September 25, 2025

Mr. Bo Thiara
AFTON ROAD LLC
121 Chapel Drive
Mill Valley, California 94941

RE: Baker Fuel Facility Project Response to Comments
Project No. 19-0008

Dear Mr. Thiara:

Ganddini Group, Inc. is pleased to offer this letter in response to California Department of Transportation (Caltans) comments received via e-mail (June 19, 2025 from Abdullahi Bihi) of the traffic impact analysis (TIA) for the project. The comments are included in Attachment A.

PROJECT BACKGROUND

The proposed project was originally assessed by Kunzman Associates, Inc. in May 2016. The traffic impact analysis was later revised in May 2017 and is based on the currently approved site plan. Upon further review by the development team, it appeared that the currently approved site plan would result in poor circulation; therefore, a revised site plan is currently proposed that would address previous concerns while improving site access and circulation. A circulation assessment was conducted by Ganddini Group, Inc. in January 2019 to assess circulation improvements based upon the revised site plan.

The November 24, 2021, circulation assessment was prepared based on comments made by the County of San Bernardino Department of Public Works in an e-mail from Maria Miranda on October 13, 2021. That circulation assessment was reviewed, and additional comments were received from County staff on January 13, 2022. Subsequent meetings occurred with County staff to review the comments. The April 13, 2022 circulation assessment was then prepared and is the last traffic analysis conducted for this project.

Caltrans comments appear to be based on the May 17, 2017 traffic impact analysis prepared by Kunzman Associates, Inc.

GENERAL CALTRANS COMMENTS

COMMENT #1

Please revise the Traffic Impact Analysis with the updated opening year and the updated horizon year would be 20 years from opening year.

Response to Comment #1

The "Project Background" section preceding these comments chronicles the traffic impact analyses and subsequent circulation assessments prepared for this project. These documents have been approved by the

County of San Bernardino. As such, revisions to the traffic impact analysis (and subsequent circulation assessments) are not required or requested by the lead agency (County of San Bernardino).

COMMENT #2

Provide the most recent traffic counts for existing conditions. The traffic data for opening year and horizon year should be projected from the recent traffic counts.

Response to Comment #2

See Response to Comment #1.

COMMENT #3

Please have the Professional Engineer (P.E.) stamp in the traffic impact study and site plan and include the most recent license expiration date.

Response to Comment #3

The prior traffic studies from a few years ago conducted by both Kunzman Associates, Inc. and Ganddini Group, Inc. cannot now be updated to include this request. However, at the end of this letter, the Transportation Engineer stamp including the most recent license expiration date will be provided.

COMMENT #4

Please provide a traffic safety review as a stand-alone report for the proposed land use and plans affecting the State Highway System. See the attached Local Development Review (LDR) Safety Review Practitioner's Guideline, February 2024.

Response to Comment #4

Caltrans already reviewed the May 17, 2017 traffic impact analysis and provided comments in a letter dated August 8, 2019. This letter is included in Attachment B.

Caltrans stated in their review the following:

> *"The Revised Site Plan and the Traffic Impact Analysis Update were reviewed by Traffic Operations and Truck Services Functional Units, with* ***no comments made recommending corrections or revisions [emphasis added]****. However, pavement marking is recommended for trucks, the design and location of which may be finalized with assistance from the traffic Design Unit during the Encroachment Permit Process.* ***No further review by this Office is necessary at this time for purpose of entitlement [emphasis added]****."*

All traffic documents (traffic impact analyses and circulation assessments) were prepared and subsequently approved by the County of San Bernardino prior to Caltrans issuance of the aforementioned 2024 traffic safety review.

Since Caltrans already reviewed the latest traffic impact analysis (May 17, 2017) and stated that there were "no comments made recommending corrections or revisions", and this traffic safety review request pertains to a Caltrans document circulated years after the traffic impact analysis and subsequent circulation

assessments for the project were prepared and approved by the County of San Bernardino, it is our understanding that the County of San Bernardino will not require preparation of a traffic safety review for the project per Caltrans' request.

COMMENT #5

Please perform VMT analysis following the guidelines set forth in the Caltrans Vehicle Miles Traveled-focused Transportation Impact Study Guide, May 2020. See attachment.

Response to Comment #5

County of San Bernardino staff has determined that a VMT analysis is not required for this project.

COMMENT #6

Provide responses to comments in the next Submittal.

Response to Comment #5

This response to comments letter has been prepared to address Caltrans comments.

SITE PLAN CALTRANS COMMENTS ON SITE PLAN

COMMENT #7

Please clearly show the project location on the vicinity map.

Response to Comment #7

The project site plan has been updated to reflect this comment, and is included in Attachment C.

COMMENT #8

Trucking Services Specialist should review and concur with truck-related items and the truck template in the Site Plan.

Response to Comment #8

Truck turning templates were prepared, reviewed and revised, in coordination with County of San Bernardino staff through preparation of the subsequent circulation assessments to the traffic impact analysis. The County of San Bernardino has approved the truck turning templates and truck-related items within the April 13, 2022 circulation assessment prepared by Ganddini Group, Inc.

COMMENT #9

Show the distance from the intersection of I-15 SB ramps and Afton Canyon Road to the intersection of Arrowhead Trail and Afton Canyon Road on the Site Plan (Distance from intersection 1 to 3 on page 6 of the Traffic Impact Analysis document).

Mr. Bo Thiara
AFTON ROAD LLC
September 25, 2025

Response to Comment #9

The project site plan has been updated to reflect this comment, and is included in Attachment C.

COMMENT #10

Please clearly indicate the Caltrans Right of Way on the Site Plan.

Response to Comment #10

The project site plan has been updated to reflect this comment, and is included in Attachment C.

CONCLUSION

We appreciate the opportunity to assist you with this project. Should you have any questions or if we can be of further assistance, please contact us at 714-975-3100.

Respectfully submitted,

GANDDINI GROUP, INC.
Bryan Crawford | Senior Transportation Planner
Giancarlo Ganddini, PE, PTP | Principal



Expires 3/31/2027

ATTACHMENT A

Caltrans Comments

Elena Barragan

Senior Planner
Land Use Services Department
Phone: 909-387-4422

Fax: 909-387-3223
385 North Arrowhead Avenue, First Floor

San Bernardino, CA 92415-0187

Our job is to create a county in which those who reside and invest can prosper and achieve well-being.

www.SBCounty.gov

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From: Bihi, Abdullahi@DOT <Abdullahi.Bihi@dot.ca.gov> **On Behalf Of** LDR D8@DOT
Sent: Thursday, June 19, 2025 2:16 PM
To: Barragan, Elena <Elena.Barragan@lus.sbcounty.gov>; LDR D8@DOT <LDR-D8@dot.ca.gov>; Patel, Janki@DOT <Janki.Patel@dot.ca.gov>
Subject: RE: PROJ-2020-00139, Afton Travel Center Proposal

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you can confirm the sender and know the content is safe.

Hi Elena,

The California Department of Transportation (Caltrans) Local Development Review (LDR) branch has completed the review of the Revised Traffic Impact Study and Site Plan proposed Baker Fuel Facility Project, located at northeast corner of I-15 SB Off-Ramp and Afton Road, south of Arrowhead Trail, in the County of San Bernardino, California, APN: 0542-131-87.

Based on the information provided in the latest submittals, we are submitting the following comments and recommendations for consideration.

General:

1. Please revise the Traffic Impact Study with the updated opening year and the updated horizon year would be 20 years from opening year.
2. Provide the most recent traffic counts for existing condition. The traffic data for opening year and horizon year should projected from the recent traffic counts.
3. Please have the Professional Engineer (P.E.) stamp in the traffic impact study and site plan and include the most recent license expiration date.
4. Please provide a traffic safety review as a stand-alone report for proposed land use project and plans affecting the State Highway System. See the attached Local Development Review (LDR) Safety Review Practitioner's Guideline, February 2024.
5. Please perform VMT analysis following the guidelines set forth in the Caltrans Vehicle Miles Traveled-focused Transportation Impact Study Guide, May 2020. See attachment.
6. Provide responses to comments in the next Submittal.

Site Plan:

7. Please clearly show the project location on the vicinity map.
8. Trucking Services Specialist should review and concur with truck-related items and the truck template in the Site Plan.
9. Show the distance from the intersection of I-15 SB ramps and afton Canyon Road to the intersection of Arrowhead Trail and Afton Canyon Road on the Site Plan (Distance from intersection 1 to 3 on page 6 of the Traffic Impact Analysis document).
10. Please Clearly indicate the Caltrans Right of Way on the Stie Plan.

Thank you again for including Caltrans in the review process. Should you have any questions regarding this letter, or for future notifications and requests for review of new projects, please email LDR-D8@dot.ca.gov or call 909-963-8604.

Sincerely

Abdullahi Bihi

Transportation Planner

District 8 Caltrans – Planning Division

LDR - CEQA

464 West 4th Street MS-726

San Bernadino, CA 92401

Office/Mobile# 909-963-8604

Email: Abdullahi.bihi@dot.ca.gov

ATTACHMENT B

Caltrans August 2019 Comment Letter

DEPARTMENT OF TRANSPORTATION
OFFICE OF LOCAL DEVELOPMENT-INTERGOVERNMENTAL REVIEW
DISTRICT 8, PLANNING
464 W. 4TH STREET, 6TH FLOOR MS-725
SAN BERNARDINO, CA 92401
PHONE (909) 806-3923
TTY 711
www.dot.ca.gov/dist8

Making Conservation a California Way of Life.

August 8, 2019

File: 08-SBd-15-PM R111.6
Cross Street: Afton Canyon Road
Case No: P201600118/CF

Mr. John Oquendo
County of San Bernardino
Land Use Services Department
15900 Smoke Tree Street
Hesperia, CA 92345

Revised Site Plan/Traffic Analysis Update: Baker(Afton) Fuel Facility

Dear Mr. Oquendo,

The California Department of Transportation (Caltrans) has completed the review of the Revised Site Plan with the Spilt Access Diagram and the Traffic Impact Analysis Update submitted for a fuel facility project, proposed at the northeast corner of Interstate 15 (I-15) and Afton Canyon Road in the Country of San Bernardino. This project proposes to construct five apartment dwelling units, 3,600 square feet of fast-food restaurant with drive through window, 10 fast-food drive in stall, a 30 fueling position gasoline/service station with convenience market, and 15 alternative fuel charging stations on a portion of 26.68-acre property (APNs: 0542-131-87).

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when a proposed development may impact our facilities. As the responsible agency under the California Environmental Quality Act, it is also our responsibility to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the County of San Bernardino, due to the project's potential impact to the State facilities, it is also subject to the policies and regulations that govern the SHS.

The Revised Site Plan and the Traffic Impact Analysis Update were reviewed by Traffic Operations and Truck Services Functional Units, with no comments made recommending corrections or revisions. However, pavement marking is recommended for trucks, the design and location of which may be finalized with assistance from the Traffic Design Unit during the Encroachment Permit Process. No further review by this Office is considered necessary at this time for purpose of entitlement.

Issuance of a Caltrans Encroachment Permit will be required when an encroachment into State Right-of-Way is undertaken at time of development. For information regarding the Encroachment Permit application and submittal requirements, contact:

Caltrans Office of Encroachment Permits
464 West 4th Street, Basement, MS 619
San Bernardino, CA 92401-1400
(909) 383-4526
http://www.dot.ca.gov/hq/traffops/developserv/permits/

These comments result from a review of the Revised Site Plan with the Split Access Diagram and the TIA Update provided for our evaluation. If this project is later modified in any way, please forward copies of revised plans as necessary so that we may evaluate all proposed changes for potential impacts to the SHS. If you have any questions regarding this letter, please contact Jacob Mathew at (909) 806-3928 or me at (909) 806-3923.

Sincerely,

Rosa F. Clark

ROSA F. CLARK
Office Chief
Local Development-Intergovernmental Review (LD-IGR)

ATTACHMENT C

Site Plan

SAN BERNARDINO COUNTY CONDITIONAL USE PERMIT 2020-00139

UBC FIRE BUILDING ANALYSIS

OCC. GRP./SPEC. USE:	SEE BUILDING INFORMATION BELOW LEFT
OCCUPANT LOAD:	
SQUARE FOOTAGE:	EXISTING:_____ PROPOSED:_____
NO. STORIES:	

LAND USE

LAND USE DISTRICT (OLUD)	RESOURCE CONSERVATION	
TOTAL LOT AREA:	1,166,602 S.F. (26.88 AC)	
DEVELOPED AREA:	496,900 S.F. (11.41 AC)	
LOT COVERAGE:	(MAX. PER LUD) .3:1 PROPOSED: .04:1	
TOTAL BUILDING AREA:	20,170 SQ. FT.	4.1%
PAVING AREA:	343,660 SQ. FT.	69.2%
ENHANCED DESERT LANDSCAPE AREA:	101,870 SQ. FT.	20.5%
NATIVE LANDSCAPE AREA:	31,200 SQ. FT.	6.2%

PARKING ANALYSIS

CATEGORY (LIST ALL APPLICABLE, MIN. 4 PARKING SPACE)	REQUIRED PARKING
1. TOTAL OFFICE RETAIL AREA 4,930 SQ. FT. (1SP/250 SQ.)	= 20
2. LOADING ZONE PARKING	= 1
3. DISABLED PARKING (MIN. 1 VAN ACCESSIBLE, 17' X19')	= 6
4. RESTAURANT AREA 5,418 SQ. FT. (1SP/100 SQ.)	= 55
5. STORAGE AREA 7,797 SQ. FT. (1SP/250 SQ.)	= 32
6. RESIDENTIAL AREA 1 UNITS (2.5 SP/UNIT)	= 3
TOTAL PARKING REQUIRED MINUS DISABLED	= 117
TOTAL PARKING PROVIDED	= 124
BUS PARKING PROVIDED	= 4
TRUCK PARKING PROVIDED	= 40

UTILITIES	NAME & TELEPHONE	EXISTING Y/N
WATER	ONSITE WELLS	Y
SEWER	ADVANCE ONSITE WATER TREATMENT SYSTEM (OWMTS)	Y
ELECTRICITY	SOUTHERN CALIFORNIA EDISON 1-800-441-2233	Y
GAS	THE GAS COMPANY P.O. BOX C MONTEREY PARK, CA 91756	Y

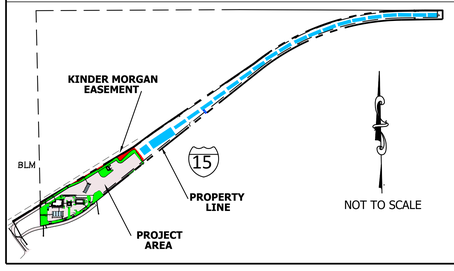
VICINITY MAP



GENERAL NOTES

- NO PROTECTED PLANTS FOUND
- PIPELINE LOCATION APPROXIMATE BEYOND POTHOLING
- TRUCK TURNING ANALYSIS PERFORMED USING CALTRANS TRUCK TEMPLATE 404.5B

MAP INDEX



LEGAL DESCRIPTION

REAL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

LLA PARCEL 1: (APN: 0542–131–87–0–000)

LEGAL DESCRIPTION AFTER LOT LINE ADJUSTMENT

ALL THAT CERTAIN REAL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, LYING WITHIN SECTION 1, TOWNSHIP 11 NORTH RANGE 5 EAST, SBM, DESCRIBED AS FOLLOWS:

LLA PARCEL 2: (APN: 0542–131–39–0–000)

PARCEL 1 OF PARCEL MAP NO. 344, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 3, PAGE 91, OF PARCEL MAPS, RECORDS OF SAID COUNTY. TOGETHER WITH SAID PROPERTY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWESTERLY CORNER OF PARCEL 1 OF PARCEL MAP NO. 344 AS RECORDED IN BOOK 3, PAGE 91, OF PARCEL MAPS, RECORDS OF SAID COUNTY.

THENCE NORTH 01°16'30" WEST, A DISTANCE OF 300.00 FEET TO THE NORTHWESTERLY CORNER OF SAID PARCEL 1;

THENCE NORTH 78°51'19" EAST, ALONG THE NORTHERLY LINE OF SAID PARCEL 1 A DISTANCE OF 157.12 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE NORTHERLY, HAVING A RADIUS OF 970.00 FEET;

THENCE EASTERLY ALONG SAID CURVE AND SAID NORTHERLY LINE, THROUGH A CENTRAL ANGLE OF 8°26'23", AN ARC DISTANCE OF 142.88 FEET TO THE NORTHEASTERLY CORNER OF SAID PARCEL 1;

THENCE SOUTH 01°16'30" EAST, A DISTANCE OF 300.00 FEET, TO THE SOUTHEAST CORNER OF SAID PARCEL 1 AND THE BEGINNING OF A NON–TANGENT CURVE CONCAVE NORTHWESTERLY HAVING A RADIUS OF 970.00 FEET FROM WHICH A RADIAL LINE OF SAID CURVE BEARS NORTH19°35'04" WEST;

THENCE EASTERLY AND NORTHEASTERLY ALONG THE NORTHERLY LINE OF STATE HIGHWAY 15 CONVEYED TO THE STATE OF CALIFORNIA BY DEED RECORDED DECEMBER 6, 1962 IN BOOK 5813, PAGE 700 OFFICIAL RECORDS OF SAID COUNTY AND SAID CURVE THROUGH A CENTRAL ANGLE OF 18°57'56", AND ARC DISTANCE OF 321.08 FEET;

THENCE CONTINUING ALONG SAID NORTHERLY LINE OF STATE HIGHWAY 15 THE FOLLOWING 3 COURSES:

THENCE NORTH 51°27'00"EAST, A DISTANCE OF 2871.46 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHERLY, HAVING A RADIUS OF 3030.00 FEET.

THENCE NORTHEASTERLY AND EASTERLY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 37°41'00", AN ARC DISTANCE OF 1992.83 FEET;

THEN NORTH 89°08'00"EAST, A DISTANCE OF 540.63 FEET TO THE EASTERLY LINE OF SAID SECTION 1;

THENCE NORTH 00°07'15" WEST ALONG SAID EASTERLY LINE, A DISTANCE OF 115.33 FEET TO THE NORTHEAST CORNER OF SAID SECTION 1;

THENCE NORTH 89°46'57" WEST ALONG THE NORTHERLY LINE OF SECTION 1, A DISTANCE OF 247.31 FEET;

THENCE SOUTH 89°08'00"WEST, A DISTANCE OF 294.87 FEET TO A POINT 120.00 FEET NORTHERLY AND PARALLEL WITH THE NORTHERLY LINE OF SAID STATE HIGHWAY AND THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHERLY, HAVING A RADIUS OF 3150.00 FEET;

THENCE WESTERLY AND SOUTHWESTERLY, 120.00 FEET NORTHERLY AND PARALLEL WITH THE NORTHERLY LINE OF SAID STATE HIGHWAY ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 37°41'00", AN ARC DISTANCE OF 2071.75 FEET;

THENCE SOUTH 55°38'35" WEST, A DISTANCE OF 1585.50 FEET;

THENCE SOUTH 53°40'49" WEST, A DISTANCE OF 330.46 FEET;

THENCE SOUTH 59°10'58" WEST, A DISTANCE OF 1414.07 FEET TO THE WESTERLY LINE OF SAID SECTION 1, DISTANT NORTHERLY 300 FEET FROM THE NORTHERLY LINE OF SAID STATE HIGHWAY;

THENCE SOUTH 01°16'30"EAST ALONG SAID WESTERLY LINE, A DISTANCE OF 300.00 FEET TO THE NORTHERLY LINE OF SAID STATE HIGHWAY;

THENCE NORTH 78°51'19"EAST LAONG SAID NORTHERLY LINE, A DISTANCE OF 41.62 FEET TO THE POINT OF BEGINNING.

CONTAINING 26.78 ACRES, MORE OF LESS.

PROJECT DESCRIPTION

THE APPLICANT IS PROPOSING TO TRANSFORM THE UNDER–UTILIZED AFTON CANYON ROAD EXIT ON I–15 WITH A STATE–OF–THE–ART, FULL–SERVICE TRAVEL CENTER THAT WILL PROVIDE SERVICES SUCH AS REFUELING FOR CARS, RVS, BUSES AND TRUCKS, A LARGE CONVENIENCE FOOD STORE, QUICK SERVICE RESTAURANTS AND EXTENSIVE RESTROOM FACILITIES ON APPROXIMATELY 11.4 ACRES. THE AUTO FUELING CANOPY WILL HAVE A CAPACITY FOR 24 FUELING POSITIONS AND THE TRUCK FUELING CANOPY 6 FUELING POSITIONS. THE SITE WILL HAVE SIX TOTAL UNDERGROUND STORAGE TANKS WITH THREE EACH SUPPLYING THE GAS STATION REFUELING AND TRUCK FUELING AS FOLLOWS: (1) GAS STATION – 20,000 GALLON TANK FOR REGULAR GASOLINE; 10,000 GALLON TANK FOR PREMIUM GASOLINE; AND 10,000 GALLON TANK FOR DIESEL; AND (2) TRUCK FUELING LANES – TWO 30,000 GALLON TANKS FOR DIESEL AND ONE 10,000 GALLON TANK FOR DIESEL EXHAUST FLUID (DEF).

THE FOOD STORE AND RESTAURANTS WILL COMPRISE APPROXIMATELY 18,000 SQUARE FEET ACROSS THREE BUILDINGS. THE PROPOSED HOURS OF OPERATION FOR THE CONVENIENCE STORE AND THE FUELING LANES WILL BE 24 HOURS A DAY AND 6AM TO 12PM FOR THE RESTAURANTS. IN ADDITION TO ELECTRIC VEHICLE RECHARGING, THE APPLICANT IS PROPOSING A SOLAR FIELD COMPRISING APPROXIMATELY 15 ACRES WITH 2,000 KW OF PHOTOVOLTAIC POWER PRODUCTION AND 50,000 AMP HOURS OF BATTERY BANK STORAGE. THE SITE WILL ALSO INCLUDE A CARETAKER DWELLING UNIT OF 1,200 SQUARE FEET. THE SITE WILL INCLUDE A NEW 50' HIGH FREEWAY–ORIENTED PYLON SIGN AND A 35' HIGH, 500 SQUARE FOOT ELECTRONIC BILLBOARD.

THE SITE WAS ONCE THE LOCATION FOR A STUCKEY'S RESTAURANT, A CONVENIENCE FOOD STORE, A CARETAKER DWELLING UNIT AND A GAS STATION. ALSO INCLUDED AT THE SITE WERE A HIGH–RISE SIGN AND A BILLBOARD. ALL EXISTING STRUCTURES ON THE SITE WILL BE DEMOLISHED AT THE BEGINNING OF CONSTRUCTION.

