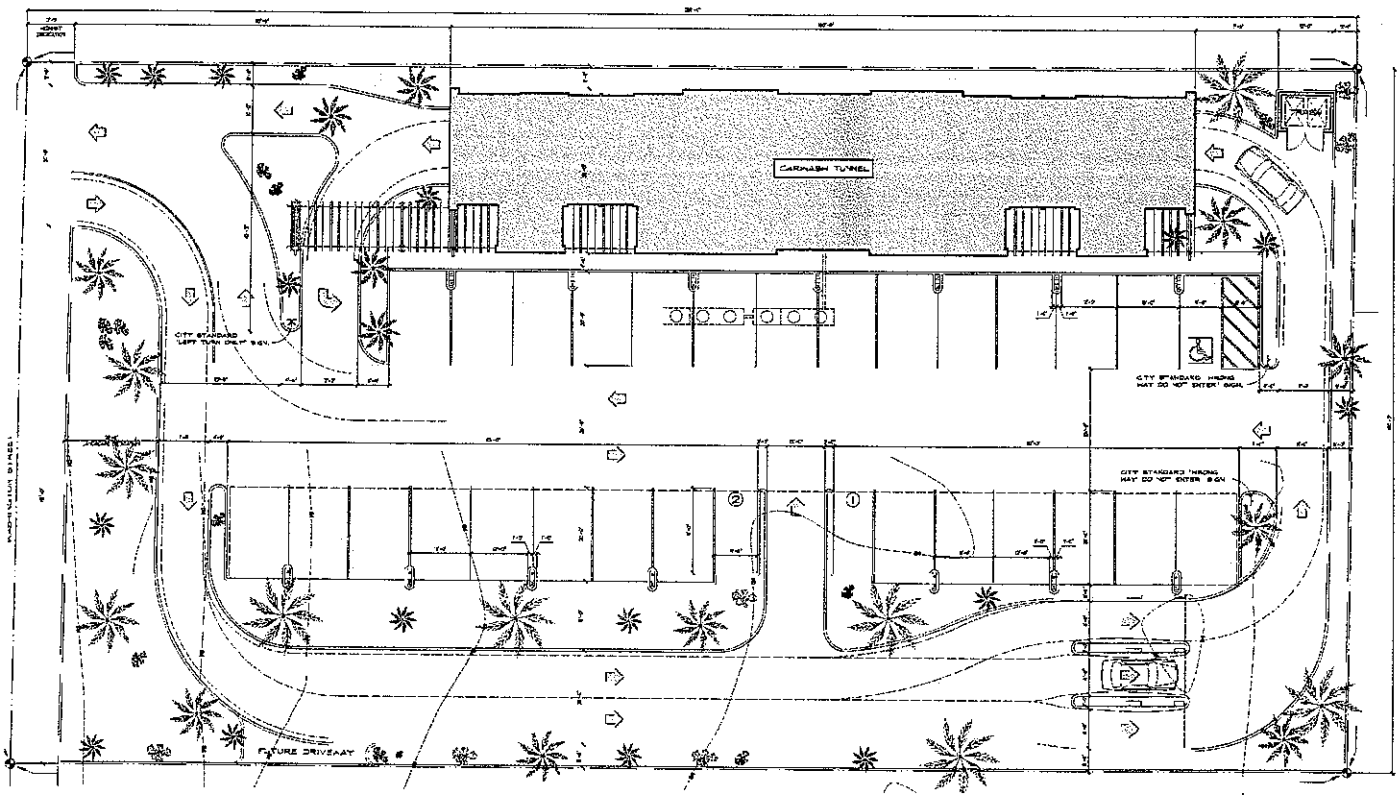
2648 DESERT EXPRESS CAR WASH
TRAFFIC IMPACT STUDY (11/3/08)
City of La Quinta, California



RK engineering group, inc.

City of La Quinta

MEMORANDUM

TO: PUBLIC WORKS DEPARTMENT

FROM: STAN SAWA, PRINCIPAL PLANNER

SUBJECT: TRAFFIC STUDY RESPONSE TO YOUR DECEMBER 1, 2008 MEMO FOR SDP 2008-905 AND CUP 2008-112 FOR LESLIE LIPPICH (CAR WASH) ON EAST SIDE OF WASHINGTON STREET, NORTH OF FRED WARING DRIVE

DATE: DECEMBER 18, 2008

The Planning Department has received from the applicant Traffic Study comments for this project in response to your last review comments of December 1. Attached are three copies of the revised Traffic Study information for your use in reviewing the project and formulating Conditions of Approval. Please let us know if this document is acceptable.

Should you have any questions, please call me at extension #7064.

Encl. (three)

CC: David Sawyer, Planning Manager

SDP 2008-905

RK engineering group, inc.

transportation planning • traffic engineering
environmental engineering • parking studies

December 9, 2008

Mr. Yuri Levitan
42185 Washington Street
Palm Desert, CA 92211

Subject: 2648 Desert Express Car Wash Traffic Impact Study (11/3/08)
Response to Comments

Dear Mr. Levitan:

RK ENGINEERING GROUP, INC. (RK) is pleased to submit this Response to Comments received from Stan Sawa, Principal Planner for the City of La Quinta, prepared by Timothy Jonasson, Public Works Director/City Engineer for the City of La Quinta in his December 1, 2008 letter in reference to the Proposed 2648 Desert Express Car Wash development.

1. *No criteria are given in section 7.2 for determining if impacts are significant in Tables 6 and 8.*

   The thresholds of significance are provided in Section 3.3, Definition of Deficiency and Significant Impact per the City of La Quinta Engineering Bulletin #06-13.

2. *Ref. Section 11.1: West side of Washington Ave. and Ave. 42 intersection is located in Palm Desert and the east side is located in unincorporated Riverside County.*
   The following text should follow the intersection description in paragraph six of Section 11.1:

   "This intersection is located in the City of Palm Desert on the west side of Washington and in unincorporated Riverside on the east. A copy of this traffic study has been sent to the City of Palm Desert for their review."

3. *Ref. Section 11.1: West side of Washington Ave. and Fred Waring Drive intersection is located in Palm Desert and the east side is located La Quinta.*
   Reference to funding improvements through payment of City of La Quinta Transportation Impact Fees should be ignored as the recommended improvements are in the City of Palm Desert. The text in paragraph seven of Section 11.1 should be modified to read:

   "This intersection is located in the City of Palm Desert on the west side of Washington and in the City of La Quinta on the east."

RK newport beach
corporate headquarters
3991 macarthur boulevard, suite 310
newport beach, california 92660
tel 949.474.0809 fax 949.474.0902
RK riverside
tel 951.354.8500 fax 951.354.8501
www.rkengineer.com

4. *Parking area still has only one outlet which is on the same side as main inlet. If all parking spots are occupied, there is no provision for a vehicle to turn around to exit.* The modified site plan is attached to this letter for your review. The following response has been prepared by Leslie Lippich of Leslie Lippich Architect and Associates:

   "It takes each vehicle approximately 3 minutes to go through the wash cycle and the tunnel holds four cars at one time. At peak usage times, 80 cars will exit the tunnel per hour. Approximately 40% of the cars do not take the 5-minute free vacuum option which means 48 cars will enter the vacuum area each hour.
   Drive to the stall + 5 minutes (max.) vacuum time and drive out of the stall takes at most 10 minutes per car which amounts to 6 cars per vacuum stall per hour. We provided 27 vacuum stalls and they would accommodate a total of 162 cars per hour which is approximately 3.5 times the capacity of the tunnel. Therefore, the potential of having each vacuum stall occupied at the same time is practically nil. However we accommodated your request to have the ability to turn around and exit the vacuum area by providing a 3-point turnaround at the end of the vacuum bays with "no parking" sign.
   I trust this analysis and minor revision of the site plan will satisfy your concern."

RK appreciates this opportunity to work with you on the 2648 Desert Express Car Wash project and looks forward to working with you again in the future. If you have any questions regarding this Response to Comments, please do not hesitate to call us at (949) 474-0809.

Sincerely,
RK ENGINEERING GROUP, INC.

Robert Kahn, P.E.
Principal

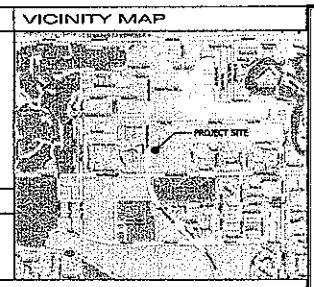
Kevin Smith, E.I.T.
Engineer III

Attachments

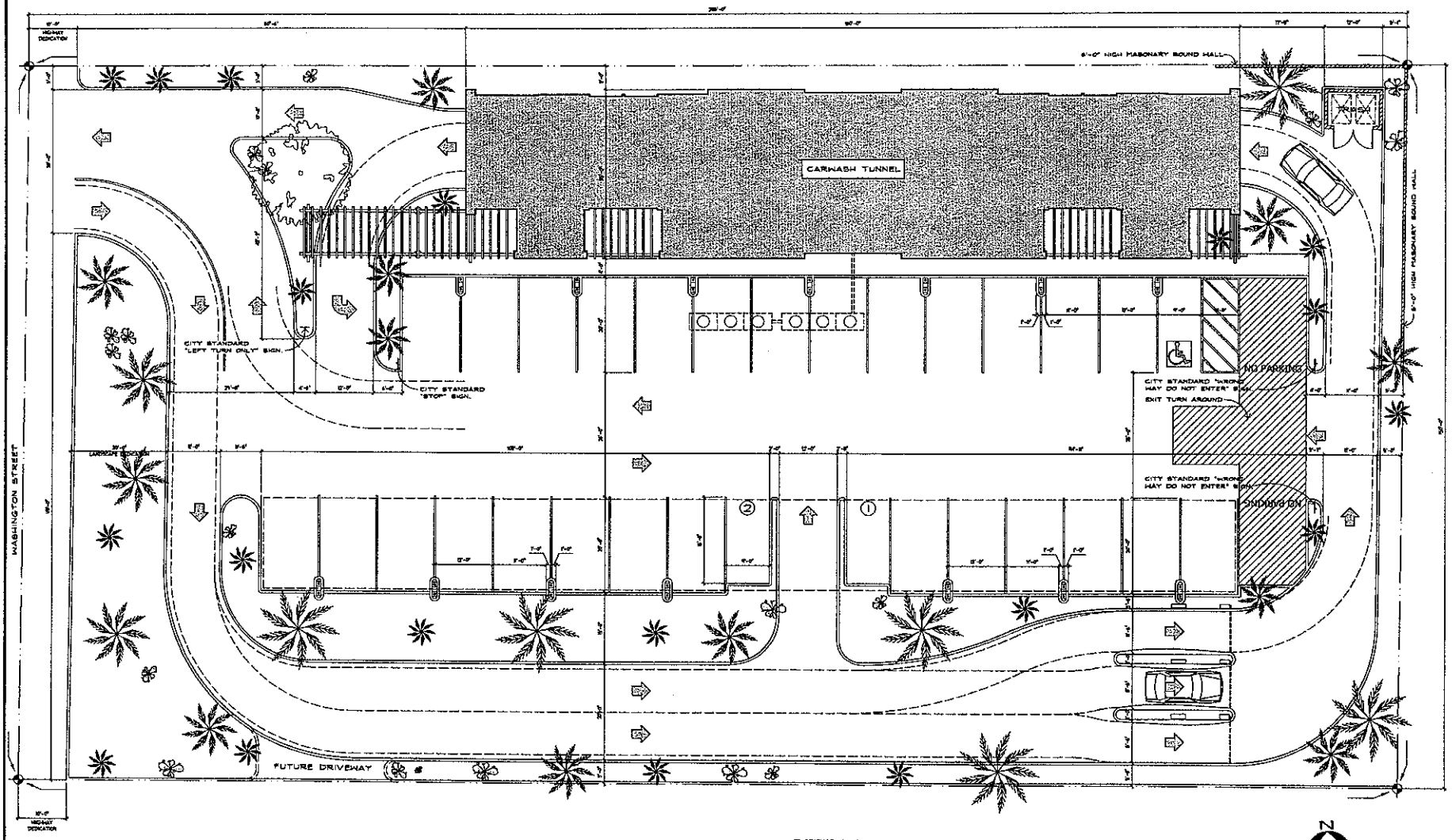
PROJECT INFORMATION

PROJECT ADDRESS:	43-632 WASHINGTON STREET LA QUINTA, CALIFORNIA 92253
AREA TABULATION:	HARDSCAPE AREA: 36,122 SQ. FT. LANDSCAPE AREA: 6,591 SQ. FT. BUILDING AREA: 1,525 SQ. FT. TOTAL AREA: 43,769 SQ. FT.
	(LOT AREA: 43,778 SQ. FT. (1.00 ACRE))
PARKING ANALYSIS:	VACUUMING CAR WASH: 2 MIN. WASH DAY = 1 SPACES TOTAL = 1 SPACES
	VACUUMING STANDARD CARS = 1 SPACES TOTAL = 1 SPACES

VICINITY MAP



SHEET INDEX



SITE PLAN

1/8" = 1'-0"

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE PLANNING DESIGN
PHONE (818) 591-2655 FAX (818) 591-2723 E-MAIL: lipparchitect@msn.com
4766 PARK GRANADA, SUITE 104 CALABASAS, CALIFORNIA 91302

DESERT EXPRESS CAR WASH
43-632 Washington St.
La Quinta, CA 922 53

SHEET TITLE: SITE PLAN
JOB NO: 2048
DATE: 12-01-06
DRAWN:
REVISIONS

SHEET NO
1

City of La Quinta

P.O. Box 1504
La Quinta, California 92247-1504
78-495 Calle Tampico
La Quinta, California 92253

Public Works Department
(760) 777-7075
FAX (760) 777-7155

SUBJECT: PCN 08160 DESERT EXPRESS CAR WASH SDP 2008-905, LEVITAN DEVELOPMENT, LLC (YURI LEVITAN) LESLIE LIPPICH ARCHITECT EA 2008-598, CUP 2008-112 (TRAFFIC IMPACT STUDY)

DATE: December 1, 2008

PUBLIC WORKS COMMENTS TO PLANNING:

1) No criteria are given in section 7.2 for determining if impacts are significant in Tables 6 & 8.
2) Ref. Section 11.1: West side of Washington Ave and Ave. 42 intersection is located in Palm Desert and the east side is located in unincorporated Riverside County.
3) Ref. Section 11.1: West side of Washington Ave and Fred Waring intersection is located in Palm Desert and the east side is located in La Quinta.
4) Parking area still has only one outlet which is on the same side as main inlet. If all parking spots are occupied, there is no provision for a vehicle to turn around to exit.

Sincerely,

Timothy R. Jonasson

Timothy R. Jonasson, P.E.
Public Works Director/ City Engineer

PROJECT INFORMATION

PROJECT ADDRESS: 43-632 WASHINGTON STREET
LA QUINTA, CALIFORNIA 92253

AREA TABULATION:

HARDSCAPE AREA:	29,772 SQ. FT.
LANDSCAPE AREA:	4,957 SQ. FT.
BUILDING AREA:	4,520 SQ. FT.
TOTAL AREA:	42,759 SQ. FT.
LOT AREA:	42,759 SQ. FT. (.981 ACRE)

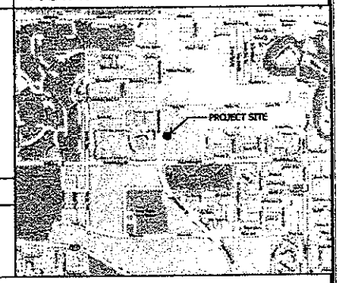
PARKING ANALYSIS:

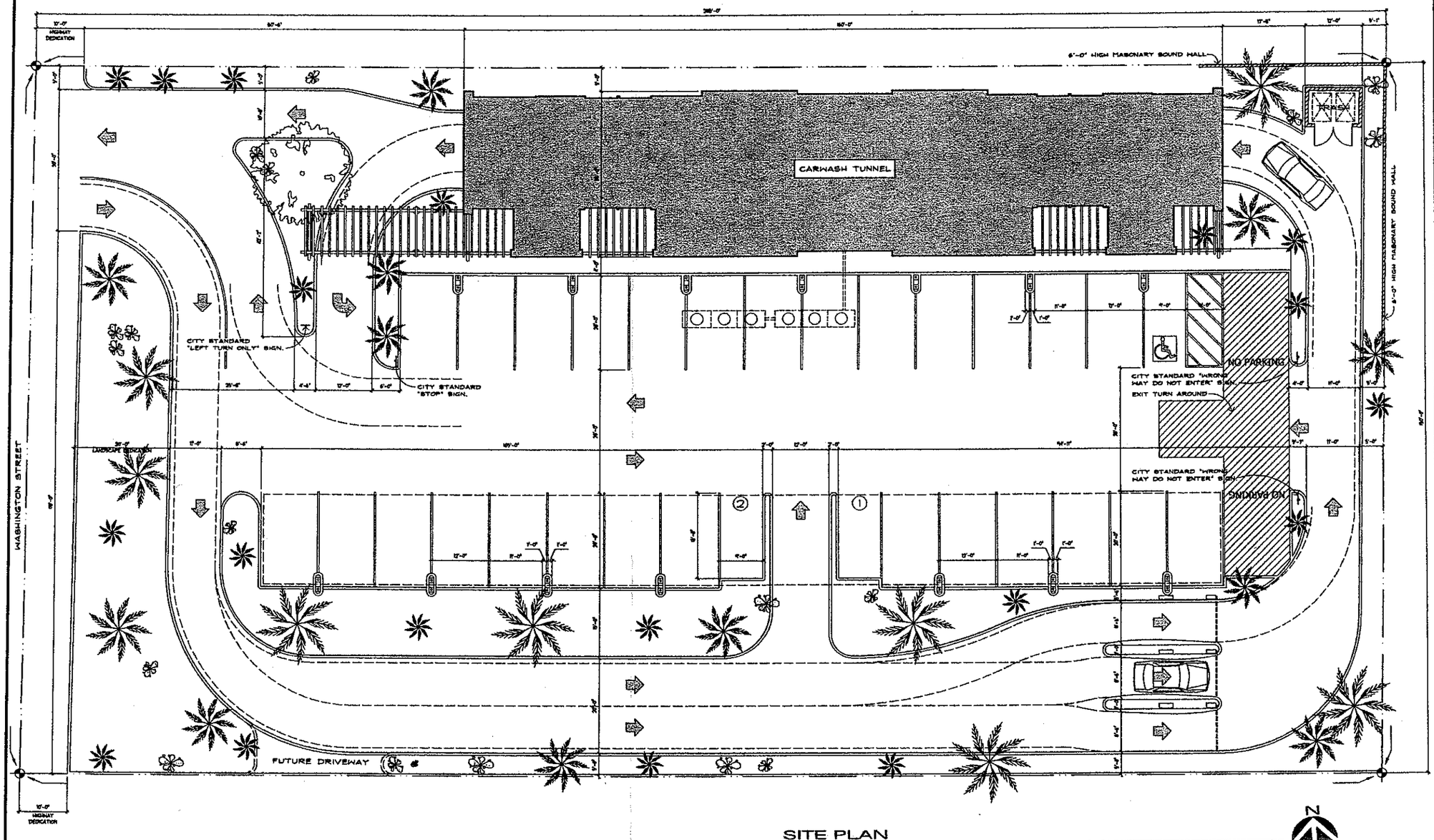
REQUIRED
CAR WASH: 2 PER WASH BAY — 4 SPACES
TOTAL — 4 SPACES

PROVIDED
STANDARD CARS — 4 SPACES
TOTAL — 4 SPACES

SHEET INDEX

VICINITY MAP





SITE PLAN

LESLIE LIPPICH ARCHITECT & ASSOCIATES
ARCHITECTURE PLANNING DESIGN
PHONE (818) 591-3655 FAX (818) 591-2729 E-MAIL: lippicharchitect@msn.com
4766 PARK GRANADA, SUITE 204 CALABASAS CALIFORNIA 91302

SHEET TITLE: SITE PLAN
JOB NO: 2648
DATE: 12-01-08
DRAWN:
REVISIONS

DESERT EXPRESS CAR WASH
43-632 Washington St.
La Quinta, CA 922 53

SHEET NO
1

City of La Quinta

MEMORANDUM

TO: PUBLIC WORKS DEPARTMENT

FROM: STAN SAWA, PRINCIPAL PLANNER Stan

SUBJECT: REVISED (#2) TRAFFIC STUDY FOR SDP 2008-905 AND CUP 2008-112 FOR LESLIE LIPPICH (CAR WASH) ON EAST SIDE OF WASHINGTON STREET, NORTH OF FRED WARING DRIVE

DATE: NOVEMBER 12, 2008

The Planning Department has received revised Traffic study #2 for this project. This is a revision of the study we sent to you on October 9, 2008. Attached is one copy of the revised Traffic Study for your use in reviewing the project and formulating Conditions of Approval. Please let us know if this document is acceptable.

Should you have any questions, please call me at extension #7064.

Encl.

Rusty Beardsley

From: Rusty Beardsley
Sent: Monday, June 02, 2008 12:12 PM
To: 'Kerin Smith'
Cc: Ed Wimmer
Subject: RE: Desert Express Car Wash

Kerin,
I have reviewed your proposed scope and have the following comments which need to be addressed prior to approval.

1 – Proposed Study Intersections should be Washington/42; Washington/Palm Royal; Washington/Fred Waring; Fred Waring/Palm Royal (assume signal is installed); and Fred Waring/Adams.

2 – Proposed Trip Distribution should have 25% going south of Fred Waring; 40% going east of Washington (on Fred Waring and Ave. 42); 15% going north of Ave. 42; and 20% going west of Washington (on Fred Waring and Ave. 42). Separate distributions should be provided showing inbound and outbound trips as they are expected to vary.

3 – Report will need to explain and justify use of mixed ITE and SANDAG trip generation rates.

4 – Report will be expected to contain an on-site circulation analysis including interaction with and impact to shared access sites.

5 – Type of on-street access expected on Washington.

6 – Report should review need for deceleration lane on Washington.

If you have any questions, please feel free to contact me by return email or call (760) 777-7056.

Rusty Beardsley, T.E.
Traffic Engineer
City of La Quinta

From: Kerin Smith [mailto:ks@rkengineer.com]
Sent: Thursday, May 29, 2008 11:05 AM
To: Rusty Beardsley
Subject: Desert Express Car Wash

Mr. Beardsley,

As discussed, I have attached the proposed scope for the Desert Express Car Wash project to be located on Washington Street. Please let me know if you have any questions or comments.

Thank you,

Kerin Smith
Transportation Engineer

RK Engineering Group, Inc.
transportation planning / traffic engineering & design

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of La Quinta requirements for traffic impact analysis of the following project. The analysis follows the City of La Quinta Engineering Bulletin #06-13 for Traffic Study Guidelines dated December 2006.

Project Name: 2648 Desert Express Car Wash
Project Address: 43-632 Washington Street, La Quinta CA 92253
Project Description: 4,924 square foot automated car wash

	Consultant	Developer
Name:	RK ENGINEERING GROUP, INC	Mr. Yuri Levitan
Address:	3991 MacArthur Boulevard, Suite 310	42185 Washington Street
	Newport Beach, CA 92660	Palm Desert, CA 92211
Telephone:	(949) 474-0809	(760) 360-4990
	Kerin Smith	

A. Trip Generation Source: (ITE 7th Edition or other) and SANDAG where ITE rates are not available.

Current GP Land Use	Community Commercial			Proposed Land Use	Automated Car Wash	
Current Zoning	Community Commercial			Proposed Zoning	Community Com.	
Current Trip Generation				Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	0	0	0	18	18	36
PM Trips	0	0	0	18	18	70

Will require Conditional use permit

Internal Trip Allowance ☐ Yes ☒ No (_____% Trip Discount)
Pass-By Trip Allowance ☐ Yes ☒ No (_____% Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 45 % S 20 % E 15 % W 20 %
(attached exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year 2009 Annual Ambient Growth Rate: 5 % (north of Hwy 111)
Phase Year(s) N/A
Other area projects to be analyzed: To be provided by City of La Quinta (0.5 mile radius) Projects that will be complete (or substantially complete) by Year 2009
Model/Forecast methodology Build up method

Conditions:

2008 Existing
Project Buildout (Year 2009) plus Cumulative development
Project Buildout (Year 2009) plus Cumulatives plus Project

D. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. Washington Street at Country Club Drive
2. Washington Street at 42nd Avenue
3. Washington Street at Fred Waring Drive
4. Washington Street at Highway 111
5. Washington St at Project Driveway
6. _____
7. _____
8. _____
9. _____
10. _____

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

F. Other Jurisdictional Impacts:

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? [X] Yes [ ] No

If so, name of City Jurisdiction: _____

G. Site Plan (please attach reduced copy)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

_____

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

Date of counts New counts to be provided and 25% seasonal adjustment to be applied.

Recommended by:

Kim G. Lee 5/29/08

Consultant's Representative Date

Scoping Agreement Submitted on 5/29/08

Revised on _____

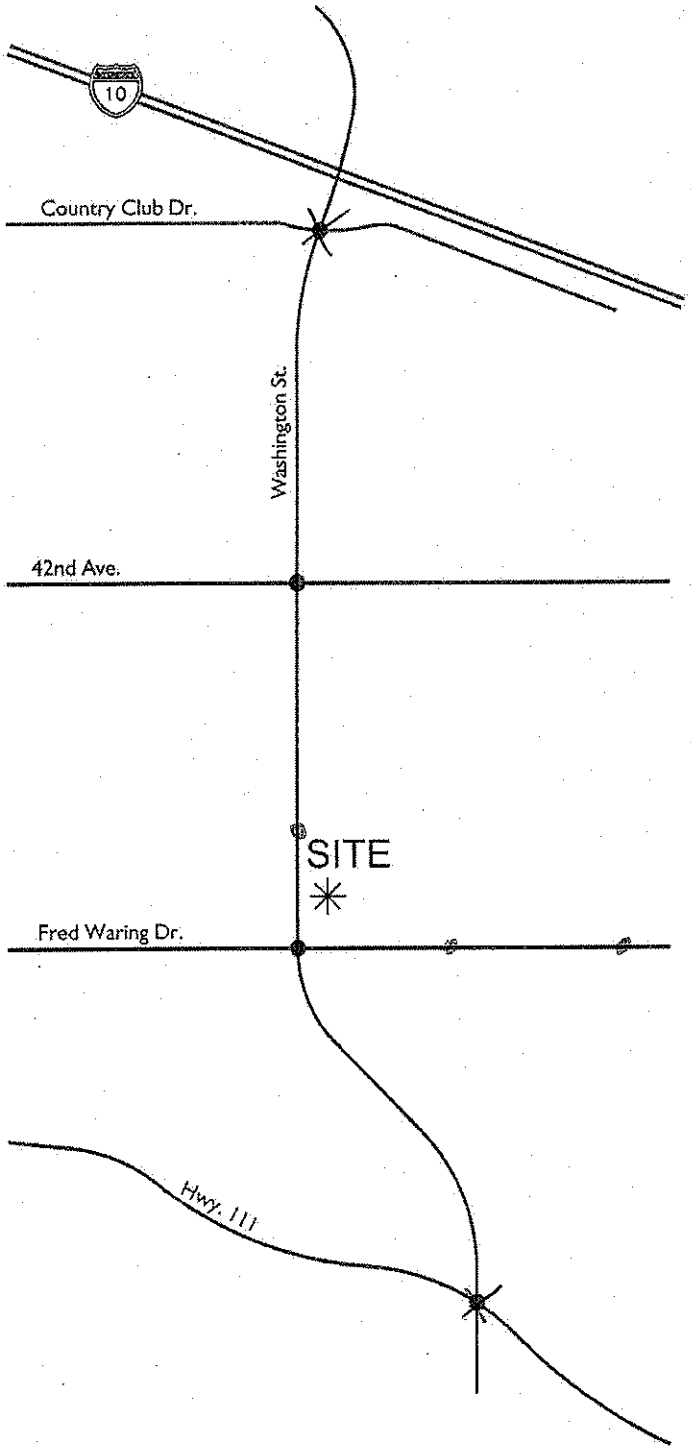
Approved Scoping Agreement:

_____ _____

City of La Quinta Staff Date

Exhibit A

Location Map



Legend:

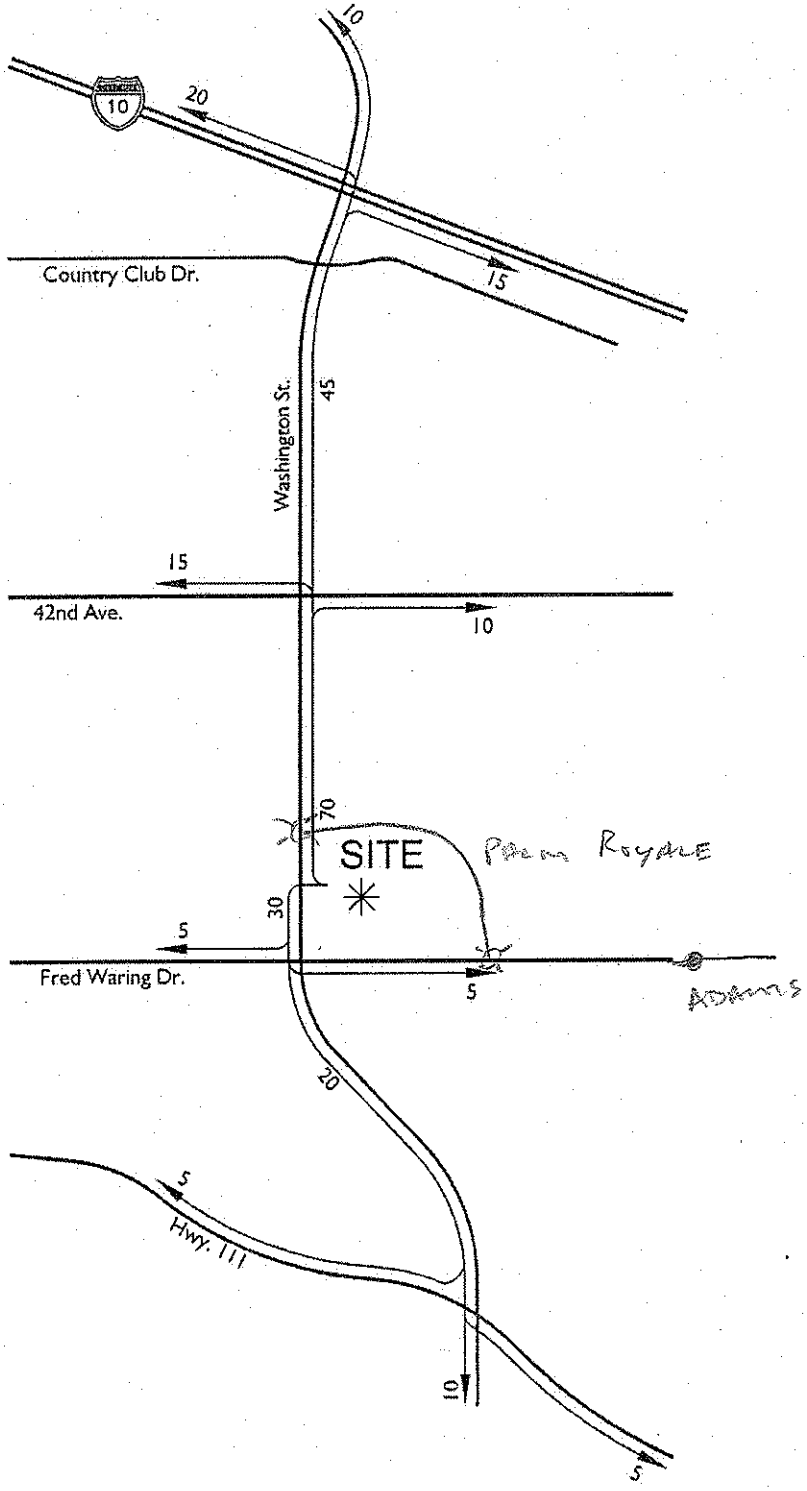
● = Study Area Intersection

N

RK engineering group, inc.

Exhibit C

Project Trip Distribution



Legend:

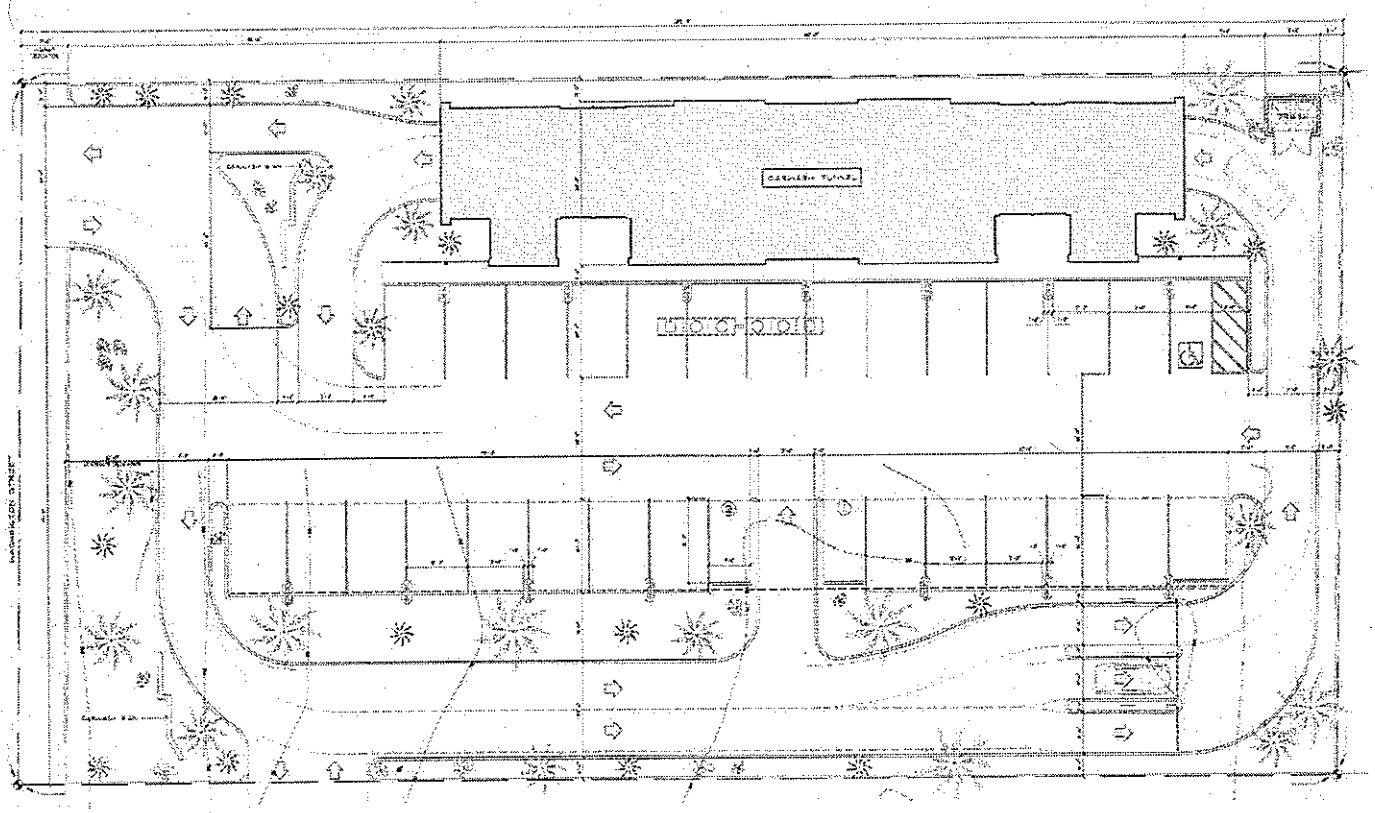
10 = Percent to/from Project

N

RK engineering group, inc.

Exhibit B

Site Plan



N

2072-08-02(ExB)
2648 DESERT EXPRESS CAR WASH, City of La Quinta, California

RK engineering group, inc.

TABLE 1

Trip Generation Rates[1]

Land Use	ITE Code	Units[2]	Peak Hour				Daily
			AM		PM		
			In	Out	In	Out	
Automated Car Wash	948	TSF/SITE	18.00	18.00	7.06	7.06	900.00

[1] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 7th Edition*, 2003 and SANDAG.

