50	29	1	41	35	7	569	0
4:15 PM		1	19	123	14	9	33	81	57	3	30	43	27	1	47	38	8	534	0
4:30 PM		0	8	177	19	7	35	91	53	4	25	63	16	0	43	43	8	592	0
4:45 PM		0	11	172	18	7	46	97	36	2	21	64	29	1	42	46	8	600	2,295
5:00 PM		**2**	**27**	**180**	**29**	**10**	**34**	**89**	**46**	**2**	**25**	**70**	**39**	**0**	**35**	**59**	**12**	**659**	2,385
5:15 PM		**2**	**18**	**137**	**18**	**15**	**58**	**89**	**71**	**2**	**17**	**67**	**37**	**1**	**40**	**42**	**7**	**621**	2,472
5:30 PM		**0**	**10**	**164**	**11**	**6**	**40**	**106**	**56**	**2**	**15**	**62**	**31**	**2**	**50**	**44**	**15**	**614**	2,494
5:45 PM		**1**	**14**	**111**	**19**	**6**	**50**	**103**	**69**	**2**	**25**	**52**	**37**	**0**	**48**	**65**	**10**	**612**	**2,506**
Count Total		6	136	1,218	145	66	338	739	440	22	176	471	245	6	346	372	75	4,801	0
Peak Hour	**All**	**5**	**69**	**592**	**77**	**37**	**182**	**387**	**242**	**8**	**82**	**251**	**144**	**3**	**173**	**210**	**44**	**2,506**	**0**
	HV	**0**	**2**	**20**	**0**	**0**	**3**	**26**	**6**	**0**	**2**	**1**	**2**	**0**	**7**	**2**	**1**	**72**	**0**
	HV%	**0%**	**3%**	**3%**	**0%**	**0%**	**2%**	**7%**	**2%**	**0%**	**2%**	**0%**	**1%**	**0%**	**4%**	**1%**	**2%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	14	1	3	*29*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	3	11	1	1	*16*	1	1	0	0	*2*	1	0	0	0	*1*
4:30 PM	11	19	2	1	*33*	0	0	0	0	*0*	0	1	0	0	*1*
4:45 PM	6	11	1	2	*20*	0	0	0	0	*0*	1	3	1	2	*7*
5:00 PM	**9**	**11**	**1**	**3**	***24***	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**1**	**0**	*2*
5:15 PM	**2**	**12**	**1**	**4**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**8**	**6**	**1**	**1**	***16***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	*2*
5:45 PM	**3**	**6**	**2**	**2**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	53	90	10	17	*170*	2	1	1	0	*4*	5	5	2	2	*14*
Peak Hour	**22**	**35**	**5**	**10**	***72***	**1**	**0**	**1**	**0**	***2***	**3**	**0**	**1**	**0**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Mowry Ave Eastbound				Mowry Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	11	0	0	1	11	2	0	0	1	0	0	2	0	1	29	0
4:15 PM	0	0	3	0	0	0	10	1	0	0	0	1	0	1	0	0	16	0
4:30 PM	0	0	11	0	0	0	17	2	0	1	0	1	0	1	0	0	33	0
4:45 PM	0	1	5	0	0	0	11	0	0	0	1	0	0	2	0	0	20	98
5:00 PM	**0**	**1**	**8**	**0**	**0**	**1**	**9**	**1**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**24**	93
5:15 PM	**0**	**0**	**2**	**0**	**0**	**1**	**9**	**2**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**1**	**19**	96
5:30 PM	**0**	**1**	**7**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**16**	79
5:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**3**	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**0**	**13**	**72**
Count Total	0	3	50	0	0	4	75	11	0	3	3	4	0	13	2	2	170	0
Peak Hour	**0**	**2**	**20**	**0**	**0**	**3**	**26**	**6**	**0**	**2**	**1**	**2**	**0**	**7**	**2**	**1**	**72**	**0**

Two-Hour Count Summaries - Bikes

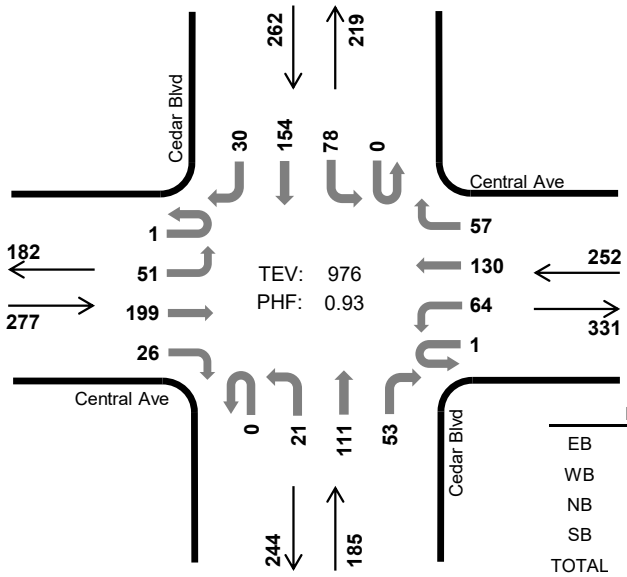
Interval Start	Mowry Ave Eastbound			Mowry Ave Westbound			Cedar Blvd Northbound			Cedar Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	3
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	2
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Count Total	0	2	0	0	1	0	0	0	1	0	0	0	4	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

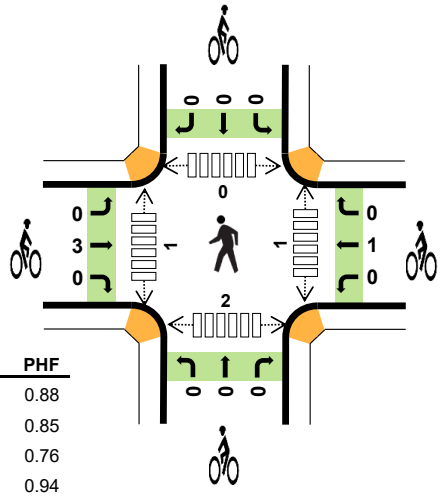
Cedar Blvd
Central Ave

Date: 09/23/2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	7.2%	0.88
WB	4.0%	0.85
NB	6.5%	0.76
SB	4.6%	0.94
TOTAL	5.5%	0.93



Two-Hour Count Summaries

Interval Start	Central Ave Eastbound				Central Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	10	33	3	0	7	13	9	0	0	20	5	1	17	17	5	140	0
7:15 AM	0	12	24	7	0	16	24	13	0	2	16	4	0	12	25	10	165	0
7:30 AM	0	10	45	10	0	13	32	14	0	2	17	6	0	30	24	4	207	0
7:45 AM	0	13	44	8	0	9	36	3	0	1	23	11	0	17	31	1	197	709
8:00 AM	**0**	**9**	**48**	**7**	**0**	**16**	**29**	**17**	**0**	**6**	**22**	**14**	**0**	**22**	**35**	**7**	**232**	801
8:15 AM	**0**	**12**	**51**	**6**	**1**	**8**	**31**	**11**	**0**	**4**	**29**	**13**	**0**	**16**	**37**	**6**	**225**	861
8:30 AM	**0**	**15**	**45**	**5**	**0**	**24**	**29**	**12**	**0**	**5**	**36**	**20**	**0**	**20**	**40**	**10**	**261**	915
8:45 AM	**1**	**15**	**55**	**8**	**0**	**16**	**41**	**17**	**0**	**6**	**24**	**6**	**0**	**20**	**42**	**7**	**258**	**976**
Count Total	1	96	345	54	1	109	235	96	0	26	187	79	1	154	251	50	1,685	0
Peak Hour All	**1**	**51**	**199**	**26**	**1**	**64**	**130**	**57**	**0**	**21**	**111**	**53**	**0**	**78**	**154**	**30**	**976**	**0**
Peak Hour HV	**0**	**8**	**4**	**8**	**0**	**1**	**6**	**3**	**0**	**3**	**5**	**4**	**0**	**2**	**8**	**2**	**54**	**0**
Peak Hour HV%	**0%**	**16%**	**2%**	**31%**	**0%**	**2%**	**5%**	**5%**	**-**	**14%**	**5%**	**8%**	**-**	**3%**	**5%**	**7%**	**6%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	7	3	1	3	*14*	0	1	0	1	*2*	0	0	0	0	*0*
7:15 AM	6	4	1	4	*15*	1	1	0	0	*2*	0	0	0	0	*0*
7:30 AM	4	3	5	2	*14*	1	0	0	1	*2*	0	0	0	0	*0*
7:45 AM	5	0	1	2	*8*	1	0	0	0	*1*	0	0	0	0	*0*
8:00 AM	**6**	**2**	**4**	**3**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
8:15 AM	**5**	**1**	**4**	**0**	***10***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**1**	*1*
8:30 AM	**4**	**3**	**4**	**6**	***17***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**5**	**4**	**0**	**3**	***12***	**2**	**0**	**0**	**0**	***2***	**1**	**0**	**0**	**0**	***1***
Count Total	42	20	20	23	*105*	6	3	0	2	*11*	1	1	0	2	*4*
Peak Hour	**20**	**10**	**12**	**12**	***54***	**3**	**1**	**0**	**0**	***4***	**1**	**1**	**0**	**2**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Central Ave Eastbound				Central Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	3	0	0	2	0	1	0	0	1	0	0	1	1	1	14	0
7:15 AM	0	4	1	1	0	3	0	1	0	0	1	0	0	1	1	2	15	0
7:30 AM	0	2	2	0	0	0	1	2	0	1	4	0	0	2	0	0	14	0
7:45 AM	0	3	1	1	0	0	0	0	0	1	0	0	0	0	2	0	8	51
8:00 AM	**0**	**2**	**1**	**3**	**0**	**0**	**2**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**1**	**2**	**15**	52
8:15 AM	**0**	**2**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**10**	47
8:30 AM	**0**	**2**	**1**	**1**	**0**	**1**	**2**	**0**	**0**	**1**	**2**	**1**	**0**	**2**	**4**	**0**	**17**	50
8:45 AM	**0**	**2**	**1**	**2**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**12**	**54**
Count Total	0	21	11	10	0	6	7	7	0	5	11	4	0	6	12	5	105	0
Peak Hour	**0**	**8**	**4**	**8**	**0**	**1**	**6**	**3**	**0**	**3**	**5**	**4**	**0**	**2**	**8**	**2**	**54**	**0**

Two-Hour Count Summaries - Bikes

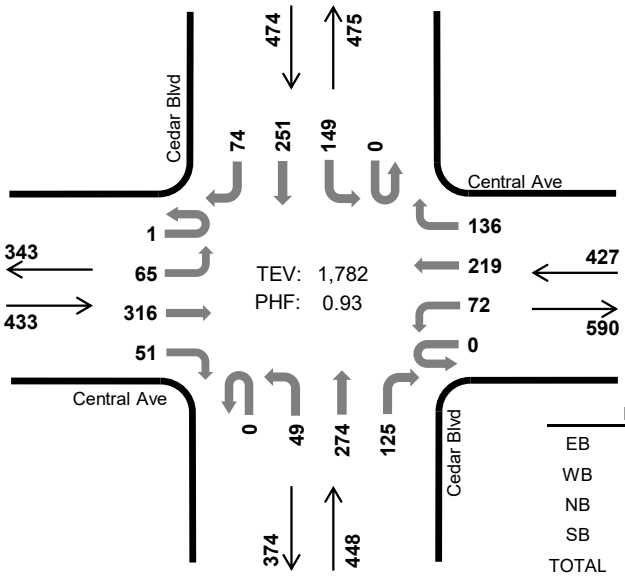
Interval Start	Central Ave Eastbound			Central Ave Westbound			Cedar Blvd Northbound			Cedar Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	1	2	0
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	2	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	1	2	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	7
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	5
8:15 AM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	4
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	3
8:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**
Count Total	0	6	0	0	2	1	0	0	0	0	0	2	11	0
Peak Hour	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

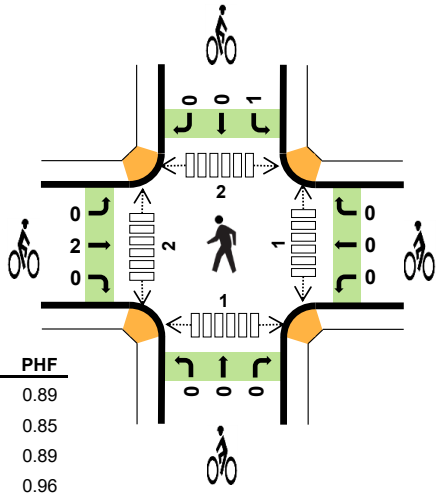
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Cedar Blvd
Central Ave

Date: 09/23/2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour





	HV %:	PHF
EB	1.6%	0.89
WB	0.5%	0.85
NB	1.6%	0.89
SB	3.0%	0.96
TOTAL	1.7%	0.93

Two-Hour Count Summaries

Interval Start		Central Ave Eastbound				Central Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	28	66	5	0	13	46	32	0	12	67	27	0	47	64	9	416	0
4:15 PM		0	23	75	8	0	14	37	30	0	6	67	27	0	36	49	14	386	0
4:30 PM		0	23	83	13	1	18	53	27	0	11	77	18	0	40	59	9	432	0
4:45 PM		0	17	74	15	0	21	38	36	0	9	57	22	0	23	52	16	380	1,614
5:00 PM		**0**	**18**	**86**	**18**	**0**	**16**	**64**	**32**	**0**	**12**	**77**	**32**	**0**	**34**	**59**	**30**	**478**	1,676
5:15 PM		**1**	**10**	**92**	**8**	**0**	**21**	**52**	**28**	**0**	**14**	**73**	**39**	**0**	**48**	**51**	**18**	**455**	1,745
5:30 PM		**0**	**20**	**76**	**14**	**0**	**24**	**58**	**43**	**0**	**10**	**60**	**28**	**0**	**36**	**72**	**15**	**456**	1,769
5:45 PM		**0**	**17**	**62**	**11**	**0**	**11**	**45**	**33**	**0**	**13**	**64**	**26**	**0**	**31**	**69**	**11**	**393**	**1,782**
Count Total		1	156	614	92	1	138	393	261	0	87	542	219	0	295	475	122	3,396	0
Peak Hour	**All**	**1**	**65**	**316**	**51**	**0**	**72**	**219**	**136**	**0**	**49**	**274**	**125**	**0**	**149**	**251**	**74**	**1,782**	**0**
	HV	**0**	**3**	**1**	**3**	**0**	**1**	**0**	**1**	**0**	**4**	**1**	**2**	**0**	**7**	**4**	**3**	**30**	**0**
	HV%	**0%**	**5%**	**0%**	**6%**	**-**	**1%**	**0%**	**1%**	**-**	**8%**	**0%**	**2%**	**-**	**5%**	**2%**	**4%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	3	1	*8*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	2	0	2	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	2	0	2	2	*6*	1	0	0	0	*1*	0	0	0	0	*0*
4:45 PM	1	0	0	3	*4*	2	0	0	0	*2*	0	4	1	0	*5*
5:00 PM	**4**	**2**	**4**	**4**	***14***	**0**	**0**	**0**	**1**	***1***	**0**	**2**	**0**	**0**	*2*
5:15 PM	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:30 PM	**2**	**0**	**1**	**8**	***11***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**0**	**2**	**1**	***3***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**2**	**1**	***3***
Count Total	14	4	14	20	*52*	5	0	0	1	*6*	1	7	3	1	*12*
Peak Hour	**7**	**2**	**7**	**14**	***30***	**2**	**0**	**0**	**1**	***3***	**1**	**2**	**2**	**1**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Central Ave Eastbound				Central Ave Westbound				Cedar Blvd Northbound				Cedar Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	1	0	0	2	0	0	1	0	2	0	0	1	0	8	0
4:15 PM	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4	0
4:30 PM	0	1	0	1	0	0	0	0	0	2	0	0	0	0	1	1	6	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	4	22
5:00 PM	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**0**	**2**	**1**	**1**	**0**	**0**	**2**	**2**	**14**	28
5:15 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	26
5:30 PM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**1**	**1**	**11**	31
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**3**	**30**
Count Total	0	7	2	5	0	1	2	1	0	7	3	4	0	8	7	5	52	0
Peak Hour	**0**	**3**	**1**	**3**	**0**	**1**	**0**	**1**	**0**	**4**	**1**	**2**	**0**	**7**	**4**	**3**	**30**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Central Ave Eastbound			Central Ave Westbound			Cedar Blvd Northbound			Cedar Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	2	0	0	0	0	0	0	0	0	0	0	0	2	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	4
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	4
5:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**
Count Total	3	2	0	0	0	0	0	0	0	1	0	0	6	0
Peak Hour	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix C

Level of Service Calculations

Scenario Report

Scenario:	Existing AM
Command:	Default Command
Volume:	Existing AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	No Project
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.229
Loss Time (sec):	17	Average Delay (sec/veh):	31.4
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	21	111	53	78	154	30	52	199	26	65	130	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	111	53	78	154	30	52	199	26	65	130	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	111	53	78	154	30	52	199	26	65	130	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	111	53	78	154	30	52	199	26	65	130	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	111	53	78	154	30	52	199	26	65	130	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	111	53	78	154	30	52	199	26	65	130	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.91	0.91
Lanes:	1.00	1.35	0.65	1.00	1.67	0.33	1.00	1.77	0.23	1.00	1.39	0.61
Final Sat.:	1805	2326	1111	1805	2949	574	1805	3139	410	1805	2394	1050
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.04	0.05	0.05	0.03	0.06	0.06	0.04	0.05	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.16	0.21	0.21	0.19	0.23	0.23	0.18	0.28	0.28	0.16	0.25	0.25
Volume/Cap:	0.07	0.23	0.23	0.23	0.22	0.22	0.16	0.23	0.23	0.23	0.21	0.21
Uniform Del:	35.4	32.9	32.9	34.4	31.0	31.0	34.7	27.9	27.9	36.9	29.3	29.3
IncremntDel:	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	0.4	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	35.5	33.1	33.1	34.8	31.2	31.2	35.0	28.1	28.1	37.3	29.5	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.5	33.1	33.1	34.8	31.2	31.2	35.0	28.1	28.1	37.3	29.5	29.5
LOS by Move:	D	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	1	2	2	2	2	2	1	3	3	2	2	2

Note: Queue reported is the number of cars per lane.