LEGEND

1775	EXIST CONTOURS
×1775	EXIST ELEVATIONS
G	EXIST HIGH PRESSURE GAS LINE
	EXIST PROPERTY LINE
	EXIST EASEMENT LINE
	EXIST RIGHT-OF-WAY
FL	FLOWLINE
FS	FINISHED SURFACE
LA	LOADING AREA
PE	PAD ELEVATION
GB	GRADE BREAK
HP	HIGH POINT
LP	LOW POINT
AC	ASPHALT CONCRETE
PCC	PRE-CAST CONCRETE
	PROP. CURB
	PROP. CURB & GUTTER
1770	PROP. CONTOURS
	PROP. CONCRETE V SWALE
	PROP. 10' CONCRETE CHANNEL
	PROP. CATCH BASIN 48"X48"
	PROP. CATCH BASIN TYPE A
	PROP. RETAINING WALL
	PROP. CONCRETE WALKWAY
	PROP. AC PAVEMENT
	PROP. RIP RAP
	PROP. DETENTION BASIN

BUILDINGS AND STRUCTURES

BUILDING 1 - C-STORE
NUMBER OF EMPLOYEES: 15; HOURS OF OPERATION: 24 HOURS/DAY

12,100 SF	FF = 1774.9'	STORIES: 2	HEIGHT = 24' 0"
WATER TANK - 25,000 GALLON - 25'-6"H X 13'-7"			
RESTAURANT	2,970 SF	15 SF/OCCUPANT	198 OCCUPANTS
RETAIL	2,930 SF	30 SF/OCCUPANT	98 OCCUPANTS
OFFICE	2,000 SF	100 SF/OCCUPANT	20 OCCUPANTS
STORAGE	4,200 SF	500 SF/OCCUPANT	9 OCCUPANTS

BUILDING 2 - COFFEE SHOP
NUMBER OF EMPLOYEES: 5; HOURS OF OPERATION: 6AM-12PM

1,600 SF	FF = 1774.8'	STORIES: 1	HEIGHT = 17' 0"
RESTAURANT	966 SF	15 SF/OCCUPANT	65 OCCUPANTS
STORAGE	634 SF	500 SF/OCCUPANT	2 OCCUPANTS

BUILDING 3 - FAST FOOD RESTAURANT
NUMBER OF EMPLOYEES: 20; HOURS OF OPERATION: 6AM-12PM

4,445 SF	FF = 1775.4'	STORIES: 1	HEIGHT = 20' 0"
RESTAURANT	1,482 SF	15 SF/OCCUPANT	99 OCCUPANTS
STORAGE	2,963 SF	500 SF/OCCUPANT	6 OCCUPANTS

BUILDING 4 - CARETAKER DWELLING

1,200 SF	FF = 1788.0'	STORIES: 1	HEIGHT = 18' 0"

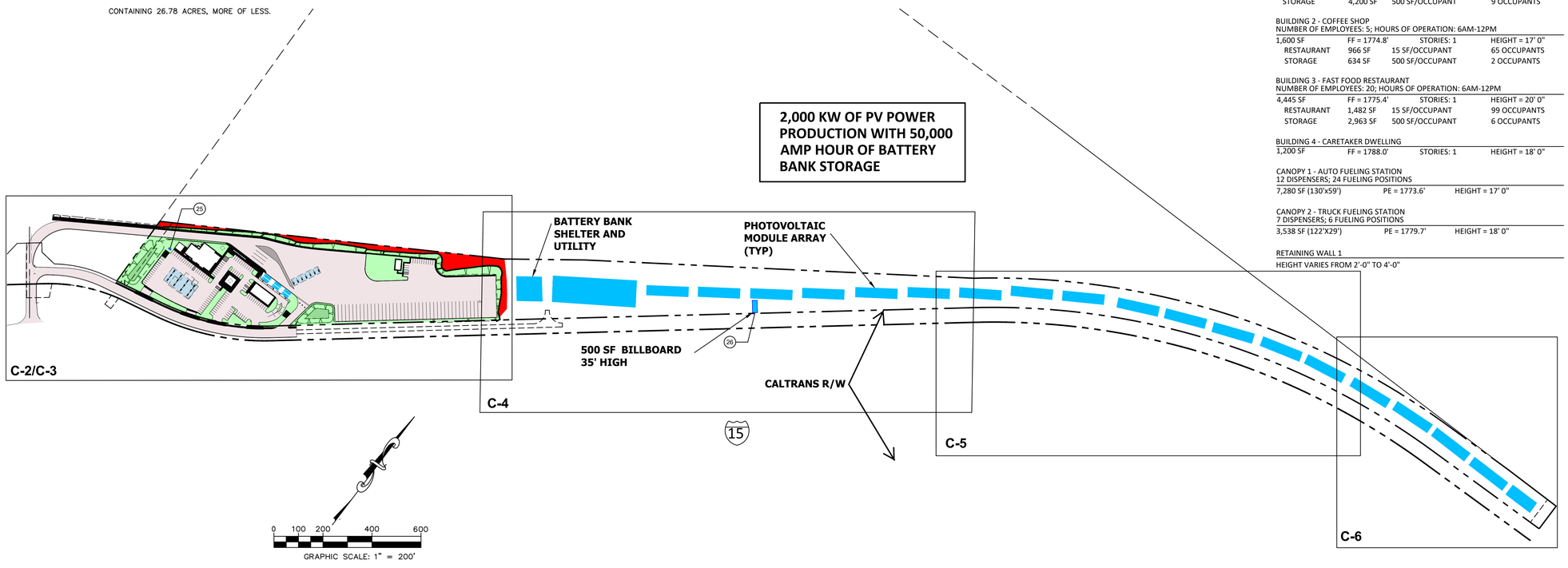
CANOPY 1 - AUTO FUELING STATION
12 DISPENSERS; 24 FUELING POSITIONS

7,280 SF (130'x59')	PE = 1773.6'	HEIGHT = 17' 0"

CANOPY 2 - TRUCK FUELING STATION
7 DISPENSERS; 6 FUELING POSITIONS

3,538 SF (122'X29')	PE = 1779.7'	HEIGHT = 18' 0"

RETAINING WALL 1
HEIGHT VARIES FROM 2'-0" TO 4'-0"



K&S ENGINEERING, INC.
Planning . Engineering . Surveying
7801 Mission Center Court, Suite 100 San Diego, CA 92108
(619) 296–5565 Fax: (619) 296–5564

REGISTERED PROFESSIONAL ENGINEER JOSEPH L. ZOMBORSKI NO. 43235 CIVIL STATE OF CALIFORNIA

SUBMITTAL / REVISIONS

No.	Description	Date
01	STORM DATA DATA	11/10/2020
02	ADDITION OF PARKING/REVISE LAND USE TABLE	06/08/2021
03	ADDITION OF PV POWER PRODUCTION FACILITY C3-C5	07/14/2023

Issue Date: 06/08/2020
Scale: As indicated

K&S Project Number
20-018

BENCH MARK:
C1367 ELEV 1819.11 METAL ROD ALONG INTERSTATE 15 FWY 0.65 MILES NE OF THE AFTON ROAD OVERPASS, 0.15 MILES NE OF MILEPOST 112, AND 55 FT NW OF THE C.L. OF THE SOUTH BOUND TRAFFIC.

CONDITIONAL USE PERMIT
45307 AFTON ROAD, BAKER, CA 92309

APN: 0542-131-87

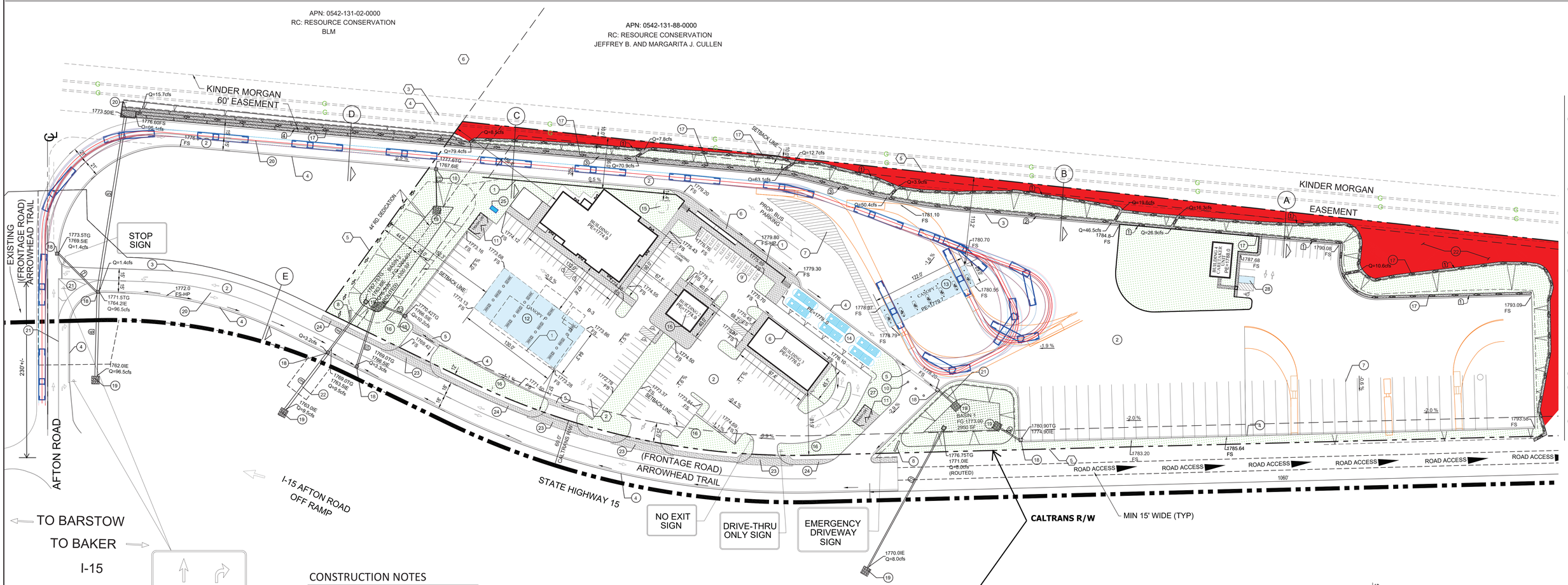
SHEET TITLE: SITE PLAN

COUNTY FILE NO.: PROJ-2020-00139

C1

K & S ENGINEERING 08-27-2025

SAN BERNARDINO COUNTY CONDITIONAL USE PERMIT 2020-00139

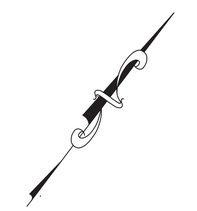


CONSTRUCTION NOTES

1. CONSTRUCT RETAINING WALL (HEIGHT VARIES) VARIABLE HEIGHT FROM 2'-0" TO 4'-0".
2. CONSTRUCT A.C. PAVEMENT PER SOIL ENGINEER'S RECOMMENDATION FROM HILLTOP GEOTECHNICAL PROJECT NO. 1018-A15, DATED OCTOBER 30, 2015
3. CONSTRUCT 6" CONCRETE CURB ONLY
4. CONSTRUCT 6" CONCRETE CURB AND GUTTER
5. CONSTRUCT CONCRETE RIBBON GUTTER
6. CONSTRUCT 4" THICK CONCRETE WALKWAY
7. PAINTED STRIPING
8. INSTALL SIGNAGE
9. INSTALL ELECTRIC CAR CHARGING STATION
10. CONSTRUCT REMOVABLE BOLLARDS
11. CONSTRUCT TRASH ENCLOSURE
12. CONSTRUCT AUTO FUELING DISPENSER ISLAND (TYPICAL) 12 DISPENSERS AND 24 FUELING POSITIONS
13. CONSTRUCT TRUCK FUELING DISPENSER ISLAND (TYPICAL) 7 DISPENSERS AND 6 FUELING POSITIONS
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25. CONSTRUCT 50' PYLON SIGN
26. CONSTRUCT 35' HIGH - 500 SF ELECTRONIC BILLBOARD
27. CONSTRUCT WATER WELL
28. CONSTRUCT COVERED PARKING SPACE

EXISTING NOTES

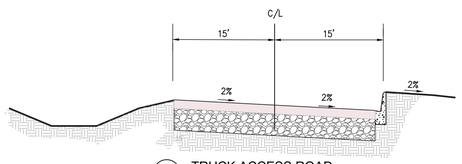
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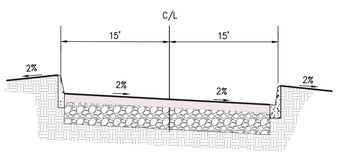
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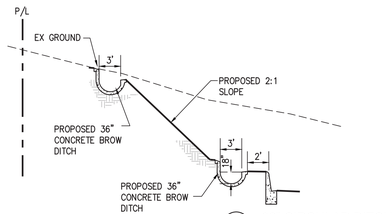
STORM DRAIN DATA (PVT)	
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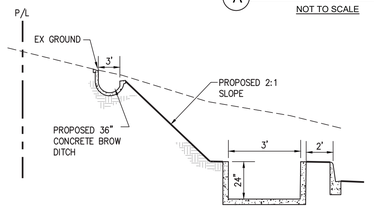
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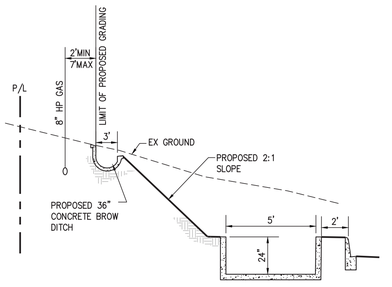
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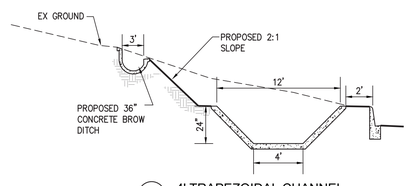
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K&S ENGINEERING, INC.
Planning Engineering Surveying
7801 Mission Center Court, Suite 100 San Diego, CA 92108
(619) 296-5565 Fax: (619) 296-5564

REGISTERED PROFESSIONAL ENGINEER — JOSEPH N. ZOMBORSKI — NO. 43235 — Civil — STATE OF CALIFORNIA

SUBMITTAL / REVISIONS

No.	Description	Date
01	STORM DATA DATA	11/10/2020
02	ADDITION OF PARKING/REVISE LAND USE TABLE	06/08/2021
03	ADDITION OF PV POWER PRODUCTION FACILITY C3-C5	07/14/2023
04	ACCESS ROAD TURN AROUND C2 & C3	12/08/2023
05	REVISE SECTION "C"	08/27/2025

Issue Date: 06/08/2020
Scale: As indicated

K&S Project Number
20-018

BENCH MARK:
C1367 ELEV 1819.11 METAL ROD ALONG INTERSTATE 15 FWY 0.65 MILES NE OF THE AFTON ROAD OVERPASS, 0.15 MILES NE OF MILEPOST 112, AND 55 FT NW OF THE C.L. OF THE SOUTH BOUND TRAFFIC.

CONDITIONAL USE PERMIT
45307 AFTON ROAD, BAKER, CA 92309

APN: 0542-131-87

SHEET TITLE: SITE PLAN

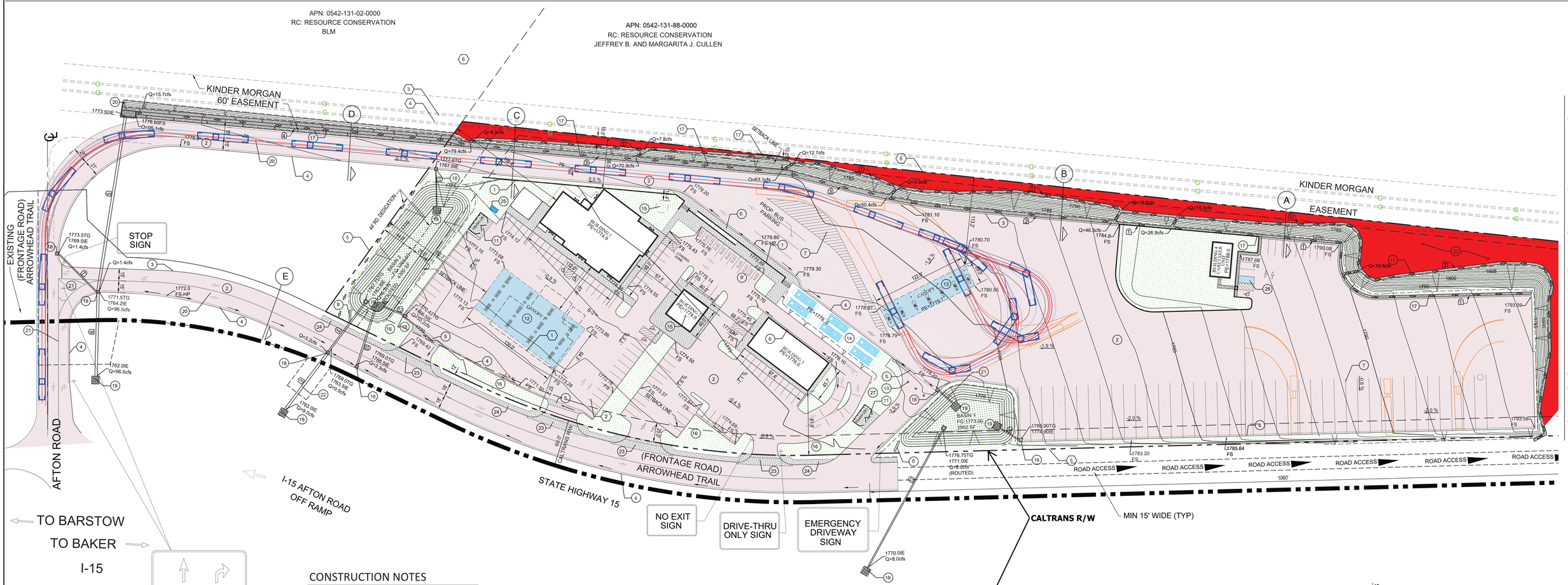
COUNTY FILE NO.: PROJ-2020-00139

C2

FOR CONTINUATION SEE SHEET C-4

K & S ENGINEERING 08-27-2025

SAN BERNARDINO COUNTY CONDITIONAL USE PERMIT 2020-00139

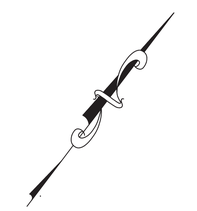


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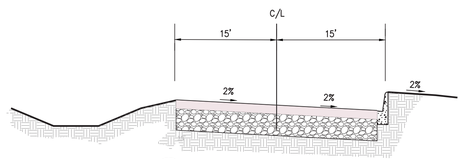
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2. CONSTRUCT A.C. PAVEMENT PER SOIL ENGINEER'S RECOMMENDATION FROM HILLTOP GEOTECHNICAL PROJECT NO. 1018-A15, DATED OCTOBER 30, 2015
3. CONSTRUCT 6" CONCRETE CURB ONLY
4. CONSTRUCT 6" CONCRETE CURB AND GUTTER
5. CONSTRUCT CONCRETE RIBBON GUTTER
6. CONSTRUCT 4" THICK CONCRETE WALKWAY
7. PAINTED STRIPING
8. INSTALL SIGNAGE
9. INSTALL ELECTRIC CAR CHARGING STATION
10. CONSTRUCT REMOVABLE BOLLARDS
11. CONSTRUCT TRASH ENCLOSURE
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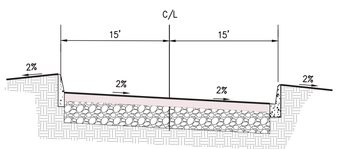
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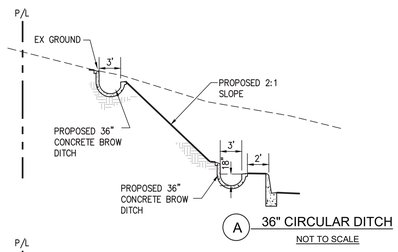
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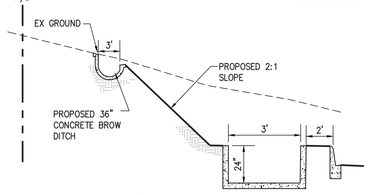
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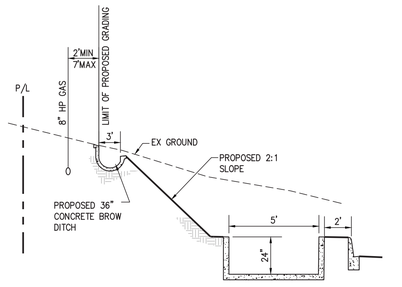
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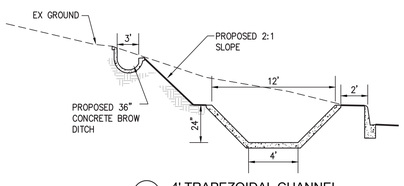
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K&S ENGINEERING, INC.
Planning Engineering Surveying
7801 Mission Center Court, Suite 100 San Diego, CA 92108
(619) 296-5565 Fax: (619) 296-5564

REGISTERED PROFESSIONAL ENGINEER — JOSEPH A. ZOMBORSKI — NO. 43235 — Civil — STATE OF CALIFORNIA

SUBMITTAL / REVISIONS

No.	Description	Date
01	STORM DATA DATA	11/10/2020
02	ADDITION OF PARKING/REVISE LAND USE TABLE	06/08/2021
03	ADDITION OF PV POWER PRODUCTION FACILITY C3-C5	07/14/2023
04	ACCESS ROAD TURN AROUND C2 & C3	12/08/2023
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Issue Date: 06/08/2020
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K&S Project Number
20-018

BENCH MARK:
C1367 ELEV 1819.11 METAL ROD ALONG INTERSTATE 15 FWY 0.65 MILES NE OF THE AFTON ROAD OVERPASS, 0.15 MILES NE OF MILEPOST 112, AND 55 FT NW OF THE C.L. OF THE SOUTH BOUND TRAFFIC.

