Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	■	☐
See VIII-c).				
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	■	☐
Since the project is an existing urban area and designed such that runoff is properly managed and treated onsite and offsite. Therefore, there would be a less than significant impact.				
f) Otherwise substantially degrade water quality?	☐	☐	■	☐
See IX e).				
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	■
The project is not located within a 100-year flood hazard area as mapped by a Flood Insurance Rate Map. Therefore, there would be no impacts.				
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	■
See IX g)				
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	■
The project is not located in an area identified to be at risk of flooding from dam or levee failure and there would be no impact.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	■
The project site is located inland and is far from any large bodies water bodies. Therefore, the risk of inundation is considered to be very low and there would be no impact.				
X. **LAND USE AND PLANNING.** Would the project:				
a) Physically divide an established community?	☐	☐	☐	■
The project site is an existing downtown development with existing buildings and infrastructure would not divide an established community, and will actually help unify the area creating no impact .				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	■	☐	☐
The proposed project would be a Specific Plan that has already been addressed, incorporated and is consistent with the General Plan. To mitigate the zoning ordinance, the project would require a zone change to a P-D (Planned Development) designation, thus, creating no significant impacts.				
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	■
The site is not subject to a habitat conservation plan or natural community conservation plan, and does not contain any significant vegetation, habitat or wildlife resources. Therefore, there would be no impact.				
XI. **MINERAL RESOURCES.** Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
The project site is not within an area identified as containing mineral resources and there would be no impact.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	■
There are no mineral resource recovery sites within the vicinity of the project site identified on the General Plan and thus, there would be no impact.				
XII. **NOISE.** Would the project result in:				
a) Exposure of persons to generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
The project would not produce current noise levels which are not in excess of established standards. Therefore, the impact is less than significant.				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
The project would not produce current excessive groundbourne vibrations or noise levels which are currently existing and not in excess of established standards. Therefore, the impact is less than significant.				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	■	☐
The project would not produce a substantial permanent increase in ambient noise levels beyond those that already exist and within the parameters of established standards. Therefore, there is less than significant impact.				
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	■
The project will not produce minor noise substantial temporary or periodic increases in ambient noise level since the area is already developed. Therefore, there is no impact.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
The project is not located within the airport land use plan area and have no impact.				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■
The project is not located within two miles of a private airstrip. There would, therefore, be no impact.				
XIII. **POPULATION AND HOUSING.** Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	■	☐
The project may induce some growth and density in the downtown area, but not the city as a whole. This is consistent with the General Plan and will result in a less than significant impact.				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
The project will not displace existing housing and will, in fact, create new opportunities for new housing in the downtown area. Therefore, there will be no impact.				
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■
See XII b).				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. **PUBLIC SERVICES.**				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	■
The project will be protected by a future fire station within the planned area and have no impact.				
Police protection?	☐	☐	☐	■
The project will be served by a police station with the planned area and have no impact.				
Schools?	☐	☐	☐	■
Due to the nature of the types of housing in the downtown specific plan, there will not be a considerable increase in the number of students, and therefore, will have a less than significant impact.				
Parks?	☐	☐	☐	■
The proposed project is located in an area where several parks are within walking distance and would not cause any impacts.				
Other public facilities?	☐	☐	☐	■
No impacts to other public facilities from the proposed project are anticipated.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	■	☐
The proposed project would not cause a substantial increase in use on existing parks or recreational facilities. The existing facilities have capacity to absorb the additional use projected . Thus, there would be a less than significant impact.				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■
The project area already contains a number of recreational facilities and is within walking distance to several more adjacent to the district. There is no need for additional recreational facilities and would therefore, not have an impact.				
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account for all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	■	☐	☐
The project has several options to reconfigure some of the downtown streets and promote non-motorized means of transportation. The completion of the Brawley Bypass will alleviate much of the heavy traffic in this area. The focused traffic states "Based on the analysis of the intersections and the established significance criteria, no significant roadway or intersection capacity traffic impacts were determined. Several pedestrian, bicycle, and transit improvements are recommended for consideration". Therefore, with the recommended mitigation, there will be no impacts.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Conflict with an applicable congestion management program, including, but not limited to level of service standard and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? *See XV a).*	☐	■	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? *The proposed project would not result in a change of air traffic patterns and there would, therefore, create no impact.*	☐	☐	☐	■
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? *The plan actually incorporates enhanced design standards that will decrease hazards, and will not create any impacts.*	☐	☐	☐	■
e) Result in inadequate emergency access? *Implementation of the project would not result in inadequate emergency access, as it is currently already part of an emergency access plan with multiple ingress/egress points. Thus, the would be no impact.*	☐	☐	☐	■
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? *The project would not conflict with adopted policies, plans, or programs supporting alternative transportation. The project actually incorporates addition non-motorized transportation methods. Thus, there would be no impact.*	☐	☐	☐	■

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. **UTILITIES AND SERVICE SYSTEMS.** Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	■	☐
The proposed project is in a developed area which adheres to all applicable regulations regarding water discharge and water quality per the Brawley Pre-Treatment Ordinance and Regional Water Quality Control Board (RWQCB) requirements and would have a less than significant impact.				
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
The proposed project is located in an existing downtown area already serviced by the existing capacity of the City of Brawley's water and wastewater facilities and shall continue adhering to all applicable regulations regarding water discharge and water quality per the Brawley Pre-Treatment Ordinance and Regional Water Quality Control Board (RWQCB) requirements. Therefore, there would be a less than significant impact.				
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	■	☐
The proposed project would utilize existing and potentially new onsite storm water drainage facilities designed to accommodate area, Therefore, there would be a less than significant impact.				
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?		☐	☐	■
The project site is an existing urban downtown area already served by existing City of Brawley water supplies and would not create an impact.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
The project is an existing urban downtown area already served by existing wastewater capacity of the City of Brawley's wastewater facilities. The proposed project would continue to adhere to all applicable regulations regarding water discharge and water quality per the Brawley Pre-Treatment Ordinance and Regional Water Quality Control Board (RWQCB) resulting in a less than significant impact.				
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	■
The Allied Imperial Landfill has capacity sufficient for the next 15 years. There would be no impact.				
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	■
The project would comply with all applicable federal, state, and local statutes and regulations pertaining to solid waste and create no impact.				
XVII. **MANDATORY FINDINGS OF SIGNIFICANCE.**				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	■
Because the site is a an urban downtown area, the project will not have an impact on any form of wildlife.				

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? *The project is a Downtown Specific Plan which will not fundamentally change the impacts on the area. Instead, it will enhance the area by architectural, transportation and economic opportunities through mixed-use options. Therefore, a less than significant cumulative impact is expected.*	☐	☐	■	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? *The project is a Downtown Specific Plan which will not cause substantial adverse effects on human beings. Conversely, the plan will provide favorable changes on the area creating a less a less than significant impact.*	☐	■	☐	☐

XVIII. **EARLIER ANALYSES.**

Earlier analyses may be used where, pursuant to the tiering, program EIR or other CEQA process, on or more effects have been adequately analyzed in an earlier EIR or Negative Declaration per Section 15063(c)(3)(D).

1. **City of Brawley General Plan and Mitigated Negative Declaration (September 2008)**
2. **Downtown Specific Plan (June 2010)**
3. **City of Brawley Water Master Plan (1999)**
4. **City of Brawley Wastewater Master Plan (1999)**
5. **Traffic Impact Analysis (July 2012)**

LINSCOTT
LAW &
GREENSPAN
engineers

TRAFFIC IMPACT ANALYSIS

CITY OF BRAWLEY DOWNTOWN SPECIFIC PLAN

Brawley, California
July 30, 2012

LLG Ref. 3-12-2113

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TABLE OF CONTENTS

SECTION	PAGE
1.0 Introduction	**1**
2.0 Project Description	**4**
3.0 Existing Conditions	**6**
3.1 Existing Street Network	6
3.2 Existing Traffic Volumes	6
4.0 Analysis Approach and Methodology	**9**
4.1 Analysis Scenarios	9
4.2 Analysis Methodology	9
4.2.1 Intersections	9
5.0 Significance Criteria	**11**
6.0 Analysis of Existing Conditions	**12**
6.1 Peak Hour Intersection Levels of Service	12
7.0 Trip Generation/Distribution/Assignment	**13**
7.1 Trip Generation	13
7.2 Trip Distribution/Assignment	13
8.0 Analysis of Long-Term Scenarios	**16**
8.1 Year 2035 without Project	16
8.1.1 Intersection Analysis	16
8.2 Year 2035 with Project	16
8.2.1 Intersection Analysis	16
9.0 Mobility Assessment	**20**
9.1 Pedestrian Circulation	20
9.2 Bicycle Circulation	21
9.3 Transportation Demand Management (TDM) Improvements	21
9.4 Public Transportation	22
10.0 Conclusion	**26**

APPENDICES

APPENDIX	
A.	Intersection and Segment Manual Count Sheets
B.	Existing Peak Hour Intersection Analysis Worksheets
C.	Year 2035 without Project Peak Hour Intersection Analysis Worksheets
D.	Year 2035 + Project Peak Hour Intersection Analysis Worksheets

LIST OF FIGURES

SECTION—FIGURE #		PAGE
Figure 1–1	Vicinity Map	2
Figure 1–2	Project Area Map	3
Figure 2–1	Downtown Brawley Vision Plan	5
Figure 3–1	Existing Conditions Diagram	7
Figure 3–2	Existing Traffic Volumes	8
Figure 7–1	Project Traffic Volumes	15
Figure 8–1	Year 2035 Traffic Volumes	18
Figure 8–2	Year 2035 + Project Traffic Volumes	19
Figure 9–1	Proposed Pedestrian Connections	23
Figure 9–2	Proposed Bicycle Connections	24
Figure 9–3	Planned Transit Connections	25

LIST OF TABLES

SECTION—TABLE #		PAGE
Table 4–1	Intersection Level of Service Descriptions	10
Table 4–2	Level Of Service Thresholds For Signalized Intersections	10
Table 6–1	Existing Intersection Operations	12
Table 7–1	Trip Generation Comparison	14
Table 8–1	Long-Term Intersection Operations	17

TRAFFIC IMPACT ANALYSIS

CITY OF BRAWLEY DOWNTOWN SPECIFIC PLAN

Brawley, California
July 30, 2012

1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has completed this traffic study for the City of Brawley Downtown Specific Plan project. The purpose of this study is to assess the potential impacts to the local roadway system as a result of the proposed project. The project is located both north and south of Main Street between 1st Street and Cesar Chavez Street. ***Figure 1–1*** shows the vicinity map, and ***Figure 1–2*** shows a more detailed project area map.

The traffic analysis presented in this report includes the following:

- Project Description
- Existing Conditions Description
- Analysis Approach, Study Area & Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation, Distribution & Assignment
- Capacity Analysis
- Mobility Assessment
- Significance of Impacts & Mitigation Measures

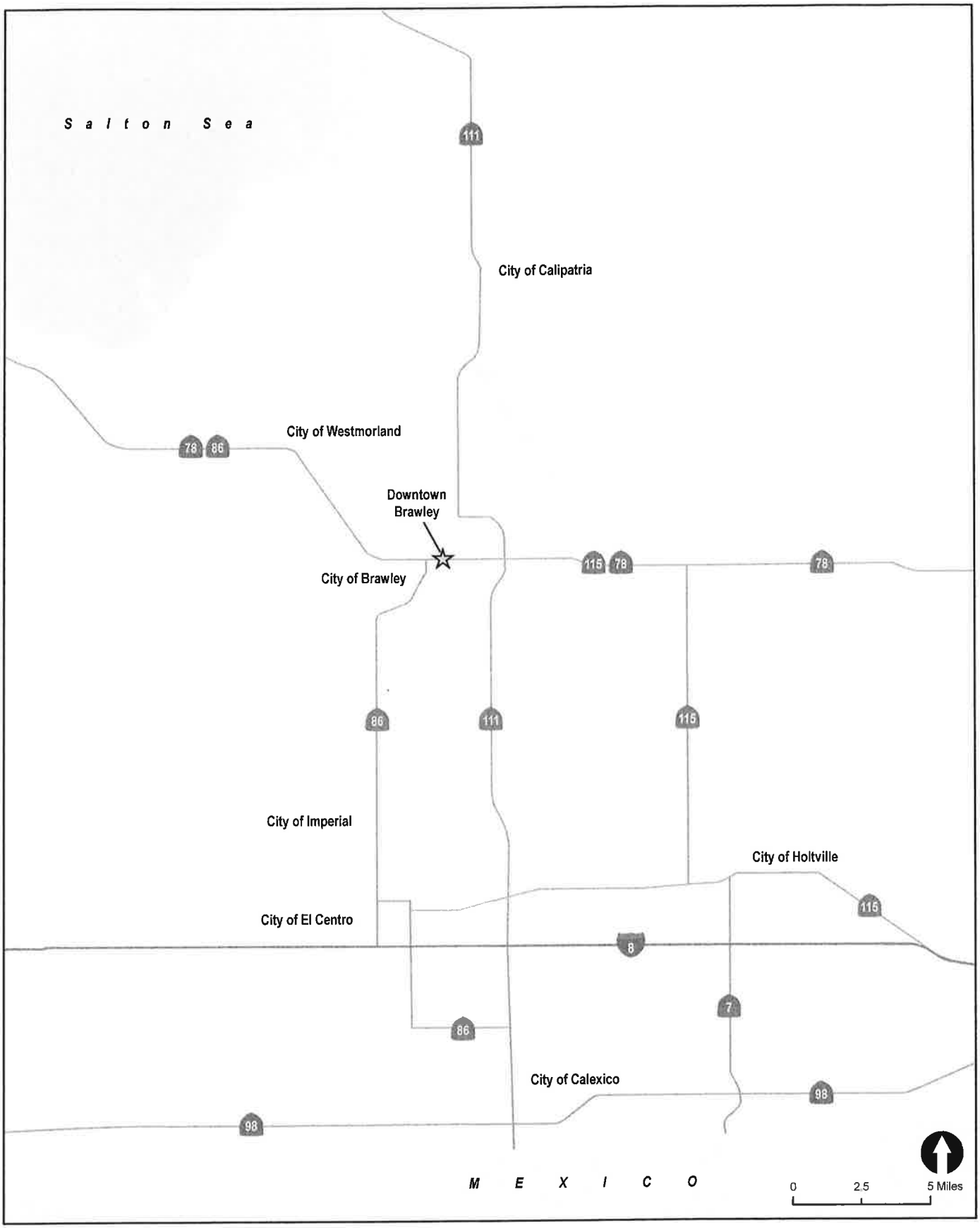

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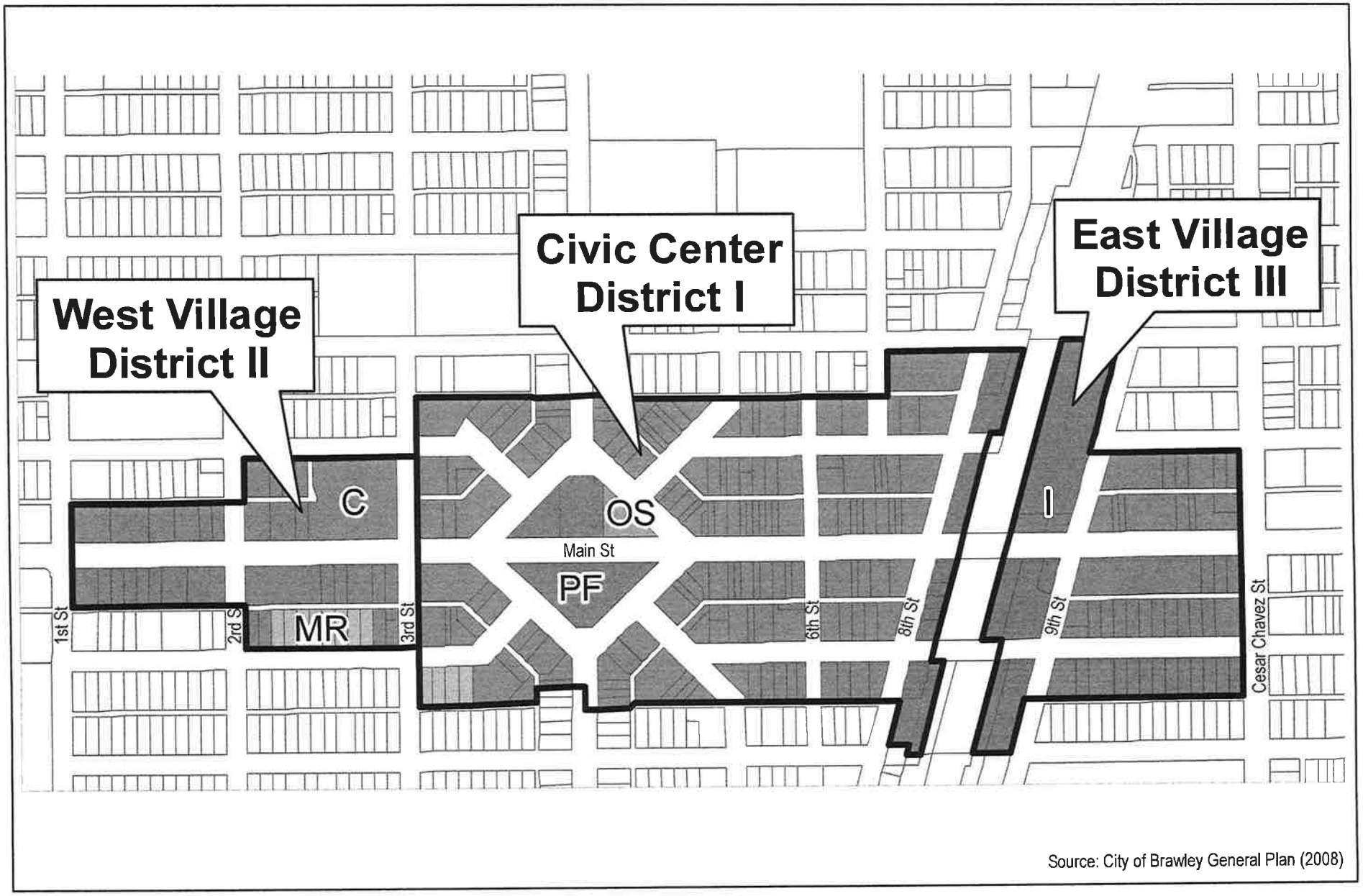
Figure 1-1

Vicinity Map



Source: City of Brawley General Plan (2008)

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Figure 1-2

Project Area Map

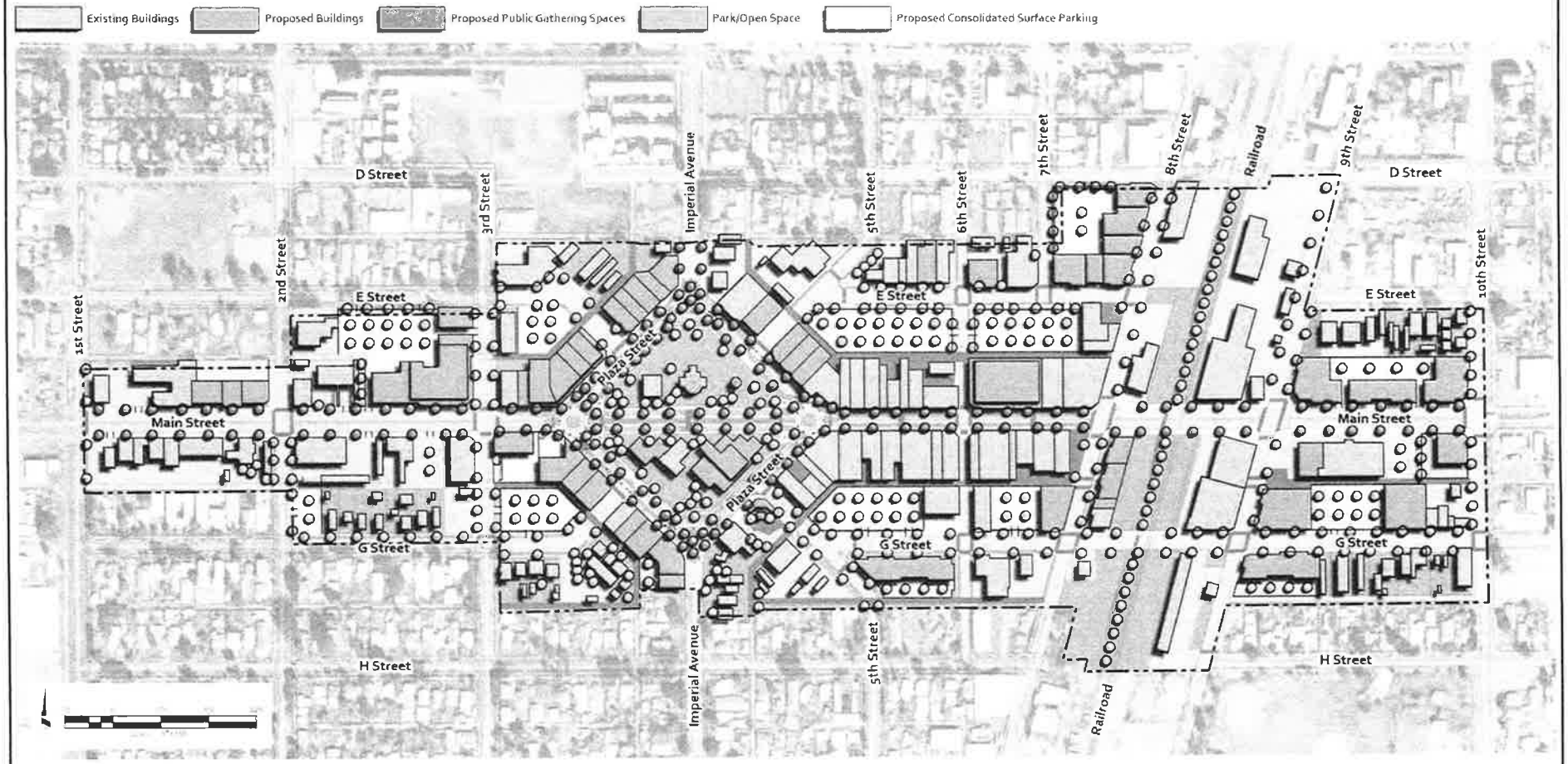
BRAWLEY DOWNTOWN SPECIFIC PLAN

2.0 PROJECT DESCRIPTION

The proposed project is located in the City of Brawley in Imperial County. Downtown Brawley is situated around Plaza Park, generally along Main Street between 1st Street and Cesar Chavez Street. Downtown Brawley is divided into three districts: West Village, Civic Center, and East Village. The West Village District lies along Main Street between 1st Street and 3rd Street and is intended to focus mainly on residential uses. The Civic Center District lies along Main Street between 3rd Street and 8th. This district is intended to be the City's cultural, civic, and entertainment center with a variety of residential, retail and office commercial, recreational and civic uses. The East Village District lies along Main Street between 8th Street and Cesar Chavez Street and is intended to encompass a variety of industrial, commercial and residential uses.