[3] TSF = Thousand Square Feet used for PM Peak rate per ITE
SITE = Project Site used for Daily and AM peak rate per SANDAG

TABLE 2
Project Trip Generation

Land Use	ITE Code	Quantity	Units[1]	Peak Hour						Daily
				AM			PM			
				In	Out	Total	In	Out	Total	
Automated Car Wash	948	4.924	TSF/SITE	18	18	36	35	35	70	900

[1] TSF = Thousand Square Feet used for PM Peak rate per ITE
SITE = Project Site used for Daily and AM peak rate per SANDAG

RK engineering group, inc.

transportation planning • traffic engineering
environmental engineering • parking studies

November 3, 2008

Mr. Yury Levitan
42185 Washington Street
Palm Desert, CA 92211

Subject: 2648 Desert Express Car Wash Traffic Impact Study (11/3/08), City of La Quinta

Dear Mr. Levitan:

RK ENGINEERING GROUP, INC. (RK) is pleased to submit this revised traffic impact study of the proposed 2648 Desert Express Car Wash development. RK has received comments prepared by Timothy Jonasson, Public Works Director/City Engineer for the City of La Quinta regarding the Traffic Impact Study previously submitted for this project. RK has prepared this revised study to address the City's comments.

The proposed project is located north of Fred Waring Drive, south of Darby Avenue, and east of Washington Street in the City of La Quinta. The project will consist of a 4,924 square foot automated car wash. The project will have one (1) full access driveway on Washington Street.

The purpose of this traffic impact study is to review existing and future conditions with and without the proposed future development. Future conditions include Project Buildout (Year 2009) projections.

Based upon our analysis of existing and future traffic volumes, all study area intersections are projected to perform at satisfactory levels of service with the recommended improvements. Therefore, the project can be accommodated in the City of La Quinta with the recommendations included in this report.

RK is pleased to provide this traffic study for the proposed 2648 Desert Express Car Wash development located in the City of La Quinta. If you have any questions regarding this study, or would like further review, please do not hesitate to call us at (949) 474-0809.

Sincerely,
RK ENGINEERING GROUP, INC.

REGISTERED PROFESSIONAL ENGINEER ★ ROBERT KAHN ★ No. 0555 Exp. 12/31/09 ★ TRAFFIC ★ STATE OF CALIFORNIA

Robert Kahn, P.E.
Principal

Kerin Smith, E.I.T.
Transportation Engineer

Attachments

RK:KS:nq/RK6833
JN:2072-2008-01

3991 macarthur boulevard, suite 310
newport beach, california 92660
tel 949.474.0809 fax 949.474.0902
http://www.rkengineer.com

2648 DESERT EXPRESS CAR WASH
TRAFFIC IMPACT STUDY (11/3/08)
City of La Quinta, California

Prepared for:

Mr. Yury Levitan
42185 Washington Street
Palm Desert, CA 92211

Prepared by:

RK ENGINEERING GROUP, INC.
3991 MacArthur Boulevard, Suite 310
Newport Beach, CA 92660

Robert Kahn, P.E.
Kerin Smith, E.I.T.

November 3, 2008

RK:KS:nq/RK6833
JN:2072-2008-01

Table of Contents

List of Attachments

Exhibits

Exhibits cont'd

Tables

Appendices

1.0 Introduction

The proposed project is located north of Fred Waring Drive, south of Palm Royale Avenue, and east of Washington Street in the City of La Quinta, as shown on Exhibit A. The proposed project consists of a 4,924 square foot automated car wash with 30 parking stalls available for vacuuming and detailing. The project will have one (1) right-in/right-out driveway on Washington Street. The site plan for the proposed development is illustrated on Exhibit B. The study area includes the following intersections:

North-South Street	East-West Street
Washington Street	Avenue 42 Palm Royale Drive / Mountain View Avenue Project Access Fred Waring Drive
Palm Royale Drive	Fred Waring Drive
Adams Street	Fred Waring Drive

The above study intersections were chosen for analysis due to their anticipated impact and proximate location to the project site. Analysis of the above study intersections is expected to sufficiently determine all significant project related impacts.

The purpose of this traffic impact study is to review Existing, Project Buildout (Year 2009) Without Project, and Project Buildout (Year 2009) With Project traffic conditions. The traffic impact study will determine any recommendations necessary to accommodate the project.

2.0 Existing Conditions

Exhibit C shows the City of La Quinta Circulation Element and Exhibits D and E show the Roadway Cross Sections. Exhibit F identifies the existing roadway conditions, number of through traffic lanes, and the intersection controls for the study area roadways.

Existing roadways within the vicinity of the project site include Washington Street (Major Arterial), Avenue 42 (City of Palm Desert), Palm Royale Avenue (Private street), Fred Waring Drive (Primary Arterial), and Adams Street (Secondary Arterial). Washington Street runs in the north-south direction adjacent to the project site and includes three travel lanes in each direction separated by a raised median and has a posted speed limit of 50 miles per hour.

Existing traffic volumes on roadways throughout the study area are shown on Exhibit F. These volumes are based upon weekday traffic data collected in June 2008 by Southland Car Counters for RK. The City of La Quinta experiences a seasonal traffic fluctuation, with higher volumes in the winter and spring months typically running from November through April. Since counts were conducted in June, outside of the prime season, a conservative 40% seasonal increase has been applied to the June 2008 counts, as recommended by City of La Quinta engineering staff. The traffic count worksheets are included in Appendix A.

Table 1 represents the Existing conditions intersection levels of service. All study area intersections are currently operating at an unacceptable Level of Service during Existing peak hour conditions with exception of the Palm Royale Drive intersection with Washington Street and the intersection of Adams Street with Fred Waring Drive. Level of Service worksheets for Existing conditions are included in Appendix B.

3.0 Intersection Analysis

3.1 HCM Analysis

The current technical guide to the evaluation of traffic operations is the Highway Capacity Manual (HCM2000), in accordance with Caltrans standards. The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS (Level of Service) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.

- LOS B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.

- LOS C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.

- LOS D represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.

- LOS E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.

- LOS F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations.

Uninterrupted flow is generally found only on limited access (freeway) facilities in urban areas. The level of service is based on the HCM, Exhibit 23-2.

3.2 Level of Service

The definitions of level of service for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control.

The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The levels of service determined in this study are calculated using the HCM methodology.

For signalized intersections, average control delay per vehicle is used to determine the level of service. Levels of service at signalized study intersections have been evaluated using the HCM intersection analysis program.

The levels of service are defined for the various analysis methodologies as follows:

LOS	Average Total Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	0.00 - 10.00	0.00 - 10.00
B	10.01 - 20.00	10.01 - 15.00
C	20.01 - 35.00	15.01 - 25.00
D	35.01 - 55.00	25.01 - 35.00
E	55.01 - 80.00	35.01 - 50.00
F	>80.01	>50.01

The LOS analysis for signalized intersections is performed using optimized signal timing. Adjustment factors for elements such as lane width, trucks, grade, obstructions, parking or pedestrians are as stated in the 2000 HCM. The overall intersection peak hour factor was used as counted for Existing conditions analysis, while a 0.95 peak hour factor was used for future (Year 2009) conditions analyses.

Saturation flow rates of 1,900 vehicles per hour of green (vphg) for through and right turn lanes, 1,900 vehicles for single left turn lanes, 1,600 vehicles per lane for dual left turn lanes, and 1,500 vehicles per lane for triple left turn lanes have been assumed for all capacity analysis.

3.3 Definition of Deficiency and Significant Impact

The following definitions of deficiencies and significant impacts have been developed in accordance with the City of La Quinta Engineering Bulletin #06-13.

Deficiency

The definition of an intersection deficiency has been obtained from the City of La Quinta Engineering Bulletin #06-13: "In the City of La Quinta, LOS D and a

maximum volume to capacity ratio of 0.90 is the acceptable build out service level. The maximum volume to capacity ratio applies to peak hours at intersections as well as daily V/C analyses of roadway segments. Therefore, any intersection that has a vehicle to capacity ratio of greater than 0.90 or is operating at LOS E or F will be considered deficient.

Significant Impact

Thresholds of Significance

Intersections

Project Specific Impacts – A significant adverse project specific traffic impact is assumed to occur at any intersections if the project will change the V/C ratio or add Peak Hour Trips (PHT) to impacted intersections that exceed the thresholds for changes in Level of Service (LOS) established in the following table:

Table 1

Thresholds for Changes in Level of Service (LOS) at Intersections

Significant Changes in LOS	
Intersection LOS (Existing	Increase in V/C equal to or greater than
LOS A	0.25
LOS B	0.20
LOS C	0.15
	Increase in Trips equal to or greater than
LOS D	25 Trips*
LOS E	10 Trips*
LOS F	5 Trips*

* To critical movements

4.0 Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development. The traffic generation rates are based upon data collected by the Institute of Transportation Engineers (ITE) Trip Generation, 7th Edition and San Diego Association of Governments (SANDAG) Traffic Generation Rates. These publications provide a comprehensive evaluation of trip generation rates for a variety of land uses. It should be noted that the City of La Quinta prefers the use of ITE trip generation rates. However, the ITE manual does not provide AM peak hour and daily trip generation rates for the proposed land use (ITE Land Use Code 948, Automated Car Wash). Both daily and peak hour trip generation rates for the uses analyzed in this study are shown in Table 2.

The traffic generation for the proposed project is based upon the specific land uses that have been planned for the development. The project will consist of constructing a 4,924 square foot automated car wash on an existing vacant lot.

Not all of the vehicle trips expected to be generated by the proposed project represent new trips on the study area roadway system. Studies have shown that for developments such as the one proposed, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic. To account for the pass-by trips associated with the proposed development, a 25 percent pass-by rate was applied to the peak hour and average daily traffic. It should be noted that the volume of pass-by traffic does not reduce the total volume of traffic generated by the development and the total trips generated will still be realized as turning movements at the site driveway.

The proposed development is anticipated to generate approximately 675 net trip-ends per day with 27 net vehicles per hour during the AM peak hour and 52 net vehicles per hour during the PM peak hour. Both daily and peak hour trip generation for the proposed project are shown in Table 3.

THIS PAGE INTENTIONALLY LEFT BLANK

5.0 Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of employment, commercial, and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating the proposed land use and highways within the community, existing traffic volumes and has been developed with consultation from City staff.

The proposed project has one (1) access point on Washington Street. The trip distribution for this analysis has been based upon project buildout conditions, based upon those highway facilities that are in place or will be contemplated over the near-term. The inbound and outbound trip distribution patterns for the project are shown on Exhibits H and I, respectively.

THIS PAGE INTENTIONALLY LEFT BLANK

6.0 Trip Assignment

The assignment of traffic from the site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, and existing arterial highway and local street systems. Based upon the identified project trip generation and distributions, project related traffic volumes are shown on Exhibit J.

THIS PAGE INTENTIONALLY LEFT BLANK

7.0 Traffic Impact Analysis

Traffic impacts have been projected and analyzed for Existing, Project Buildout (Year 2009) Without Project, and Project Buildout (Year 2009) With Project conditions.

7.1 Project Buildout (Year 2009) Without Project

The project is estimated to be complete in the Year 2009. Project Buildout (Year 2009) Without Project traffic volumes have been determined by applying a growth rate and adding traffic associated with other cumulative development in the area to the existing traffic volumes.

Per City of La Quinta traffic impact study guidelines, an annual growth rate of 5 percent is representative of City growth north of Highway 111. Therefore, a 5 percent growth factor was applied to the 2008 Existing volumes to forecast Project Buildout (Year 2009) traffic conditions.

Cumulative projects have been taken into consideration for Project Buildout (Year 2009) Without Project scenario and are shown on Exhibit K. A list of cumulative projects included in the study is provided in Table 4. A list of commercial and residential development was made available to RK by City staff. Projects located within the study area, and those expected to have a significant impact on the study area intersections were selected from the list of approved projects. Several of the projects are already under construction and with significant portions being occupied and in use at the time traffic counts were conducted. Therefore, only the portions of the projects that have not been constructed or occupied were considered in the analysis. The individual cumulative development trip distribution maps are shown on Exhibits L through P-2.

Cumulative Development trip generation and distributions have been utilized, and the resulting projected cumulative development traffic volumes are shown on Exhibit Q.

To assess Project Buildout (Year 2009) Without Project traffic conditions, Existing Traffic has been combined with area-wide growth and cumulative development within the vicinity of the site. The traffic volumes for Project Buildout (Year 2009) Without Project conditions are shown in Exhibit R.

For Project Buildout (Year 2009) Without Project conditions, all study area intersections are projected to operate at an unacceptable Level of Service during peak hour conditions with the exception of the Palm Royale Avenue intersection with Washington Street.

With the recommended improvements, all study intersections are projected to improve to an acceptable Level of Service. A fair-share analysis for project specific responsibilities towards recommended improvements is discussed in Section 8.1 of this report. Table 5 presents the intersection analysis for Project Buildout (Year 2009) Without Project conditions. The HCM calculation worksheets are included in Appendix C.

7.2 Project Buildout (Year 2009) With Project

To assess Project Buildout (Year 2009) With Project conditions, project traffic has been combined with Project Buildout (Year 2009) Without Project traffic. Project Buildout (Year 2009) With Project traffic volumes are shown on Exhibit S.

For Project Buildout (Year 2009) With Project conditions, all study area intersections are projected to operate at an unacceptable Level of Service during peak hour conditions with the exception of the Palm Royale Avenue and Site Access driveway intersections with Washington Street.

With the recommended improvements, all study intersections are projected to improve to an acceptable Level of Service. A fair-share analysis for project specific responsibilities towards recommended improvements is discussed in Section 8.1 of this report. Table 5 presents the intersection analysis for Project Buildout (Year 2009) With Project conditions. The HCM calculation worksheets are included in Appendix D.

NO CRITERIA USED FOR IF SIGNIFICANT IMPACT (TIA #6)

THIS PAGE INTENTIONALLY LEFT BLANK

8.0 Signal Warrant Analysis and Fair Share Analysis

Traffic signal warrants have been analyzed at the following intersection:

North-South Street	East-West Street
Palm Royale Avenue	Fred Waring Drive

The study area intersection of Palm Royale Avenue at Fred Waring Drive currently warrants a traffic signal based upon the peak hour signal warrant analysis for Existing conditions.

The traffic signal warrant worksheets are included in Appendix E.

8.1 Fair-Share Analysis

As to those improvements that are within the City's Transportation Impact Fee program, the project will pay for its pro-rata share of the cost of study area intersection improvements through the payment of the adopted City Transportation Impact Fee. As to any identified improvement not covered in the Transportation Impact Fee program, or not being constructed by others, the project developer shall either be required to install the improvement, or should be required to pay its pro-rata share if a Project Specific Impact is identified based upon in the thresholds of significance previously described in Section 3.3.

The project is expected to exceed the thresholds for significance at the Palm Royale intersection with Fred Waring Drive. A new signal is currently proposed at the intersection of Fred Waring Drive and Palm Royale Avenue in the City of La Quinta Capital Improvement Program for Fiscal Year 2007/2008 through 2011/2012. Therefore, the project will be responsible for City of La Quinta Transportation Impact Fees, as assessed by the City. For detailed improvements, please refer to Chapter 10 of this report and to Table 6. The project's fair-share contribution is shown in Table 7.

The fair-share analysis is based upon a comparison of the project's traffic to the Project Buildout (Year 2009) With Project growth in traffic. The project fair-share calculation is based upon standard practice in the County of Riverside. The project's fair-share contribution is calculated as follows:

Growth in Traffic Volume =
[Project Buildout (Year 2009) With Project Traffic - Existing Traffic]

$$\text{Fair-share percentage (\%)} = \frac{\text{Project Volume}}{\text{Growth In Traffic Volume}}$$

9.0 Internal Circulation

RK has reviewed the proposed site plan as well as comments received from the City staff regarding the internal circulation. The project will have one (1) right-in/right-out driveway on Washington Street. Currently, a cross-connection between the project site and the adjacent commercial development to the south is not proposed. Circulation around the site is primarily in a counter-clockwise direction. A total of approximately 18 and 35 vehicles are expected to access the site during the AM and PM peak hours, respectively. This equates to approximately one vehicle every two to three minutes.

The main parking area is located at the center of the project site. Three access points into the parking area are provided to allow vehicles in the car wash queue to exit the queue and enter the parking lot. Thirty parking stalls are provided. The parking stalls are 13 feet wide, which is wider than a typical parking stall, and allows for car doors to be open to facilitate vacuuming and detailing. Each stall is provided with a vacuum station. Sufficient throat is provided at the eastern access drive, closest to the car wash, into the main parking area to allow vehicles to back out of the east-most parking spaces without infringing on the car wash queue.

Vehicles are expected to enter the site and turn right to enter the queue for the automated car wash. The single-lane entrance driveway widens to three lanes at the pay station located at the southeast corner of the project site. Sufficient stacking is provided at the pay station for seven vehicles before the closest driveway into the parking area is blocked. The driveway provides storage for approximately thirteen additional vehicles before backing onto Washington Street.

City staff expressed concern with the contra-flow movements at the entrance of the site. RK has provided signage and striping recommendations to help direct traffic and minimize driver confusion.

THIS PAGE INTENTIONALLY LEFT BLANK

10.0 Findings

A summary of the level of service analysis for each condition for both AM and PM peak hours is included in Table 8.

All study area intersections are currently operating at an unacceptable Level of Service during Existing peak hour conditions with exception of the Palm Royale Drive intersection with Washington Street. The Existing conditions analysis includes a seasonal adjustment factor of 40% to the existing traffic counts to account for traffic fluctuation at different times of the year. The Palm Royale intersection with Fred Waring Drive currently warrants a traffic signal based upon peak hour signal warrant analysis for Existing conditions.

The project will consist of constructing a 4,924 square foot automated car wash on an existing vacant lot. The proposed development is anticipated to generate approximately 675 net trip-ends per day with 27 net vehicles per hour during the AM peak hour and 52 net vehicles per hour during the PM peak hour.

For Project Buildout (Year 2009) Without Project conditions, all study area intersections are projected to operate at an unacceptable Level of Service during peak hour conditions with the exception of the Palm Royale Avenue intersection with Washington.

For Project Buildout (Year 2009) With Project conditions, all study area intersections are projected to operate at an unacceptable Level of Service during peak hour conditions with the exception of the Palm Royale Avenue intersection with Washington.

With the recommended improvements, all study intersections are projected to improve to an acceptable Level of Service for both the Project Buildout (Year 2009) With and Without Project conditions.

The project should contribute towards the recommended intersection improvements based upon fair-share analysis included in this report for improvements that are not included in the City's Transportation Impact Fee.

The proposed project will have a single right-in/right-out driveway on Washington Street. RK has reviewed the City of La Quinta Engineering Bulletin #06-13 to determine the need for a deceleration lane into the site on Washington Street. The project is not expected to have a right-turning ingress of more than 50 vehicles per hour, which is the vehicle-turning volume threshold identified in the Engineering Bulletin. However, City staff has requested consideration of a right-turn deceleration lane at this location due to the high traffic volumes northbound on Washington Avenue and existing or expected curb lines at adjacent properties to the north and south of the proposed project site. After considering the existing and expected future traffic volumes, as well as the 50 mph speed limit on Washington Avenue in the vicinity of the site, RK recommends a right-turn deceleration should be constructed at an appropriate length to be determined when more detailed roadway construction is available for the adjacent commercial development projects.

11.0 Recommendations

11.1 Project Buildout (Year 2009) With Project Conditions

Install a stop sign, stop bar, and stop legend at Project Access driveway on Washington Street. This will be a requirement of the project.

Construct a right-turn deceleration lane south of the Project Access driveway along the east side of Washington Street.

Complete the internal circulation system per City of La Quinta standards.

Participate in the City approved Development Impact Fee program.

In conjunction with the preparation of precise grading, landscape, and street improvement plans, sight distance should be reviewed at the project access point per City of La Quinta/Caltrans standards.

At the intersection of Washington Street and Avenue 42, widen all four approaches to the intersection to provide dual left-turn lanes and provide an exclusive right-turn lane on the Avenue 42 eastbound approach with a right turn overlap phase.

At the intersection of Washington Street and Fred Waring Drive, widen the Fred Waring Drive westbound approach to provide a third through lane and an exclusive right-turn lane. The project cost for these improvements should be funded through payment of City of La Quinta Transportation Impact Fees. This intersection is located in the City of Palm Desert on the west side of Washington and in ~~unincorporated Riverside~~ on the east. A copy of this traffic study has been sent to the City of Palm Desert for their review.

At the intersection of Adams Street and Fred Waring Drive, widen the Adams Street northbound approach to provide dual left-turn lanes. The project proponent should contribute a fair-share towards improvements at this location.

At the intersection of Palm Royale Avenue and Fred Waring Drive, install a traffic signal and widen the Palm Royale southbound approach to provide an exclusive left-turn lane and a shared through/right-turn lane. The project cost for these improvements are already funded through the City of La Quinta Capital Improvement Plan. The project proponent should contribute a fair-share towards any additional improvement costs not covered by the Capital Improvement Plan.

Recommendations are summarized on Exhibit T.

12.0 Conclusions

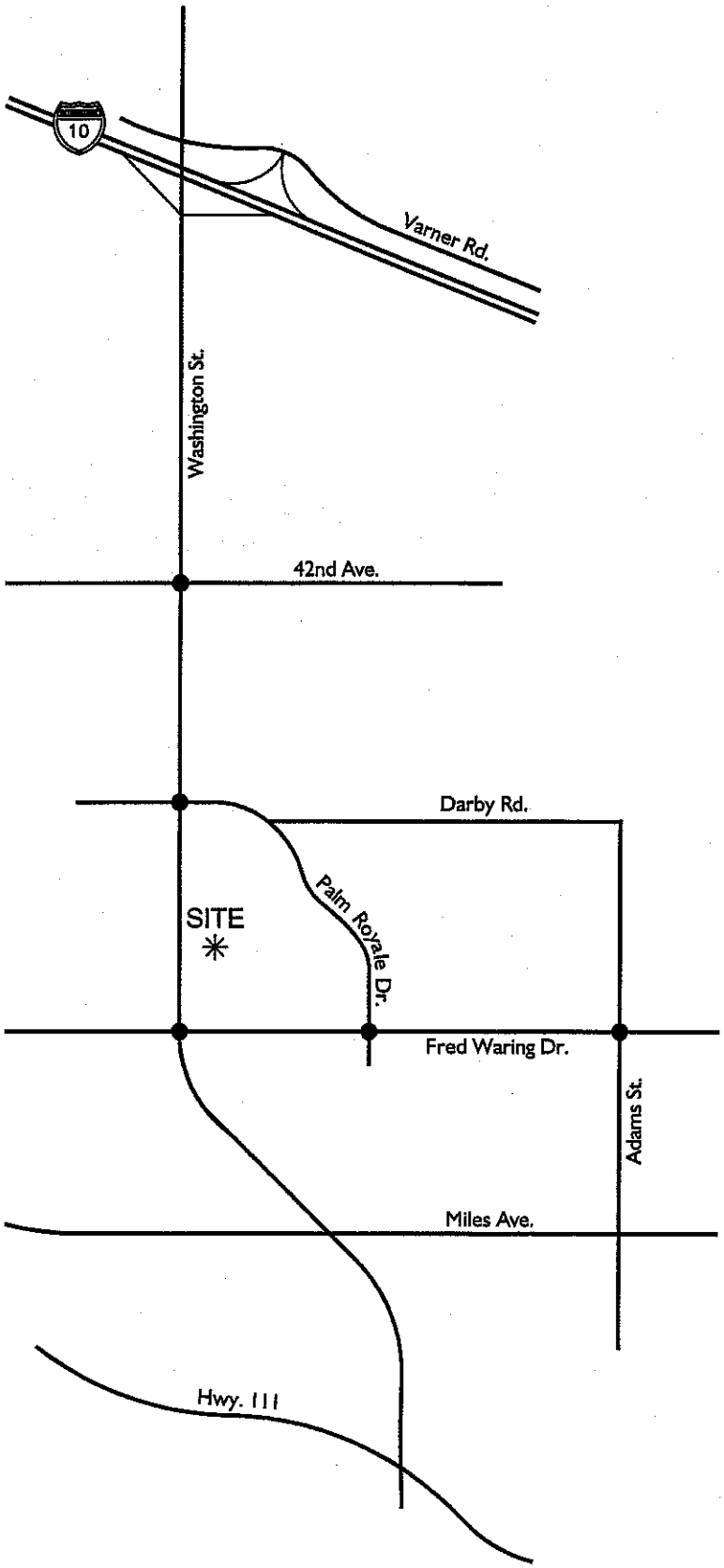
Based upon this analysis of Existing and Project Buildout (Year 2009) traffic conditions, all study area intersections are projected to perform at satisfactory levels of service with the implementation of the recommendations included in this report. Therefore, the proposed Desert Express Car Wash development can be accommodated within the City of La Quinta's existing standards for acceptable levels of service for roadways and intersections.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibits

Exhibit A

Location Map



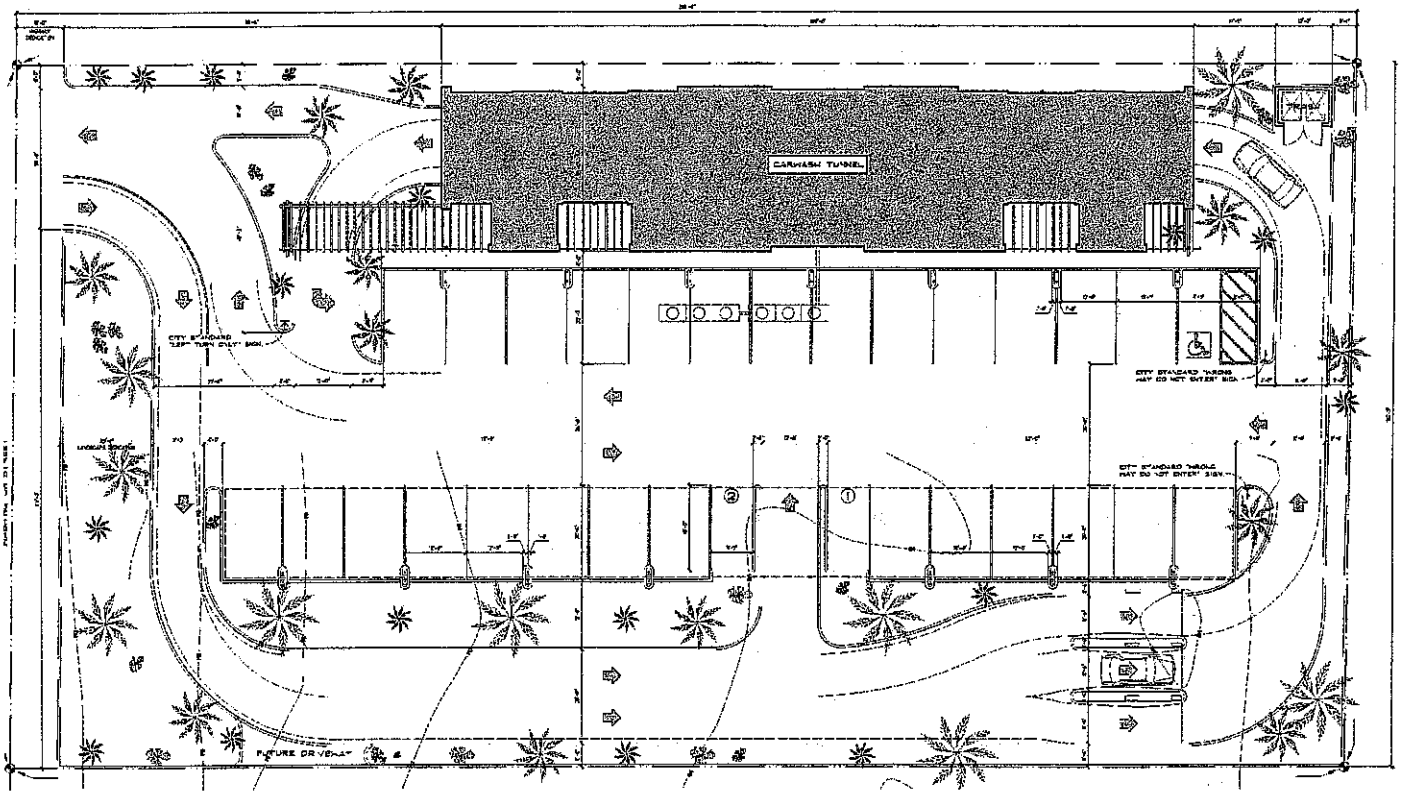
Legend:

● = Study Area Intersection

N

RK engineering group, inc.

Exhibit B
Site Plan

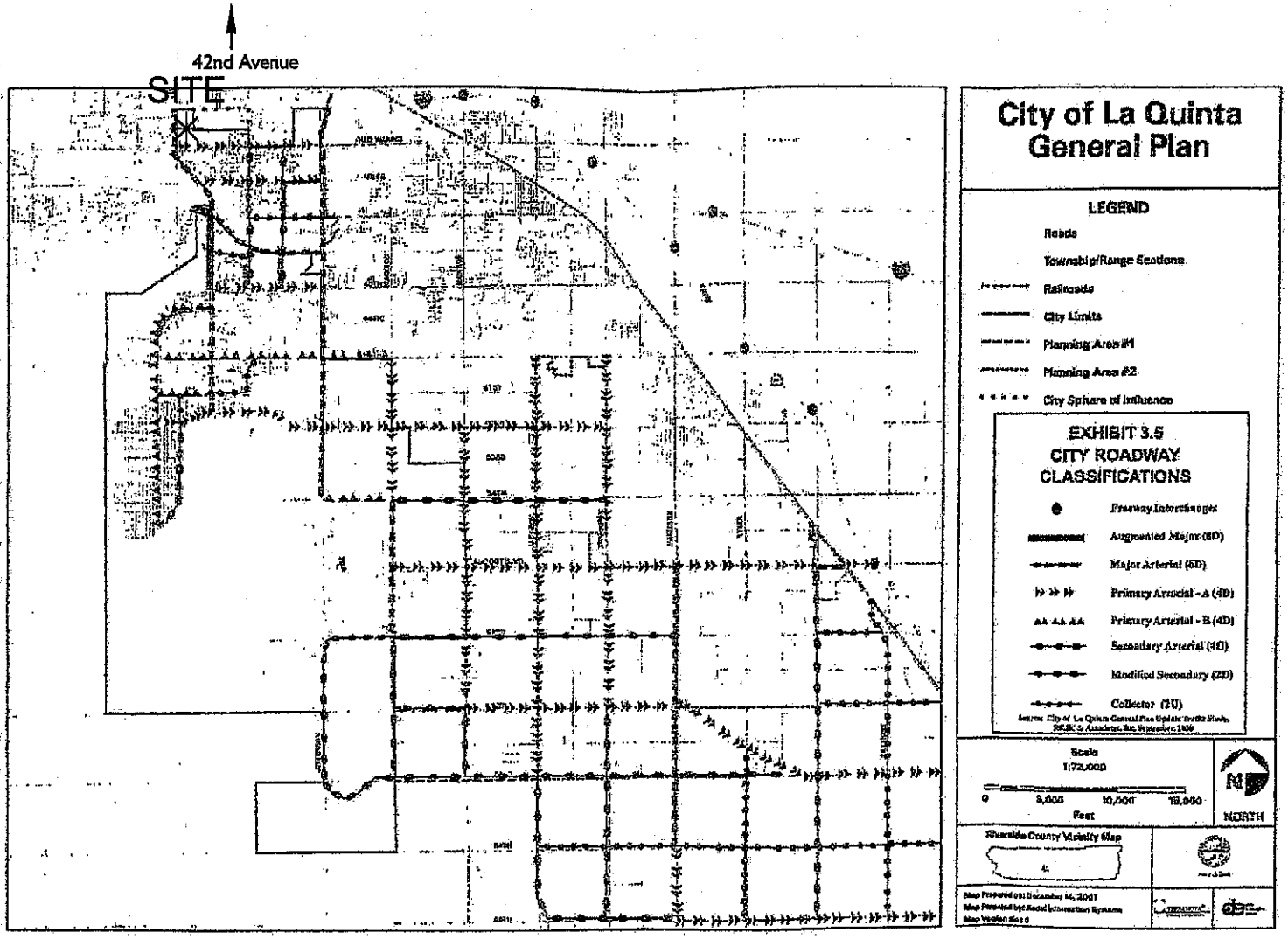


N

RK engineering group, inc.

Exhibit C

City of La Quinta General Plan Circulation Element



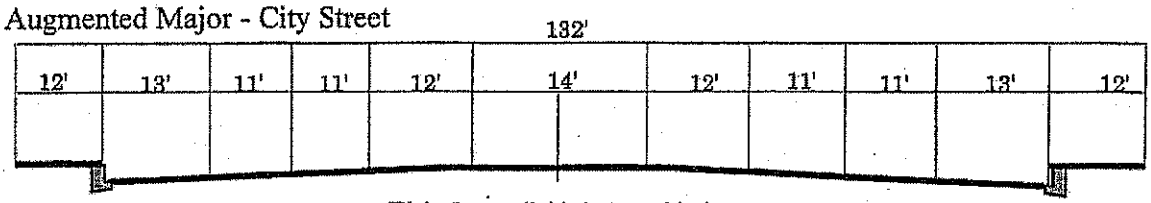
N

RK engineering group, inc.

Exhibit D

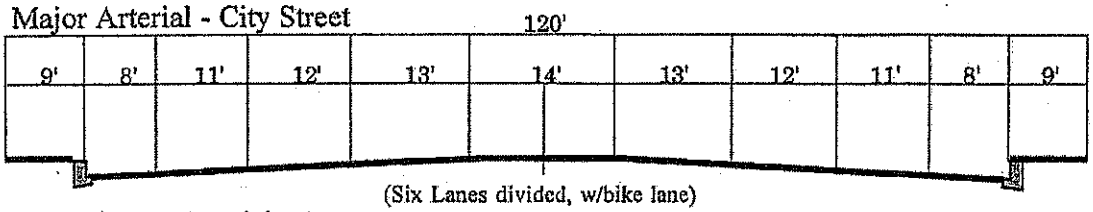
City of La Quinta General Plan
Roadway Cross-Sections City Streets

Augmented Major - City Street



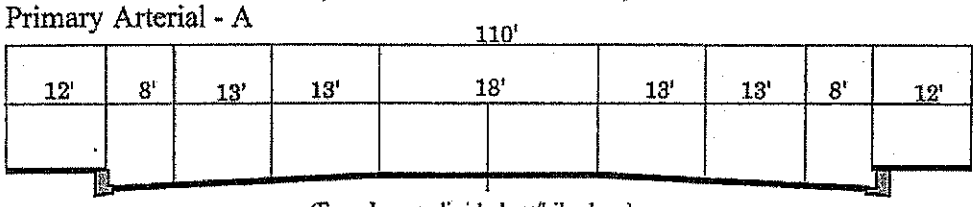
(Eight Lanes divided, no parking)

Major Arterial - City Street



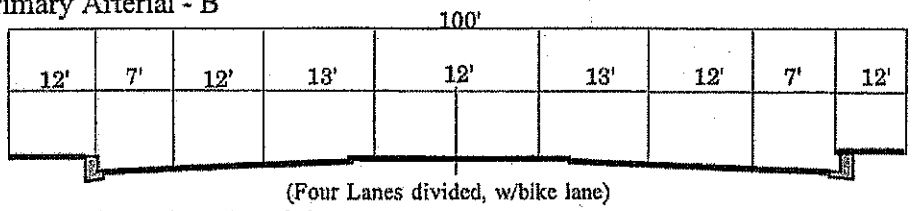
(Six Lanes divided, w/bike lane)

Primary Arterial - A



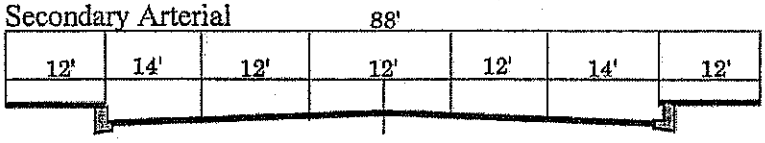
(Four Lanes divided, w/bike lane)

Primary Arterial - B



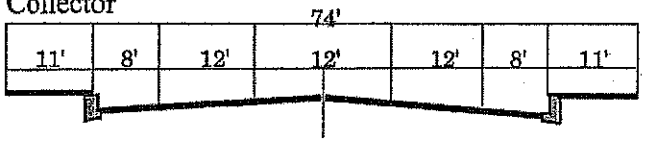
(Four Lanes divided, w/bike lane)

Secondary Arterial



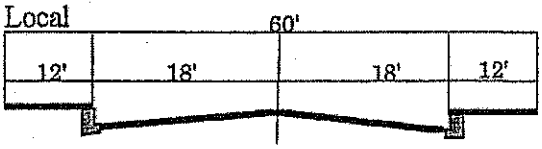
(Four Lanes undivided, no parking)

Collector



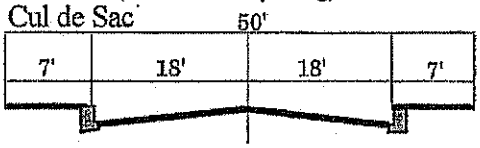
(Two Lanes undivided, w/bike lane)

Local



(Two Lanes w/parking)

Cul de Sac



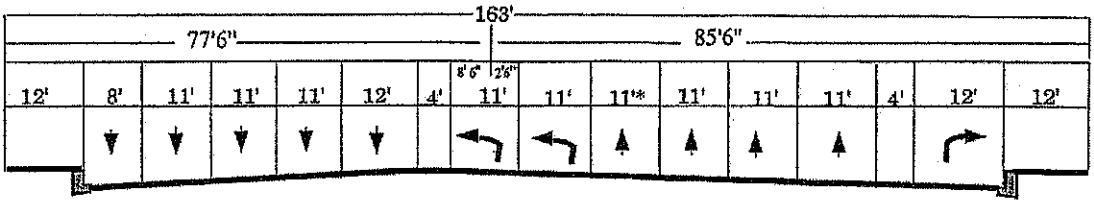
(Two Lanes, w/parking)

N

Exhibit E

City of La Quinta General Plan Roadway Cross-Sections Intersections - State Highways and City Streets

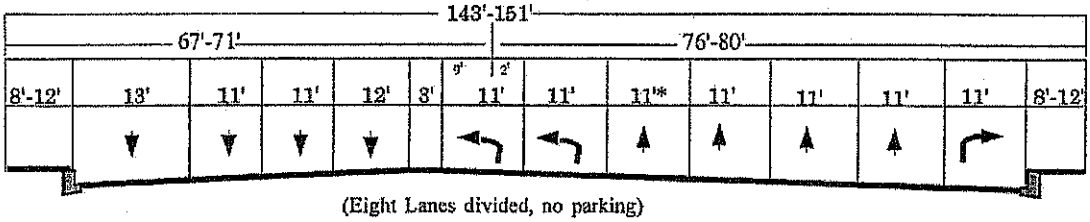
Augmented Major at Dual Left Intersections - State Highway



(Eight Lanes divided, w/breakdown lane)

*Through lane adjacent to turn lane is reduced 1 foot, but returns to standard width on far side of intersection adjacent to median nose.