CONDITIONAL USE PERMIT
45307 AFTON ROAD, BAKER, CA 92309

APN: 0542-131-87

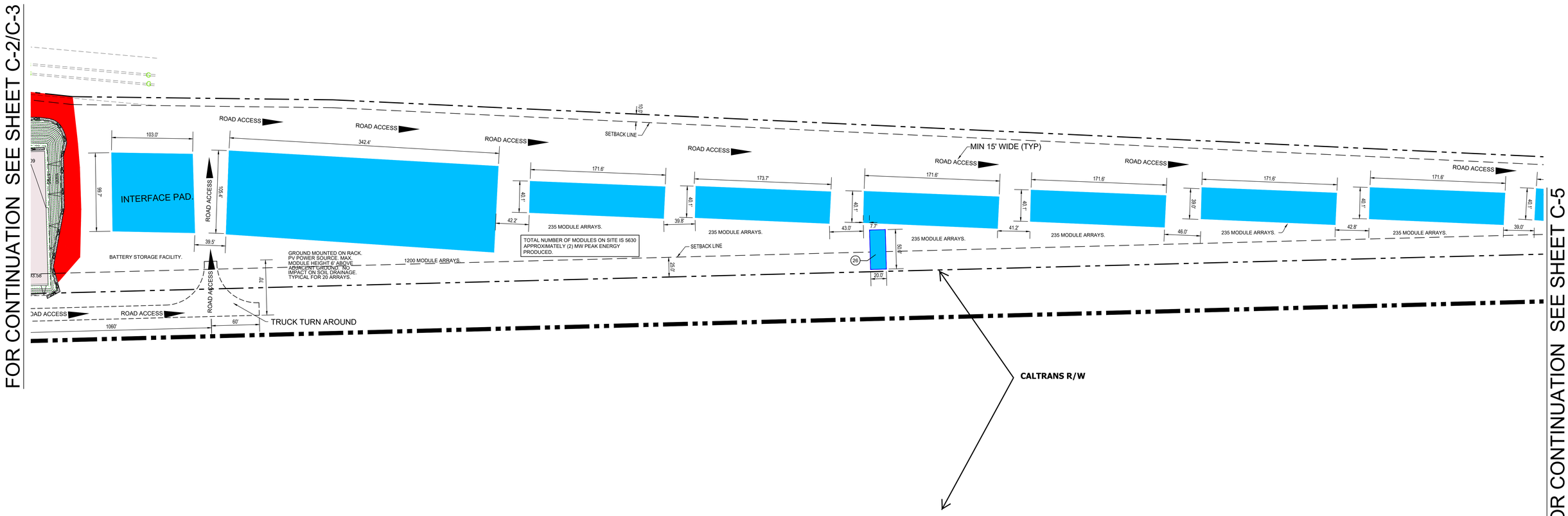
SHEET TITLE: SITE PLAN

COUNTY FILE NO.: PROJ-2020-00139

C3

K & S ENGINEERING 08-27-2025

SAN BERNARDINO COUNTY CONDITIONAL USE PERMIT 2020-00139



0 25 50 100 150

GRAPHIC SCALE: 1" = 50'

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REGISTERED PROFESSIONAL ENGINEER — JASON LIN ZONGHUO — NO. 43235 — CIVIL — STATE OF CALIFORNIA

SUBMITTAL / REVISIONS

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APN: 0542-131-87

SHEET TITLE: **SITE PLAN**

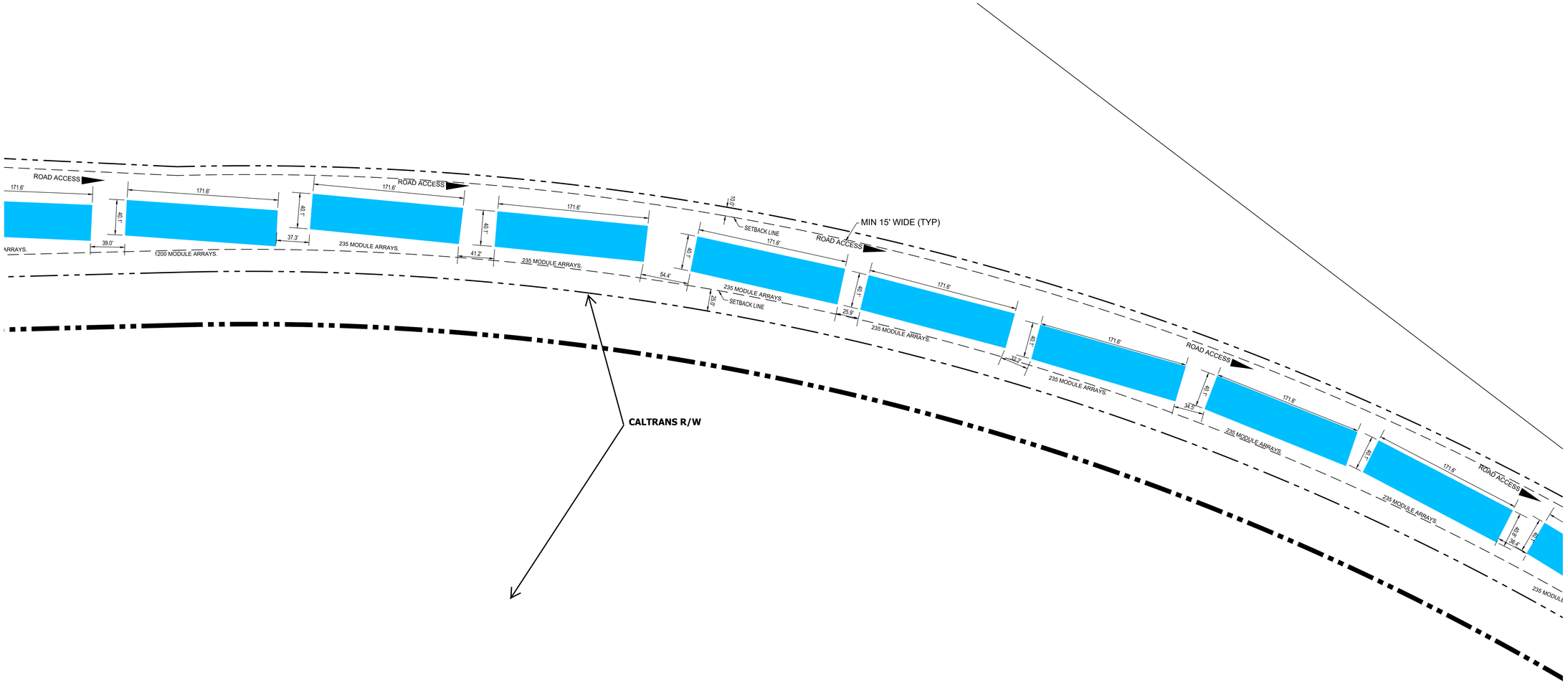
COUNTY FILE NO.: **PROJ-2020-00139**

C4

K & S ENGINEERING 08-27-2025

SAN BERNARDINO COUNTY CONDITIONAL USE PERMIT 2020-00139

FOR CONTINUATION SEE SHEET C-4



FOR CONTINUATION SEE SHEET C-6

0 25 50 100 150

GRAPHIC SCALE: 1" = 50'

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Planning . Engineering . Surveying
7801 Mission Center Court, Suite 100 San Diego, CA 92108
(619) 296-5565 FAX: (619) 296-5564

REGISTERED PROFESSIONAL ENGINEER — JACQUELYN ZOMBRONO — NO. 43235 — CIVIL — STATE OF CALIFORNIA

SUBMITTAL / REVISIONS

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K&S Project Number
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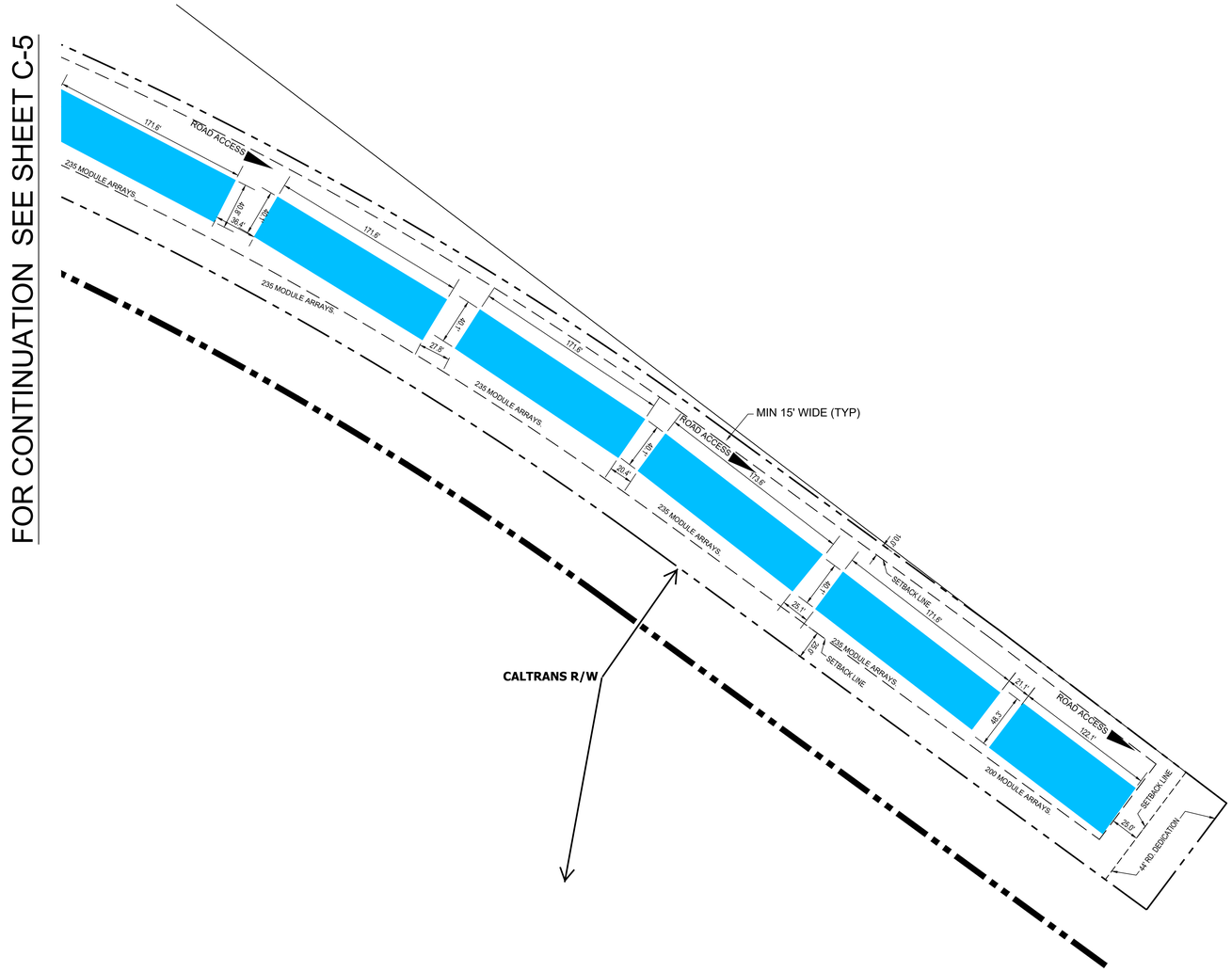
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COUNTY FILE NO.: **PROJ-2020-00139**

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K & S ENGINEERING 08-27-2025

SAN BERNARDINO COUNTY CONDITIONAL USE PERMIT 2020-00139



0 25 50 100 150

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K&S ENGINEERING, INC.
Planning . Engineering . Surveying
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REGISTERED PROFESSIONAL ENGINEER HOUGHLIN ZONGROD NO.43235 CIVIL STATE OF CALIFORNIA

SUBMITTAL / REVISIONS

No.	Description	Date
01	STORM DATA DATA	11/10/2020
02	ADDITION OF PARKING/REVISE LAND USE TABLE	06/08/2021
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45307 AFTON ROAD, BAKER, CA 92309

APN: 0542-131-87

SHEET TITLE:
SITE PLAN

COUNTY FILE NO.:
PROJ-2020-00139

C6

K & S ENGINEERING 08-27-2025

January 22, 2019

Mr. Tom Nievez, Contract Planner
COUNTY OF SAN BERNARDINO
385 N. Arrowhead Avenue
San Bernardino, CA 92415

Dear Mr. Nievez:

INTRODUCTION

As requested, Ganddini Group, Inc. is pleased to provide this circulation assessment for the proposed Baker Fuel Facility project. The purpose of this circulation assessment is to provide a qualitative and quantitative assessment of the benefits between the currently proposed circulation plan and the previously approved circulation plan. We trust these findings will aid the County of San Bernardino in assessing the revised circulation plan.

The project site is located at Afton Road and the Interstate 15 (I-15) Freeway in the County of San Bernardino. The project location map is shown on Figure 1.

PROJECT BACKGROUND

The proposed project was originally assessed by Kunzman Associates, Inc. in May 2016. The traffic impact analysis was later revised in May 2017 and is based on the currently approved site plan. Upon further review by the development team, it appears that the currently approved site plan would result in poor circulation; therefore, a revised site plan is currently proposed that would address previous concerns while improving site access and circulation.

The currently approved site plan for the project site is shown on Figure 2. This site access evolved from a previous version to accommodate input from the California Department of Transportation. To address vehicle queueing concerns, the primary project access point at the intersection of Arrowhead Trail and Afton Road was pushed northerly to increase the distance from the I-15 Westbound Ramps. The resulting configuration, as currently approved, results in inconvenient and circuitous access for the project site.

Under the currently approved site plan, inbound truck traffic is required to travel north on Afton Road slightly past the project site, then make a sharp right turn on Arrowhead Trail followed by a sharp left turn at a three-way intersection. Based on the current design, these maneuvers can be difficult for large tractor-trailer trucks to perform and would potentially result in unintended queueing.

Due to the roadway curvature along Arrowhead Trail and intersection curb radii, trucks making a northbound right from Afton Road to Arrowhead Trail will have to slow down to navigate the tight turn, which will in turn slow down any trailing vehicles. Similarly, trucks making the eastbound left from Arrowhead Trail to the truck access road will have to slow down, thus requiring any trailing vehicles and conflicting westbound vehicles to slow down as well. Outbound truck traffic requires maneuvering a tight southbound right turn at the Arrowhead Trail intersection and a tight westbound left turn at Afton Road, potentially slowing down westbound vehicles even further. Additionally, passenger cars and other non-truck traffic would have to

contend with truck traffic through a number of turns and curves, likely causing discomfort for drivers and increasing the conflict area between cars and trucks.

Since all internal non-truck traffic would be concentrated at the single access point on Arrowhead Trail, the non-truck access point is likely to experience an appreciable level of congestion compared to the currently proposed site plan discussed in the following section.

PROPOSED SITE PLAN

The currently proposed project site plan and circulation design is shown on Figure 3. Figure 4 shows a close up of the currently proposed circulation along Afton Road at the intersections of the I-15 Freeway Ramps and Arrowhead Trail.

Immediately upon exiting the I-15 Westbound Off-Ramp, the proposed design provides two northbound lanes and separates inbound truck and non-truck traffic using lane utilization signs and pavement markings. The northbound approach on Afton Road is proposed to be uncontrolled, thus allowing free-flow movements through the intersection at Arrowhead Trail and precluding any vehicle queues that may interfere with the I-15 Freeway Ramps.

When first approaching Arrowhead Trail, trucks will pass to the left in a dedicated 14-foot wide lane and continue north into the project site through a 19-foot wide, 145-foot radius turn without stopping. Other non-truck traffic will pass to the right in a dedicated 14-foot wide lane and turn onto Arrowhead Trail through a dedicated 15-foot wide, 45-foot radius free right turn lane. As previously noted, all northbound movements along Afton Road (both cars and trucks) are proposed to be uncontrolled at the intersection with Arrowhead Trail, thus allowing free flow movement through the intersection and precluding vehicle queues between the intersection and the freeway ramps.

Upon leaving the site, trucks will utilize an uncontrolled southbound through lane through the Afton Road/Arrowhead Trail intersection to access the I-15 Freeway. Outbound non-truck traffic approaching westbound will be stop-controlled at the intersection and the only conflict will be with slow moving southbound truck traffic.

The currently proposed site plan also provides multiple driveways on Arrowhead Trail. Instead of all non-truck traffic being concentrated at a single driveway, the current plan will disperse traffic and help prevent vehicle queues from accumulating at a single driveway.

REVISED YEAR 2040 WITH PROJECT VOLUMES

To provide qualitative evaluation of the currently proposed plan, the Year 2040 With Project volumes from a traffic impact analysis for the previously approved site plan were adjusted to reflect a single intersection based on the currently proposed design. Initial Year 2040 With Project volumes have been obtained from the Baker Fuel Facility Traffic Impact Analysis (Kunzman Associates, Inc., May 2016). The previous traffic impact analysis evaluated the truck access road and Arrowhead Trail intersections at Afton Road as two separate intersections, but in a comparable configuration from which traffic volume forecasts can be converted into the currently proposed lane movements.

Figure 5 shows Friday evening and Sunday mid-day peak hour intersection turning movement volumes at the intersection of Afton Road/Arrowhead Trail based on the currently proposed roadway configuration and the Year 2040 With Project volume forecast. Other off-site intersections evaluated in the previous traffic impact

analysis are omitted from this analysis since they are not affected by the currently proposed changes to the roadway configuration.

REVISED DELAY AND LEVEL OF SERVICE

Table 1 shows the intersection delay and Level of Service (LOS) at the intersection of Afton Road/Arrowhead Trail for Year 2040 With Project conditions for both the previously approved site plan and the currently proposed site plan.

As shown in Table 1, when comparing the main access points for the currently approved site plan and the proposed site plan, the proposed site plan is forecast to result in a slighter lower delay and similar Level of Service under both Friday evening and Sunday mid-day peak hours.

CONCLUSION

In summary, the currently proposed plan offers the following circulation benefits compared to the previously approved site plan:

- Improved roadway alignment for truck circulation due to wider turn radii.
- Free-flow northbound movements to preclude queueing on Afton Road.
- Additional lane capacity resulting from two northbound lanes on Afton Road.
- Designated lanes for cars and trucks reduces conflict area between small and large vehicles.
- Additional access points on Arrowhead Trail will disperse non-truck traffic and help prevent vehicle queues from accumulating at a single driveway.
- Similar or better intersection delay/Level of Service operations.

We appreciate the opportunity to assist you on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100 x 106.