The total project proposes approximately 200 multiple-family residential units, 200,000 square feet of retail development, 470,000 square feet of office development, and 180,000 square feet of institutional and civic development in the downtown area in sites that are currently underused.

A map of Downtown Brawley's Vision Plan for redevelopment is shown in ***Figure 2–1***.



Source: Brawley Downtown Specific Plan (2012)

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Figure 2-1

Downtown Brawley Vision Plan

BRAWLEY DOWNTOWN SPECIFIC PLAN

3.0 EXISTING CONDITIONS

The study area for this project encompasses intersections where potential project-related impacts may occur. The specific study area includes the following intersections:

1. Main Street / 1st Street
2. Main Street / 3rd Street
3. Main Street / 6th Street
4. Main Street / 8th Street
5. Main Street / Cesar Chavez Street

3.1 Existing Street Network

The following is a brief description of the street segments within the project area. ***Figure 3–1*** illustrates the existing conditions, including the lane geometry, for the key intersections in the study area.

Main Street is classified as a Minor Arterial on the City of Brawley Circulation Element. It is currently constructed as four-lane undivided roadway west of 3rd Street and as a four-lane divided roadway east of 3rd street. The posted speed limit is between 25-40 mph. A bus stop is provided. Bike lanes are not provided. Street parking is generally permitted.

1st Street is classified as a Collector south of Main Street and unclassified north of Main Street on the City of Brawley Circulation Element. It is currently constructed as a four-lane divided roadway with intermittent left turn pockets south of Main Street and as a two-lane undivided roadway north of Main Street. The posted speed limit is 40 mph. Bike lanes and street parking are not provided.

3rd Street is unclassified on the City of Brawley Circulation Element. It is currently constructed as a two-lane undivided roadway. Bike lanes are not provided. Street parking is permitted.

6th Street is unclassified on the City of Brawley Circulation Element. It is currently constructed as a two-lane undivided roadway. Bike lanes are not provided. Street parking is permitted.

8th Street is classified as a Minor Arterial north of Main Street and unclassified south of Main Street on the City of Brawley Circulation Element. It is currently constructed as a two-lane undivided roadway. Bike lanes are not provided. Street parking is permitted.

Cesar Chavez Street is classified as a Collector on the City of Brawley Circulation Element. It is currently constructed as a two-lane undivided roadway. Bike lanes are not provided. Street parking is permitted.

3.2 Existing Traffic Volumes

AM and PM peak hour intersection turning movement volume counts were conducted in May 2012. ***Figure 3–2*** depicts the peak hour intersection turning movement volumes at all the study area intersections. ***Appendix A*** contains the manual count sheets.

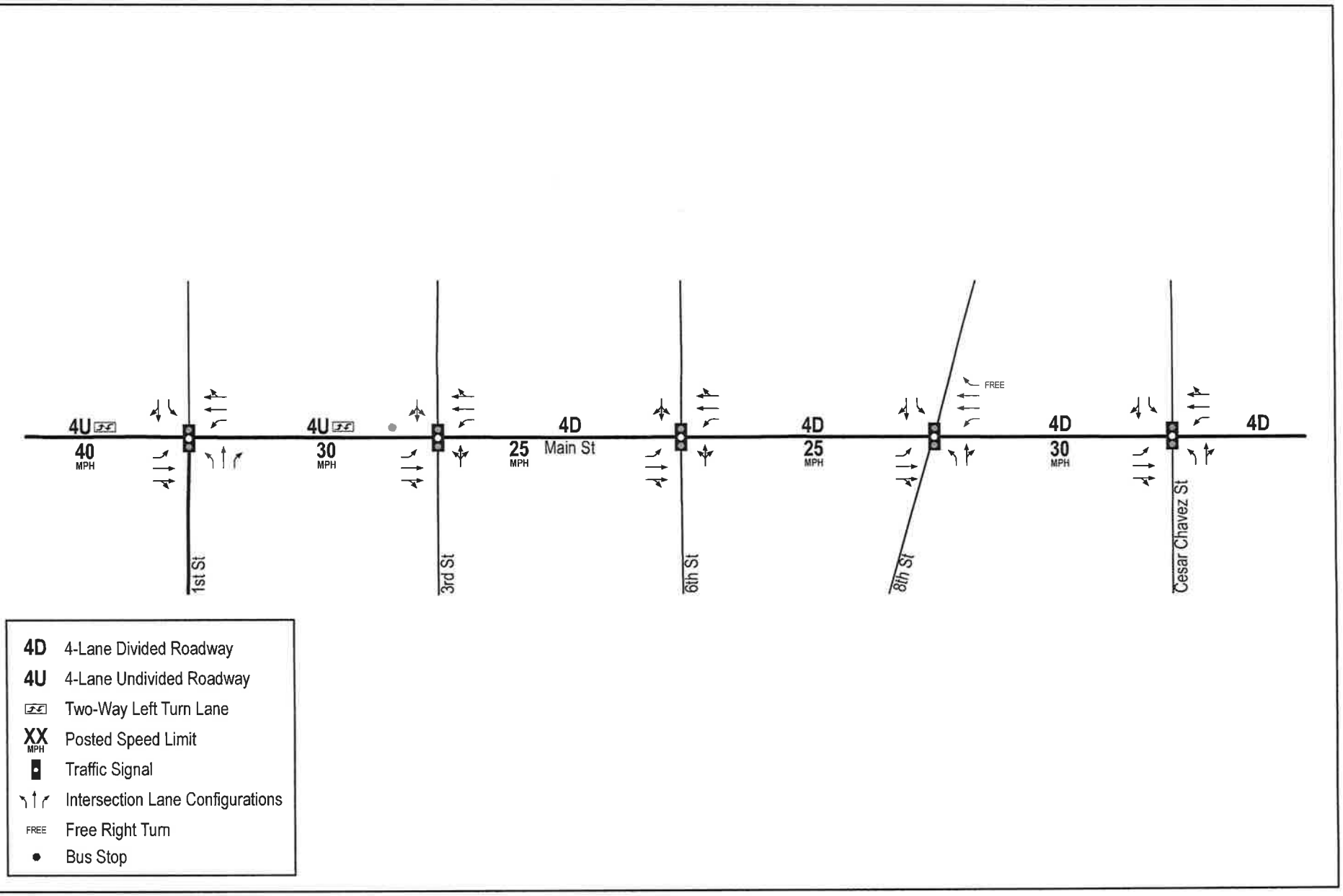

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Figure 3-1

Existing Conditions Diagram

BRAWLEY DOWNTOWN SPECIFIC PLAN

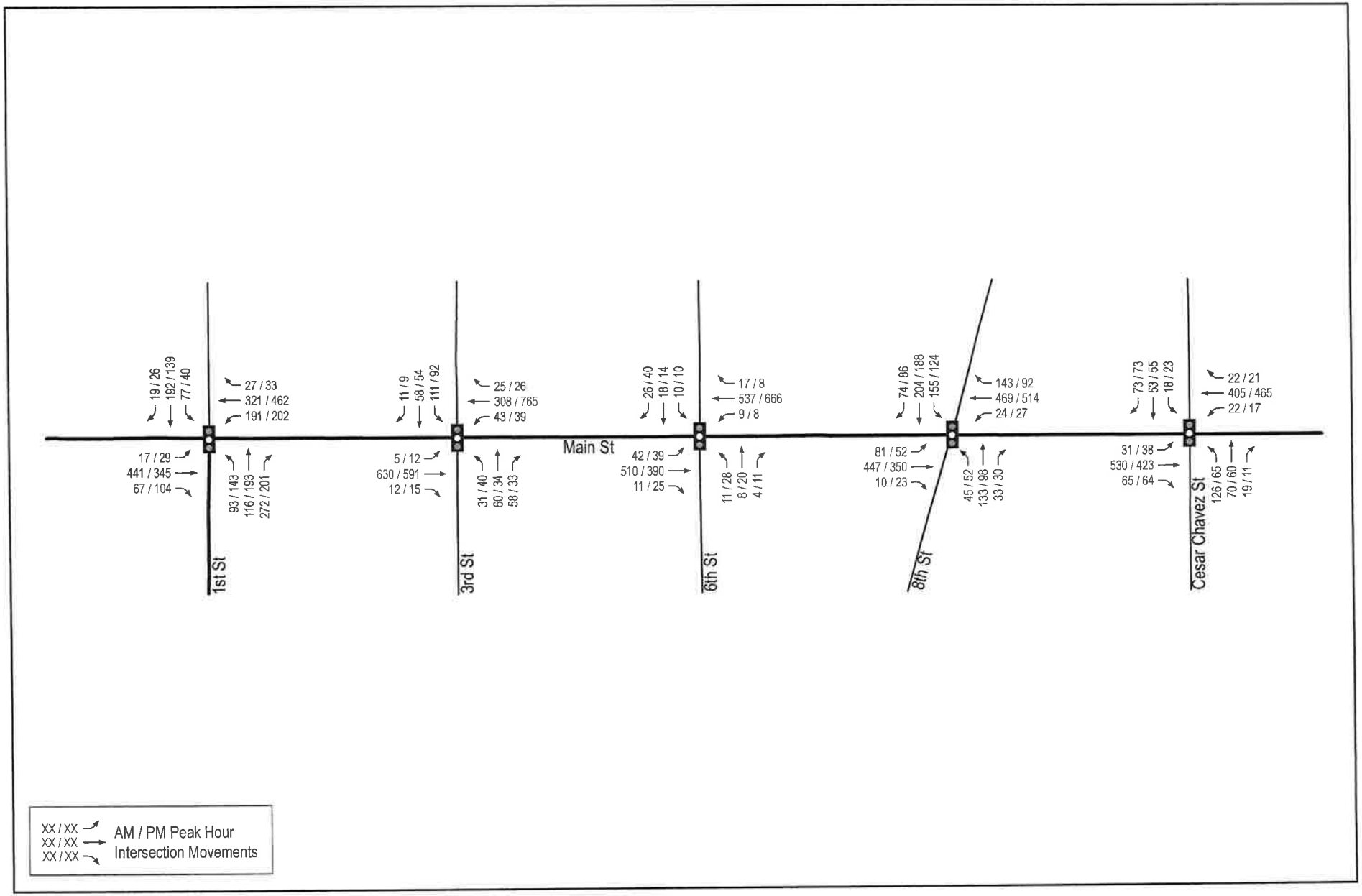

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Figure 3-2

Existing Traffic Volumes

BRAWLEY DOWNTOWN SPECIFIC PLAN

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 Analysis Scenarios

The following scenarios were analyzed in this report. Since the project will be built over many years, the focus of the analysis was conducted in the long term.

- Existing
- Year 2035 without Project
- Year 2035 with Project

4.2 Analysis Methodology

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments. ***Table 4–1*** summaries the description for each level of service.

4.2.1 *Intersections*

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 16 of the *2000 Highway Capacity Manual (HCM),* with the assistance of the *Synchro* (version 7) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection Level of Service (LOS). ***Table 4–2*** summarizes the delay thresholds for signalized intersections.

TABLE 4–1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

TABLE 4–2
LEVEL OF SERVICE THRESHOLDS FOR SIGNALIZED INTERSECTIONS

Average Control Delay Per Vehicle (Seconds/Vehicle)	Level of Service
0.0 ≤ 10.0	A
10.1 to 20.0	B
21.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80	F

Source: Highway Capacity Manual, 2000.

5.0 SIGNIFICANCE CRITERIA

For the purpose of this study LOS C is considered the minimum acceptable level of service with LOS D acceptable during peak periods in the long term.

6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Levels of Service

Table 6–1 summarizes the peak hour intersection operations for existing conditions. As seen in *Table 6–1*, all study intersections are currently operating at LOS D or better.

Appendix B contains the existing intersection analyses calculation worksheets.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
Main Street / 1st Street	Signal	AM PM	33.0 45.9	C D
Main Street / 3rd Street	Signal	AM PM	13.6 12.3	B B
Main Street / 6th Street	Signal	AM PM	6.1 6.2	A A
Main Street / 8th Street	Signal	AM PM	25.6 27.8	C C
Main Street / Cesar Chavez Street	Signal	AM PM	19.8 21.1	B C

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 < 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
> 80.1	F

7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

7.1 Trip Generation

The trip generation rates for the project are based on the rates outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual (8th Edition). The proposed project is planned to develop 200 multiple-family residential units, 200,000 square feet of retail space, 470,000 square feet of office space, and 180,000 square feet of institutional and civic space.

A trip generation comparison was conducted for both the currently adopted City General Plan land uses for the area and the proposed Specific Plan land uses. The forecast traffic volume for the City include the General Plan land uses. Therefore, the difference between the trip generation totals was added to the street system to measure potential project impacts.

As shown in ***Table 7–1***, the proposed Specific Plan land uses are expected to generate approximately 33,610 ADT with 2,316 trips during the AM peak hour (1,704 entering and 612 exiting) and 3,948 trips during the PM peak hour (1,535 entering and 2,413 exiting).

Similarly, per the City of Brawley General Plan land uses, the area is expected to generate approximately 32,900 ADT with 1,582 trips during the AM peak hour (992 entering and 590 exiting) and 3,396 trips during the PM peak hour (1,477 entering and 1,919 exiting). Again, the difference in the trip generation estimated from the specific plan land uses and the general plan land uses was assigned to the study area to assess any project impacts.

7.2 Trip Distribution/Assignment

The project-generated traffic was distributed and assigned to the street system based on various factors such as site access parameters, proposed parking locations, the location of employment centers and the roadway network. ***Figure 7–1*** depicts the project traffic assignment based on this distribution.

TABLE 7–1
TRIP GENERATION COMPARISON

Land Use Designation	Quantity	Daily Trip Ends (ADT)[a]		AM Peak Hour					PM Peak Hour				
		Rate	Volume	Rate	In:Out Split	Volume In	Volume Out	Volume Total	Rate	In:Out Split	Volume In	Volume Out	Volume Total
Civic Center District													
Residential	150 DU	6.13 /DU	920	0.47	19:81	13	58	71	0.58	64:36	56	31	87
Live/Work	40 KSF	16.50 /KSF	660	2.25	88:12	79	11	90	3.10	17:83	21	103	124
Retail	100 KSF	67.90 /KSF	6,790	1.54	61:39	94	60	154	6.36	49:51	312	324	636
General Office	150 KSF	12.13 /KSF	1,820	1.73	88:12	228	31	259	1.65	17:83	42	205	247
Medical Office	15 KSF	26.67 /KSF	400	3.87	66:34	38	20	58	4.47	40:60	27	40	67
Institutional	50 KSF	46.40 /KSF	2,320	3.34	71:29	119	48	167	5.84	52:48	152	140	292
Civic	50 KSF	30 /KSF	1,500	2.70	90:10	121	14	135	3.60	30:70	54	126	180
Subtotal			**14,410**			**692**	**242**	**934**			**664**	**969**	**1,633**
West Village District													
Residential	20 DU	8.00 /DU	160	0.70	19:81	3	11	14	2.15	64:36	28	15	43
Live/Work	10 KSF	23.00 /KSF	230	3.00	88:12	26	4	30	9.00	17:83	15	75	90
Retail	50 KSF	86.60 /KSF	4,330	2.04	61:39	62	40	102	8.00	49:51	196	204	400
General Office	100 KSF	13.30 /KSF	1,330	1.88	88:12	165	23	188	1.91	17:83	32	159	191
Medical Office	5 KSF	36.13 /KSF	180	3.62	66:34	12	6	18	4.60	40:60	9	14	23
Institutional	5 KSF	79.26 /KSF	400	13.56	53:47	36	32	68	13.91	47:53	33	37	70
Civic	15 KSF	30 /KSF	450	2.70	90:10	37	4	41	3.60	30:70	16	38	54
Subtotal			**7,080**			**341**	**120**	**461**			**329**	**542**	**871**
East Village District													
Residential	30 DU	7.67 /DU	230	0.63	19:81	4	15	19	1.53	64:36	29	17	46
Live/Work	15 KSF	20.67 /KSF	310	2.73	88:12	36	5	41	6.40	17:83	16	80	96
Retail	50 KSF	86.60 /KSF	4,330	2.04	61:39	62	40	102	8.00	49:51	196	204	400
General Office	100 KSF	13.30 /KSF	1,330	1.88	88:12	165	23	188	1.91	17:83	32	159	191
Medical Office	100 KSF	38.70 /KSF	3,870	3.54	66:34	234	120	354	4.43	40:60	177	266	443
Institutional	5 KSF	79.26 /KSF	400	13.56	53:47	36	32	68	13.91	47:53	33	37	70
Civic	55 KSF	30 /KSF	1,650	2.70	90:10	134	15	149	3.60	30:70	59	139	198
Subtotal			**12,120**			**671**	**250**	**921**			**542**	**902**	**1,444**
Total Specific Plan Trip Generation			**33,610**			**1,704**	**612**	**2,316**			**1,535**	**2,413**	**3,948**
Total General Plan Trip Generation			**32,900**			**992**	**590**	**1,582**			**1,477**	**1,919**	**3,396**

Source: Rates are based on the ITE Trip Generation Book (8th Edition).

Footnotes:
a. Trip-ends are one-way traffic movements, either entering or leaving.

General Notes:
DU = Dwelling Units
KSF = 1,000 Square Feet

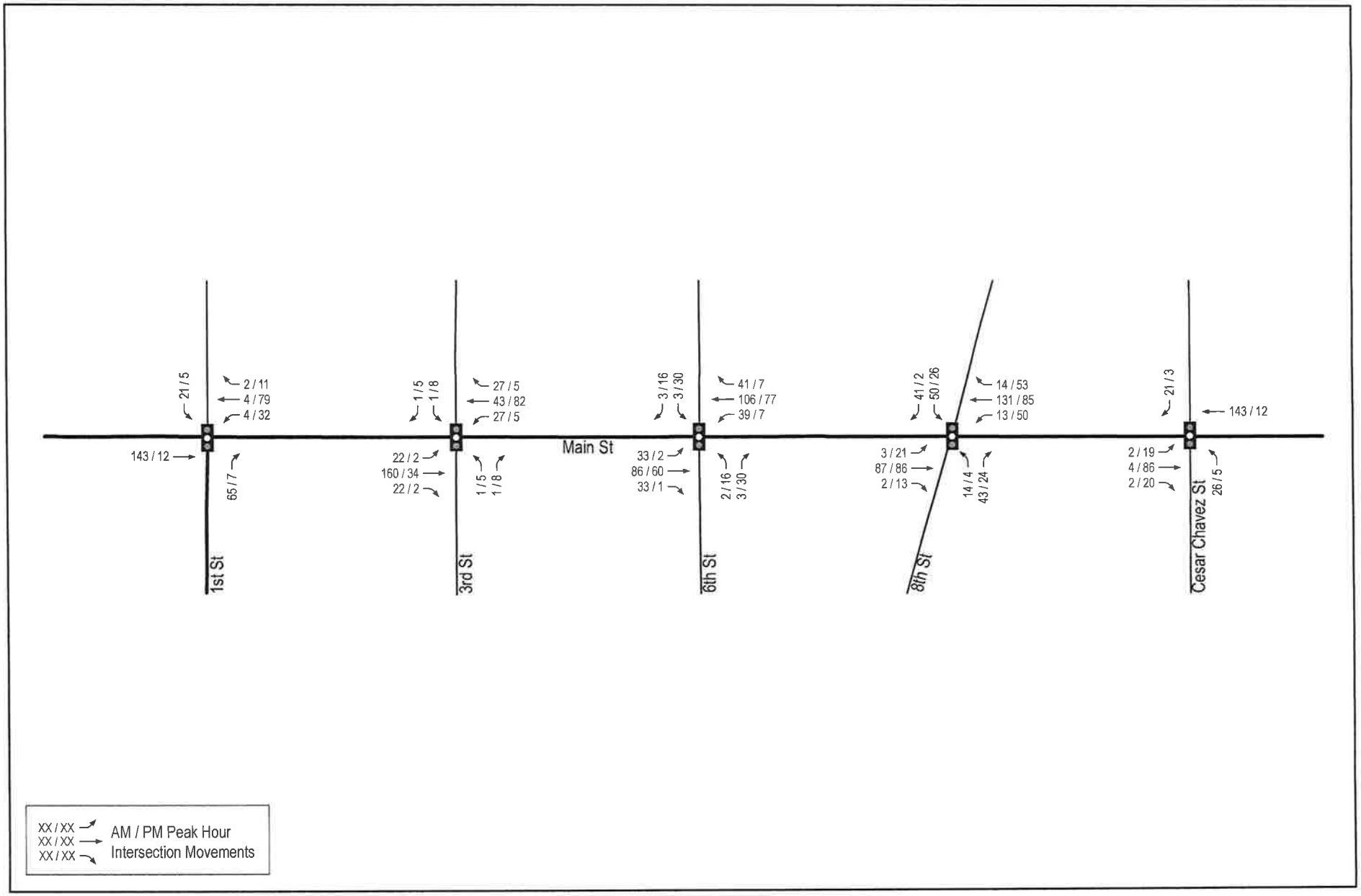

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Figure 7-1

Project Traffic Volumes

BRAWLEY DOWNTOWN SPECIFIC PLAN

8.0 ANALYSIS OF LONG-TERM SCENARIOS

8.1 Year 2035 without Project

8.1.1 *Intersection Analysis*

Table 8–1 summarizes the peak hour intersection operations for the Year 2035 without project traffic scenario. As seen in *Table 8–1*, all study intersections are calculated to operate at LOS D or better.