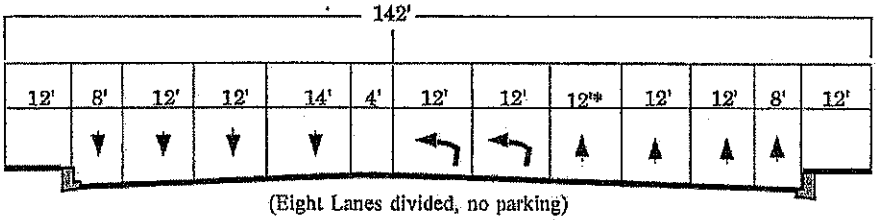
Augmented Major at Dual Left Intersections - City Street



(Eight Lanes divided, no parking)

*Through lane adjacent to turn lane is reduced 1 foot, but returns to standard width on far side of intersection adjacent to median nose.

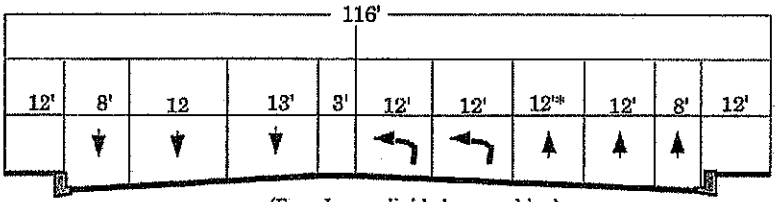
Major Arterial at Dual Left Intersections - State Highway



(Eight Lanes divided, no parking)

*Through lane adjacent to turn lane is reduced 2 foot, but returns to standard width on far side of intersection adjacent to median nose.

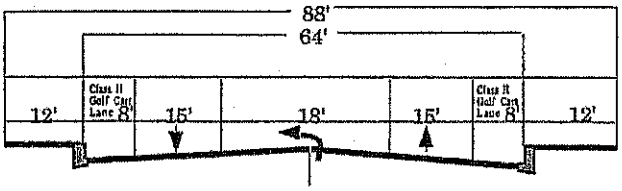
Primary Arterial A at Dual Left Intersections - City Street



(Four Lanes divided, no parking)

*Through lane adjacent to turn lane is reduced 1 foot, but returns to standard width on far side of intersection adjacent to median nose.

Modified Secondary at Single Left Intersections - City Street

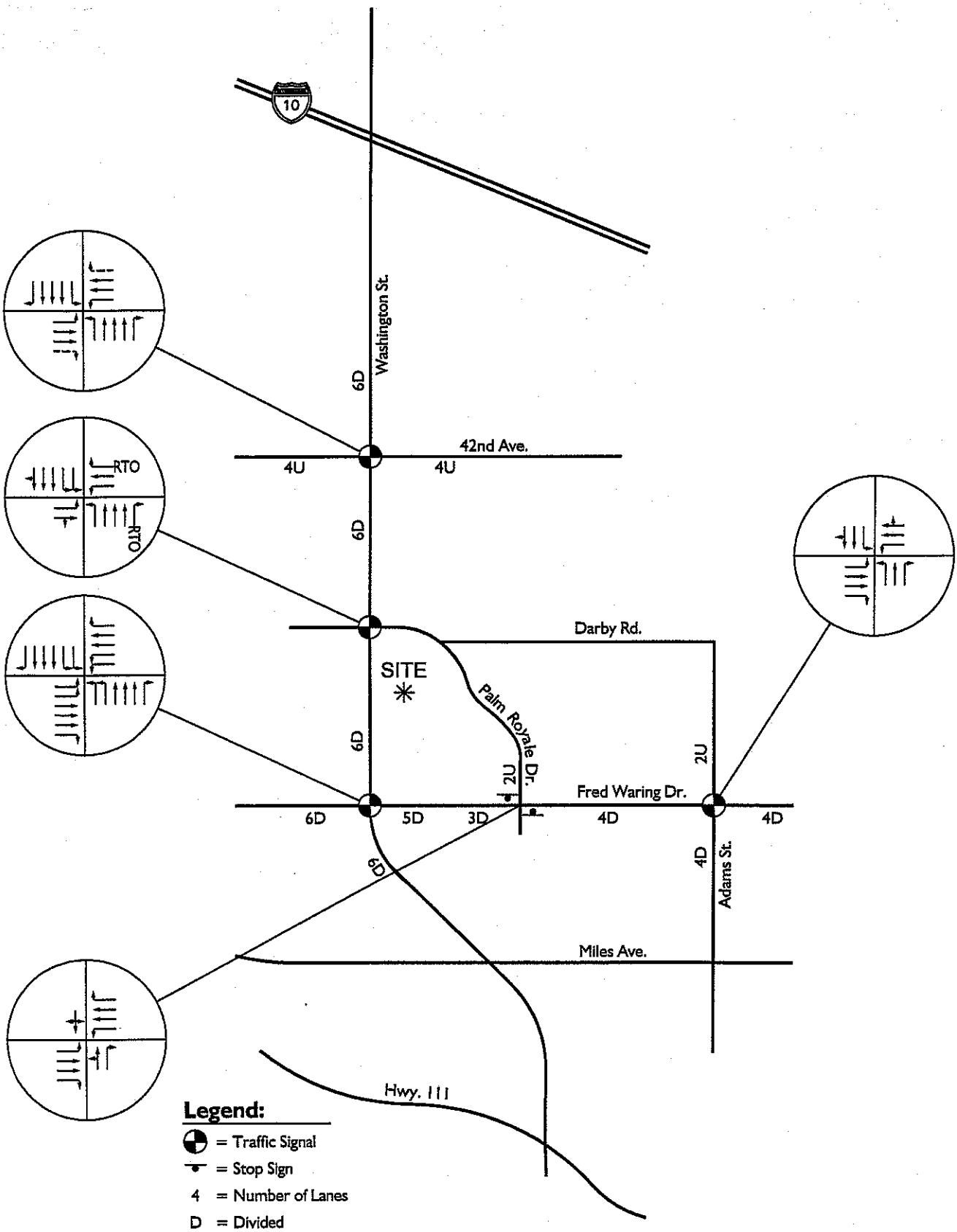


(Two Lanes undivided, w/golf cart lane)

N

Exhibit F

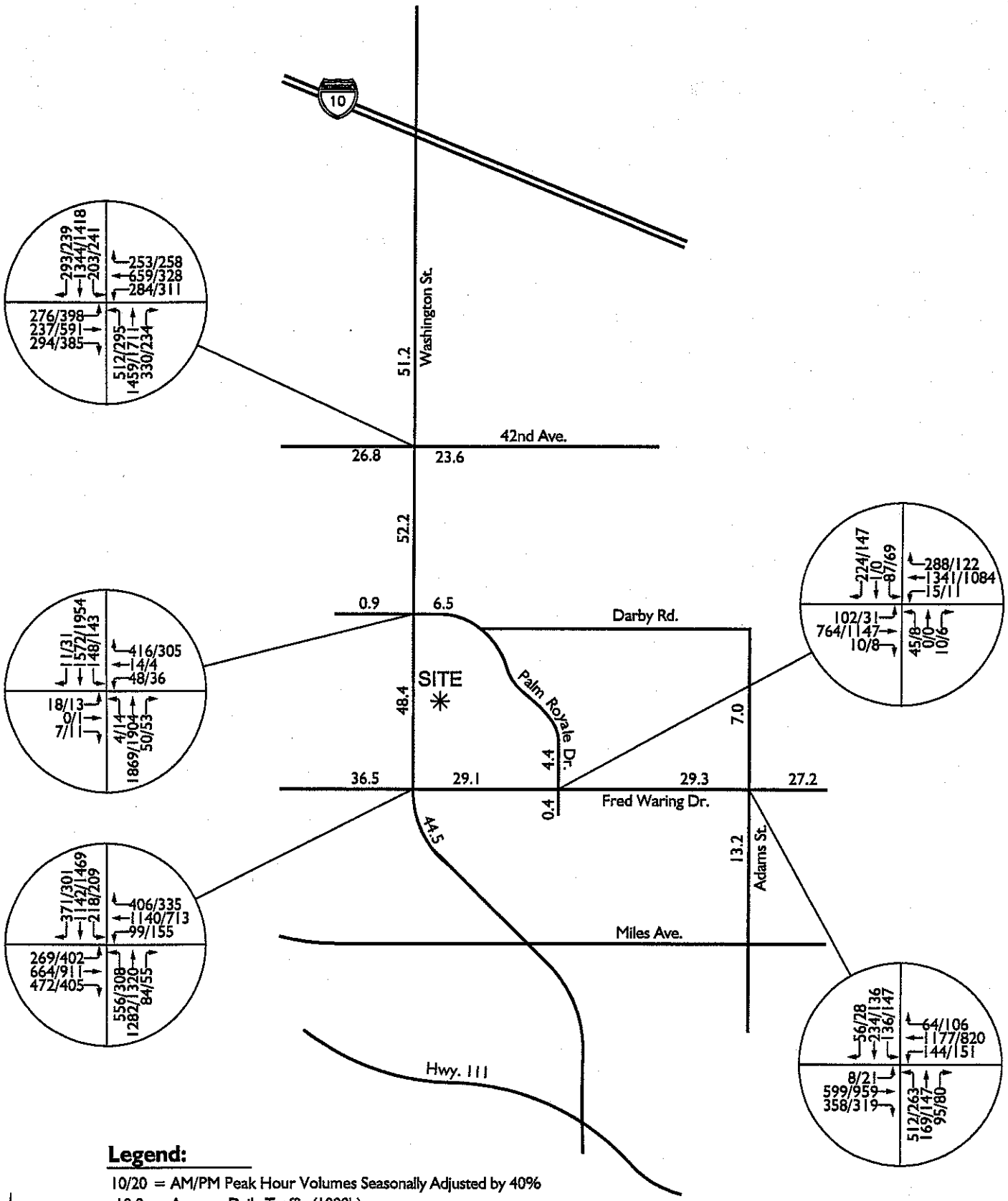
Existing Lane Geometry and Intersection Controls



RK engineering group, inc.

Exhibit G

Existing Traffic Volumes



Legend:

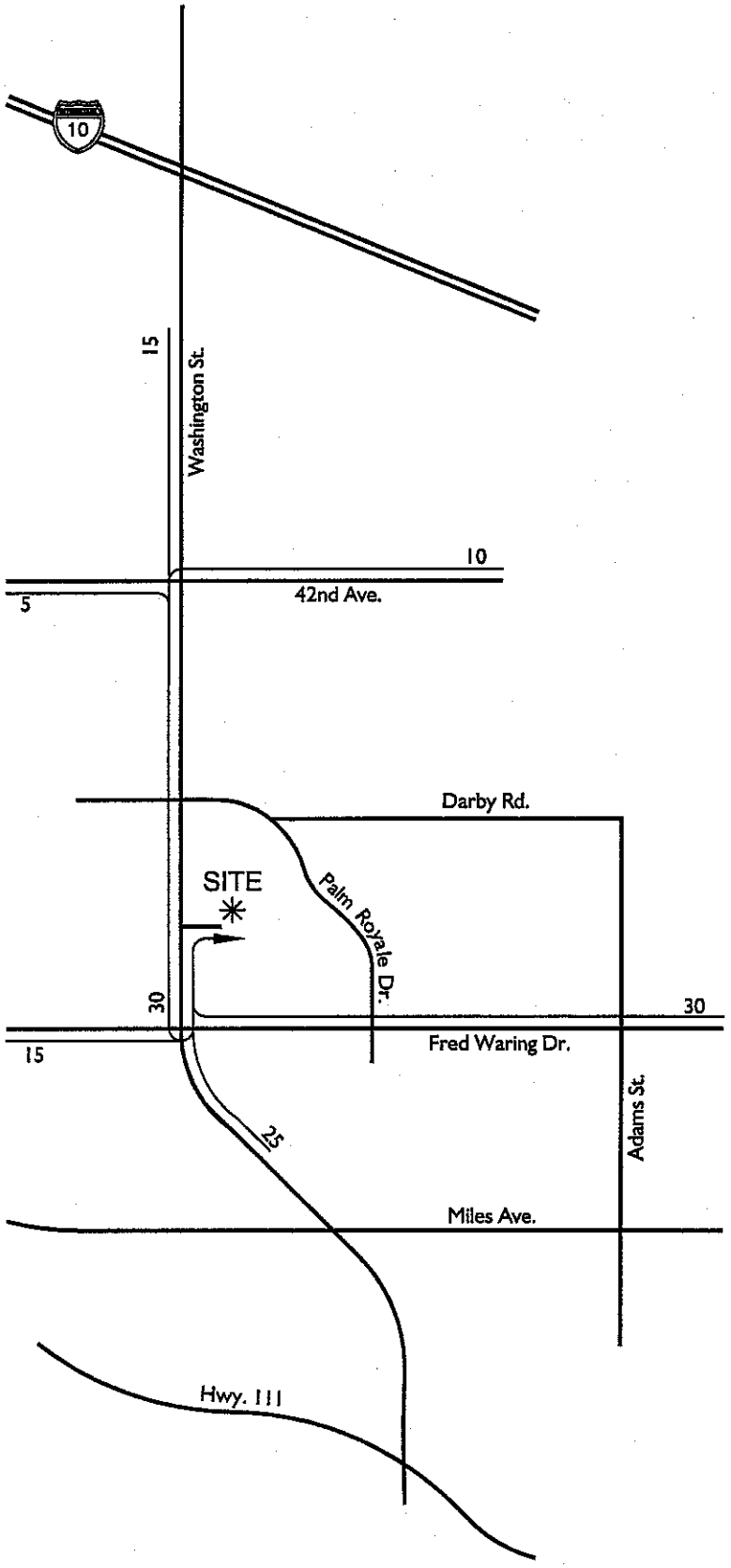
10/20 = AM/PM Peak Hour Volumes Seasonally Adjusted by 40%

10.0 = Average Daily Traffic (1000's)

N

Exhibit H

Inbound Project Trip Distribution



Legend:

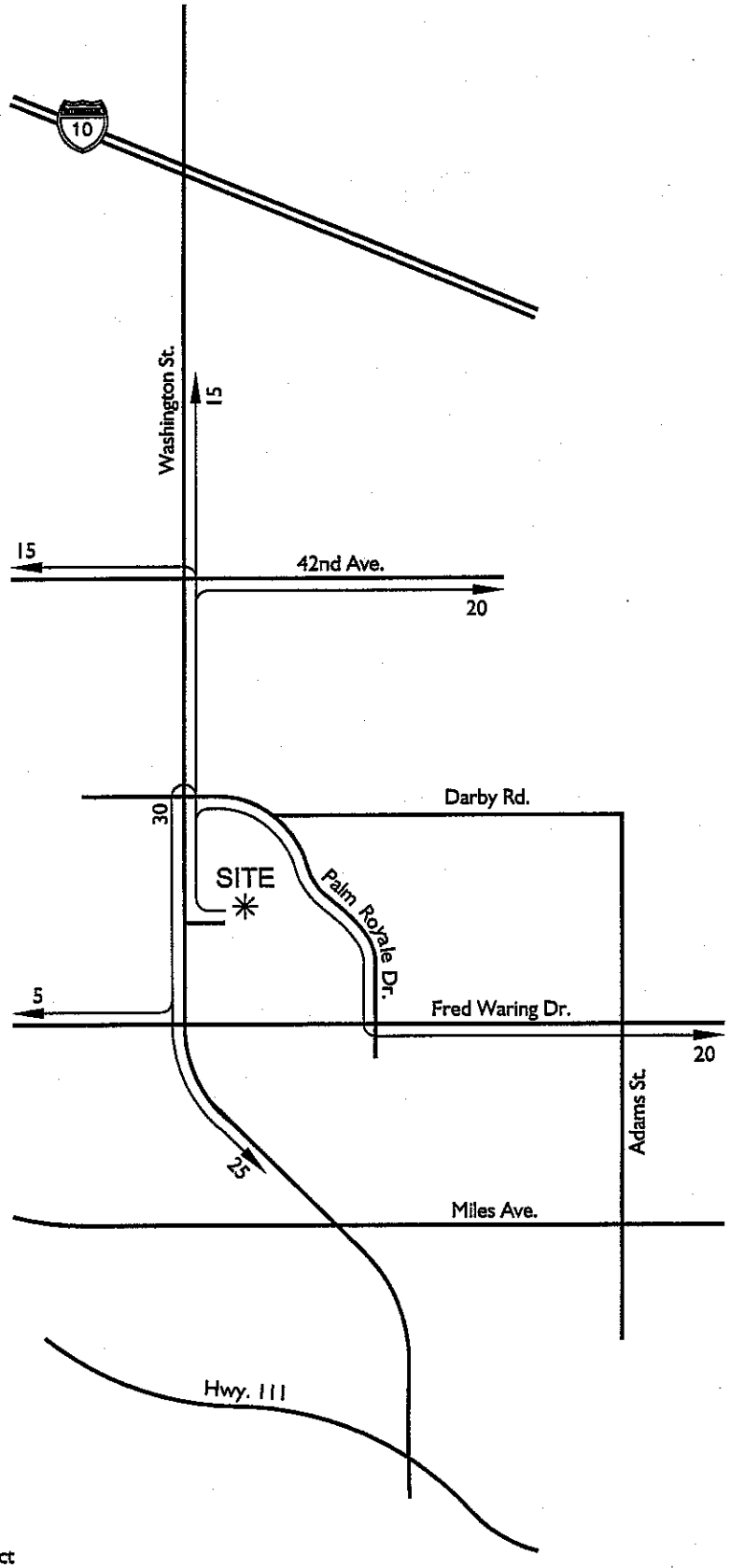
10 = Percent to Project

N

RK engineering group, inc.

Exhibit I

Outbound Project Trip Distribution



Legend:

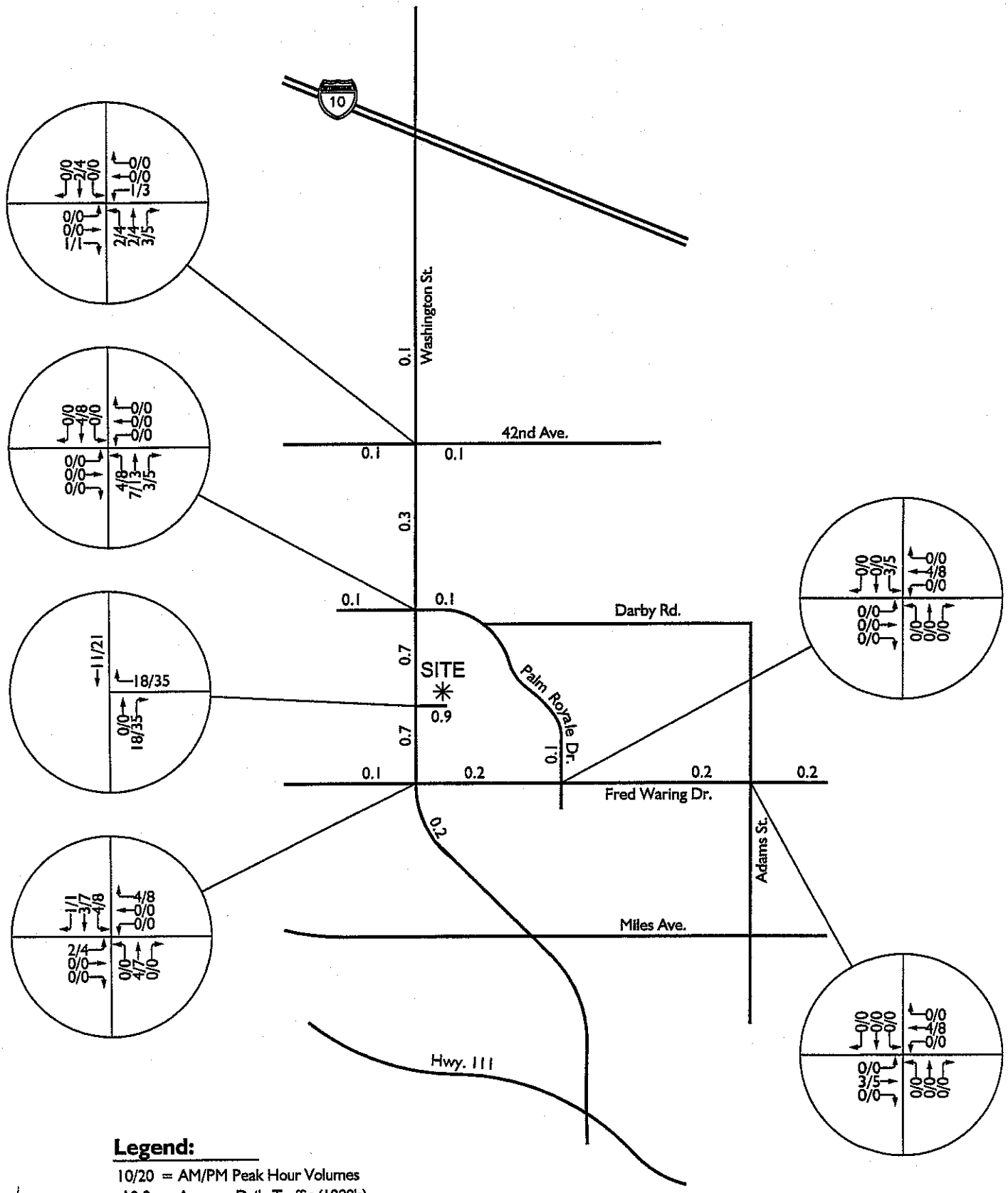
10 = Percent from Project

N

RK engineering group, inc.

Exhibit J

Project Traffic Volumes



Legend:

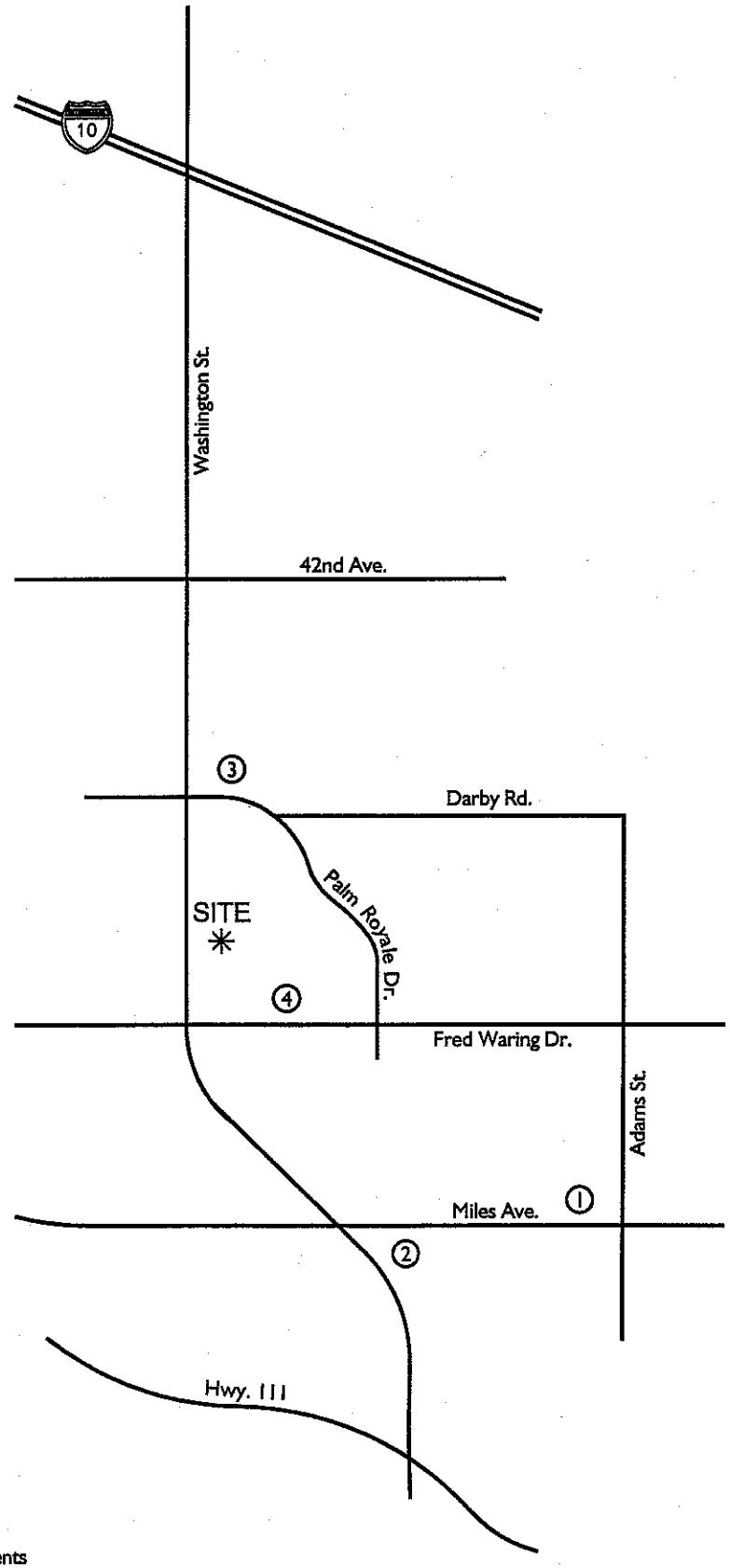
10/20 = AM/PM Peak Hour Volumes
10.0 = Average Daily Traffic (1000's)

N

RK engineering group, inc.

Exhibit K

Cumulative Development Location Map



Legend:

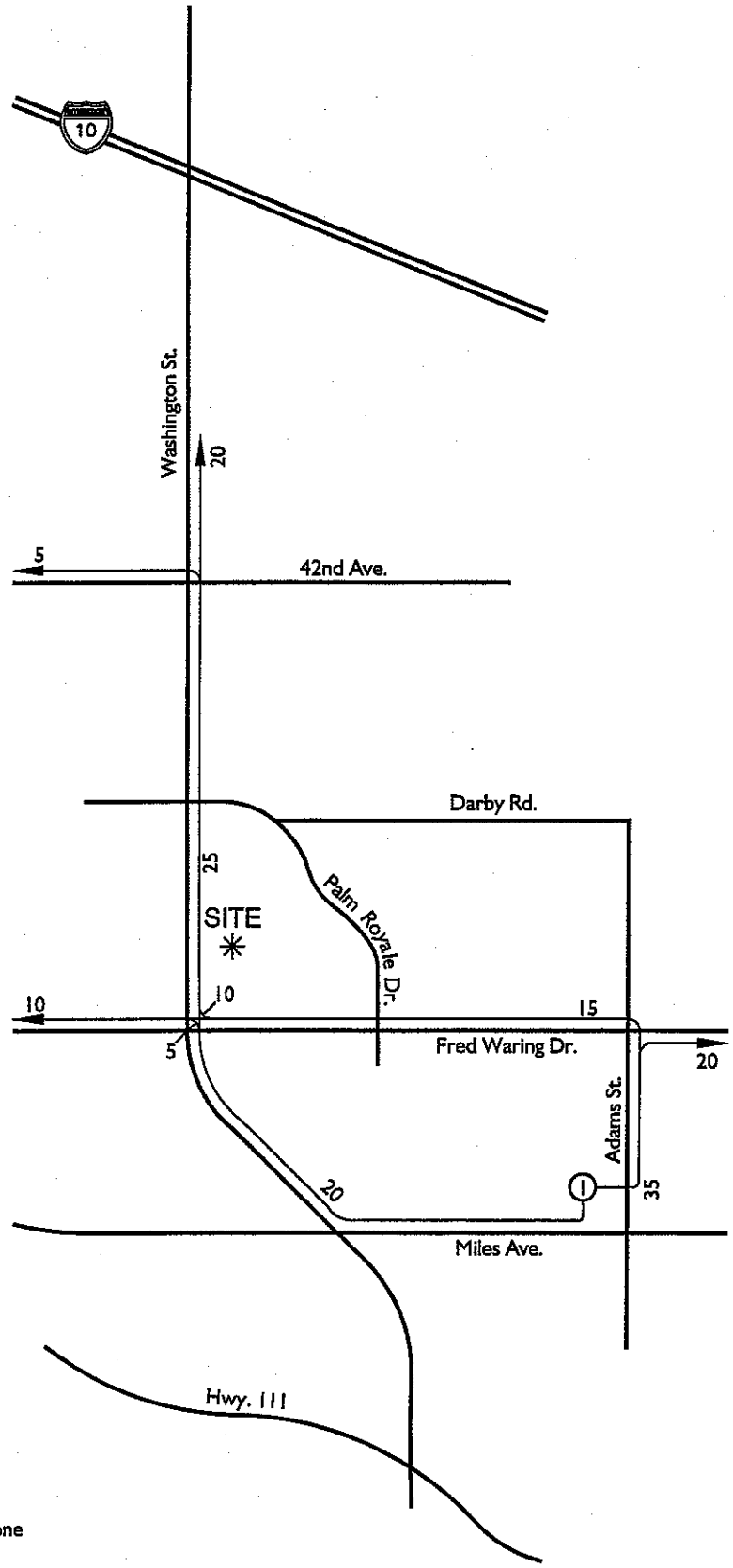
(1) = Vista Dunes
(2) = Centre Point
(3) = Mediterra Apartments
(4) = La Quinta Retail and Office Complex

N

RK engineering group, inc.

Exhibit L

Zone I Trip Distribution



Legend:

(I) = Vista Dunes

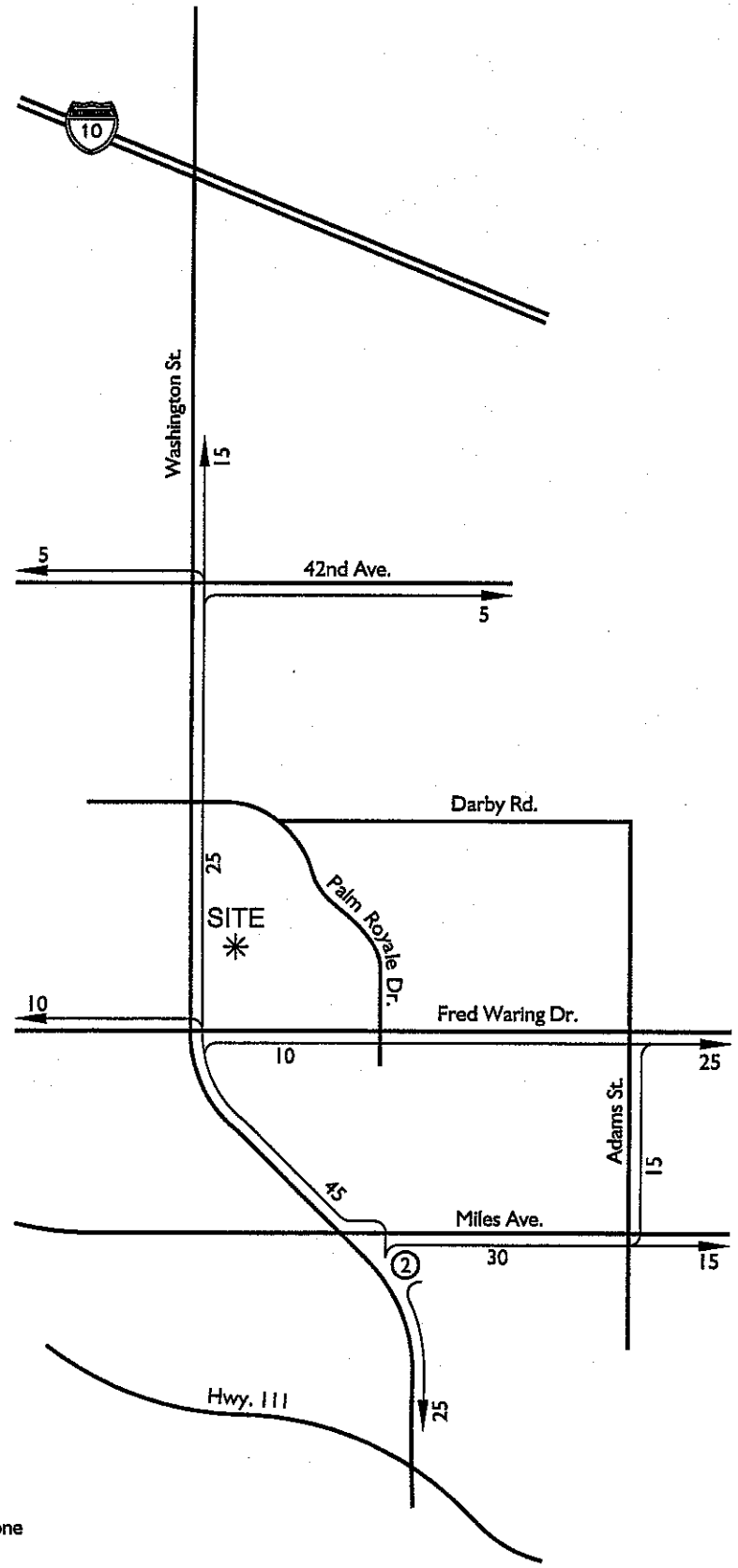
10 = Percent to/from Zone

N

RK engineering group, inc.

Exhibit M

Zone 2 Trip Distribution



Legend:

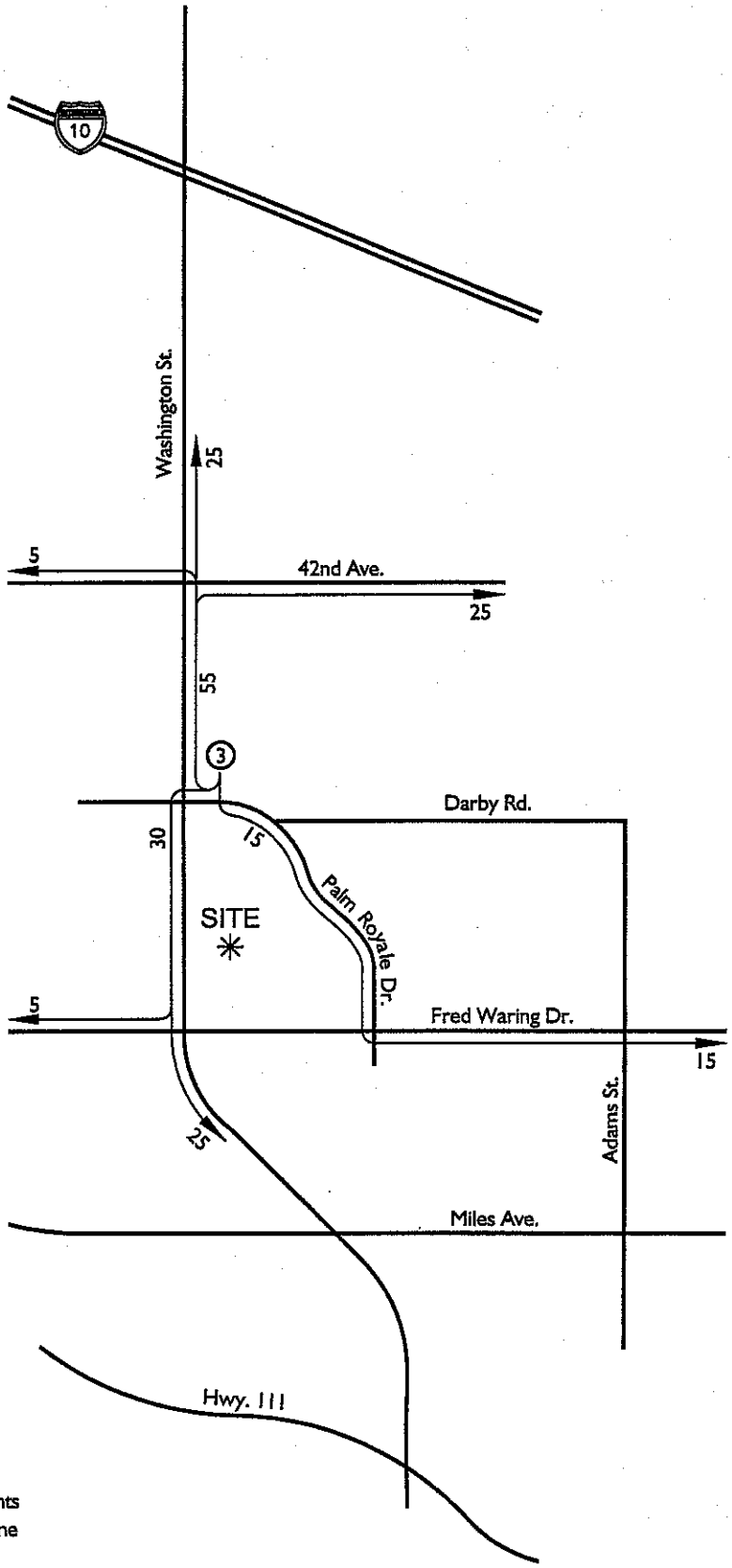
(2) = Centre Point
10 = Percent to/from Zone

N

RK engineering group, inc.