****

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[10.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	9	151	0	0	251	22	18	0	6	0	0	0
Growth Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	151	0	0	251	22	18	0	6	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	151	0	0	251	22	18	0	6	0	0	0
User Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	9	151	0	0	251	22	18	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	9	151	0	0	251	22	18	0	6	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	
Capacity Module:												
Cnflict Vol:	273 xxxx	xxxxx	xxxx	xxxx	xxxxx	356	431	137	xxxx	xxxx	xxxxx	
Potent Cap.:	1302 xxxx	xxxxx	xxxx	xxxx	xxxxx	622	520	893	xxxx	xxxx	xxxxx	
Move Cap.:	1302 xxxx	xxxxx	xxxx	xxxx	xxxxx	618	517	893	xxxx	xxxx	xxxxx	
Volume/Cap:	0.01 xxxx	xxxx	xxxx	xxxx	xxxx	0.03	0.00	0.01	xxxx	xxxx	xxxx	
Level Of Service Module:												
2Way95thQ:	0.0 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	
Control Del:	7.8 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	670	xxxxx	xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.6	xxxxx	xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*	*	*	*	B	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.6			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.086
Loss Time (sec): 0 Average Delay (sec/veh): 10.0
Optimal Cycle: 27 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module:												
Base Vol:	3	134	2	5	235	8	22	0	5	3	0	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	134	2	5	235	8	22	0	5	3	0	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	134	2	5	235	8	22	0	5	3	0	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	134	2	5	235	8	22	0	5	3	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	134	2	5	235	8	22	0	5	3	0	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	134	2	5	235	8	22	0	5	3	0	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.95	0.83	1.00	0.83	0.87	1.00	0.87
Lanes:	1.00	1.97	0.03	1.00	1.93	0.07	0.81	0.00	0.19	0.38	0.00	0.62
Final Sat.:	1805	3550	53	1805	3474	118	1289	0	293	621	0	1034
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.04	0.00	0.07	0.07	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.07	0.48	0.48	0.33	0.74	0.74	0.19	0.00	0.19	0.19	0.00	0.19
Volume/Cap:	0.02	0.08	0.08	0.01	0.09	0.09	0.09	0.00	0.09	0.03	0.00	0.03
Uniform Del:	43.3	14.2	14.2	22.2	3.6	3.6	33.6	0.0	33.6	33.2	0.0	33.2
IncremntDel:	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	43.4	14.2	14.2	22.2	3.6	3.6	33.7	0.0	33.7	33.2	0.0	33.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	14.2	14.2	22.2	3.6	3.6	33.7	0.0	33.7	33.2	0.0	33.2
LOS by Move:	D	B	B	C	A	A	C	A	C	C	A	C
HCM2kAvgQ:	0	1	1	0	1	1	1	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.322
Loss Time (sec):	12	Average Delay (sec/veh):	22.8
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	44	52	46	188	136	36	18	407	45	69	565	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	52	46	188	136	36	18	407	45	69	565	104
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	52	46	188	136	36	18	407	45	69	565	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	52	46	188	136	36	18	407	45	69	565	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	52	46	188	136	36	18	407	45	69	565	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	52	46	188	136	36	18	407	45	69	565	104
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.01	0.02	0.10	0.04	0.02	0.01	0.11	0.02	0.02	0.16	0.05
Crit Moves:		****			****			****			****	
Green/Cycle:	0.15	0.11	0.31	0.26	0.22	0.30	0.08	0.29	0.45	0.20	0.42	0.68
Volume/Cap:	0.15	0.13	0.08	0.38	0.17	0.06	0.12	0.39	0.05	0.09	0.38	0.08
Uniform Del:	33.0	36.1	21.8	27.2	28.5	22.6	38.6	25.4	14.2	29.3	18.2	4.9
IncremntDel:	0.2	0.1	0.1	0.5	0.1	0.0	0.4	0.2	0.0	0.1	0.2	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	33.2	36.2	21.9	27.6	28.6	22.7	39.0	25.7	14.2	29.3	18.4	5.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.2	36.2	21.9	27.6	28.6	22.7	39.0	25.7	14.2	29.3	18.4	5.0
LOS by Move:	C	D	C	C	C	C	D	C	B	C	B	A
HCM2kAvgQ:	1	1	1	4	2	1	1	5	1	1	6	1

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Existing PM
Command:	Default Command
Volume:	Existing PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	No Project
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.339
Loss Time (sec):	0	Average Delay (sec/veh):	28.3
Optimal Cycle:	35	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	49	274	125	149	251	74	66	316	51	72	219	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	274	125	149	251	74	66	316	51	72	219	136
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	274	125	149	251	74	66	316	51	72	219	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	274	125	149	251	74	66	316	51	72	219	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	274	125	149	251	74	66	316	51	72	219	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	274	125	149	251	74	66	316	51	72	219	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.37	0.63	1.00	1.54	0.46	1.00	1.72	0.28	1.00	1.23	0.77
Final Sat.:	1805	2363	1078	1805	2693	794	1805	3043	491	1805	2100	1304
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.08	0.09	0.09	0.04	0.10	0.10	0.04	0.10	0.10
Crit Moves:		****			****			****			****	
Green/Cycle:	0.24	0.34	0.34	0.24	0.34	0.34	0.11	0.25	0.25	0.17	0.31	0.31
Volume/Cap:	0.11	0.34	0.34	0.34	0.27	0.27	0.34	0.42	0.42	0.24	0.34	0.34
Uniform Del:	29.6	24.5	24.5	31.2	23.7	23.7	41.3	31.6	31.6	36.1	26.8	26.8
IncremntDel:	0.1	0.2	0.2	0.5	0.1	0.1	1.0	0.3	0.3	0.4	0.2	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	29.7	24.7	24.7	31.7	23.8	23.8	42.4	31.9	31.9	36.5	27.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.7	24.7	24.7	31.7	23.8	23.8	42.4	31.9	31.9	36.5	27.0	27.0
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	1	5	5	4	4	4	2	5	5	2	5	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[12.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	15	436	0	0	339	36	32	0	19	0	0	0
Growth Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	436	0	0	339	36	32	0	19	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	436	0	0	339	36	32	0	19	0	0	0
User Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	436	0	0	339	36	32	0	19	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	436	0	0	339	36	32	0	19	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	
Capacity Module:												
Cnflict Vol:	375 xxxx	xxxxx	xxxx	xxxx	xxxxx	605	823	188	xxxx	xxxx	xxxxx	
Potent Cap.:	1195 xxxx	xxxxx	xxxx	xxxx	xxxxx	434	311	829	xxxx	xxxx	xxxxx	
Move Cap.:	1195 xxxx	xxxxx	xxxx	xxxx	xxxxx	430	307	829	xxxx	xxxx	xxxxx	
Volume/Cap:	0.01 xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.00	0.02	xxxx	xxxx	xxxx	
Level Of Service Module:												
2Way95thQ:	0.0 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	
Control Del:	8.1 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT		
Shared Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	524	xxxxx	xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.6	xxxxx	xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*	*	*	*	B	*	*	*	*	
ApproachDel:	xxxxxx		xxxxxx		12.6		xxxxxx					
ApproachLOS:	*		*		B		*					

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.125
Loss Time (sec):	0	Average Delay (sec/veh):	3.7
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	8	414	1	0	335	30	24	0	5	1	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	414	1	0	335	30	24	0	5	1	0	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	414	1	0	335	30	24	0	5	1	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	414	1	0	335	30	24	0	5	1	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	414	1	0	335	30	24	0	5	1	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	414	1	0	335	30	24	0	5	1	0	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	1.00	0.94	0.94	0.82	1.00	0.82	0.87	1.00	0.87
Lanes:	1.00	1.99	0.01	1.00	1.84	0.16	0.83	0.00	0.17	0.25	0.00	0.75
Final Sat.:	1805	3601	9	1900	3274	293	1292	0	269	413	0	1238
Capacity Analysis Module:												
Vol/Sat:	0.00	0.11	0.11	0.00	0.10	0.10	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.07	0.86	0.86	0.00	0.79	0.79	0.14	0.00	0.14	0.14	0.00	0.14
Volume/Cap:	0.06	0.13	0.13	0.00	0.13	0.13	0.13	0.00	0.13	0.02	0.00	0.02
Uniform Del:	43.4	1.2	1.2	0.0	2.5	2.5	37.4	0.0	37.4	36.8	0.0	36.8
IncremntDel:	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	43.6	1.2	1.2	0.0	2.5	2.5	37.7	0.0	37.7	36.9	0.0	36.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	1.2	1.2	0.0	2.5	2.5	37.7	0.0	37.7	36.9	0.0	36.9
LOS by Move:	D	A	A	A	A	A	D	A	D	D	A	D
HCM2kAvgQ:	0	1	1	0	1	1	1	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.445
Loss Time (sec):	12	Average Delay (sec/veh):	25.8
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	90	251	144	176	210	44	74	592	77	219	387	242
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	251	144	176	210	44	74	592	77	219	387	242
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	251	144	176	210	44	74	592	77	219	387	242
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	251	144	176	210	44	74	592	77	219	387	242
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	251	144	176	210	44	74	592	77	219	387	242
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	251	144	176	210	44	74	592	77	219	387	242
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.08	0.09	0.06	0.02	0.04	0.16	0.04	0.06	0.11	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.16	0.29	0.21	0.21	0.42	0.21	0.37	0.52	0.13	0.30	0.50
Volume/Cap:	0.32	0.44	0.26	0.44	0.27	0.05	0.19	0.44	0.08	0.44	0.36	0.25
Uniform Del:	34.1	34.4	24.6	31.1	29.5	15.4	29.5	21.5	10.9	35.9	25.0	12.7
IncremntDel:	0.6	0.6	0.3	0.8	0.2	0.0	0.2	0.2	0.0	0.6	0.2	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	34.8	35.0	24.8	31.9	29.7	15.5	29.7	21.7	10.9	36.6	25.2	12.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.8	35.0	24.8	31.9	29.7	15.5	29.7	21.7	10.9	36.6	25.2	12.8
LOS by Move:	C	C	C	C	C	B	C	C	B	D	C	B
HCM2kAvgQ:	2	4	3	4	2	1	2	7	1	3	5	4

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Existing +P AM
Command:	Default Command
Volume:	Existing AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	Project AM
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.234
Loss Time (sec):	17	Average Delay (sec/veh):	31.5
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	21	111	53	78	154	30	52	199	26	65	130	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	111	53	78	154	30	52	199	26	65	130	57
Added Vol:	6	14	0	0	2	0	0	0	1	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	27	125	53	78	156	30	52	199	27	65	130	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	27	125	53	78	156	30	52	199	27	65	130	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	125	53	78	156	30	52	199	27	65	130	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	125	53	78	156	30	52	199	27	65	130	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.91	0.91
Lanes:	1.00	1.40	0.60	1.00	1.68	0.32	1.00	1.76	0.24	1.00	1.39	0.61
Final Sat.:	1805	2421	1027	1805	2955	568	1805	3121	424	1805	2394	1050
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.04	0.05	0.05	0.03	0.06	0.06	0.04	0.05	0.05
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.22	0.22	0.18	0.24	0.24	0.18	0.27	0.27	0.15	0.25	0.25
Volume/Cap:	0.09	0.23	0.23	0.23	0.22	0.22	0.16	0.23	0.23	0.23	0.22	0.22
Uniform Del:	35.3	32.1	32.1	34.8	30.7	30.7	35.0	28.3	28.3	37.2	29.7	29.7
IncremntDel:	0.1	0.2	0.2	0.4	0.1	0.1	0.2	0.1	0.1	0.4	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	35.4	32.2	32.2	35.1	30.8	30.8	35.3	28.4	28.4	37.6	29.8	29.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.4	32.2	32.2	35.1	30.8	30.8	35.3	28.4	28.4	37.6	29.8	29.8
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	1	2	2	2	2	2	1	3	3	2	2	2

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[10.7]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	2	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	9	151		0		0		251		22		18		0		6		0		0		0		
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	
Initial Bse:	9	151		0		0		251		22		18		0		6		0		0		0		
Added Vol:	0	20		0		0		3		0		0		0		0		0		0		0		
PasserByVol:	0	0		0		0		0		0		0		0		0		0		0		0		
Initial Fut:	9	171		0		0		254		22		18		0		6		0		0		0		
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	
PHF Volume:	9	171		0		0		254		22		18		0		6		0		0		0		
Reduct Vol:	0	0		0		0		0		0		0		0		0		0		0		0		
FinalVolume:	9	171		0		0		254		22		18		0		6		0		0		0		
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx						6.8	6.5		6.9	xxxxx	xxxx	xxxxx						
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx						3.5	4.0		3.3	xxxxx	xxxx	xxxxx						
Capacity Module:																								
Cnflict Vol:	276	xxxx	xxxxx	xxxx	xxxx	xxxxx						369	454		138	xxxx	xxxx	xxxxx						
Potent Cap.:	1299	xxxx	xxxxx	xxxx	xxxx	xxxxx						610	505		891	xxxx	xxxx	xxxxx						
Move Cap.:	1299	xxxx	xxxxx	xxxx	xxxx	xxxxx						607	501		891	xxxx	xxxx	xxxxx						
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx						0.03	0.00		0.01	xxxx	xxxx	xxxx						
Level Of Service Module:																								
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
LOS by Move:	A	*		*		*	*		*		*	*												
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	660	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.7	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*		*		*	*		*		*	B			*									
ApproachDel:	xxxxxx			xxxxxx				10.7			xxxxxx													
ApproachLOS:	*			*				B			*													