Appendix C contains the Year 2035 without Project peak hour intersection analyses worksheets.

8.2 Year 2035 with Project

8.2.1 *Intersection Analysis*

Table 8–1 summarizes the Year 2030 + Project peak hour intersection operations. *Table 8–1* shows that with the addition of project traffic, all study intersections are calculated to continue to operate at LOS D or better with Specific Plan traffic.

Since LOS D or better is calculated in the long term scenario, no significant impacts are calculated.

Appendix D contains the Year 2035 + Project peak hour intersection analyses worksheets.

TABLE 8–1
LONG-TERM INTERSECTION OPERATIONS

Intersection	Peak Hour	Year 2035 without Downtown Specific Plan		Year 2035 with Downtown Specific Plan		Significant Impact?
		Delay[a]	LOS[b]	Delay	LOS	
1. Main Street / 1st Street	AM	40.5	D	50.7	D	No
	PM	47.5	D	51.5	D	No
2. Main Street / 3rd Street	AM	17.1	B	18.3	B	No
	PM	15.9	B	19.5	B	No
3. Main Street / 6th Street	AM	6.2	A	6.2	A	No
	PM	6.7	A	7.5	A	No
4. Main Street / 8th Street	AM	36.5	D	40.3	D	No
	PM	40.7	D	53.4	D	No
5. Main Street / Cesar Chavez Street	AM	24.1	C	26.2	C	No
	PM	21.7	C	22.4	C	No

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 < 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
> 80.1	F

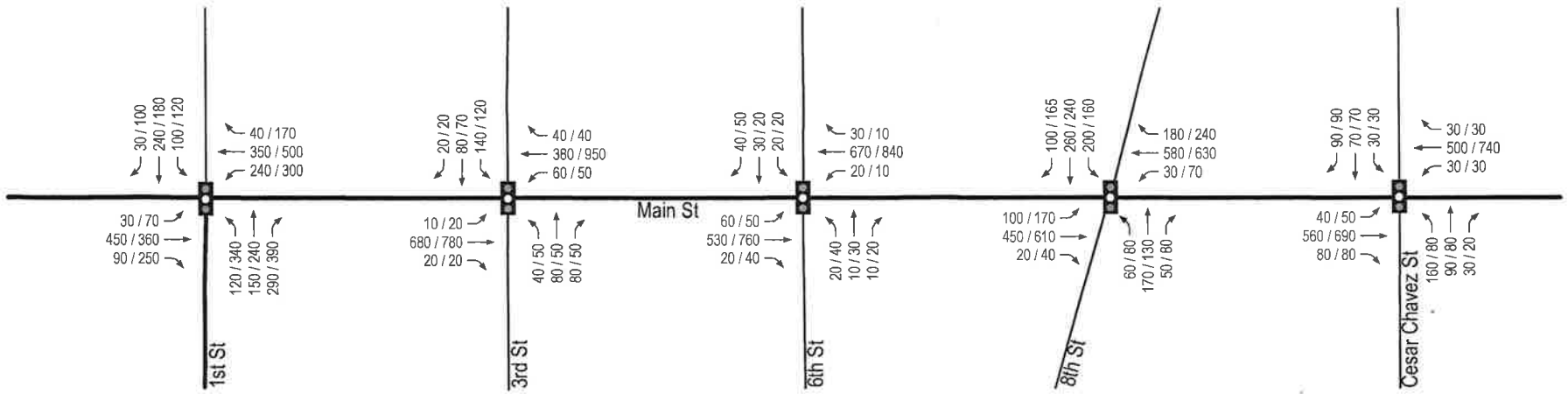

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Figure 8-1

Year 2035 without Project Traffic Volumes

BRAWLEY DOWNTOWN SPECIFIC PLAN

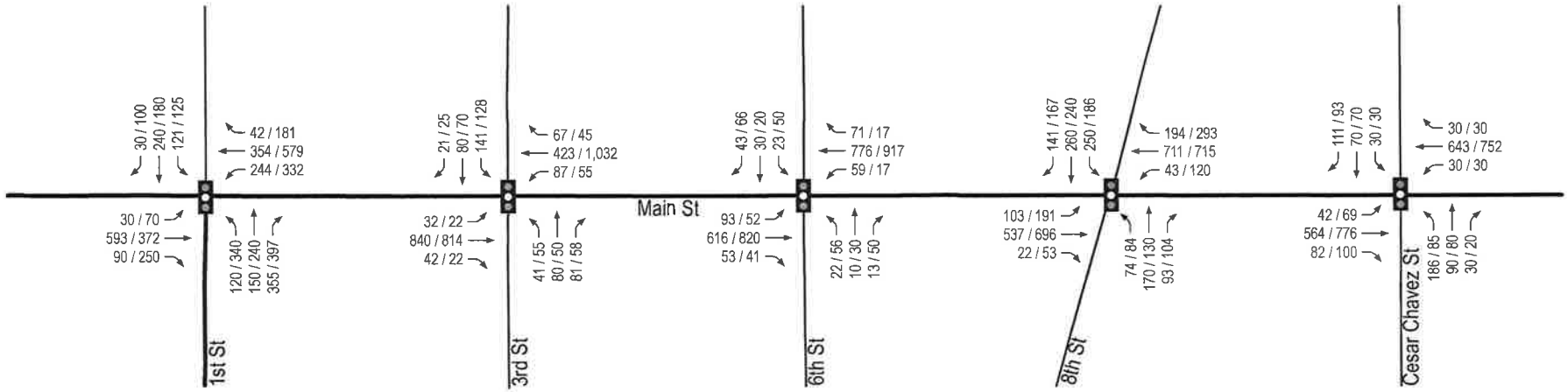

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Figure 8-2

Year 2035 + Project Traffic Volumes

BRAWLEY DOWNTOWN SPECIFIC PLAN

9.0 MOBILITY ASSESSMENT

9.1 Pedestrian Circulation

By re-routing regional traffic away from Main Street and to the future SR-111/SR-78 bypass on the outskirts of the city, the City of Brawley has a unique opportunity to repurpose its downtown Main Street into a more pedestrian-friendly scale. The *City of Brawley Downtown Specific Plan* includes a variety of changes to the character of Main Street to make it more pedestrian-friendly. The Plan proposes a major modification to the cross section of Main Street, including reduced number of lanes, diagonal parking, enhanced side walk features etc. As shown in ***Figure 9–1***, a number of enhancements along roadways (at intersections and mid-blocks) are proposed. Intersection corners are proposed to be retrofitted with bulb outs. Streetscapes will be enhanced with additional landscaping, wayfinding signage and unique gateway landmarks.

The following treatments should also be considered to improve the internal pedestrian circulation and to improve the overall onsite circulation:

- Consider 20 mph speed limits in zones with high pedestrian activity. The plan does incorporate reduced travel speeds by way of road diet as a project feature.
- Crosswalks should be clearly delineated by a high visibility color or pavement pattern; consider raised crosswalks.
- Consider additional enhancements at uncontrolled midblock pedestrian crossings such as pedestrian-activated signal controls or in-pavement flashing lights at these locations.
- Parking lots with over 150 parking spaces should consider having walkways designated with adjacent planting areas for trees and other landscaping.
- Consider enhanced ADA treatments such as audible crosswalks.
- Consider countdown timers and lead pedestrian interval signal timing for crosswalks at signalized intersections.
- Consider installing a network of wayfinding signage which provide information on the location and distance of key amenities.

9.2 Bicycle Circulation

Bicycle lanes along Main Street through downtown are planned. The bicycle lanes along Main Street will connect to existing bicycle lanes on Imperial Avenue. ***Figure 9–2*** displays the bicycle facilities planned as a part of this project. Connecting bicycle facilities are being planned on the cross-streets of Main Street, including 1st, 3rd, 5th and 8th Streets, as well as Cesar Chavez Street. A multi-use path is being planned parallel to 8th Street and the railroad tracks. Facilities are also planned on roadways parallel to Main Street, including D, E and G Streets and wayfinding signage is planned as a part of the Downtown Specific Plan.

The following bicycle circulation treatments should be considered to improve the internal bicycle circulation and to improve the overall project access:

- Provide sufficient bicycle parking (lockers and U-loops) in prominent locations within the project.
- Increase bicycle awareness with education and outreach programs.
- Enforce penalties (citation or removal) on parked vehicles obstructing bicycle lanes.
- Bicycle lanes adjacent to front-in diagonal parking should be avoided. Ensure parking bays are long enough to accommodate most vehicles and consider an 8-inch wide stripe between bicycle lane and parking area.

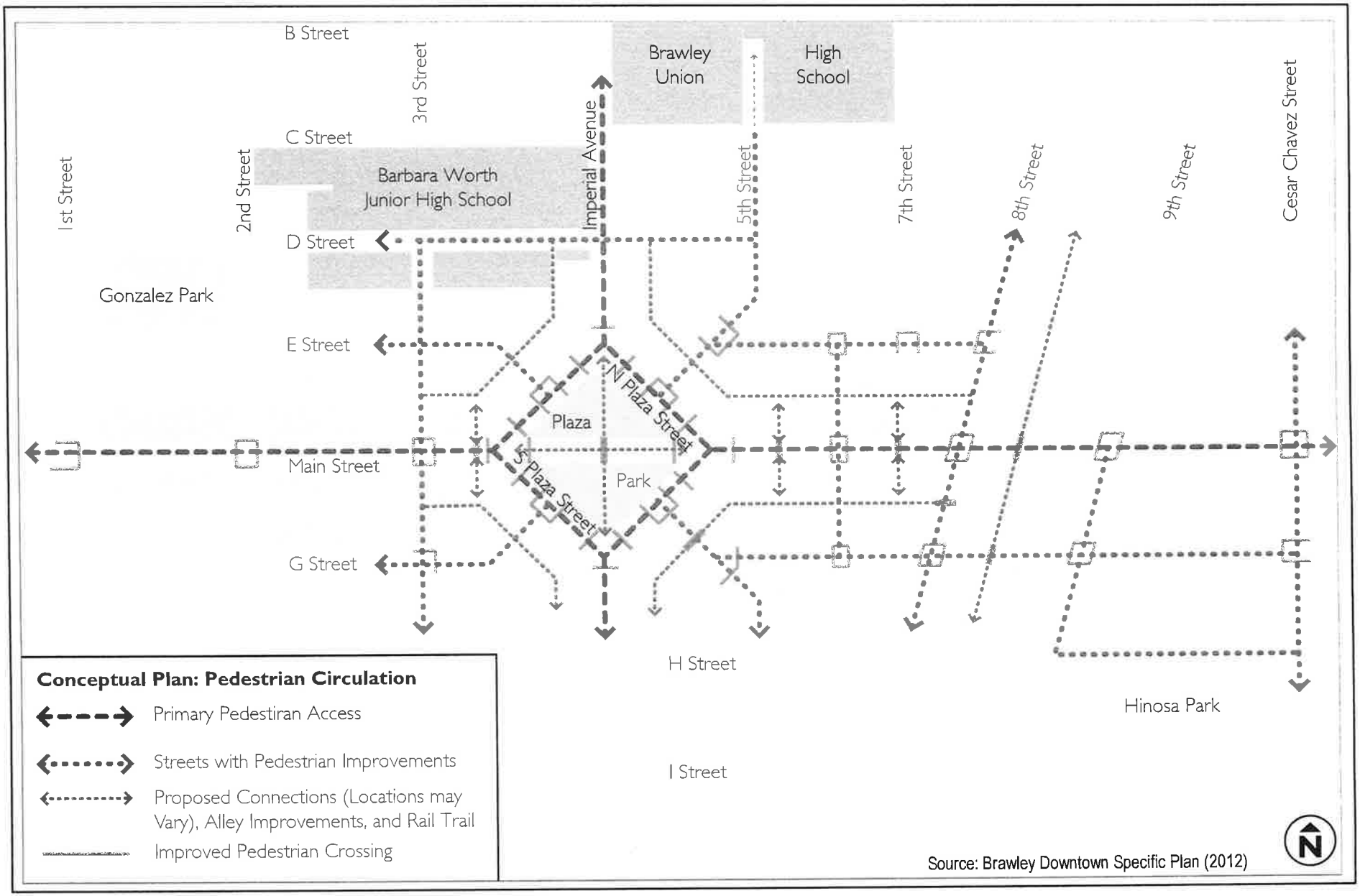
9.3 Transportation Demand Management (TDM) Improvements

The following public transit improvements should be considered:

- Pedestrian circulation improvements identified in *Section 9.1* should be considered to improve the internal pedestrian circulation and to encourage the usage of public transportation
- Bicycle circulation improvements identified in *Section 9.2* should be considered to improve the internal bicyclists circulation and to encourage the usage of public transportation
- Transportation demand management (TDM) principles such as peak hour trip reduction, staggered work hours, ride sharing, telecommunication and promoting the usage of transit should be considered and promoted.
- Intelligent Transportation System components should be utilized as appropriate.

9.4 Public Transportation

Figure 9–3 displays the conceptual plan for public transit circulation. A new bus depot for downtown Brawley is planned at Plaza Street and 5th Street. With enhanced waiting areas and several dedicated bus loading stalls, the depot is equipped to handle higher volumes of transit users. The plan indicates there will be more frequent transit service than is currently provided in the future. Currently, Brawley is only served with limited all day service on one pair of routes (50/200) between Niland and El Centro with headways varying between one and two hours. Peak hour service (one to two round trips per peak period) is offered between Brawley to and from following locations: Calexico (600/650), Bombay Beach (500/550) and Imperial Valley College (IVC EXP). All routes serving Brawley pass through downtown along Main Street.



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Date: 7/20/12

Figure 9-1

Proposed Pedestrian Connections

BRAWLEY DOWNTOWN SPECIFIC PLAN

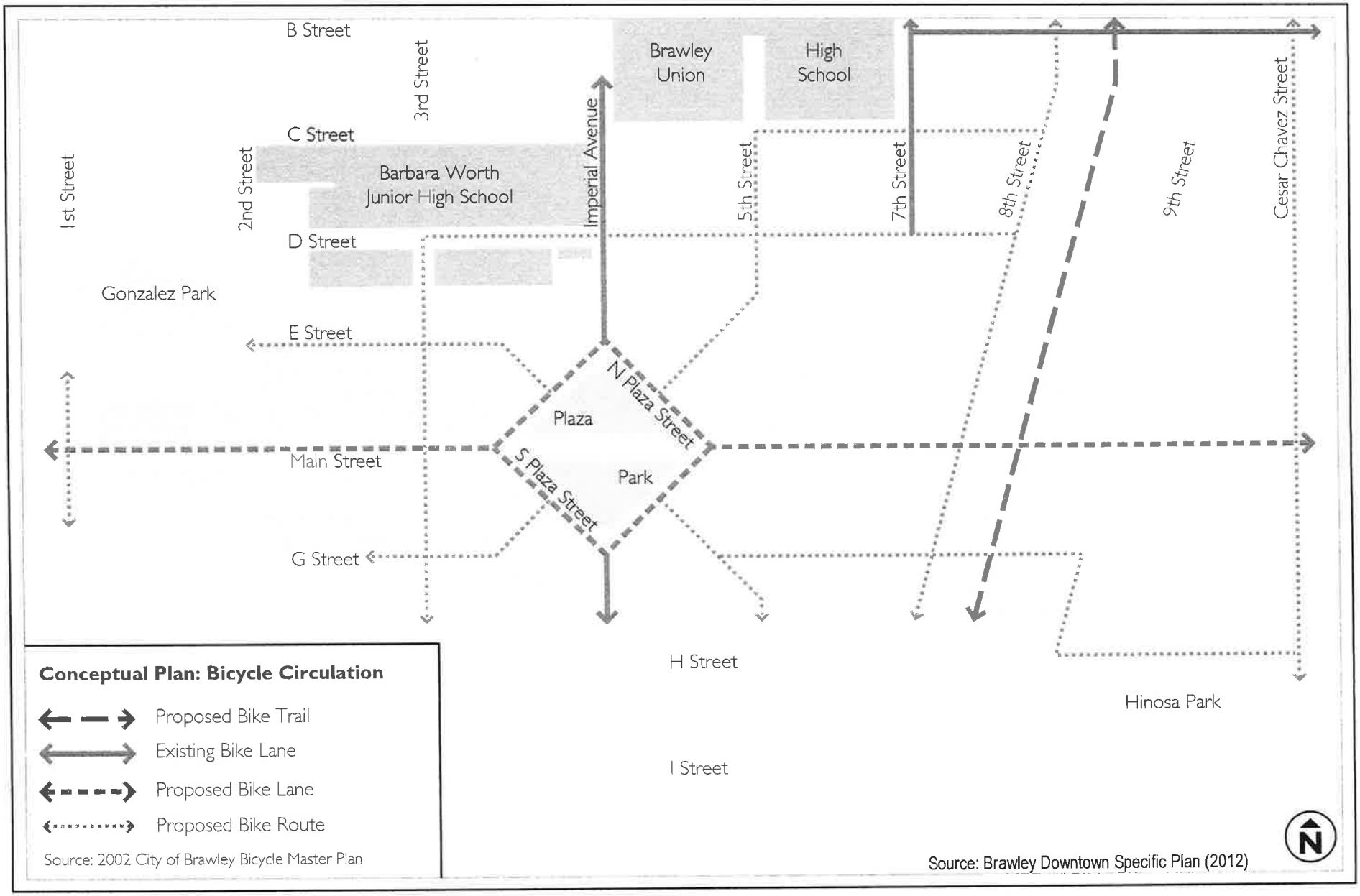

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Figure 9-2

Proposed Bicycle Connections

BRAWLEY DOWNTOWN SPECIFIC PLAN

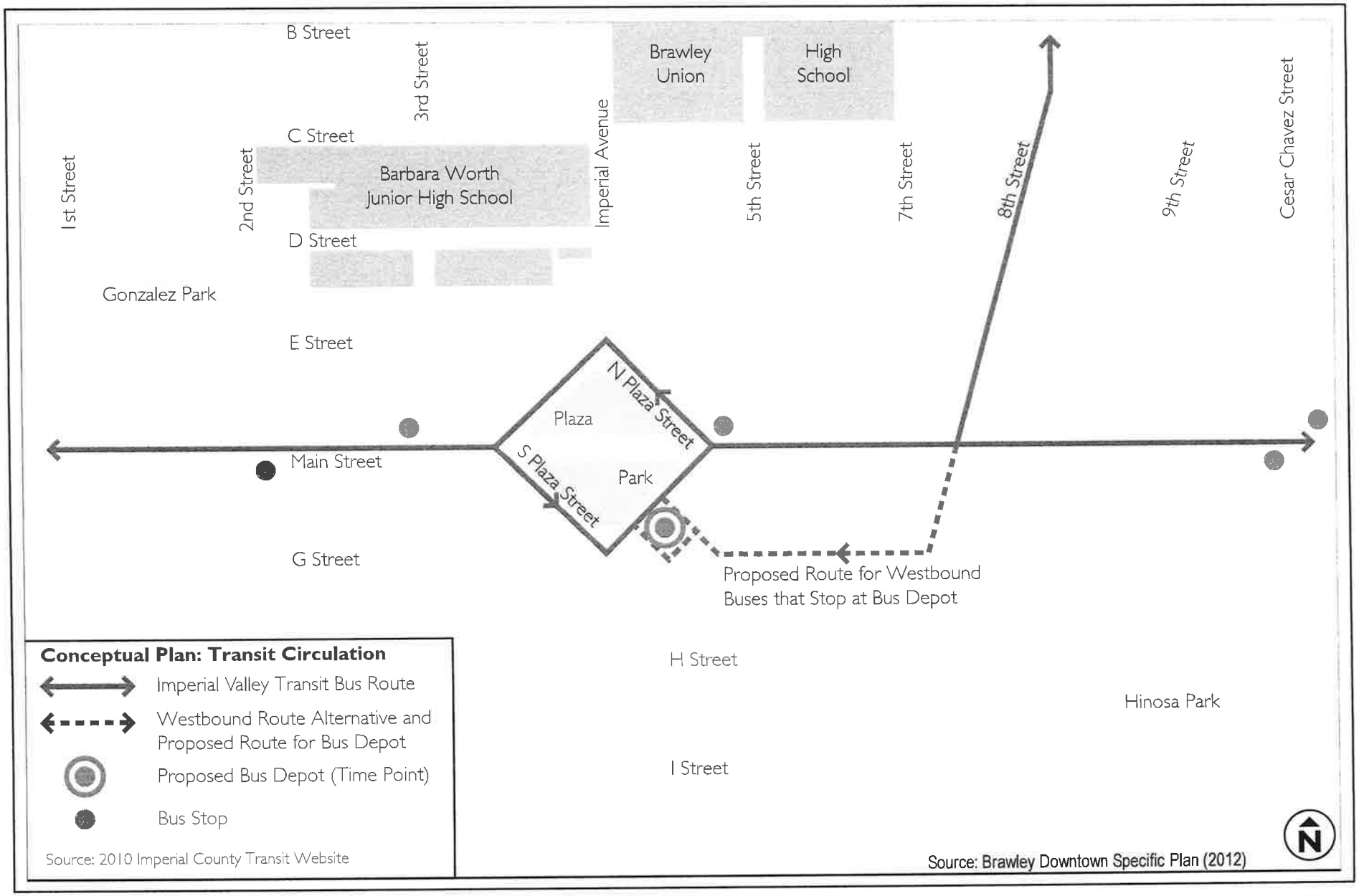

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Figure 9-3

Planned Transit Connections

BRAWLEY DOWNTOWN SPECIFIC PLAN

10.0 CONCLUSION

Based on the analysis of the intersections and the established significance criteria, no significant roadway or intersection capacity traffic impacts were determined. Several pedestrian, bicycle, and transit improvements are recommended for consideration.