Exhibit N

Zone 3 Trip Distribution



Legend:

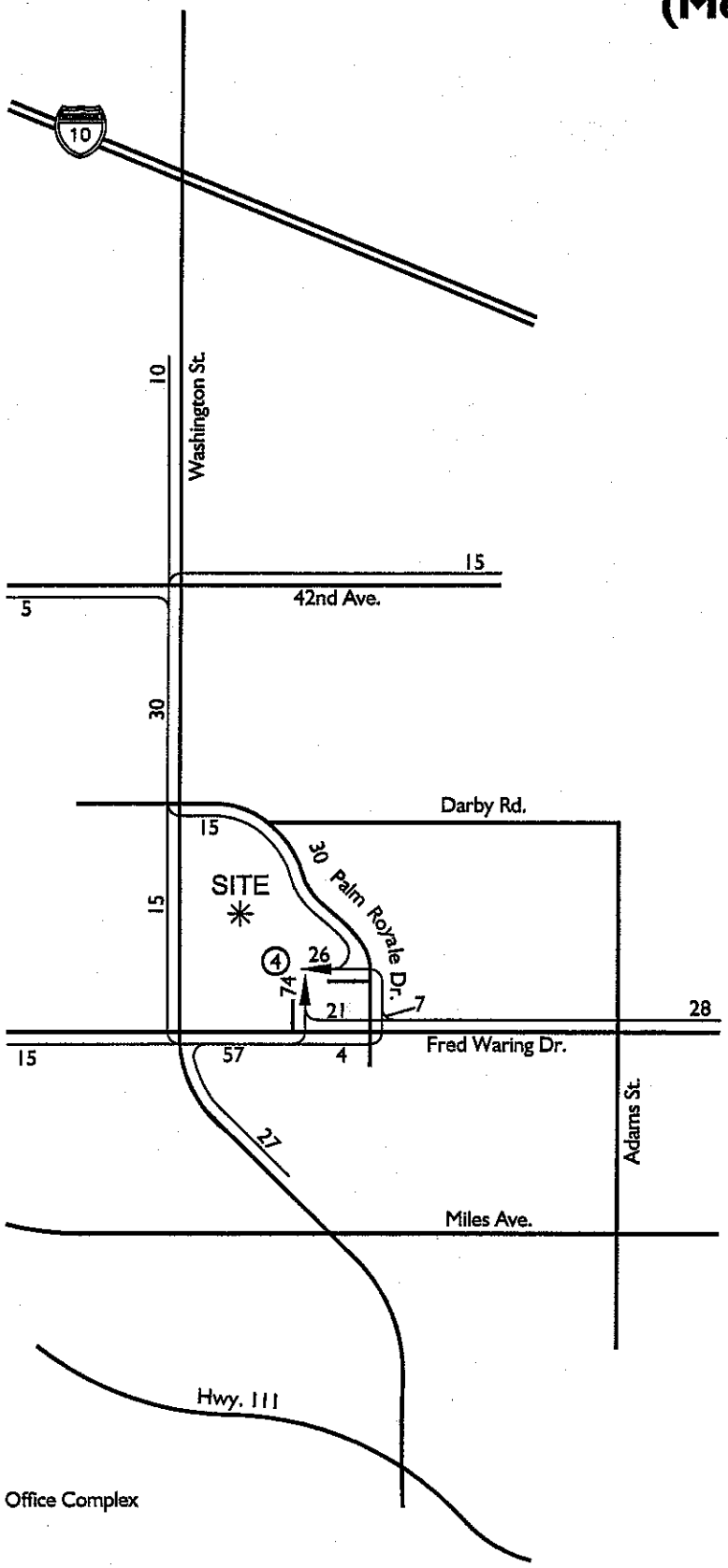
(3) = Mediterra Apartments
10 = Percent to/from Zone

N

RK engineering group, inc.

Exhibit O-1

Zone 4 Inbound Trip Distribution (Medical Office)



Legend:

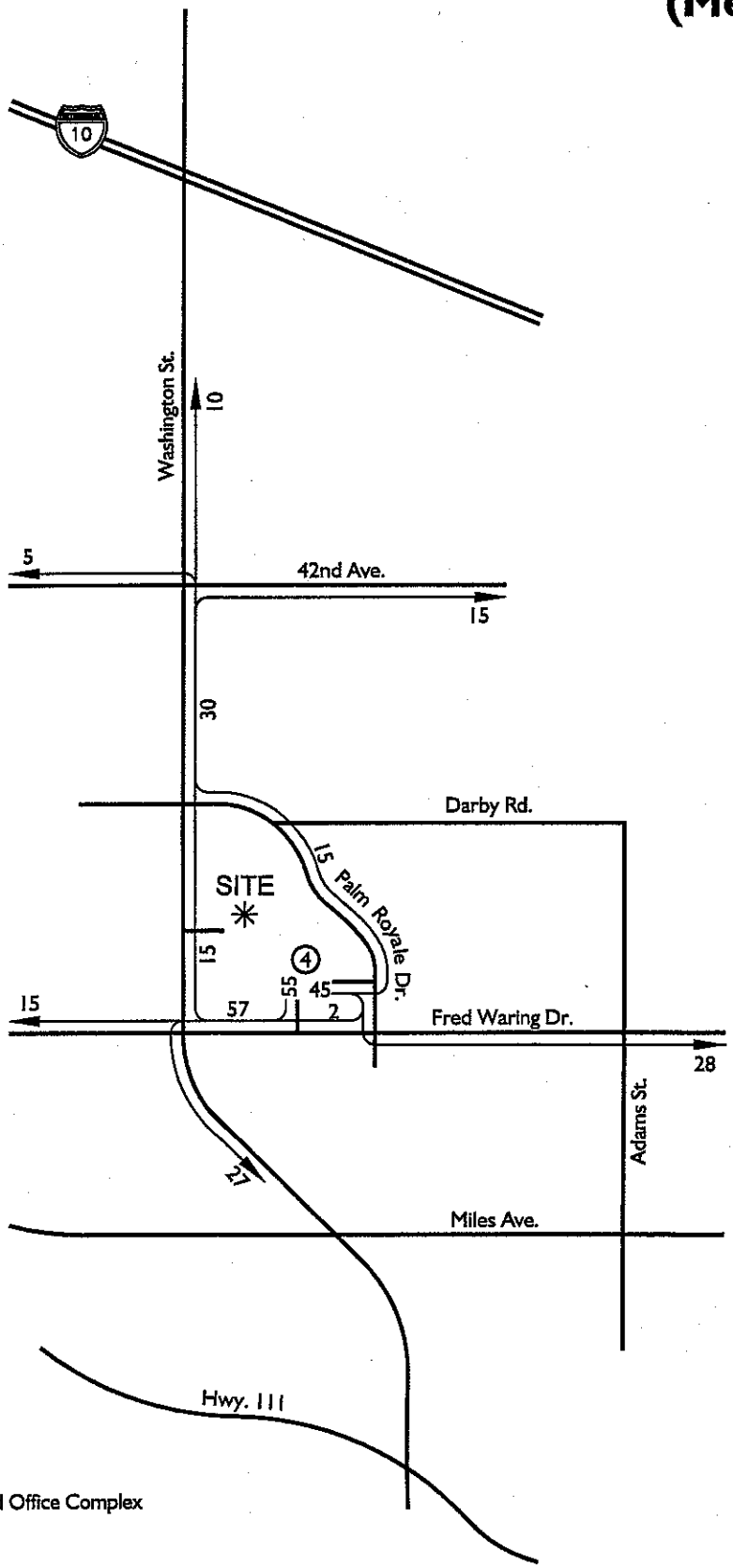
(4) = La Quinta Retail and Office Complex
10 = Percent to Zone

N

RK engineering group, inc.

Exhibit O-2

Zone 4 Outbound Trip Distribution (Medical Office)



Legend:

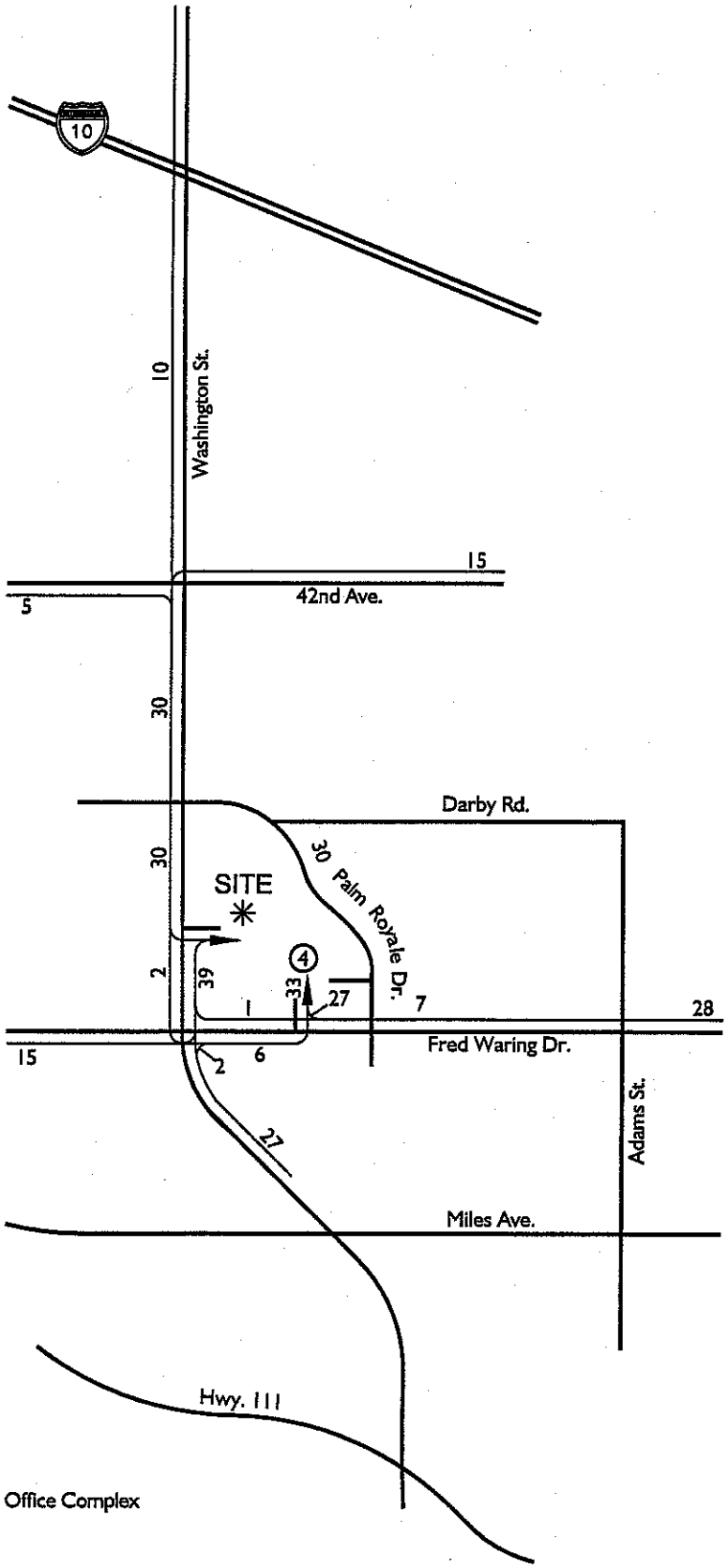
(4) = La Quinta Retail and Office Complex
10 = Percent from Zone

N

RK engineering group, inc.

Exhibit P-1

Zone 4 Inbound Trip Distribution (Retail)



Legend:

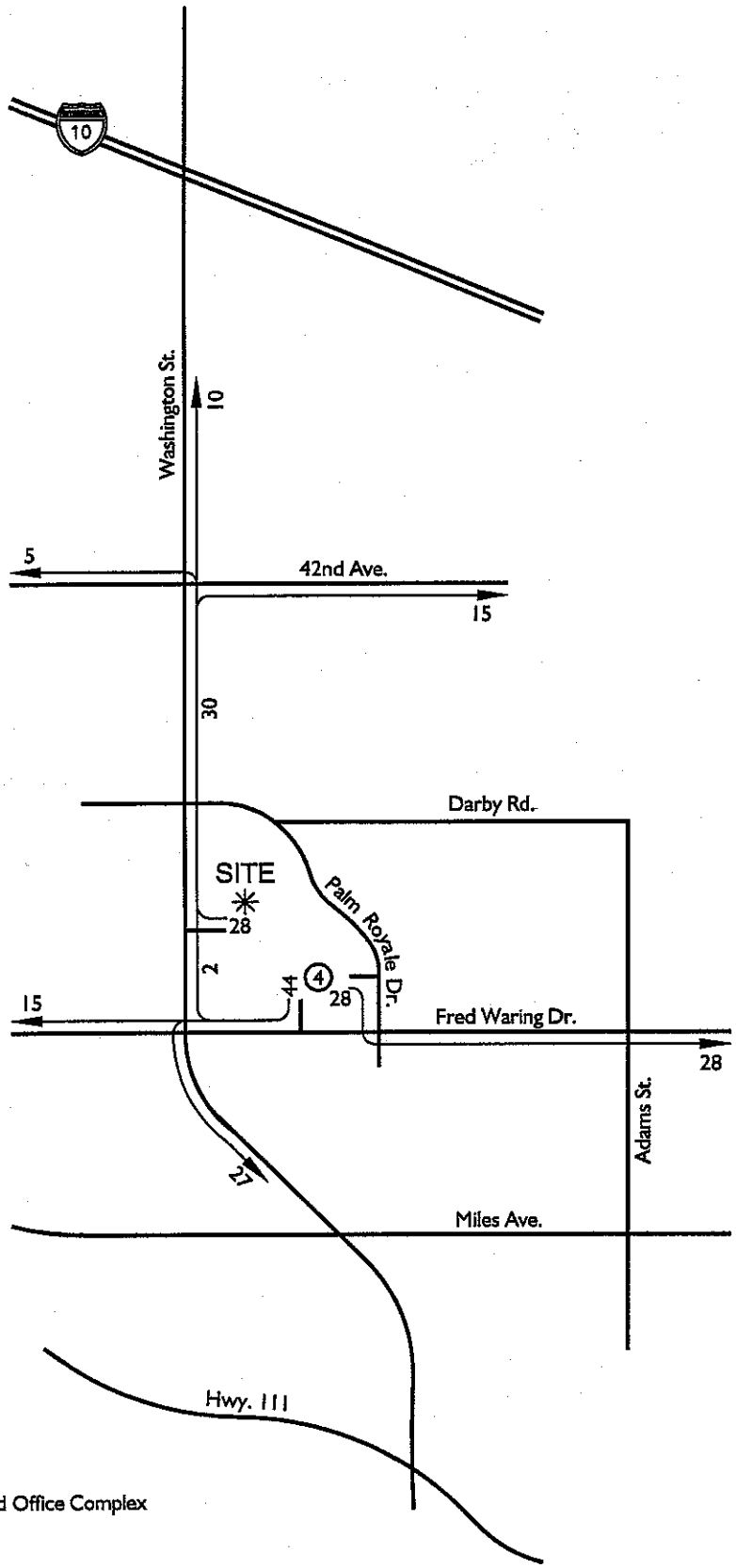
(4) = La Quinta Retail and Office Complex
10 = Percent to Zone

N

RK engineering group, inc.

Exhibit P-2

Zone 4 Outbound Trip Distribution (Retail)



Legend:

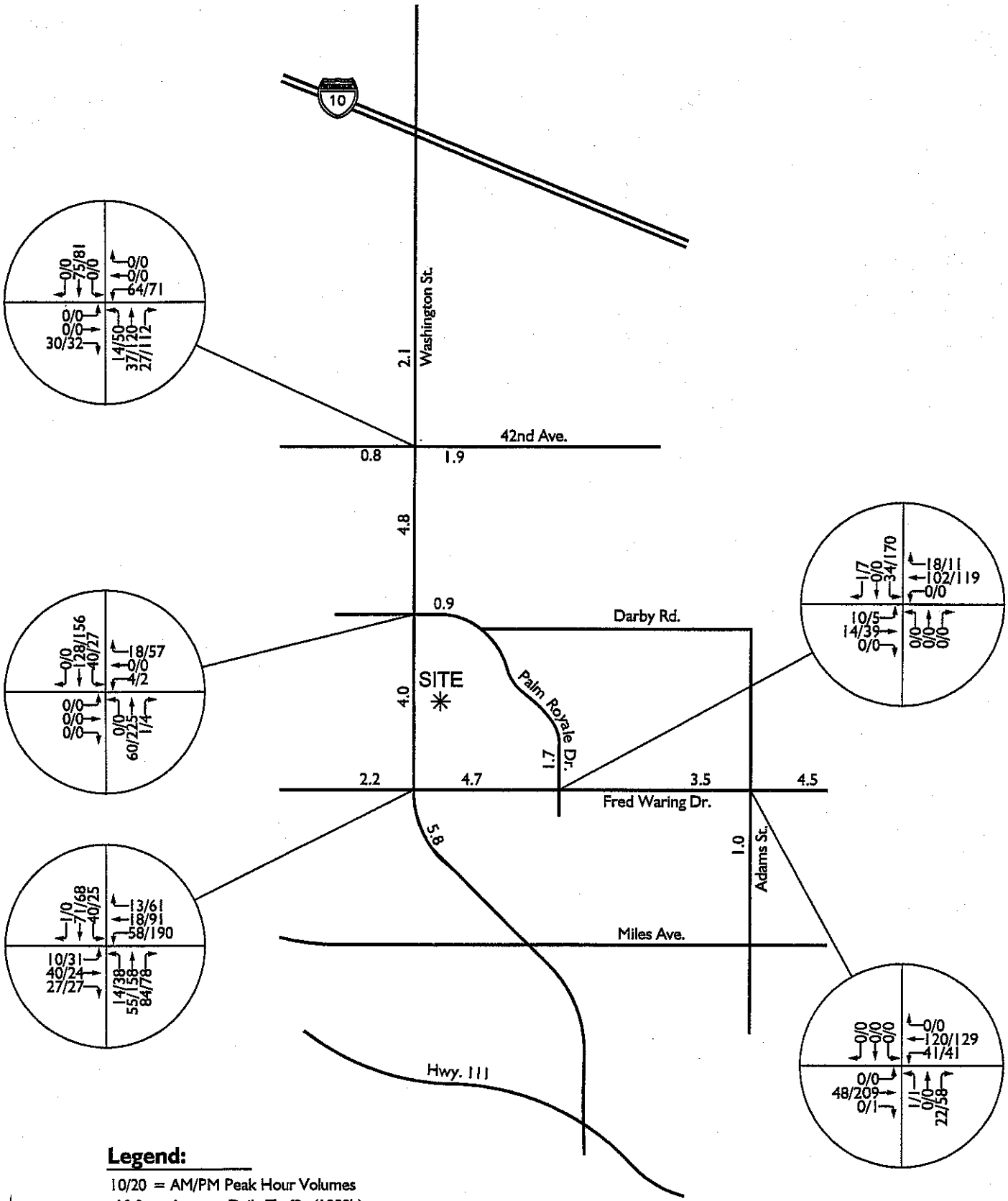
(4) = La Quinta Retail and Office Complex
10 = Percent from Zone

N

RK engineering group, inc.

Exhibit Q

Cumulative Development Traffic Volumes



Legend:

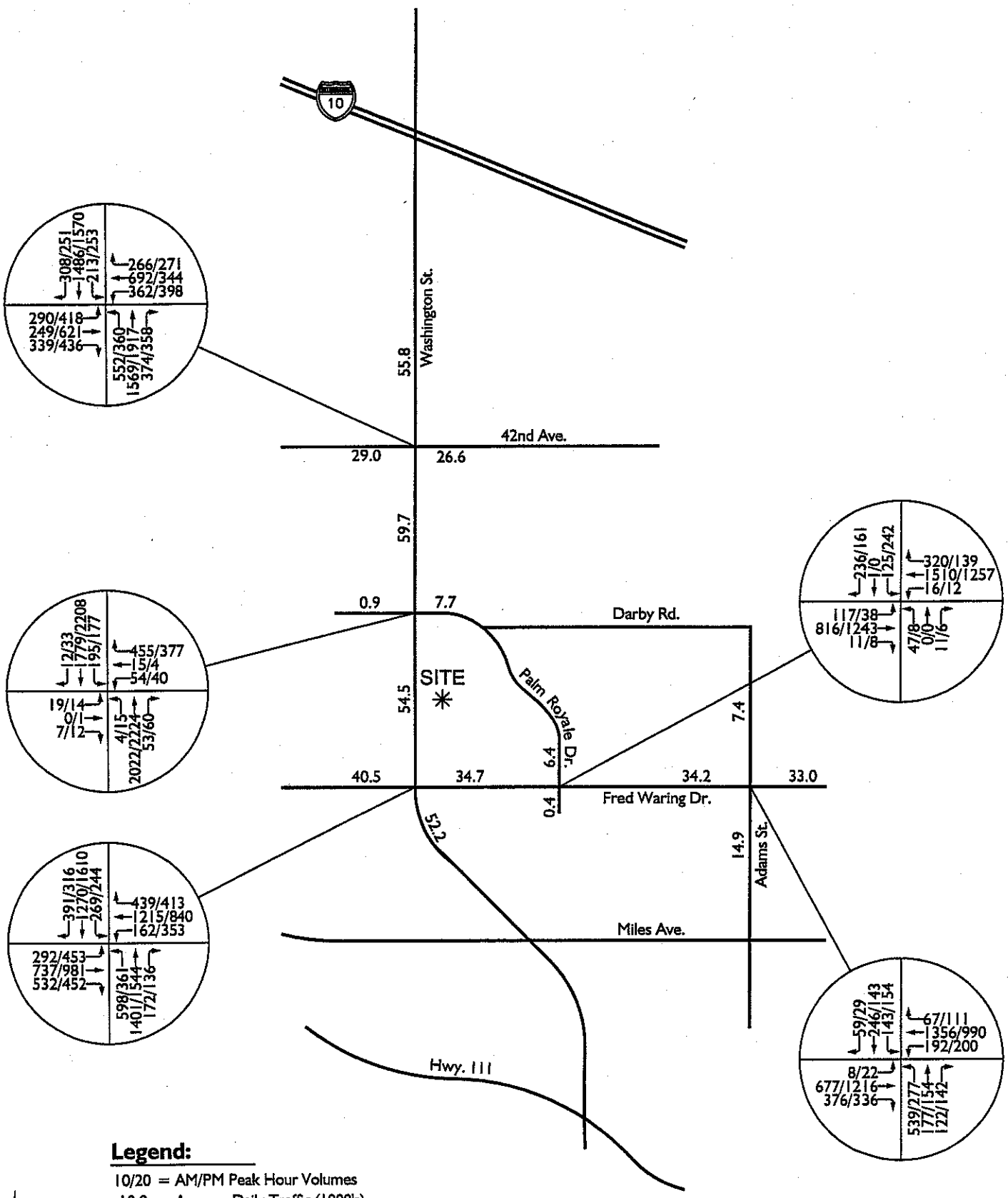
10/20 = AM/PM Peak Hour Volumes
10.0 = Average Daily Traffic (1000's)

N

RK engineering group, inc.

Exhibit R

Project Buildout (Year 2009) Without Project Traffic Volumes



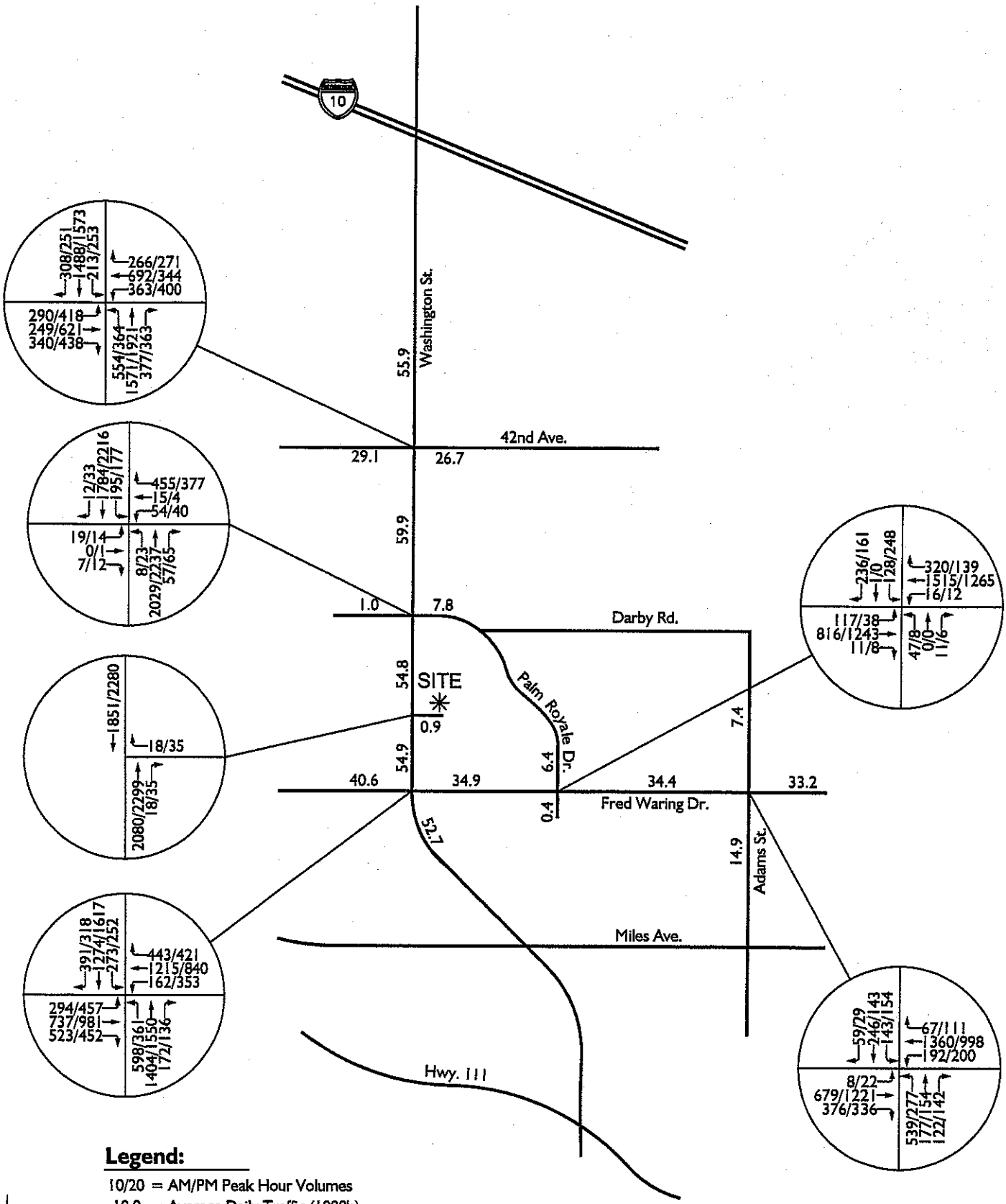
Legend:

10/20 = AM/PM Peak Hour Volumes
10.0 = Average Daily Traffic (1000's)

N

Exhibit S

Project Buildout (Year 2009) With Project Traffic Volumes

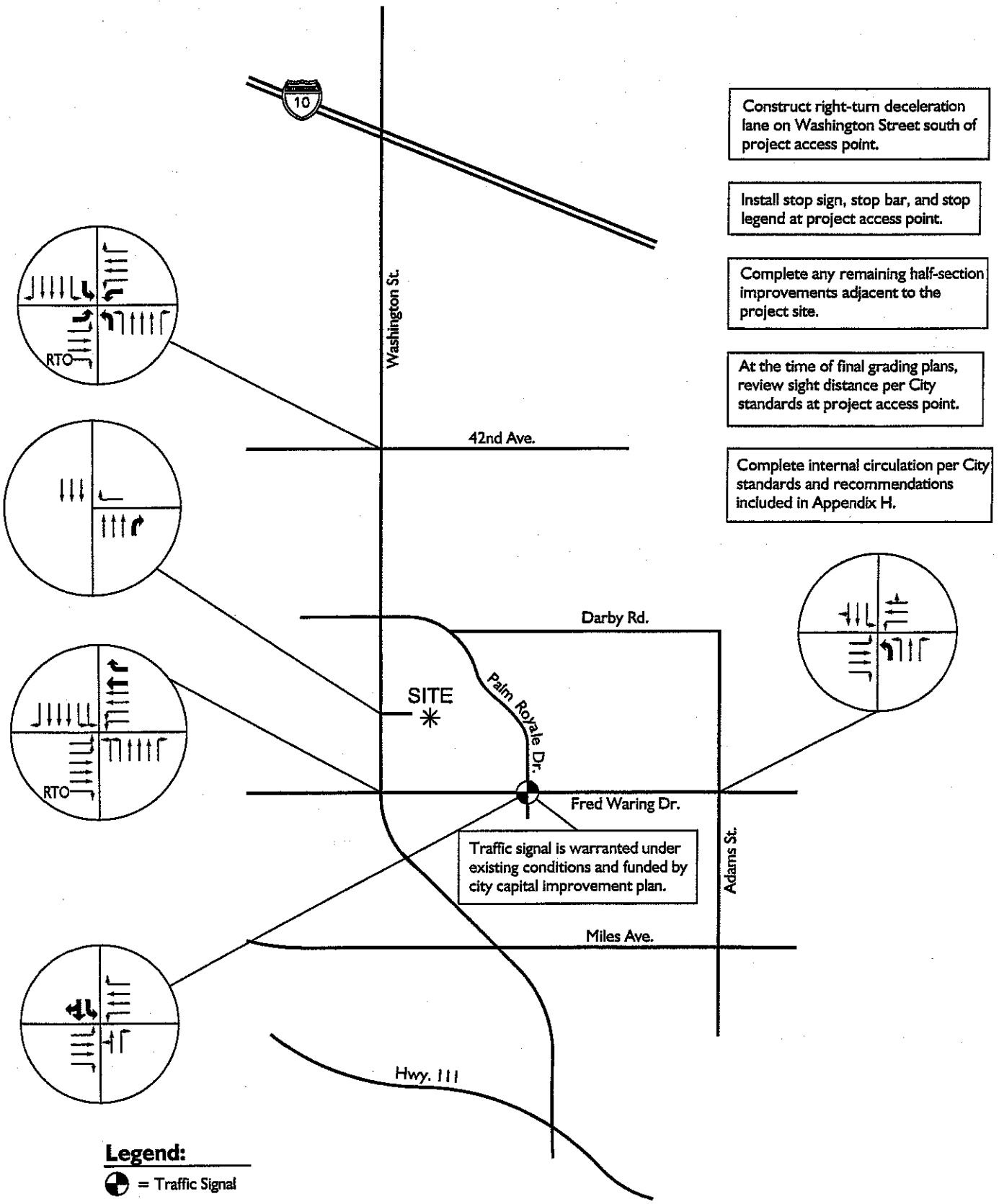


Legend:

10/20 = AM/PM Peak Hour Volumes
10.0 = Average Daily Traffic (1000's)

N

Exhibit T
Recommendations



Construct right-turn deceleration lane on Washington Street south of project access point.

Install stop sign, stop bar, and stop legend at project access point.

Complete any remaining half-section improvements adjacent to the project site.

At the time of final grading plans, review sight distance per City standards at project access point.

Complete internal circulation per City standards and recommendations included in Appendix H.

Traffic signal is warranted under existing conditions and funded by city capital improvement plan.

Legend:

= Traffic Signal

RTO = Right Turn Overlap

= Free Right Turn

= Improvements

N

RK engineering group, inc.

Tables

TABLE 1

Intersection Analysis For Existing Conditions

Intersection	Traffic Control[3]	Intersection Approach Lane(s)[1]												Delay[2] (Seconds)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Washington St. (NS) at:																	
• Avenue 42 (EW)	TS	1	3	1	1	3	1	1	2	1	1	2	1	72.3[4]	--[4]	E	F
• Palm Royale Dr./Mountain View Ave. (EW)	TS	1	3	1>	2	2.5	0.5	1	0.5	0.5	1	1	1>	28.8	22.5	C	C
• Fred Waring Drive (EW)	TS	2	3	1	2	3	1	2	3	1	2	2	1	64.5[3]	36.8	E	D
Palm Royale Dr. (NS) at:																	
• Fred Waring Drive (EW)	CSS	0.5	0.5	1	0	1!	0	1	2	1	1	2	1	--[4]	--[4]	F	F
Adams St.. (NS) at:																	
• Fred Waring Drive (EW)	TS	1	1	1	1	1.5	0.5	1	2	1	1	1.5	0.5	47.9	27.0	D	C

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. Where "1" is indicated for the through movement and "0"s are indicated for R/L movements, the R and/or L turns are shared with the through movement.

L = Left; T = Through; R = Right; > = Right Turn Overlap; >> = Free Right Turn; **Bold** = Improvement

[2] Analysis Software: Traffix, Version 7.9. Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal
CSS = Cross Street Stop

[4] Delay high and/or V/C Ratio ≥ 0.90 Intersection unstable. Level of Service F.

TABLE 2

Trip Generation Rates[1]

Land Use	ITE Code	Units[2]	Peak Hour				Daily
			AM		PM		
			In	Out	In	Out	
Automated Car Wash	948	TSF/SITE	18.00	18.00	7.06	7.06	900.00

[1] Source: Institute of Transportation Engineers (ITE), *Trip Generation, 7th Edition*, 2003 and SANDAG.

[2] TSF = Thousand Square Feet used for PM Peak rate per ITE
SITE = Project Site used for Daily and AM peak rate per SANDAG

TABLE 3

Project Trip Generation

Land Use	ITE Code	Quantity	Units[1]	Peak Hour						Daily
				AM			PM			
				In	Out	Total	In	Out	Total	
Automated Car Wash	948	4.924	TSF/SITE	18	18	36	35	35	70	900
Less 25% pass-by reduction				-4	-5	-9	-9	-9	-18	-225
Net Total[2]				14	13	27	26	26	52	675
Gross Total[3]				18	18	36	35	35	70	900

[1] TSF = Thousand Square Feet used for PM Peak rate per ITE
SITE = Project Site used for Daily and AM peak rate per SANDAG

[2] Net trips with pass-by reduction; Utilized for ananlysis at study area intersections.

[3] Gross trips without pass-by reduction; Utilized for analysis at Project Access Point 1.