Sincerely,



Brandon Alvarado, EIT
Transportation Analyst





Giancarlo Ganddini, PE, PTP
Principal

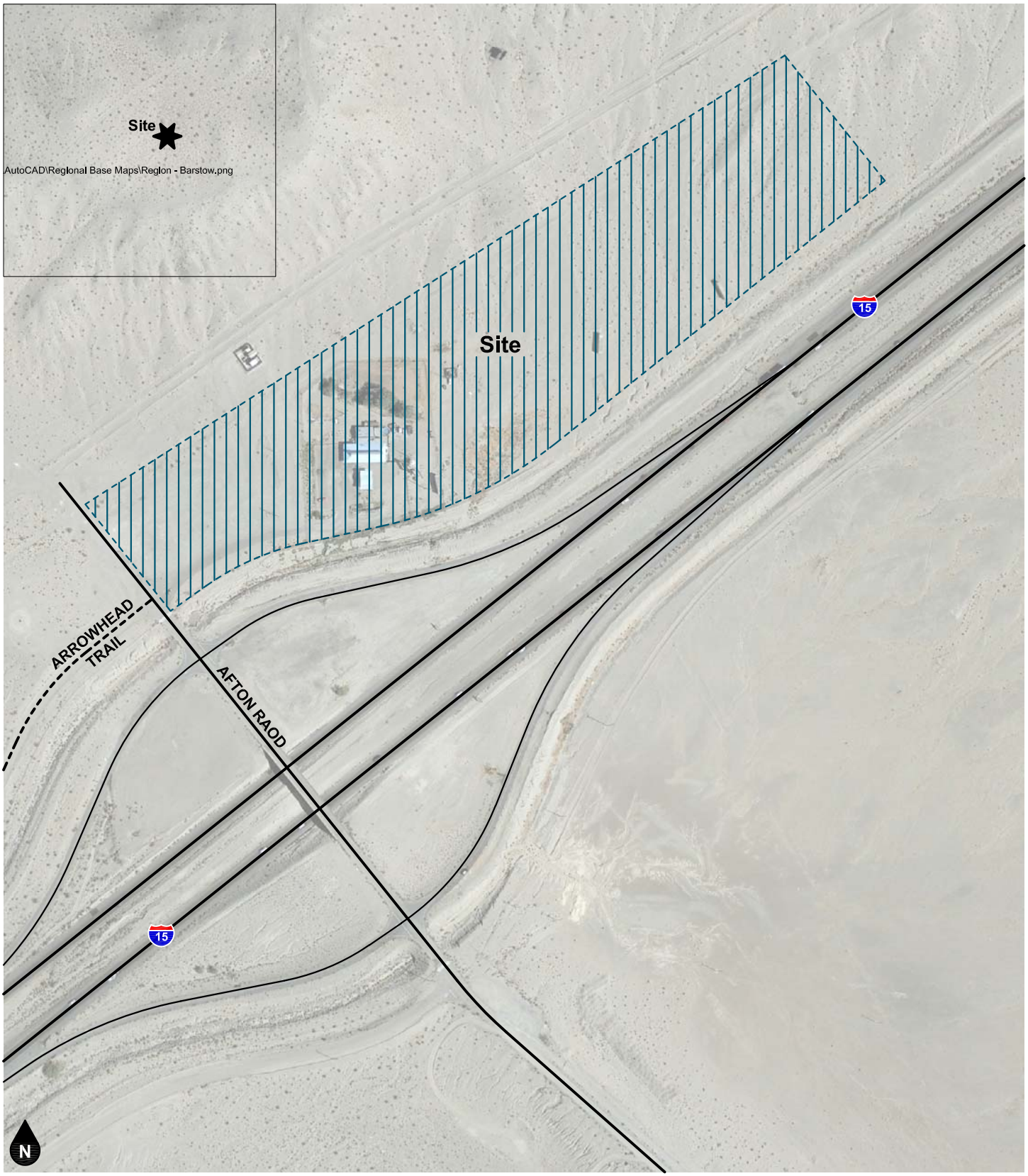


Figure 1
Project Location Map

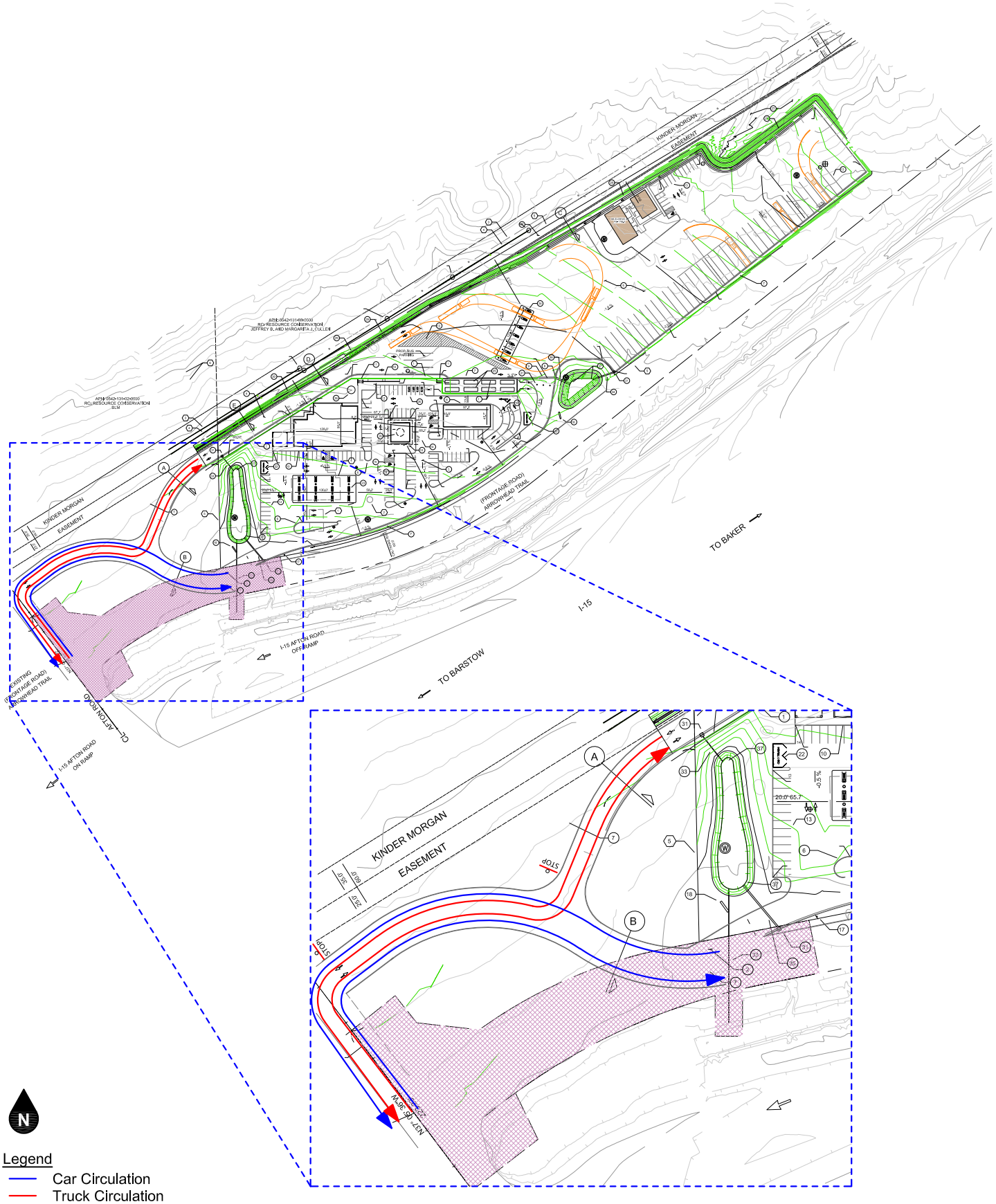


Figure 2
Previously Approved Site Plan

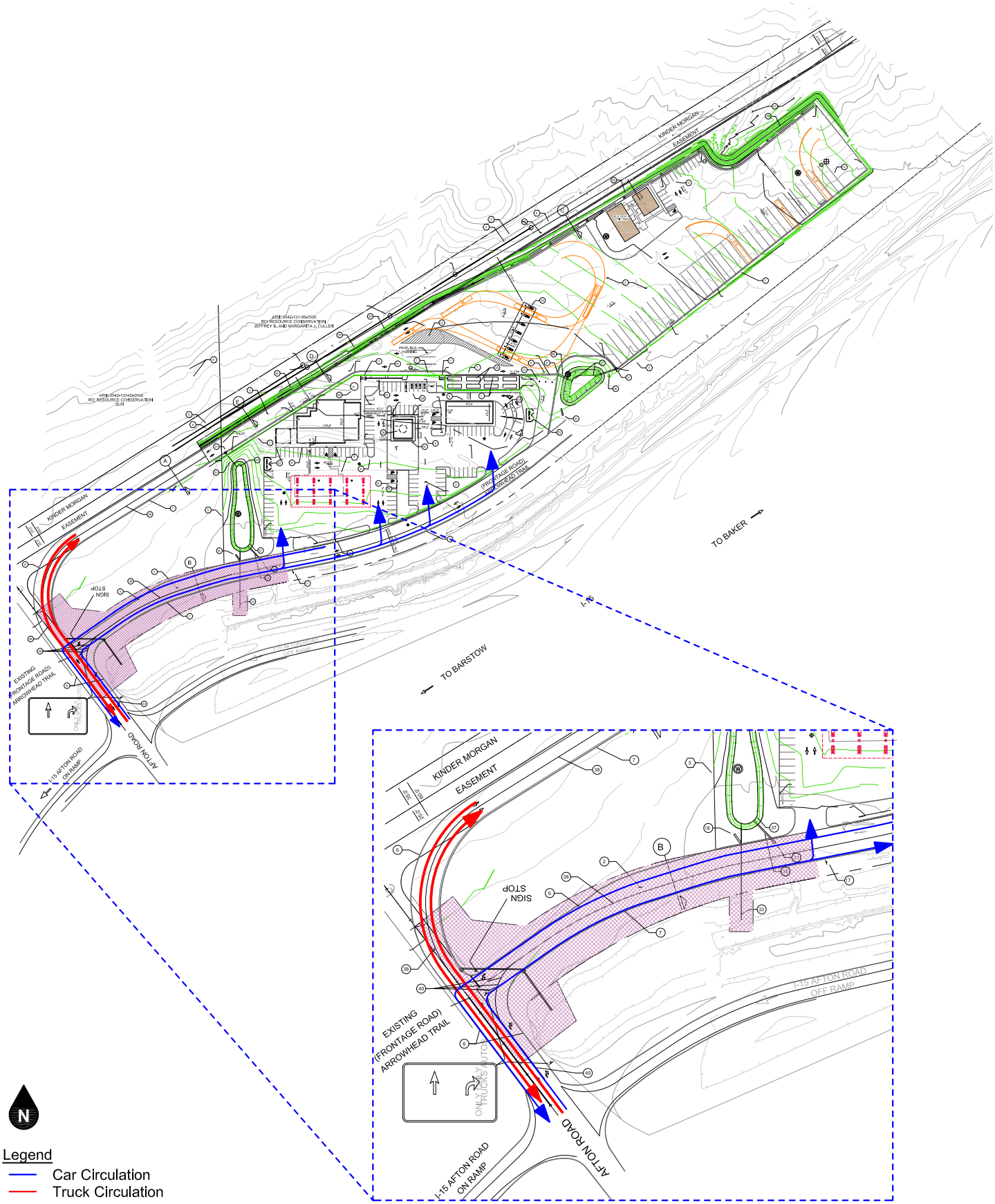
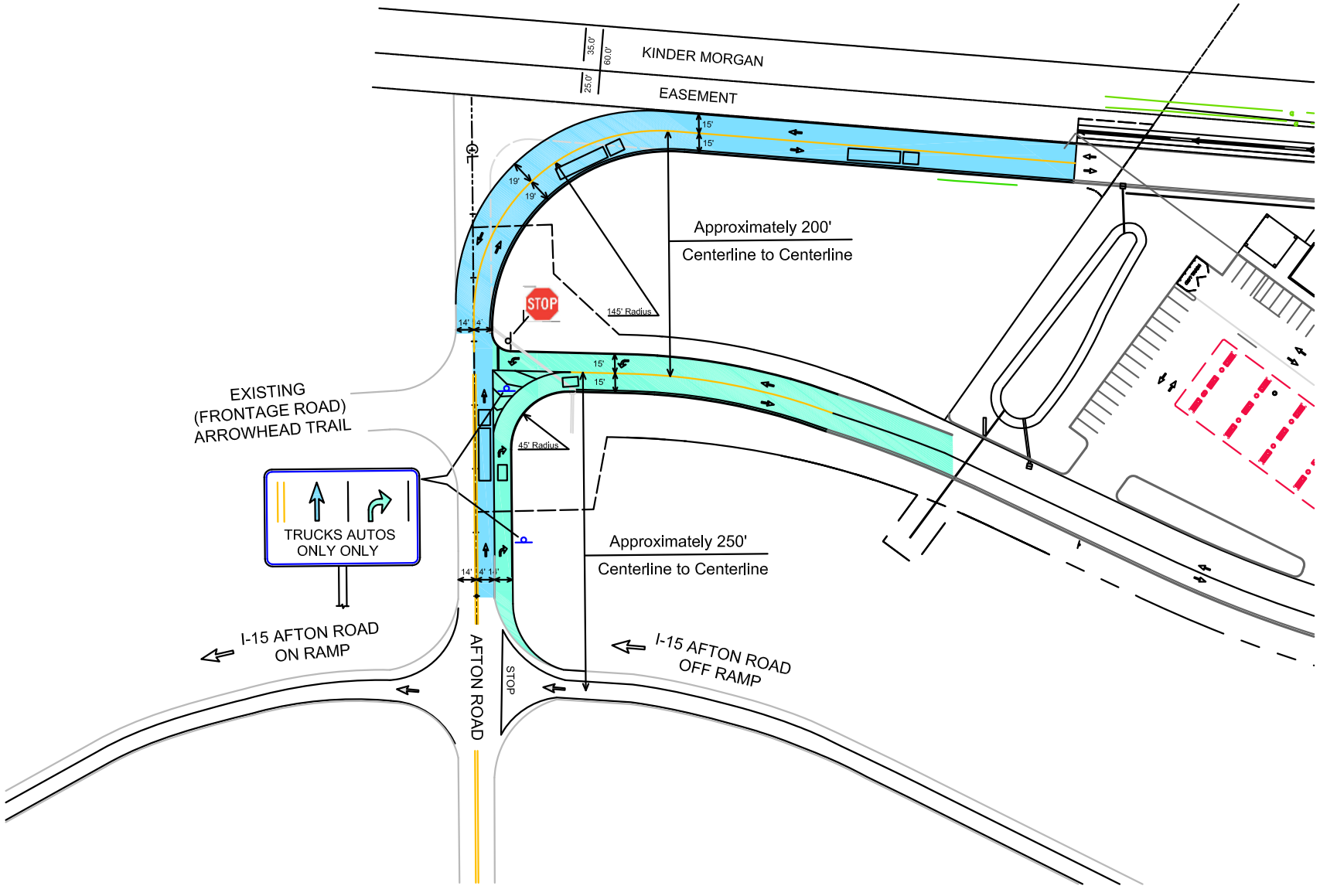


Figure 3
Currently Proposed Site Plan



Legend

= TRAFFIC SIGN
= AUTOMOBILES ONLY
= TRUCKS ONLY

Source: Substrate Inc./The Perfect Solution

Figure 4
Proposed Afton Road Circulation



Figure 5
Revised Year 2040 With Project
Peak Hour Intersection Turning Movement Volumes

Table 1
Year 2040 With Project Delay and Levels of Service

Study Intersection	Traffic Control[1]	Friday Evening Peak Hour		Sunday Mid-day Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
Previously Approved Site Plan[4]					
Afton Road at Arrowhead Trail	CSS	11.4	B	11.4	B
Currently Proposed Site Plan					
Afton Road at Arrowhead Trail	CSS	10.1	B	10.4	B

Notes:
(1) CSS = Cross Street Stop

(2) For intersections with cross street stop control, Level of Service is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

(4) Source: Baker Fuel Facility Traffic Impact Analysis (Kunzman Associates, Inc, May 2017).

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BAKER FUEL FACILITY

TRAFFIC IMPACT ANALYSIS

May 17, 2017

Traffic Engineering | Transportation Planning | Parking | Noise/Vibration | Expert Witness
Air Quality | Global Climate Change | Health Risk Assessment

BAKER FUEL FACILITY

TRAFFIC IMPACT ANALYSIS

May 17, 2017

Prepared by:

Robert Kunzman ■ Carl Ballard, LEED GA ■ William Kunzman, P.E.



KUNZMAN ASSOCIATES, INC.
1111 Town & Country Road, Suite 34 ■ Orange, California 92868
5005 La Mart Drive, Suite 201 ■ Riverside, California 92507
(714) 973-8383 ■ www.traffic-engineer.com

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I. INTRODUCTION

The purpose of this report is to provide an assessment of the traffic impacts resulting from the development of the proposed Baker Fuel Facility project and to identify the traffic mitigation measures necessary to maintain the established level of service standard for the elements of the impacted roadway system. The traffic issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act.

The County of San Bernardino is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. This report analyzes traffic impacts for the anticipated opening date with partial occupancy of the development in Opening Year 2018, at which time it will be generating trips at its full potential, and for the current traffic forecast year, which is the Year 2040.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

A. Project Description

The proposed development is located east of Afton Canyon Road and north of the I-15 Freeway SB Ramps. A vicinity map showing the project location is provided on Figure 1.

The project site is proposed to be developed with 5 apartment dwelling units, 3,600 square feet of fast-food restaurant with drive-through window, 10 fast-food drive in stalls, a 30 fueling position gasoline/service station with convenience market, and 15 alternative fuel charging stations. Figure 2 illustrates the project site plan.

B. Study Area

Regional access to the project site is mainly provided by the I-15 Freeway. Local access is provided by various roadways in the vicinity of the site. The north-south roadway which will be most affected by the project is Afton Canyon Road. The east-west roadway which will be most affected by the project is Arrowhead Trail.

A series of scoping discussions were conducted with the County of San Bernardino and the California Department of Transportation to define the desired analysis locations for each future analysis year. In addition, the San Bernardino Associated Governments staff has also been contacted to discuss the project.

C. Analysis Methodology

The analysis of the traffic impacts from the proposed development and the assessment of the required mitigation measures were based on an evaluation of the existing and forecast traffic conditions in the vicinity of the site with and without the project. The following analysis years are considered in this report:

- Existing Conditions (2015)
- Existing Plus Project Conditions[1]
- Project Opening Year Conditions (2018)
- Horizon Year Conditions (2040)

Existing intersection traffic conditions were established through Friday evening and Sunday mid-day peak period traffic counts obtained by Kunzman Associates, Inc. in October 2015 (see Appendix C). In addition, truck classification counts were conducted at the study area intersections. The existing percent of trucks was used in the conversion of trucks to Passenger Car Equivalent's (see Appendix E).

Project traffic volumes for all future projections were estimated using the manual approach. Trip generation has been based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012.

The distributions of the project trips were based on existing travel patterns calculated using existing traffic counts. This methodology was approved by the County of San Bernardino Transportation Department and the California Department of Transportation staff (see Appendix B).

The average daily traffic volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model (SBTAM) Year 2012 and Year 2040 average daily traffic volume forecasts (see Appendix E). Traffic model plots are included in Appendix D. This difference defines the growth in traffic over the 28 year period. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between Year 2015 and Year 2040. For this purpose, linear growth between the Year 2012 base condition and the forecast Year 2040 condition was assumed. Since the increment between Year 2015 and Year 2040 is 25 years of the 28 year time frame, a factor of 0.89 (i.e., 25/28) was used.

The Year 2040 without project daily and peak hour directional roadway segment volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 peak hour volumes. The growth increment calculation worksheets are shown in Appendix E. Current peak hour intersection approach/departure data is a necessary input to this approach. The existing traffic count data serves as both the starting point for the refinement process, and also provides important insight into current travel patterns and the relationship between peak hour and daily traffic conditions. The initial turning movement proportions are estimated based upon the relationship of each approach leg's forecast traffic volume to the other legs forecast volumes at the intersection. The initial estimate of turning movement proportions is then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program Report 255. A linear programming algorithm is used to calculate individual turning movements that match the known directional roadway segment volumes computed in the previous step. This program computes a likely set of intersection

[1] The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time.

turning movements from intersection approach counts and the initial turning proportions from each approach leg.

The Opening Year (2018) traffic volumes have been interpolated from the Year 2040 traffic volumes based upon a portion of the future growth increment. The remaining un-built portion of the original project is then added to the projected volumes to create the new future base volumes.

The remaining un-built portion of the original project is then added to the Year 2040 San Bernardino Transportation Analysis Model volumes to create the new future base volumes. Project traffic is then added to the new future base volumes. Quality control checks and forecast adjustments were performed as necessary to ensure that all future traffic volume forecasts reflect a minimum of 10% growth over existing traffic volumes. The result of this traffic forecasting procedure is a series of traffic volumes suitable for traffic operations analysis.

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix F) based on the Highway Capacity Manual – Transportation Research Board Special Report 209. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue.

The Level of Service analysis for signalized intersections has been performed using optimized signal timing. This analysis has included an assumed lost time of two seconds per phase. Signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in the signalized intersection analysis. The following formula has been used to calculate the pedestrian minimum times for all Highway Capacity Manual runs:

(Curb to curb distance) / (4 feet/second) + 7 seconds

For existing/existing plus project/Opening Year (2018) traffic conditions, saturation flow rates of 1,800 vehicles per hour of green for through and right turn lanes and 1,700 vehicles per lane 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 the capacity analysis.

For Year 2040 traffic conditions, saturation flow rates of 1,900 vehicles per hour of green for through and right turn lanes and 1,800 vehicles per lane for single left turn lanes, 1,700 vehicles per lane for dual left turn lanes and 1,800 vehicles per lane for double right turn lanes have been assumed for the capacity analysis.

The peak hour traffic volumes have been adjusted to peak 15 minute volumes for analysis purposes using the existing observed peak 15 minute to peak hour factors for all scenarios analyzed. Where feasible improvements in accordance with the local jurisdiction's General Plan and which result in acceptable operations cannot be identified, the Year 2040 peak

hour factor has been adjusted upwards to 0.95. This is to account for the effects of congestion on peak spreading. Peak spreading refers to the tendency of traffic to spread more evenly across time as congestion increases.

The traffic mitigation needs anticipated at the time of the project opening with full occupancy and for the Year 2040 were combined into a summary of mitigation requirements and costs. The mitigation cost responsibility for the proposed development was estimated based on the percent of the increase in traffic from the existing condition to the Year 2040 that was attributed to the project generated trips.

D. Definition of Deficiency and Significant Impact

The following definitions of deficiencies and significant impacts have been developed in accordance with the County of San Bernardino requirements.

1. Definition of Deficiency

The definition of an intersection deficiency has been obtained from the County of San Bernardino General Plan. The General Plan states that peak hour intersection operations of Level of Service C or better are generally acceptable. Therefore, any intersection operating at Level of Service E or F will be considered deficient.

For freeway facilities, the Congestion Management Program controls the definition of deficiency for purposes of this study. The Congestion Management Program definition of deficiency is based on maintaining a Level of Service standard of Level of Service E or better, except where an existing Level of Service F condition is identified in the Congestion Management Program document (San Bernardino County Congestion Management Program Table 2-1). A Congestion Management Program deficiency is, therefore, defined as any freeway segment operating or projected to operate at Level of Service F, unless the segment is identified explicitly in the Congestion Management Program document.

The identification of a Congestion Management Program deficiency requires further analysis in satisfaction of Congestion Management Program requirements, including:

- Evaluation of the mitigation measures required to restore traffic operations to an acceptable level with respect to Congestion Management Program Level of Service standards.
- Calculation of the project share of new traffic on the impacted Congestion Management Program facility during peak hours of traffic.
- Estimation of the cost required to implement the improvements required to restore traffic operations to an acceptable Level of Service as described above.

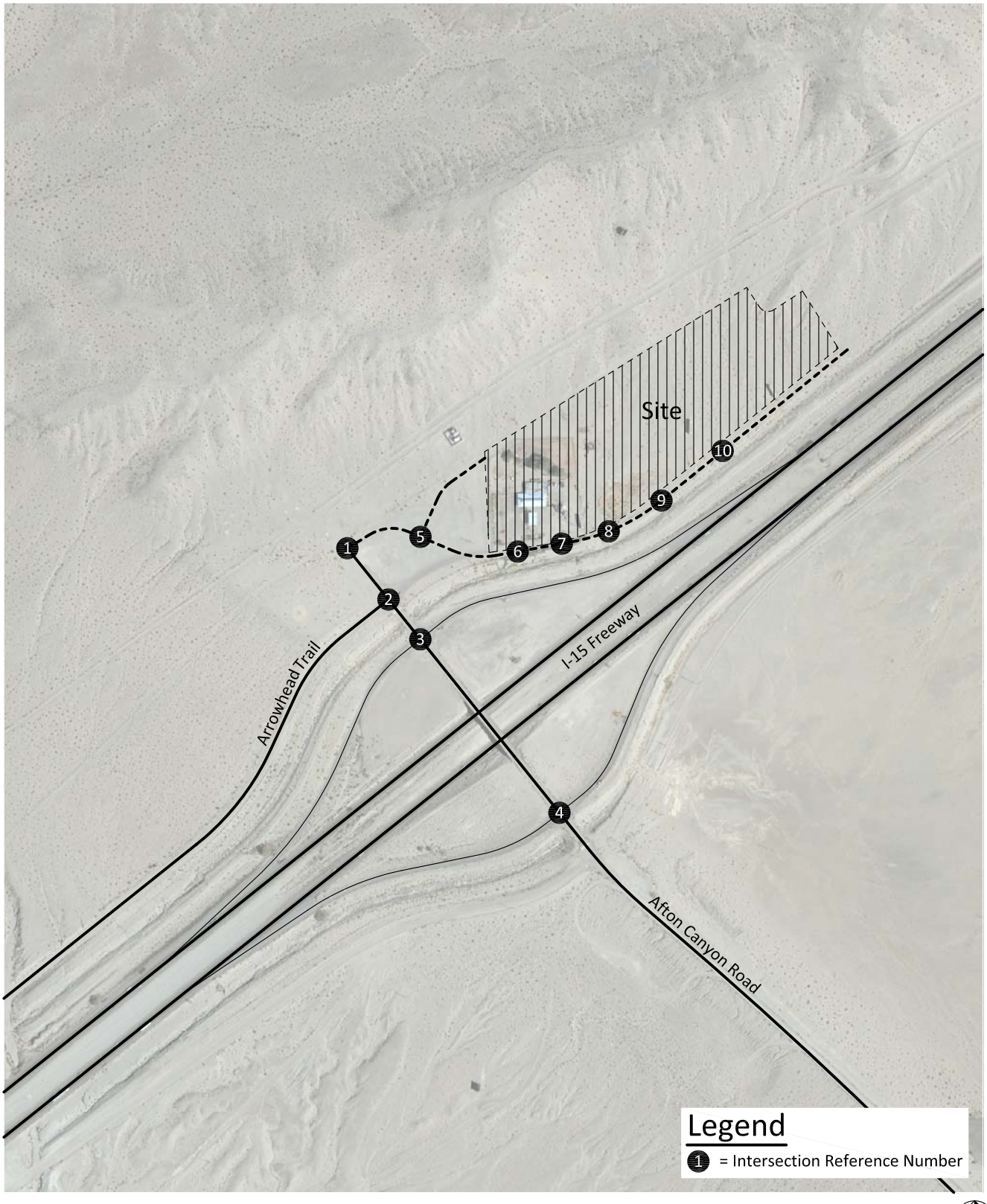
This study incorporates each of these aspects for all locations where a Congestion Management Program deficiency is identified.