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engineers

TECHNICAL APPENDICES

CITY OF BRAWLEY DOWNTOWN SPECIFIC PLAN

Brawley, California
July 30, 2012

LLG Ref. 3-12-2113

Prepared by:
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&
Charlene Sadiarin
Transportation Engineer I

Under the Supervision of:
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Principal

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APPENDIX A

EXISTING TRAFFIC COUNTS

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: C. Parish
Board #: D1-1207
Loc: First Street & Main Street

File Name : 2012-020-01-0
Site Code : 00020010
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

	First Street Southbound					Main Street Westbound					First Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
07:00	21	36	8	0	65	18	39	2	0	59	23	17	35	0	75	2	56	11	0	69	0	268	268
07:15	14	34	7	0	55	16	37	2	0	55	21	15	36	0	72	2	54	11	0	67	0	249	249
07:30	11	53	3	0	67	47	78	5	0	130	20	30	76	0	126	7	99	15	0	121	0	444	444
07:45	29	75	4	0	108	54	82	7	0	143	19	35	94	0	148	2	154	21	0	177	0	576	576
Total	75	198	22	0	295	135	236	16	0	387	83	97	241	0	421	13	363	58	0	434	0	1537	1537
08:00	21	42	7	0	70	50	74	10	0	134	27	28	53	0	108	1	89	13	0	103	0	415	415
08:15	16	22	5	0	43	40	87	5	0	132	27	23	49	0	99	7	99	18	0	124	0	398	398
08:30	19	12	3	0	34	28	68	3	0	99	34	21	37	0	92	1	83	15	0	99	0	324	324
08:45	14	19	5	0	38	27	56	4	0	87	12	12	35	0	59	2	93	9	0	104	0	288	288
Total	70	95	20	0	185	145	285	22	0	452	100	84	174	0	358	11	364	55	0	430	0	1425	1425
Grand Total	145	293	42	0	480	280	521	38	0	839	183	181	415	0	779	24	727	113	0	864	0	2962	2962
Apprch %	30.2	61.0	8.8			33.4	62.1	4.5			23.5	23.2	53.3			2.8	84.1	13.1					
Total %	4.9	9.9	1.4		16.2	9.5	17.6	1.3		28.3	6.2	6.1	14.0		26.3	0.8	24.5	3.8		29.2	0.0	100.0	

	First Street Southbound				Main Street Westbound				First Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 to 08:45 - Peak 1 of 1																	
Intersection	07:30																
Volume	77	192	19	288	191	321	27	539	93	116	272	481	17	441	67	525	1833
Percent	26.7	66.7	6.6		35.4	59.6	5.0		19.3	24.1	56.5		3.2	84.0	12.8		
07:45 Volume	29	75	4	108	54	82	7	143	19	35	94	148	2	154	21	177	576
Peak Factor																	0.796
High Int.	07:45				07:45				07:45				07:45				
Volume	29	75	4	108	54	82	7	143	19	35	94	148	2	154	21	177	
Peak Factor				0.667				0.942				0.813				0.742	

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2117 Willow Drive
El Centro, CA 92243
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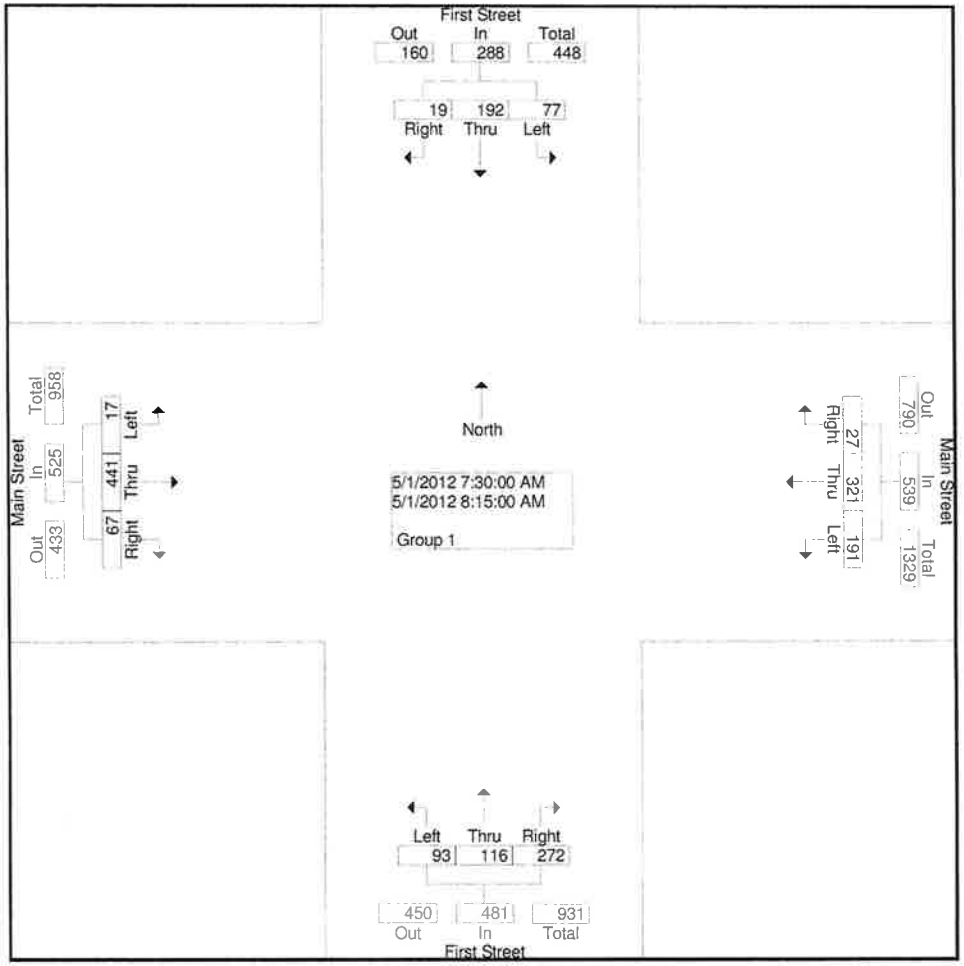
Weather : Clear & Dry
Counted By: C. Parish
Board #: D1-1207
Loc: First Street & Main Street

File Name : 2012-020-01-0
Site Code : 00020010
Start Date : 5/1/2012
Page No : 2



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Board #: D1-1207
Loc: First Street & Main Street

File Name : 2012-020-01-1
Site Code : 00020011
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

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Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
16:00	17	33	8	0	58	60	142	11	0	213	40	34	47	0	121	5	103	25	0	133	0	525	525
16:15	12	39	8	0	59	58	140	17	0	215	38	43	53	0	134	10	123	19	0	152	0	560	560
16:30	13	29	3	0	45	36	74	5	0	115	22	24	29	0	75	4	50	11	0	65	0	300	300
16:45	14	26	4	0	44	53	100	11	0	164	25	41	37	0	103	10	70	9	0	89	0	400	400
Total	56	127	23	0	206	207	456	44	0	707	125	142	166	0	433	29	346	64	0	439	0	1785	1785
17:00	10	37	7	0	54	65	134	12	0	211	40	42	54	0	136	7	93	33	0	133	0	534	534
17:15	15	34	3	0	52	53	124	6	0	183	40	54	59	0	153	9	90	29	0	128	0	516	516
17:30	8	30	4	0	42	48	100	9	0	157	33	54	43	0	130	7	90	26	0	123	0	452	452
17:45	7	38	12	0	57	36	104	6	0	146	30	43	45	0	118	6	72	16	0	94	0	415	415
Total	40	139	26	0	205	202	462	33	0	697	143	193	201	0	537	29	345	104	0	478	0	1917	1917
Grand Total	96	266	49	0	411	409	918	77	0	1404	268	335	367	0	970	58	691	168	0	917	0	3702	3702
Apprch %	23.4	64.7	11.9			29.1	65.4	5.5			27.6	34.5	37.8			6.3	75.4	18.3					
Total %	2.6	7.2	1.3		11.1	11.0	24.8	2.1		37.9	7.2	9.0	9.9		26.2	1.6	18.7	4.5		24.8	0.0	100.0	

	First Street Southbound				Main Street Westbound				First Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 16:00 to 17:45 - Peak 1 of 1																	
Intersection	17:00																
Volume	40	139	26	205	202	462	33	697	143	193	201	537	29	345	104	478	1917
Percent	19.5	67.8	12.7		29.0	66.3	4.7		26.6	35.9	37.4		6.1	72.2	21.8		
17:00 Volume	10	37	7	54	65	134	12	211	40	42	54	136	7	93	33	133	534
Peak Factor																	0.897
High Int.	17:45				17:00				17:15				17:00				
Volume	7	38	12	57	65	134	12	211	40	54	59	153	7	93	33	133	
Peak Factor				0.899				0.826				0.877				0.898	

170

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Loc: First Street & Main Street

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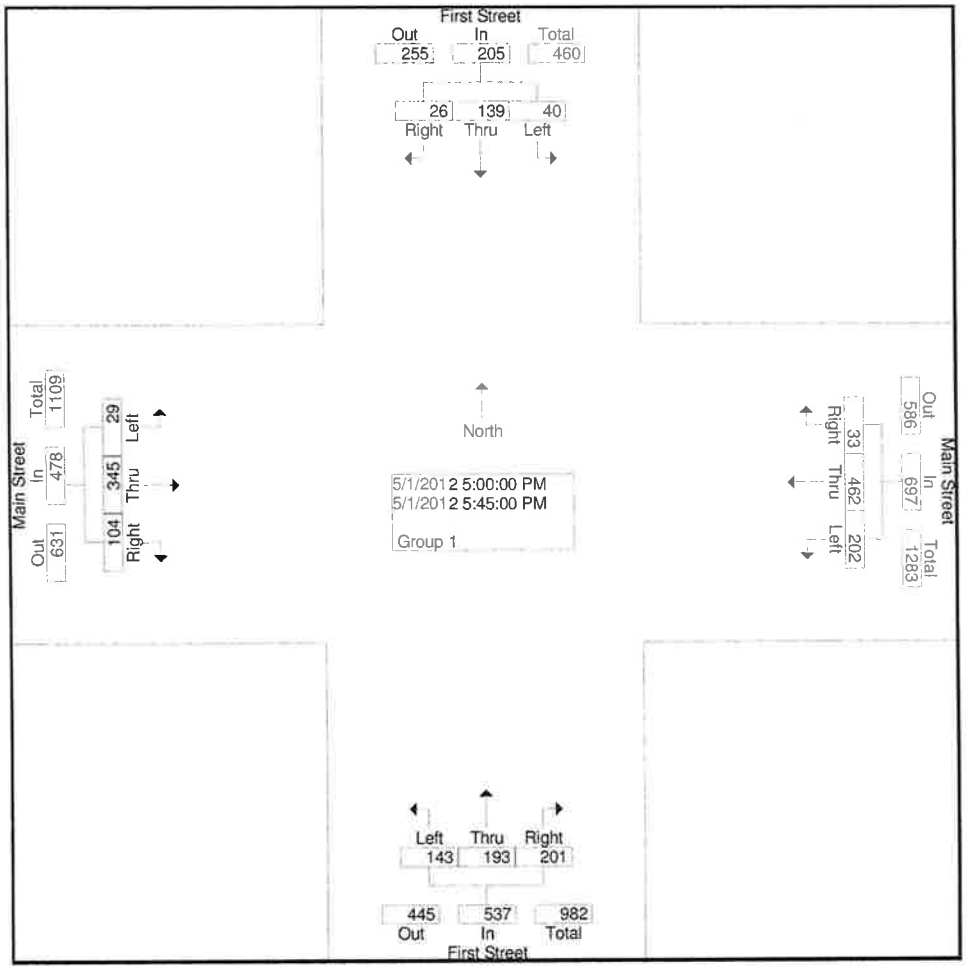
Page No : 2



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2117 Willow Drive
El Centro, CA 92243
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Weather : Clear & Dry
Counted By: C. Dell
Board #: D1-2601
Loc: Third Street & Main Street

File Name : 2012-020-02-0
Site Code : 00020020
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

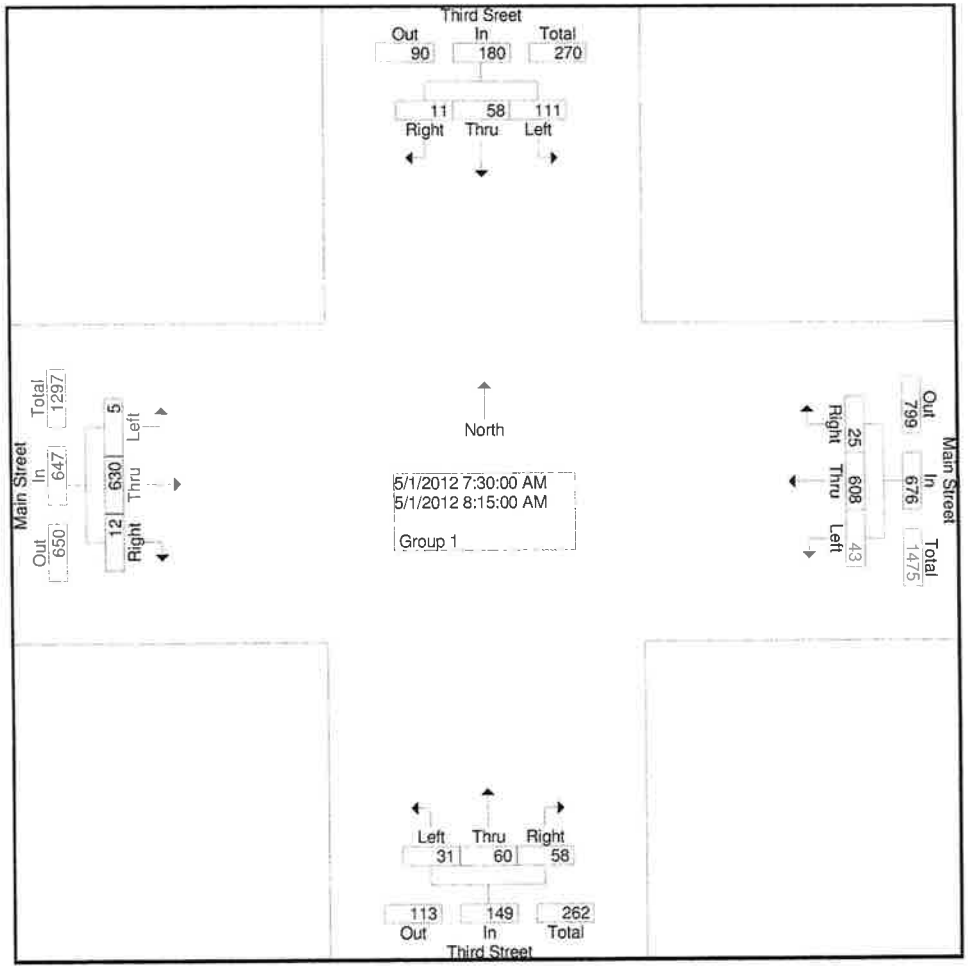
	Third Sreet Southbound					Main Street Westbound					Third Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
07:00	16	2	2	3	20	2	68	2	2	72	3	3	2	2	8	0	87	3	2	90	9	190	199
07:15	12	4	0	2	16	3	93	1	0	97	2	6	6	0	14	0	109	0	1	109	3	236	239
07:30	29	12	1	2	42	8	122	5	1	135	6	14	17	2	37	0	147	0	7	147	12	361	373
07:45	41	23	6	2	70	14	168	8	0	190	12	26	28	1	66	1	201	2	9	204	12	530	542
Total	98	41	9	9	148	27	451	16	3	494	23	49	53	5	125	1	544	5	19	550	36	1317	1353
08:00	31	13	3	0	47	10	170	6	3	186	4	7	9	0	20	1	159	3	1	163	4	416	420
08:15	10	10	1	3	21	11	148	6	2	165	9	13	4	2	26	3	123	7	4	133	11	345	356
08:30	16	5	1	1	22	6	99	4	2	109	8	8	12	1	28	0	114	1	1	115	5	274	279
08:45	7	8	0	0	15	6	78	0	3	84	7	8	7	2	22	1	104	1	0	106	5	227	232
Total	64	36	5	4	105	33	495	16	10	544	28	36	32	5	96	5	500	12	6	517	25	1262	1287
Grand Total	162	77	14	13	253	60	946	32	13	1038	51	85	85	10	221	6	1044	17	25	1067	61	2579	2640
Apprch %	64.0	30.4	5.5			5.8	91.1	3.1			23.1	38.5	38.5			0.6	97.8	1.6					
Total %	6.3	3.0	0.5		9.8	2.3	36.7	1.2		40.2	2.0	3.3	3.3		8.6	0.2	40.5	0.7		41.4	2.3	97.7	

	Third Sreet Southbound				Main Street Westbound				Third Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 to 08:45 - Peak 1 of 1																	
Intersection	07:30																
Volume	111	58	11	180	43	608	25	676	31	60	58	149	5	630	12	647	1652
Percent	61.7	32.2	6.1		6.4	89.9	3.7		20.8	40.3	38.9		0.8	97.4	1.9		
07:45 Volume	41	23	6	70	14	168	8	190	12	26	28	66	1	201	2	204	530
Peak Factor																	0.779
High Int.	07:45				07:45				07:45				07:45				
Volume	41	23	6	70	14	168	8	190	12	26	28	66	1	201	2	204	
Peak Factor				0.643				0.889				0.564				0.793	

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: C. Dell
Board #: D1-2601
Loc: Third Street & Main Street

File Name : 2012-020-02-0
Site Code : 00020020
Start Date : 5/1/2012
Page No : 2



TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: C. Dell
Board #: D1-2601
Loc: Third Street & Main Street

File Name : 2012-020-02-1
Site Code : 00020021
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

	Third Sreet Southbound					Main Street Westbound					Third Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
16:00	26	30	0	0	56	15	182	7	0	204	20	7	4	0	31	2	121	3	2	126	2	417	419
16:15	28	13	2	1	43	12	206	9	3	227	8	11	4	1	23	3	171	1	1	175	6	468	474
16:30	30	15	3	3	48	5	184	5	1	194	9	9	2	0	20	7	125	6	4	138	8	400	408
16:45	18	15	3	1	36	7	179	7	2	193	12	4	14	4	30	1	149	5	1	155	8	414	422
Total	102	73	8	5	183	39	751	28	6	818	49	31	24	5	104	13	566	15	8	594	24	1699	1723
17:00	16	11	1	4	28	15	196	5	2	216	11	10	13	1	34	1	146	3	3	150	10	428	438
17:15	18	5	2	0	25	14	151	4	1	169	7	9	6	1	22	1	128	3	1	132	3	348	351
17:30	25	11	2	0	38	7	138	6	0	151	9	16	8	1	33	1	124	2	1	127	2	349	351
17:45	24	7	3	2	34	5	127	6	1	138	6	9	7	0	22	2	110	2	0	114	3	308	311
Total	83	34	8	6	125	41	612	21	4	674	33	44	34	3	111	5	508	10	5	523	18	1433	1451
Grand Total	185	107	16	11	308	80	1363	49	10	1492	82	75	58	8	215	18	1074	25	13	1117	42	3132	3174
Apprch %	60.1	34.7	5.2			5.4	91.4	3.3			38.1	34.9	27.0			1.6	96.2	2.2					
Total %	5.9	3.4	0.5		9.8	2.6	43.5	1.6		47.6	2.6	2.4	1.9		6.9	0.6	34.3	0.8		35.7	1.3	98.7	