TABLE 4

Other Development Trip Generation[1]

Zone	Project	Land Use	Quantity	Units[2]	Peak Hour AM In	Peak Hour AM Out	Peak Hour PM In	Peak Hour PM Out	Daily
1	Vista Dunes Affordable Housing (75% Leased)	Apartments	20	DU	2	8	8	4	134
2	Centre Pointe (SP 01-055)	Medical-Dental Office Building (Phase 1)	83.600	TSF	164	43	84	227	3020
		Assisted Living (Senior)	160	BEDS	14	8	16	19	35
		Apartments (Low Income)	60	DU	4	13	16	8	201
		Shopping Center	20.000	TSF	36	23	104	113	2386
		High Turnover (Sit-Down) Restaurant(s)	13.600	TSF	81	75	91	58	2154
	Less Pass-By Reduction for Retail and Restaurant Uses (25%)				-29	-25	-49	-43	-1135
	Net Total				**270**	**137**	**262**	**382**	**6,661**
3	Mediterra Apartments (85% Leased)	Apartments	34	DU	**3**	**14**	**14**	**7**	**228**
4	La Quinta Retail and Office Complex	Medical-Dental Office Building	130.450	TSF	256	68	130	355	4713
		Shopping Center	103.972	TSF	98	62	308	334	6965
	Less Pass-By Reduction for Retail Use (25%)				-25	-16	-77	-84	-1,741
	Net Total				**329**	**114**	**361**	**605**	**9,937**
CUMULATIVE DEVELOPMENT TOTAL					**604**	**273**	**645**	**998**	**16,960**

[1] Source: Institute of Transportation Engineers (ITE), Trip Generation, 7th Edition, 2003.

[2] TSF = Thousand Square Feet
DU = Dwelling Units

j:/rktables/RK6833TB
JN:2072-2008-01

TABLE 5

Intersection Analysis For Project Buildout (Year 2009) Without Project Conditions

Intersection	Traffic Control[3]	Intersection Approach Lane(s)[1]												Delay[2] (Seconds)		Level of Service	
		Northbound			Southbound			Eastbound			Westbound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Washington St. (NS) at:																	
• Avenue 42 (EW)	TS	1	3	1	1	3	1	1	2	1	1	2	1	--[4]	--[4]	F	F
- With Improvements	TS	**2**	3	1	**2**	3	1	**2**	2	**1>**	**2**	2	1	37.2	43.7	D	D
• Palm Royale Dr./Mountain View Ave	TS	1	3	1>	2	2.5	0.5	1	0.5	0.5	1	1	1>	33.6	30.5	C	C
• Fred Waring Drive (EW)	TS	2	3	1	2	3	1	2	3	1	2	2	1	61.0[4]	54.1[4]	E	D
- With Improvements	TS	2	3	1	2	3	1	2	3	**1>**	2	**3**	**1>**	44.0	44.4	D	D
Palm Royale Dr. (NS) at:																	
• Fred Waring Drive (EW)	CSS	0.5	0.5	1	0	1!	0	1	2	1	1	2	1	--[4]	--[4]	F	F
- With Improvements	**TS**	0.5	0.5	1	**1**	0.5	0.5	1	2	1	1	2	1	10.6	10.4	B	B
Adams St.. (NS) at:																	
• Fred Waring Drive (EW)	TS	1	1	1	1	1.5	0.5	1	2	1	1	1.5	0.5	60.8[4]	31.9	E	C
- With Improvements	TS	**2**	1	1	1	1.5	0.5	1	2	1	1	1.5	0.5	35.6	28.7	D	C

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. Where "1" is indicated for the through movement and "0"s are indicated for R/L movements, the R and/or L turns are shared with the through movement.

L = Left; T = Through; R = Right; > = Right Turn Overlap; >> = Free Right Turn; **Bold** = Improvement

[2] Analysis Software: Traffix, Version 7.9. Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal

CSS = Cross Street Stop

[4] Delay high and/or V/C Ratio ≥ 0.90. Intersection unstable. Level of Service F.

TABLE 6

Intersection Analysis For Project Buildout (Year 2009) With Project Conditions

Intersection	Traffic Control[3]	Intersection Approach Lane(s)[1]												Delay[2] (Seconds)		Level of Service		Significant Impact[5]	
		Northbound			Southbound			Eastbound			Westbound								
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM
Washington St. (NS) at:																			
• Avenue 42 (EW)	TS	1	3	1	1	3	1	1	2	1	1	2	1	--[4]	--[4]	F	F	N	N
- With Improvements	TS	**2**	3	1	**2**	3	1	**2**	2	**1>**	**2**	2	1	37.3	43.8	D	D	N	N
• Palm Royale Dr./Mountain View Ave. (EW)	TS	1	3	1>	2	2.5	0.5	1	0.5	0.5	1	1	1>	33.7	30.7	C	C	N	N
• Site Access (EW)	CSS	0	2.5	0.5	0	3	0	--	--	--	0	0	1	15.4	17.7	C	C	--	--
- With Improvements	CSS	0	3	**1**	0	3	0	--	--	--	0	0	1	15.3	17.3	C	C	--	--
• Fred Waring Drive (EW)	TS	2	3	1	2	3	1	2	3	1	2	2	1	61.4[4]	55.0[4]	E	D	N	N
- With Improvements	TS	2	3	1	2	3	1	2	3	**1>**	2	**3**	**1>**	44.1	44.7	D	D	N	N
Palm Royale Dr. (NS) at:																			
• Fred Waring Drive (EW)	CSS	0.5	0.5	1	0	1!	0	1	2	1	1	2	1	--[4]	--[4]	F	F	N	Y
- With Improvements	**TS**	0.5	0.5	1	**1**	0.5	0.5	1	2	1	1	2	1	10.6	10.8	B	B	N	N
Adams St.. (NS) at:																			
• Fred Waring Drive (EW)	TS	1	1	1	1	1.5	0.5	1	2	1	1	1.5	0.5	61.0[4]	32.0	E	C	N	N
- With Improvements	TS	**2**	1	1	1	1.5	0.5	1	2	1	1	1.5	0.5	35.7	28.8	D	C	N	N

[1] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. Where "1" is indicated for the through movement and "0"s are indicated for R/L movements, the R and/or L turns are shared with the through movement.

L = Left; T = Through; R = Right; > = Right Turn Overlap; >> = Free Right Turn; **Bold** = Improvement

[2] Analysis Software: Traffix, Version 7.8. Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all-way stop control. For intersections with cross-street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal
CSS = Cross Street Stop

[4] Delay high and/or V/C Ratio ≥ 0.90. Intersection unstable. Level of Service F.

[5] N = No
Y = Yes

TABLE 7

Project Fair-Share Intersection Contribution
Project Percent of Project Buildout (Year 2009) Growth in Traffic

Intersection	Existing Traffic		Project Buildout (Year 2009) With Project Traffic		Growth in Traffic		Project Traffic		Project % of Project Buildout (Year 2009) Growth in Traffic	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Washington St. (NS) at:										
• Avenue 42 (EW)	6,144	6,409	6,709	7,215	565	806	11	21	1.9%	2.6%
• Palm Royale Dr./Mountain View Ave. (EW)	4,157	4,469	4,635	5,197	478	728	18	34	3.8%	4.7%
• Project Access (EW)	3,550	3,972	3,968	4,649	418	677	47	91	11.2%	13.4%
• Fred Waring Drive (EW)	6,703	6,583	7,486	7,738	783	1,155	18	35	2.3%	3.0%
Palm Royale Dr. (NS) at:										
• Fred Waring Drive (EW)	2,887	2,633	3,218	3,130	331	497	7	13	2.1%	2.6%
Adams St. (NS) at:										
• Fred Waring Drive (EW)	3,552	3,177	3,968	3,788	416	611	7	13	1.7%	2.1%

TABLE 8

Summary Intersection Analysis

Intersection	Existing				Project Buildout (Year 2009) Without Project				Project Buildout (Year 2009) Without Project With Improvements				Project Buildout (Year 2009) With Project				Project Buildout (Year 2009) With Project With Improvements				Significant Impact[4]	
	HCM[1]		LOS[2]		HCM[1]		LOS[2]		HCM[1]		LOS[2]		HCM[1]		LOS[2]		HCM[1]		LOS[2]			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Washington St. (NS) at:																						
• Avenue 42 (EW)	72.3[3]	--[3]	E	F	--[3]	--[3]	F	F	37.2	43.7	D	D	--[3]	--[3]	F	F	37.3	43.8	D	D	N	N
• Palm Royale Dr./Mountain View Ave. (EW)	28.8	22.5	C	C	33.6	30.5	C	C	--	--	--	--	33.7	30.7	C	C	--	--	--	--	N	N
• Project Access (EW)	--	--	--	--	--	--	--	--	--	--	--	--	15.4	17.7	C	C	15.3	17.3	C	C	--	--
• Fred Waring Drive (EW)	64.5[3]	36.8	E	D	61.0[3]	54.1[3]	E	D	44.0	44.4	D	D	61.4[3]	55.0[3]	E	D	44.1	44.7	D	D	N	N
Palm Royale Dr. (NS) at:																						
• Fred Waring Drive (EW)	--[3]	--[3]	F	F	--[3]	--[3]	F	F	10.6	10.4	B	B	--[3]	--[3]	F	F	10.6	10.8	B	B	N	Y
Adams St.. (NS) at:																						
• Fred Waring Drive (EW)	47.9	27.0	D	C	60.8[3]	31.9	E	C	35.6	28.7	D	C	61.0[3]	32.0	E	C	35.7	28.8	D	C	N	N

[1] HCM = Highway Capacity Manual

[2] LOS = Level of Service

[3] Delay high and/or V/C Ratio ≥ 0.90. Intersection unstable. Level of Service F.

[4] N = No
Y = Yes

j:/rktables/RK6833TB
JN:2072-2008-01

Appendices

Appendix A

Traffic Count Worksheets

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Washington St DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Avenue 42 DAY: WEDNESDAY PROJECT# 08-3160-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	1	1	3	1	1	2	0	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	59	211	31	22	201	40	44	30	31	36	90	31	826
7:15 AM	69	227	40	21	226	59	42	37	36	49	102	36	944
7:30 AM	78	241	49	27	240	70	51	43	47	68	119	35	1068
7:45 AM	86	251	63	36	239	54	57	46	52	51	113	41	1089
8:00 AM	90	267	70	42	232	37	47	38	61	38	127	46	1095
8:15 AM	112	283	54	40	249	48	42	42	50	46	112	59	1137
8:30 AM	92	230	37	38	207	42	38	44	37	50	92	51	958
8:45 AM	61	199	41	29	202	32	41	46	46	39	76	43	855
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 647	NT 1909	NR 385	SL 255	ST 1796	SR 382	EL 362	ET 326	ER 360	WL 377	WT 831	WR 342	TOTAL 7972

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	366	1042	236	145	960	209	197	169	210	203	471	181	4389
+40%	512	1459	330	203	1344	293	276	237	294	284	659	253	6145
PEAK HR. FACTOR:		0.915			0.975			0.929			0.963		0.965

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Washington St | DATE: 6/11/2008 | LOCATION: City of La Quinta

E-W STREET: Avenue 42 | DAY: WEDNESDAY | PROJECT# 08-3160-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	1	1	3	1	1	2	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	49	300	21	23	238	60	84	71	55	57	66	20	1044
4:15 PM	65	340	37	37	291	41	69	84	49	49	57	19	1138
4:30 PM	47	312	31	29	240	52	62	97	67	51	48	24	1060
4:45 PM	59	343	43	37	271	48	71	84	59	60	51	31	1157
5:00 PM	53	351	49	41	301	37	76	97	63	49	63	42	1222
5:15 PM	52	298	36	46	214	40	68	112	72	53	58	53	1102
5:30 PM	47	230	39	48	227	46	69	129	81	60	62	58	1096
5:45 PM	58	301	60	44	209	41	81	117	79	54	56	41	1141
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 430	NT 2475	NR 316	SL 305	ST 1991	SR 365	EL 580	ET 791	ER 525	WL 433	WT 461	WR 288	TOTAL 8960

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	211	1222	167	172	1013	171	284	422	275	222	234	184	4577
+40%	295	1711	234	241	1418	239	398	591	385	311	328	258	6408
PEAK HR. FACTOR:		0.883			0.894			0.879			0.889		0.936

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Washington St DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Palm Royal Dr DAY: WEDNESDAY PROJECT# 08-3160-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	2	3	0	1	0.5	0.5	1	1	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	1	286	10	19	254	3	3		1	8	0	42	627
7:15 AM	1	298	21	46	274	3	1		0	10	1	7	662
7:30 AM	0	299	17	39	287	1	4		0	11	2	91	751
7:45 AM	2	340	10	29	281	2	2		1	7	3	82	759
8:00 AM	0	381	5	24	297	3	2		2	5	4	72	795
8:15 AM	1	315	4	14	258	2	5		2	11	1	52	665
8:30 AM	0	299	6	16	287	0	3		1	9	2	47	670
8:45 AM	1	268	4	12	279	1	2		0	7	1	35	610
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	6	2486	77	199	2217	15	22	0	7	68	14	428	5539

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	3	1335	36	106	1123	8	13	0	5	34	10	297	2970
+40%	4	1869	50	148	1572	11	18	0	7	48	14	416	4158
PEAK HR. FACTOR:		0.890			0.946			0.643			0.820		0.934

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Washington St DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Palm Royal Dr DAY: WEDNESDAY PROJECT# 08-3160-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	2	3	0	1	0.5	0.5	1	1	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	3	349	13	16	312	7	3	1	2	5	0	88	799
4:15 PM	3	330	7	27	309	4	1	0	2	4	0	60	747
4:30 PM	1	329	10	25	320	6	4	0	4	7	0	71	777
4:45 PM	2	340	12	31	385	4	2	1	2	8	1	62	850
5:00 PM	0	304	13	28	356	5	2	0	3	11	2	65	789
5:15 PM	5	325	5	21	318	7	4	0	1	2	0	40	728
5:30 PM	3	391	8	22	337	6	1	0	2	5	0	51	826
5:45 PM	2	340	9	19	341	7	3	1	1	6	1	29	759
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 19	NT 2708	NR 77	SL 189	ST 2678	SR 46	EL 20	ET 3	ER 17	WL 48	WT 4	WR 466	TOTAL 6275

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	10	1360	38	102	1396	22	9	1	8	26	3	218	3193
+40%	14	1904	53	143	1954	31	13	1	11	36	4	305	4470
PEAK HR. FACTOR:		0.876			0.905			0.900			0.792		0.939

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Washington St DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Fred Waring Dr DAY: WEDNESDAY PROJECT# 08-3160-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	1	2	3	1	2	3	1	2	2	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	71	218	17	30	175	45	16	83	36	14	135	71	911
7:15 AM	93	220	21	26	164	49	31	88	47	22	170	70	1001
7:30 AM	110	221	17	33	191	62	43	91	61	25	172	59	1085
7:45 AM	115	239	19	41	208	74	47	123	68	20	202	72	1228
8:00 AM	109	252	14	36	221	80	64	82	74	19	148	80	1179
8:15 AM	92	218	15	40	208	49	46	135	109	15	204	73	1204
8:30 AM	81	207	12	39	179	62	35	134	86	17	260	65	1177
8:45 AM	77	194	11	32	202	49	29	89	82	12	152	58	987
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	748	1769	126	277	1548	470	311	825	563	144	1443	548	8772
AM Peak Hr Begins at:		745 AM											
PEAK VOLUMES =	397	916	60	156	816	265	192	474	337	71	814	290	4788
+40%	556	1282	84	218	1142	371	269	664	472	99	1140	406	6703
PEAK HR. FACTOR:		0.915			0.918			0.865			0.859		0.975

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Washington St DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Fred Waring Dr DAY: WEDNESDAY PROJECT# 08-3160-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	1	2	3	1	2	3	1	2	2	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	63	226	10	33	217	38	79	195	76	12	98	89	1136
4:15 PM	60	264	14	34	269	55	68	164	67	51	116	75	1237
4:30 PM	59	231	12	37	271	61	72	130	71	30	129	48	1151
4:45 PM	53	228	9	31	249	53	78	162	81	21	149	56	1170
5:00 PM	48	220	4	47	260	46	69	195	70	9	115	60	1143
5:15 PM	42	210	3	15	208	32	72	179	77	16	123	52	1029
5:30 PM	54	221	6	29	281	29	65	168	84	21	107	63	1128
5:45 PM	62	239	4	23	264	32	67	175	89	19	98	57	1129
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 441	NT 1839	NR 62	SL 249	ST 2019	SR 346	EL 570	ET 1368	ER 615	WL 179	WT 935	WR 500	TOTAL 9123

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	220	943	39	149	1049	215	287	651	289	111	509	239	4701
+40%	308	1320	55	209	1469	301	402	911	405	155	713	335	6581
PEAK HR. FACTOR:		0.889			0.957			0.918			0.887		0.950

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Palm Royale Dr DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Fred Waring Dr DAY: WEDNESDAY PROJECT# 08-3160-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	1	1	1	1	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	4	0	1	7	0	24	10	108	2	1	200	25	382
7:15 AM	6	1	3	12	0	27	18	114	3	2	241	50	477
7:30 AM	7	0	2	10	0	32	22	120	1	3	240	71	508
7:45 AM	8	0	2	24	0	66	21	139	3	3	238	66	570
8:00 AM	10	0	1	18	1	39	18	132	2	2	211	46	480
8:15 AM	7	0	2	10	0	23	12	155	1	3	269	23	505
8:30 AM	8	0	4	8	1	11	6	177	2	4	237	11	469
8:45 AM	2	1	0	6	0	9	8	123	0	2	212	6	369
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	52	2	15	95	2	231	115	1068	14	20	1848	298	3760

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	32	0	7	62	1	160	73	546	7	11	958	206	2063
+40%	45	0	10	87	1	224	102	764	10	15	1341	288	2888
PEAK HR. FACTOR:		0.886			0.619			0.932			0.936		0.905

CONTROL: 2-Way Stop NB & SB

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Palm Royale Dr DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Fred Waring Dr DAY: WEDNESDAY PROJECT# 08-3160-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	1	1	1	1	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	1	0	0	13	0	24	4	236	1	1	215	27	522
4:15 PM	2	0	2	17	0	29	6	209	2	3	210	23	503
4:30 PM	3	0	1	2	0	34	7	179	3	2	148	25	404
4:45 PM	0	0	1	17	0	18	5	195	0	2	201	12	451
5:00 PM	2	1	0	12	1	1	3	243	2	3	176	10	454
5:15 PM	1	0	2	10	0	7	2	195	4	2	190	11	424
5:30 PM	3	0	1	8	1	4	1	222	6	1	169	8	424
5:45 PM	2	1	1	4	0	3	2	203	4	2	148	8	378
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 14	NT 2	NR 8	SL 83	ST 2	SR 120	EL 30	ET 1682	ER 22	WL 16	WT 1457	WR 124	TOTAL 3560

PM Peak Hr Begins at: 400 PM

PEAK VOLUMES =	6	0	4	49	0	105	22	819	6	8	774	87	1880
+40%	8	0	6	69	0	147	31	1147	8	11	1084	122	2632
PEAK HR. FACTOR:		0.625			0.837			0.879			0.894		0.900

CONTROL: 2-Way Stop NB & SB

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Adams St | DATE: 6/11/2008 | LOCATION: City of La Quinta

E-W STREET: Fred Waring Dr | DAY: WEDNESDAY | PROJECT# 08-3160-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	1	2	1	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	89	27	16	25	39	14	3	70	51	14	217	14	579
7:15 AM	94	31	18	28	46	12	1	91	63	18	216	10	628
7:30 AM	89	34	20	33	50	9	2	121	77	22	190	11	658
7:45 AM	104	25	19	22	41	10	1	115	64	34	220	13	668
8:00 AM	79	31	11	14	30	9	2	101	52	29	215	12	585
8:15 AM	58	28	12	12	27	7	1	92	44	26	163	9	479
8:30 AM	44	24	8	8	18	6	0	80	41	18	112	11	370
8:45 AM	40	16	9	6	13	2	1	71	33	14	141	10	356
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													
TOTAL VOLUMES =	NL 597	NT 216	NR 113	SL 148	ST 264	SR 69	EL 11	ET 741	ER 425	WL 175	WT 1474	WR 90	TOTAL 4323

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	366	121	68	97	167	40	6	428	256	103	841	46	2539
+40%	512	169	95	136	234	56	8	599	358	144	1177	64	3555
PEAK HR. FACTOR:		0.938			0.826			0.863			0.927		0.950

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Adams St DATE: 6/11/2008 LOCATION: City of La Quinta

E-W STREET: Fred Waring Dr DAY: WEDNESDAY PROJECT# 08-3160-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	1	1	2	0	1	2	1	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	38	17	9	21	31	5	5	166	41	14	117	15	479
4:15 PM	51	19	14	28	22	7	3	176	56	21	137	17	551
4:30 PM	47	26	12	35	24	6	4	193	66	26	150	21	610
4:45 PM	41	32	13	25	26	3	6	157	50	27	141	17	538
5:00 PM	49	28	18	17	25	4	2	159	56	34	158	21	571
5:15 PM	42	21	21	12	18	3	3	147	63	26	140	18	514
5:30 PM	39	24	20	10	19	2	4	151	57	27	137	17	507
5:45 PM	40	19	16	3	18	2	0	168	51	49	152	11	529
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													
TOTAL VOLUMES =	NL 347	NT 186	NR 123	SL 151	ST 183	SR 32	EL 27	ET 1317	ER 440	WL 224	WT 1132	WR 137	TOTAL 4299

PM Peak Hr Begins at: 415 PM

PEAK VOLUMES =	188	105	57	105	97	20	15	685	228	108	586	76	2270
+40%	263	147	80	147	136	28	21	959	319	151	820	106	3178
PEAK HR. FACTOR:		0.921			0.854			0.882			0.904		0.930

CONTROL: Signalized

Appendix B

Existing Level of Service Analysis Worksheets

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
AM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 110 Critical Vol./Cap.(X): 1.065
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 72.3
Optimal Cycle: OPTIMIZED Level Of Service: E

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	7		7		7	7		7		7	7		7		7	7		7		7
Lanes:	1	0	3	0	1	1	0	3	0	1	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	512		1459		330	203		1344		293	276		237		294	284		659		253
Growth Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	512		1459		330	203		1344		293	276		237		294	284		659		253
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	0.97		0.97		0.97	0.97		0.97		0.97	0.97		0.97		0.97	0.97		0.97		0.97
PHF Volume:	531		1512		342	210		1393		304	286		246		305	294		683		262
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	531		1512		342	210		1393		304	286		246		305	294		683		262
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	531		1512		342	210		1393		304	286		246		305	294		683		262
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.95		0.85	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		2.00		1.00	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3610		1615	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.29		0.29		0.21	0.12		0.27		0.19	0.16		0.07		0.19	0.16		0.19		0.16
Crit Moves:	****							****			****							****		
Green/Cycle:	0.28		0.38		0.38	0.15		0.25		0.25	0.15		0.18		0.18	0.15		0.18		0.18
Volume/Cap:	1.06		0.77		0.56	0.77		1.06		0.75	1.06		0.39		1.08	1.08		1.06		0.91
Delay/Veh:	98.5		32.1		28.3	57.7		85.3		45.2	120.0		40.6		121.0	123.3		99.3		76.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	98.5		32.1		28.3	57.7		85.3		45.2	120.0		40.6		121.0	123.3		99.3		76.0
LOS by Move:	F		C		C	E		F		D	F		D		F	F		F		E
DesignQueue:	25		23		14	11		25		14	15		7		16	16		19		14

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
PM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 120 Critical Vol./Cap.(X): 1.078
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 80.1
Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	7	7			7		7	7			7		7	7			7		7	7			7	
Lanes:	1	0	3	0	1		1	0	3	0	1		1	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	295	1711			234		241	1418			239		398	591			385		311	328			258	
Growth Adj:	1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00	
Initial Bse:	295	1711			234		241	1418			239		398	591			385		311	328			258	
User Adj:	1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00	
PHF Adj:	0.94	0.94			0.94		0.94	0.94			0.94		0.94	0.94			0.94		0.94	0.94			0.94	
PHF Volume:	315	1828			250		257	1515			255		425	631			411		332	350			276	
Reduct Vol:	0	0			0		0	0			0		0	0			0		0	0			0	
Reduced Vol:	315	1828			250		257	1515			255		425	631			411		332	350			276	
PCE Adj:	1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00	
MLF Adj:	1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00	
FinalVolume:	315	1828			250		257	1515			255		425	631			411		332	350			276	
Saturation Flow Module:																								
Sat/Lane:	1900	1900			1900		1900	1900			1900		1900	1900			1900		1900	1900			1900	
Adjustment:	0.95	0.91			0.85		0.95	0.91			0.85		0.95	0.95			0.85		0.95	0.95			0.85	
Lanes:	1.00	3.00			1.00		1.00	3.00			1.00		1.00	2.00			1.00		1.00	2.00			1.00	
Final Sat.:	1805	5187			1615		1805	5187			1615		1805	3610			1615		1805	3610			1615	
Capacity Analysis Module:																								
Vol/Sat:	0.17	0.35			0.15		0.14	0.29			0.16		0.24	0.17			0.25		0.18	0.10			0.17	
Crit Moves:		****					****										****		****					
Green/Cycle:	0.17	0.33			0.33		0.13	0.29			0.29		0.24	0.24			0.24		0.17	0.17			0.17	
Volume/Cap:	1.02	1.08			0.47		1.08	1.02			0.55		1.00	0.74			1.08		1.08	0.57			1.00	
Delay/Veh:	104.8	86.4			32.8		132.4	70.0			37.6		88.7	45.9			114.2		123.2	46.9			103.2	
User DelAdj:	1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00		1.00	1.00			1.00	
AdjDel/Veh:	104.8	86.4			32.8		132.4	70.0			37.6		88.7	45.9			114.2		123.2	46.9			103.2	
LOS by Move:	F	F			C		F	E			D		F	D			F		F	D			F	
DesignQueue:	18	33			12		15	29			13		23	18			22		19	10			16	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
AM Peak Hour

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

Intersection #6 Washington St (NS) at Palm Royale Dr (EW)

Cycle (sec):	90	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	28.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0 3	0	1	2 0 2	1	0	1 0	0	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	4	1869	50	148	1572	11	18	0	7	48	14	416
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	1869	50	148	1572	11	18	0	7	48	14	416
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	4	2001	54	158	1683	12	19	0	7	51	15	445
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	2001	54	158	1683	12	19	0	7	51	15	445
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	2001	54	158	1683	12	19	0	7	51	15	445
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.92	0.91	0.91	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	3.00	1.00	2.00	2.98	0.02	1.00	0.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	5187	1615	3502	5146	36	1805	0	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.03	0.05	0.33	0.33	0.01	0.00	0.00	0.03	0.01	0.28
Crit Moves:		****		****			****					****
Green/Cycle:	0.10	0.44	0.73	0.08	0.42	0.42	0.08	0.00	0.02	0.29	0.23	0.30
Volume/Cap:	0.02	0.88	0.05	0.58	0.78	0.78	0.14	0.00	0.27	0.10	0.03	0.91
Delay/Veh:	36.6	27.1	3.5	43.3	24.5	24.5	39.1	0.0	48.9	23.6	27.2	50.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	27.1	3.5	43.3	24.5	24.5	39.1	0.0	48.9	23.6	27.2	50.6
LOS by Move:	D	C	A	D	C	C	D	A	D	C	C	D
DesignQueue:	0	23	1	4	20	20	1	0	0	2	1	17

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
PM Peak Hour

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

Intersection #6 Washington St (NS) at Palm Royale Dr (EW)

Cycle (sec): 85 Critical Vol./Cap.(X): 0.717
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 22.5
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Ovl						Include						Include						Ovl					
Min. Green:	7	7	7				7	7	7				7	7	7				7	7	7			
Lanes:	1	0	3	0	1		2	0	2	1	0		1	0	0	1	0		1	0	1	0	1	
Volume Module:																								
Base Vol:	14	1904	53				143	1954	31				13	1	11				36	4	305			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	14	1904	53				143	1954	31				13	1	11				36	4	305			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.94	0.94	0.94				0.94	0.94	0.94				0.94	0.94	0.94				0.94	0.94	0.94			
PHF Volume:	15	2028	56				152	2081	33				14	1	12				38	4	325			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	15	2028	56				152	2081	33				14	1	12				38	4	325			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
FinalVolume:	15	2028	56				152	2081	33				14	1	12				38	4	325			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.95	0.91	0.85				0.92	0.91	0.91				0.95	0.86	0.86				0.95	1.00	0.85			
Lanes:	1.00	3.00	1.00				2.00	2.95	0.05				1.00	0.08	0.92				1.00	1.00	1.00			
Final Sat.:	1805	5187	1615				3502	5096	81				1805	136	1501				1805	1900	1615			
Capacity Analysis Module:																								
Vol/Sat:	0.01	0.39	0.03				0.04	0.41	0.41				0.01	0.01	0.01				0.02	0.00	0.20			
Crit Moves:	****							****					****								****			
Green/Cycle:	0.08	0.48	0.60				0.10	0.50	0.50				0.08	0.11	0.11				0.11	0.15	0.25			
Volume/Cap:	0.10	0.81	0.06				0.43	0.81	0.81				0.09	0.07	0.07				0.19	0.02	0.81			
Delay/Veh:	36.4	20.8	7.2				36.7	20.0	20.0				36.3	33.8	33.8				34.5	31.1	42.2			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	36.4	20.8	7.2				36.7	20.0	20.0				36.3	33.8	33.8				34.5	31.1	42.2			
LOS by Move:	D	C	A				D	B	B				D	C	C				C	C	D			
DesignQueue:	1	20	1				3	20	20				1	1	1				2	0	12			

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
AM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec): 115 Critical Vol./Cap.(X): 1.056
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 64.5
Optimal Cycle: OPTIMIZED Level Of Service: E

Approach:	North Bound						South Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected					
Rights:	Include						Include					
Min. Green:	7		7		7		7		7		7	
Lanes:	2	0	3	0	1		2	0	3	0	1	
Volume Module:												
Base Vol:	556		1282		84		218		1142		371	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	556		1282		84		218		1142		371	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.86		0.86		0.86		0.86		0.86		0.86	
PHF Volume:	647		1492		98		254		1329		432	
Reduct Vol:	0		0		0		0		0		0	
Reduced Vol:	647		1492		98		254		1329		432	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	647		1492		98		254		1329		432	
Saturation Flow Module:												
Sat/Lane:	1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		0.91		0.85		0.92		0.91		0.85	
Lanes:	2.00		3.00		1.00		2.00		3.00		1.00	
Final Sat.:	3502		5187		1615		3502		5187		1615	
Capacity Analysis Module:												
Vol/Sat:	0.18		0.29		0.06		0.07		0.26		0.27	
Crit Moves:	****										****	
Green/Cycle:	0.17		0.34		0.34		0.09		0.25		0.25	
Volume/Cap:	1.06		0.84		0.18		0.84		1.01		1.06	
Delay/Veh:	99.6		38.8		26.7		70.5		70.9		103.1	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	99.6		38.8		26.7		70.5		70.9		103.1	
LOS by Move:	F		D		C		E		E		F	
DesignQueue:	18		25		4		8		25		22	

Approach:	East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected					
Rights:	Include						Include					
Min. Green:	7		7		7		7		7		7	
Lanes:	2	0	3	0	1		2	0	2	0	1	
Volume Module:												
Base Vol:	269		664		472		99		1140		406	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	269		664		472		99		1140		406	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.86		0.86		0.86		0.86		0.86		0.86	
PHF Volume:	313		773		549		115		1327		473	
Reduct Vol:	0		0		0		0		0		0	
Reduced Vol:	313		773		549		115		1327		473	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	313		773		549		115		1327		473	
Saturation Flow Module:												
Sat/Lane:	1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		0.91		0.85		0.92		0.95		0.85	
Lanes:	2.00		3.00		1.00		2.00		2.00		1.00	
Final Sat.:	3502		5187		1615		3502		3610		1615	
Capacity Analysis Module:												
Vol/Sat:	0.09		0.15		0.34		0.03		0.37		0.29	
Crit Moves:	****								****			
Green/Cycle:	0.08		0.37		0.37		0.07		0.35		0.35	
Volume/Cap:	1.06		0.41		0.93		0.50		1.06		0.84	
Delay/Veh:	120.5		27.2		55.8		53.6		79.2		45.5	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	120.5		27.2		55.8		53.6		79.2		45.5	
LOS by Move:	F		C		E		D		E		D	
DesignQueue:	10		12		24		4		32		21	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
PM Peak Hour

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

****

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 80 Critical Vol./Cap.(X): 0.877
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 36.8
Optimal Cycle: OPTIMIZED Level Of Service: D

****

Approach:	North Bound						South Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected					
Rights:	Include						Include					
Min. Green:	7		7		7		7		7		7	
Lanes:	2	0	3	0	1		2	0	3	0	1	
Volume Module:												
Base Vol:	308		1320		55		209		1469		301	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	308		1320		55		209		1469		301	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	324		1389		58		220		1546		317	
Reduct Vol:	0		0		0		0		0		0	
Reduced Vol:	324		1389		58		220		1546		317	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	324		1389		58		220		1546		317	
Saturation Flow Module:												
Sat/Lane:	1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		0.91		0.85		0.92		0.91		0.85	
Lanes:	2.00		3.00		1.00		2.00		3.00		1.00	
Final Sat.:	3502		5187		1615		3502		5187		1615	
Capacity Analysis Module:												
Vol/Sat:	0.09		0.27		0.04		0.06		0.30		0.20	
Crit Moves:	****								****			
Green/Cycle:	0.10		0.32		0.32		0.10		0.32		0.32	
Volume/Cap:	0.92		0.84		0.11		0.60		0.92		0.60	
Delay/Veh:	64.0		29.1		19.3		37.0		34.5		24.7	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	64.0		29.1		19.3		37.0		34.5		24.7	
LOS by Move:	E		C		B		D		C		C	
DesignQueue:	7		17		2		5		18		10	

Approach:	East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected					
Rights:	Include						Include					
Min. Green:	7		7		7		7		7		7	
Lanes:	2	0	3	0	1		2	0	2	0	1	
Volume Module:												
Base Vol:	402		911		405		155		713		335	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	402		911		405		155		713		335	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	423		959		426		163		751		353	
Reduct Vol:	0		0		0		0		0		0	
Reduced Vol:	423		959		426		163		751		353	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	423		959		426		163		751		353	
Saturation Flow Module:												
Sat/Lane:	1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		0.91		0.85		0.92		0.95		0.85	
Lanes:	2.00		3.00		1.00		2.00		2.00		1.00	
Final Sat.:	3502		5187		1615		3502		3610		1615	
Capacity Analysis Module:												
Vol/Sat:	0.12		0.18		0.26		0.05		0.21		0.22	
Crit Moves:					****		****					
Green/Cycle:	0.13		0.29		0.29		0.09		0.24		0.24	
Volume/Cap:	0.91		0.64		0.92		0.53		0.86		0.91	
Delay/Veh:	55.1		25.9		50.9		36.7		37.9		53.4	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	55.1		25.9		50.9		36.7		37.9		53.4	
LOS by Move:	E		C		D		D		D		D	
DesignQueue:	9		12		14		3		14		13	

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
AM Peak Hour

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

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

Average Delay (sec/veh): 277.0 Worst Case Level Of Service: F[2215.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	45		0		10		87		1		224		102		764		10		15		1341		288	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	45		0		10		87		1		224		102		764		10		15		1341		288	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91	
PHF Volume:	50		0		11		96		1		248		113		844		11		17		1482		318	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	50		0		11		96		1		248		113		844		11		17		1482		318	
Critical Gap Module:																								
Critical Gp:	7.5		6.5		6.9		7.5		6.5		6.9		4.1	xxxx	xxxxx				4.1	xxxx	xxxxx			
FollowUpTim:	3.5		4.0		3.3		3.5		4.0		3.3		2.2	xxxx	xxxxx				2.2	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	1844		2903		422		2162		2596		741		1800	xxxx	xxxxx				855	xxxx	xxxxx			
Potent Cap.:	47		16		586		27		25		363		347	xxxx	xxxxx				793	xxxx	xxxxx			
Move Cap.:	11		11		586		20		17		363		347	xxxx	xxxxx				793	xxxx	xxxxx			
Volume/Cap:	4.68		0.00		0.02		4.88		0.07		0.68		0.32	xxxx	xxxx				0.02	xxxx	xxxx			
Level Of Service Module:																								
2Way95thQ:	xxxx		xxxx		0.1		xxxx		xxxx		xxxxx		1.4	xxxx	xxxxx				0.1	xxxx	xxxxx			
Control Del:	xxxxx		xxxx		11.3		xxxxx		xxxx		xxxxx		20.3	xxxx	xxxxx				9.6	xxxx	xxxxx			
LOS by Move:	*		*		B		*		*		*		C	*	*				A	*	*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	11		xxxx		xxxxx		xxxx		61		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
SharedQueue:	7.4		xxxx		xxxxx		xxxxx		38.8		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shrd ConDel:	2355		xxxx		xxxxx		xxxxx		2216		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shared LOS:	F		*		*		*		F		*		*		*		*		*		*		*	
ApproachDel:	1929.2						2215.8						xxxxxx						xxxxxx					
ApproachLOS:	F						F						*						*					

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
PM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Average Delay (sec/veh): 61.6 Worst Case Level Of Service: F[738.9]