2. Definition of Significant Impact

The identification of significant impacts is a requirement of the California Environmental Quality Act. The County of San Bernardino General Plan and Circulation Element have been adopted in accordance with California Environmental Quality Act requirements, and any roadway improvements within the County of San Bernardino that are consistent with these documents are not considered a significant impact, so long as the project contributes its "fair share" funding for improvements.

A traffic impact is considered significant if the project both: i) contributes measurable traffic to and ii) substantially and adversely changes the Level of Service at any off-site location projected to experience deficient operations under foreseeable cumulative conditions, where feasible improvements consistent with the County of San Bernardino General Plan cannot be constructed.

Figure 1
Project Location Map

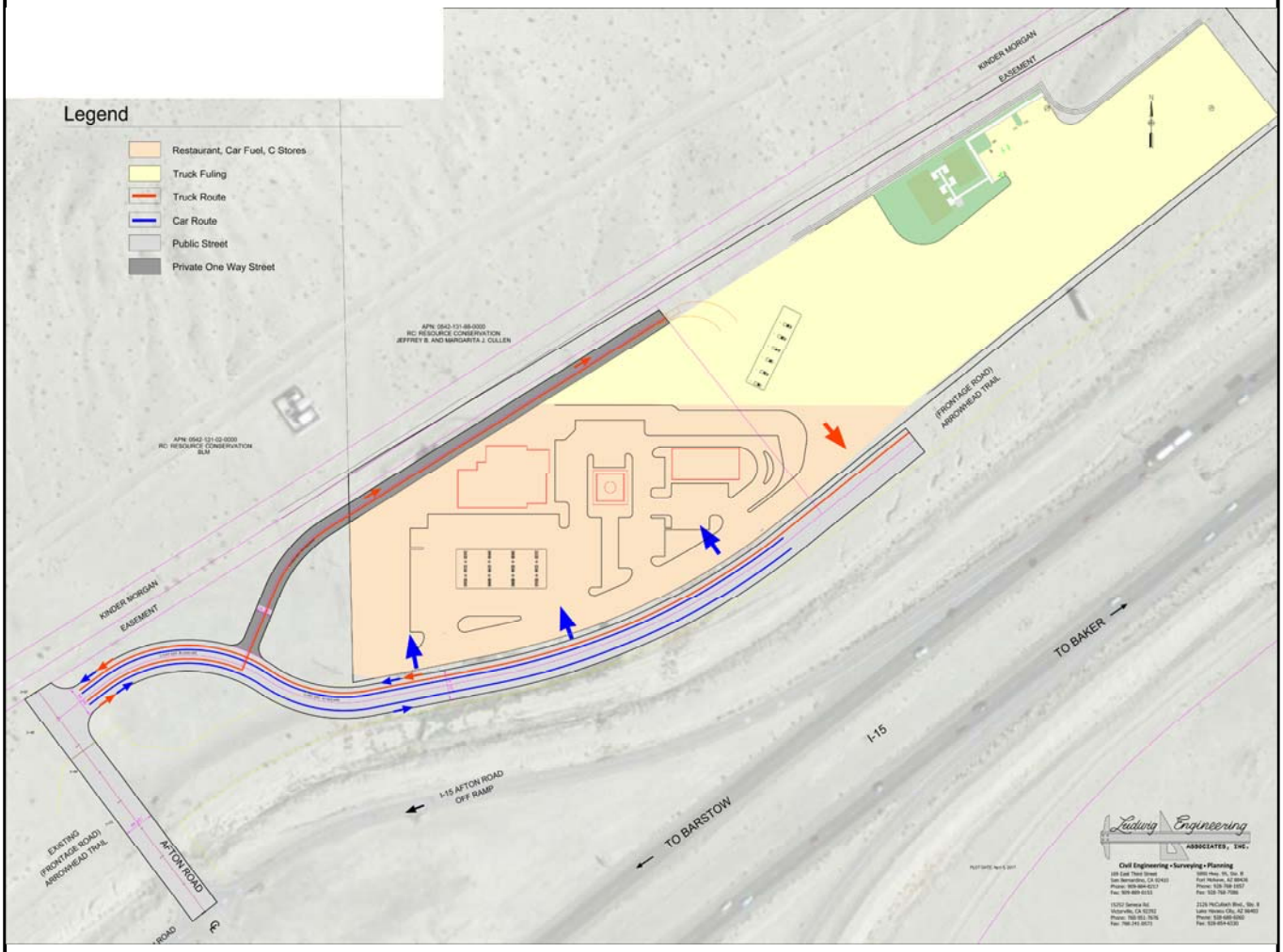


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Figure 2
Site Plan



II. EXISTING CONDITIONS

A. Existing Roadway System

Figure 3 identifies the existing conditions for the study area roadways. The number of through lanes for existing roadways and the existing intersection controls are identified.

Regional access to the project site is mainly provided by the I-15 Freeway. Local access is provided by various roadways in the vicinity of the site. The north-south roadway which will be most affected by the project is Afton Canyon Road. The east-west roadway which will be most affected by the project is Arrowhead Trail.

B. Existing Volumes

Existing intersection traffic conditions were established through Friday evening and Sunday mid-day peak period traffic counts obtained by Kunzman Associates, Inc. in October 2015 (see Appendix C) and shown on Figures 4 and 5, respectively. Explicit peak hour factors have been calculated using the data collected for this effort as well. The Friday evening peak hour traffic volumes were identified by counting the two-hour period from 4:00 PM – 6:00 PM. The Sunday mid-day peak hour traffic volumes were identified by counting the three-hour period from 12:00 Noon – 3:00 PM. The peak periods were defined by the County of San Bernardino and verified by the California Department of Transportation.

C. Existing Level of Service

The existing delay and Level of Service for the intersection in the vicinity of the project are shown in Table 1. The study area intersections currently operate within acceptable Levels of Service during the peak hours for existing traffic conditions. Existing delay worksheets are provided in Appendix F.

D. Planned Transportation Improvements and Relationship to General Plan

The County of San Bernardino General Plan Circulation Element is shown on Figure 6. Existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 6. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The County of San Bernardino General Plan roadway cross-sections are illustrated on Figure 7.

Table 1

Existing Intersection Delay and Level of Service

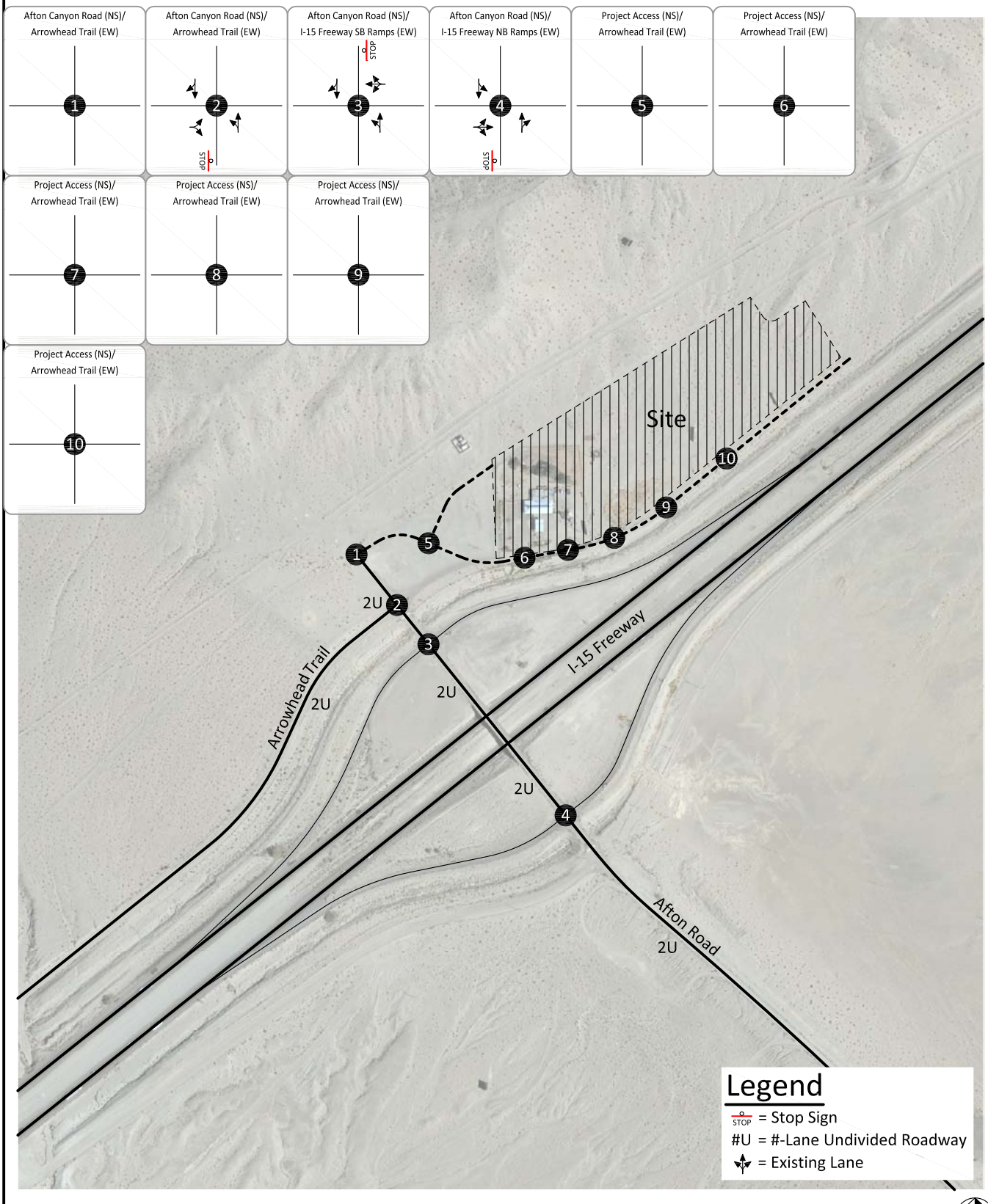
Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail South (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	8.6-A	8.6-A
I-15 Freeway SB Ramps (EW) - #3	California Department of Transportation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	9.1-A	9.2-A
I-15 Freeway NB Ramps (EW) - #4	California Department of Transportation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	9.2-A	9.1-A

[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.
L = Left; T = Through; R = Right

[2] Delay and Level of Service have been calculated using the following analysis software: PTV Vistro, Version 4.00-00. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Figure 3
Existing Through Travel Lanes and Intersection Controls

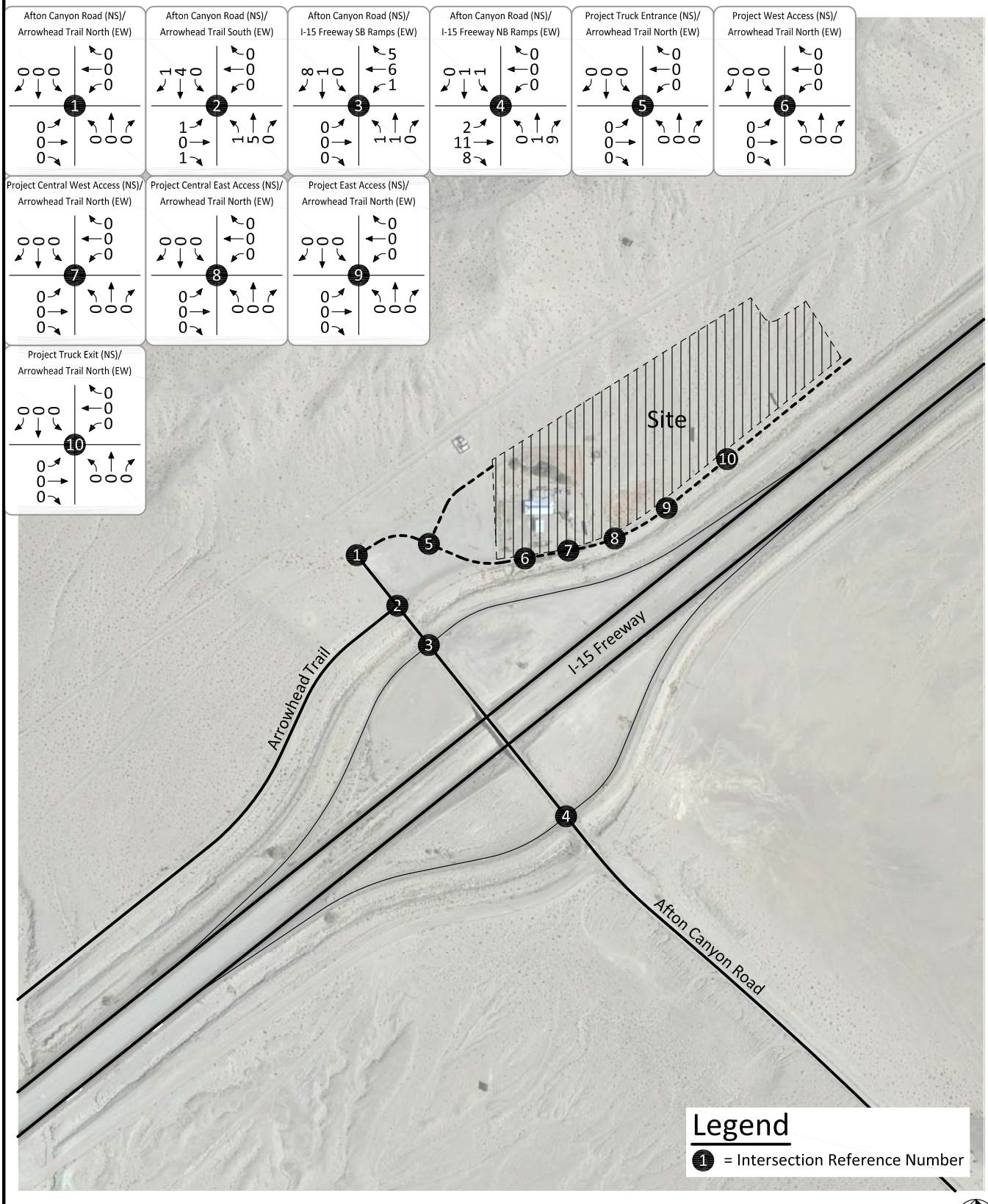


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Figure 4
Existing Friday Evening Peak Hour Intersection Turning Movement Volumes

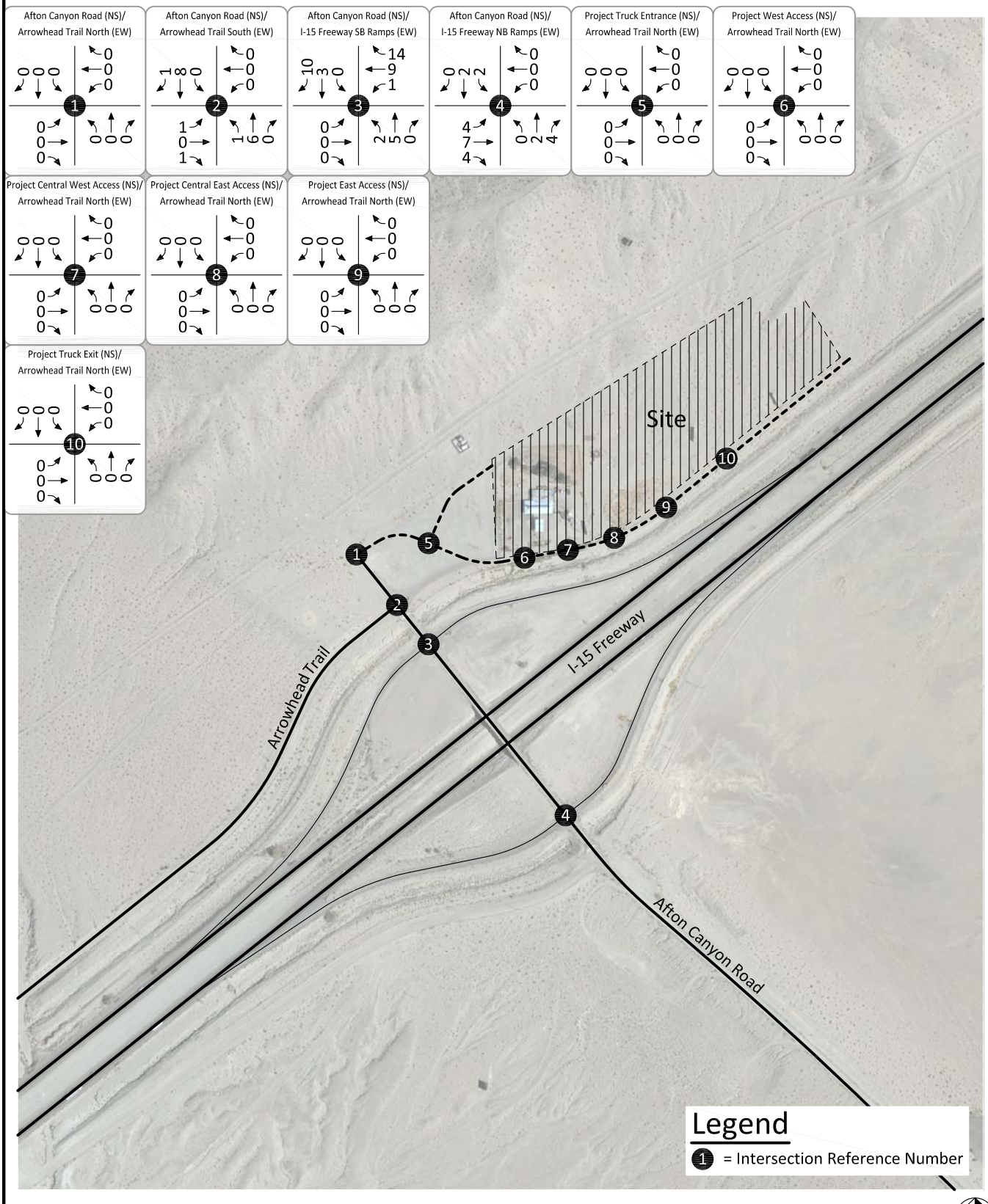


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Figure 5
Existing Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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Figure 6
County of San Bernardino General Plan Circulation Element



Legend

Existing	Proposed	
		Freeway
		Major Divided Highway
		Major Arterial Highway
		Major Highway
		Secondary Highway
		Controlled/Limited Access Collector
		Mountain Major Highway
		Mountain Secondary Highway
		State Highway (Special Standards or Conditions)

P Park and Ride × Airport / Airfield

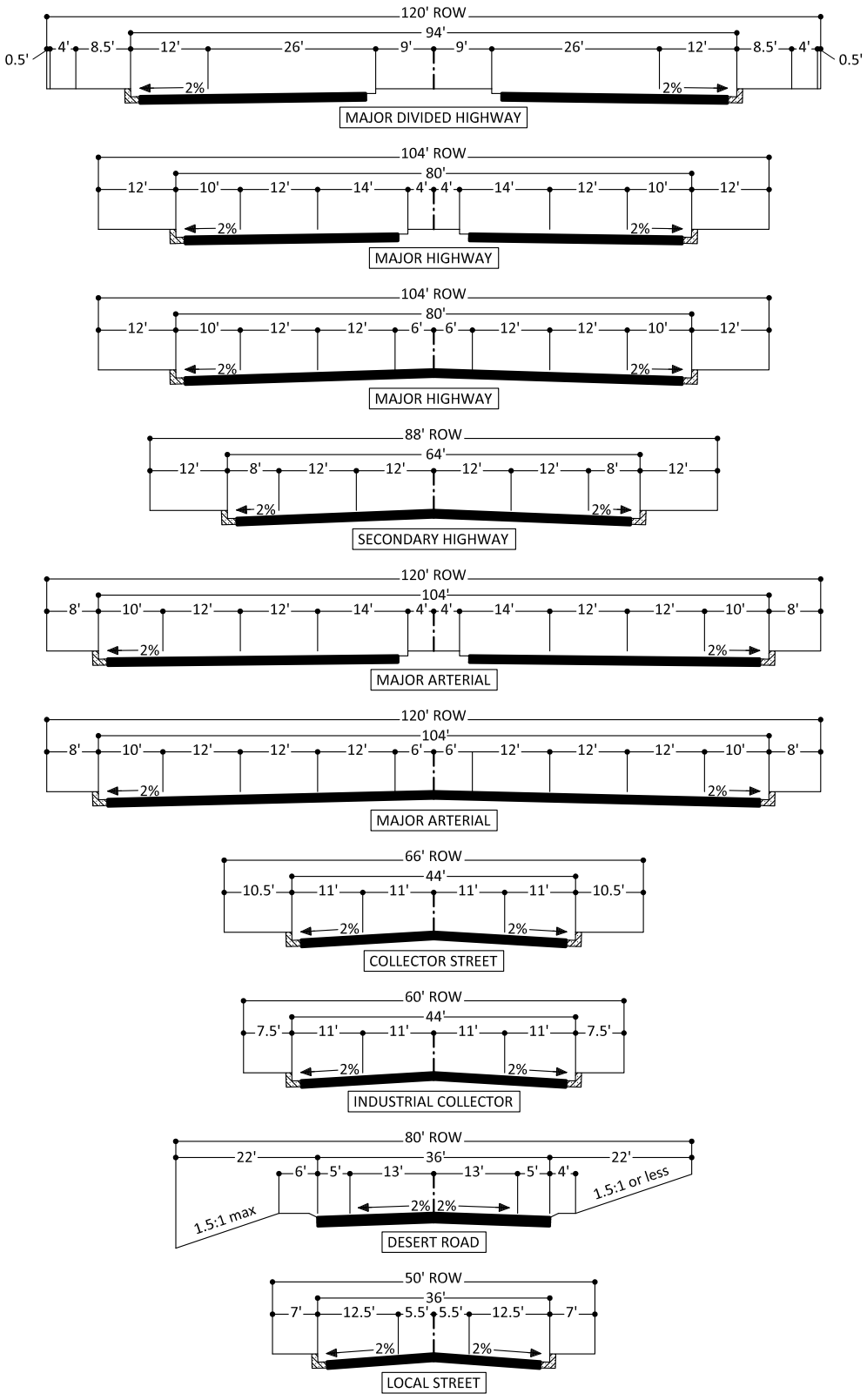
KUNZMAN ASSOCIATES, INC.