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.098
Loss Time (sec):	0	Average Delay (sec/veh):	9.0
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	3	134	2	5	235	8	22	0	5	3	0	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	134	2	5	235	8	22	0	5	3	0	5
Added Vol:	0	6	0	0	43	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	140	2	5	278	8	22	0	5	3	0	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	140	2	5	278	8	22	0	5	3	0	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	140	2	5	278	8	22	0	5	3	0	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	140	2	5	278	8	22	0	5	3	0	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.95	0.95	0.83	1.00	0.83	0.87	1.00	0.87
Lanes:	1.00	1.97	0.03	1.00	1.94	0.06	0.81	0.00	0.19	0.38	0.00	0.62
Final Sat.:	1805	3552	51	1805	3495	101	1283	0	292	619	0	1031
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.04	0.00	0.08	0.08	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.07	0.49	0.49	0.34	0.77	0.77	0.16	0.00	0.16	0.16	0.00	0.16
Volume/Cap:	0.02	0.08	0.08	0.01	0.10	0.10	0.10	0.00	0.10	0.03	0.00	0.03
Uniform Del:	43.3	13.5	13.5	21.6	3.0	3.0	35.5	0.0	35.5	35.0	0.0	35.0
IncremntDel:	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	43.4	13.5	13.5	21.6	3.0	3.0	35.7	0.0	35.7	35.1	0.0	35.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	13.5	13.5	21.6	3.0	3.0	35.7	0.0	35.7	35.1	0.0	35.1
LOS by Move:	D	B	B	C	A	A	D	A	D	D	A	D
HCM2kAvgQ:	0	1	1	0	1	1	1	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.343
Loss Time (sec):	12	Average Delay (sec/veh):	23.4
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	44	52	46	188	136	36	18	407	45	69	565	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	52	46	188	136	36	18	407	45	69	565	104
Added Vol:	0	1	0	33	6	3	0	0	0	0	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	53	46	221	142	39	18	407	45	69	565	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	44	53	46	221	142	39	18	407	45	69	565	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	53	46	221	142	39	18	407	45	69	565	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	53	46	221	142	39	18	407	45	69	565	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.01	0.02	0.12	0.04	0.02	0.01	0.11	0.02	0.02	0.16	0.06
Crit Moves:		****			****			****			****	
Green/Cycle:	0.16	0.11	0.30	0.29	0.24	0.31	0.08	0.28	0.44	0.19	0.39	0.68
Volume/Cap:	0.14	0.13	0.08	0.40	0.17	0.07	0.12	0.41	0.05	0.10	0.40	0.08
Uniform Del:	32.1	36.1	22.5	25.7	27.4	21.7	38.6	26.6	14.4	30.1	19.9	5.0
IncremntDel:	0.2	0.2	0.1	0.5	0.1	0.0	0.4	0.3	0.0	0.1	0.2	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	32.3	36.2	22.6	26.2	27.5	21.7	39.0	26.9	14.4	30.1	20.1	5.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	36.2	22.6	26.2	27.5	21.7	39.0	26.9	14.4	30.1	20.1	5.0
LOS by Move:	C	D	C	C	C	C	D	C	B	C	C	A
HCM2kAvgQ:	1	1	1	5	2	1	1	5	1	1	6	1

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Existing +P PM
Command:	Default Command
Volume:	Existing PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	Project PM
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.346
Loss Time (sec):	0	Average Delay (sec/veh):	28.3
Optimal Cycle:	35	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	49	274	125	149	251	74	66	316	51	72	219	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	274	125	149	251	74	66	316	51	72	219	136
Added Vol:	3	6	0	0	14	0	0	0	6	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	52	280	125	149	265	74	66	316	57	72	219	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	52	280	125	149	265	74	66	316	57	72	219	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	280	125	149	265	74	66	316	57	72	219	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	280	125	149	265	74	66	316	57	72	219	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.38	0.62	1.00	1.56	0.44	1.00	1.69	0.31	1.00	1.23	0.77
Final Sat.:	1805	2381	1063	1805	2729	762	1805	2988	539	1805	2100	1304
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.08	0.10	0.10	0.04	0.11	0.11	0.04	0.10	0.10
Crit Moves:		****		****				****		****		
Green/Cycle:	0.24	0.34	0.34	0.24	0.34	0.34	0.17	0.31	0.31	0.12	0.25	0.25
Volume/Cap:	0.12	0.35	0.35	0.35	0.29	0.29	0.22	0.35	0.35	0.35	0.41	0.41
Uniform Del:	29.9	24.7	24.7	31.6	24.1	24.1	35.8	26.9	26.9	40.8	31.2	31.2
IncremntDel:	0.1	0.2	0.2	0.5	0.1	0.1	0.4	0.2	0.2	1.0	0.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	30.0	24.9	24.9	32.1	24.2	24.2	36.2	27.1	27.1	41.8	31.6	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.0	24.9	24.9	32.1	24.2	24.2	36.2	27.1	27.1	41.8	31.6	31.6
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	1	5	5	4	4	4	2	5	5	2	5	5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: B[12.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		0 0 1!	0 0		0 0 0	0 0	
Volume Module:												
Base Vol:	15	436	0	0	339	36	32	0	19	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	436	0	0	339	36	32	0	19	0	0	0
Added Vol:	0	8	0	0	20	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	444	0	0	359	36	32	0	19	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	444	0	0	359	36	32	0	19	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	444	0	0	359	36	32	0	19	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	395	xxxx	xxxxx	xxxx	xxxx	xxxxx	629	851	198	xxxx	xxxx	xxxxx
Potent Cap.:	1175	xxxx	xxxxx	xxxx	xxxx	xxxxx	419	299	817	xxxx	xxxx	xxxxx
Move Cap.:	1175	xxxx	xxxxx	xxxx	xxxx	xxxxx	415	296	817	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	0.00	0.02	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	508	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.9			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.130
Loss Time (sec):	0	Average Delay (sec/veh):	3.5
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	8	414	1	0	335	30	24	0	5	1	0	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	414	1	0	335	30	24	0	5	1	0	3
Added Vol:	0	43	0	0	17	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	457	1	0	352	30	24	0	5	1	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	457	1	0	352	30	24	0	5	1	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	457	1	0	352	30	24	0	5	1	0	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	457	1	0	352	30	24	0	5	1	0	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	1.00	0.94	0.94	0.82	1.00	0.82	0.87	1.00	0.87
Lanes:	1.00	1.99	0.01	1.00	1.84	0.16	0.83	0.00	0.17	0.25	0.00	0.75
Final Sat.:	1805	3602	8	1900	3287	280	1290	0	269	412	0	1236
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.13	0.00	0.11	0.11	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.07	0.86	0.86	0.00	0.79	0.79	0.14	0.00	0.14	0.14	0.00	0.14
Volume/Cap:	0.06	0.15	0.15	0.00	0.14	0.14	0.14	0.00	0.14	0.02	0.00	0.02
Uniform Del:	43.4	1.1	1.1	0.0	2.4	2.4	37.9	0.0	37.9	37.3	0.0	37.3
IncremntDel:	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	43.6	1.1	1.1	0.0	2.4	2.4	38.2	0.0	38.2	37.3	0.0	37.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	1.1	1.1	0.0	2.4	2.4	38.2	0.0	38.2	37.3	0.0	37.3
LOS by Move:	D	A	A	A	A	A	D	A	D	D	A	D
HCM2kAvgQ:	0	1	1	0	1	1	1	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.455
Loss Time (sec):	12	Average Delay (sec/veh):	25.9
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	90	251	144	176	210	44	74	592	77	219	387	242
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	251	144	176	210	44	74	592	77	219	387	242
Added Vol:	0	6	0	13	3	1	3	0	0	0	0	33
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	257	144	189	213	45	77	592	77	219	387	275
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	257	144	189	213	45	77	592	77	219	387	275
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	257	144	189	213	45	77	592	77	219	387	275
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	257	144	189	213	45	77	592	77	219	387	275
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.08	0.10	0.06	0.02	0.04	0.16	0.04	0.06	0.11	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.16	0.29	0.22	0.22	0.42	0.20	0.36	0.52	0.13	0.29	0.51
Volume/Cap:	0.31	0.45	0.26	0.45	0.27	0.06	0.20	0.45	0.08	0.45	0.37	0.29
Uniform Del:	33.8	34.5	24.7	30.5	29.0	15.3	29.8	22.0	11.0	36.2	25.5	12.7
IncremntDel:	0.6	0.6	0.3	0.8	0.2	0.0	0.3	0.3	0.0	0.7	0.2	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	34.4	35.0	25.0	31.3	29.2	15.4	30.1	22.3	11.1	36.8	25.7	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.4	35.0	25.0	31.3	29.2	15.4	30.1	22.3	11.1	36.8	25.7	12.9
LOS by Move:	C	D	C	C	C	B	C	C	B	D	C	B
HCM2kAvgQ:	2	4	3	4	2	1	2	7	1	3	5	4

Note: Queue reported is the number of cars per lane.

Scenario Report

Scenario:	Cumulative AM
Command:	Default Command
Volume:	Cumulative AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	No Project
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.922
Loss Time (sec):	17	Average Delay (sec/veh):	51.8
Optimal Cycle:	127	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	89	328	156	362	864	131	64	568	271	344	632	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	328	156	362	864	131	64	568	271	344	632	148
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	328	156	362	864	131	64	568	271	344	632	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	328	156	362	864	131	64	568	271	344	632	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	328	156	362	864	131	64	568	271	344	632	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	328	156	362	864	131	64	568	271	344	632	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.93	0.93	0.95	0.90	0.90	0.95	0.92	0.92
Lanes:	1.00	1.36	0.64	1.00	1.74	0.26	1.00	1.35	0.65	1.00	1.62	0.38
Final Sat.:	1805	2329	1108	1805	3072	466	1805	2327	1110	1805	2843	666
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.14	0.20	0.28	0.28	0.04	0.24	0.24	0.19	0.22	0.22
Crit Moves:	****				****			****			****	
Green/Cycle:	0.07	0.15	0.15	0.22	0.30	0.30	0.11	0.26	0.26	0.20	0.35	0.35
Volume/Cap:	0.70	0.93	0.93	0.93	0.94	0.94	0.32	0.94	0.94	0.94	0.63	0.63
Uniform Del:	45.5	41.8	41.8	38.4	34.2	34.2	41.0	36.3	36.3	39.3	27.1	27.1
IncremntDel:	16.5	22.7	22.7	27.8	15.7	15.7	0.9	17.7	17.7	32.4	1.1	1.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	62.0	64.5	64.5	66.2	49.9	49.9	41.9	54.0	54.0	71.7	28.2	28.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.0	64.5	64.5	66.2	49.9	49.9	41.9	54.0	54.0	71.7	28.2	28.2
LOS by Move:	E	E	E	E	D	D	D	D	D	E	C	C
HCM2kAvgQ:	4	12	12	15	21	21	2	18	18	15	11	11

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 58.8 Worst Case Level Of Service: F[676.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		0 0 1!	0 0		0 0 0	0 0	
Volume Module:												
Base Vol:	20 435	0		0 1576	128		119	0	86	0	0	0
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20 435	0		0 1576	128		119	0	86	0	0	0
Added Vol:	0 0	0		0 0	0		0	0	0	0	0	0
PasserByVol:	0 0	0		0 0	0		0	0	0	0	0	0
Initial Fut:	20 435	0		0 1576	128		119	0	86	0	0	0
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20 435	0		0 1576	128		119	0	86	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
FinalVolume:	20 435	0		0 1576	128		119	0	86	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx		xxxxx xxxx	xxxxx		6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2 xxxx	xxxxx		xxxxx xxxx	xxxxx		3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1704 xxxx	xxxxx		xxxx xxxx	xxxxx		1898	2115	852	xxxx	xxxx	xxxxx
Potent Cap.:	378 xxxx	xxxxx		xxxx xxxx	xxxxx		63	51	307	xxxx	xxxx	xxxxx
Move Cap.:	378 xxxx	xxxxx		xxxx xxxx	xxxxx		60	49	307	xxxx	xxxx	xxxxx
Volume/Cap:	0.05 xxxx	xxxx		xxxx xxxx	xxxx		1.98	0.00	0.28	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2 xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	15.0 xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	C *	*		* *	*		*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx	91	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	18.5	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx	677	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	* *	*		* *	*		*	F	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			676.7			xxxxxx		
ApproachLOS:	*			*			F			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.402
Loss Time (sec):	0	Average Delay (sec/veh):	3.5
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	4	598	0	0	1231	41	57	0	11	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	598	0	0	1231	41	57	0	11	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	598	0	0	1231	41	57	0	11	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	598	0	0	1231	41	57	0	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	598	0	0	1231	41	57	0	11	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	598	0	0	1231	41	57	0	11	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	1.00	0.95	0.95	0.78	1.00	0.78	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.94	0.06	0.84	0.00	0.16	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1900	3476	116	1245	0	240	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.00	0.00	0.35	0.35	0.05	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.07	0.89	0.00	0.00	0.82	0.82	0.11	0.00	0.11	0.00	0.00	0.00
Volume/Cap:	0.03	0.19	0.00	0.00	0.43	0.43	0.43	0.00	0.43	0.00	0.00	0.00
Uniform Del:	43.3	0.7	0.0	0.0	2.4	2.4	41.8	0.0	41.8	0.0	0.0	0.0
IncremntDel:	0.1	0.0	0.0	0.0	0.1	0.1	1.9	0.0	1.9	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.4	0.7	0.0	0.0	2.5	2.5	43.7	0.0	43.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	0.7	0.0	0.0	2.5	2.5	43.7	0.0	43.7	0.0	0.0	0.0
LOS by Move:	D	A	A	A	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	1	0	0	6	6	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.665
Loss Time (sec):	12	Average Delay (sec/veh):	26.2
Optimal Cycle:	54	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	74	86	73	283	1064	366	19	392	416	106	840	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	86	73	283	1064	366	19	392	416	106	840	115
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	86	73	283	1064	366	19	392	416	106	840	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	86	73	283	1064	366	19	392	416	106	840	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	86	73	283	1064	366	19	392	416	106	840	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	86	73	283	1064	366	19	392	416	106	840	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.04	0.15	0.29	0.19	0.01	0.11	0.22	0.03	0.23	0.06
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.20	0.32	0.27	0.40	0.48	0.08	0.27	0.35	0.12	0.31	0.59
Volume/Cap:	0.50	0.12	0.12	0.55	0.74	0.41	0.13	0.40	0.62	0.24	0.74	0.10
Uniform Del:	39.8	29.3	21.6	28.0	23.2	15.4	38.7	26.7	24.3	36.0	27.6	8.2
IncremntDel:	2.7	0.1	0.1	1.2	2.1	0.3	0.4	0.3	1.8	0.3	2.7	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	42.5	29.4	21.7	29.2	25.3	15.7	39.1	26.9	26.1	36.3	30.3	8.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	29.4	21.7	29.2	25.3	15.7	39.1	26.9	26.1	36.3	30.3	8.3
LOS by Move:	D	C	C	C	C	B	D	C	C	D	C	A
HCM2kAvgQ:	3	1	1	7	13	6	1	5	10	2	12	1

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Cumulative PM
Command:	Default Command
Volume:	Cumulative PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	No Project
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.054
Loss Time (sec):	0	Average Delay (sec/veh):	58.5
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	224	546	716	292	458	67	187	1134	169	164	511	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	224	546	716	292	458	67	187	1134	169	164	511	135
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	224	546	716	292	458	67	187	1134	169	164	511	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	224	546	716	292	458	67	187	1134	169	164	511	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	224	546	716	292	458	67	187	1134	169	164	511	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	224	546	716	292	458	67	187	1134	169	164	511	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.87	0.87	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.74	0.26	1.00	1.74	0.26	1.00	1.58	0.42
Final Sat.:	1805	1652	1652	1805	3089	452	1805	3082	459	1805	2767	731
Capacity Analysis Module:												
Vol/Sat:	0.12	0.33	0.43	0.16	0.15	0.15	0.10	0.37	0.37	0.09	0.18	0.18
Crit Moves:			****	****				****		****		
Green/Cycle:	0.26	0.41	0.41	0.15	0.31	0.31	0.16	0.35	0.35	0.09	0.28	0.28
Volume/Cap:	0.48	0.80	1.05	1.05	0.48	0.48	0.66	1.05	1.05	1.05	0.66	0.66
Uniform Del:	31.5	25.9	29.4	42.3	28.2	28.2	39.7	32.5	32.5	45.7	31.9	31.9
IncremntDel:	0.8	3.1	41.5	69.0	0.3	0.3	5.8	41.1	41.1	87.2	1.7	1.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	32.3	29.0	71.0	111.3	28.5	28.5	45.5	73.7	73.7	132.9	33.6	33.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	29.0	71.0	111.3	28.5	28.5	45.5	73.7	73.7	132.9	33.6	33.6
LOS by Move:	C	C	E	F	C	C	D	E	E	F	C	C
HCM2kAvgQ:	6	17	33	15	7	7	7	31	31	10	10	10

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: E[45.7]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	2	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	22	1420		0		0	615		94				48		0		6		0		0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	22	1420		0		0	615		94				48		0		6		0		0		0	
Added Vol:	0	0		0		0	0		0				0		0		0		0		0		0	
PasserByVol:	0	0		0		0	0		0				0		0		0		0		0		0	
Initial Fut:	22	1420		0		0	615		94				48		0		6		0		0		0	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	22	1420		0		0	615		94				48		0		6		0		0		0	
Reduct Vol:	0	0		0		0	0		0				0		0		0		0		0		0	
FinalVolume:	22	1420		0		0	615		94				48		0		6		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8		6.5		6.9		xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5		4.0		3.3		xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	709	xxxx	xxxxx		xxxx	xxxx	xxxxx						1416		2126		355		xxxx	xxxx	xxxxx			
Potent Cap.:	899	xxxx	xxxxx		xxxx	xxxx	xxxxx						131		51		648		xxxx	xxxx	xxxxx			
Move Cap.:	899	xxxx	xxxxx		xxxx	xxxx	xxxxx						128		49		648		xxxx	xxxx	xxxxx			
Volume/Cap:	0.02	xxxx	xxxx		xxxx	xxxx	xxxx						0.37		0.00		0.01		xxxx	xxxx	xxxx			
Level Of Service Module:																								
2Way95thQ:	0.1	xxxx	xxxxx		xxxx	xxxx	xxxxx						xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx					
Control Del:	9.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
LOS by Move:	A	*		*		*	*		*		*		*		*		*		*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx						xxxx		141		xxxxx		xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx						1.6	xxxxx	xxxxx	xxxx	xxxxx							
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx						45.7	xxxxx	xxxxx	xxxx	xxxxx							
Shared LOS:	*	*		*		*	*		*		*		E		*		*		*		*		*	
ApproachDel:	xxxxxx			xxxxxx									45.7				xxxxxx							
ApproachLOS:	*			*									E				*							