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	8		0		6		69		0		147		31		1147		8		11		1084		122	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	8		0		6		69		0		147		31		1147		8		11		1084		122	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.90		0.90		0.90		0.90		0.90		0.90		0.90		0.90		0.90		0.90		0.90		0.90	
PHF Volume:	9		0		7		77		0		163		34		1274		9		12		1204		136	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	9		0		7		77		0		163		34		1274		9		12		1204		136	
Critical Gap Module:																								
Critical Gp:	7.5		6.5		6.9		7.5		6.5		6.9		4.1	xxxx	xxxxx				4.1	xxxx	xxxxx			
FollowUpTim:	3.5		4.0		3.3		3.5		4.0		3.3		2.2	xxxx	xxxxx				2.2	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	1970		2708		637		1935		2581		602		1340	xxxx	xxxxx		1283		xxxx	xxxxx				
Potent Cap.:	38		21		425		41		26		448		521	xxxx	xxxxx		547		xxxx	xxxxx				
Move Cap.:	23		20		425		37		24		448		521	xxxx	xxxxx		547		xxxx	xxxxx				
Volume/Cap:	0.39		0.00		0.02		2.06		0.00		0.36		0.07	xxxx	xxxx		0.02		xxxx	xxxx				
Level Of Service Module:																								
2Way95thQ:	xxxx		xxxx		0.0		xxxx		xxxx		xxxxx		0.2	xxxx	xxxxx		0.1		xxxx	xxxxx				
Control Del:	xxxxx		xxxx		13.6		xxxxx		xxxx		xxxxx		12.4	xxxx	xxxxx		11.7		xxxx	xxxxx				
LOS by Move:	*		*		B		*		*		*		B	*	*		B		*	*				
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	23		xxxx		xxxxx		xxxx		99		xxxxx		xxxx		xxxx	xxxxx			xxxx		xxxx	xxxxx		
SharedQueue:	1.2		xxxx		xxxxx		xxxxx		21.8		xxxxx		xxxxx		xxxx	xxxxx			xxxxx		xxxx	xxxxx		
Shrd ConDel:	244.1		xxxx		xxxxx		xxxxx		739		xxxxx		xxxxx		xxxx	xxxxx			xxxxx		xxxx	xxxxx		
Shared LOS:	F		*		*		*		F		*		*		*	*			*		*	*		
ApproachDel:	145.3						738.9						xxxxxx						xxxxxx					
ApproachLOS:	F						F						*						*					

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
AM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec): 110 Critical Vol./Cap.(X): 0.884
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 47.9
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	7	7	7		7	7	7		7	7	7		7	7	7	
Lanes:	1	0 1	0	1	1	0 1	1	0	1	0 2	0	1	1	0 1	1	0
Volume Module:																
Base Vol:	512	169	95		136	234	56		8	599	358		144	1177	64	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	512	169	95		136	234	56		8	599	358		144	1177	64	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	539	178	100		143	246	59		8	631	377		152	1239	67	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	539	178	100		143	246	59		8	631	377		152	1239	67	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	539	178	100		143	246	59		8	631	377		152	1239	67	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.95	1.00	0.85		0.95	0.92	0.92		0.95	0.95	0.85		0.95	0.94	0.94	
Lanes:	1.00	1.00	1.00		1.00	1.61	0.39		1.00	2.00	1.00		1.00	1.90	0.10	
Final Sat.:	1805	1900	1615		1805	2828	677		1805	3610	1615		1805	3396	185	
Capacity Analysis Module:																
Vol/Sat:	0.30	0.09	0.06		0.08	0.09	0.09		0.00	0.17	0.23		0.08	0.36	0.36	
Crit Moves:	****					****			****					****		
Green/Cycle:	0.31	0.22	0.22		0.19	0.09	0.09		0.06	0.33	0.33		0.12	0.38	0.38	
Volume/Cap:	0.95	0.43	0.28		0.43	0.95	0.95		0.07	0.53	0.71		0.71	0.95	0.95	
Delay/Veh:	62.4	37.6	36.1		40.4	86.4	86.4		48.7	30.4	36.6		57.1	46.7	46.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	62.4	37.6	36.1		40.4	86.4	86.4		48.7	30.4	36.6		57.1	46.7	46.7	
LOS by Move:	E	D	D		D	F	F		D	C	D		E	D	D	
DesignQueue:	24	9	5		7	9	9		0	14	16		8	29	29	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing Conditions
PM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

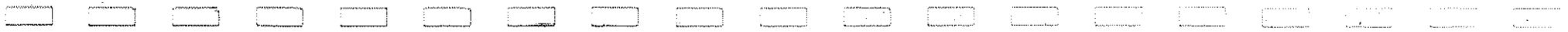
Cycle (sec): 70 Critical Vol./Cap.(X): 0.755
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 27.0
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	7		7		7		7		7		7		7		7		7		7		7		7	
Lanes:	1	0	1	0	1		1	0	1	1	0		1	0	2	0	1		1	0	1	1	0	
Volume Module:																								
Base Vol:	263		147		80		147		136		28		21		959		319		151		820		106	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	263		147		80		147		136		28		21		959		319		151		820		106	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.93		0.93		0.93		0.93		0.93		0.93		0.93		0.93		0.93		0.93		0.93		0.93	
PHF Volume:	283		158		86		158		146		30		23		1031		343		162		882		114	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	283		158		86		158		146		30		23		1031		343		162		882		114	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	283		158		86		158		146		30		23		1031		343		162		882		114	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.95		1.00		0.85		0.95		0.93		0.93		0.95		0.95		0.85		0.95		0.93		0.93	
Lanes:	1.00		1.00		1.00		1.00		1.66		0.34		1.00		2.00		1.00		1.00		1.77		0.23	
Final Sat.:	1805		1900		1615		1805		2916		600		1805		3610		1615		1805		3142		406	
Capacity Analysis Module:																								
Vol/Sat:	0.16		0.08		0.05		0.09		0.05		0.05		0.01		0.29		0.21		0.09		0.28		0.28	
Crit Moves:	****								****						****				****					
Green/Cycle:	0.20		0.15		0.15		0.15		0.10		0.10		0.12		0.36		0.36		0.11		0.35		0.35	
Volume/Cap:	0.79		0.56		0.36		0.59		0.50		0.50		0.10		0.79		0.59		0.79		0.80		0.80	
Delay/Veh:	38.2		30.2		27.7		31.2		31.0		31.0		27.4		23.5		19.8		49.0		24.5		24.5	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	38.2		30.2		27.7		31.2		31.0		31.0		27.4		23.5		19.8		49.0		24.5		24.5	
LOS by Move:	D		C		C		C		C		C		C		C		B		D		C		C	
DesignQueue:	9		5		3		5		3		3		1		15		9		6		14		14	

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

Appendix C

Project Buildout (Year 2009) Without Project
Level of Service Analysis Worksheets



Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 120 Critical Vol./Cap.(X): 1.199
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 95.8
Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0 3	0	1	1 0 3	0	1	1 0 2	0	1	1 0 2	0	1
Volume Module:												
Base Vol:	512	1459	330	203	1344	293	276	237	294	284	659	253
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	538	1532	347	213	1411	308	290	249	309	298	692	266
Added Vol:	14	37	27	0	75	0	0	0	30	64	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	552	1569	374	213	1486	308	290	249	339	362	692	266
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	572	1626	387	221	1540	319	300	258	351	375	717	275
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	572	1626	387	221	1540	319	300	258	351	375	717	275
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	572	1626	387	221	1540	319	300	258	351	375	717	275
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.31	0.24	0.12	0.30	0.20	0.17	0.07	0.22	0.21	0.20	0.17
Crit Moves:	****				****				****	****		
Green/Cycle:	0.26	0.37	0.37	0.14	0.25	0.25	0.16	0.18	0.18	0.17	0.19	0.19
Volume/Cap:	1.20	0.85	0.65	0.85	1.20	0.80	1.03	0.39	1.20	1.20	1.03	0.88
Delay/Veh:	152.4	38.8	34.1	72.8	142	53.0	110.6	43.7	166.7	165.7	90.1	71.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	152.4	38.8	34.1	72.8	142	53.0	110.6	43.7	166.7	165.7	90.1	71.3
LOS by Move:	F	D	C	E	F	D	F	D	F	F	F	E
DesignQueue:	30	27	17	13	31	17	18	8	20	22	21	15

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 95 Critical Vol./Cap.(X): 0.895
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 37.2
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ovl				Include			
Min. Green:	7	7	7		7	7	7		7	7	7		7	7	7	
Lanes:	2	0 3	0	1	2	0 3	0	1	2	0 2	0	1	2	0 2	0	1
Volume Module:																
Base Vol:	512	1459	330		203	1344	293		276	237	294		284	659	253	
Growth Adj:	1.05	1.05	1.05		1.05	1.05	1.05		1.05	1.05	1.05		1.05	1.05	1.05	
Initial Bse:	538	1532	347		213	1411	308		290	249	309		298	692	266	
Added Vol:	14	37	27		0	75	0		0	0	30		64	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	552	1569	374		213	1486	308		290	249	339		362	692	266	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97		0.97	0.97	0.97	
PHF Volume:	572	1626	387		221	1540	319		300	258	351		375	717	275	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	572	1626	387		221	1540	319		300	258	351		375	717	275	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	572	1626	387		221	1540	319		300	258	351		375	717	275	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	0.91	0.85		0.92	0.91	0.85		0.92	0.95	0.85		0.92	0.95	0.85	
Lanes:	2.00	3.00	1.00		2.00	3.00	1.00		2.00	2.00	1.00		2.00	2.00	1.00	
Final Sat.:	3502	5187	1615		3502	5187	1615		3502	3610	1615		3502	3610	1615	
Capacity Analysis Module:																
Vol/Sat:	0.16	0.31	0.24		0.06	0.30	0.20		0.09	0.07	0.22		0.11	0.20	0.17	
Crit Moves:	****					****			****					****		
Green/Cycle:	0.18	0.42	0.42		0.10	0.33	0.33		0.10	0.13	0.31		0.19	0.22	0.22	
Volume/Cap:	0.90	0.75	0.58		0.64	0.90	0.60		0.90	0.55	0.70		0.57	0.90	0.77	
Delay/Veh:	53.1	25.1	22.5		45.5	36.7	28.3		67.5	40.2	33.0		36.2	48.5	44.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	53.1	25.1	22.5		45.5	36.7	28.3		67.5	40.2	33.0		36.2	48.5	44.4	
LOS by Move:	D	C	C		D	D	C		E	D	C		D	D	D	
DesignQueue:	13	20	13		6	22	12		8	6	13		9	16	12	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 120 Critical Vol./Cap.(X): 1.215
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 121.0
Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	7		7		7	7		7		7	7		7		7	7		7		7
Lanes:	1	0	3	0	1	1	0	3	0	1	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	295		1711		234	241		1418		239	398		591		385	311		328		258
Growth Adj:	1.05		1.05		1.05	1.05		1.05		1.05	1.05		1.05		1.05	1.05		1.05		1.05
Initial Bse:	310		1797		246	253		1489		251	418		621		404	327		344		271
Added Vol:	50		120		112	0		81		0	0		0		32	71		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	360		1917		358	253		1570		251	418		621		436	398		344		271
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95		0.95
PHF Volume:	379		2017		377	266		1653		264	440		653		459	418		363		285
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	379		2017		377	266		1653		264	440		653		459	418		363		285
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	379		2017		377	266		1653		264	440		653		459	418		363		285
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.95		0.91		0.85	0.95		0.91		0.85	0.95		0.95		0.85	0.95		0.95		0.85
Lanes:	1.00		3.00		1.00	1.00		3.00		1.00	1.00		2.00		1.00	1.00		2.00		1.00
Final Sat.:	1805		5187		1615	1805		5187		1615	1805		3610		1615	1805		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.21		0.39		0.23	0.15		0.32		0.16	0.24		0.18		0.28	0.23		0.10		0.18
Crit Moves:			****			****									****	****				
Green/Cycle:	0.18		0.32		0.32	0.12		0.27		0.27	0.25		0.23		0.23	0.19		0.18		0.18
Volume/Cap:	1.20		1.21		0.73	1.21		1.20		0.61	0.99		0.77		1.21	1.21		0.56		0.99
Delay/Veh:	164.4		143		41.3	183.6		140		41.3	84.7		47.4		164.5	168.9		46.1		99.0
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	164.4		143		41.3	183.6		140		41.3	84.7		47.4		164.5	168.9		46.1		99.0
LOS by Move:	F		F		D	F		F		D	F		D		F	F		D		F
DesignQueue:	22		37		18	16		32		13	24		18		25	24		11		16

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 110 Critical Vol./Cap.(X): 0.898
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 43.7
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	295	1711	234	241	1418	239	398	591	385	311	328	258
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	310	1797	246	253	1489	251	418	621	404	327	344	271
Added Vol:	50	120	112	0	81	0	0	0	32	71	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	360	1917	358	253	1570	251	418	621	436	398	344	271
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	379	2017	377	266	1653	264	440	653	459	418	363	285
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	379	2017	377	266	1653	264	440	653	459	418	363	285
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	379	2017	377	266	1653	264	440	653	459	418	363	285
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.39	0.23	0.08	0.32	0.16	0.13	0.18	0.28	0.12	0.10	0.18
Crit Moves:		****		****			****					****
Green/Cycle:	0.13	0.43	0.43	0.08	0.39	0.39	0.14	0.20	0.33	0.13	0.20	0.20
Volume/Cap:	0.82	0.90	0.54	0.90	0.82	0.42	0.90	0.89	0.85	0.89	0.51	0.90
Delay/Veh:	58.0	34.2	23.9	77.7	33.3	25.2	65.6	56.0	46.4	65.8	40.1	69.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.0	34.2	23.9	77.7	33.3	25.2	65.6	56.0	46.4	65.8	40.1	69.5
LOS by Move:	E	C	C	E	C	C	E	E	D	E	D	E
DesignQueue:	11	29	14	8	25	10	12	18	20	12	10	15

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #6 Washington St (NS) at Palm Royale Dr (EW)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.863
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	33.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0 3	0	1	2 0 2	1	0	1 0	0	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	4	1869	50	148	1572	11	18	0	7	48	14	416
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	4	1962	53	155	1651	12	19	0	7	50	15	437
Added Vol:	0	60	1	40	128	0	0	0	0	4	0	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	2022	54	195	1779	12	19	0	7	54	15	455
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	4	2129	56	206	1872	12	20	0	8	57	15	479
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	2129	56	206	1872	12	20	0	8	57	15	479
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	2129	56	206	1872	12	20	0	8	57	15	479
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.92	0.91	0.91	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	3.00	1.00	2.00	2.98	0.02	1.00	0.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	5187	1615	3502	5148	33	1805	0	1615	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.41	0.03	0.06	0.36	0.36	0.01	0.00	0.00	0.03	0.01	0.30
Crit Moves:		****		****			****					****
Green/Cycle:	0.09	0.44	0.74	0.07	0.43	0.43	0.07	0.00	0.02	0.30	0.24	0.31
Volume/Cap:	0.03	0.93	0.05	0.80	0.85	0.85	0.15	0.00	0.25	0.11	0.03	0.94
Delay/Veh:	39.8	32.0	3.4	59.1	27.4	27.4	41.7	0.0	50.1	24.5	27.6	58.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.8	32.0	3.4	59.1	27.4	27.4	41.7	0.0	50.1	24.5	27.6	58.0
LOS by Move:	D	C	A	E	C	C	D	A	D	C	C	E
DesignQueue:	0	26	1	5	23	23	1	0	0	2	1	19

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

Intersection #6 Washington St (NS) at Palm Royale Dr (EW)

Cycle (sec): 105 Critical Vol./Cap.(X): 0.784
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 30.5
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Ovl						Include						Include						Ovl					
Min. Green:	7		7		7		7		7		7		7		7		7		7		7		7	
Lanes:	1	0	3	0	1		2	0	2	1	0		1	0	0	1	0		1	0	1	0	1	
Volume Module:																								
Base Vol:	14	1904		53			143	1954		31			13		1		11		36		4		305	
Growth Adj:	1.05	1.05		1.05			1.05	1.05		1.05			1.05		1.05		1.05		1.05		1.05		1.05	
Initial Bse:	15	1999		56			150	2052		33			14		1		12		38		4		320	
Added Vol:	0	225		4			27	156		0			0		0		0		2		0		57	
PasserByVol:	0	0		0			0	0		0			0		0		0		0		0		0	
Initial Fut:	15	2224		60			177	2208		33			14		1		12		40		4		377	
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95	0.95		0.95			0.95	0.95		0.95			0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	15	2341		63			186	2324		34			14		1		12		42		4		397	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
Reduced Vol:	15	2341		63			186	2324		34			14		1		12		42		4		397	
PCE Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	15	2341		63			186	2324		34			14		1		12		42		4		397	
Saturation Flow Module:																								
Sat/Lane:	1900	1900		1900			1900	1900		1900			1900		1900		1900		1900		1900		1900	
Adjustment:	0.95	0.91		0.85			0.92	0.91		0.91			0.95		0.86		0.86		0.95		1.00		0.85	
Lanes:	1.00	3.00		1.00			2.00	2.96		0.04			1.00		0.08		0.92		1.00		1.00		1.00	
Final Sat.:	1805	5187		1615			3502	5101		75			1805		136		1501		1805		1900		1615	
Capacity Analysis Module:																								
Vol/Sat:	0.01	0.45		0.04			0.05	0.46		0.46			0.01		0.01		0.01		0.02		0.00		0.25	
Crit Moves:	****							****					****										****	
Green/Cycle:	0.07	0.50		0.64			0.07	0.51		0.51			0.07		0.13		0.13		0.13		0.20		0.28	
Volume/Cap:	0.13	0.89		0.06			0.71	0.89		0.89			0.12		0.06		0.06		0.17		0.01		0.89	
Delay/Veh:	46.6	27.9		7.1			56.5	27.0		27.0			46.5		39.8		39.8		40.6		33.5		55.8	
User DelAdj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	46.6	27.9		7.1			56.5	27.0		27.0			46.5		39.8		39.8		40.6		33.5		55.8	
LOS by Move:	D		C		A		E		C		C		D		D		D		D		C		E	
DesignQueue:	1		28		1		5		28		28		1		1		1		2		0		18	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec): 110 Critical Vol./Cap.(X): 1.029
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 61.0
Optimal Cycle: OPTIMIZED Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	556	1282	84	218	1142	371	269	664	472	99	1140	406
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	584	1346	88	229	1199	390	282	697	496	104	1197	426
Added Vol:	14	55	84	40	71	1	10	40	27	58	18	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	598	1401	172	269	1270	391	292	737	523	162	1215	439
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	629	1475	181	283	1337	411	308	776	550	170	1279	462
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	629	1475	181	283	1337	411	308	776	550	170	1279	462
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	629	1475	181	283	1337	411	308	776	550	170	1279	462
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.95	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.18	0.28	0.11	0.08	0.26	0.25	0.09	0.15	0.34	0.05	0.35	0.29
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.33	0.33	0.09	0.25	0.25	0.09	0.36	0.36	0.07	0.34	0.34
Volume/Cap:	1.03	0.86	0.34	0.86	1.03	1.02	1.03	0.41	0.94	0.72	1.03	0.83
Delay/Veh:	89.5	39.0	28.1	68.8	74.0	90.2	110.1	26.5	57.5	60.5	69.4	43.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.5	39.0	28.1	68.8	74.0	90.2	110.1	26.5	57.5	60.5	69.4	43.5
LOS by Move:	F	D	C	E	E	F	F	C	E	E	E	D
DesignQueue:	17	24	8	8	24	20	9	12	23	5	30	20

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

****

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 115 Critical Vol./Cap.(X): 0.897
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 44.0
Optimal Cycle: OPTIMIZED Level Of Service: D

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	556	1282	84	218	1142	371	269	664	472	99	1140	406
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	584	1346	88	229	1199	390	282	697	496	104	1197	426
Added Vol:	14	55	84	40	71	1	10	40	27	58	18	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	598	1401	172	269	1270	391	292	737	523	162	1215	439
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	629	1475	181	283	1337	411	308	776	550	170	1279	462
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	629	1475	181	283	1337	411	308	776	550	170	1279	462
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	629	1475	181	283	1337	411	308	776	550	170	1279	462
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.18	0.28	0.11	0.08	0.26	0.25	0.09	0.15	0.34	0.05	0.25	0.29
Crit Moves:	****				****		****				****	
Green/Cycle:	0.20	0.38	0.38	0.11	0.29	0.29	0.10	0.27	0.47	0.10	0.27	0.38
Volume/Cap:	0.90	0.75	0.30	0.75	0.90	0.89	0.90	0.55	0.72	0.48	0.90	0.75
Delay/Veh:	59.0	32.5	25.2	57.8	46.9	57.3	76.1	36.5	27.8	49.7	47.9	35.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.0	32.5	25.2	57.8	46.9	57.3	76.1	36.5	27.8	49.7	47.9	35.7
LOS by Move:	E	C	C	E	D	E	E	D	C	D	D	D
DesignQueue:	17	23	7	8	24	20	9	14	20	5	23	19

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec):	100	Critical Vol./Cap.(X):	1.001
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	54.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0 3	0	1	2 0 3	0	1	2 0 3	0	1	2 0 2	0	1
Volume Module:												
Base Vol:	308	1320	55	209	1469	301	402	911	405	155	713	335
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	323	1386	58	219	1542	316	422	957	425	163	749	352
Added Vol:	38	158	78	25	68	0	31	24	27	190	91	61
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	1544	136	244	1610	316	453	981	452	353	840	413
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	380	1625	143	257	1695	333	477	1032	476	371	884	434
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	1625	143	257	1695	333	477	1032	476	371	884	434
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	1625	143	257	1695	333	477	1032	476	371	884	434
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.95	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.31	0.09	0.07	0.33	0.21	0.14	0.20	0.29	0.11	0.24	0.27
Crit Moves:	****				****		****					****
Green/Cycle:	0.11	0.35	0.35	0.08	0.33	0.33	0.14	0.30	0.30	0.11	0.27	0.27
Volume/Cap:	1.00	0.89	0.25	0.89	1.00	0.63	1.00	0.67	0.99	0.99	0.91	1.00
Delay/Veh:	90.9	36.3	23.2	72.1	55.7	31.0	84.6	31.9	73.3	88.2	47.8	80.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.9	36.3	23.2	72.1	55.7	31.0	84.6	31.9	73.3	88.2	47.8	80.0
LOS by Move:	F	D	C	E	E	C	F	C	E	F	D	E
DesignQueue:	10	23	5	7	25	13	12	16	20	10	20	19

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

****

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 115 Critical Vol./Cap.(X): 0.891
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 44.4
Optimal Cycle: OPTIMIZED Level Of Service: D

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0 3	0 1		2 0 3	0 1		2 0 3	0 1		2 0 3	0 1	
Volume Module:												
Base Vol:	308	1320	55	209	1469	301	402	911	405	155	713	335
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	323	1386	58	219	1542	316	422	957	425	163	749	352
Added Vol:	38	158	78	25	68	0	31	24	27	190	91	61
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	1544	136	244	1610	316	453	981	452	353	840	413
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	380	1625	143	257	1695	333	477	1032	476	371	884	434
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	1625	143	257	1695	333	477	1032	476	371	884	434
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	1625	143	257	1695	333	477	1032	476	371	884	434
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.31	0.09	0.07	0.33	0.21	0.14	0.20	0.29	0.11	0.17	0.27
Crit Moves:	****				****		****					****
Green/Cycle:	0.12	0.40	0.40	0.09	0.37	0.37	0.15	0.24	0.36	0.13	0.22	0.31
Volume/Cap:	0.89	0.79	0.22	0.79	0.89	0.56	0.89	0.82	0.81	0.82	0.78	0.86
Delay/Veh:	69.9	32.7	23.2	63.5	40.0	30.3	64.7	45.5	41.1	60.0	45.7	51.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.9	32.7	23.2	63.5	40.0	30.3	64.7	45.5	41.1	60.0	45.7	51.3
LOS by Move:	E	C	C	E	D	C	E	D	D	E	D	D
DesignQueue:	11	25	6	8	27	14	14	19	21	11	17	20

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Average Delay (sec/veh): 543.7 Worst Case Level Of Service: F[4284.6]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 1		0 0 1! 0	0		1 0 2	0 1		1 0 2	0 1	
Volume Module:												
Base Vol:	45	0	10	87	1	224	102	764	10	15	1341	288
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	47	0	11	91	1	235	107	802	11	16	1408	302
Added Vol:	0	0	0	34	0	1	10	14	0	0	102	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	0	11	125	1	236	117	816	11	16	1510	320
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	50	0	11	132	1	249	123	859	11	17	1590	337
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	0	11	132	1	249	123	859	11	17	1590	337
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1934	3066	430	2299	2739	795	1927	xxxx	xxxxx	870	xxxx	xxxxx
Potent Cap.:	41	13	579	21	20	335	310	xxxx	xxxxx	783	xxxx	xxxxx
Move Cap.:	7	7	579	14	12	335	310	xxxx	xxxxx	783	xxxx	xxxxx
Volume/Cap:	7.48	0.00	0.02	9.24	0.09	0.74	0.40	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	1.8	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	11.3	xxxxx	xxxx	xxxxx	24.0	xxxx	xxxxx	9.7	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	C	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	7	xxxx	xxxxx	xxxx	38	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	7.8	xxxx	xxxxx	xxxxx	46.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	3993	xxxx	xxxxx	xxxxx	4285	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	F	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	3268.8			4284.6			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 60 Critical Vol./Cap.(X): 0.642
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 10.6
Optimal Cycle: OPTIMIZED Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	0 1	0 0	1	0 1	0 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	8	0	6	69	0	147	31	1147	8	11	1084	122
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	8	0	6	72	0	154	33	1204	8	12	1138	128
Added Vol:	0	0	0	170	0	7	5	39	0	0	119	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	0	6	242	0	161	38	1243	8	12	1257	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	9	0	7	255	0	170	40	1309	9	12	1323	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	0	7	255	0	170	40	1309	9	12	1323	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	0	7	255	0	170	40	1309	9	12	1323	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	1.00	0.85	0.71	1.00	0.85	0.13	0.95	0.85	0.14	0.95	0.85
Lanes:	1.00	0.00	1.00	1.00	0.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1539	0	1615	1343	0	1615	253	3610	1615	260	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.19	0.00	0.11	0.16	0.36	0.01	0.05	0.37	0.09
Crit Moves:				****							****	
Green/Cycle:	0.30	0.00	0.30	0.30	0.00	0.30	0.57	0.57	0.57	0.57	0.57	0.57
Volume/Cap:	0.02	0.00	0.01	0.64	0.00	0.36	0.27	0.64	0.01	0.08	0.64	0.16
Delay/Veh:	15.0	0.0	14.9	21.9	0.0	17.1	7.6	9.3	5.6	6.0	9.4	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.0	0.0	14.9	21.9	0.0	17.1	7.6	9.3	5.6	6.0	9.4	6.2
LOS by Move:	B	A	B	C	A	B	A	A	A	A	A	A
DesignQueue:	0	0	0	6	0	4	1	11	0	0	11	2

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Average Delay (sec/veh): 513.6 Worst Case Level Of Service: F[3953.8]

****

Approach:	North Bound			South Bound			East Bound						West Bound					
Movement:	L	- T	- R	L	- T	- R	L	- T	- R				L	- T	- R			
Control:	Stop Sign			Stop Sign			Uncontrolled						Uncontrolled					
Rights:	Include			Include			Include						Include					
Lanes:	0	1	0	0	1	0	0	1!	0	0	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	8	0	6	69	0	147	31	1147		8			11	1084		122				
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05		1.05			1.05	1.05		1.05				
Initial Bse:	8	0	6	72	0	154	33	1204		8			12	1138		128				
Added Vol:	0	0	0	170	0	7	5	39		0			0	119		11				
PasserByVol:	0	0	0	0	0	0	0	0		0			0	0		0				
Initial Fut:	8	0	6	242	0	161	38	1243		8			12	1257		139				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	1.00		1.00				
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		0.95			0.95	0.95		0.95				
PHF Volume:	9	0	7	255	0	170	40	1309		9			12	1323		146				
Reduct Vol:	0	0	0	0	0	0	0	0		0			0	0		0				
FinalVolume:	9	0	7	255	0	170	40	1309		9			12	1323		146				
Critical Gap Module:																				
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx				4.1	xxxx	xxxxx					
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx				2.2	xxxx	xxxxx					
Capacity Module:																				
Cnflict Vol:	2074	2882	654	2081	2744	662	1470	xxxx	xxxxx				1318	xxxx	xxxxx					
Potent Cap.:	32	17	414	31	20	409	465	xxxx	xxxxx				531	xxxx	xxxxx					
Move Cap.:	17	15	414	28	18	409	465	xxxx	xxxxx				531	xxxx	xxxxx					
Volume/Cap:	0.52	0.00	0.02	8.99	0.00	0.41	0.09	xxxx	xxxx				0.02	xxxx	xxxx					
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx				0.1	xxxx	xxxxx					
Control Del:	xxxxx	xxxx	13.8	xxxxx	xxxx	xxxxx	13.5	xxxx	xxxxx				11.9	xxxx	xxxxx					
LOS by Move:	*	*	B	*	*	*	B	*	*				B	*	*					
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				LT -	LTR -	RT					
Shared Cap.:	17	xxxx	xxxxx	xxxx	45	xxxxx	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx					
SharedQueue:	1.4	xxxx	xxxxx	xxxxx	50.6	xxxxx	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx					
Shrd ConDel:	353.5	xxxx	xxxxx	xxxxx	3954	xxxxx	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx					
Shared LOS:	F	*	*	*	F	*	*	*	*				*	*	*					
ApproachDel:	207.9			3953.8			xxxxxx						xxxxxx							
ApproachLOS:	F			F			*						*							

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

Cycle (sec): 60 Critical Vol./Cap.(X): 0.854
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 10.4
Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound						South Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted					
Rights:	Include						Include					
Min. Green:	7		7		7		7		7		7	
Lanes:	0	1	0	0	1		0	1	0	0	1	
Volume Module:												
Base Vol:	45		0		10		87		1		224	
Growth Adj:	1.05	1.05			1.05		1.05	1.05			1.05	
Initial Bse:	47		0		11		91		1		235	
Added Vol:	0		0		0		34		0		1	
PasserByVol:	0		0		0		0		0		0	
Initial Fut:	47		0		11		125		1		236	
User Adj:	1.00	1.00			1.00		1.00	1.00			1.00	
PHF Adj:	0.95	0.95			0.95		0.95	0.95			0.95	
PHF Volume:	50		0		11		132		1		249	
Reduct Vol:	0		0		0		0		0		0	
Reduced Vol:	50		0		11		132		1		249	
PCE Adj:	1.00	1.00			1.00		1.00	1.00			1.00	
MLF Adj:	1.00	1.00			1.00		1.00	1.00			1.00	
FinalVolume:	50		0		11		132		1		249	
Saturation Flow Module:												
Sat/Lane:	1900	1900			1900		1900	1900			1900	
Adjustment:	0.66	1.00			0.85		0.68	0.68			0.85	
Lanes:	1.00	0.00			1.00		0.99	0.01			1.00	
Final Sat.:	1254		0		1615		1282		11		1615	
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00			0.01		0.10	0.10			0.15	
Crit Moves:											****	
Green/Cycle:	0.18	0.00			0.18		0.18	0.18			0.18	
Volume/Cap:	0.22	0.00			0.04		0.57	0.57			0.85	
Delay/Veh:	21.5	0.0			20.3		25.8	25.8			44.8	
User DelAdj:	1.00	1.00			1.00		1.00	1.00			1.00	
AdjDel/Veh:	21.5	0.0			20.3		25.8	25.8			44.8	
LOS by Move:	C		A		C		C	C			D	
DesignQueue:	1		0		0		4	4			7	

Approach:	East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted					
Rights:	Include						Include					
Min. Green:	7		7		7		7		7		7	
Lanes:	1	0	2	0	1		1	0	2	0	1	
Volume Module:												
Base Vol:	102		764		10		15		1341		288	
Growth Adj:	1.05	1.05	1.05				1.05	1.05	1.05			
Initial Bse:	107		802		11		16		1408		302	
Added Vol:	10		14		0		0		102		18	
PasserByVol:	0		0		0		0		0		0	
Initial Fut:	117		816		11		16		1510		320	
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.95	0.95	0.95				0.95	0.95	0.95			
PHF Volume:	123		859		11		17		1590		337	
Reduct Vol:	0		0		0		0		0		0	
Reduced Vol:	123		859		11		17		1590		337	
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
FinalVolume:	123		859		11		17		1590		337	
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900				1900	1900	1900			
Adjustment:	0.11	0.95	0.85				0.31	0.95	0.85			
Lanes:	1.00	2.00	1.00				1.00	2.00	1.00			
Final Sat.:	210	3610	1615				586	3610	1615			
Capacity Analysis Module:												
Vol/Sat:	0.59	0.24	0.01				0.03	0.44	0.21			
Crit Moves:	****	****										
Green/Cycle:	0.69	0.69	0.69				0.69	0.69	0.69			
Volume/Cap:	0.85	0.35	0.01				0.04	0.64	0.30			
Delay/Veh:	43.1	4.0	3.0				3.1	5.9	3.9			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	43.1	4.0	3.0				3.1	5.9	3.9			
LOS by Move:	D	A	A				A	A	A			
DesignQueue:	1	5	0				0	10	4			

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.956
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	60.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	512	169	95	136	234	56	8	599	358	144	1177	64
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	538	177	100	143	246	59	8	629	376	151	1236	67
Added Vol:	1	0	22	0	0	0	0	48	0	41	120	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	539	177	122	143	246	59	8	677	376	192	1356	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	567	187	128	150	259	62	9	713	396	202	1427	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	567	187	128	150	259	62	9	713	396	202	1427	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	567	187	128	150	259	62	9	713	396	202	1427	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.92	0.92	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	1.61	0.39	1.00	2.00	1.00	1.00	1.91	0.09
Final Sat.:	1805	1900	1615	1805	2828	677	1805	3610	1615	1805	3415	169
Capacity Analysis Module:												
Vol/Sat:	0.31	0.10	0.08	0.08	0.09	0.09	0.00	0.20	0.25	0.11	0.42	0.42
Crit Moves:	****				****		****				****	
Green/Cycle:	0.31	0.22	0.22	0.18	0.09	0.09	0.06	0.32	0.32	0.15	0.41	0.41
Volume/Cap:	1.02	0.46	0.37	0.46	1.02	1.02	0.08	0.61	0.76	0.76	1.02	1.02
Delay/Veh:	84.4	41.8	40.8	44.7	110	110.2	53.8	35.4	43.1	61.4	63.6	63.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.4	41.8	40.8	44.7	110	110.2	53.8	35.4	43.1	61.4	63.6	63.6
LOS by Move:	F	D	D	D	F	F	D	D	D	E	E	E
DesignQueue:	28	10	7	8	10	10	1	18	19	12	35	35

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
AM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec): 90 Critical Vol./Cap.(X): 0.822
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 35.6
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	1 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	512	169	95	136	234	56	8	599	358	144	1177	64
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	538	177	100	143	246	59	8	629	376	151	1236	67
Added Vol:	1	0	22	0	0	0	0	48	0	41	120	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	539	177	122	143	246	59	8	677	376	192	1356	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	567	187	128	150	259	62	9	713	396	202	1427	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	567	187	128	150	259	62	9	713	396	202	1427	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	567	187	128	150	259	62	9	713	396	202	1427	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.92	0.92	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	2.00	1.00	1.00	1.00	1.61	0.39	1.00	2.00	1.00	1.00	1.91	0.09
Final Sat.:	3502	1900	1615	1805	2828	677	1805	3610	1615	1805	3415	169
Capacity Analysis Module:												
Vol/Sat:	0.16	0.10	0.08	0.08	0.09	0.09	0.00	0.20	0.25	0.11	0.42	0.42
Crit Moves:	****				****		****				****	
Green/Cycle:	0.18	0.15	0.15	0.13	0.10	0.10	0.08	0.37	0.37	0.17	0.46	0.46
Volume/Cap:	0.90	0.65	0.52	0.65	0.90	0.90	0.06	0.53	0.66	0.66	0.90	0.90
Delay/Veh:	52.3	40.9	37.2	43.4	65.0	65.0	38.7	22.6	26.3	40.2	29.5	29.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.3	40.9	37.2	43.4	65.0	65.0	38.7	22.6	26.3	40.2	29.5	29.5
LOS by Move:	D	D	D	D	E	E	D	C	C	D	C	C
DesignQueue:	12	8	6	7	8	8	0	12	13	9	24	24