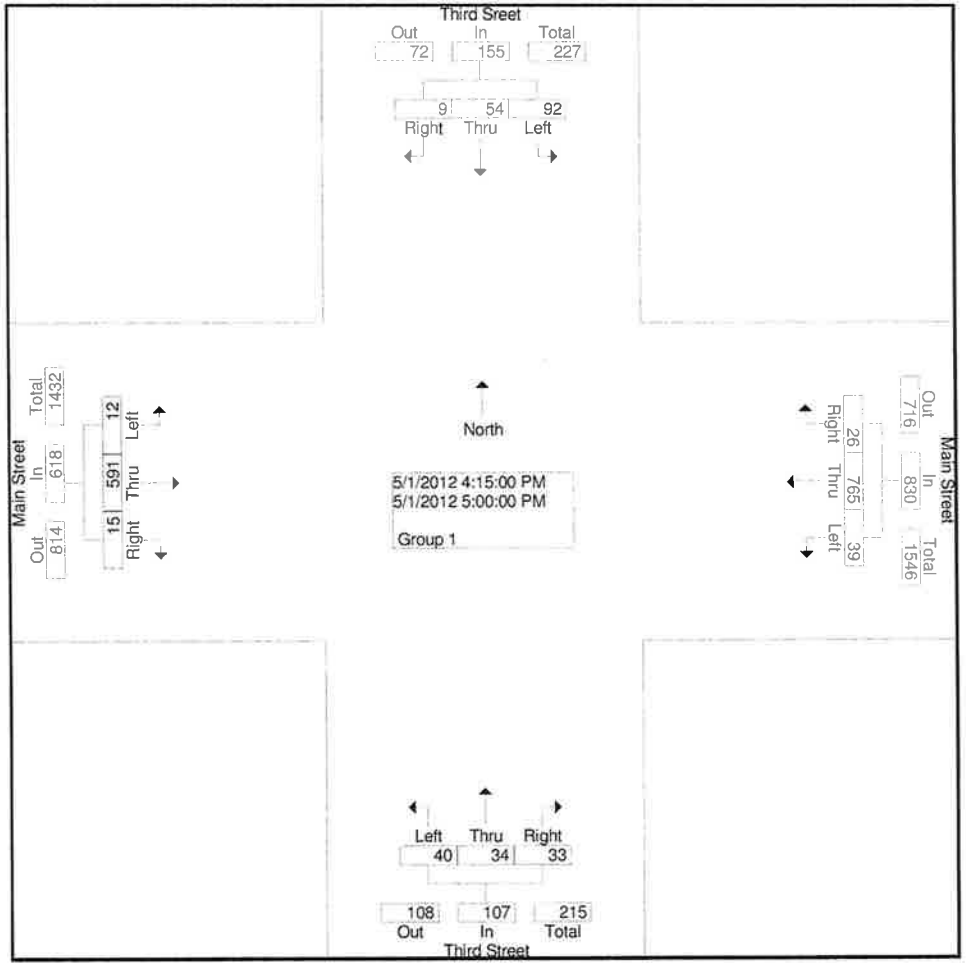
	Third Sreet Southbound				Main Street Westbound				Third Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 16:00 to 17:45 - Peak 1 of 1																	
Intersection	16:15																
Volume	92	54	9	155	39	765	26	830	40	34	33	107	12	591	15	618	1710
Percent	59.4	34.8	5.8		4.7	92.2	3.1		37.4	31.8	30.8		1.9	95.6	2.4		
16:15 Volume	28	13	2	43	12	206	9	227	8	11	4	23	3	171	1	175	468
Peak Factor																	0.913
High Int.	16:30				16:15				17:00				16:15				
Volume	30	15	3	48	12	206	9	227	11	10	13	34	3	171	1	175	
Peak Factor				0.807				0.914				0.787				0.883	

174

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: C. Dell
Board #: D1-2601
Loc: Third Street & Main Street

File Name : 2012-020-02-1
Site Code : 00020021
Start Date : 5/1/2012
Page No : 2



175

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: W. Reid
Board #: D1-2603
Loc: Sixth Sreet & Main Street

File Name : 2012-020-03-0
Site Code : 00020030
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

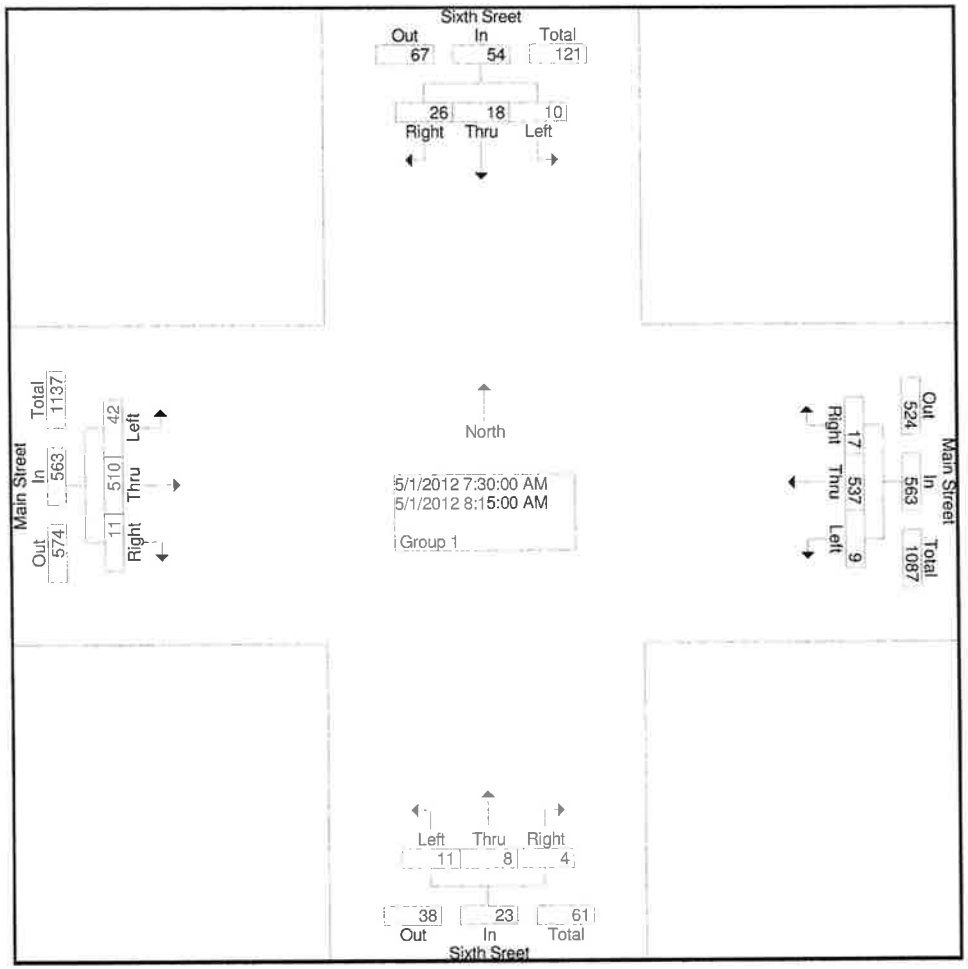
	Sixth Sreet Southbound					Main Street Westbound					Sixth Sreet Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
07:00	0	6	5	3	11	1	48	2	0	51	1	4	0	1	5	2	72	5	0	79	4	146	150
07:15	0	2	4	3	6	1	89	0	0	90	1	1	1	3	3	3	82	3	2	88	8	187	195
07:30	1	2	8	6	11	1	119	5	1	125	2	1	0	11	3	9	116	2	12	127	30	266	296
07:45	2	10	9	2	21	0	133	7	0	140	3	5	1	4	9	19	161	4	1	184	7	354	361
Total	3	20	26	14	49	3	389	14	1	406	7	11	2	19	20	33	431	14	15	478	49	953	1002
08:00	4	3	4	2	11	0	149	1	0	150	4	1	2	1	7	8	128	1	5	137	8	305	313
08:15	3	3	5	0	11	8	136	4	1	148	2	1	1	2	4	6	105	4	1	115	4	278	282
08:30	0	8	5	1	13	4	108	0	0	112	3	3	5	4	11	4	107	3	2	114	7	250	257
08:45	2	2	11	5	15	1	98	1	1	100	4	1	3	0	8	12	94	3	2	109	8	232	240
Total	9	16	25	8	50	13	491	6	2	510	13	6	11	7	30	30	434	11	10	475	27	1065	1092
Grand Total	12	36	51	22	99	16	880	20	3	916	20	17	13	26	50	63	865	25	25	953	76	2018	2094
Apprch %	12.1	36.4	51.5			1.7	96.1	2.2			40.0	34.0	26.0			6.6	90.8	2.6					
Total %	0.6	1.8	2.5		4.9	0.8	43.6	1.0		45.4	1.0	0.8	0.6		2.5	3.1	42.9	1.2		47.2	3.6	96.4	

	Sixth Sreet Southbound				Main Street Westbound				Sixth Sreet Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 to 08:45 - Peak 1 of 1																	
Intersection	07:30																
Volume	10	18	26	54	9	537	17	563	11	8	4	23	42	510	11	563	1203
Percent	18.5	33.3	48.1		1.6	95.4	3.0		47.8	34.8	17.4		7.5	90.6	2.0		
07:45 Volume	2	10	9	21	0	133	7	140	3	5	1	9	19	161	4	184	354
Peak Factor																	0.850
High Int.	07:45				08:00				07:45				07:45				
Volume	2	10	9	21	0	149	1	150	3	5	1	9	19	161	4	184	
Peak Factor				0.643				0.938				0.639				0.765	

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: W. Reid
Board #: D1-2603
Loc: Sixth Sreet & Main Street

File Name : 2012-020-03-0
Site Code : 00020030
Start Date : 5/1/2012
Page No : 2



TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: W. Reid
Board #: D1-2603
Loc: Sixth Sreet & Main Street

File Name : 2012-020-03-1
Site Code : 00020031
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

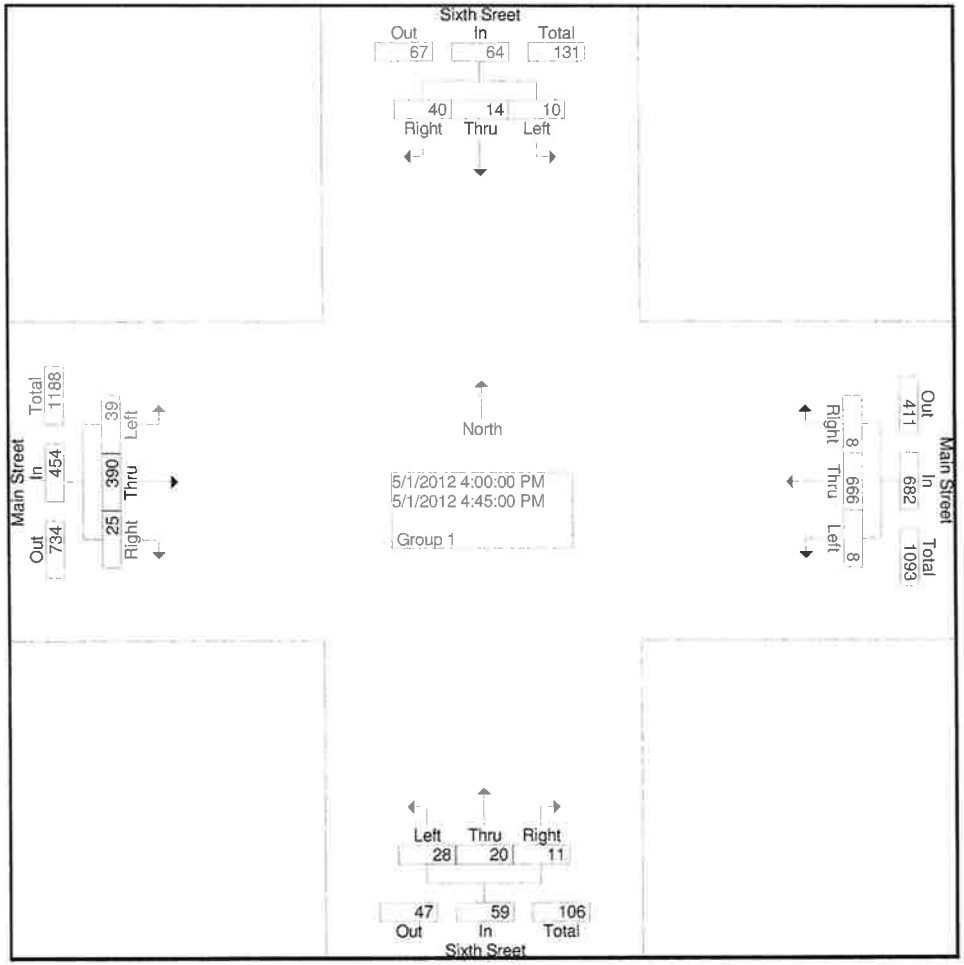
	Sixth Sreet Southbound					Main Street Westbound					Sixth Sreet Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
16:00	5	1	12	6	18	0	194	0	3	194	7	5	1	3	13	12	88	11	8	111	20	336	356
16:15	1	4	12	3	17	5	161	4	1	170	10	4	3	1	17	8	104	5	0	117	5	321	326
16:30	3	8	9	3	20	0	143	0	0	143	7	4	4	8	15	11	92	5	2	108	13	286	299
16:45	1	1	7	3	9	3	168	4	0	175	4	7	3	0	14	8	106	4	2	118	5	316	321
Total	10	14	40	15	64	8	666	8	4	682	28	20	11	12	59	39	390	25	12	454	43	1259	1302
17:00	2	4	11	6	17	0	173	0	4	173	7	4	2	1	13	5	106	5	0	116	11	319	330
17:15	3	0	15	4	18	2	139	0	5	141	5	2	1	0	8	5	102	6	0	113	9	280	289
17:30	3	4	3	2	10	0	134	2	0	136	1	0	0	1	1	5	109	2	0	116	3	263	266
17:45	2	1	8	1	11	2	111	3	1	116	3	1	1	0	5	3	66	1	0	70	2	202	204
Total	10	9	37	13	56	4	557	5	10	566	16	7	4	2	27	18	383	14	0	415	25	1064	1089
Grand Total	20	23	77	28	120	12	1223	13	14	1248	44	27	15	14	86	57	773	39	12	869	68	2323	2391
Apprch %	16.7	19.2	64.2			1.0	98.0	1.0			51.2	31.4	17.4			6.6	89.0	4.5					
Total %	0.9	1.0	3.3		5.2	0.5	52.6	0.6		53.7	1.9	1.2	0.6		3.7	2.5	33.3	1.7		37.4	2.8	97.2	

	Sixth Sreet Southbound				Main Street Westbound				Sixth Sreet Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 16:00 to 17:45 - Peak 1 of 1																	
Intersection	16:00																
Volume	10	14	40	64	8	666	8	682	28	20	11	59	39	390	25	454	1259
Percent	15.6	21.9	62.5		1.2	97.7	1.2		47.5	33.9	18.6		8.6	85.9	5.5		
16:00 Volume	5	1	12	18	0	194	0	194	7	5	1	13	12	88	11	111	336
Peak Factor																	0.937
High Int.	16:30				16:00				16:15				16:45				
Volume	3	8	9	20	0	194	0	194	10	4	3	17	8	106	4	118	
Peak Factor				0.800				0.879				0.868				0.962	

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: W. Reid
Board #: D1-2603
Loc: Sixth Sreet & Main Street

File Name : 2012-020-03-1
Site Code : 00020031
Start Date : 5/1/2012
Page No : 2



TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: M. Parish
Board #: D1-2279
Loc: Eighth Street & Main Street

File Name : 2012-020-04-0
Site Code : 00020040
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

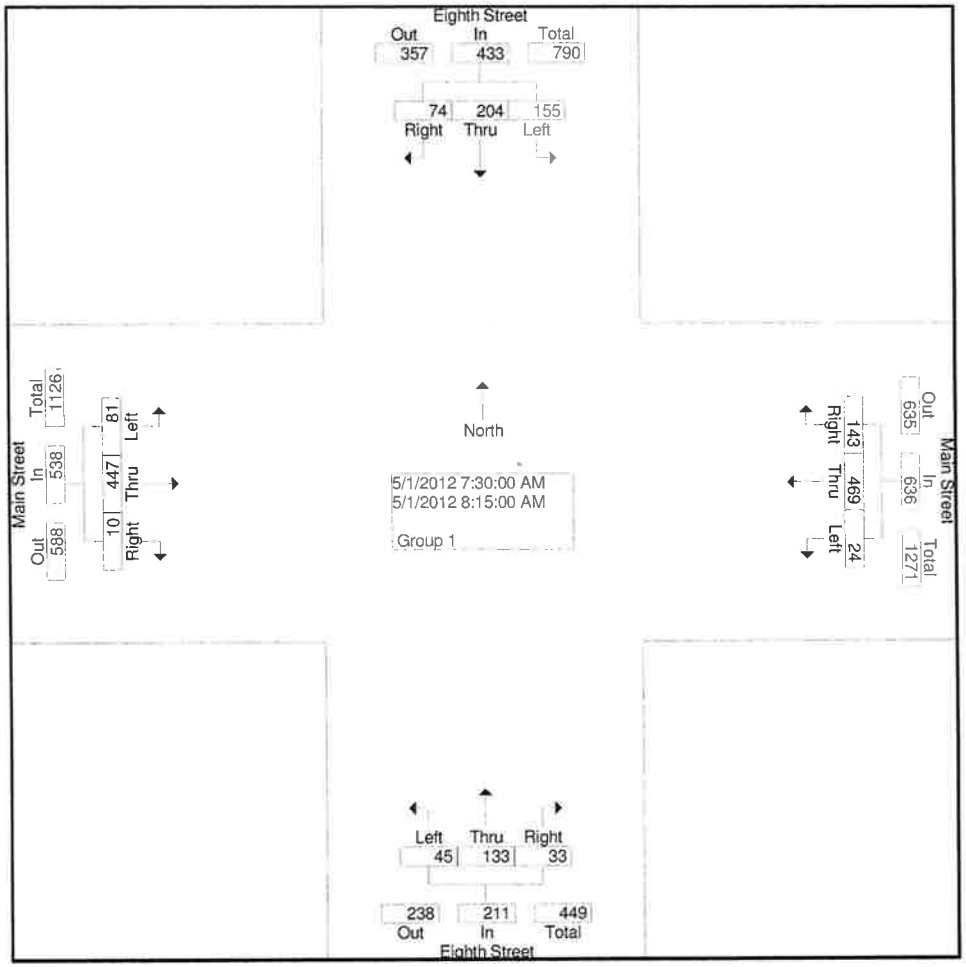
	Eighth Street Southbound					Main Street Westbound					Eighth Street Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
07:00	9	6	5	0	20	2	25	6	0	33	1	14	5	0	20	15	24	0	0	39	0	112	112
07:15	20	15	5	3	40	2	65	17	1	84	5	20	9	3	34	20	69	0	0	89	7	247	254
07:30	24	33	7	2	64	6	112	45	5	163	6	41	6	2	53	14	75	1	2	90	11	370	381
07:45	65	76	18	1	159	4	111	58	0	173	16	52	8	4	76	38	158	4	0	200	5	608	613
Total	118	130	35	6	283	14	313	126	6	453	28	127	28	9	183	87	326	5	2	418	23	1337	1360
08:00	44	70	21	3	135	5	122	23	0	150	15	28	11	2	54	19	123	1	1	143	6	482	488
08:15	22	25	28	2	75	9	124	17	0	150	8	12	8	5	28	10	91	4	3	105	10	358	368
08:30	22	21	11	3	54	10	100	6	0	116	5	27	11	4	43	8	99	4	1	111	8	324	332
08:45	33	29	11	3	73	7	85	14	1	106	5	16	10	1	31	15	91	2	0	108	5	318	323
Total	121	145	71	11	337	31	431	60	1	522	33	83	40	12	156	52	404	11	5	467	29	1482	1511
Grand Total	239	275	106	17	620	45	744	186	7	975	61	210	68	21	339	139	730	16	7	885	52	2819	2871
Apprch %	38.5	44.4	17.1			4.6	76.3	19.1			18.0	61.9	20.1			15.7	82.5	1.8					
Total %	8.5	9.8	3.8		22.0	1.6	26.4	6.6		34.6	2.2	7.4	2.4		12.0	4.9	25.9	0.6		31.4	1.8	98.2	

	Eighth Street Southbound				Main Street Westbound				Eighth Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 to 08:45 - Peak 1 of 1																	
Intersection	07:30																
Volume	155	204	74	433	24	469	143	636	45	133	33	211	81	447	10	538	1818
Percent	35.8	47.1	17.1		3.8	73.7	22.5		21.3	63.0	15.6		15.1	83.1	1.9		
07:45 Volume	65	76	18	159	4	111	58	173	16	52	8	76	38	158	4	200	608
Peak Factor																	0.748
High Int.	07:45				07:45				07:45				07:45				
Volume	65	76	18	159	4	111	58	173	16	52	8	76	38	158	4	200	
Peak Factor				0.681				0.919				0.694				0.673	

TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: M. Parish
Board #: D1-2279
Loc: Eighth Street & Main Street

File Name : 2012-020-04-0
Site Code : 00020040
Start Date : 5/1/2012
Page No : 2



TDSSW, Inc.
2117 Willow Drive
El Centro, CA 92243
(619) 390-8495 Fax (866) 768-1818

Weather : Clear & Dry
Counted By: M. Parish
Board #: D1-2279
Loc: Eighth Street & Main Street

File Name : 2012-020-04-1
Site Code : 00020041
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