Source: County of San Bernardino

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Figure 7
County of San Bernardino General Plan Roadway Cross-Sections



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Source: County of San Bernardino

III. PROJECT TRAFFIC

A. Project Description

The project site is proposed to be developed with 5 apartment dwelling units, 3,600 square feet of fast-food restaurant with drive-through window, 10 fast-food drive in stalls, a 30 fueling position gasoline/service station with convenience market, and 15 alternative fuel charging stations.

The project site is proposed to provide access to Afton Canyon Road. Afton Canyon Road will be extended north from its existing terminus to the proposed Arrowhead Trail North to create a new cross street stop controlled intersection.

Based on discussions with the County of San Bernardino and the California Department of Transportation, a frontage road will be constructed along the south side of the project site to provide access to the project site as well as future developments adjacent to the project site. In this analysis, this new frontage road is called Arrowhead Trail North.

B. Trip Generation

The trips generated by the project are determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are based on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily traffic and Friday evening peak hour inbound and outbound traffic, and Sunday mid-day peak hour inbound and outbound traffic for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes are determined. The project trip generation is based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012.

As shown in Table 2, the proposed development is projected to generate a total of approximately 5,627 daily vehicle trips, 495 of which will occur during the Friday evening peak hour and 563 of which will occur during the Sunday mid-day peak hour.

Traffic volumes shown in Table 2 consist of the total trips generated for each project land use. As a restaurant trip generated by the project will also be making trips to the fueling station within the project, a double counting of those trips occurs.

It should be noted that for restaurant and service station land uses, a portion of the project trips would come from pass-by trips from the I-15 Freeway, trips that are currently on the roadway system (see Appendix G). These trips will utilize all of the study area intersections but they are already on the I-15 Freeway.

C. Trip Distribution

The distributions of the project trips were based on existing travel patterns calculated using existing traffic counts. This methodology was approved by the County of San Bernardino Transportation Department and the California Department of Transportation staff. Figures 8 to 11 contain the directional distributions of the project trips for the proposed land uses.

D. Trip Assignment

Based on the identified trip generation and distributions, Friday evening and Sunday Mid-day peak hour intersection turning movement volumes expected from the project are shown on Figures 12 and 13, respectively.

Table 2

Project Trip Generation[1]

Land Use	Quantity[2]	Units[3]	Friday Evening[4]			Sunday Afternoon[4]			Daily[5]
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Apartments		DU	0.10	0.41	0.51	0.40	0.22	0.62	6.65
Fast-Food Restaurant with Drive-Through Window		TSF	24.60	22.70	47.30	34.92	37.82	72.74	496.12
Fast-Food Drive In Stalls[6]		ST	3.00	3.00	6.00	3.00	3.00	6.00	60.00
Gasoline/Service Station with Convenience Market		FP	6.79	6.78	13.57	6.79	6.78	13.57	162.78
Alternative Fuel Station[7]		CS	1.00	1.00	2.00	1.00	1.00	2.00	20.00
Trips Generated									
Apartments	5	DU	1	2	3	2	1	3	33
Internal Capture - Residential (25%)[8]			0	-1	-1	-1	0	-1	-8
Fast-Food Restaurant with Drive-Through Window	3.600	TSF	89	82	171	126	136	262	1786
Fast-Food Drive In Stalls	10	ST	30	30	60	30	30	60	600
Internal Capture - Restaurant (25%)[9]			-30	-28	-58	-39	-42	-81	-597
Pass-By - Restaurant (95%)			-85	-80	-165	-111	-118	-229	-1,700
Gasoline/Service Station with Convenience Market - Trucks	6	FP	41	41	82	41	41	82	977
Gasoline/Service Station with Convenience Market - Cars	24	FP	163	163	326	163	163	326	3,907
Internal Capture - Service Station (25%)[10]			-51	-51	-102	-51	-51	-102	-1,221
Pass-By - Service Station (95%)			-145	-145	-290	-145	-145	-290	-3,480
Alternative Fuel Station	15	CS	15	15	30	15	15	30	300
Internal Capture - Alternative Fuel Station (50%)[11]			-8	-8	-16	-8	-8	-16	-150
Pass-By - Alternative Fuel Station (90%)			-6	-6	-12	-6	-6	-12	-135
Total Trips Generated			339	333	672	377	386	763	7,603
Total Trips Generated Using Study Area Intersections			250	245	495	278	285	563	5,627
Total Trips Generated Added to Freeway Mainline			14	14	28	16	16	32	312

It should be noted that this facility is completely isolated and adjacent to the I-15 Freeway. The site is so remote that the staff will live on-site. Patrons of the facility will likely stop at the facility to fuel their vehicle and obtain food. It is projected that the site adds virtually no traffic to the adjacent I-15 Freeway but all its traffic utilizes the study area intersections.

[1] Source: Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012, Land Use Codes 210, 934, and 945.

update to most current ITE

[2] The proposed service station is projected to consist of 24 passenger car fueling positions and 6 diesel truck fueling positions. To remain conservative, the 6 diesel truck fueling positions have been assumed to have the same trip generation as a passenger car fueling position.

[3] DU= Dwelling Unit; TSF = Thousand Square Feet; ST= Stalls; FP = Fueling Positions; CS = Charging Stations

[4] Peak hour trip generation rates for Friday evening and Sunday Mid-day peak periods are not available. Weekday evening pea n used because it is the highest trip generating period for this land use.

[5] Weekday daily trip generation rates have been used.

[6] It is assumed that each drive in stall will turn over three times per peak hour. It is assumed that the daily total is ten times the peak hour total.

[7] It is assumed that each charging station will turn over one time per peak hour. It is assumed that the daily total is ten times the peak hour total.

[8] It is assumed that 25 percent of the trips of the residential use will be internal to the site.

[9] It is assumed that approximately 50 percent of the patrons of the restaurants will also utilize the fueling stations. To remain conservative an internal reduction of 25 percent is utilized.

[10] It is assumed that approximately 50 percent of the patrons of the fueling station will also utilize the restaurants. To remain conservative an internal reduction of 25 percent is utilized.

[11] It is assumed that the alternative fuel station will be used passively by patrons of the restaurants. I conservative estimate of 50 percent of the alternative fuel use will be exclusively alternative fuel.

Figure 8
Project Outbound Trip Distribution - Cars



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Figure 9
Project Inbound Trip Distribution - Cars



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Figure 10
Project Outbound Trip Distribution - Trucks



Figure 11
Project Inbound Trip Distribution - Trucks

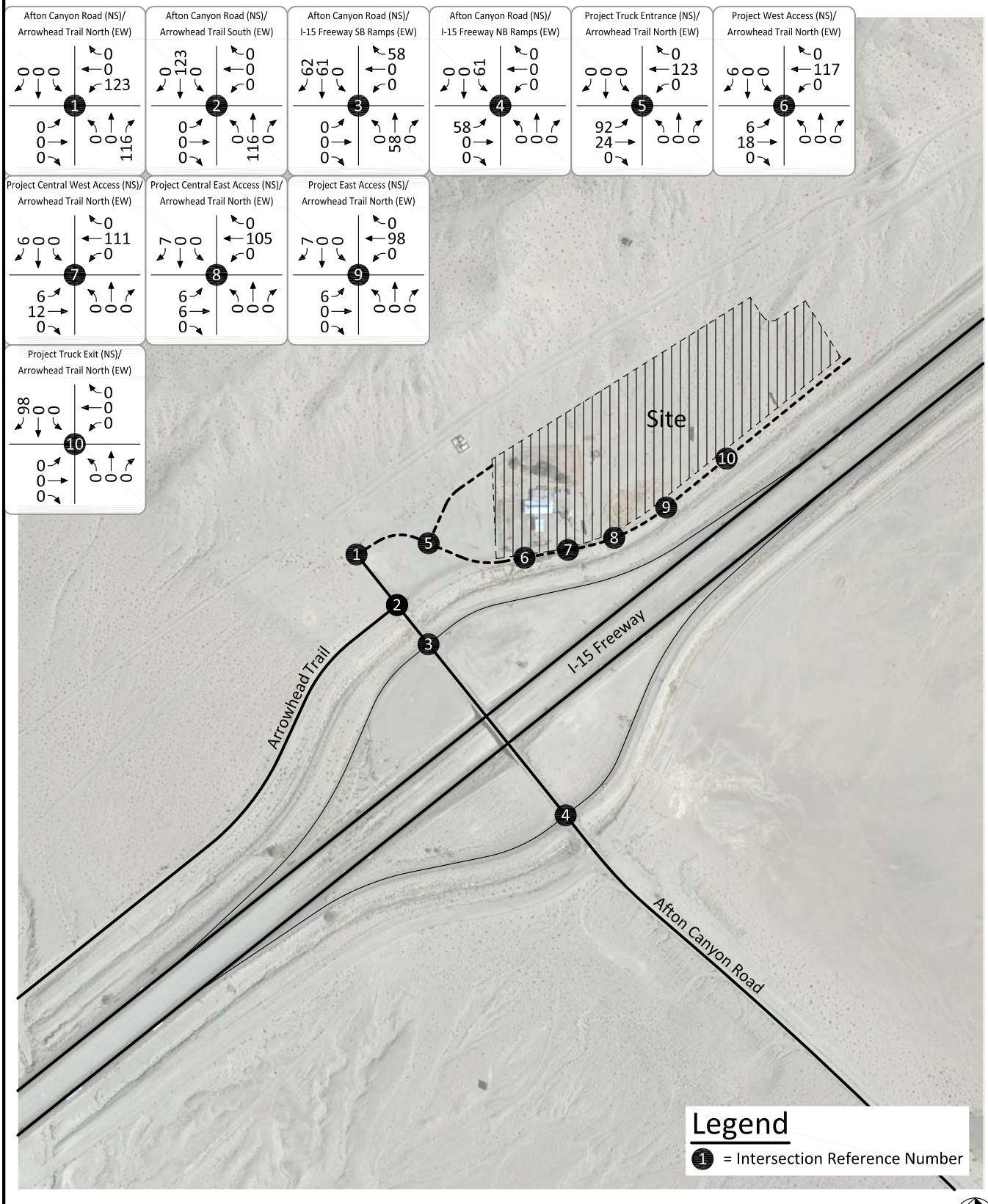


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Figure 12
Project Friday Evening Peak Hour Intersection Turning Movement Volumes

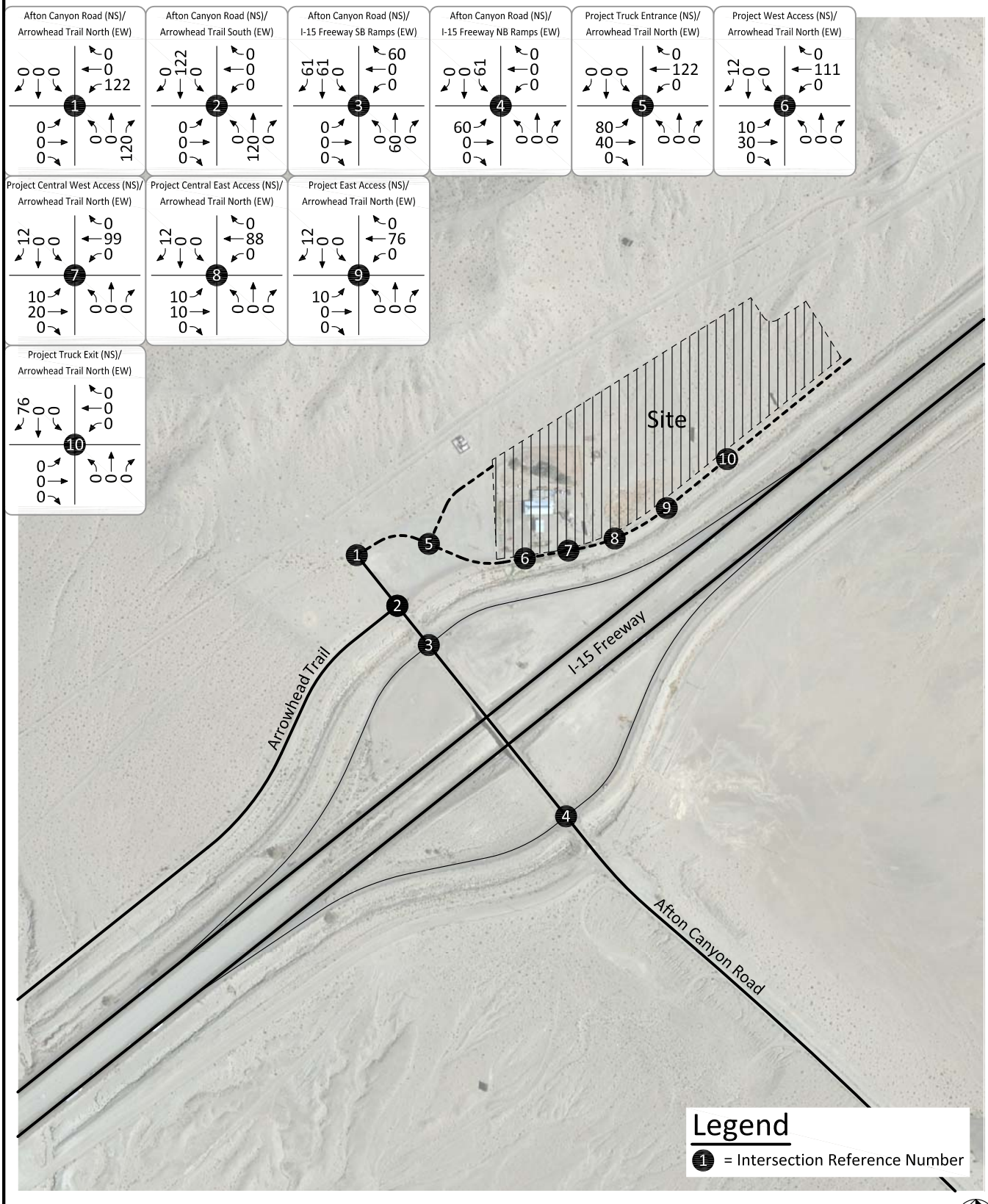


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Figure 13
Project Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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IV. FUTURE CONDITIONS

A. Future Volumes

As described within Section I.C., the Year 2040 average daily traffic volume forecasts with the project are developed using a growth increment process based on volumes predicted by the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 traffic models. The growth increment for Year 2040 on each roadway segment is the increase in San Bernardino Transportation Analysis Model volumes from existing Year 2015 to Year 2040. The final Year 2040 roadway segment volume used for analysis purposes is then determined by adding the Year 2040 growth increment volume to the existing counted volume.

The Opening Year (2018) traffic projections have been interpolated between Year 2040 traffic volumes and existing traffic volumes utilizing a portion of the growth increment (see Section I.C.). Project traffic volumes for all future projections were estimated using the manual approach.

B. Other Development

Table 3 shows the peak hour vehicle trips generated by the related project in the study area.

Figures 14 to 19 contain the directional distributions of the related projects trips for the proposed land uses. Related projects Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 20 and 21, respectively.

C. Future Level of Service

1. Existing Plus Project

The Existing Plus Project delay and Level of Service for the study area roadway network are shown in Table 3 without and with improvements. Existing Plus Project delay calculation worksheets are provided in Appendix F. Existing Plus Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 22 and 23, respectively.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

2. Opening Year (2018) Without Project

The Opening Year (2018) Without Project delay and Level of Service for the study area roadway network without the proposed project are shown in Table 4. Opening Year (2018) Without Project delay calculation worksheets are provided in Appendix F. Opening Year (2018) Without Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 24 and 25, respectively.

For Opening Year (2018) Without Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

3. Opening Year (2018) With Project

The Opening Year (2018) With Project delay and Level of Service for the study area roadway network are shown in Table 5 without and with improvements. Opening Year (2018) With Project delay calculation worksheets are provided in Appendix F. Opening Year (2018) With Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 26 and 27, respectively.

For Opening Year (2018) With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

4. Year 2040 Without Project

The Year 2040 Without Project delay and Level of Service for the study area roadway network are shown in Table 6. Year 2040 Without Project delay calculation worksheets are provided in Appendix F. Year 2040 Without Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 28 and 29, respectively.

For Year 2040 Without Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

5. Year 2040 With Project

The Year 2040 With Project delay and Level of Service for the study area roadway network are shown in Table 7 without and with improvements. Year 2040 With Project delay calculation worksheets are provided in Appendix F. Year 2040 With Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 30 and 31, respectively.

For Year 2040 With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

Table 3

Other Development Trip Generation[1]

Other Development	Vehicle Type	Friday Evening			Sunday Afternoon		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Truck Stop Center	Cars	24	25	49	40	46	86
	Trucks	91	98	189	79	76	155
Total		115	123	238	119	122	241

[1] Source: KOA Scoping agreement provided by the County of San Bernardino Traffic Engineer.

Table 4

Existing Plus Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail North (EW) - #1	County of San Bernardino	**CSS**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	11.4-B	11.4-B
Arrowhead Trail South (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	9.9-A	10.0-B
I-15 Freeway SB Ramps (EW) - #3	California Department of Transportation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	10.5-B	10.6-B
I-15 Freeway NB Ramps (EW) - #4	California Department of Transportation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	10.5-B	10.4-B
Project Truck Entrance (NS) at:																
Arrowhead Trail North (EW) - #5	County of San Bernardino	**CSS**	0	0	0	0	0	0	**0.5**	**0.5**	0	0	**0.5**	**0.5**	7.6-A	7.6-A
Project West Access (NS) at:																
Arrowhead Trail North (EW) - #6	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.3-A	9.5-A
Project Central West Access (NS) at:																
Arrowhead Trail North (EW) - #7	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.2-A	9.3-A
Project Central East Access (NS) at:																
Arrowhead Trail North (EW) - #8	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.2-A	9.2-A
Project East Access (NS) at:																
Arrowhead Trail North (EW) - #9	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	8.8-A	8.7-A
Project Truck Exit (NS) at:																
Project Truck Exit - #10	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	8.8-A	8.8-A

[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.
L = Left; T = Through; R = Right; **BOLD** = Improvement

[2] Delay and Level of Service have been calculated using the following analysis software: PTV Vistro, Version 4.00-00. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 5

Opening Year (2018) Without Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	8.6-A	8.6-A
I-15 Freeway SB Ramps (EW) - #3	California Department of Transportation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	12.8-B	14.9-B
I-15 Freeway NB Ramps (EW) - #4	California Department of Transportation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	12.6-A	13.2-B

[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.
L = Left; T = Through; R = Right

[2] Delay and Level of Service have been calculated using the following analysis software: PTV Vistro, Version 4.00-00. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 6

Opening Year (2018) With Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail North (EW) - #1	County of San Bernardino	**CSS**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	11.4-B	11.4-B
Arrowhead Trail South (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	10.0-A	10.0-B
I-15 Freeway SB Ramps (EW) - #3	California Department of Transportation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	16.2-C	20.1-C
I-15 Freeway NB Ramps (EW) - #4	California Department of Transportation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	15.6-C	16.8-C
Project Truck Entrance (NS) at:																
Arrowhead Trail North (EW) - #5	County of San Bernardino	**CSS**	0	0	0	0	0	0	**0.5**	**0.5**	0	0	**0.5**	**0.5**	7.6-A	7.6-A
Project West Access (NS) at:																
Arrowhead Trail North (EW) - #6	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.3-A	9.5-A
Project Central West Access (NS) at:																
Arrowhead Trail North (EW) - #7	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.2-A	9.3-A
Project Central East Access (NS) at:																
Arrowhead Trail North (EW) - #8	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.2-A	9.2-A
Project East Access (NS) at:																
Arrowhead Trail North (EW) - #9	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	8.8-A	8.7-A
Project Truck Exit (NS) at:																
Project Truck Exit - #10	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	8.8-A	8.8-A

[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.
L = Left; T = Through; R = Right; **BOLD** = Improvement

[2] Delay and Level of Service have been calculated using the following analysis software: PTV Vistro, Version 4.00-00. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 7

Year 2040 Without Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	8.6-A	8.6-A
I-15 Freeway SB Ramps (EW) - #3	California Department of Transportation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	13.1-B	15.3-C
I-15 Freeway NB Ramps (EW) - #4	California Department of Transportation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	12.7-B	13.5-B

[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.
L = Left; T = Through; R = Right

[2] Delay and Level of Service have been calculated using the following analysis software: PTV Vistro, Version 4.00-00. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 8

Year 2040 With Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail North (EW) - #1	County of San Bernardino	**CSS**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	11.4-B	11.4-B
Arrowhead Trail South (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	10.0-A	10.0-B
I-15 Freeway SB Ramps (EW) - #3	California Department of Transportation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	16.7-C	20.8-C
I-15 Freeway NB Ramps (EW) - #4	California Department of Transportation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	15.9-C	17.3-C
Project Truck Entrance (NS) at:																
Arrowhead Trail North (EW) - #5	County of San Bernardino	**CSS**	0	0	0	0	0	0	**0.5**	**0.5**	0	0	**0.5**	**0.5**	7.6-A	7.6-A
Project West Access (NS) at:																
Arrowhead Trail North (EW) - #6	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.3-A	9.5-A
Project Central West Access (NS) at:																
Arrowhead Trail North (EW) - #7	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.2-A	9.3-A
Project Central East Access (NS) at:																
Arrowhead Trail North (EW) - #8	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	9.2-A	9.2-A
Project East Access (NS) at:																
Arrowhead Trail North (EW) - #9	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	8.8-A	8.7-A
Project Truck Exit (NS) at:																
Project Truck Exit - #10	County of San Bernardino	**CSS**	0	0	0	**0.5**	0	**0.5**	**0.5**	**0.5**	0	0	**0.5**	**0.5**	8.8-A	8.8-A

[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.
L = Left; T = Through; R = Right; **BOLD** = Improvement

[2] Delay and level of service has been calculated using the following analysis software: PTV Vistro, Version 4.00-00. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Figure 14
Other Development Outbound Trip Distribution - Truck Stop Center -
Friday Evening - Cars



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Figure 15
Other Development Inbound Trip Distribution - Truck Stop Center -
Friday Evening - Cars



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Figure 16
Other Development Outbound Trip Distribution - Truck Stop Center -
Sunday Mid-day - Cars