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec):	85	Critical Vol./Cap.(X):	0.843
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	31.9
Optimal Cycle: OPTIMIZED		Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0	1 0	1	1 0	1	1 0	1 0	2 0	1	1 0	1	1 0
Volume Module:												
Base Vol:	263	147	80	147	136	28	21	959	319	151	820	106
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	276	154	84	154	143	29	22	1007	335	159	861	111
Added Vol:	1	0	58	0	0	0	0	209	1	41	129	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	277	154	142	154	143	29	22	1216	336	200	990	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	292	162	149	162	150	31	23	1280	354	210	1042	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	162	149	162	150	31	23	1280	354	210	1042	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	162	149	162	150	31	23	1280	354	210	1042	117
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	1.66	0.34	1.00	2.00	1.00	1.00	1.80	0.20
Final Sat.:	1805	1900	1615	1805	2916	600	1805	3610	1615	1805	3196	359
Capacity Analysis Module:												
Vol/Sat:	0.16	0.09	0.09	0.09	0.05	0.05	0.01	0.35	0.22	0.12	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.19	0.14	0.14	0.13	0.08	0.08	0.11	0.41	0.41	0.13	0.43	0.43
Volume/Cap:	0.87	0.63	0.68	0.68	0.63	0.63	0.12	0.87	0.54	0.87	0.75	0.75
Delay/Veh:	54.1	39.5	43.3	42.8	42.0	42.0	34.4	28.7	19.9	62.5	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.1	39.5	43.3	42.8	42.0	42.0	34.4	28.7	19.9	62.5	22.4	22.4
LOS by Move:	D	D	D	D	D	D	C	C	B	E	C	C
DesignQueue:	12	7	6	7	4	4	1	21	10	9	18	18

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative Conditions
PM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec):	65	Critical Vol./Cap.(X):	0.858
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	28.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	1 0	1	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	263	147	80	147	136	28	21	959	319	151	820	106
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	276	154	84	154	143	29	22	1007	335	159	861	111
Added Vol:	1	0	58	0	0	0	0	209	1	41	129	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	277	154	142	154	143	29	22	1216	336	200	990	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	292	162	149	162	150	31	23	1280	354	210	1042	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	162	149	162	150	31	23	1280	354	210	1042	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	162	149	162	150	31	23	1280	354	210	1042	117
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.93	0.93	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	2.00	1.00	1.00	1.00	1.66	0.34	1.00	2.00	1.00	1.00	1.80	0.20
Final Sat.:	3502	1900	1615	1805	2916	600	1805	3610	1615	1805	3196	359
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.09	0.05	0.05	0.01	0.35	0.22	0.12	0.33	0.33
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.13	0.41	0.41	0.13	0.40	0.40
Volume/Cap:	0.77	0.79	0.86	0.84	0.48	0.48	0.10	0.87	0.54	0.87	0.81	0.81
Delay/Veh:	37.8	47.2	60.9	54.2	28.2	28.2	24.9	24.0	15.6	55.6	20.5	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.8	47.2	60.9	54.2	28.2	28.2	24.9	24.0	15.6	55.6	20.5	20.5
LOS by Move:	D	D	E	D	C	C	C	C	B	E	C	C
DesignQueue:	5	5	5	5	3	3	1	16	8	7	14	14

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

Appendix D

Project Buildout (Year 2009) With Project
Level of Service Analysis Worksheets

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 120 Critical Vol./Cap.(X): 1.202
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 96.4
Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	512	1459	330	203	1344	293	276	237	294	284	659	253
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	538	1532	347	213	1411	308	290	249	309	298	692	266
Added Vol:	16	39	30	0	77	0	0	0	31	65	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	554	1571	377	213	1488	308	290	249	340	363	692	266
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	574	1628	390	221	1542	319	300	258	352	376	717	275
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	574	1628	390	221	1542	319	300	258	352	376	717	275
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	574	1628	390	221	1542	319	300	258	352	376	717	275
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.31	0.24	0.12	0.30	0.20	0.17	0.07	0.22	0.21	0.20	0.17
Crit Moves:	****				****				****	****		
Green/Cycle:	0.26	0.37	0.37	0.14	0.25	0.25	0.16	0.18	0.18	0.17	0.19	0.19
Volume/Cap:	1.20	0.85	0.66	0.85	1.20	0.80	1.03	0.39	1.20	1.20	1.03	0.88
Delay/Veh:	153.6	38.8	34.2	72.9	144	53.1	110.5	43.7	167.9	166.9	90.0	71.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	153.6	38.8	34.2	72.9	144	53.1	110.5	43.7	167.9	166.9	90.0	71.3
LOS by Move:	F	D	C	E	F	D	F	D	F	F	F	E
DesignQueue:	31	27	17	13	31	17	18	8	20	22	21	15

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 95 Critical Vol./Cap.(X): 0.897
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 37.3
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	512	1459	330	203	1344	293	276	237	294	284	659	253
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	538	1532	347	213	1411	308	290	249	309	298	692	266
Added Vol:	16	39	30	0	77	0	0	0	31	65	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	554	1571	377	213	1488	308	290	249	340	363	692	266
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	574	1628	390	221	1542	319	300	258	352	376	717	275
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	574	1628	390	221	1542	319	300	258	352	376	717	275
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	574	1628	390	221	1542	319	300	258	352	376	717	275
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.95	0.85	0.92	0.95	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	3610	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.16	0.31	0.24	0.06	0.30	0.20	0.09	0.07	0.22	0.11	0.20	0.17
Crit Moves:	****				****		****				****	
Green/Cycle:	0.18	0.42	0.42	0.10	0.33	0.33	0.10	0.13	0.31	0.19	0.22	0.22
Volume/Cap:	0.90	0.75	0.58	0.64	0.90	0.60	0.90	0.55	0.70	0.57	0.90	0.77
Delay/Veh:	53.2	25.1	22.6	45.5	36.8	28.3	67.7	40.3	33.1	36.3	48.7	44.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.2	25.1	22.6	45.5	36.8	28.3	67.7	40.3	33.1	36.3	48.7	44.5
LOS by Move:	D	C	C	D	D	C	E	D	C	D	D	D
DesignQueue:	13	20	13	6	22	12	8	6	13	9	16	12

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #5 Washington St (NS) / Avenue 42 (EW)

Cycle (sec): 120 Critical Vol./Cap.(X): 1.218
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 122.7
Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound						South Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected					
Rights:	Include						Include					
Min. Green:	7	7	7				7	7	7			
Lanes:	1	0	3	0	1		1	0	3	0	1	
Volume Module:												
Base Vol:	295	1711	234				241	1418	239			
Growth Adj:	1.05	1.05	1.05				1.05	1.05	1.05			
Initial Bse:	310	1797	246				253	1489	251			
Added Vol:	54	124	117				0	84	0			
PasserByVol:	0	0	0				0	0	0			
Initial Fut:	364	1921	363				253	1573	251			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.95	0.95	0.95				0.95	0.95	0.95			
PHF Volume:	383	2022	382				266	1656	264			
Reduct Vol:	0	0	0				0	0	0			
Reduced Vol:	383	2022	382				266	1656	264			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
FinalVolume:	383	2022	382				266	1656	264			
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900				1900	1900	1900			
Adjustment:	0.95	0.91	0.85				0.95	0.91	0.85			
Lanes:	1.00	3.00	1.00				1.00	3.00	1.00			
Final Sat.:	1805	5187	1615				1805	5187	1615			
Capacity Analysis Module:												
Vol/Sat:	0.21	0.39	0.24				0.15	0.32	0.16			
Crit Moves:		****					****					
Green/Cycle:	0.18	0.32	0.32				0.12	0.26	0.26			
Volume/Cap:	1.20	1.22	0.74				1.22	1.20	0.62			
Delay/Veh:	167.6	145	41.9				185.1	143	41.5			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	167.6	145	41.9				185.1	143	41.5			
LOS by Move:	F	F	D				F	F	D			
DesignQueue:	22	37	18				16	32	13			

Approach:	East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected					
Rights:	Include						Include					
Min. Green:	7	7	7				7	7	7			
Lanes:	1	0	2	0	1		1	0	2	0	1	
Volume Module:												
Base Vol:	398	591	385				311	328	258			
Growth Adj:	1.05	1.05	1.05				1.05	1.05	1.05			
Initial Bse:	418	621	404				327	344	271			
Added Vol:	0	0	34				73	0	0			
PasserByVol:	0	0	0				0	0	0			
Initial Fut:	418	621	438				400	344	271			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.95	0.95	0.95				0.95	0.95	0.95			
PHF Volume:	440	653	461				421	363	285			
Reduct Vol:	0	0	0				0	0	0			
Reduced Vol:	440	653	461				421	363	285			
PCE Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00				1.00	1.00	1.00			
FinalVolume:	440	653	461				421	363	285			
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900				1900	1900	1900			
Adjustment:	0.95	0.95	0.85				0.95	0.95	0.85			
Lanes:	1.00	2.00	1.00				1.00	2.00	1.00			
Final Sat.:	1805	3610	1615				1805	3610	1615			
Capacity Analysis Module:												
Vol/Sat:	0.24	0.18	0.29				0.23	0.10	0.18			
Crit Moves:			****				****					
Green/Cycle:	0.25	0.23	0.23				0.19	0.18	0.18			
Volume/Cap:	0.99	0.77	1.22				1.22	0.56	0.99			
Delay/Veh:	84.2	47.4	165.9				170.3	46.1	98.4			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	84.2	47.4	165.9				170.3	46.1	98.4			
LOS by Move:	F	D	F				F	D	F			
DesignQueue:	24	18	25				24	11	16			

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

****

Intersection #5 Washington St (NS) / Avenue 42 (EW)

****

Cycle (sec): 110 Critical Vol./Cap.(X): 0.899
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 43.8
Optimal Cycle: OPTIMIZED Level Of Service: D

****

Approach:	North Bound			South Bound			East Bound				West Bound			
Movement:	L	T	R	L	T	R	L	T	R		L	T	R	
Control:	Protected			Protected			Protected				Protected			
Rights:	Include			Include			Ovl				Include			
Min. Green:	7	7	7	7	7	7	7	7	7		7	7	7	
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	2 0	1		2 0	2 0	1	
Volume Module:														
Base Vol:	295	1711	234	241	1418	239	398	591	385		311	328	258	
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05		1.05	1.05	1.05	
Initial Bse:	310	1797	246	253	1489	251	418	621	404		327	344	271	
Added Vol:	54	124	117	0	84	0	0	0	34		73	0	0	
PasserByVol:	0	0	0	0	0	0	0	0	0		0	0	0	
Initial Fut:	364	1921	363	253	1573	251	418	621	438		400	344	271	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		0.95	0.95	0.95	
PHF Volume:	383	2022	382	266	1656	264	440	653	461		421	363	285	
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0	
Reduced Vol:	383	2022	382	266	1656	264	440	653	461		421	363	285	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	383	2022	382	266	1656	264	440	653	461		421	363	285	
Saturation Flow Module:														
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.95	0.85		0.92	0.95	0.85	
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00		2.00	2.00	1.00	
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	3610	1615		3502	3610	1615	
Capacity Analysis Module:														
Vol/Sat:	0.11	0.39	0.24	0.08	0.32	0.16	0.13	0.18	0.29		0.12	0.10	0.18	
Crit Moves:		****		****			****						****	
Green/Cycle:	0.13	0.43	0.43	0.08	0.39	0.39	0.14	0.20	0.33		0.13	0.20	0.20	
Volume/Cap:	0.83	0.90	0.55	0.90	0.83	0.42	0.90	0.90	0.85		0.90	0.51	0.90	
Delay/Veh:	58.2	34.2	24.0	77.9	33.4	25.3	65.8	56.4	46.7		66.2	40.1	69.8	
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	58.2	34.2	24.0	77.9	33.4	25.3	65.8	56.4	46.7		66.2	40.1	69.8	
LOS by Move:	E	C	C	E	C	C	E	E	D		E	D	E	
DesignQueue:	11	29	14	8	25	10	12	18	20		12	10	15	

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

Intersection #6 Washington St (NS) at Palm Royale Dr (EW)

Cycle (sec): 95 Critical Vol./Cap.(X): 0.865
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 33.7
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:			Ovl						Include						Include						Ovl			
Min. Green:	7		7		7		7		7		7		7		7		7		7		7		7	
Lanes:	1	0	3	0	1		2	0	2	1	0		1	0	0	1	0		1	0	1	0	1	
Volume Module:																								
Base Vol:	4		1869		50		148		1572		11		18		0		7		48		14		416	
Growth Adj:	1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05	
Initial Bse:	4		1962		53		155		1651		12		19		0		7		50		15		437	
Added Vol:	4		67		4		40		133		0		0		0		0		4		0		18	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	8		2029		57		195		1784		12		19		0		7		54		15		455	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	9		2136		59		206		1877		12		20		0		8		57		15		479	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	9		2136		59		206		1877		12		20		0		8		57		15		479	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	9		2136		59		206		1877		12		20		0		8		57		15		479	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.95		0.91		0.85		0.92		0.91		0.91		0.95		1.00		0.85		0.95		1.00		0.85	
Lanes:	1.00		3.00		1.00		2.00		2.98		0.02		1.00		0.00		1.00		1.00		1.00		1.00	
Final Sat.:	1805		5187		1615		3502		5148		33		1805		0		1615		1805		1900		1615	
Capacity Analysis Module:																								
Vol/Sat:	0.00		0.41		0.04		0.06		0.36		0.36		0.01		0.00		0.00		0.03		0.01		0.30	
Crit Moves:			****				****						****										****	
Green/Cycle:	0.09		0.44		0.74		0.07		0.43		0.43		0.07		0.00		0.02		0.29		0.24		0.31	
Volume/Cap:	0.05		0.93		0.05		0.80		0.85		0.85		0.15		0.00		0.25		0.11		0.03		0.94	
Delay/Veh:	39.9		32.2		3.4		59.1		27.4		27.4		41.7		0.0		50.1		24.5		27.7		58.4	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	39.9		32.2		3.4		59.1		27.4		27.4		41.7		0.0		50.1		24.5		27.7		58.4	
LOS by Move:	D		C		A		E		C		C		D		A		D		C		C		E	
DesignQueue:	0		26		1		5		23		23		1		0		0		2		1		19	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

****

Intersection #6 Washington St (NS) at Palm Royale Dr (EW)

****

Cycle (sec): 105 Critical Vol./Cap.(X): 0.792
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 30.7
Optimal Cycle: OPTIMIZED Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0 3	0 1		2 0 2	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	14 1904	53		143 1954	31		13	1	11	36	4	305
Growth Adj:	1.05 1.05	1.05		1.05 1.05	1.05		1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	15 1999	56		150 2052	33		14	1	12	38	4	320
Added Vol:	8 238	9		27 164	0		0	0	0	2	0	57
PasserByVol:	0 0	0		0 0	0		0	0	0	0	0	0
Initial Fut:	23 2237	65		177 2216	33		14	1	12	40	4	377
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95 0.95	0.95		0.95 0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	24 2355	68		186 2332	34		14	1	12	42	4	397
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
Reduced Vol:	24 2355	68		186 2332	34		14	1	12	42	4	397
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24 2355	68		186 2332	34		14	1	12	42	4	397
Saturation Flow Module:												
Sat/Lane:	1900 1900	1900		1900 1900	1900		1900	1900	1900	1900	1900	1900
Adjustment:	0.95 0.91	0.85		0.92 0.91	0.91		0.95	0.86	0.86	0.95	1.00	0.85
Lanes:	1.00 3.00	1.00		2.00 2.96	0.04		1.00	0.08	0.92	1.00	1.00	1.00
Final Sat.:	1805 5187	1615		3502 5102	75		1805	136	1501	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.01 0.45	0.04		0.05 0.46	0.46		0.01	0.01	0.01	0.02	0.00	0.25
Crit Moves:	****			****			****					****
Green/Cycle:	0.07 0.51	0.64		0.07 0.51	0.51		0.07	0.13	0.13	0.13	0.20	0.28
Volume/Cap:	0.20 0.90	0.07		0.72 0.89	0.89		0.12	0.06	0.06	0.17	0.01	0.89
Delay/Veh:	47.2 28.1	7.2		56.8 27.1	27.1		46.5	39.8	39.8	40.7	33.6	56.4
User DelAdj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2 28.1	7.2		56.8 27.1	27.1		46.5	39.8	39.8	40.7	33.6	56.4
LOS by Move:	D C	A		E C	C		D	D	D	D	C	E
DesignQueue:	1 28	1		5 28	28		1	1	1	2	0	18

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

Intersection #16 Washington St (NS) at Site Access 1 (EW)

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[15.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 3	0	1	0 1 2	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0 1923		0	0 1627		0	0 0		0	0 0		0
Growth Adj:	1.05 1.05	1.05		1.05 1.05	1.05		1.05 1.05	1.05		1.05 1.05	1.05	
Initial Bse:	0 2019		0	0 1708		0	0 0		0	0 0		0
Added Vol:	0 61		18	0 143		0	0 0		0	0 0		18
PasserByVol:	0 0		0	0 0		0	0 0		0	0 0		0
Initial Fut:	0 2080		18	0 1851		0	0 0		0	0 0		18
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	0.95 0.95	0.95		0.95 0.95	0.95		0.95 0.95	0.95		0.95 0.95	0.95	
PHF Volume:	0 2190		19	0 1949		0	0 0		0	0 0		19
Reduct Vol:	0 0		0	0 0		0	0 0		0	0 0		0
FinalVolume:	0 2190		19	0 1949		0	0 0		0	0 0		19
Critical Gap Module:												
Critical Gp:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxx	6.9
FollowUpTim:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxx	730
Potent Cap.:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxx	369
Move Cap.:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxx	369
Volume/Cap:	xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx		xxxx xxxx	xxxx	0.05
Level Of Service Module:												
2Way95thQ:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxx	0.2
Control Del:	xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxx	15.3
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	C
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx	
SharedQueue:	xxxxx xxxx	xxxxx		0.0 xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx	
Shrd ConDel:	xxxxx xxxx	xxxxx		9.0 xxxx	xxxxx		xxxxx xxxx	xxxxx		xxxxx xxxx	xxxxx	
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			15.3		
ApproachLOS:	*			*			*			C		

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

****

Intersection #16 Washington St (NS) at Site Access 1 (EW)

****

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[15.3]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 3	0	1	0 1 2	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0 1923		0	0 1627		0	0 0		0	0 0		0
Growth Adj:	1.05 1.05		1.05	1.05 1.05		1.05	1.05 1.05		1.05	1.05 1.05		1.05
Initial Bse:	0 2019		0	0 1708		0	0 0		0	0 0		0
Added Vol:	0 61		18	0 143		0	0 0		0	0 0		18
PasserByVol:	0 0		0	0 0		0	0 0		0	0 0		0
Initial Fut:	0 2080		18	0 1851		0	0 0		0	0 0		18
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	0.95 0.95		0.95	0.95 0.95		0.95	0.95 0.95		0.95	0.95 0.95		0.95
PHF Volume:	0 2190		19	0 1949		0	0 0		0	0 0		19
Reduct Vol:	0 0		0	0 0		0	0 0		0	0 0		0
FinalVolume:	0 2190		19	0 1949		0	0 0		0	0 0		19
Critical Gap Module:												
Critical Gp:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		6.9
FollowUpTim:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		730
Potent Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		369
Move Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		369
Volume/Cap:	xxxx xxxx		xxxx	xxxx xxxx		xxxx	xxxx xxxx		xxxx	xxxx xxxx		0.05
Level Of Service Module:												
2Way95thQ:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		0.2
Control Del:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		15.3
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	C
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx
SharedQueue:	xxxxx xxxx		xxxxx	0.0 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx
Shrd ConDel:	xxxxx xxxx		xxxxx	9.0 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			15.3		
ApproachLOS:	*			*			*			C		

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #16 Washington St (NS) at Site Access 1 (EW)

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[17.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 3	0	1	0 1 2	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0 1971		0	0 2001		0	0 0		0	0 0		0
Growth Adj:	1.05 1.05		1.05	1.05 1.05		1.05	1.05 1.05		1.05	1.05 1.05		1.05
Initial Bse:	0 2070		0	0 2101		0	0 0		0	0 0		0
Added Vol:	0 229		35	0 179		0	0 0		0	0 0		35
PasserByVol:	0 0		0	0 0		0	0 0		0	0 0		0
Initial Fut:	0 2299		35	0 2280		0	0 0		0	0 0		35
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	0.95 0.95		0.95	0.95 0.95		0.95	0.95 0.95		0.95	0.95 0.95		0.95
PHF Volume:	0 2420		37	0 2400		0	0 0		0	0 0		37
Reduct Vol:	0 0		0	0 0		0	0 0		0	0 0		0
FinalVolume:	0 2420		37	0 2400		0	0 0		0	0 0		37
Critical Gap Module:												
Critical Gp:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		6.9
FollowUpTim:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		807
Potent Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		329
Move Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		329
Volume/Cap:	xxxx xxxx		xxxx	xxxx xxxx		xxxx	xxxx xxxx		xxxx	xxxx xxxx		0.11
Level Of Service Module:												
2Way95thQ:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		0.4
Control Del:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		17.3
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	C
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx
SharedQueue:	xxxxx xxxx		xxxxx	0.0 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx
Shrd ConDel:	xxxxx xxxx		xxxxx	9.0 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			17.3		
ApproachLOS:	*			*			*			C		

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

****

Intersection #16 Washington St (NS) at Site Access 1 (EW)

****

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[17.3]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 3	0	1	0 1 2	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0 1971		0	0 2001		0	0	0	0	0	0	0
Growth Adj:	1.05 1.05		1.05	1.05 1.05		1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	0 2070		0	0 2101		0	0	0	0	0	0	0
Added Vol:	0 229		35	0 179		0	0	0	0	0	0	35
PasserByVol:	0 0		0	0 0		0	0	0	0	0	0	0
Initial Fut:	0 2299		35	0 2280		0	0	0	0	0	0	35
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95 0.95		0.95	0.95 0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0 2420		37	0 2400		0	0	0	0	0	0	37
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
FinalVolume:	0 2420		37	0 2400		0	0	0	0	0	0	37
Critical Gap Module:												
Critical Gp:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	807
Potent Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	329
Move Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	329
Volume/Cap:	xxxx xxxx		xxxx	xxxx xxxx		xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.11
Level Of Service Module:												
2Way95thQ:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.4
Control Del:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	17.3
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	C
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx xxxx		xxxxx	0.0 xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx xxxx		xxxxx	9.0 xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			17.3		
ApproachLOS:	*			*			*			C		

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec): 110 Critical Vol./Cap.(X): 1.031
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 61.4
Optimal Cycle: OPTIMIZED Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	2 0	1
Volume Module:												
Base Vol:	556	1282	84	218	1142	371	269	664	472	99	1140	406
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	584	1346	88	229	1199	390	282	697	496	104	1197	426
Added Vol:	14	58	84	44	75	1	12	40	27	58	18	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	598	1404	172	273	1274	391	294	737	523	162	1215	443
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	629	1478	181	287	1341	411	310	776	550	170	1279	467
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	629	1478	181	287	1341	411	310	776	550	170	1279	467
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	629	1478	181	287	1341	411	310	776	550	170	1279	467
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.95	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.18	0.28	0.11	0.08	0.26	0.25	0.09	0.15	0.34	0.05	0.35	0.29
Crit Moves:	****				****		****				****	
Green/Cycle:	0.17	0.33	0.33	0.10	0.25	0.25	0.09	0.36	0.36	0.07	0.34	0.34
Volume/Cap:	1.03	0.86	0.34	0.86	1.03	1.02	1.03	0.41	0.94	0.72	1.03	0.84
Delay/Veh:	90.0	39.3	28.2	69.2	74.5	89.8	110.4	26.5	57.6	60.5	70.0	44.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.0	39.3	28.2	69.2	74.5	89.8	110.4	26.5	57.6	60.5	70.0	44.4
LOS by Move:	F	D	C	E	E	F	F	C	E	E	E	D
DesignQueue:	17	24	8	8	24	20	9	12	23	5	30	20

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec):	115	Critical Vol./Cap.(X):	0.898
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	44.1
Optimal Cycle: OPTIMIZED		Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	556	1282	84	218	1142	371	269	664	472	99	1140	406
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	584	1346	88	229	1199	390	282	697	496	104	1197	426
Added Vol:	14	58	84	44	75	1	12	40	27	58	18	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	598	1404	172	273	1274	391	294	737	523	162	1215	443
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	629	1478	181	287	1341	411	310	776	550	170	1279	467
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	629	1478	181	287	1341	411	310	776	550	170	1279	467
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	629	1478	181	287	1341	411	310	776	550	170	1279	467
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.18	0.28	0.11	0.08	0.26	0.25	0.09	0.15	0.34	0.05	0.25	0.29
Crit Moves:	****				****		****				****	
Green/Cycle:	0.20	0.38	0.38	0.11	0.29	0.29	0.10	0.27	0.47	0.10	0.27	0.38
Volume/Cap:	0.90	0.75	0.30	0.75	0.90	0.88	0.90	0.55	0.72	0.48	0.90	0.75
Delay/Veh:	59.3	32.7	25.3	57.9	47.0	57.1	76.2	36.5	27.9	49.7	48.1	35.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.3	32.7	25.3	57.9	47.0	57.1	76.2	36.5	27.9	49.7	48.1	35.9
LOS by Move:	E	C	C	E	D	E	E	D	C	D	D	D
DesignQueue:	17	23	7	9	24	20	9	14	20	5	23	20

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec): 100 Critical Vol./Cap.(X): 1.010
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 55.0
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	7		7		7		7		7		7		7		7		7		7		7		7	
Lanes:	2	0	3	0	1		2	0	3	0	1		2	0	3	0	1		2	0	2	0	1	
Volume Module:																								
Base Vol:	308		1320		55		209		1469		301		402		911		405		155		713		335	
Growth Adj:	1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05	
Initial Bse:	323		1386		58		219		1542		316		422		957		425		163		749		352	
Added Vol:	38		164		78		33		75		2		35		24		27		190		91		69	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	361		1550		136		252		1617		318		457		981		452		353		840		421	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	380		1632		143		266		1703		335		481		1032		476		371		884		443	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	380		1632		143		266		1703		335		481		1032		476		371		884		443	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	380		1632		143		266		1703		335		481		1032		476		371		884		443	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.92		0.91		0.85		0.92		0.91		0.85		0.92		0.91		0.85		0.92		0.95		0.85	
Lanes:	2.00		3.00		1.00		2.00		3.00		1.00		2.00		3.00		1.00		2.00		2.00		1.00	
Final Sat.:	3502		5187		1615		3502		5187		1615		3502		5187		1615		3502		3610		1615	
Capacity Analysis Module:																								
Vol/Sat:	0.11		0.31		0.09		0.08		0.33		0.21		0.14		0.20		0.29		0.11		0.24		0.27	
Crit Moves:	****								****				****										****	
Green/Cycle:	0.11		0.35		0.35		0.08		0.32		0.32		0.14		0.30		0.30		0.11		0.27		0.27	
Volume/Cap:	1.01		0.90		0.25		0.90		1.01		0.64		1.01		0.66		0.98		0.98		0.90		1.01	
Delay/Veh:	93.6		37.7		23.5		74.3		58.2		31.4		87.0		31.7		71.3		86.3		46.5		82.0	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	93.6		37.7		23.5		74.3		58.2		31.4		87.0		31.7		71.3		86.3		46.5		82.0	
LOS by Move:	F		D		C		E		E		C		F		C		E		F		D		F	
DesignQueue:	10		24		5		7		26		13		12		16		20		10		20		19	

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #7 Washington St (NS) at Fred Waring Dr (EW)

Cycle (sec): 115 Critical Vol./Cap.(X): 0.898
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 44.7
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	308	1320	55	209	1469	301	402	911	405	155	713	335
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	323	1386	58	219	1542	316	422	957	425	163	749	352
Added Vol:	38	164	78	33	75	2	35	24	27	190	91	69
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	361	1550	136	252	1617	318	457	981	452	353	840	421
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	380	1632	143	266	1703	335	481	1032	476	371	884	443
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	1632	143	266	1703	335	481	1032	476	371	884	443
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	380	1632	143	266	1703	335	481	1032	476	371	884	443
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.31	0.09	0.08	0.33	0.21	0.14	0.20	0.29	0.11	0.17	0.27
Crit Moves:	****				****		****					****
Green/Cycle:	0.12	0.39	0.39	0.09	0.37	0.37	0.15	0.24	0.37	0.13	0.22	0.32
Volume/Cap:	0.90	0.80	0.23	0.80	0.90	0.57	0.90	0.82	0.81	0.82	0.77	0.87
Delay/Veh:	71.1	33.4	23.5	64.1	40.6	30.5	65.6	45.2	41.0	59.6	45.3	51.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.1	33.4	23.5	64.1	40.6	30.5	65.6	45.2	41.0	59.6	45.3	51.9
LOS by Move:	E	C	C	E	D	C	E	D	D	E	D	D
DesignQueue:	11	25	6	8	28	14	14	19	21	11	17	21

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Average Delay (sec/veh): 565.1 Worst Case Level Of Service: F[4439.5]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0	1	0 0 1!	0	0	1 0 2	0	1	1 0 2	0	1
Volume Module:												
Base Vol:	45	0	10	87	1	224	102	764	10	15	1341	288
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	47	0	11	91	1	235	107	802	11	16	1408	302
Added Vol:	0	0	0	37	0	1	10	14	0	0	107	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	0	11	128	1	236	117	816	11	16	1515	320
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	50	0	11	135	1	249	123	859	11	17	1595	337
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	0	11	135	1	249	123	859	11	17	1595	337
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1937	3071	430	2304	2745	797	1932	xxxx	xxxxx	870	xxxx	xxxxx
Potent Cap.:	40	12	579	21	20	334	309	xxxx	xxxxx	783	xxxx	xxxxx
Move Cap.:	7	7	579	14	12	334	309	xxxx	xxxxx	783	xxxx	xxxxx
Volume/Cap:	7.63	0.00	0.02	9.57	0.09	0.75	0.40	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	1.8	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	11.3	xxxxx	xxxx	xxxxx	24.2	xxxx	xxxxx	9.7	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	C	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	7	xxxx	xxxxx	xxxx	37	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	7.8	xxxx	xxxxx	xxxxx	46.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	4077	xxxx	xxxxx	xxxxx	4440	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	F	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	3337.8			4439.5			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 60 Critical Vol./Cap.(X): 0.858
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 10.6
Optimal Cycle: OPTIMIZED Level Of Service: B

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted						Permitted						Permitted					
Rights:	Include						Include						Include						Include					
Min. Green:	7		7		7		7		7		7		7		7		7		7		7		7	
Lanes:	0	1	0	0	1		0	1	0	0	1		1	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	45		0		10		87		1		224		102		764		10		15		1341		288	
Growth Adj:	1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05	
Initial Bse:	47		0		11		91		1		235		107		802		11		16		1408		302	
Added Vol:	0		0		0		37		0		1		10		14		0		0		107		18	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	47		0		11		128		1		236		117		816		11		16		1515		320	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	50		0		11		135		1		249		123		859		11		17		1595		337	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	50		0		11		135		1		249		123		859		11		17		1595		337	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	50		0		11		135		1		249		123		859		11		17		1595		337	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.66		1.00		0.85		0.68		0.68		0.85		0.11		0.95		0.85		0.31		0.95		0.85	
Lanes:	1.00		0.00		1.00		0.99		0.01		1.00		1.00		2.00		1.00		1.00		2.00		1.00	
Final Sat.:	1250		0		1615		1282		10		1615		209		3610		1615		587		3610		1615	
Capacity Analysis Module:																								
Vol/Sat:	0.04		0.00		0.01		0.11		0.11		0.15		0.59		0.24		0.01		0.03		0.44		0.21	
Crit Moves:											****		****											
Green/Cycle:	0.18		0.00		0.18		0.18		0.18		0.18		0.69		0.69		0.69		0.69		0.69		0.69	
Volume/Cap:	0.22		0.00		0.04		0.59		0.59		0.86		0.86		0.35		0.01		0.04		0.64		0.30	
Delay/Veh:	21.5		0.0		20.4		26.5		26.5		45.6		44.2		3.9		3.0		3.1		5.8		3.9	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	21.5		0.0		20.4		26.5		26.5		45.6		44.2		3.9		3.0		3.1		5.8		3.9	
LOS by Move:	C		A		C		C		C		D		D		A		A		A		A		A	
DesignQueue:	1		0		0		4		4		7		1		5		0		0		10		4	

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

****

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

****

Average Delay (sec/veh): 541.0 Worst Case Level Of Service: F[4122.5]

****

Approach:	North Bound			South Bound			East Bound						West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	1	0	0	1	0	0	1!	0	0	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	8	0	6	69	0	147	31	1147	8		11	1084	122							
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05		1.05	1.05	1.05							
Initial Bse:	8	0	6	72	0	154	33	1204	8		12	1138	128							
Added Vol:	0	0	0	176	0	7	5	39	0		0	127	11							
PasserByVol:	0	0	0	0	0	0	0	0	0		0	0	0							
Initial Fut:	8	0	6	248	0	161	38	1243	8		12	1265	139							
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00							
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		0.95	0.95	0.95							
PHF Volume:	9	0	7	262	0	170	40	1309	9		12	1332	146							
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0							
FinalVolume:	9	0	7	262	0	170	40	1309	9		12	1332	146							
Critical Gap Module:																				
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx		4.1	xxxx	xxxxx							
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx		2.2	xxxx	xxxxx							
Capacity Module:																				
Cnflict Vol:	2078	2890	654	2090	2753	666	1478	xxxx	xxxxx		1318	xxxx	xxxxx							
Potent Cap.:	32	16	414	31	20	407	462	xxxx	xxxxx		531	xxxx	xxxxx							
Move Cap.:	17	15	414	28	18	407	462	xxxx	xxxxx		531	xxxx	xxxxx							
Volume/Cap:	0.52	0.00	0.02	9.35	0.00	0.42	0.09	xxxx	xxxx		0.02	xxxx	xxxx							
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx		0.1	xxxx	xxxxx							
Control Del:	xxxxx	xxxx	13.8	xxxxx	xxxx	xxxxx	13.5	xxxx	xxxxx		11.9	xxxx	xxxxx							
LOS by Move:	*	*	B	*	*	*	B	*	*		B	*	*							
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	17	xxxx	xxxxx	xxxx	44	xxxxx	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx							
SharedQueue:	1.4	xxxx	xxxxx	xxxxx	51.5	xxxxx	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx							
Shrd ConDel:	359.4	xxxx	xxxxx	xxxxx	4122	xxxxx	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx							
Shared LOS:	F	*	*	*	F	*	*	*	*		*	*	*							
ApproachDel:	211.3			4122.5			xxxxxx				xxxxxx									
ApproachLOS:	F			F			*				*									

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #9 Palm Royale Ave (NS) at Fred Waring Dr (EW)

Cycle (sec): 60 Critical Vol./Cap.(X): 0.650
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 10.8
Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound						West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Permitted					Permitted					Permitted					Permitted				
Rights:	Include					Include					Include					Include				
Min. Green:	7		7		7	7		7		7	7		7		7	7		7		7
Lanes:	0	1	0	0	1	0	1	0	0	1	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	8		0		6	69		0		147	31		1147		8	11		1084		122
Growth Adj:	1.05		1.05		1.05	1.05		1.05		1.05	1.05		1.05		1.05	1.05		1.05		1.05
Initial Bse:	8		0		6	72		0		154	33		1204		8	12		1138		128
Added Vol:	0		0		0	176		0		7	5		39		0	0		127		11
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	8		0		6	248		0		161	38		1243		8	12		1265		139
User Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95		0.95	0.95		0.95		0.95
PHF Volume:	9		0		7	262		0		170	40		1309		9	12		1332		146
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	9		0		7	262		0		170	40		1309		9	12		1332		146
PCE Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
MLF Adj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
FinalVolume:	9		0		7	262		0		170	40		1309		9	12		1332		146
Saturation Flow Module:																				
Sat/Lane:	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900		1900
Adjustment:	0.81		1.00		0.85	0.71		1.00		0.85	0.13		0.95		0.85	0.14		0.95		0.85
Lanes:	1.00		0.00		1.00	1.00		0.00		1.00	1.00		2.00		1.00	1.00		2.00		1.00
Final Sat.:	1537		0		1615	1343		0		1615	247		3610		1615	258		3610		1615
Capacity Analysis Module:																				
Vol/Sat:	0.01		0.00		0.00	0.19		0.00		0.11	0.16		0.36		0.01	0.05		0.37		0.09
Crit Moves:						****												****		
Green/Cycle:	0.30		0.00		0.30	0.30		0.00		0.30	0.57		0.57		0.57	0.57		0.57		0.57
Volume/Cap:	0.02		0.00		0.01	0.65		0.00		0.35	0.28		0.64		0.01	0.08		0.65		0.16
Delay/Veh:	14.8		0.0		14.8	22.0		0.0		16.9	7.8		9.5		5.7	6.1		9.6		6.3
User DelAdj:	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00
AdjDel/Veh:	14.8		0.0		14.8	22.0		0.0		16.9	7.8		9.5		5.7	6.1		9.6		6.3
LOS by Move:	B		A		B	C		A		B	A		A		A	A		A		A
DesignQueue:	0		0		0	6		0		4	1		11		0	0		11		2