	Eighth Street Southbound				Main Street Westbound				Eighth Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
16:00	33	58	22	113	5	129	29	163	16	34	5	55	12	87	9	108	439
16:15	35	52	22	109	8	158	21	187	11	21	8	40	15	96	5	116	452
16:30	22	44	19	85	5	109	26	140	9	23	13	45	13	79	5	97	367
16:45	34	34	23	91	9	118	16	143	16	20	4	40	12	88	4	104	378
Total	124	188	86	398	27	514	92	633	52	98	30	180	52	350	23	425	1636
17:00	32	27	21	80	8	128	18	154	13	31	16	60	8	95	4	107	401
17:15	28	33	18	79	9	111	19	139	10	33	10	53	15	65	9	89	360
17:30	22	33	16	71	3	117	16	136	14	25	14	53	15	94	3	112	372
17:45	20	20	5	45	4	124	11	139	10	23	12	45	9	51	2	62	291
Total	102	113	60	275	24	480	64	568	47	112	52	211	47	305	18	370	1424
Grand Total	226	301	146	673	51	994	156	1201	99	210	82	391	99	655	41	795	3060
Apprch %	33.6	44.7	21.7		4.2	82.8	13.0		25.3	53.7	21.0		12.5	82.4	5.2		
Total %	7.4	9.8	4.8	22.0	1.7	32.5	5.1	39.2	3.2	6.9	2.7	12.8	3.2	21.4	1.3	26.0	

	Eighth Street Southbound				Main Street Westbound				Eighth Street Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 16:00 to 17:45 - Peak 1 of 1																	
Intersection	16:00																
Volume	124	188	86	398	27	514	92	633	52	98	30	180	52	350	23	425	1636
Percent	31.2	47.2	21.6		4.3	81.2	14.5		28.9	54.4	16.7		12.2	82.4	5.4		
16:15 Volume	35	52	22	109	8	158	21	187	11	21	8	40	15	96	5	116	452
Peak Factor																	0.905
High Int.	16:00				16:15				16:00				16:15				
Volume	33	58	22	113	8	158	21	187	16	34	5	55	15	96	5	116	
Peak Factor				0.881				0.846				0.818				0.916	

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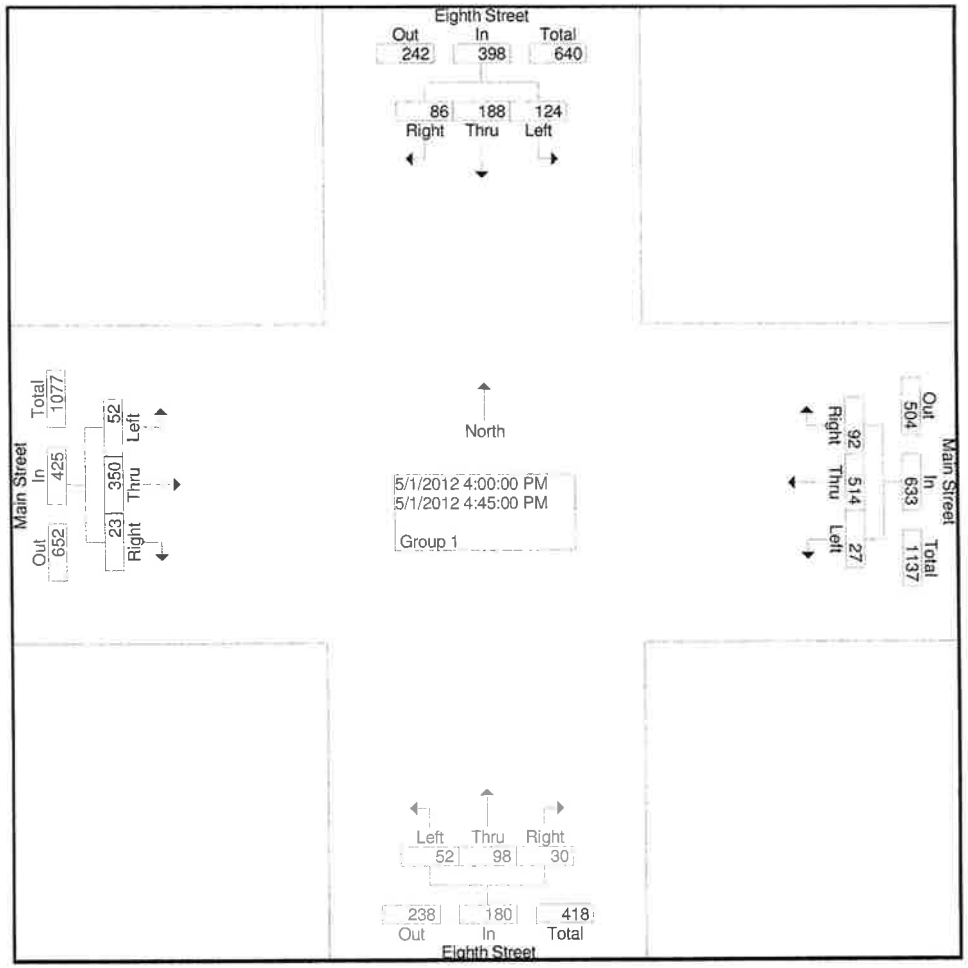
Weather : Clear & Dry
Counted By: M. Parish
Board #: D1-2279
Loc: Eighth Street & Main Street

File Name : 2012-020-04-1
Site Code : 00020041
Start Date : 5/1/2012
Page No : 2



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Weather : Clear & Dry
Counted By: C. Hust
Board #: D1-1203
Loc: Ceser Chavez & Main Street

File Name : 2012-020-05-0
Site Code : 00020050
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

	Ceser Chavez Southbound					Main Street Westbound					Ceser Chavez Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
07:00	1	8	3	2	12	1	46	3	1	50	3	1	2	0	6	2	59	3	0	64	3	132	135
07:15	6	9	8	2	23	3	75	1	0	79	12	3	3	0	18	2	76	8	0	86	2	206	208
07:30	2	8	16	1	26	2	99	6	2	107	44	15	1	1	60	3	105	15	0	123	4	316	320
07:45	9	17	26	1	52	6	104	6	2	116	38	24	8	0	70	15	184	21	1	220	4	458	462
Total	18	42	53	6	113	12	324	16	5	352	97	43	14	1	154	22	424	47	1	493	13	1112	1125
08:00	4	17	19	1	40	5	99	5	0	109	29	26	5	0	60	10	140	17	0	167	1	376	377
08:15	3	11	12	0	26	9	103	5	4	117	15	5	5	1	25	3	101	12	1	116	6	284	290
08:30	3	14	17	3	34	0	87	3	0	90	17	5	4	0	26	6	114	8	1	128	4	278	282
08:45	2	5	10	0	17	2	83	4	0	89	12	7	5	0	24	2	110	9	0	121	0	251	251
Total	12	47	58	4	117	16	372	17	4	405	73	43	19	1	135	21	465	46	2	532	11	1189	1200
Grand Total	30	89	111	10	230	28	696	33	9	757	170	86	33	2	289	43	889	93	3	1025	24	2301	2325
Apprch %	13.0	38.7	48.3			3.7	91.9	4.4			58.8	29.8	11.4			4.2	86.7	9.1					
Total %	1.3	3.9	4.8		10.0	1.2	30.2	1.4		32.9	7.4	3.7	1.4		12.6	1.9	38.6	4.0		44.5	1.0	99.0	

	Ceser Chavez Southbound				Main Street Westbound				Ceser Chavez Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 to 08:45 - Peak 1 of 1																	
Intersection	07:30																
Volume	18	53	73	144	22	405	22	449	126	70	19	215	31	530	65	626	1434
Percent	12.5	36.8	50.7		4.9	90.2	4.9		58.6	32.6	8.8		5.0	84.7	10.4		
07:45 Volume	9	17	26	52	6	104	6	116	38	24	8	70	15	184	21	220	458
Peak Factor																	0.783
High Int.	07:45				08:15				07:45				07:45				
Volume	9	17	26	52	9	103	5	117	38	24	8	70	15	184	21	220	
Peak Factor				0.692				0.959				0.768				0.711	

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Weather : Clear & Dry
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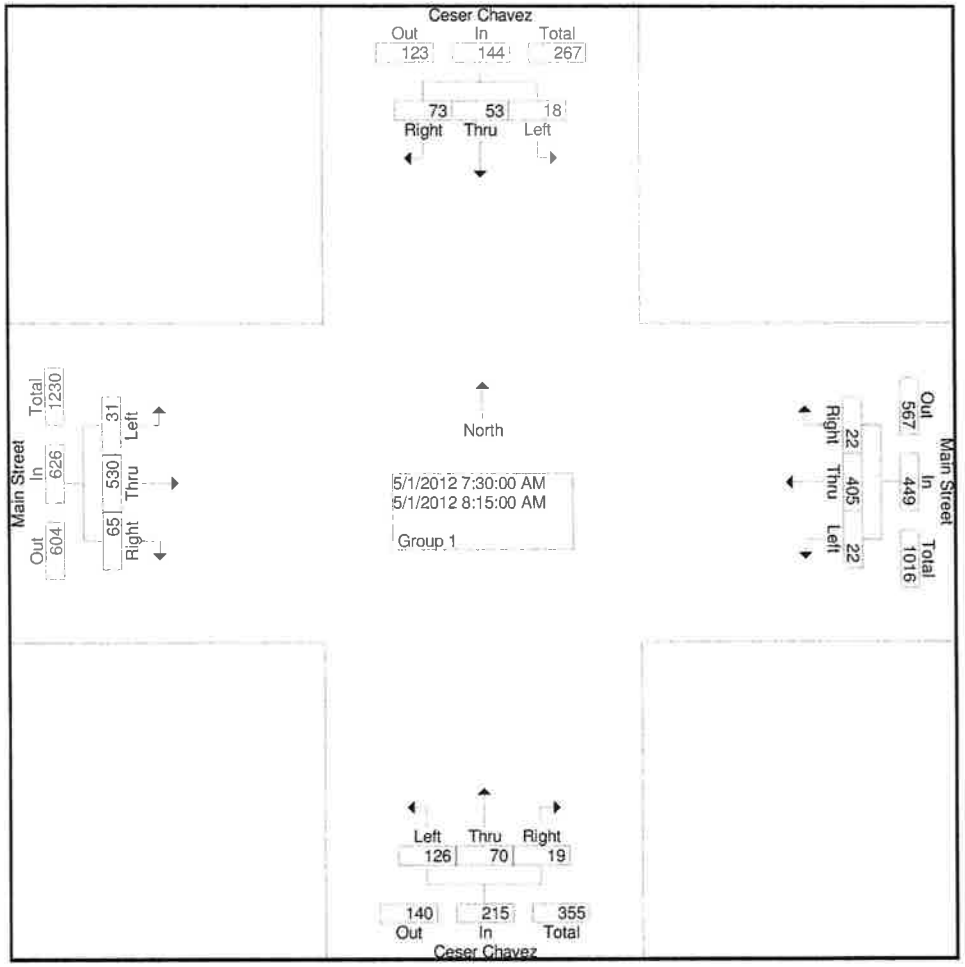
Loc: Ceser Chavez & Main Street

File Name : 2012-020-05-0
Site Code : 00020050
Start Date : 5/1/2012
Page No : 2



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Weather : Clear & Dry
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Board #: D1-1203
Loc: Ceser Chavez & Main Street

File Name : 2012-020-05-1
Site Code : 00020051
Start Date : 5/1/2012
Page No : 1

Groups Printed- Group 1

	Cesar Chavez Southbound					Main Street Westbound					Cesar Chavez Northbound					Main Street Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
16:00	9	12	27	1	48	4	142	4	2	150	21	14	2	4	37	11	93	10	1	114	8	349	357
16:15	6	10	15	2	31	1	112	4	2	117	20	13	1	2	34	9	130	15	1	154	7	336	343
16:30	5	11	20	1	36	5	104	3	1	112	16	12	4	0	32	11	84	16	0	111	2	291	293
16:45	5	14	19	1	38	2	118	8	3	128	13	24	4	1	41	11	104	13	0	128	5	335	340
Total	25	47	81	5	153	12	476	19	8	507	70	63	11	7	144	42	411	54	2	507	22	1311	1333
17:00	7	20	19	0	46	9	131	6	3	146	16	11	2	1	29	7	105	20	0	132	4	353	357
17:15	6	16	32	1	54	5	100	2	2	107	15	17	6	0	38	11	98	16	1	125	4	324	328
17:30	2	20	18	0	40	2	93	1	0	96	13	10	3	0	26	5	85	15	1	105	1	267	268
17:45	10	10	27	1	47	1	78	4	2	83	13	9	1	0	23	7	59	13	0	79	3	232	235
Total	25	66	96	2	187	17	402	13	7	432	57	47	12	1	116	30	347	64	2	441	12	1176	1188
Grand Total	50	113	177	7	340	29	878	32	15	939	127	110	23	8	260	72	758	118	4	948	34	2487	2521
Apprch %	14.7	33.2	52.1			3.1	93.5	3.4			48.8	42.3	8.8			7.6	80.0	12.4					
Total %	2.0	4.5	7.1		13.7	1.2	35.3	1.3		37.8	5.1	4.4	0.9		10.5	2.9	30.5	4.7		38.1	1.3	98.7	

	Cesar Chavez Southbound				Main Street Westbound				Cesar Chavez Northbound				Main Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 16:00 to 17:45 - Peak 1 of 1																	
Intersection	16:15																
Volume	23	55	73	151	17	465	21	503	65	60	11	136	38	423	64	525	1315
Percent	15.2	36.4	48.3		3.4	92.4	4.2		47.8	44.1	8.1		7.2	80.6	12.2		
17:00 Volume	7	20	19	46	9	131	6	146	16	11	2	29	7	105	20	132	353
Peak Factor																	0.931
High Int.	17:00				17:00				16:45				16:15				
Volume	7	20	19	46	9	131	6	146	13	24	4	41	9	130	15	154	
Peak Factor				0.821				0.861				0.829				0.852	

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File Name : 2012-020-05-1
Site Code : 00020051
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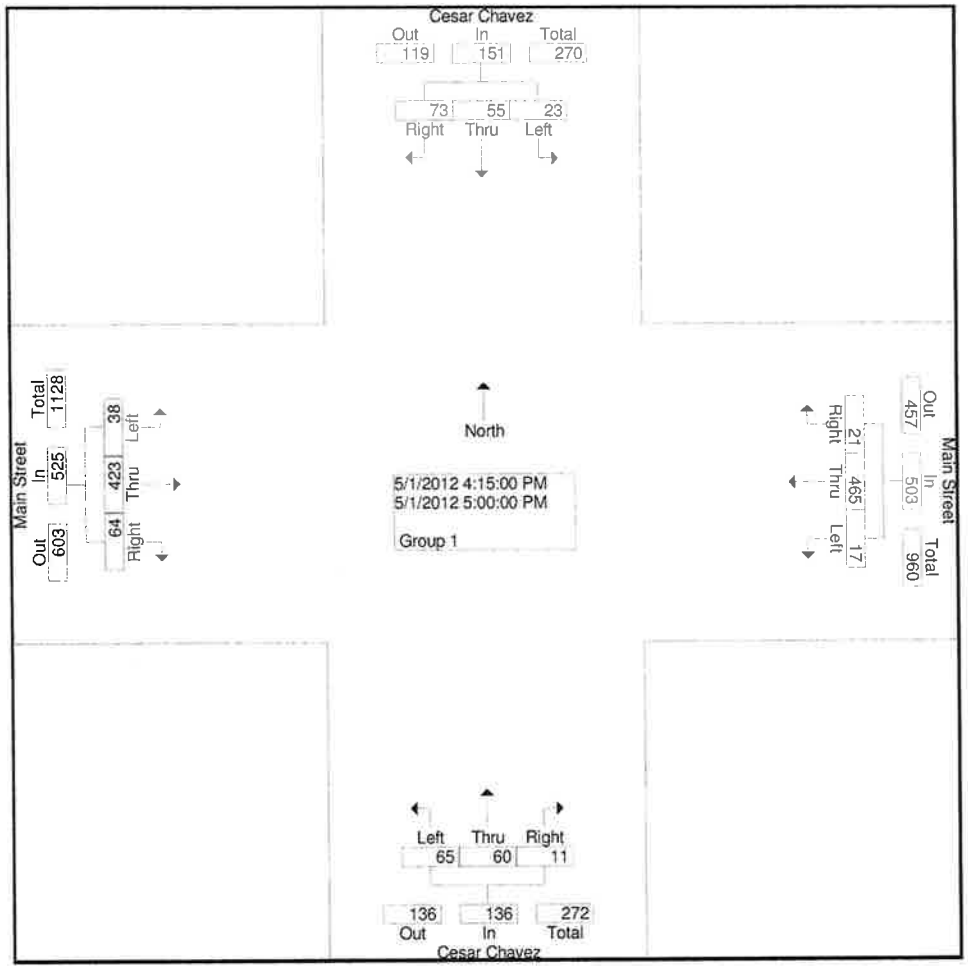
Page No : 2



APPENDIX B

EXISTING INTERSECTION ANALYSIS WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	441	67	191	321	27	93	116	272	77	192	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3498		1770	1863	1583	1770	1837	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3469		1770	3498		1770	1863	1583	1770	1837	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	479	73	208	349	29	101	126	296	84	209	21
RTOR Reduction (vph)	0	15	0	0	7	0	0	0	99	0	5	0
Lane Group Flow (vph)	18	537	0	208	371	0	101	126	197	84	225	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	0.7	19.3		7.1	25.7		4.1	12.7	19.8	4.1	12.7	
Effective Green, g (s)	0.7	19.3		7.1	25.7		4.1	12.7	19.8	4.1	12.7	
Actuated g/C Ratio	0.01	0.31		0.11	0.41		0.06	0.20	0.31	0.06	0.20	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	20	1059		199	1422		115	374	621	115	369	
v/s Ratio Prot	0.01	c0.15		c0.12	0.11		c0.06	0.07	0.04	0.05	c0.12	
v/s Ratio Perm									0.09			
v/c Ratio	0.90	0.51		1.05	0.26		0.88	0.34	0.32	0.73	0.61	
Uniform Delay, d1	31.2	18.0		28.1	12.4		29.3	21.6	16.5	29.0	23.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	153.9	0.4		76.2	0.1		47.8	0.5	0.3	21.0	3.0	
Delay (s)	185.1	18.4		104.2	12.5		77.1	22.2	16.8	50.0	26.0	
Level of Service	F	B		F	B		E	C	B	D	C	
Approach Delay (s)		23.7			45.1			29.8			32.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	630	12	43	308	25	31	60	58	111	58	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	3529		1770	3500			1747			1792	
Flt Permitted	0.95	1.00		0.95	1.00			0.90			0.78	
Satd. Flow (perm)	1770	3529		1770	3500			1583			1435	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	685	13	47	335	27	34	65	63	121	63	12
RTOR Reduction (vph)	0	2	0	0	8	0	0	44	0	0	4	0
Lane Group Flow (vph)	5	696	0	47	354	0	0	118	0	0	192	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	0.6	15.2		1.5	16.1			11.8			11.8	
Effective Green, g (s)	0.6	15.2		1.5	16.1			11.8			11.8	
Actuated g/C Ratio	0.01	0.35		0.03	0.37			0.27			0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	24	1233		61	1295			429			389	
v/s Ratio Prot	0.00	c0.20		c0.03	0.10							
v/s Ratio Perm								0.07			c0.13	
v/c Ratio	0.21	0.56		0.77	0.27			0.28			0.49	
Uniform Delay, d1	21.2	11.5		20.8	9.6			12.5			13.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	4.3	0.6		44.2	0.1			0.4			1.0	
Delay (s)	25.5	12.1		65.1	9.7			12.8			14.3	
Level of Service	C	B		E	A			B			B	
Approach Delay (s)		12.2			16.1			12.8			14.3	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	43.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	510	11	9	537	17	11	8	4	10	18	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3528		1770	3523			1780			1727	
Flt Permitted	0.42	1.00		0.44	1.00			0.82			0.93	
Satd. Flow (perm)	790	3528		819	3523			1501			1624	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	554	12	10	584	18	12	9	4	11	20	28
RTOR Reduction (vph)	0	2	0	0	4	0	0	3	0	0	22	0
Lane Group Flow (vph)	46	564	0	10	598	0	0	22	0	0	37	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.2	11.2		11.2	11.2			6.3			6.3	
Effective Green, g (s)	11.2	11.2		11.2	11.2			6.3			6.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41			0.23			0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	322	1437		334	1435			344			372	
v/s Ratio Prot		0.16			c0.17							
v/s Ratio Perm	0.06			0.01				0.01			c0.02	
v/c Ratio	0.14	0.39		0.03	0.42			0.06			0.10	
Uniform Delay, d1	5.1	5.7		4.9	5.8			8.3			8.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.2		0.0	0.2			0.1			0.1	
Delay (s)	5.3	5.9		4.9	6.0			8.4			8.5	
Level of Service	A	A		A	A			A			A	
Approach Delay (s)		5.9			6.0			8.4			8.5	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	27.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	447	10	24	469	143	45	133	33	155	204	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3415		1770	1807		1770	1789	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3527		1770	3415		1770	1807		1770	1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	486	11	26	510	155	49	145	36	168	222	80
RTOR Reduction (vph)	0	2	0	0	34	0	0	13	0	0	18	0
Lane Group Flow (vph)	88	495	0	26	631	0	49	168	0	168	284	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.7	20.3		1.7	18.3		3.2	14.6		9.2	20.6	
Effective Green, g (s)	3.7	20.3		1.7	18.3		3.2	14.6		9.2	20.6	
Actuated g/C Ratio	0.06	0.31		0.03	0.28		0.05	0.22		0.14	0.31	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	100	1088		46	950		86	401		247	560	
v/s Ratio Prot	c0.05	0.14		0.01	c0.18		0.03	0.09		c0.09	c0.16	
v/s Ratio Perm												
v/c Ratio	0.88	0.45		0.57	0.66		0.57	0.42		0.68	0.51	
Uniform Delay, d1	30.8	18.3		31.7	21.0		30.6	22.0		26.9	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.6	0.3		14.9	1.8		8.4	0.7		7.5	0.7	
Delay (s)	84.4	18.6		46.6	22.8		39.0	22.7		34.4	19.2	
Level of Service	F	B		D	C		D	C		C	B	
Approach Delay (s)		28.5			23.7			26.2			24.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	65.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	530	65	22	405	22	126	70	19	18	53	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3481		1770	3512		1770	1802		1770	1702	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3481		1770	3512		1770	1802		1770	1702	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	576	71	24	440	24	137	76	21	20	58	79
RTOR Reduction (vph)	0	8	0	0	4	0	0	11	0	0	57	0
Lane Group Flow (vph)	34	639	0	24	460	0	137	86	0	20	80	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	1.9	16.8		1.2	16.1		10.2	10.2		8.4	8.4	
Effective Green, g (s)	1.9	16.8		1.2	16.1		10.2	10.2		8.4	8.4	
Actuated g/C Ratio	0.03	0.30		0.02	0.28		0.18	0.18		0.15	0.15	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	1033		38	999		319	325		263	253	
v/s Ratio Prot	c0.02	c0.18		0.01	0.13		c0.08	0.05		0.01	c0.05	
v/s Ratio Perm												
v/c Ratio	0.58	0.62		0.63	0.46		0.43	0.26		0.08	0.32	
Uniform Delay, d1	27.0	17.1		27.5	16.7		20.6	20.0		20.8	21.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.9	1.1		29.5	0.3		0.9	0.4		0.1	0.7	
Delay (s)	39.9	18.2		57.0	17.0		21.5	20.4		20.9	22.3	
Level of Service	D	B		E	B		C	C		C	C	
Approach Delay (s)		19.3			19.0			21.1			22.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	345	104	202	462	33	143	193	201	40	139	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3416		1770	3504		1770	1863	1583	1770	1819	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3416		1770	3504		1770	1863	1583	1770	1819	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	375	113	220	502	36	155	210	218	43	151	28
RTOR Reduction (vph)	0	36	0	0	6	0	0	0	134	0	9	0
Lane Group Flow (vph)	32	452	0	220	532	0	155	210	84	43	170	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	1.7	16.5		6.1	20.9		5.1	17.9	24.0	1.7	14.5	
Effective Green, g (s)	1.7	16.5		6.1	20.9		5.1	17.9	24.0	1.7	14.5	
Actuated g/C Ratio	0.03	0.27		0.10	0.34		0.08	0.29	0.39	0.03	0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	48	906		174	1177		145	536	738	48	424	
v/s Ratio Prot	0.02	0.13		c0.12	c0.15		c0.09	c0.11	0.01	0.02	0.09	
v/s Ratio Perm									0.04			
v/c Ratio	0.67	0.50		1.26	0.45		1.07	0.39	0.11	0.90	0.40	
Uniform Delay, d1	30.0	19.3		28.1	16.2		28.6	17.8	12.3	30.2	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	29.8	0.4		156.6	0.3		94.3	0.5	0.1	90.6	0.6	
Delay (s)	59.8	19.8		184.6	16.4		122.9	18.3	12.3	120.8	20.8	
Level of Service	E	B		F	B		F	B	B	F	C	
Approach Delay (s)		22.2			65.3			43.9			40.2	
Approach LOS		C			E			D			D	