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.300
Loss Time (sec):	0	Average Delay (sec/veh):	5.0
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	3	931	0	2	896	56	43	0	6	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	931	0	2	896	56	43	0	6	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	931	0	2	896	56	43	0	6	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	931	0	2	896	56	43	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	931	0	2	896	56	43	0	6	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	931	0	2	896	56	43	0	6	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.79	1.00	0.79	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.88	0.12	0.88	0.00	0.12	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1805	3367	210	1314	0	183	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.27	0.27	0.03	0.00	0.03	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.07	0.71	0.00	0.19	0.83	0.83	0.10	0.00	0.10	0.00	0.00	0.00
Volume/Cap:	0.02	0.37	0.00	0.01	0.32	0.32	0.32	0.00	0.32	0.00	0.00	0.00
Uniform Del:	43.3	5.8	0.0	32.7	2.0	2.0	41.7	0.0	41.7	0.0	0.0	0.0
IncremntDel:	0.1	0.1	0.0	0.0	0.1	0.1	1.2	0.0	1.2	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.4	5.9	0.0	32.7	2.1	2.1	42.9	0.0	42.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	5.9	0.0	32.7	2.1	2.1	42.9	0.0	42.9	0.0	0.0	0.0
LOS by Move:	D	A	A	C	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	6	0	0	4	4	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.924
Loss Time (sec):	12	Average Delay (sec/veh):	40.6
Optimal Cycle:	115	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	761	1041	151	227	366	64	415	788	265	211	292	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	761	1041	151	227	366	64	415	788	265	211	292	206
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	761	1041	151	227	366	64	415	788	265	211	292	206
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	761	1041	151	227	366	64	415	788	265	211	292	206
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	761	1041	151	227	366	64	415	788	265	211	292	206
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	761	1041	151	227	366	64	415	788	265	211	292	206
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.40	0.29	0.08	0.12	0.10	0.03	0.22	0.22	0.14	0.06	0.08	0.11
Crit Moves:	****				****		****				****	
Green/Cycle:	0.42	0.37	0.46	0.15	0.11	0.34	0.23	0.25	0.67	0.09	0.11	0.27
Volume/Cap:	0.96	0.77	0.17	0.77	0.91	0.10	0.96	0.87	0.21	0.64	0.73	0.41
Uniform Del:	25.5	24.8	14.1	36.5	39.6	20.4	34.4	32.4	5.8	39.6	38.7	27.2
IncremntDel:	22.7	2.8	0.1	11.9	24.7	0.1	33.1	9.5	0.1	4.3	6.6	0.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	48.2	27.7	14.2	48.4	64.3	20.4	67.5	41.9	5.9	44.0	45.3	27.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	27.7	14.2	48.4	64.3	20.4	67.5	41.9	5.9	44.0	45.3	27.7
LOS by Move:	D	C	B	D	E	C	E	D	A	D	D	C
HCM2kAvgQ:	26	15	2	6	6	1	16	14	3	4	6	5

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Cumulative +P AM
Command:	Default Command
Volume:	Cumulative AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	Project AM
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.927
Loss Time (sec):	17	Average Delay (sec/veh):	52.6
Optimal Cycle:	129	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	89	328	156	362	864	131	64	568	271	344	632	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	328	156	362	864	131	64	568	271	344	632	148
Added Vol:	6	14	0	0	2	0	0	0	1	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	95	342	156	362	866	131	64	568	272	344	632	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	342	156	362	866	131	64	568	272	344	632	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	342	156	362	866	131	64	568	272	344	632	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	342	156	362	866	131	64	568	272	344	632	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.93	0.93	0.95	0.90	0.90	0.95	0.92	0.92
Lanes:	1.00	1.37	0.63	1.00	1.74	0.26	1.00	1.35	0.65	1.00	1.62	0.38
Final Sat.:	1805	2363	1078	1805	3073	465	1805	2321	1112	1805	2843	666
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.14	0.20	0.28	0.28	0.04	0.24	0.24	0.19	0.22	0.22
Crit Moves:	****			****			****			****		
Green/Cycle:	0.07	0.15	0.15	0.21	0.30	0.30	0.11	0.26	0.26	0.20	0.35	0.35
Volume/Cap:	0.75	0.94	0.94	0.94	0.94	0.94	0.32	0.94	0.94	0.94	0.63	0.63
Uniform Del:	45.6	41.8	41.8	38.6	34.2	34.2	41.0	36.3	36.3	39.3	27.1	27.1
IncremntDel:	22.1	24.3	24.3	30.1	15.9	15.9	0.9	18.0	18.0	32.8	1.1	1.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	67.7	66.1	66.1	68.7	50.2	50.2	42.0	54.3	54.3	72.1	28.2	28.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.7	66.1	66.1	68.7	50.2	50.2	42.0	54.3	54.3	72.1	28.2	28.2
LOS by Move:	E	E	E	E	D	D	D	D	D	E	C	C
HCM2kAvgQ:	5	12	12	15	21	21	2	18	18	15	11	11

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 59.9 Worst Case Level Of Service: F[696.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	2	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	20	435		0		0	1576		128				119		0		86		0		0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	20	435		0		0	1576		128				119		0		86		0		0		0	
Added Vol:	0	20		0		0	3		0				0		0		0		0		0		0	
PasserByVol:	0	0		0		0	0		0				0		0		0		0		0		0	
Initial Fut:	20	455		0		0	1579		128				119		0		86		0		0		0	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	20	455		0		0	1579		128				119		0		86		0		0		0	
Reduct Vol:	0	0		0		0	0		0				0		0		0		0		0		0	
FinalVolume:	20	455		0		0	1579		128				119		0		86		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8		6.5		6.9		xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5		4.0		3.3		xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	1707	xxxx	xxxxx		xxxx	xxxx	xxxxx						1911		2138		854		xxxx	xxxx	xxxxx			
Potent Cap.:	377	xxxx	xxxxx		xxxx	xxxx	xxxxx						61		50		306		xxxx	xxxx	xxxxx			
Move Cap.:	377	xxxx	xxxxx		xxxx	xxxx	xxxxx						59		47		306		xxxx	xxxx	xxxxx			
Volume/Cap:	0.05	xxxx	xxxx		xxxx	xxxx	xxxx						2.02		0.00		0.28		xxxx	xxxx	xxxx			
Level Of Service Module:																								
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx						xxxx		xxxx		xxxxx		xxxx	xxxx	xxxxx			
Control Del:	15.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx						xxxxx		xxxx		xxxxx		xxxxx	xxxx	xxxxx			
LOS by Move:	C	*		*		*	*		*				*		*		*		*	*	*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx						xxxx		89		xxxxx		xxxx	xxxx	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx						xxxxx		18.6		xxxxx		xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx						xxxxx		696		xxxxx		xxxxx	xxxx	xxxxx			
Shared LOS:	*	*		*		*	*		*				*		F		*		*	*	*			
ApproachDel:	xxxxxx			xxxxxx									696.4				xxxxxx							
ApproachLOS:	*			*									F				*							

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.414
Loss Time (sec):	0	Average Delay (sec/veh):	3.4
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	7	10	10		7	10	10		7	10	10		7	10	10	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	1	0 1	1	0	1	0 1	1	0	0	0 1!	0	0	0	0 1!	0	0
Volume Module:																
Base Vol:	4	598	0	0	1231	41	57	0	11	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	4	598	0	0	1231	41	57	0	11	0	0	0				
Added Vol:	0	6	0	0	43	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	4	604	0	0	1274	41	57	0	11	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	4	604	0	0	1274	41	57	0	11	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	4	604	0	0	1274	41	57	0	11	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	4	604	0	0	1274	41	57	0	11	0	0	0				
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Adjustment:	0.95	0.95	0.95	1.00	0.95	0.95	0.78	1.00	0.78	1.00	1.00	1.00				
Lanes:	1.00	2.00	0.00	1.00	1.94	0.06	0.84	0.00	0.16	0.00	1.00	0.00				
Final Sat.:	1805	3610	0	1900	3480	112	1243	0	240	0	1900	0				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.17	0.00	0.00	0.37	0.37	0.05	0.00	0.05	0.00	0.00	0.00				
Crit Moves:	****				****				****							
Green/Cycle:	0.07	0.90	0.00	0.00	0.83	0.83	0.10	0.00	0.10	0.00	0.00	0.00				
Volume/Cap:	0.03	0.19	0.00	0.00	0.44	0.44	0.44	0.00	0.44	0.00	0.00	0.00				
Uniform Del:	43.3	0.6	0.0	0.0	2.4	2.4	42.1	0.0	42.1	0.0	0.0	0.0				
IncremntDel:	0.1	0.0	0.0	0.0	0.1	0.1	2.0	0.0	2.0	0.0	0.0	0.0				
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00				
Delay/Veh:	43.4	0.7	0.0	0.0	2.5	2.5	44.1	0.0	44.1	0.0	0.0	0.0				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	43.4	0.7	0.0	0.0	2.5	2.5	44.1	0.0	44.1	0.0	0.0	0.0				
LOS by Move:	D	A	A	A	A	A	D	A	D	A	A	A				
HCM2kAvgQ:	0	1	0	0	6	6	3	0	3	0	0	0				

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.667
Loss Time (sec):	12	Average Delay (sec/veh):	26.3
Optimal Cycle:	54	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	74	86	73	283	1064	366	19	392	416	106	840	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	86	73	283	1064	366	19	392	416	106	840	115
Added Vol:	0	1	0	33	6	3	0	0	0	0	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	87	73	316	1070	369	19	392	416	106	840	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	87	73	316	1070	369	19	392	416	106	840	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	87	73	316	1070	369	19	392	416	106	840	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	87	73	316	1070	369	19	392	416	106	840	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.04	0.17	0.30	0.19	0.01	0.11	0.22	0.03	0.23	0.06
Crit Moves:	****				****		****				****	
Green/Cycle:	0.08	0.19	0.31	0.29	0.40	0.48	0.08	0.27	0.35	0.12	0.31	0.60
Volume/Cap:	0.50	0.13	0.12	0.58	0.74	0.41	0.13	0.40	0.62	0.24	0.74	0.11
Uniform Del:	39.8	30.2	22.4	27.6	23.1	15.3	38.7	26.7	24.3	36.1	27.7	7.8
IncremntDel:	2.7	0.1	0.1	1.6	2.1	0.3	0.4	0.3	1.9	0.3	2.7	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	42.5	30.3	22.5	29.2	25.3	15.6	39.1	27.0	26.2	36.4	30.4	7.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	30.3	22.5	29.2	25.3	15.6	39.1	27.0	26.2	36.4	30.4	7.8
LOS by Move:	D	C	C	C	C	B	D	C	C	D	C	A
HCM2kAvgQ:	3	1	1	7	13	6	1	5	10	2	12	1

Note: Queue reported is the number of cars per lane.

****

Scenario Report

Scenario:	Cumulative +P PM
Command:	Default Command
Volume:	Cumulative PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	Project PM
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	1.056
Loss Time (sec):	0	Average Delay (sec/veh):	58.8
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	224	546	716	292	458	67	187	1134	169	164	511	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	224	546	716	292	458	67	187	1134	169	164	511	135
Added Vol:	3	6	0	0	14	0	0	0	6	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	227	552	716	292	472	67	187	1134	175	164	511	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	227	552	716	292	472	67	187	1134	175	164	511	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	552	716	292	472	67	187	1134	175	164	511	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	227	552	716	292	472	67	187	1134	175	164	511	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.87	0.87	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.75	0.25	1.00	1.73	0.27	1.00	1.58	0.42
Final Sat.:	1805	1652	1652	1805	3101	440	1805	3065	473	1805	2767	731
Capacity Analysis Module:												
Vol/Sat:	0.13	0.33	0.43	0.16	0.15	0.15	0.10	0.37	0.37	0.09	0.18	0.18
Crit Moves:			****	****				****		****		
Green/Cycle:	0.26	0.41	0.41	0.15	0.31	0.31	0.16	0.35	0.35	0.09	0.28	0.28
Volume/Cap:	0.49	0.81	1.06	1.06	0.49	0.49	0.66	1.06	1.06	1.06	0.66	0.66
Uniform Del:	31.7	26.1	29.5	42.3	28.2	28.2	39.7	32.5	32.5	45.7	31.8	31.8
IncremntDel:	0.8	3.4	42.2	69.7	0.4	0.4	5.7	41.8	41.8	87.9	1.7	1.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	32.6	29.5	71.6	112.0	28.5	28.5	45.3	74.3	74.3	133.6	33.5	33.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	29.5	71.6	112.0	28.5	28.5	45.3	74.3	74.3	133.6	33.5	33.5
LOS by Move:	C	C	E	F	C	C	D	E	E	F	C	C
HCM2kAvgQ:	6	18	33	15	7	7	7	31	31	10	10	10

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: E[48.1]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	2	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	22	1420		0		0	0	615		94		48	0		6		0	0		0				
Growth Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00				
Initial Bse:	22	1420		0		0	0	615		94		48	0		6		0	0		0				
Added Vol:	0	8		0		0	0	20		0		0	0		0		0	0		0				
PasserByVol:	0	0		0		0	0	0		0		0	0		0		0	0		0				
Initial Fut:	22	1428		0		0	0	635		94		48	0		6		0	0		0				
User Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00				
PHF Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00				
PHF Volume:	22	1428		0		0	0	635		94		48	0		6		0	0		0				
Reduct Vol:	0	0		0		0	0	0		0		0	0		0		0	0		0				
FinalVolume:	22	1428		0		0	0	635		94		48	0		6		0	0		0				
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8	6.5		6.9	xxxxx	xxxx	xxxxx					
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5	4.0		3.3	xxxxx	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	729	xxxx	xxxxx		xxxx	xxxx	xxxxx						1440	2154		365		xxxx	xxxx	xxxxx				
Potent Cap.:	884	xxxx	xxxxx		xxxx	xxxx	xxxxx						126	49		638		xxxx	xxxx	xxxxx				
Move Cap.:	884	xxxx	xxxxx		xxxx	xxxx	xxxxx						124	47		638		xxxx	xxxx	xxxxx				
Volume/Cap:	0.02	xxxx	xxxx		xxxx	xxxx	xxxx						0.39	0.00		0.01		xxxx	xxxx	xxxx				
Level Of Service Module:																								
2Way95thQ:	0.1	xxxx	xxxxx		xxxx	xxxx	xxxxx						xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx				
Control Del:	9.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx						xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx				
LOS by Move:	A	*		*		*	*		*		*		*	*		*		*	*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx						xxxx	136	xxxxx			xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx						xxxxx	1.7	xxxxx			xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx						xxxxx	48.1	xxxxx			xxxxx	xxxx	xxxxx				
Shared LOS:	*	*		*		*	*		*		*		*	E		*		*	*		*		*	
ApproachDel:	xxxxxx			xxxxxx									48.1					xxxxxx						
ApproachLOS:	*			*									E					*						