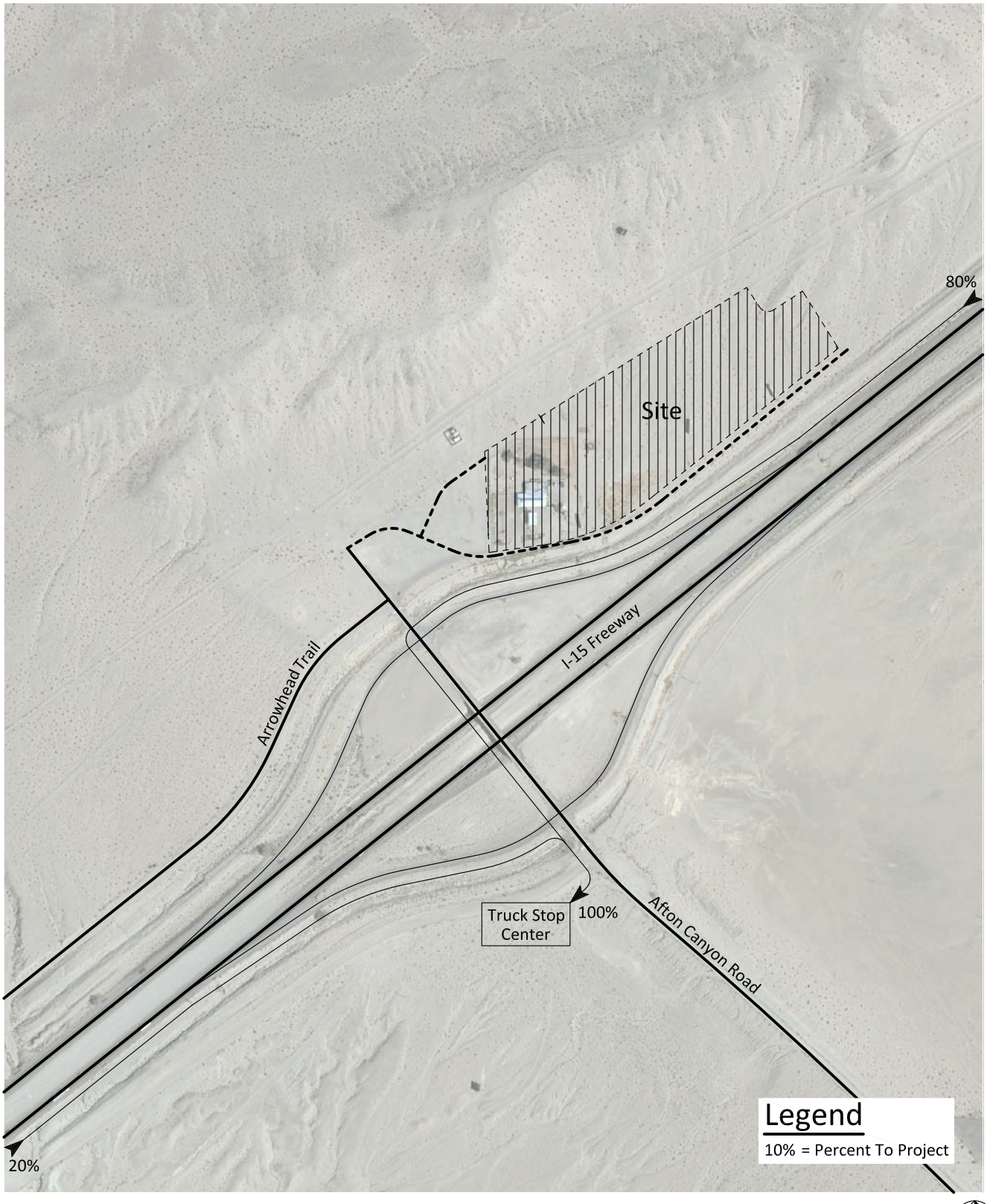


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Figure 17
Other Development Inbound Trip Distribution - Truck Stop Center -
Sunday Mid-day - Cars



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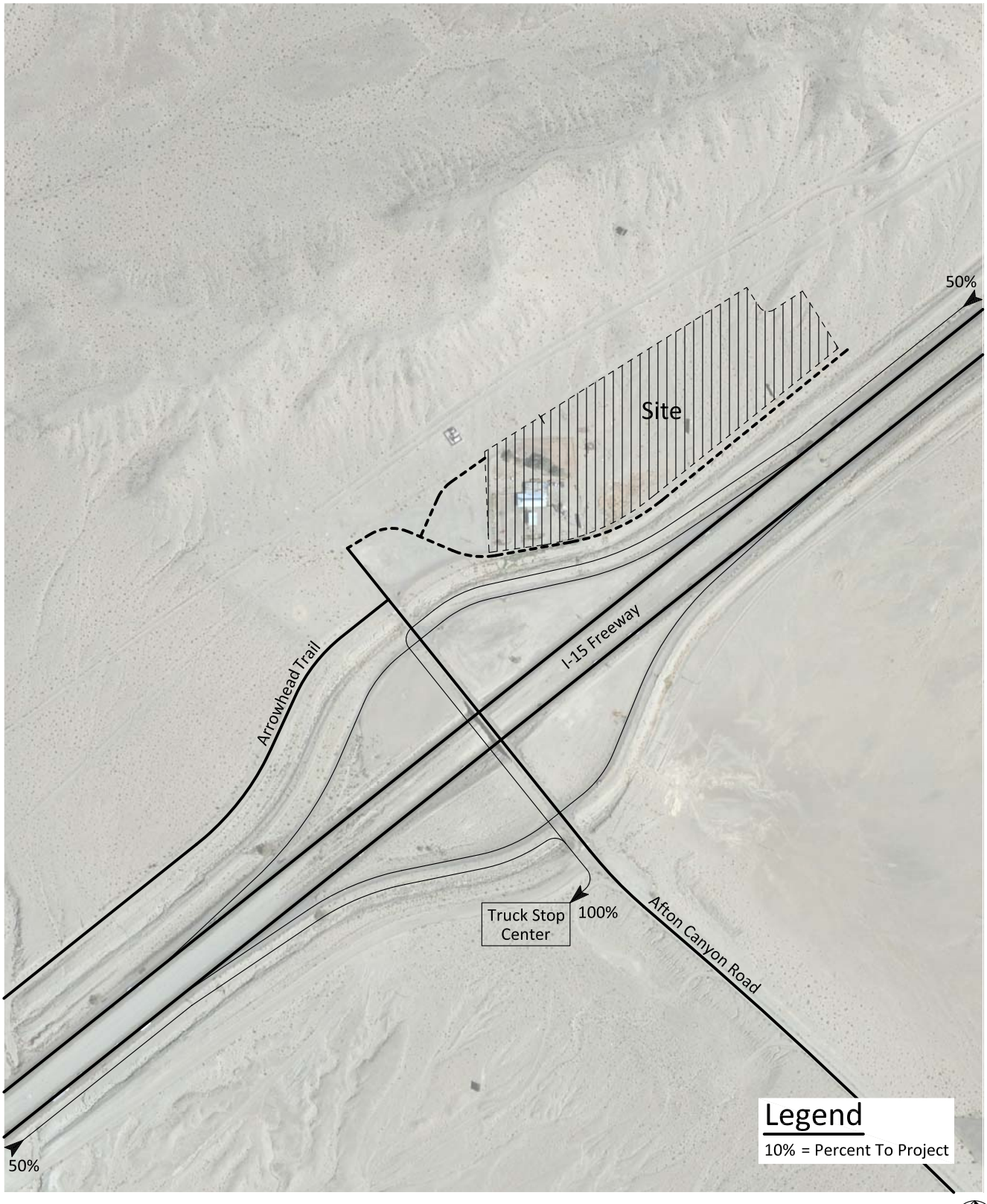
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Figure 18
Other Development Outbound Trip Distribution - Truck Stop Center - Trucks



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Figure 19
Other Development Inbound Trip Distribution - Truck Stop Center - Trucks

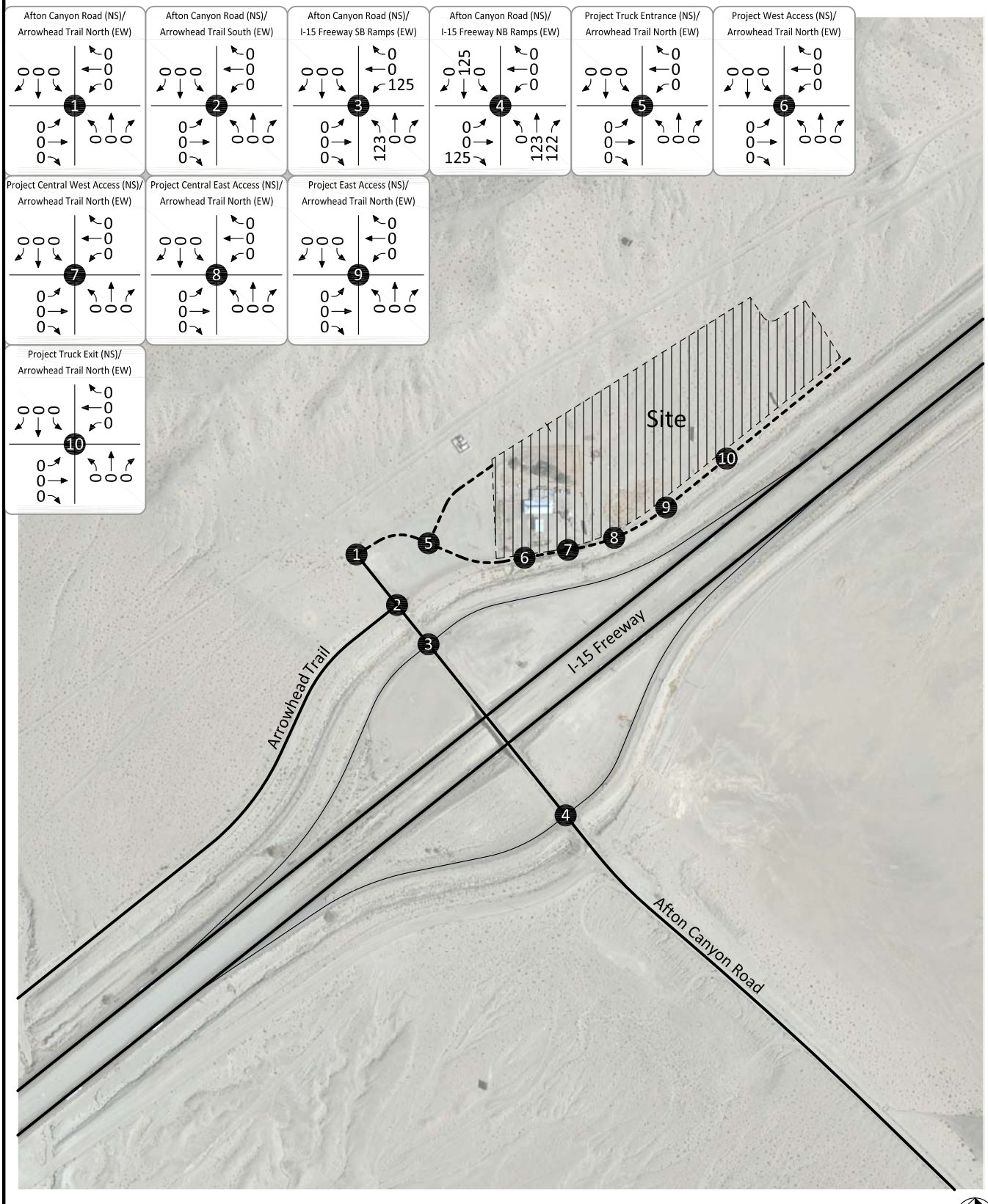


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Figure 20
Other Development
Friday Evening Peak Hour Intersection Turning Movement Volumes

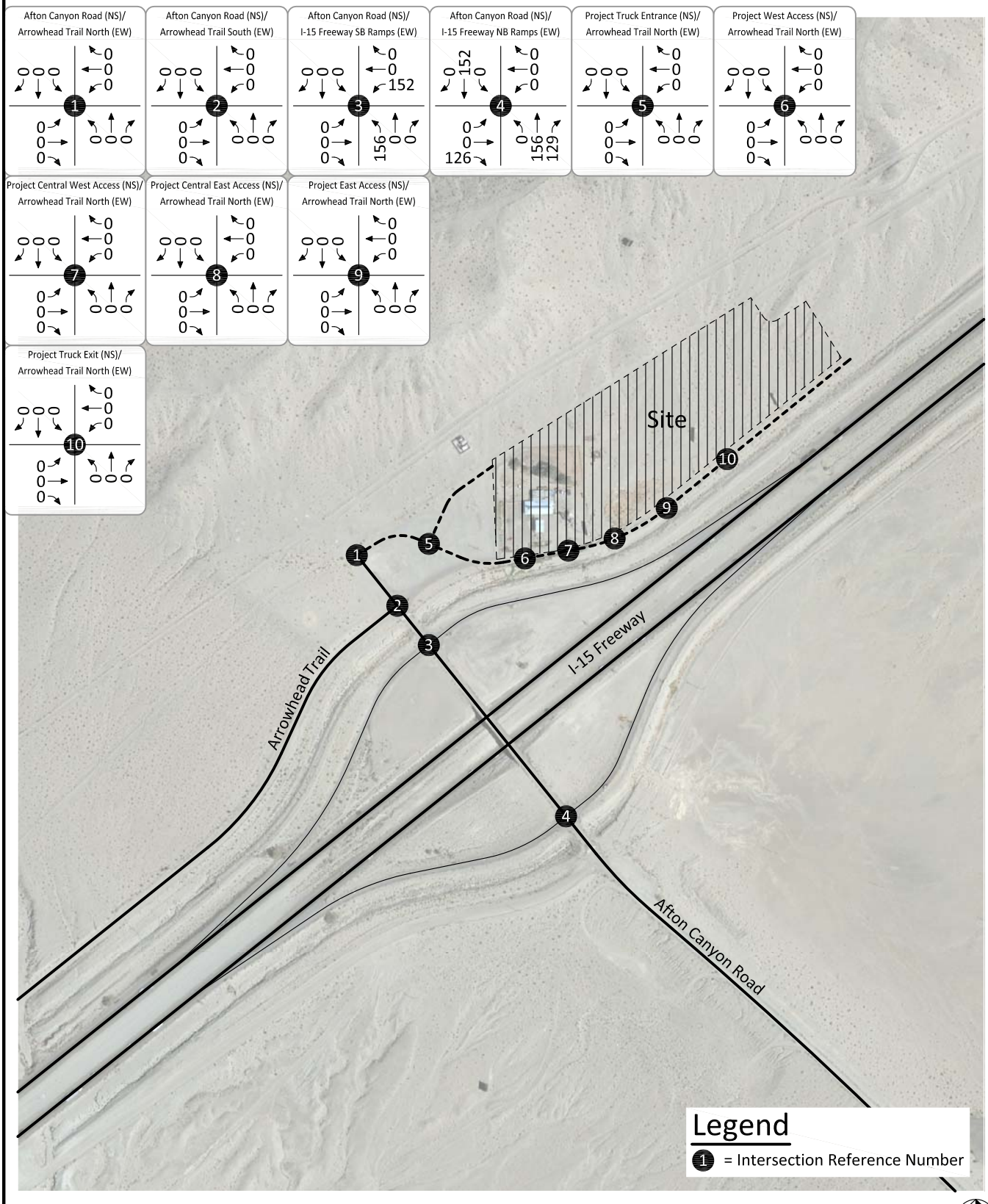


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Figure 21
Other Development
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

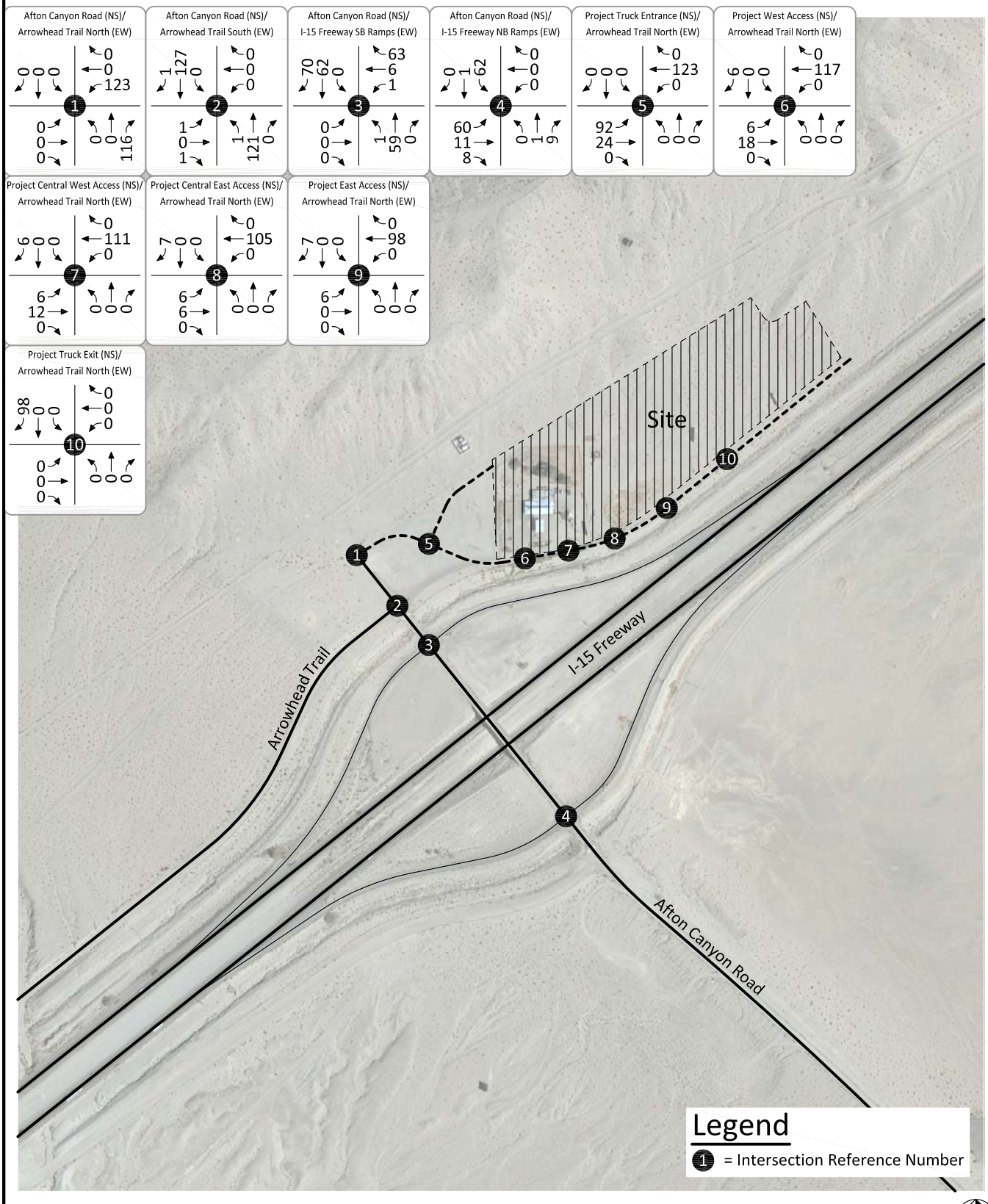


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Figure 22
Existing Plus Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

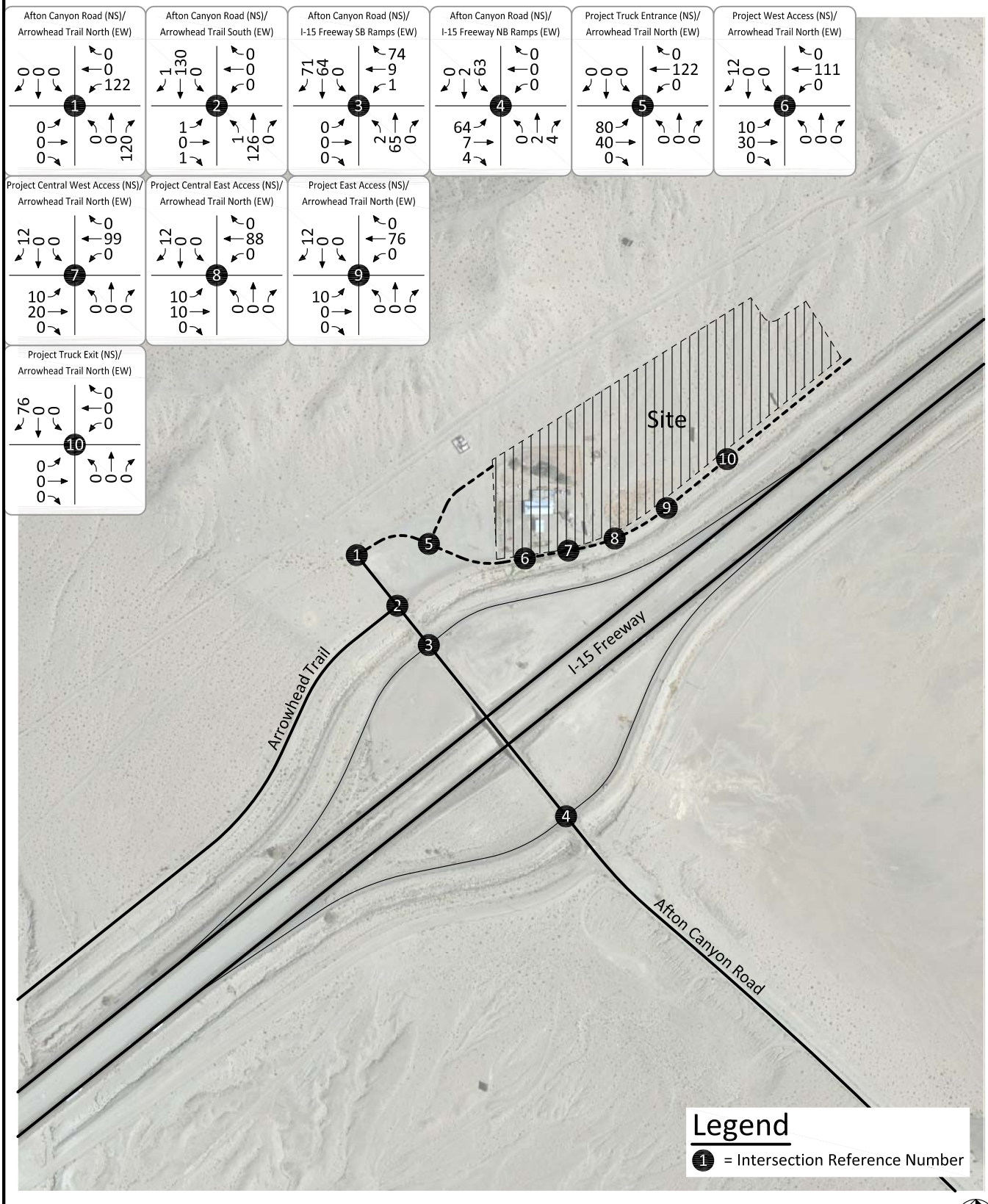


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Figure 23
Existing Plus Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