Intersection Summary

HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	62.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	591	15	39	765	26	40	34	33	92	54	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1770	3526		1770	3522			1752			1795	
Flt Permitted	0.95	1.00		0.95	1.00			0.85			0.75	
Satd. Flow (perm)	1770	3526		1770	3522			1514			1391	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	642	16	42	832	28	43	37	36	100	59	10
RTOR Reduction (vph)	0	2	0	0	3	0	0	27	0	0	5	0
Lane Group Flow (vph)	13	656	0	42	857	0	0	89	0	0	164	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	0.6	16.8		1.6	17.8			10.5			10.5	
Effective Green, g (s)	0.6	16.8		1.6	17.8			10.5			10.5	
Actuated g/C Ratio	0.01	0.38		0.04	0.41			0.24			0.24	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	24	1349		65	1428			362			333	
v/s Ratio Prot	0.01	0.19		c0.02	c0.24							
v/s Ratio Perm								0.06			c0.12	
v/c Ratio	0.54	0.49		0.65	0.60			0.24			0.49	
Uniform Delay, d1	21.5	10.3		20.9	10.3			13.5			14.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	22.7	0.3		20.0	0.7			0.4			1.2	
Delay (s)	44.2	10.6		40.8	11.0			13.9			15.6	
Level of Service	D	B		D	B			B			B	
Approach Delay (s)		11.2			12.4			13.9			15.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	390	25	8	666	8	28	20	11	10	14	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3507		1770	3533			1774			1693	
Flt Permitted	0.37	1.00		0.49	1.00			0.82			0.93	
Satd. Flow (perm)	695	3507		916	3533			1482			1595	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	424	27	9	724	9	30	22	12	11	15	43
RTOR Reduction (vph)	0	7	0	0	1	0	0	9	0	0	33	0
Lane Group Flow (vph)	42	444	0	9	732	0	0	55	0	0	36	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.5	12.5		12.5	12.5			6.6			6.6	
Effective Green, g (s)	12.5	12.5		12.5	12.5			6.6			6.6	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.23			0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	299	1506		393	1518			336			362	
v/s Ratio Prot		0.13			c0.21							
v/s Ratio Perm	0.06			0.01				c0.04			0.02	
v/c Ratio	0.14	0.29		0.02	0.48			0.16			0.10	
Uniform Delay, d1	5.0	5.4		4.8	6.0			9.0			8.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.0	0.2			0.2			0.1	
Delay (s)	5.3	5.5		4.8	6.2			9.3			9.0	
Level of Service	A	A		A	A			A			A	
Approach Delay (s)		5.5			6.2			9.3			9.0	
Approach LOS		A			A			A			A	

Intersection Summary

HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	29.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	350	23	27	514	92	52	98	30	124	188	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3506		1770	3459		1770	1797		1770	1775	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3506		1770	3459		1770	1797		1770	1775	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	380	25	29	559	100	57	107	33	135	204	93
RTOR Reduction (vph)	0	6	0	0	19	0	0	17	0	0	24	0
Lane Group Flow (vph)	57	399	0	29	640	0	57	123	0	135	273	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.0	17.4		1.3	16.7		2.5	15.4		5.4	18.3	
Effective Green, g (s)	2.0	17.4		1.3	16.7		2.5	15.4		5.4	18.3	
Actuated g/C Ratio	0.03	0.29		0.02	0.28		0.04	0.26		0.09	0.31	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	1025		39	971		74	465		161	546	
v/s Ratio Prot	c0.03	0.11		0.02	c0.19		0.03	0.07		c0.08	c0.15	
v/s Ratio Perm												
v/c Ratio	0.97	0.39		0.74	0.66		0.77	0.26		0.84	0.50	
Uniform Delay, d1	28.7	16.8		28.9	18.9		28.2	17.5		26.6	16.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	104.1	0.2		54.3	1.6		38.0	0.3		29.9	0.7	
Delay (s)	132.8	17.1		83.2	20.5		66.3	17.8		56.6	17.6	
Level of Service	F	B		F	C		E	B		E	B	
Approach Delay (s)		31.3			23.2			31.9			29.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	59.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	423	64	17	465	21	65	60	11	23	55	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3516		1770	1819		1770	1704	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3469		1770	3516		1770	1819		1770	1704	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	460	70	18	505	23	71	65	12	25	60	79
RTOR Reduction (vph)	0	11	0	0	3	0	0	8	0	0	55	0
Lane Group Flow (vph)	41	519	0	18	525	0	71	69	0	25	84	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	1.5	15.7		0.6	14.8		8.0	8.0		8.3	8.3	
Effective Green, g (s)	1.5	15.7		0.6	14.8		8.0	8.0		8.3	8.3	
Actuated g/C Ratio	0.03	0.30		0.01	0.28		0.15	0.15		0.16	0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	50	1035		20	989		269	277		279	269	
v/s Ratio Prot	c0.02	c0.15		0.01	0.15		c0.04	0.04		0.01	c0.05	
v/s Ratio Perm												
v/c Ratio	0.82	0.50		0.90	0.53		0.26	0.25		0.09	0.31	
Uniform Delay, d1	25.4	15.2		26.0	16.0		19.7	19.7		18.9	19.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	63.8	0.4		153.9	0.6		0.5	0.5		0.1	0.7	
Delay (s)	89.3	15.6		179.9	16.5		20.2	20.1		19.1	20.3	
Level of Service	F	B		F	B		C	C		B	C	
Approach Delay (s)		20.9			21.9			20.2			20.1	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX C

YEAR 2035 WITHOUT PROJECT
INTERSECTION ANALYSIS WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	450	90	240	350	40	120	150	290	100	240	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3451		1770	3485		1770	1863	1583	1770	1831	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3451		1770	3485		1770	1863	1583	1770	1831	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	489	98	261	380	43	130	163	315	109	261	33
RTOR Reduction (vph)	0	22	0	0	9	0	0	0	80	0	6	0
Lane Group Flow (vph)	33	565	0	261	414	0	130	163	235	109	288	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	1.7	15.9		9.5	23.7		4.1	15.1	24.6	4.1	15.1	
Effective Green, g (s)	1.7	15.9		9.5	23.7		4.1	15.1	24.6	4.1	15.1	
Actuated g/C Ratio	0.03	0.25		0.15	0.37		0.06	0.23	0.38	0.06	0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	47	849		260	1279		112	435	603	112	428	
v/s Ratio Prot	0.02	c0.16		c0.15	0.12		c0.07	0.09	0.06	0.06	c0.16	
v/s Ratio Perm									0.09			
v/c Ratio	0.70	0.67		1.00	0.32		1.16	0.37	0.39	0.97	0.67	
Uniform Delay, d1	31.2	22.0		27.5	14.7		30.2	20.8	14.5	30.2	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	38.0	2.0		56.8	0.1		134.7	0.5	0.4	76.1	4.1	
Delay (s)	69.2	23.9		84.3	14.8		164.9	21.3	15.0	106.2	26.6	
Level of Service	E	C		F	B		F	C	B	F	C	
Approach Delay (s)		26.3			41.4			48.7			48.2	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	40.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	64.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	680	20	60	380	40	40	80	80	140	80	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	3524		1770	3489			1745			1789	
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.73	
Satd. Flow (perm)	1770	3524		1770	3489			1595			1337	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	739	22	65	413	43	43	87	87	152	87	22
RTOR Reduction (vph)	0	3	0	0	10	0	0	46	0	0	6	0
Lane Group Flow (vph)	11	758	0	65	446	0	0	171	0	0	255	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	0.6	17.9		2.0	19.3			14.7			14.7	
Effective Green, g (s)	0.6	17.9		2.0	19.3			14.7			14.7	
Actuated g/C Ratio	0.01	0.36		0.04	0.39			0.30			0.30	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	21	1272		71	1358			473			396	
v/s Ratio Prot	0.01	c0.22		c0.04	0.13							
v/s Ratio Perm								0.11			c0.19	
v/c Ratio	0.52	0.60		0.92	0.33			0.36			0.64	
Uniform Delay, d1	24.4	12.9		23.7	10.6			13.8			15.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	21.6	0.8		77.4	0.1			0.5			3.6	
Delay (s)	45.9	13.7		101.1	10.8			14.2			18.7	
Level of Service	D	B		F	B			B			B	
Approach Delay (s)		14.1			22.0			14.2			18.7	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	49.6	Sum of lost time (s)	15.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	530	20	20	670	30	20	10	10	20	30	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3520		1770	3516			1756			1733	
Flt Permitted	0.36	1.00		0.43	1.00			0.79			0.91	
Satd. Flow (perm)	676	3520		793	3516			1425			1594	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	576	22	22	728	33	22	11	11	22	33	43
RTOR Reduction (vph)	0	4	0	0	5	0	0	9	0	0	33	0
Lane Group Flow (vph)	65	594	0	22	756	0	0	35	0	0	65	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.5	13.5		13.5	13.5			6.7			6.7	
Effective Green, g (s)	13.5	13.5		13.5	13.5			6.7			6.7	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.22			0.22	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	302	1574		354	1572			316			354	
v/s Ratio Prot		0.17			c0.22							
v/s Ratio Perm	0.10			0.03				0.02			c0.04	
v/c Ratio	0.22	0.38		0.06	0.48			0.11			0.18	
Uniform Delay, d1	5.1	5.6		4.7	5.9			9.4			9.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	0.2		0.1	0.2			0.2			0.2	
Delay (s)	5.5	5.7		4.8	6.1			9.5			9.8	
Level of Service	A	A		A	A			A			A	
Approach Delay (s)		5.7			6.1			9.5			9.8	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	30.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	450	20	30	580	180	60	170	50	200	260	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3516		1770	3413		1770	1800		1770	1785	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3516		1770	3413		1770	1800		1770	1785	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	489	22	33	630	196	65	185	54	217	283	109
RTOR Reduction (vph)	0	3	0	0	34	0	0	15	0	0	18	0
Lane Group Flow (vph)	109	508	0	33	792	0	65	224	0	217	374	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.0	25.6		1.8	22.4		3.9	18.7		9.1	23.9	
Effective Green, g (s)	5.0	25.6		1.8	22.4		3.9	18.7		9.1	23.9	
Actuated g/C Ratio	0.07	0.34		0.02	0.30		0.05	0.25		0.12	0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	118	1197		42	1017		92	448		214	567	
v/s Ratio Prot	c0.06	c0.14		0.02	c0.23		0.04	0.12		c0.12	c0.21	
v/s Ratio Perm												
v/c Ratio	0.92	0.42		0.79	0.78		0.71	0.50		1.01	0.66	
Uniform Delay, d1	34.9	19.1		36.5	24.1		35.1	24.2		33.1	22.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	59.2	0.2		62.3	3.8		21.8	0.9		65.2	2.8	
Delay (s)	94.1	19.4		98.8	28.0		56.9	25.1		98.2	24.9	
Level of Service	F	B		F	C		E	C		F	C	
Approach Delay (s)		32.5			30.7			31.9			51.0	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	560	80	30	500	30	160	90	30	30	70	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.96		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3473		1770	3509		1770	1792		1770	1705	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3473		1770	3509		1770	1792		1770	1705	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	609	87	33	543	33	174	98	33	33	76	98
RTOR Reduction (vph)	0	10	0	0	4	0	0	14	0	0	54	0
Lane Group Flow (vph)	43	686	0	33	572	0	174	117	0	33	120	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	2.1	19.8		1.3	19.0		12.2	12.2		10.0	10.0	
Effective Green, g (s)	2.1	19.8		1.3	19.0		12.2	12.2		10.0	10.0	
Actuated g/C Ratio	0.03	0.31		0.02	0.30		0.19	0.19		0.16	0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	1086		36	1053		341	345		280	269	
v/s Ratio Prot	c0.02	c0.20		0.02	0.16		c0.10	0.07		0.02	c0.07	
v/s Ratio Perm												
v/c Ratio	0.73	0.63		0.92	0.54		0.51	0.34		0.12	0.45	
Uniform Delay, d1	30.3	18.6		30.9	18.5		22.9	22.1		22.9	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.0	1.2		115.4	0.6		1.3	0.6		0.2	1.2	
Delay (s)	66.3	19.8		146.4	19.1		24.2	22.7		23.1	25.3	
Level of Service	E	B		F	B		C	C		C	C	
Approach Delay (s)		22.5			26.0			23.5			25.0	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	360	250	300	500	170	340	240	390	120	180	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3321		1770	3404		1770	1863	1583	1770	1763	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3321		1770	3404		1770	1863	1583	1770	1763	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	391	272	326	543	185	370	261	424	130	196	109
RTOR Reduction (vph)	0	113	0	0	29	0	0	0	100	0	18	0
Lane Group Flow (vph)	76	550	0	326	699	0	370	261	324	130	287	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	7.3	22.0		20.3	35.0		21.2	30.4	50.7	12.2	21.4	
Effective Green, g (s)	7.3	22.0		20.3	35.0		21.2	30.4	50.7	12.2	21.4	
Actuated g/C Ratio	0.07	0.21		0.19	0.33		0.20	0.29	0.48	0.12	0.20	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	123	696		343	1136		358	540	765	206	360	
v/s Ratio Prot	0.04	c0.17		c0.18	0.21		c0.21	0.14	0.08	0.07	c0.16	
v/s Ratio Perm									0.12			
v/c Ratio	0.62	0.79		0.95	0.62		1.03	0.48	0.42	0.63	0.80	
Uniform Delay, d1	47.4	39.3		41.8	29.3		41.9	30.8	17.6	44.2	39.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.9	6.1		35.6	1.0		56.5	0.7	0.4	6.2	11.6	
Delay (s)	56.4	45.4		77.4	30.3		98.3	31.4	18.0	50.4	51.2	
Level of Service	E	D		E	C		F	C	B	D	D	
Approach Delay (s)		46.5			44.9			49.5			51.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	47.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	104.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	780	20	50	950	40	50	50	50	120	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1770	3526		1770	3518			1750			1788	
Flt Permitted	0.95	1.00		0.95	1.00			0.85			0.78	
Satd. Flow (perm)	1770	3526		1770	3518			1507			1430	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	848	22	54	1033	43	54	54	54	130	76	22
RTOR Reduction (vph)	0	2	0	0	3	0	0	35	0	0	8	0
Lane Group Flow (vph)	22	868	0	54	1073	0	0	127	0	0	220	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	0.7	21.5		2.1	22.9			12.7			12.7	
Effective Green, g (s)	0.7	21.5		2.1	22.9			12.7			12.7	
Actuated g/C Ratio	0.01	0.42		0.04	0.45			0.25			0.25	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	24	1478		72	1570			373			354	
v/s Ratio Prot	0.01	0.25		c0.03	c0.30							
v/s Ratio Perm								0.08			c0.15	
v/c Ratio	0.92	0.59		0.75	0.68			0.34			0.62	
Uniform Delay, d1	25.3	11.5		24.3	11.3			15.9			17.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	145.1	0.6		34.9	1.2			0.5			3.4	
Delay (s)	170.3	12.1		59.3	12.6			16.4			20.6	
Level of Service	F	B		E	B			B			C	
Approach Delay (s)		16.0			14.8			16.4			20.6	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	760	40	10	840	10	40	30	20	20	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3513		1770	3533			1768			1705	
Flt Permitted	0.28	1.00		0.31	1.00			0.81			0.90	
Satd. Flow (perm)	525	3513		573	3533			1467			1551	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	826	43	11	913	11	43	33	22	22	22	54
RTOR Reduction (vph)	0	5	0	0	1	0	0	17	0	0	34	0
Lane Group Flow (vph)	54	864	0	11	923	0	0	81	0	0	64	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.3	16.3		16.3	16.3			7.4			7.4	
Effective Green, g (s)	16.3	16.3		16.3	16.3			7.4			7.4	
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.22			0.22	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	254	1699		277	1709			322			341	
v/s Ratio Prot		0.25			c0.26							
v/s Ratio Perm	0.10			0.02				c0.06			0.04	
v/c Ratio	0.21	0.51		0.04	0.54			0.25			0.19	
Uniform Delay, d1	5.0	6.0		4.6	6.1			10.9			10.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	0.2		0.1	0.4			0.4			0.3	
Delay (s)	5.4	6.2		4.6	6.4			11.3			11.0	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		6.2			6.4			11.3			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	610	40	70	630	240	80	130	80	160	240	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3507		1770	3393		1770	1756		1770	1749	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3507		1770	3393		1770	1756		1770	1749	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	663	43	76	685	261	87	141	87	174	261	179
RTOR Reduction (vph)	0	5	0	0	42	0	0	26	0	0	28	0
Lane Group Flow (vph)	185	701	0	76	904	0	87	202	0	174	412	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.1	29.4		6.1	25.4		5.4	21.6		9.1	25.3	
Effective Green, g (s)	10.1	29.4		6.1	25.4		5.4	21.6		9.1	25.3	
Actuated g/C Ratio	0.12	0.34		0.07	0.29		0.06	0.25		0.11	0.29	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	1196		125	1000		111	440		187	513	
v/s Ratio Prot	c0.10	c0.20		0.04	c0.27		0.05	0.11		c0.10	c0.24	
v/s Ratio Perm												
v/c Ratio	0.89	0.59		0.61	0.90		0.78	0.46		0.93	0.80	
Uniform Delay, d1	37.5	23.4		38.9	29.2		39.8	27.3		38.2	28.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	34.9	0.7		8.1	11.3		29.4	0.8		46.2	8.8	
Delay (s)	72.4	24.1		47.0	40.5		69.3	28.1		84.4	37.0	
Level of Service	E	C		D	D		E	C		F	D	
Approach Delay (s)		34.1			41.0			39.5			50.4	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	25.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	690	80	30	740	30	80	80	20	30	70	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3484		1770	3518		1770	1806		1770	1705	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3484		1770	3518		1770	1806		1770	1705	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	750	87	33	804	33	87	87	22	33	76	98
RTOR Reduction (vph)	0	7	0	0	3	0	0	10	0	0	55	0
Lane Group Flow (vph)	54	830	0	33	834	0	87	99	0	33	119	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	3.0	26.0		1.4	24.4		8.9	8.9		9.7	9.7	
Effective Green, g (s)	3.0	26.0		1.4	24.4		8.9	8.9		9.7	9.7	
Actuated g/C Ratio	0.05	0.39		0.02	0.37		0.13	0.13		0.15	0.15	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	1372		38	1301		239	244		260	251	
v/s Ratio Prot	c0.03	c0.24		0.02	0.24		0.05	c0.05		0.02	c0.07	
v/s Ratio Perm												
v/c Ratio	0.68	0.61		0.87	0.64		0.36	0.40		0.13	0.48	
Uniform Delay, d1	31.0	15.9		32.2	17.2		26.0	26.1		24.5	25.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.2	0.8		93.8	1.1		0.9	1.1		0.2	1.4	
Delay (s)	51.2	16.7		126.1	18.3		26.9	27.2		24.7	27.2	
Level of Service	D	B		F	B		C	C		C	C	
Approach Delay (s)		18.8			22.4			27.1			26.8	
Approach LOS		B			C			C			C	