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.305
Loss Time (sec):	0	Average Delay (sec/veh):	4.9
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	3	931	0	2	896	56	43	0	6	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	931	0	2	896	56	43	0	6	0	0	0
Added Vol:	0	43	0	0	17	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	974	0	2	913	56	43	0	6	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	974	0	2	913	56	43	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	974	0	2	913	56	43	0	6	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	974	0	2	913	56	43	0	6	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.79	1.00	0.79	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.88	0.12	0.88	0.00	0.12	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1805	3371	207	1313	0	183	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.27	0.27	0.03	0.00	0.03	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.07	0.71	0.00	0.19	0.83	0.83	0.10	0.00	0.10	0.00	0.00	0.00
Volume/Cap:	0.02	0.38	0.00	0.01	0.33	0.33	0.33	0.00	0.33	0.00	0.00	0.00
Uniform Del:	43.3	5.6	0.0	33.2	2.0	2.0	41.8	0.0	41.8	0.0	0.0	0.0
IncremntDel:	0.1	0.1	0.0	0.0	0.1	0.1	1.3	0.0	1.3	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.4	5.7	0.0	33.2	2.1	2.1	43.1	0.0	43.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	5.7	0.0	33.2	2.1	2.1	43.1	0.0	43.1	0.0	0.0	0.0
LOS by Move:	D	A	A	C	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	6	0	0	4	4	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.927
Loss Time (sec):	12	Average Delay (sec/veh):	41.0
Optimal Cycle:	116	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	761	1041	151	227	366	64	415	788	265	211	292	206
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	761	1041	151	227	366	64	415	788	265	211	292	206
Added Vol:	0	6	0	13	3	1	3	0	0	0	0	33
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	761	1047	151	240	369	65	418	788	265	211	292	239
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	761	1047	151	240	369	65	418	788	265	211	292	239
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	761	1047	151	240	369	65	418	788	265	211	292	239
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	761	1047	151	240	369	65	418	788	265	211	292	239
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.40	0.29	0.08	0.13	0.10	0.03	0.22	0.22	0.14	0.06	0.08	0.13
Crit Moves:	****				****		****				****	
Green/Cycle:	0.42	0.37	0.46	0.16	0.11	0.34	0.23	0.25	0.67	0.09	0.11	0.27
Volume/Cap:	0.96	0.79	0.17	0.79	0.92	0.10	0.96	0.87	0.21	0.64	0.73	0.46
Uniform Del:	25.6	25.4	14.4	36.4	39.6	20.3	34.3	32.3	5.8	39.6	38.7	27.4
IncremntDel:	23.2	3.3	0.1	13.0	26.1	0.1	33.6	9.3	0.1	4.3	6.6	0.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	48.8	28.7	14.5	49.4	65.7	20.4	67.9	41.6	5.9	43.9	45.3	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.8	28.7	14.5	49.4	65.7	20.4	67.9	41.6	5.9	43.9	45.3	28.0
LOS by Move:	D	C	B	D	E	C	E	D	A	D	D	C
HCM2kAvgQ:	27	15	2	7	6	1	17	14	3	4	6	6

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Existing (Factored) AM
Command:	Default Command
Volume:	Existing (Factored) AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	No Project
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.539
Loss Time (sec):	17	Average Delay (sec/veh):	33.8
Optimal Cycle:	54	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	71	345	75	243	578	87	75	288	119	185	272	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	345	75	243	578	87	75	288	119	185	272	135
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	345	75	243	578	87	75	288	119	185	272	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	71	345	75	243	578	87	75	288	119	185	272	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	345	75	243	578	87	75	288	119	185	272	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	71	345	75	243	578	87	75	288	119	185	272	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.64	0.36	1.00	1.74	0.26	1.00	1.42	0.58	1.00	1.34	0.66
Final Sat.:	1805	2885	627	1805	3075	463	1805	2442	1009	1805	2292	1138
Capacity Analysis Module:												
Vol/Sat:	0.04	0.12	0.12	0.13	0.19	0.19	0.04	0.12	0.12	0.10	0.12	0.12
Crit Moves:	****			****			****			****		
Green/Cycle:	0.07	0.20	0.20	0.22	0.35	0.35	0.15	0.22	0.22	0.19	0.26	0.26
Volume/Cap:	0.54	0.60	0.60	0.60	0.54	0.54	0.27	0.54	0.54	0.54	0.46	0.46
Uniform Del:	44.7	36.5	36.5	34.9	26.1	26.1	37.5	34.6	34.6	36.6	31.3	31.3
IncremntDel:	4.4	1.5	1.5	2.6	0.5	0.5	0.5	0.8	0.8	1.7	0.4	0.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	49.2	38.0	38.0	37.4	26.6	26.6	38.1	35.4	35.4	38.3	31.7	31.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.2	38.0	38.0	37.4	26.6	26.6	38.1	35.4	35.4	38.3	31.7	31.7
LOS by Move:	D	D	D	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	3	7	7	7	9	9	2	6	6	6	6	6

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: D[34.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	22	421	0	0	883	72	79	0	43	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	421	0	0	883	72	79	0	43	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	421	0	0	883	72	79	0	43	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	421	0	0	883	72	79	0	43	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	22	421	0	0	883	72	79	0	43	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	955	xxxx	xxxxx	xxxx	xxxx	xxxxx	1174	1384	478	xxxx	xxxx	xxxxx
Potent Cap.:	728	xxxx	xxxxx	xxxx	xxxx	xxxxx	188	145	539	xxxx	xxxx	xxxxx
Move Cap.:	728	xxxx	xxxxx	xxxx	xxxx	xxxxx	184	140	539	xxxx	xxxx	xxxxx
Volume/Cap:	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	0.43	0.00	0.08	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	239	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.6	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	34.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			34.7			xxxxxx		
ApproachLOS:	*			*			D			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.295
Loss Time (sec):	0	Average Delay (sec/veh):	3.2
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	3	439	0	0	904	30	42	0	8	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	439	0	0	904	30	42	0	8	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	439	0	0	904	30	42	0	8	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	439	0	0	904	30	42	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	439	0	0	904	30	42	0	8	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	439	0	0	904	30	42	0	8	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	1.00	0.95	0.95	0.79	1.00	0.79	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.94	0.06	0.84	0.00	0.16	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1900	3477	115	1263	0	241	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.00	0.00	0.26	0.26	0.03	0.00	0.03	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.07	0.89	0.00	0.00	0.82	0.82	0.11	0.00	0.11	0.00	0.00	0.00
Volume/Cap:	0.02	0.14	0.00	0.00	0.32	0.32	0.32	0.00	0.32	0.00	0.00	0.00
Uniform Del:	43.3	0.6	0.0	0.0	2.1	2.1	41.4	0.0	41.4	0.0	0.0	0.0
IncremntDel:	0.1	0.0	0.0	0.0	0.1	0.1	1.1	0.0	1.1	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.4	0.7	0.0	0.0	2.1	2.1	42.5	0.0	42.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	0.7	0.0	0.0	2.1	2.1	42.5	0.0	42.5	0.0	0.0	0.0
LOS by Move:	D	A	A	A	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	1	0	0	4	4	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.559
Loss Time (sec):	12	Average Delay (sec/veh):	27.2
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	177	334	109	391	668	112	28	341	243	127	618	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	177	334	109	391	668	112	28	341	243	127	618	135
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	177	334	109	391	668	112	28	341	243	127	618	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	177	334	109	391	668	112	28	341	243	127	618	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	177	334	109	391	668	112	28	341	243	127	618	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	177	334	109	391	668	112	28	341	243	127	618	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.06	0.21	0.19	0.06	0.01	0.09	0.13	0.03	0.17	0.07
Crit Moves:		****			****			****			****	
Green/Cycle:	0.17	0.16	0.31	0.35	0.33	0.41	0.08	0.21	0.38	0.15	0.29	0.63
Volume/Cap:	0.56	0.60	0.19	0.60	0.56	0.14	0.19	0.44	0.33	0.23	0.60	0.11
Uniform Del:	34.4	35.4	23.0	24.3	24.5	16.6	38.8	30.6	19.7	33.6	27.6	6.5
IncremntDel:	2.1	1.7	0.2	1.5	0.6	0.1	0.6	0.4	0.3	0.2	0.9	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	36.5	37.1	23.2	25.7	25.1	16.7	39.5	31.0	19.9	33.8	28.5	6.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.5	37.1	23.2	25.7	25.1	16.7	39.5	31.0	19.9	33.8	28.5	6.6
LOS by Move:	D	D	C	C	C	B	D	C	B	C	C	A
HCM2kAvgQ:	5	5	2	9	8	2	1	5	5	2	8	1

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Existing (Factored) PM
Command:	Default Command
Volume:	Exisintg (Factored) PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	No Project
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.544
Loss Time (sec):	0	Average Delay (sec/veh):	30.1
Optimal Cycle:	50	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	76	426	163	245	373	72	82	497	74	139	252	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	76	426	163	245	373	72	82	497	74	139	252	139
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	426	163	245	373	72	82	497	74	139	252	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	76	426	163	245	373	72	82	497	74	139	252	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	426	163	245	373	72	82	497	74	139	252	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	76	426	163	245	373	72	82	497	74	139	252	139
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.45	0.55	1.00	1.68	0.32	1.00	1.74	0.26	1.00	1.29	0.71
Final Sat.:	1805	2501	957	1805	2953	570	1805	3082	459	1805	2203	1215
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.14	0.13	0.13	0.05	0.16	0.16	0.08	0.11	0.11
Crit Moves:		****		****				****		****		
Green/Cycle:	0.20	0.31	0.31	0.25	0.36	0.36	0.17	0.30	0.30	0.14	0.27	0.27
Volume/Cap:	0.21	0.54	0.54	0.54	0.35	0.35	0.27	0.54	0.54	0.54	0.42	0.42
Uniform Del:	33.4	28.5	28.5	32.6	23.3	23.3	36.4	29.5	29.5	39.9	30.0	30.0
IncremntDel:	0.3	0.6	0.6	1.4	0.2	0.2	0.5	0.6	0.6	2.4	0.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	33.7	29.0	29.0	34.0	23.5	23.5	36.9	30.1	30.1	42.3	30.3	30.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.7	29.0	29.0	34.0	23.5	23.5	36.9	30.1	30.1	42.3	30.3	30.3
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	2	8	8	7	5	5	2	8	8	5	5	5

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: C[19.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0 0		0 0 1	1 0		0 0 1!	0 0		0 0 0	0 0	
Volume Module:												
Base Vol:	15	622	0	0	519	66	54	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	622	0	0	519	66	54	0	7	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	622	0	0	519	66	54	0	7	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	622	0	0	519	66	54	0	7	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	622	0	0	519	66	54	0	7	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	585	xxxx	xxxxx	xxxx	xxxx	xxxxx	893	1204	293	xxxx	xxxx	xxxxx
Potent Cap.:	1000	xxxx	xxxxx	xxxx	xxxx	xxxxx	285	186	710	xxxx	xxxx	xxxxx
Move Cap.:	1000	xxxx	xxxxx	xxxx	xxxx	xxxxx	282	183	710	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.19	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	303	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	19.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			19.9			xxxxxx		
ApproachLOS:	*			*			C			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.194
Loss Time (sec):	0	Average Delay (sec/veh):	6.0
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	2	603	0	1	580	36	28	0	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	603	0	1	580	36	28	0	4	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	603	0	1	580	36	28	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	603	0	1	580	36	28	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	603	0	1	580	36	28	0	4	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	603	0	1	580	36	28	0	4	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.80	1.00	0.80	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.88	0.12	0.87	0.00	0.13	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1805	3368	209	1334	0	191	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.00	0.00	0.17	0.17	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.07	0.63	0.00	0.27	0.83	0.83	0.10	0.00	0.10	0.00	0.00	0.00
Volume/Cap:	0.02	0.26	0.00	0.00	0.21	0.21	0.21	0.00	0.21	0.00	0.00	0.00
Uniform Del:	43.3	8.1	0.0	27.0	1.8	1.8	41.3	0.0	41.3	0.0	0.0	0.0
IncremntDel:	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.0	0.7	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.3	8.1	0.0	27.0	1.8	1.8	41.9	0.0	41.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	8.1	0.0	27.0	1.8	1.8	41.9	0.0	41.9	0.0	0.0	0.0
LOS by Move:	D	A	A	C	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	4	0	0	2	2	1	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.603
Loss Time (sec):	12	Average Delay (sec/veh):	27.9
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	178	422	195	219	354	47	116	745	166	309	415	327
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	422	195	219	354	47	116	745	166	309	415	327
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	422	195	219	354	47	116	745	166	309	415	327
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	422	195	219	354	47	116	745	166	309	415	327
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	422	195	219	354	47	116	745	166	309	415	327
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	422	195	219	354	47	116	745	166	309	415	327
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.10	0.12	0.10	0.02	0.06	0.21	0.09	0.08	0.11	0.17
Crit Moves:		****		****				****		****		
Green/Cycle:	0.18	0.19	0.33	0.19	0.21	0.40	0.19	0.34	0.52	0.14	0.29	0.48
Volume/Cap:	0.53	0.60	0.31	0.60	0.47	0.06	0.31	0.60	0.17	0.60	0.40	0.36
Uniform Del:	33.7	33.1	22.3	33.3	31.2	16.4	31.1	24.5	11.4	36.4	25.8	14.8
IncremntDel:	1.6	1.5	0.3	2.8	0.5	0.0	0.5	0.8	0.1	2.0	0.3	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	35.3	34.6	22.6	36.1	31.7	16.5	31.6	25.4	11.5	38.4	26.1	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	34.6	22.6	36.1	31.7	16.5	31.6	25.4	11.5	38.4	26.1	15.0
LOS by Move:	D	C	C	D	C	B	C	C	B	D	C	B
HCM2kAvgQ:	5	6	4	6	4	1	3	10	2	5	5	6

Note: Queue reported is the number of cars per lane.

Scenario Report

Scenario:	Existing (Factored) +P AM
Command:	Default Command
Volume:	Existing (Factored) AM
Geometry:	Existing AM
Impact Fee:	Default Impact Fee
Trip Generation:	Project AM
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.544
Loss Time (sec):	17	Average Delay (sec/veh):	33.9
Optimal Cycle:	54	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	71	345	75	243	578	87	75	288	119	185	272	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	345	75	243	578	87	75	288	119	185	272	135
Added Vol:	6	14	0	0	2	0	0	0	1	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	359	75	243	580	87	75	288	120	185	272	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	359	75	243	580	87	75	288	120	185	272	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	359	75	243	580	87	75	288	120	185	272	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	359	75	243	580	87	75	288	120	185	272	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	1.00	1.65	0.35	1.00	1.74	0.26	1.00	1.41	0.59	1.00	1.34	0.66
Final Sat.:	1805	2909	608	1805	3079	462	1805	2436	1015	1805	2292	1138
Capacity Analysis Module:												
Vol/Sat:	0.04	0.12	0.12	0.13	0.19	0.19	0.04	0.12	0.12	0.10	0.12	0.12
Crit Moves:	****			****			****			****		
Green/Cycle:	0.08	0.20	0.20	0.22	0.35	0.35	0.15	0.22	0.22	0.19	0.26	0.26
Volume/Cap:	0.54	0.61	0.61	0.61	0.54	0.54	0.28	0.54	0.54	0.54	0.47	0.47
Uniform Del:	44.4	36.2	36.2	35.0	26.3	26.3	37.7	34.7	34.7	36.7	31.5	31.5
IncremntDel:	4.3	1.5	1.5	2.7	0.5	0.5	0.6	0.8	0.8	1.8	0.4	0.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	48.7	37.8	37.8	37.7	26.9	26.9	38.2	35.6	35.6	38.5	31.9	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.7	37.8	37.8	37.7	26.9	26.9	38.2	35.6	35.6	38.5	31.9	31.9
LOS by Move:	D	D	D	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	3	7	7	8	9	9	2	6	6	6	6	6

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: E[35.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	22	421	0	0	883	72	79	0	43	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	421	0	0	883	72	79	0	43	0	0	0
Added Vol:	0	20	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	441	0	0	886	72	79	0	43	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	441	0	0	886	72	79	0	43	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	22	441	0	0	886	72	79	0	43	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	958	xxxx	xxxxx	xxxx	xxxx	xxxxx	1187	1407	479	xxxx	xxxx	xxxxx
Potent Cap.:	726	xxxx	xxxxx	xxxx	xxxx	xxxxx	184	140	538	xxxx	xxxx	xxxxx
Move Cap.:	726	xxxx	xxxxx	xxxx	xxxx	xxxxx	180	136	538	xxxx	xxxx	xxxxx
Volume/Cap:	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	0.44	0.00	0.08	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	235	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.7	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	35.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	E	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			35.7			xxxxxx		
ApproachLOS:	*			*			E			*		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.307
Loss Time (sec):	0	Average Delay (sec/veh):	3.1
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	3	439	0	0	904	30	42	0	8	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	439	0	0	904	30	42	0	8	0	0	0
Added Vol:	0	6	0	0	43	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	445	0	0	947	30	42	0	8	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	445	0	0	947	30	42	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	445	0	0	947	30	42	0	8	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	445	0	0	947	30	42	0	8	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	1.00	0.95	0.95	0.79	1.00	0.79	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.94	0.06	0.84	0.00	0.16	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1900	3482	110	1260	0	240	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.00	0.00	0.27	0.27	0.03	0.00	0.03	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.07	0.90	0.00	0.00	0.83	0.83	0.10	0.00	0.10	0.00	0.00	0.00
Volume/Cap:	0.02	0.14	0.00	0.00	0.33	0.33	0.33	0.00	0.33	0.00	0.00	0.00
Uniform Del:	43.3	0.6	0.0	0.0	2.0	2.0	41.8	0.0	41.8	0.0	0.0	0.0
IncremntDel:	0.1	0.0	0.0	0.0	0.1	0.1	1.3	0.0	1.3	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.4	0.6	0.0	0.0	2.1	2.1	43.0	0.0	43.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.4	0.6	0.0	0.0	2.1	2.1	43.0	0.0	43.0	0.0	0.0	0.0
LOS by Move:	D	A	A	A	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	1	0	0	4	4	2	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.579
Loss Time (sec):	12	Average Delay (sec/veh):	27.3
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	177	334	109	391	668	112	28	341	243	127	618	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	177	334	109	391	668	112	28	341	243	127	618	135
Added Vol:	0	1	0	33	6	3	0	0	0	0	0	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	177	335	109	424	674	115	28	341	243	127	618	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	177	335	109	424	674	115	28	341	243	127	618	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	177	335	109	424	674	115	28	341	243	127	618	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	177	335	109	424	674	115	28	341	243	127	618	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.06	0.22	0.19	0.06	0.01	0.09	0.13	0.03	0.17	0.07
Crit Moves:		****			****			****			****	
Green/Cycle:	0.17	0.15	0.30	0.36	0.34	0.42	0.08	0.21	0.38	0.15	0.28	0.64
Volume/Cap:	0.55	0.62	0.19	0.62	0.55	0.14	0.19	0.45	0.34	0.24	0.62	0.12
Uniform Del:	34.2	35.8	23.6	23.6	24.0	16.2	38.8	31.1	19.9	34.0	28.4	6.3
IncremntDel:	2.0	2.2	0.2	1.7	0.5	0.1	0.6	0.4	0.3	0.2	1.2	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	36.1	38.0	23.8	25.3	24.5	16.2	39.5	31.5	20.2	34.2	29.5	6.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.1	38.0	23.8	25.3	24.5	16.2	39.5	31.5	20.2	34.2	29.5	6.4
LOS by Move:	D	D	C	C	C	B	D	C	C	C	C	A
HCM2kAvgQ:	5	6	2	10	8	2	1	5	5	2	9	1

Note: Queue reported is the number of cars per lane.