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

****

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 120 Critical Vol./Cap.(X): 0.957
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 61.0
Optimal Cycle: OPTIMIZED Level Of Service: E

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	7		7		7		7		7		7		7		7		7		7		7		7	
Lanes:	1	0	1	0	1		1	0	1	1	0		1	0	2	0	1		1	0	1	1	0	
Volume Module:																								
Base Vol:	512		169		95		136		234		56		8		599		358		144		1177		64	
Growth Adj:	1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05		1.05	
Initial Bse:	538		177		100		143		246		59		8		629		376		151		1236		67	
Added Vol:	1		0		22		0		0		0		0		50		0		41		124		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	539		177		122		143		246		59		8		679		376		192		1360		67	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95		0.95	
PHF Volume:	567		187		128		150		259		62		9		715		396		202		1431		71	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	567		187		128		150		259		62		9		715		396		202		1431		71	
PCE Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
MLF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
FinalVolume:	567		187		128		150		259		62		9		715		396		202		1431		71	
Saturation Flow Module:																								
Sat/Lane:	1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900		1900	
Adjustment:	0.95		1.00		0.85		0.95		0.92		0.92		0.95		0.95		0.85		0.95		0.94		0.94	
Lanes:	1.00		1.00		1.00		1.00		1.61		0.39		1.00		2.00		1.00		1.00		1.91		0.09	
Final Sat.:	1805		1900		1615		1805		2828		677		1805		3610		1615		1805		3416		169	
Capacity Analysis Module:																								
Vol/Sat:	0.31		0.10		0.08		0.08		0.09		0.09		0.00		0.20		0.25		0.11		0.42		0.42	
Crit Moves:	****								****				****								****			
Green/Cycle:	0.31		0.22		0.22		0.18		0.09		0.09		0.06		0.32		0.32		0.15		0.41		0.41	
Volume/Cap:	1.02		0.46		0.37		0.46		1.02		1.02		0.08		0.62		0.76		0.76		1.02		1.02	
Delay/Veh:	84.9		41.8		40.8		44.8		111		110.6		53.8		35.4		43.1		61.3		64.0		64.0	
User DelAdj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
AdjDel/Veh:	84.9		41.8		40.8		44.8		111		110.6		53.8		35.4		43.1		61.3		64.0		64.0	
LOS by Move:	F		D		D		D		F		F		D		D		D		E		E		E	
DesignQueue:	28		10		7		8		10		10		1		18		19		12		35		35	

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
AM Peak Hour

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

****

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

****

Cycle (sec): 90 Critical Vol./Cap.(X): 0.824
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 35.7
Optimal Cycle: OPTIMIZED Level Of Service: D

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0 1	0 1		1 0 1	1 0		1 0 2	0 1		1 0 1	1 0	
Volume Module:												
Base Vol:	512	169	95	136	234	56	8	599	358	144	1177	64
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	538	177	100	143	246	59	8	629	376	151	1236	67
Added Vol:	1	0	22	0	0	0	0	50	0	41	124	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	539	177	122	143	246	59	8	679	376	192	1360	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	567	187	128	150	259	62	9	715	396	202	1431	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	567	187	128	150	259	62	9	715	396	202	1431	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	567	187	128	150	259	62	9	715	396	202	1431	71
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.92	0.92	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	2.00	1.00	1.00	1.00	1.61	0.39	1.00	2.00	1.00	1.00	1.91	0.09
Final Sat.:	3502	1900	1615	1805	2828	677	1805	3610	1615	1805	3416	169
Capacity Analysis Module:												
Vol/Sat:	0.16	0.10	0.08	0.08	0.09	0.09	0.00	0.20	0.25	0.11	0.42	0.42
Crit Moves:	****				****		****				****	
Green/Cycle:	0.18	0.15	0.15	0.13	0.10	0.10	0.08	0.37	0.37	0.17	0.46	0.46
Volume/Cap:	0.90	0.65	0.52	0.65	0.90	0.90	0.06	0.53	0.66	0.66	0.90	0.90
Delay/Veh:	52.6	41.0	37.2	43.5	65.3	65.3	38.7	22.6	26.2	40.1	29.6	29.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.6	41.0	37.2	43.5	65.3	65.3	38.7	22.6	26.2	40.1	29.6	29.6
LOS by Move:	D	D	D	D	E	E	D	C	C	D	C	C
DesignQueue:	13	8	6	7	8	8	0	12	13	9	24	24

****

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

****

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec): 85 Critical Vol./Cap.(X): 0.845
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 32.0
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	1 0	1 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	263	147	80	147	136	28	21	959	319	151	820	106
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	276	154	84	154	143	29	22	1007	335	159	861	111
Added Vol:	1	0	58	0	0	0	0	214	1	41	137	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	277	154	142	154	143	29	22	1221	336	200	998	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	292	162	149	162	150	31	23	1285	354	210	1051	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	162	149	162	150	31	23	1285	354	210	1051	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	162	149	162	150	31	23	1285	354	210	1051	117
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.93	0.93	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	1.66	0.34	1.00	2.00	1.00	1.00	1.80	0.20
Final Sat.:	1805	1900	1615	1805	2916	600	1805	3610	1615	1805	3199	357
Capacity Analysis Module:												
Vol/Sat:	0.16	0.09	0.09	0.09	0.05	0.05	0.01	0.36	0.22	0.12	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.19	0.14	0.14	0.13	0.08	0.08	0.11	0.41	0.41	0.13	0.43	0.43
Volume/Cap:	0.87	0.63	0.68	0.68	0.63	0.63	0.12	0.87	0.53	0.87	0.76	0.76
Delay/Veh:	54.4	39.6	43.3	42.9	42.0	42.0	34.5	28.8	19.8	63.0	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	39.6	43.3	42.9	42.0	42.0	34.5	28.8	19.8	63.0	22.4	22.4
LOS by Move:	D	D	D	D	D	D	C	C	B	E	C	C
DesignQueue:	12	7	6	7	4	4	1	21	10	9	18	18

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

Desert Express Car Wash Traffic Impact Study (JN: 2072-08-01)
Existing + Ambient + Cumulative + Project Conditions
PM Peak Hour

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

Intersection #14 Adams St (NS) at Fred Waring Dr (EW)

Cycle (sec): 65 Critical Vol./Cap.(X): 0.859
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 28.8
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	7	7	7	7	7	7	7	7	7	7	7
Lanes:	2 0	1 0	1	1 0	1 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	263	147	80	147	136	28	21	959	319	151	820	106
Growth Adj:	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Initial Bse:	276	154	84	154	143	29	22	1007	335	159	861	111
Added Vol:	1	0	58	0	0	0	0	214	1	41	137	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	277	154	142	154	143	29	22	1221	336	200	998	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	292	162	149	162	150	31	23	1285	354	210	1051	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	292	162	149	162	150	31	23	1285	354	210	1051	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	292	162	149	162	150	31	23	1285	354	210	1051	117
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	0.95	0.93	0.93	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	2.00	1.00	1.00	1.00	1.66	0.34	1.00	2.00	1.00	1.00	1.80	0.20
Final Sat.:	3502	1900	1615	1805	2916	600	1805	3610	1615	1805	3199	357
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.09	0.05	0.05	0.01	0.36	0.22	0.12	0.33	0.33
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.11	0.11	0.11	0.11	0.11	0.13	0.41	0.41	0.13	0.41	0.41
Volume/Cap:	0.77	0.79	0.86	0.84	0.48	0.48	0.10	0.88	0.54	0.88	0.81	0.81
Delay/Veh:	37.8	47.2	60.9	54.2	28.2	28.2	24.9	24.2	15.6	56.2	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.8	47.2	60.9	54.2	28.2	28.2	24.9	24.2	15.6	56.2	20.7	20.7
LOS by Move:	D	D	E	D	C	C	C	C	B	E	C	C
DesignQueue:	5	5	5	5	3	3	1	16	8	7	14	14

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

Appendix E

Traffic Signal Warrant Worksheets

2003 Edition

WARRANT 3, PEAK HOUR (70% FACTOR)
(Rural Areas)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing PM**

Major Street Name = **Fred Waring**

Total of Both Approaches (VPH) = **2403**

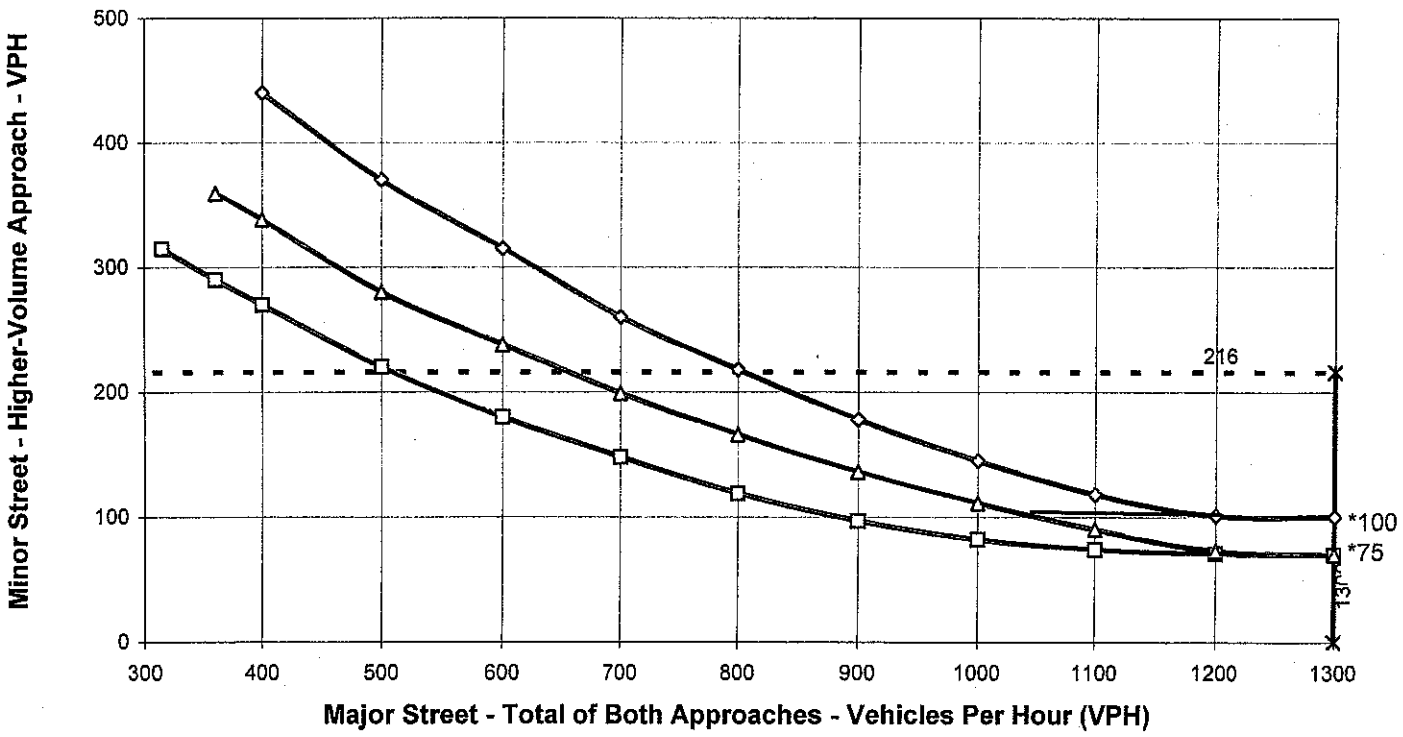
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Palm Royale**

High Volume Approach (VPH) = **216**

Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



1 Lane (Major) & 1 Lane (Minor)

2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)

2+ Lanes (Major) & 2+ Lanes (Minor)

Major Street Approaches

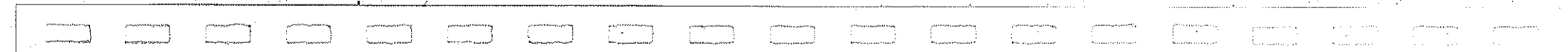
Minor Street Approaches

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

November 2003

Appendix F

Scoping Agreement



RK engineering group, inc.

transportation planning • traffic engineering
environmental engineering • parking studies

May 29, 2008

Mr. Rusty Beardsley
CITY OF LA QUINTA TRAFFIC AND
TRANSPORTATION DEPARTMENT
P.O. Box 1504
La Quinta, CA 92247

Subject: 2648 Desert Express Car Wash Traffic Impact Study, City of La Quinta

Dear Mr. Beardsley:

RK ENGINEERING GROUP, INC. (RK) is pleased to submit this Scoping Agreement for the proposed Traffic Impact Study for 2648 Desert Express Car Wash project. This packet includes the following items:

- Scoping Agreement for Traffic Impact Study
- Proposed Project Location Map
- Proposed Project Site Plan
- Proposed Project Trip Distribution
- Proposed Project Trip Generation and Rates

If you have any questions regarding this scoping, or would like further clarification, please do not hesitate to call me at (949) 474-0809.

Sincerely,
RK ENGINEERING GROUP, INC.

Kerin Smith
Transportation Engineer

Attachments

3991 macarthur boulevard, suite 310
newport beach, california 92660
tel 949.474.0809 fax 949.474.0902
http://www.rkengineer.com

SCOPING AGREEMENT FOR TRAFFIC IMPACT STUDY

This letter acknowledges the City of La Quinta requirements for traffic impact analysis of the following project. The analysis follows the City of La Quinta Engineering Bulletin #06-13 for Traffic Study Guidelines dated December 2006.

Project Name: 2648 Desert Express Car Wash
Project Address: 43-632 Washington Street, La Quinta CA 92253
Project Description: 4,924 square foot automated car wash

	Consultant	Developer
Name:	RK ENGINEERING GROUP, INC	Mr. Yuri Levitan
Address:	3991 MacArthur Boulevard, Suite 310	42185 Washington Street
	Newport Beach, CA 92660	Palm Desert, CA 92211
Telephone:	(949) 474-0809	(760) 360-4990
	Kerin Smith	

A. Trip Generation Source: (ITE 7th Edition or other) and SANDAG where ITE rates are not available.

Current GP Land Use	Community Commercial			Proposed Land Use	Automated Car Wash	
Current Zoning	Community Commercial			Proposed Zoning	Community Com.	
Current Trip Generation	In	Out	Total	Proposed Trip Generation	In	Out	Total
AM Trips	0	0	0		18	18	36
PM Trips	0	0	0		18	18	70

will require Conditional use permit

Internal Trip Allowance ☐ Yes ☒ No (_____% Trip Discount)
Pass-By Trip Allowance ☐ Yes ☒ No (_____% Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N45% S20% E15% W20%
(attached exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year 2009 Annual Ambient Growth Rate: 5 % (north of Hwy 111)
Phase Year(s) N/A
Other area projects to be analyzed: To be provided by City of La Quinta (0.5 mile radius) Projects that will be complete (or substantially complete) by year 2009
Model/Forecast methodology Build up method

Conditions:

2008 Existing
Project Buildout (Year 2009) plus cumulative development
Project Buildout (Year 2009) plus Cumulatives plus Project

D. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. Washington Street at Country Club Drive
2. Washington Street at 42nd Avenue
3. Washington Street at Fred Waring Drive
4. Washington Street at Highway 111
5. Washington St at Project Driveway
6. _____
7. _____
8. _____
9. _____
10. _____

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

F. Other Jurisdictional Impacts:

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? [X] Yes [ ] No

If so, name of City Jurisdiction: _____

G. Site Plan (please attach reduced copy)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)

_____

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

Date of counts New counts to be provided and 25% seasonal adjustment to be applied.

Recommended by:

Kim G. Lee 5/29/08

Consultant's Representative Date

Scoping Agreement Submitted on 5/29/08

Revised on _____

Approved Scoping Agreement:

_____ _____

City of La Quinta Staff Date

Kerin Smith

From: Rusty Beardsley [Rbeardsley@la-quinta.org]
Sent: Monday, June 02, 2008 12:12 PM
To: Kerin Smith
Cc: Ed Wimmer
Subject: RE: Desert Express Car Wash

Kerin,
I have reviewed your proposed scope and have the following comments which need to be addressed prior to approval.

1 – Proposed Study Intersections should be Washington/42; Washington/Palm Royal; Washington/Fred Waring; Fred Waring/Palm Royal (assume signal is installed); and Fred Waring/Adams.

2 – Proposed Trip Distribution should have 25% going south of Fred Waring; 40% going east of Washington (on Fred Waring and Ave. 42); 15% going north of Ave. 42; and 20% going west of Washington (on Fred Waring and Ave. 42). Separate distributions should be provided showing inbound and outbound trips as they are expected to vary.

3 – Report will need to explain and justify use of mixed ITE and SANDAG trip generation rates.

4 – Report will be expected to contain an on-site circulation analysis including interaction with and impact to shared access sites.

5 – Type of on-street access expected on Washington.

6 – Report should review need for deceleration lane on Washington.

If you have any questions, please feel free to contact me by return email or call (760) 777-7056.

Rusty Beardsley, T.E.
Traffic Engineer
City of La Quinta

From: Kerin Smith [mailto:ks@rkengineer.com]
Sent: Thursday, May 29, 2008 11:05 AM
To: Rusty Beardsley
Subject: Desert Express Car Wash

Mr. Beardsley,

As discussed, I have attached the proposed scope for the Desert Express Car Wash project to be located on Washington Street. Please let me know if you have any questions or comments.

Thank you,

Kerin Smith
Transportation Engineer

RK Engineering Group, Inc.
transportation planning / traffic engineering & design

Appendix G

City Comments

City of La Quinta

P.O. Box 1504
La Quinta, California 92247-1504
78-495 Calle Tampico
La Quinta, California 92253

Public Works Department
(760) 777-7075
FAX (760) 777-7155

SUBJECT: PCN 08160 DESERT EXPRESS CAR WASH SDP 2008-905, LEVITAN DEVELOPMENT, LLC (YURI LEVITAN) LESLIE LIPPICH ARCHITECT EA 2008-598, CUP 2008-112 (TRAFFIC IMPACT STUDY)

DATE: August 14, 2008

PUBLIC WORKS COMMENTS TO PLANNING:

1) Due to impacts at Washington Ave. and Ave. 42, study should be sent to the City of Palm Desert for their review.
2) Traffic counts taken in June should be increased by 40% per the City's Engineering Bulletin #06-013. Report uses 25% seasonal increase.
3) An analysis of the internal circulation for the proposed site plan should be included in the report. Some of the issues that should be addressed are:
    a. Contra-flow traffic movements (i.e. northbound traffic with southbound traffic on either side).
    b. Proper access for shared driveway with parcel to the south of property.
    c. Adequacy of stacking for three entrance isles/vacuum stations.
    d. Lack of outlet for parking area (i.e. dead end).
4) Recommendation in section 10.1 of an exclusive free right turn lane for westbound Fred Waring at Washington is not feasible. Three through lanes east and west as well as an exclusive right turn lane at this location have been conditioned for new development on northeast corner but it will **not** be a free right nor will northbound acceleration lane be provided as recommended in report. Dual left turn pockets for westbound Fred Waring at Washington will also be extended to 380' of storage. Please reevaluate the intersection of Washington/Fred Waring with mitigation limited to these new parameters.
5) Zone 4 Cumulative Trip Distribution (Mayer Villa Capri) needs to be re-evaluated based on Traffic Study for "La Quinta Retail and Office Complex" dated May 2008. Relevant sections from this approved study are included for your use.
6) Traffic volumes using the shared driveway, both from this project as well as from the adjoining property, should be taken into consideration in the analysis.
7) Project Trip Generation (Table 3) should include a pass-by trip reduction component.
8) There should be an additional column in Summary Intersection Analysis (Table 7) indicating if a significant impact is created at each intersection analyzed per Engineering Bulletin #06-13.

9) Based on volumes on Washington Street and the existing or expected curb lines for adjacent properties to the north and south, consideration should be given to the installation of a deceleration lane at the driveway approach on Washington Street.

Sincerely,

Timothy R. Jonasson, P.E.
Public Works Director/ City Engineer

Figure 4-6

Site Traffic Volumes
At Key Intersections

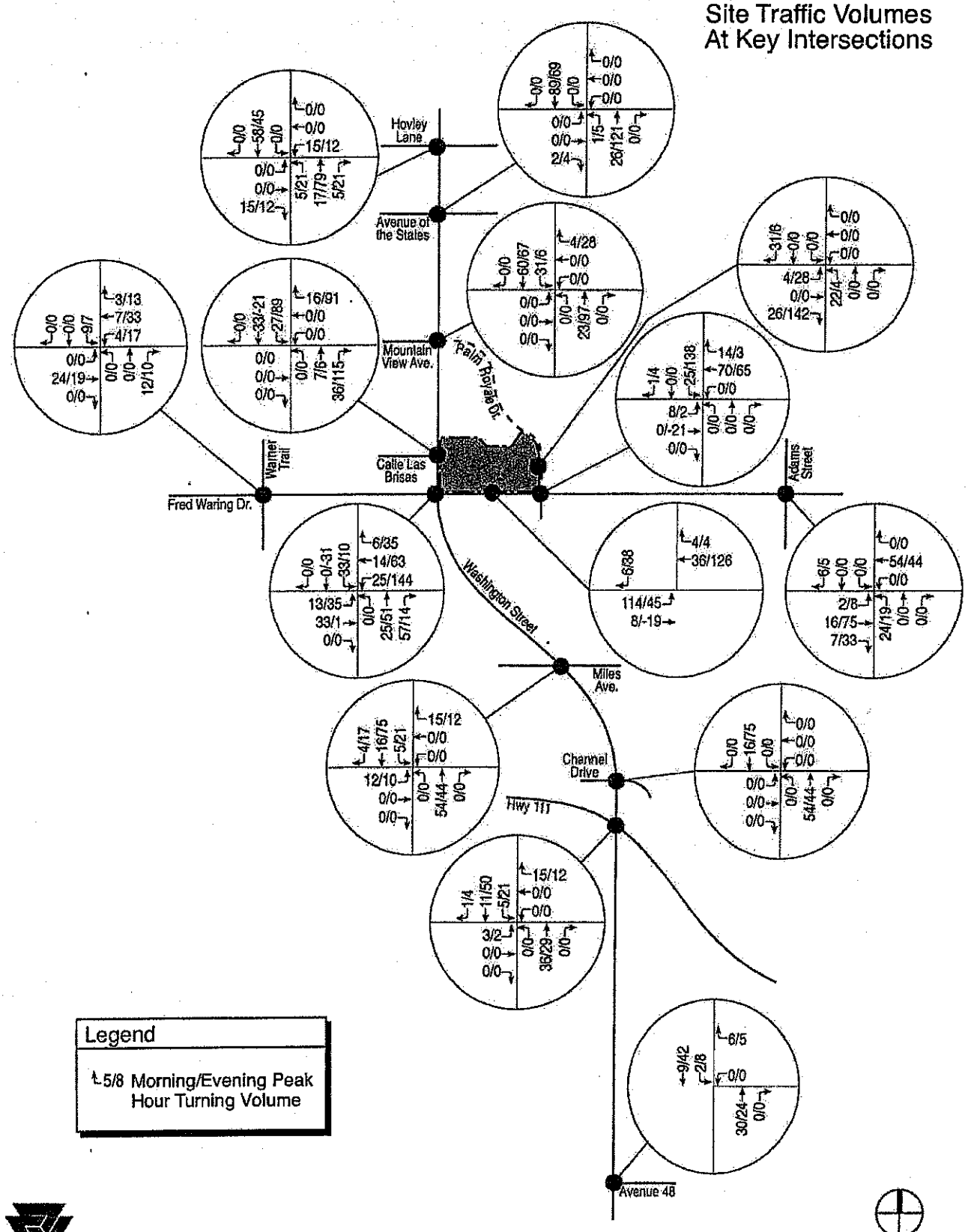


Figure 4-5

Commercial Pass-By Trip Distribution At Site Driveways

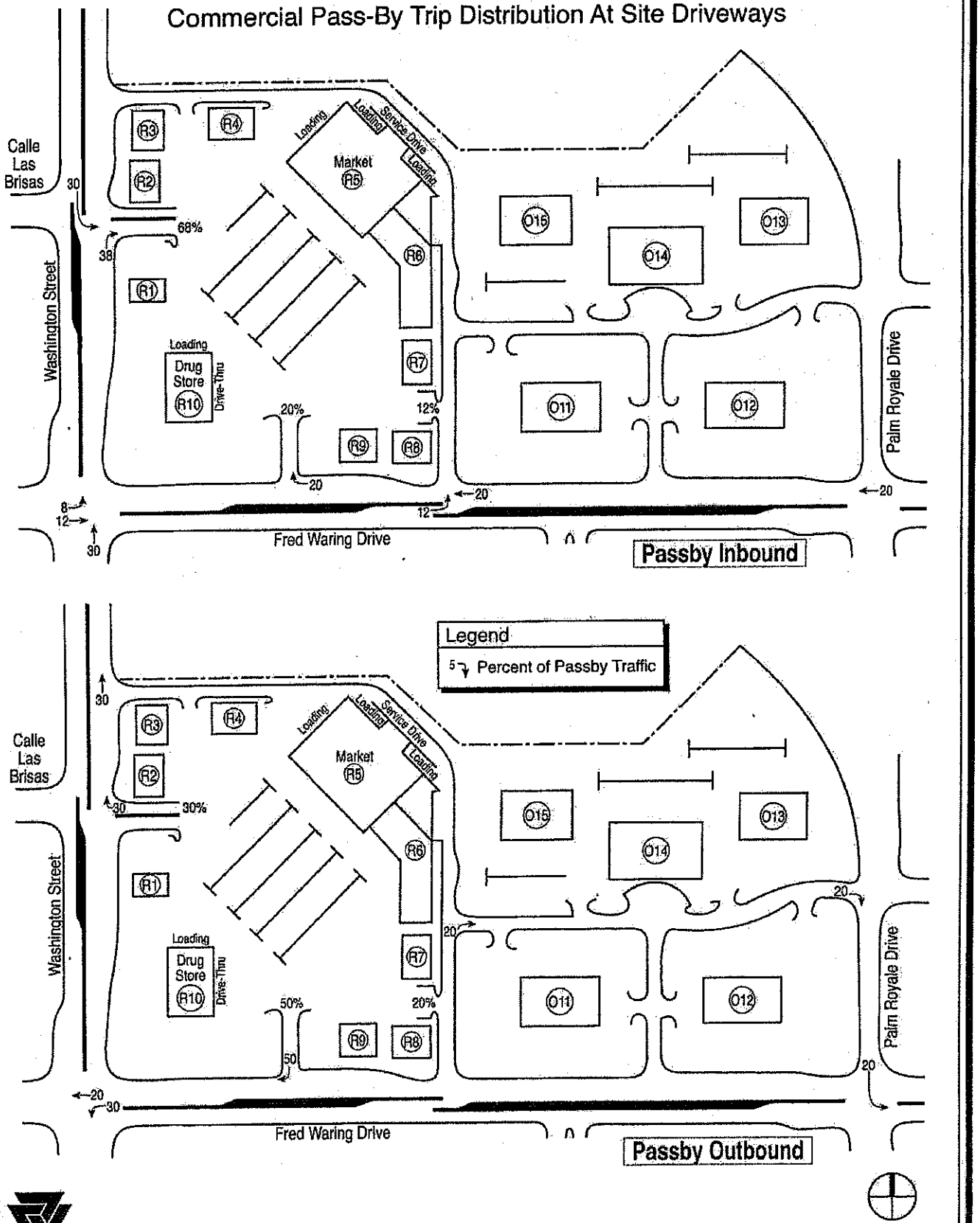


Figure 4-3

Commercial Traffic Distribution At Site Driveways

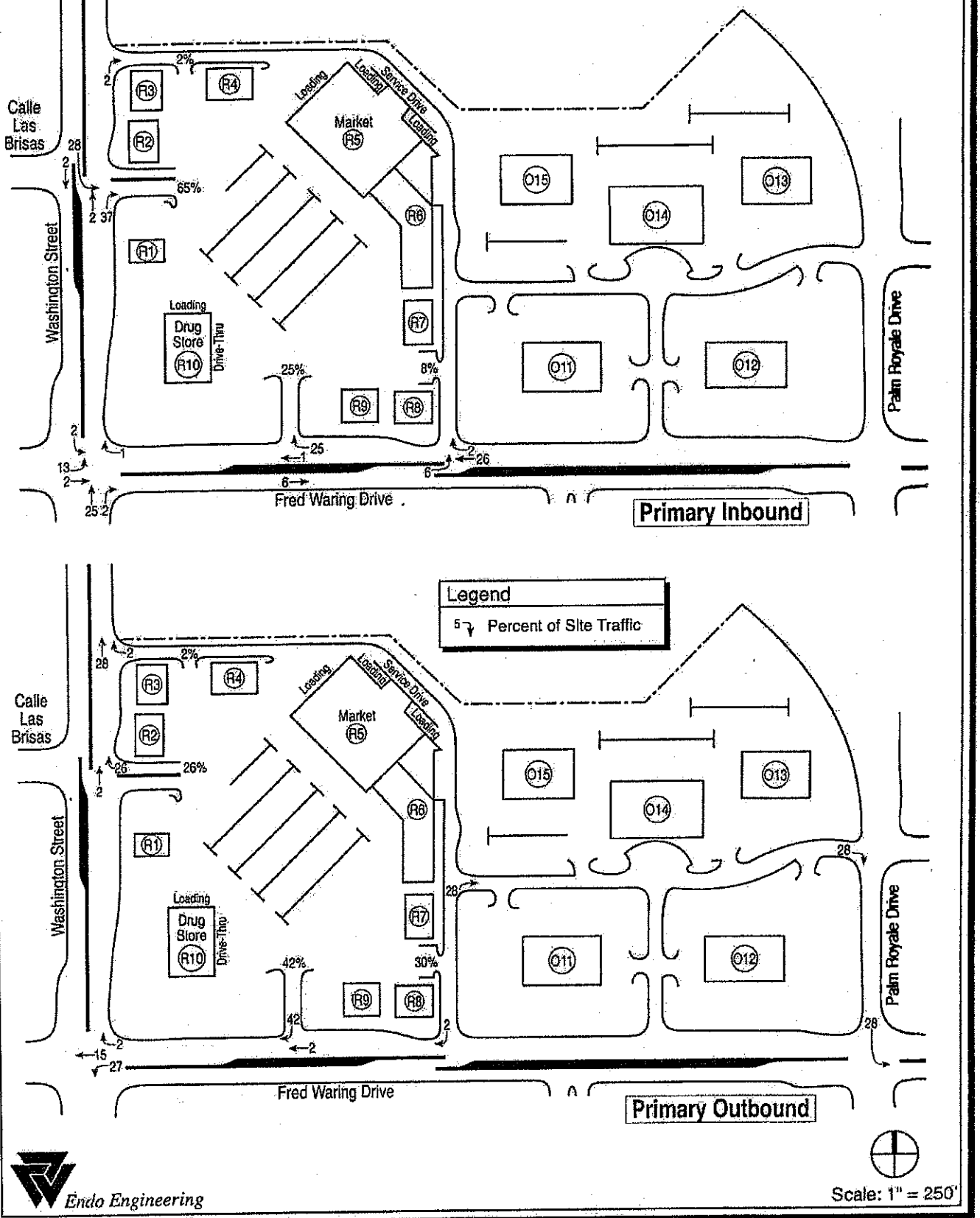
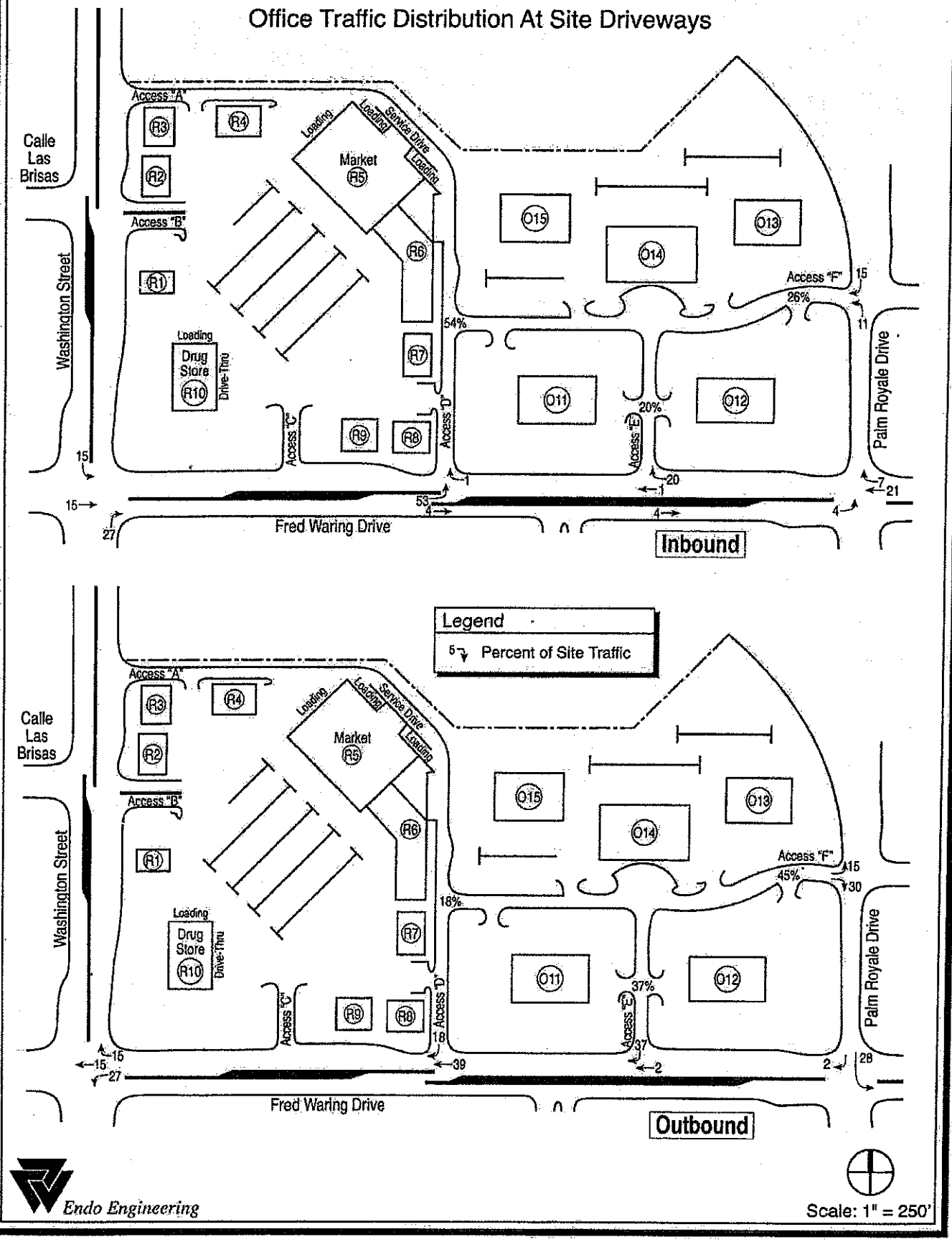


Figure 4-4

Office Traffic Distribution At Site Driveways



City of La Quinta

P.O. Box 1504
La Quinta, California 92247-1504
78-495 Calle Tampico
La Quinta, California 92253

Public Works Department
(760) 777-7075
FAX (760) 777-7155

SUBJECT: PCN 08160 DESERT EXPRESS CAR WASH SDP 2008-905, LEVITAN DEVELOPMENT, LLC (YURI LEVITAN) LESLIE LIPPICH ARCHITECT EA 2008-598, CUP 2008-112 (TRAFFIC IMPACT STUDY)

DATE: October 23, 2008

PUBLIC WORKS COMMENTS TO PLANNING:

1) Last paragraph of section 2.0, Existing Conditions, states that all study intersections are running at unacceptable LOS during existing peaks except Washington/Palm Royale. Table 1 shows Washington/Fred Waring in the PM and Adams/Fred Waring in both AM and PM operating at acceptable (D or better) LOS.
2) The last paragraph in Section 8.1 Fair Share Analysis should refer to Table 7 rather than Table 8.
3) In the last paragraph of Section 10.0, the Traffic Engineer should base his recommendation for a decel lane on the merits of the City's request for consideration rather than just on the City's request.
4) In paragraph 6 of Section 11.1, the report states that the mitigation improvements at Washington/Hovey will be funded through the City of La Quinta Transportation Impact Fees. This intersection is in the City of Palm Desert on the west side of Washington and in unincorporated Riverside County on the east. It is not in the City of La Quinta.
5) Intersection of Adams and Fred Waring is not a part of the City of La Quinta's Developer Impact Fee program. A fair share portion of the funding for installation of the dual northbound left turn lanes recommended by the report should be presented.

Sincerely,

Timothy R. Jonasson, P.E.
Public Works Director/ City Engineer