Intersection Summary

HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX D

YEAR 2035 WITH PROJECT
INTERSECTION ANALYSIS WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	593	90	244	354	42	120	150	355	121	240	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3469		1770	3483		1770	1863	1583	1770	1831	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3469		1770	3483		1770	1863	1583	1770	1831	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	645	98	265	385	46	130	163	386	132	261	33
RTOR Reduction (vph)	0	15	0	0	10	0	0	0	41	0	6	0
Lane Group Flow (vph)	33	728	0	265	421	0	130	163	345	132	288	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	1.7	19.8		9.5	27.6		4.1	15.9	25.4	4.1	15.9	
Effective Green, g (s)	1.7	19.8		9.5	27.6		4.1	15.9	25.4	4.1	15.9	
Actuated g/C Ratio	0.02	0.29		0.14	0.40		0.06	0.23	0.37	0.06	0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	43	991		243	1387		105	427	580	105	420	
v/s Ratio Prot	0.02	c0.21		c0.15	0.12		0.07	0.09	0.08	c0.07	c0.16	
v/s Ratio Perm									0.14			
v/c Ratio	0.77	0.73		1.09	0.30		1.24	0.38	0.59	1.26	0.69	
Uniform Delay, d1	33.6	22.4		29.9	14.3		32.6	22.5	17.8	32.6	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.1	2.9		84.0	0.1		165.0	0.6	1.6	172.1	4.6	
Delay (s)	89.7	25.2		113.9	14.4		197.6	23.1	19.4	204.7	29.0	
Level of Service	F	C		F	B		F	C	B	F	C	
Approach Delay (s)		28.0			52.3			54.4			83.4	
Approach LOS		C			D			D			F	

Intersection Summary

HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	69.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	840	42	87	423	67	41	80	81	141	80	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	3514		1770	3467			1744			1789	
Flt Permitted	0.95	1.00		0.95	1.00			0.90			0.70	
Satd. Flow (perm)	1770	3514		1770	3467			1588			1283	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	913	46	95	460	73	45	87	88	153	87	23
RTOR Reduction (vph)	0	5	0	0	15	0	0	47	0	0	7	0
Lane Group Flow (vph)	35	954	0	95	518	0	0	173	0	0	256	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	1.5	21.5		4.0	24.0			15.0			15.0	
Effective Green, g (s)	1.5	21.5		4.0	24.0			15.0			15.0	
Actuated g/C Ratio	0.03	0.39		0.07	0.43			0.27			0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	48	1361		128	1499			429			347	
v/s Ratio Prot	0.02	c0.27		c0.05	0.15							
v/s Ratio Perm								0.11			c0.20	
v/c Ratio	0.73	0.70		0.74	0.35			0.40			0.74	
Uniform Delay, d1	26.8	14.3		25.2	10.5			16.6			18.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	42.5	1.7		20.5	0.1			0.6			8.0	
Delay (s)	69.3	16.0		45.7	10.6			17.2			26.5	
Level of Service	E	B		D	B			B			C	
Approach Delay (s)		17.8			16.0			17.2			26.5	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	616	53	59	776	71	22	10	13	23	30	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.96			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3497		1770	3495			1748			1730	
Flt Permitted	0.29	1.00		0.38	1.00			0.79			0.90	
Satd. Flow (perm)	536	3497		699	3495			1417			1581	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	670	58	64	843	77	24	11	14	25	33	47
RTOR Reduction (vph)	0	8	0	0	8	0	0	11	0	0	24	0
Lane Group Flow (vph)	101	720	0	64	912	0	0	38	0	0	81	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.2	17.2		17.2	17.2			7.0			7.0	
Effective Green, g (s)	17.2	17.2		17.2	17.2			7.0			7.0	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.20			0.20	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	270	1759		352	1758			290			324	
v/s Ratio Prot		0.21			c0.26							
v/s Ratio Perm	0.19			0.09				0.03			c0.05	
v/c Ratio	0.37	0.41		0.18	0.52			0.13			0.25	
Uniform Delay, d1	5.2	5.3		4.7	5.7			11.1			11.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.9	0.2		0.2	0.3			0.2			0.4	
Delay (s)	6.1	5.5		4.9	6.0			11.3			11.8	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		5.5			5.9			11.3			11.8	
Approach LOS		A			A			B			B	

Intersection Summary

HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	34.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	103	537	22	43	711	194	74	170	93	250	260	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3425		1770	1764		1770	1765	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3518		1770	3425		1770	1764		1770	1765	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	584	24	47	773	211	80	185	101	272	283	153
RTOR Reduction (vph)	0	3	0	0	26	0	0	24	0	0	23	0
Lane Group Flow (vph)	112	605	0	47	958	0	80	262	0	272	413	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.0	27.9		3.4	25.3		6.2	19.0		14.1	26.9	
Effective Green, g (s)	6.0	27.9		3.4	25.3		6.2	19.0		14.1	26.9	
Actuated g/C Ratio	0.07	0.33		0.04	0.30		0.07	0.23		0.17	0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	126	1163		71	1027		130	397		296	563	
v/s Ratio Prot	c0.06	c0.17		0.03	c0.28		0.05	0.15		c0.15	c0.23	
v/s Ratio Perm												
v/c Ratio	0.89	0.52		0.66	0.93		0.62	0.66		0.92	0.73	
Uniform Delay, d1	38.9	22.8		39.9	28.7		37.9	29.8		34.6	25.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	47.4	0.4		20.8	14.6		8.4	3.9		31.6	4.9	
Delay (s)	86.3	23.3		60.7	43.3		46.3	33.7		66.2	30.5	
Level of Service	F	C		E	D		D	C		E	C	
Approach Delay (s)		33.1			44.1			36.5			44.2	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	84.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	564	82	30	643	30	186	90	30	30	70	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.96		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3472		1770	3515		1770	1792		1770	1691	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3472		1770	3515		1770	1792		1770	1691	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	613	89	33	699	33	202	98	33	33	76	121
RTOR Reduction (vph)	0	10	0	0	3	0	0	14	0	0	67	0
Lane Group Flow (vph)	46	692	0	33	729	0	202	117	0	33	130	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	2.1	22.6		1.3	21.8		13.4	13.4		10.6	10.6	
Effective Green, g (s)	2.1	22.6		1.3	21.8		13.4	13.4		10.6	10.6	
Actuated g/C Ratio	0.03	0.33		0.02	0.32		0.20	0.20		0.16	0.16	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1156		34	1129		349	354		276	264	
v/s Ratio Prot	c0.03	0.20		0.02	c0.21		c0.11	0.07		0.02	c0.08	
v/s Ratio Perm												
v/c Ratio	0.84	0.60		0.97	0.65		0.58	0.33		0.12	0.49	
Uniform Delay, d1	32.7	18.9		33.3	19.7		24.7	23.4		24.6	26.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	64.8	0.8		141.9	1.3		2.3	0.6		0.2	1.5	
Delay (s)	97.5	19.7		175.2	21.0		27.0	24.0		24.8	27.6	
Level of Service	F	B		F	C		C	C		C	C	
Approach Delay (s)		24.5			27.7			25.8			27.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	67.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	372	250	332	579	181	340	240	397	125	180	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3326		1770	3413		1770	1863	1583	1770	1763	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3326		1770	3413		1770	1863	1583	1770	1763	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	404	272	361	629	197	370	261	432	136	196	109
RTOR Reduction (vph)	0	104	0	0	25	0	0	0	102	0	18	0
Lane Group Flow (vph)	76	572	0	361	801	0	370	261	330	136	287	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases									2			
Actuated Green, G (s)	7.3	22.5		21.3	36.5		20.2	28.9	50.2	12.7	21.4	
Effective Green, g (s)	7.3	22.5		21.3	36.5		20.2	28.9	50.2	12.7	21.4	
Actuated g/C Ratio	0.07	0.21		0.20	0.35		0.19	0.27	0.48	0.12	0.20	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	123	710		358	1182		339	511	754	213	358	
v/s Ratio Prot	0.04	c0.17		c0.20	0.23		c0.21	0.14	0.09	0.08	c0.16	
v/s Ratio Perm									0.12			
v/c Ratio	0.62	0.81		1.01	0.68		1.09	0.51	0.44	0.64	0.80	
Uniform Delay, d1	47.7	39.4		42.1	29.4		42.6	32.3	18.3	44.2	40.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.9	6.7		49.7	1.6		75.6	0.9	0.4	6.2	12.1	
Delay (s)	56.6	46.0		91.7	31.0		118.2	33.1	18.7	50.3	52.1	
Level of Service	E	D		F	C		F	C	B	D	D	
Approach Delay (s)		47.1			49.5			56.9			51.5	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM Average Control Delay	51.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	105.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	814	22	55	1032	45	55	50	58	128	70	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1770	3525		1770	3517			1744			1783	
Flt Permitted	0.95	1.00		0.95	1.00			0.83			0.75	
Satd. Flow (perm)	1770	3525		1770	3517			1480			1372	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	885	24	60	1122	49	60	54	63	139	76	27
RTOR Reduction (vph)	0	2	0	0	4	0	0	34	0	0	8	0
Lane Group Flow (vph)	24	907	0	60	1167	0	0	143	0	0	234	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	0.6	25.4		2.1	26.9			14.6			14.6	
Effective Green, g (s)	0.6	25.4		2.1	26.9			14.6			14.6	
Actuated g/C Ratio	0.01	0.44		0.04	0.47			0.26			0.26	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	19	1568		65	1657			378			351	
v/s Ratio Prot	0.01	0.26		c0.03	c0.33							
v/s Ratio Perm								0.10			c0.17	
v/c Ratio	1.26	0.58		0.92	0.70			0.38			0.67	
Uniform Delay, d1	28.2	11.8		27.4	12.0			17.5			19.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	298.7	0.5		84.3	1.4			0.6			4.7	
Delay (s)	327.0	12.4		111.7	13.3			18.1			23.8	
Level of Service	F	B		F	B			B			C	
Approach Delay (s)		20.5			18.1			18.1			23.8	
Approach LOS		C			B			B			C	

Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	820	41	17	917	17	56	30	50	50	20	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.95			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3514		1770	3530			1735			1709	
Flt Permitted	0.24	1.00		0.27	1.00			0.81			0.83	
Satd. Flow (perm)	445	3514		507	3530			1435			1440	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	891	45	18	997	18	61	33	54	54	22	72
RTOR Reduction (vph)	0	5	0	0	2	0	0	37	0	0	25	0
Lane Group Flow (vph)	57	931	0	18	1013	0	0	111	0	0	123	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.2	18.2		18.2	18.2			8.5			8.5	
Effective Green, g (s)	18.2	18.2		18.2	18.2			8.5			8.5	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.23			0.23	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	221	1743		251	1751			332			334	
v/s Ratio Prot		0.26			c0.29							
v/s Ratio Perm	0.13			0.04				0.08			c0.09	
v/c Ratio	0.26	0.53		0.07	0.58			0.33			0.37	
Uniform Delay, d1	5.3	6.3		4.8	6.5			11.7			11.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.3		0.1	0.5			0.6			0.7	
Delay (s)	6.0	6.7		5.0	7.0			12.3			12.5	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		6.6			7.0			12.3			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	36.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	696	53	120	715	293	84	130	104	186	240	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.93		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3501		1770	3385		1770	1738		1770	1748	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3501		1770	3385		1770	1738		1770	1748	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	757	58	130	777	318	91	141	113	202	261	182
RTOR Reduction (vph)	0	5	0	0	43	0	0	30	0	0	25	0
Lane Group Flow (vph)	208	810	0	130	1052	0	91	224	0	202	418	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.1	31.7		9.6	29.2		6.2	23.1		11.1	28.0	
Effective Green, g (s)	12.1	31.7		9.6	29.2		6.2	23.1		11.1	28.0	
Actuated g/C Ratio	0.13	0.33		0.10	0.31		0.06	0.24		0.12	0.29	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	224	1162		178	1035		115	420		206	513	
v/s Ratio Prot	c0.12	0.23		0.07	c0.31		0.05	0.13		c0.11	c0.24	
v/s Ratio Perm												
v/c Ratio	0.93	0.70		0.73	1.02		0.79	0.53		0.98	0.81	
Uniform Delay, d1	41.3	27.7		41.7	33.1		44.0	31.5		42.1	31.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	40.4	1.8		14.3	32.1		30.0	1.3		56.9	9.6	
Delay (s)	81.6	29.6		56.0	65.3		74.0	32.8		99.0	40.9	
Level of Service	F	C		E	E		E	C		F	D	
Approach Delay (s)		40.2			64.3			43.7			59.1	
Approach LOS		D			E			D			E	

Intersection Summary

HCM Average Control Delay	53.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	95.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	776	100	30	752	30	85	80	20	30	70	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3478		1770	3519		1770	1806		1770	1703	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3478		1770	3519		1770	1806		1770	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	843	109	33	817	33	92	87	22	33	76	101
RTOR Reduction (vph)	0	8	0	0	3	0	0	10	0	0	57	0
Lane Group Flow (vph)	75	944	0	33	847	0	92	99	0	33	120	0
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	4.0	27.9		1.5	25.4		8.9	8.9		9.8	9.8	
Effective Green, g (s)	4.0	27.9		1.5	25.4		8.9	8.9		9.8	9.8	
Actuated g/C Ratio	0.06	0.41		0.02	0.37		0.13	0.13		0.14	0.14	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	104	1425		39	1313		231	236		255	245	
v/s Ratio Prot	c0.04	c0.27		0.02	0.24		0.05	c0.05		0.02	c0.07	
v/s Ratio Perm												
v/c Ratio	0.72	0.66		0.85	0.65		0.40	0.42		0.13	0.49	
Uniform Delay, d1	31.5	16.3		33.2	17.6		27.1	27.2		25.4	26.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	21.7	1.2		84.9	1.1		1.1	1.2		0.2	1.6	
Delay (s)	53.2	17.5		118.0	18.7		28.3	28.4		25.7	28.4	
Level of Service	D	B		F	B		C	C		C	C	
Approach Delay (s)		20.1			22.4			28.4			28.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	68.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

COUNCIL AGENDA REPORT
City of Brawley

Meeting Date:	12/18/12
City Manager:	_____

FROM: Prepared by: Ruby D. Walla, Finance Director
Presented by: Ruby D. Walla, Finance Director

SUBJECT: Professional Auditing Services for the fiscal years ending June 30, 2012, 2013 and 2014.

CITY MANAGER RECOMMENDATION: Award and authorize City Manager to execute all documentation in relation to the contract for Professional Auditing Services for fiscal years ending June 30, 2012, 2013 and 2014.

DISCUSSION: In April 2012, the audited financials for the fiscal year ending June 30, 2012 were presented to the City Council. At that time, the staff and City Council agreed that the City would to pursue a Request for Proposal (RFP) for auditing services. On November 26, 2012, the City of Brawley Finance Department issued a Request for Proposal for Professional Auditing Services for FY 2012, 2013 and 2014. A mass solicitation of the RFP was initiated with a deadline for submittal on December 7, 2012. The City received a number of inquiries and requests for supplemental information. However, Christy White Associates (CWA) was the <u>only</u> respondent to the RFP. Only (1) full proposal was received by the due date of December 7, 2012. The description of services is as follows:

- City Audit and Basic Financial Statements and related reports
- GANN Limit Review Report
- Single Audit
- State Controllers' Report (City Financial Transactions)
- Transportation Development Act Fund Financial Statements
- Transportation Funds Non-Transit Financial Statements

Included in the proposal CWA has stated, "CWA accepts all terms and conditions indicated in RFP."

If the City does not accept this proposal, the City will be unable to comply with the filing requirement of OMB Circular A-133 and the Single Audit Act of 1996 which states a submittal deadline of March 31, 2012. Although, receipt of a single proposal is not ideal, further solicitation will prevent the City from meeting the submittal timeline.

Staff is requesting the approval of award to Christy White Associates and authorization of the City Manager to execute all documentation in relation to this contract.

FISCAL IMPACT: $55,250 (FY2011-12), $55,250 (FY2012-13), $56,631 (FY2013-14) **$40,000 in Finance Department Budget for FY 2012/13** – A budget adjustment in the amount of $15,250 is necessary to cover the unbudgeted cost.

ATTACHMENTS: Christy White Associates Proposal

COUNCIL AGENDA REPORT
City of Brawley

Meeting Date:	12/18/12
City Manager:	_____

PREPARED BY: Ruby D. Walla, Finance Director

PRESENTED BY: Ruby D. Walla, Finance Director

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ATTACHMENTS: Christy White Associates Proposal

RECORD OF BUILDING PERMITS
November 2012

Prepared by: Francisco Soto, Building Official

Prepared As of: 12-11-12

DATE ISSUED	PERMIT NUMBER	PERMIT DESCRIPTION	ASSESSOR PARCEL NUMBER	ADDRESS	OWNER	ISSUED TO	COST OF IMPROVEMENTS
11/01/12	24602	Electrical	047-301-006	367 Ulloa Avenue	Julia Gonzales	Owner	N/A
11/05/12	24603	Business Repair	049-023-004-000	630 Main Street	Dinesh & Dyvyav Vithalani	Tim Gaddis Construction	126,445.00
11/07/12	24604	Electrical	047-073-030	1465 Jones Street	Full Gospel Church	Stills Electric	N/A
11/08/12	24605	Business Remodel	048-062-002	113 S. Plaza	Phil Rutherford	Castillo Construction	14,000.00
11/08/12	24606	Storage Buildings	047-331-025-000	490 "D" Street	Johnny's Burritos	Trade Mark Construction, Inc.	149,000.00
11/09/12	24607	Carport	047-361-022-000	214 N. Cesar Chavez	Fernando C. Noriega	Owner	13,273.00
11/09/12	24608	Electrical	049-082-004	526 "H" Street	Jesus Lemus & Helene Orgnon	Owner	N/A
11/09/12	24609	Reroof	049-122-025	1297 "J" Street	Hector Galarte	Brothers Roofing, Co.	12,000.00
11/14/12	24610	Reroof	047-084-014	1415 River Drive	James Lofton	Action Air Conditioning	7,000.00
11/14/12	24611	New Pool	048-340-050	837 Corral Court	Frank Robles	Exquisite Pools Custom Creations	22,500.00
11/15/12	24612	Reroof	047-452-020	638 S. 17th Street	Maria Arce	Berryman Roofing	7,000.00
11/15/12	24613	Right of Way	048-041-004	147 S. El Cerrito Drive	Craig & Allison Moiola	Owner	N/A
11/15/12	24614	Plumbing	046-346-014-000	950 Jones Street	Sebastian Flores	Campesinos Unidos, Inc.	N/A
11/15/12	24615	Right of Way	N/A	Front 1102 W. Legion Road	Time Warner Cable	Pauley Construction Co.	N/A
11/15/12	24616	Plumbing	048-222-025	675 S. Imperial Avenue	Ray Wright	To Be Determined	N/A
11/15/12	24617	Right of Way	047-345-007-000	718 "E" Street	Working Alternatives, Inc.	Silver Eagle Construction	N/A
11/15/12	24618	Partition	048-376-005	1046 Ronald Street	Rick Kuhn	Trade Mark Construction, Inc.	500.00
11/16/12	24619	Business Remodel	047-351-008	861 Main Street	Thomas A. Gargiulo	Owner	8,000.00
11/21/12	24620	House Remodel	047-131-001	696 N. 7th Street	Mike McKinley	Advanced Construction Experts	3,200.00
11/21/12	24621	House Remodel	047-131-001	698 N. 7th Street	Mike McKinley	Advanced Construction Experts	3,600.00
11/27/12	24622	Electrical	049-201-015	659 Vine Street	Dora G. Mendoza	Stills Electric	N/A
11/27/12	24623	Demo Wall	047-342-018	501 Main Street	Brawley Superior Furniture	Jim Nelson Construction, Inc.	N/A
11/28/12	24624	House Remodel	048-576-005	1046 Ronald Street	Rick Kuhn	Trade Mark Construction, Inc.	5,700.00
11/29/12	24625	Patio	046-253-022	475 W. "B" Street	Ana Ventura	Owner	9,660.00
11/29/12	24626	Fire Repair	049-121-009	1330 "H" Street	Albert Garcia	R. Garcia Construction, Inc.	82,000.00
11/29/12	24627	Demo House	049-121-009	1330 1/2 "H" Street	Albert Garcia	R. Garcia Construction, Inc.	N/A
11/30/12	24628	Electrical	048-332-003-000	823 Steven Street	Rebecca Guzman	Stills Electric	N/A