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Scenario Report

Scenario:	Existing (Factored) +P PM
Command:	Default Command
Volume:	Exisintg (Factored) PM
Geometry:	Existing PM
Impact Fee:	Default Impact Fee
Trip Generation:	Project PM
Trip Distribution:	Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cedar Blvd and Central Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.548
Loss Time (sec):	0	Average Delay (sec/veh):	30.1
Optimal Cycle:	50	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	76	426	163	245	373	72	82	497	74	139	252	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	76	426	163	245	373	72	82	497	74	139	252	139
Added Vol:	3	6	0	0	14	0	0	0	6	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	432	163	245	387	72	82	497	80	139	252	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	432	163	245	387	72	82	497	80	139	252	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	432	163	245	387	72	82	497	80	139	252	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	432	163	245	387	72	82	497	80	139	252	139
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.93	0.93	0.95	0.93	0.93	0.95	0.90	0.90
Lanes:	1.00	1.45	0.55	1.00	1.69	0.31	1.00	1.72	0.28	1.00	1.29	0.71
Final Sat.:	1805	2514	948	1805	2971	553	1805	3044	490	1805	2203	1215
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.14	0.13	0.13	0.05	0.16	0.16	0.08	0.11	0.11
Crit Moves:		****		****				****		****		
Green/Cycle:	0.20	0.31	0.31	0.25	0.37	0.37	0.17	0.30	0.30	0.14	0.27	0.27
Volume/Cap:	0.22	0.55	0.55	0.55	0.36	0.36	0.27	0.55	0.55	0.55	0.42	0.42
Uniform Del:	33.8	28.4	28.4	32.7	23.2	23.2	36.4	29.4	29.4	40.0	29.9	29.9
IncremntDel:	0.3	0.6	0.6	1.4	0.2	0.2	0.5	0.6	0.6	2.5	0.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	34.1	29.0	29.0	34.2	23.3	23.3	36.9	30.1	30.1	42.5	30.2	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.1	29.0	29.0	34.2	23.3	23.3	36.9	30.1	30.1	42.5	30.2	30.2
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	2	8	8	7	5	5	2	8	8	5	5	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Cedar Blvd and Smith Ave

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: C[20.5]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	1	0	2	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	15	622		0		0	519		66				54		0		7		0		0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	15	622		0		0	519		66				54		0		7		0		0		0	
Added Vol:	0	8		0		0	20		0				0		0		0		0		0		0	
PasserByVol:	0	0		0		0	0		0				0		0		0		0		0		0	
Initial Fut:	15	630		0		0	539		66				54		0		7		0		0		0	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00				1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	15	630		0		0	539		66				54		0		7		0		0		0	
Reduct Vol:	0	0		0		0	0		0				0		0		0		0		0		0	
FinalVolume:	15	630		0		0	539		66				54		0		7		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8	6.5		6.9	xxxxx	xxxx	xxxxx					
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5	4.0		3.3	xxxxx	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	605	xxxx	xxxxx		xxxx	xxxx	xxxxx						917	1232		303		xxxx	xxxx	xxxxx				
Potent Cap.:	983	xxxx	xxxxx		xxxx	xxxx	xxxxx						275	179		700		xxxx	xxxx	xxxxx				
Move Cap.:	983	xxxx	xxxxx		xxxx	xxxx	xxxxx						272	176		700		xxxx	xxxx	xxxxx				
Volume/Cap:	0.02	xxxx		xxxx		xxxx	xxxx						0.20	0.00		0.01		xxxx	xxxx					
Level Of Service Module:																								
2Way95thQ:	0.0	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx					
Control Del:	8.7	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx					
LOS by Move:	A	*		*		*	*		*		*		*		*		*		*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	292	xxxxx		xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	0.8	xxxxx		xxxxx	xxxx	xxxxx									
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	20.5	xxxxx		xxxxx	xxxx	xxxxx									
Shared LOS:	*	*		*		*	*		*		C		*		*		*		*		*		*	
ApproachDel:	xxxxxx			xxxxxx					20.5				xxxxxx											
ApproachLOS:	*			*					C				*											

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Cedar Blvd and Moores Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.199
Loss Time (sec):	0	Average Delay (sec/veh):	5.7
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	2	603	0	1	580	36	28	0	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	603	0	1	580	36	28	0	4	0	0	0
Added Vol:	0	43	0	0	17	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	646	0	1	597	36	28	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	646	0	1	597	36	28	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	646	0	1	597	36	28	0	4	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	646	0	1	597	36	28	0	4	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.94	0.94	0.80	1.00	0.80	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.89	0.11	0.87	0.00	0.13	0.00	1.00	0.00
Final Sat.:	1805	3610	0	1805	3374	203	1332	0	190	0	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.00	0.00	0.18	0.18	0.02	0.00	0.02	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.07	0.65	0.00	0.25	0.83	0.83	0.10	0.00	0.10	0.00	0.00	0.00
Volume/Cap:	0.02	0.28	0.00	0.00	0.21	0.21	0.21	0.00	0.21	0.00	0.00	0.00
Uniform Del:	43.3	7.6	0.0	27.9	1.8	1.8	41.4	0.0	41.4	0.0	0.0	0.0
IncremntDel:	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.0	0.7	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Delay/Veh:	43.3	7.7	0.0	27.9	1.8	1.8	42.1	0.0	42.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	7.7	0.0	27.9	1.8	1.8	42.1	0.0	42.1	0.0	0.0	0.0
LOS by Move:	D	A	A	C	A	A	D	A	D	A	A	A
HCM2kAvgQ:	0	4	0	0	2	2	1	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #4 Cedar Blvd and Mowry Ave

Cycle (sec):	90	Critical Vol./Cap.(X):	0.613
Loss Time (sec):	12	Average Delay (sec/veh):	27.9
Optimal Cycle:	49	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 2	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	178	422	195	219	354	47	116	745	166	309	415	327
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	422	195	219	354	47	116	745	166	309	415	327
Added Vol:	0	6	0	13	3	1	3	0	0	0	0	33
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	428	195	232	357	48	119	745	166	309	415	360
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	428	195	232	357	48	119	745	166	309	415	360
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	428	195	232	357	48	119	745	166	309	415	360
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	428	195	232	357	48	119	745	166	309	415	360
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1900	3610	1900	3686	3610	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.10	0.12	0.10	0.03	0.06	0.21	0.09	0.08	0.11	0.19
Crit Moves:		****		****				****		****		
Green/Cycle:	0.18	0.19	0.33	0.20	0.21	0.40	0.19	0.34	0.52	0.14	0.28	0.48
Volume/Cap:	0.52	0.61	0.31	0.61	0.46	0.06	0.33	0.61	0.17	0.61	0.41	0.39
Uniform Del:	33.4	33.2	22.5	32.9	30.9	16.4	31.4	24.9	11.5	36.6	26.2	14.9
IncremntDel:	1.4	1.6	0.3	3.0	0.4	0.0	0.5	0.9	0.1	2.2	0.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	34.9	34.8	22.8	35.8	31.4	16.4	31.9	25.9	11.6	38.8	26.4	15.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.9	34.8	22.8	35.8	31.4	16.4	31.9	25.9	11.6	38.8	26.4	15.2
LOS by Move:	C	C	C	D	C	B	C	C	B	D	C	B
HCM2kAvgQ:	5	7	4	6	4	1	3	10	2	5	5	6

Note: Queue reported is the number of cars per lane.

****

Appendix D

ACTC VMT Reduction Calculator Tool Results

MOBILITY MANAGEMENT VMT REDUCTION CALCULATOR TOOL

Return to Main

Project Information

Project Name (optional):	Cedar Robson Homes
Project Address (optional):	38478 Cedar Boulevard
Project Type (optional):	Residential
	Office
Analysis Location (TAZ # from website):	**934**
Jurisdiction (auto calculated from TAZ #):	**Newark**

TDM Strategy Results

TDM ID	Strategy Name	Strategy Type	VMT Type	Change in VMT	Exclusions
1A	Voluntary Employer Commute Program	Project/Site	Employee commute trips		
1B	Mandatory Employer Commute Program	Project/Site	Employee commute trips		
1C	Employer Carpool Program	Project/Site	Employee commute trips		
1D1	Implement Subsidized or Discounted Transit Program (for Employees)	Project/Site	Employee commute trips		
1D2	Implement Subsidized or Discounted Transit Program (for Residents)	Project/Site	Project-generated trips		
1E	Employer Vanpool Program	Project/Site	Employee commute trips		
1F	Employer Telework Program	Project/Site	Employee commute trips		
2A	Transit Oriented Development	Project/Site	Project-generated trips		
2B1	Increase Residential Density	Project/Site	Project-generated trips	-18.1%	
2B2	Increase Employment Density	Project/Site	Employee commute trips		
2C	Integrate Affordable and Below Market Rate Housing	Neighborhood/City	All neighborhood/city trips		
3A1	Price Workplace Parking	Project/Site	Employee commute trips		
3A2	Unbundle Parking Costs from Property Cost	Project/Site	Project-generated trips		
3B	Parking Cash Out	Project/Site	Employee commute trips		
3C	Limit Parking Supply	Project/Site	Project-generated trips		
3D	Provide Bike Parking	Project/Site	Project-generated trips		
4A	Street Connectivity Improvement	Neighborhood/City	All neighborhood/city trips		
4B	Pedestrian Facility Improvement	Neighborhood/City	All neighborhood/city trips		
4C	Bikeway Network Expansion	Neighborhood/City	All neighborhood/city trips		
4D	Bike Facility Improvement	Neighborhood/City	Trips on roadway with bikeway addition		
4E	Bikeshare	Neighborhood/City	All neighborhood/city trips		
4F	Carshare	Neighborhood/City	All neighborhood/city trips		
4G	Community-Based Travel Planning	Neighborhood/City	All neighborhood/city trips		
4H	Provide Neighborhood Traffic Calming Measures	Neighborhood/City	All neighborhood/city trips		
5A	Transit Service Expansion	Neighborhood/City	All neighborhood/city trips		
5B	Transit Frequency Improvements	Neighborhood/City	All neighborhood/city trips		
5C	Transit-Supportive Treatments	Neighborhood/City	All neighborhood/city trips		
5D	Transit Fare Reduction	Neighborhood/City	All neighborhood/city trips		
5E	Microtransit NEV Shuttle	Neighborhood/City	All neighborhood/city trips		

Employee Commute Trips - Total Change in VMT	**0.0%**
Project-Generated Trips - Total Change in VMT	**-18.1%**
All Neighborhood/City Trips - Total Change in VMT	**0.0%**
Trips on Roadway Affected by Bikeway Addition - Total Change in VMT	**0.0%**

2B1. Increase Residential Density

Level of application: **Project/Site**
Type of VMT affected: **Project-generated trips**
Max VMT reduction: **30.0%**

Return to Main
Results Summary

This strategy accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units (du) compared to the average residential density in the United States. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single occupancy vehicles and thus a reduction in GHG emissions.

Projects with a residential density greater than 9.1 dwelling units per acre will see VMT reductions due to this strategy.

Residential density of project development (dwelling units per acre)	16.6	user input
Residential density of typical development (dwelling units per acre)	9.1	constant, source (1)
User override of residential density of typical development		user input, optional
Residential density of typical development used for calculation	9.1	calculated
Elasticity of VMT with respect to residential density	-0.22	constant, source (2)
Change in VMT (as compared to single-use project)	-18.1%	☐ Exclude from Results — Active

Formula: % Change in VMT = ((Residential density of project development (dwelling units per acre) - Residential density of typical development)/ Residential density of typical development)* Elasticity of VMT with respect to residential density

Sources:

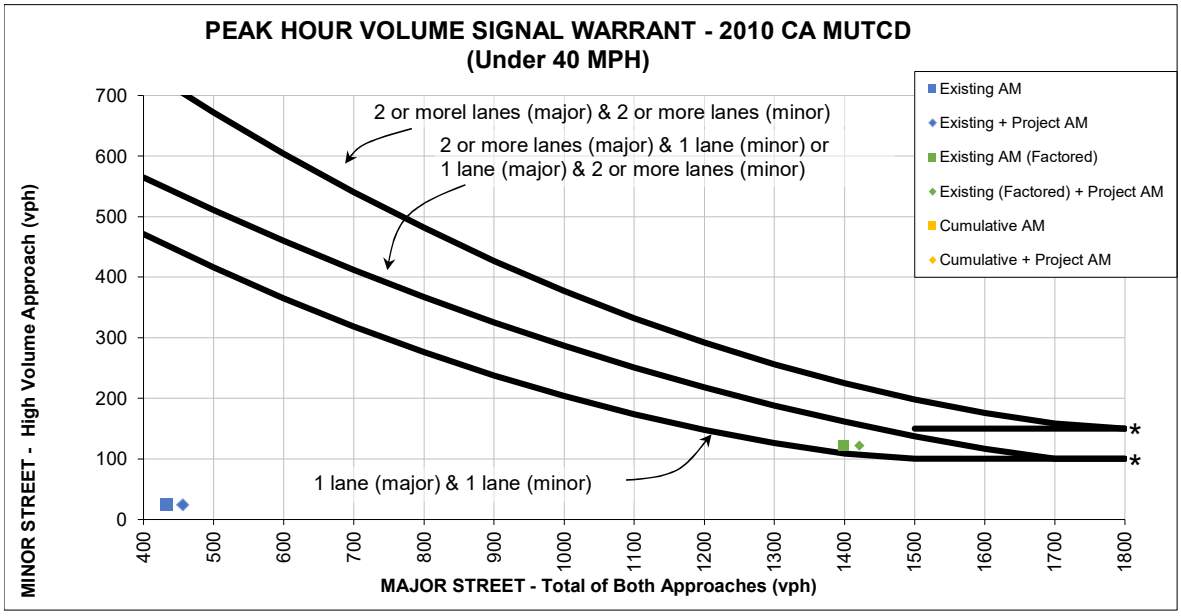
(1) Ewing, R., Bartholomew, K., Winkelman, S., Walters, J., Chen, D. 2007. Growing Cooler: The Evidence on Urban Development and Climate Change. October. Available: https://www.nrdc.org/sites/default/files/cit_07092401a.pdf. Accessed: January 2021.

(2) Stevens, M. 2016. Does Compact Development Make People Drive Less? Journal of the American Planning Association 83:1(7–18), DOI: 10.1080/01944363.2016.1240044. November. Available: https://www.researchgate.net/publication/309890412_Does_Compact_Development_Make_Pe ople_Drive_Less. Accessed: January 2021.

Appendix E

Signal Warrant Analysis

Cedar Boulevard and Smith Avenue

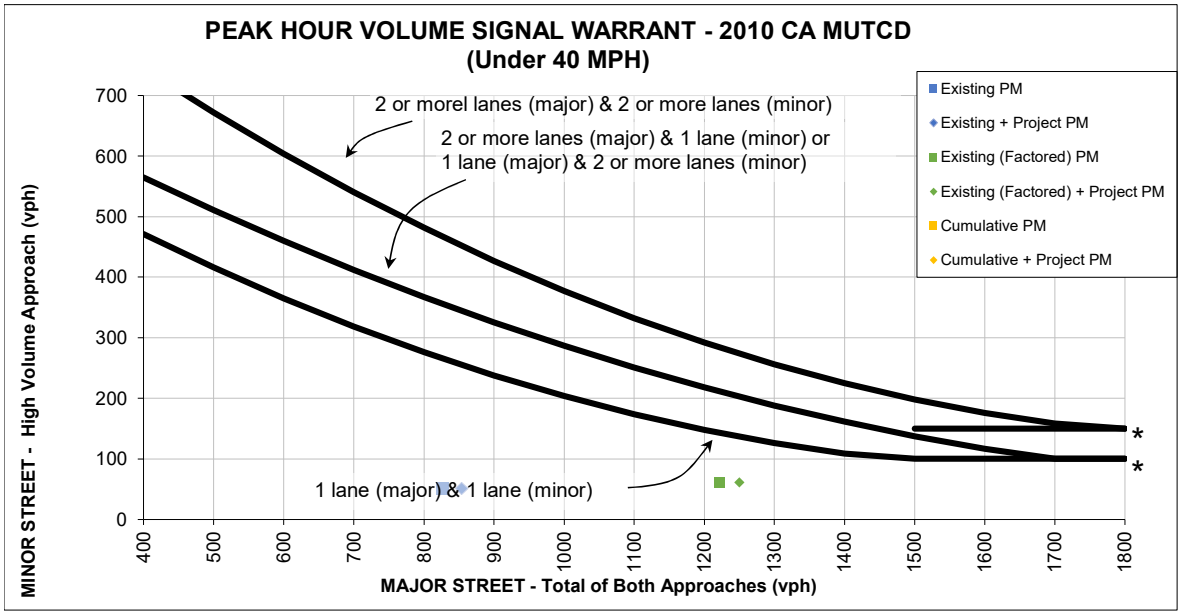


* NOTE: 150 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with 1 lane.

Peak Hour Volume Warrant Per 2003 MUTCD- Under 40 MPH

		Approach Lanes		AM Peak Hour Volumes					
		One	2 or More	*Existing AM*	*Existing + Project AM*	*Existing AM (Factored)*	*Existing (Factored) + Project AM*	*Cumulative AM*	*Cumulative + Project AM*
Major Street - Both Approaches	Cedar Boulevard		x	433	456	1398	1421	2159	2182
Minor Street - Highest Approach	Smith Avenue	x		24	24	122	122	205	205
	Warrant Met?			no	no	no	no	yes	yes

Cedar Boulevard and Smith Avenue



* NOTE: 150 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with 1 lane.

Peak Hour Volume Warrant Per 2003 MUTCD- Under 40 MPH

		Approach Lanes		AM Peak Hour Volumes					
		One	2 or More	*Existing PM*	*Existing + Project PM*	*Existing (Factored) PM*	*Existing (Factored) + Project PM*	*Cumulative PM*	*Cumulative + Project PM*
Major Street - Both Approaches	Cedar Boulevard		x	826	854	1222	1250	2151	2179
Minor Street - Highest Approach	Smith Avenue	x		51	51	61	61	54	54
	Warrant Met?			no	no	no	no	no	no

Appendix F

Signal Warrant Memo

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: September 24, 2021

To: Jayson Imai, City of Newark

From: Gary Black
Daniel Choi

Subject: Signal Warrant Analysis for the Intersection at Cedar Boulevard & Smith Avenue in Newark, CA

Hexagon Transportation Consultants, Inc. has completed a signal warrant analysis to determine the need for a change in traffic control for the intersection of Cedar Boulevard & Smith Avenue in Newark, California. Vehicular traffic volumes were collected for 24-hours in September 2021 along each approach to the intersection. Peak-hour turning movement counts (7:00-9:00 AM and 4:00-6:00 PM), which included pedestrian crossing movements, were also collected at the intersection. Roadway volume counts and peak-hour turning movement counts can be found in Attachment A.

The intersection was evaluated for the following signal warrants found in the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD):

- Warrant 1 – Eight-Hour Vehicular Volume
- Warrant 2 – Four-Hour Vehicular Volume
- Warrant 3 – Peak Hour
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing
- Warrant 7 – Crash Experience

For the signal warrant analysis, Cedar Boulevard was considered the major street, and Smith Avenue was considered the minor road. The MUTCD notes that the satisfaction of a traffic signal warrant or warrants shall not itself require the installation of a traffic signal. Therefore, the analysis presented in this memo is for informational purposes for City of Newark staff to determine whether a traffic signal should be installed at the intersection.

Warrant 1- Eight-Hour Vehicular Volume

The Eight-Hour Vehicular Volume warrant (Warrant 1) consists of two parts: A) the minimum vehicular volume and B) the interruption of continuous traffic. The first part is intended for locations where a large volume of intersection traffic is the principal reason to consider the installation of a traffic signal. The second part is intended for locations where part A is not satisfied and where traffic volume on a major street is so heavy that minor street traffic suffers excessive delay or conflict entering the street.

The minimum volumes needed to meet Warrant 1 is shown on Table 4C-1 in the 2014 CAMUTCD (see below). The warrant should be applied to each of any 8 hours of an average day. Since a

speed study determined that the 85th percentile speed along Cedar Boulevard exceeds 40 mph, 70% volumes are used for the analysis.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 1 would be met under the following conditions:

a) Part A is met under the 100% basic minimum hourly volume (70% when major-street approach exceeds 40 mph)
b) Part B is met under the 100% basic minimum hourly volume (70% when major-street approach exceeds 40 mph)
c) Parts A and B are met under the 80% basic minimum hourly volume (56% when major-street approach exceeds 40 mph)

The vehicular volumes collected finds that **Warrant 1 is not met** during any 8 hours at the intersection. The signal warrant worksheet can be found in Attachment B.

Warrant 2- Four-Hour Vehicular Volume

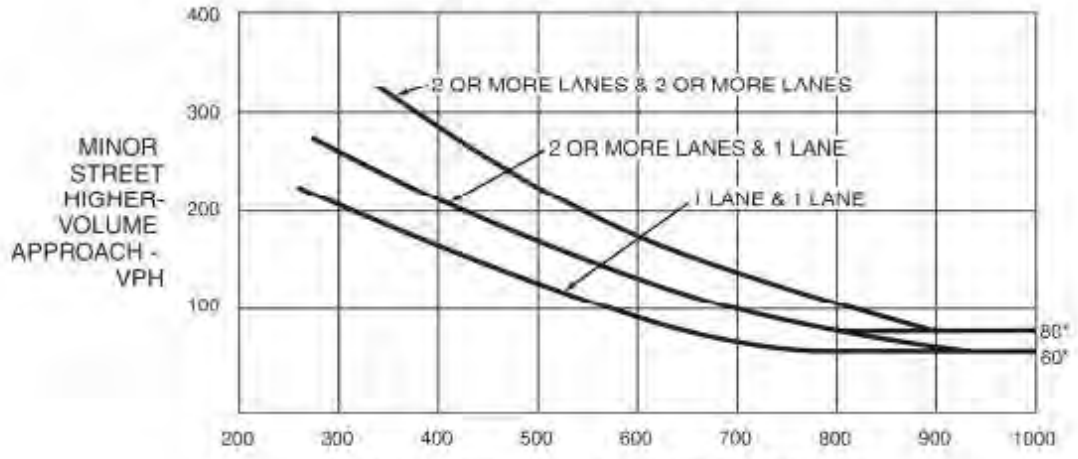
The Four-Hour Vehicular Volume warrant (Warrant 2) is intended for locations where volume of intersecting traffic is the principal reason to consider the installation of a traffic signal. The hourly volume of the total of both major street approaches should be plotted against the minor street

approach volume for any four hours of an average day. Since a speed study determined that the 85th percentile speed along Cedar Boulevard exceeds 40 mph, 70% volumes are used for the analysis.

For Warrant 2 to be met, the plotted point of any four hours of an average day should be above the "2 OR MORE LANES & 1 LANE" line of Figure 4C-2 in the 2014 CAMUTCD (see below).

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Based on the plotted points of the roadway vehicular volumes collected, **Warrant 2 is not met** during any 4 hours at the intersection. The signal warrant worksheet can be found in Attachment B.

Warrant 3- Peak Hour

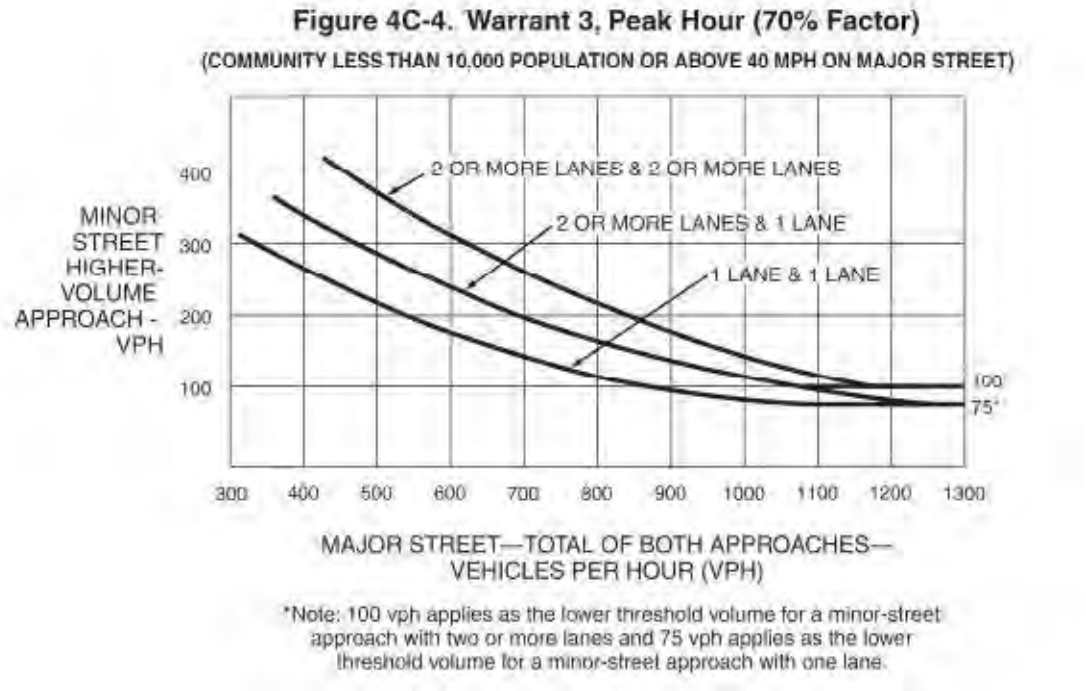
The Peak Hour signal warrant (Warrant 3) is intended for use at locations where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street approach suffers undue delay when entering or crossing the major street. Warrant 3 consists of two parts and would be met when either part meets the warrant conditions. The two parts are as follows:

Part A: All three conditions of Part A must be met:

1) The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach and
2) The total volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic and
3) The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches

Part B: The plotted point of representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor street approach should be above the "2 OR MORE LANES & 1 LANE" line of Figure 4C-2 in the 2014 CAMUTCD (see below).

Since a speed study determined that the 85th percentile speed along Cedar Boulevard exceeds 40 mph, 70% volumes are used for the analysis.



Part B of **Warrant 3 is met** during the peak hour at the intersection. The signal warrant worksheet can be found in Attachement B. It should be noted that the analyses conducted for the 37478 Cedar Boulevard (Robson Homes development) project found that using factored volumes based on historical counts would meet the peak-hour warrant. Since the peak-hour warrant is met, the installation of a traffic signal at the intersection should be considered.

Warrant 4- Pedestrian Volume

The Pedestrian Volume signal warrant (Warrant 4) is intended for use at locations where traffic volumes on a major street is so heavy that pedestrians experience excessive delay in crossing the major street. Warrant 4 consists of two parts and would be met when both parts meet the warrant conditions. The two parts are as follows:

Part 1: Either condition in Part 1 must be met:

1) The plotted point of representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor street approach of any four hours in an average day should be above line on Figure 4C-6 in the 2014 CAMUTCD
2) The plotted point of representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor street approach of the peak hour in an average day should be above line on Figure 4C-8 in the 2014 CAMUTCD

The plotted points have a minimum pedestrian threshold of 75 and 93 pedestrians crossing the major streets, for the any four hours and peak hour, respectively.

Part 2: Either condition in Part 2 must be met:

1) The distance to the nearest traffic signal along the major street is greater than 300 ft
2) The proposed traffic signal will not restrict progressive traffic flow along the major street.

Peak-hour turning movement counts found that no pedestrians crossed the major street during the peak hours. Since no pedestrians crossed the major street during the peak hours, it can be concluded that **Warrant 4 is not met** at the intersection. The proposed Robson Homes project could generate a small number of pedestrian trips at this intersection. The Birch Grove Park, Birch Grove Elementary School, and businesses along Cherry Street are located west of the intersection and would require any pedestrian trips to cross Cedar Boulevard. However, the addition of project-generated trips would not generate enough pedestrian trips to meet the minimum thresholds of Warrant 4.

Warrant 5- School Crossing

The School Crossing signal warrant (Warrant 5) is intended for application where the fact that schoolchildren cross the major street is the principal reason to consider installing a traffic control signal. Consideration shall be given to other remedial measures such as warning signs, school speed zones, and school crossing guards before a traffic control signal should be considered.

As discussed above, turning movement counts found that no pedestrians crossed the major street during the peak hours. Therefore, it can be concluded **Warrant 5 is not met** at the intersection.

Warrant 7- Crash Experience

The Crash Experience signal warrant (Warrant 7) is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic signal. Warrant 7 would be met when all of the following conditions are met:

a) Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency and
b) Five or more reported crashes of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash and
c) For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1, or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

The engineering and traffic study for Cedar Boulevard, between Central Avenue and Moores Avenue found that a total for four accidents occurred along the corridor between 2012 and 2016. One of these accidents occurred at the Cedar Boulevard & Smith Avenue intersection. Recent data from the Statewide Integrated Traffic Records System (SWITRS) found that two accidents have occurred at the intersection in the last ten years.

Warrant 7 is not met because all three conditions of the warrant are not met for this intersection. The signal warrant worksheet can be found in Attachment B.

Conclusions

The MUTCD provides signal warrants to provide guidance on when a traffic signal should be considered at an unsignalized intersection. Warrants 1, 2, 3, 4, 5, and 7 were evaluated for the intersection of Cedar Boulevard and Smith Avenue. The analysis finds that only the peak-hour signal warrant (Warrant 3) is met based on roadway volume data. Warrants 1, 2, 4, 5, and 7 are not met based on roadway volume data, peak-hour turning movement counts, and historical crash data. Since the peak-hour warrant is met, the installation of a traffic signal at the intersection should be considered.

Cedar and Smith Signal Warrant Analysis
Attachments

Attachment A

Roadway Counts

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 1
Station ID:
CEDAR BLVD N.O SMITH AVE

Start Time	14-Sep-21 Tue	SB								
12:00 AM		27								
01:00		10								
02:00		7								
03:00		8								
04:00		21								
05:00		73								
06:00		148								
07:00		499								
08:00		**819**								
09:00		277								
10:00		281								
11:00		321								
12:00 PM		331								
01:00		332								
02:00		542								
03:00		**774**								
04:00		631								
05:00		484								
06:00		355								
07:00		247								
08:00		151								
09:00		102								
10:00		44								
11:00		34								
Total		6518								
AM Peak	-	08:00	-	-	-	-	-	-	-	-
Vol.	-	819	-	-	-	-	-	-	-	-
PM Peak	-	15:00	-	-	-	-	-	-	-	-
Vol.	-	774	-	-	-	-	-	-	-	-
Grand Total		6518								
ADT		ADT 6,518		AADT 6,518						

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 2
Station ID:
CEDAR BLVD S.O SMITH AVE

Start Time	14-Sep-21 Tue	NB								
12:00 AM		35								
01:00		16								
02:00		6								
03:00		8								
04:00		7								
05:00		26								
06:00		72								
07:00		260								
08:00		**453**								
09:00		210								
10:00		214								
11:00		255								
12:00 PM		317								
01:00		357								
02:00		426								
03:00		**877**								
04:00		534								
05:00		472								
06:00		472								
07:00		330								
08:00		195								
09:00		145								
10:00		81								
11:00		59								
Total		5827								
AM Peak	-	08:00	-	-	-	-	-	-	-	-
Vol.	-	453	-	-	-	-	-	-	-	-
PM Peak	-	15:00	-	-	-	-	-	-	-	-
Vol.	-	877	-	-	-	-	-	-	-	-
Grand Total		5827								
ADT		ADT 5,827		AADT 5,827						

All Traffic Data Services, LLC

www.alltrafficdata.net

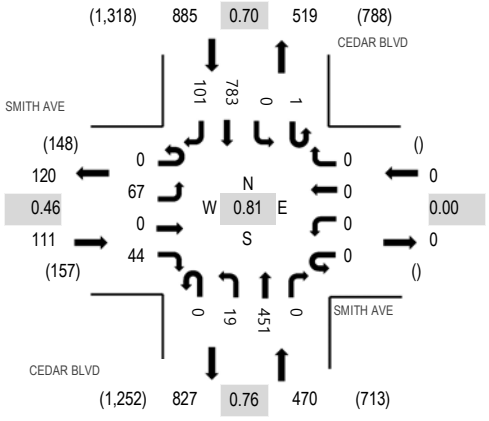
Site Code: 3
Station ID:
SMITH AVE W.O CEDAR BLVD

Start Time	14-Sep-21 Tue	EB								
12:00 AM		3								
01:00		1								
02:00		1								
03:00		3								
04:00		3								
05:00		20								
06:00		17								
07:00		53								
08:00		**104**								
09:00		38								
10:00		34								
11:00		39								
12:00 PM		49								
01:00		42								
02:00		**129**								
03:00		117								
04:00		54								
05:00		38								
06:00		33								
07:00		33								
08:00		19								
09:00		10								
10:00		8								
11:00		5								
Total		853								
AM Peak	-	08:00	-	-	-	-	-	-	-	-
Vol.	-	104	-	-	-	-	-	-	-	-
PM Peak	-	14:00	-	-	-	-	-	-	-	-
Vol.	-	129	-	-	-	-	-	-	-	-
Grand Total		853								
ADT		ADT 853		AADT 853						

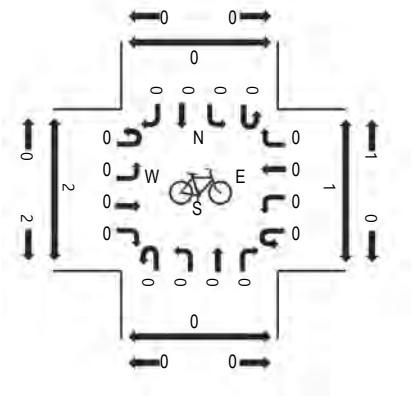
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 CEDAR BLVD & SMITH AVE AM
Date: Tuesday, September 14, 2021
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

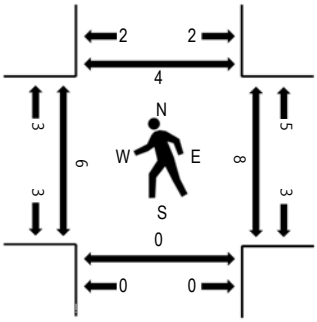
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SMITH AVE Eastbound				SMITH AVE Westbound				CEDAR BLVD Northbound				CEDAR BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	7	0	3	0	0	0	0	0	0	25	0	0	0	70	3	108	812	1	0	0	0
7:15 AM	0	6	0	5	0	0	0	0	0	2	72	0	0	0	127	5	217	1,151	1	0	0	0
7:30 AM	0	11	0	3	0	0	0	0	0	0	79	0	0	0	96	7	196	1,386	2	0	0	0
7:45 AM	0	13	0	5	0	0	0	0	0	1	81	0	0	0	165	26	291	1,466	0	2	0	4
8:00 AM	0	7	0	7	0	0	0	0	0	8	107	0	0	0	271	47	447	1,376	2	0	0	0
8:15 AM	0	34	0	26	0	0	0	0	0	7	147	0	0	0	214	24	452		1	6	0	0
8:30 AM	0	13	0	6	0	0	0	0	0	3	116	0	1	0	133	4	276		3	0	0	0
8:45 AM	0	6	0	5	0	0	0	0	0	2	63	0	0	0	116	9	201		1	0	0	1

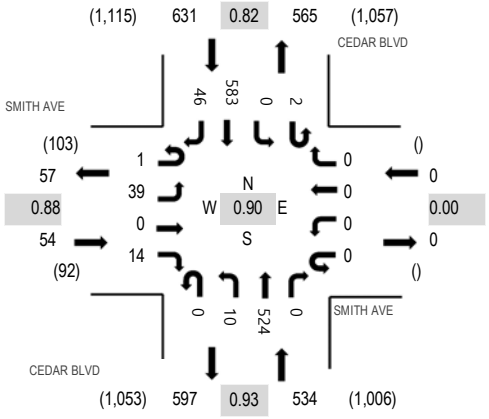
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	67	0	44	0	0	0	0	0	19	444	0	1	0	770	100	1,445
Mediums	0	0	0	0	0	0	0	0	0	0	7	0	0	0	13	1	21
Total	0	67	0	44	0	0	0	0	0	19	451	0	1	0	783	101	1,466

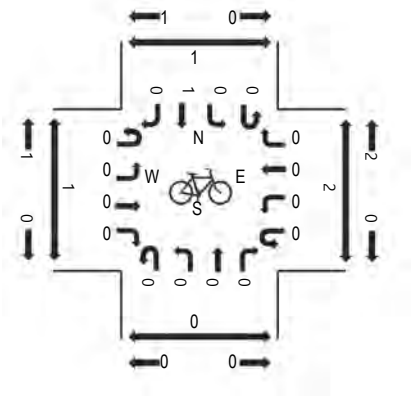
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 CEDAR BLVD & SMITH AVE PM
Date: Tuesday, September 14, 2021
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

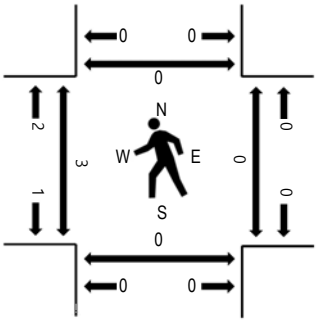
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SMITH AVE Eastbound				SMITH AVE Westbound				CEDAR BLVD Northbound				CEDAR BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	9	0	2	0	0	0	0	0	1	142	0	1	0	141	16	312	1,219	0	0	0	0
4:15 PM	0	11	0	5	0	0	0	0	0	4	121	0	0	0	124	7	272	1,186	0	0	0	0
4:30 PM	0	9	0	4	0	0	0	0	0	2	131	0	0	0	134	16	296	1,145	2	0	0	0
4:45 PM	1	10	0	3	0	0	0	0	0	3	130	0	1	0	184	7	339	1,084	1	0	0	0
5:00 PM	0	7	0	6	0	0	0	0	0	2	125	0	0	0	129	10	279	994	0	0	0	0
5:15 PM	0	7	0	0	0	0	0	0	0	4	110	0	0	0	98	12	231		0	0	0	0
5:30 PM	0	11	0	1	0	0	0	0	0	0	107	0	0	0	105	11	235		1	0	0	0
5:45 PM	0	3	0	3	0	0	0	0	0	2	122	0	0	0	114	5	249		1	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
Lights	1	39	0	14	0	0	0	0	0	10	513	0	2	0	569	45	1,193
Mediums	0	0	0	0	0	0	0	0	0	0	11	0	0	0	11	1	23
Total	1	39	0	14	0	0	0	0	0	10	524	0	2	0	583	46	1,219

Attachment B

Signal Warrant Worksheets

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE Sept 14, 2021

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: Cedar Blvd

Minor St: Smith Ave

Critical Approach Speed 44 mph

Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑ } RURAL (R)

In built up area of isolated community of < 10,000 population..... ☐ or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☑

80% SATISFIED YES ☐ NO ☑

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				7A	8A	1P				6P	Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	~~420~~ (336)	759	1272	689	968	1651	1165	956	827
Highest Approach Minor Street	150 (120)	~~105~~ (84)	200 (160)	140 (112)	53	104	42	124	117	59	38	33

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☑

80% SATISFIED YES ☐ NO ☑

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)											Hour
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	~~630~~ (504)								
Highest Approach Minor Street	75 (60)	~~53~~ (42)	100 (80)	70 (56)								

Combination of Conditions A & B SATISFIED YES ☐ NO ☑

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☑

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☑**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	8A	12P	2P	4P / Hour
Both Approaches - Major Street		X	1272	1362	1651	1165
Higher Approach - Minor Street	X		104	124	117	54

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☑

WARRANT 3 - Peak Hour **SATISFIED YES ☑ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☑**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☑
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☑ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☑ No ☐

PART B **SATISFIED YES ☑ NO ☐**

APPROACH LANES	One	2 or More	3P / Hour
Both Approaches - Major Street		X	1651
Higher Approach - Minor Street	X		117

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☑ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must Be Satisfied)

SATISFIED YES ☐ NO ☑

Part 1 (Parts A or B must be satisfied)

	Hours - - ->				
A.	Vehicles per hour for any 4 hours				
	Pedestrians per hour for any 4 hours	0	→	→	→

Figure 4C-5 or Figure 4C-6
SATISFIED YES ☐ NO ☑

	Hours - - ->				
B.	Vehicles per hour for any 1 hour				
	Pedestrians per hour for any 1 hour	0	→	→	→

Figure 4C-7 or Figure 4C-8
SATISFIED YES ☐ NO ☑

Part 2 **SATISFIED YES ☑ NO ☐**

AND, The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☑ No ☐
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.	Yes ☑ No ☐

WARRANT 5 - School Crossing
(Parts A and B Must Be Satisfied)

SATISFIED YES ☐ NO ☑

Part A
Gap/Minutes and # of Children

SATISFIED YES ☐ NO ☑

		Hour
Gaps vs Minutes	Minutes Children Using Crossing	
	Number of Adequate Gaps	
School Age Pedestrians Crossing Street / hr		

Gaps < Minutes YES ☐ NO ☐
AND Children > 20/hr YES ☐ NO ☑

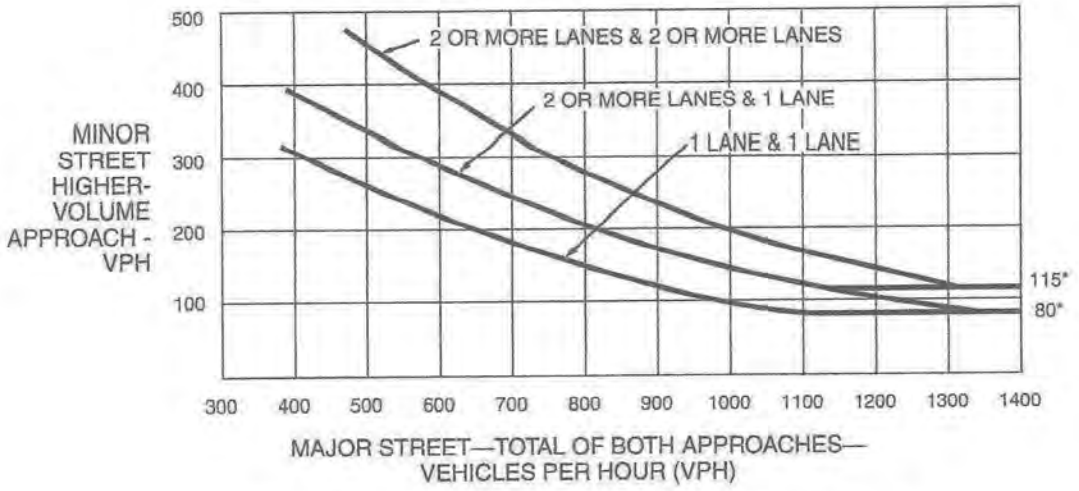
AND, Consideration has been given to less restrictive remedial measures.	Yes ☐ No ☑

Part B **SATISFIED YES ☑ NO ☐**

The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☑ No ☐
OR, The proposed signal will not restrict the progressive movement of traffic.	Yes ☑ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

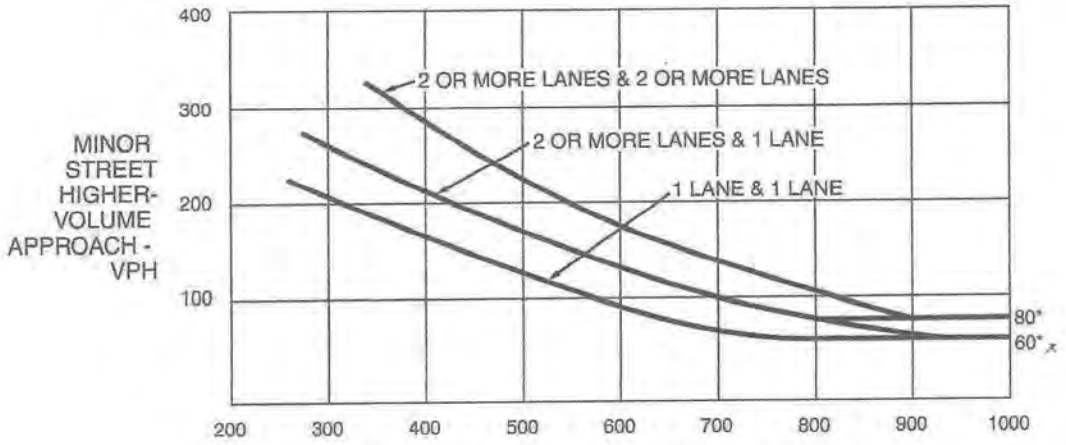
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

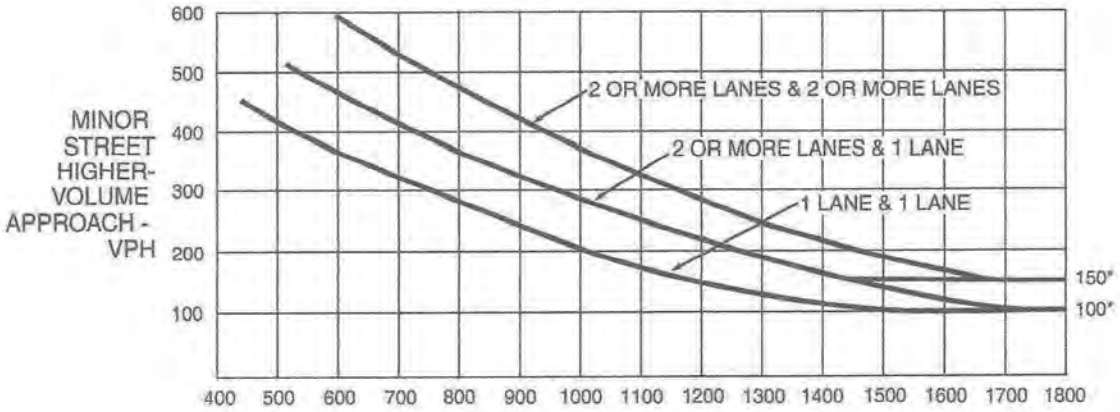
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

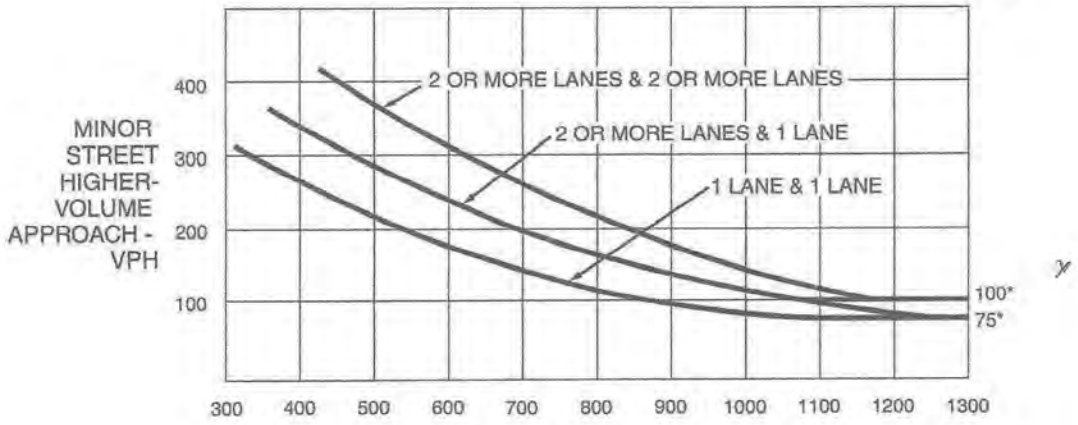
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.