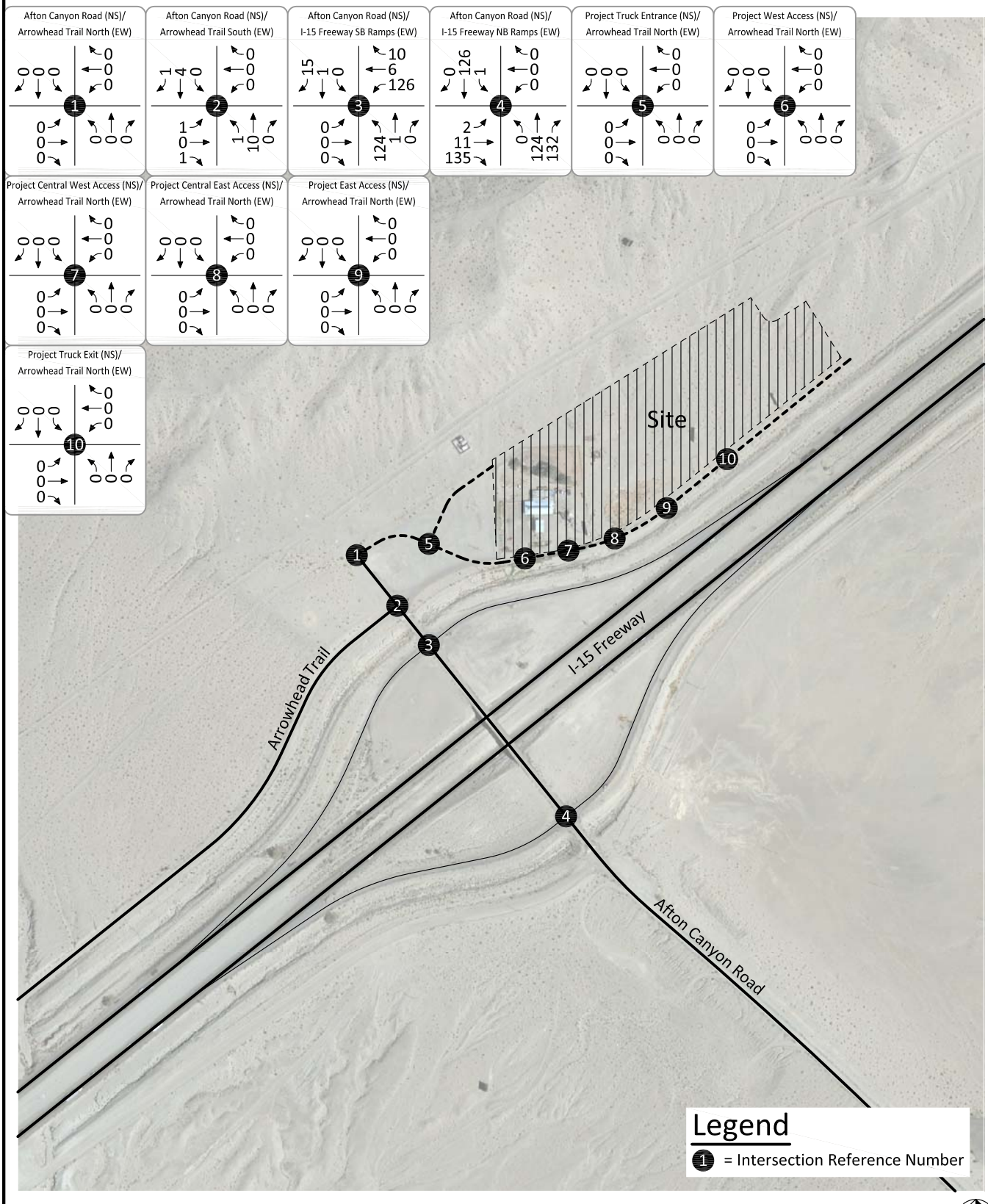


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OVER 40 YEARS OF EXCELLENT SERVICE

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Figure 24
Opening Year (2018) Without Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

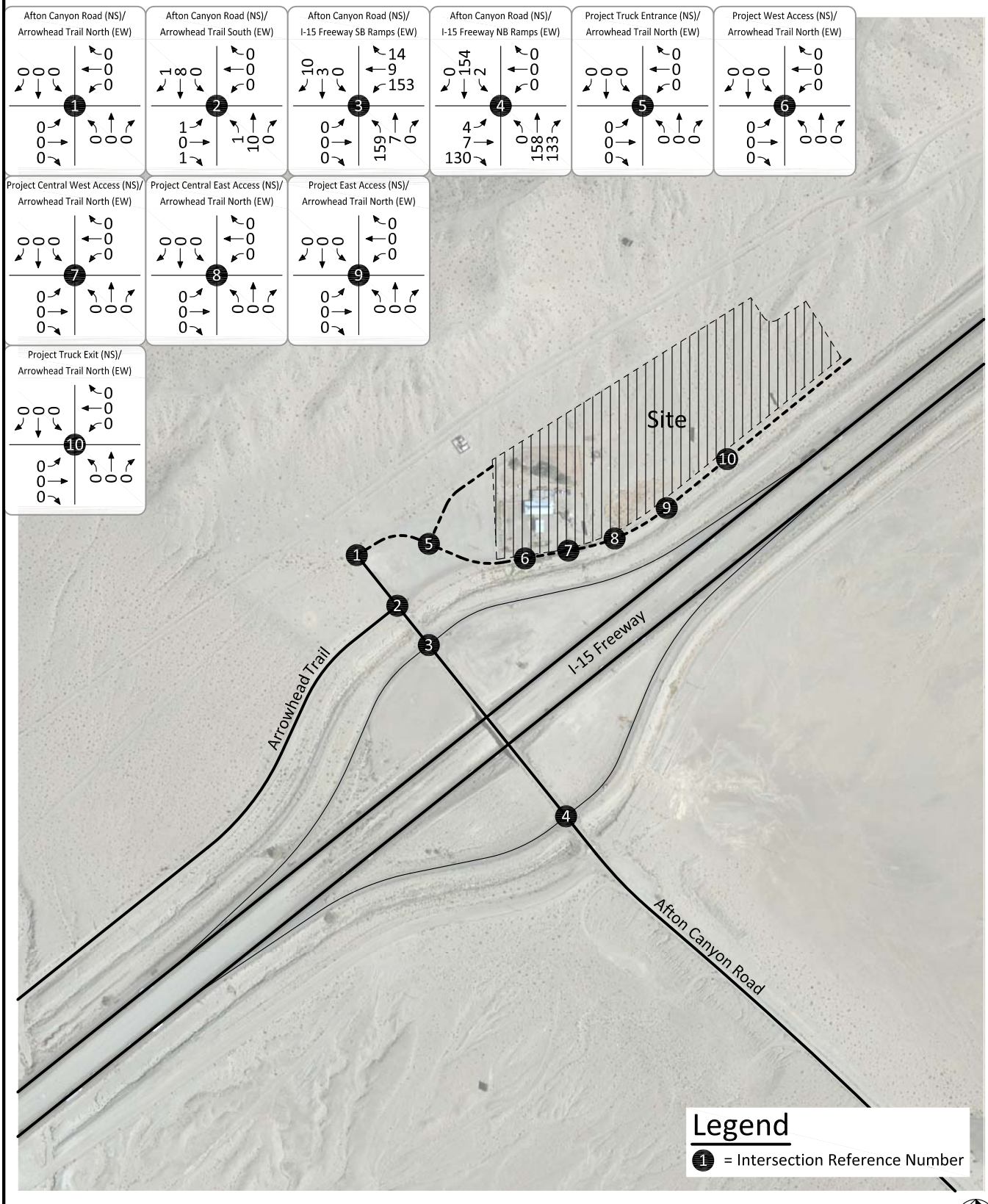


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Figure 25
Opening Year (2018) Without Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

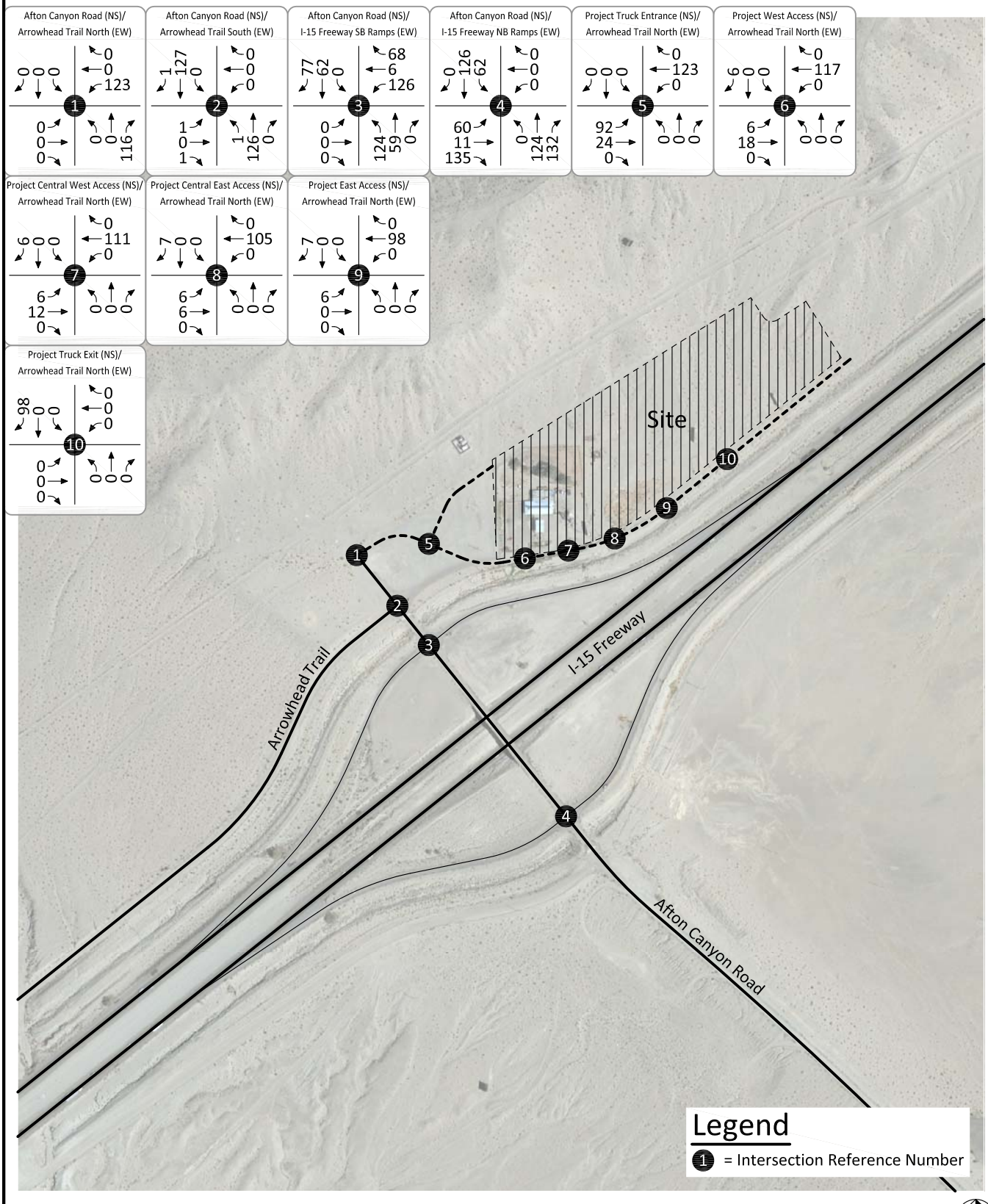


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OVER 40 YEARS OF EXCELLENT SERVICE

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Figure 26
Opening Year (2018) With Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

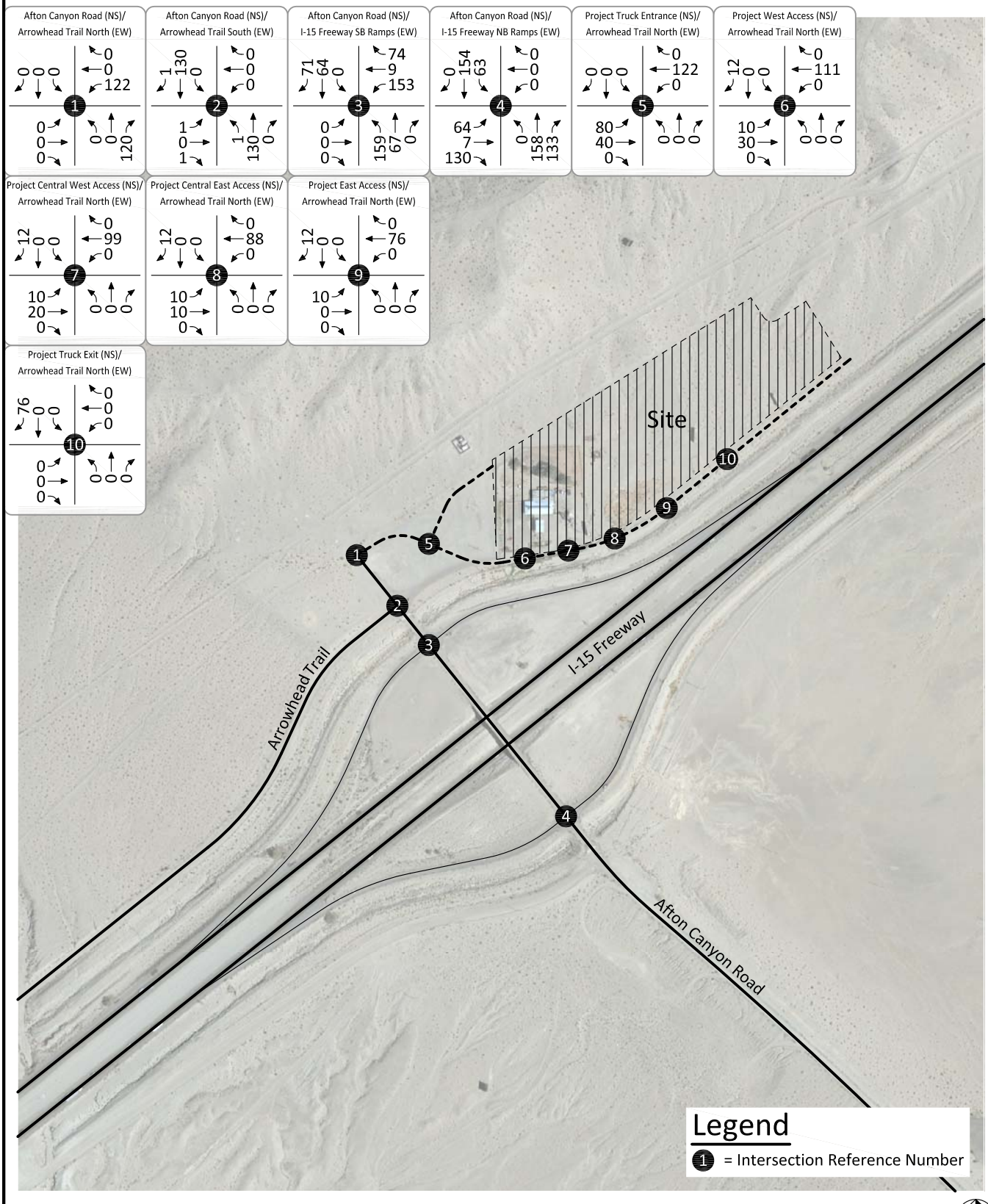


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Figure 27
Opening Year (2018) With Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

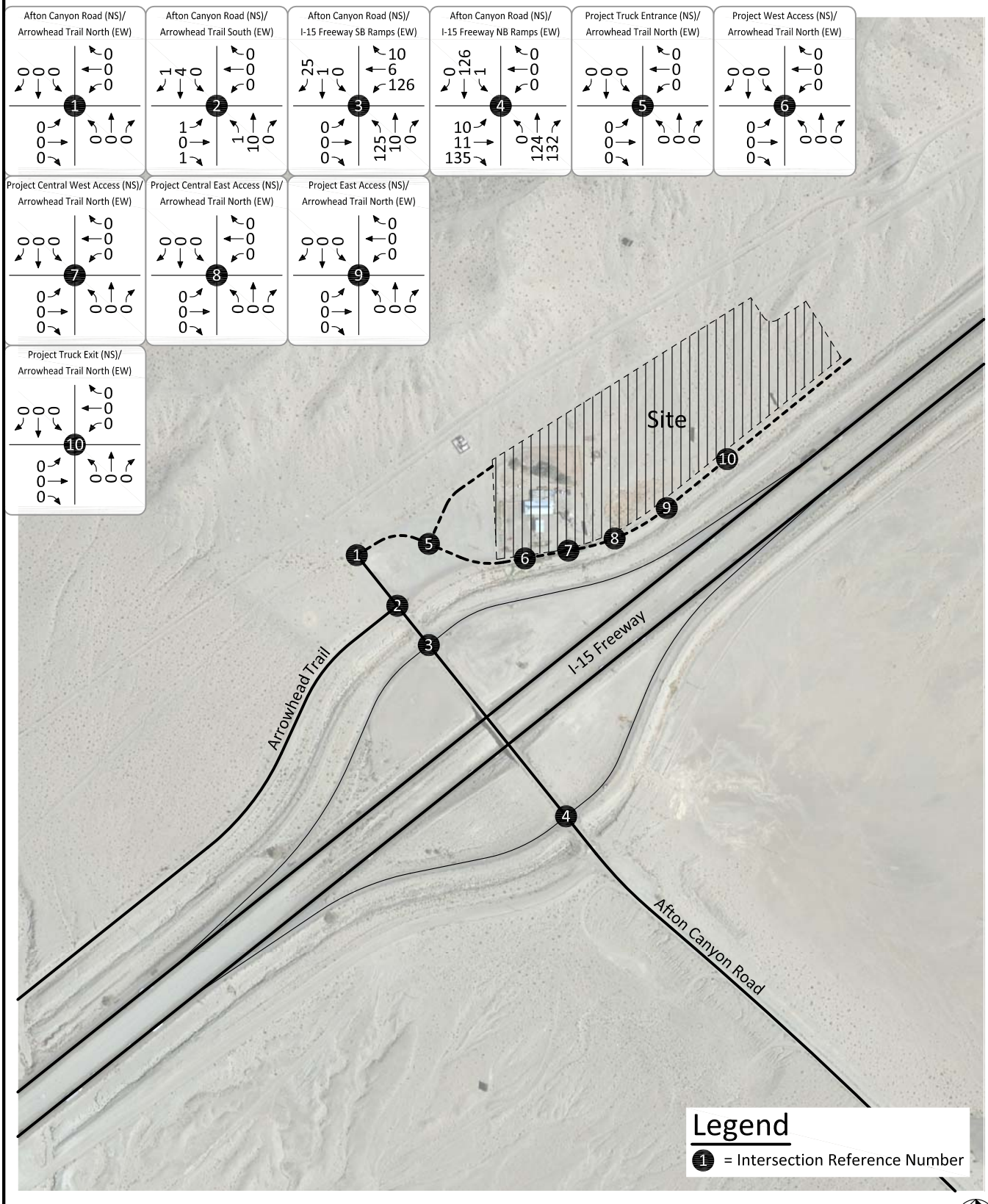


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Figure 28
Year 2040 Without Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

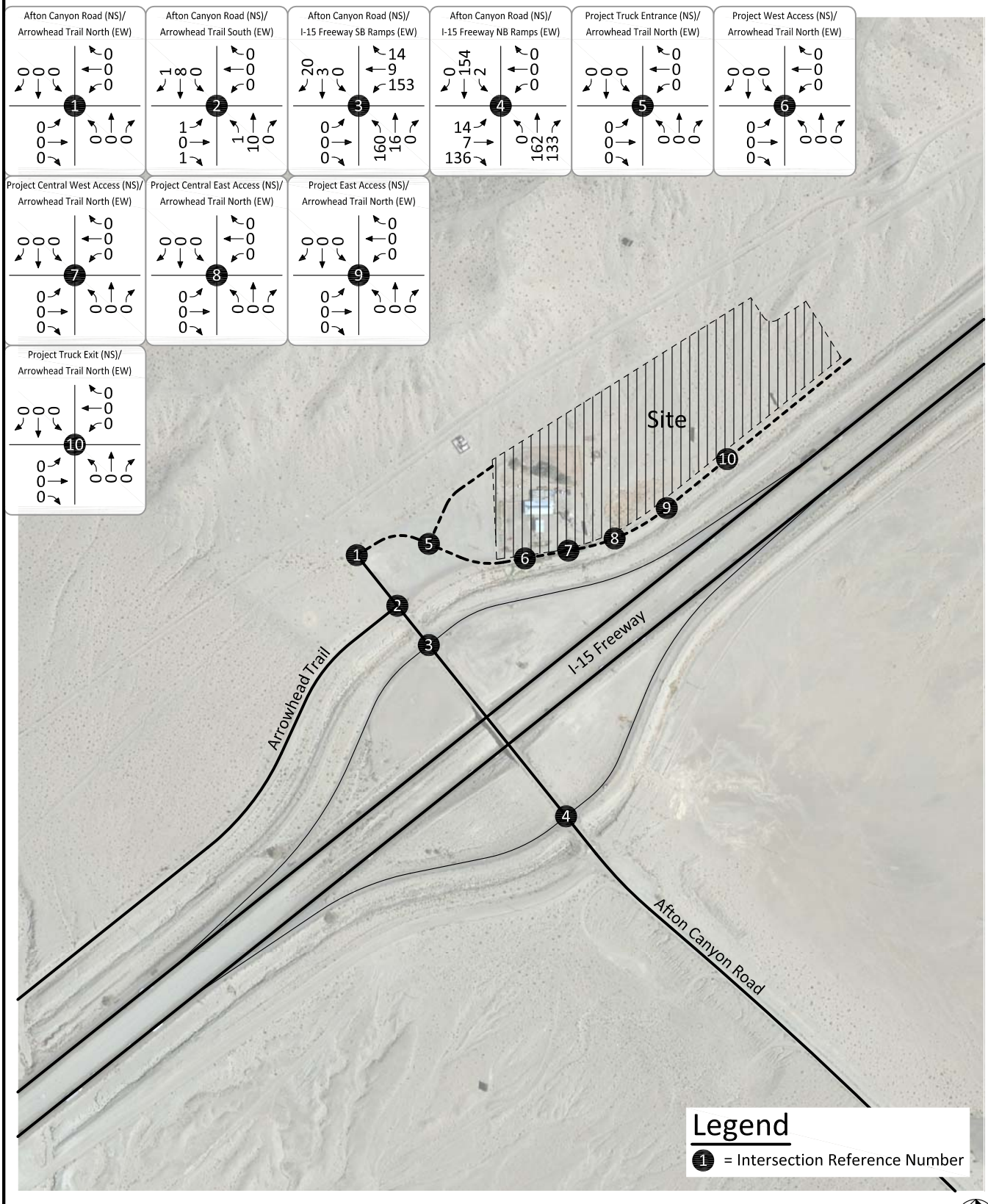


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Figure 29
Year 2040 Without Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

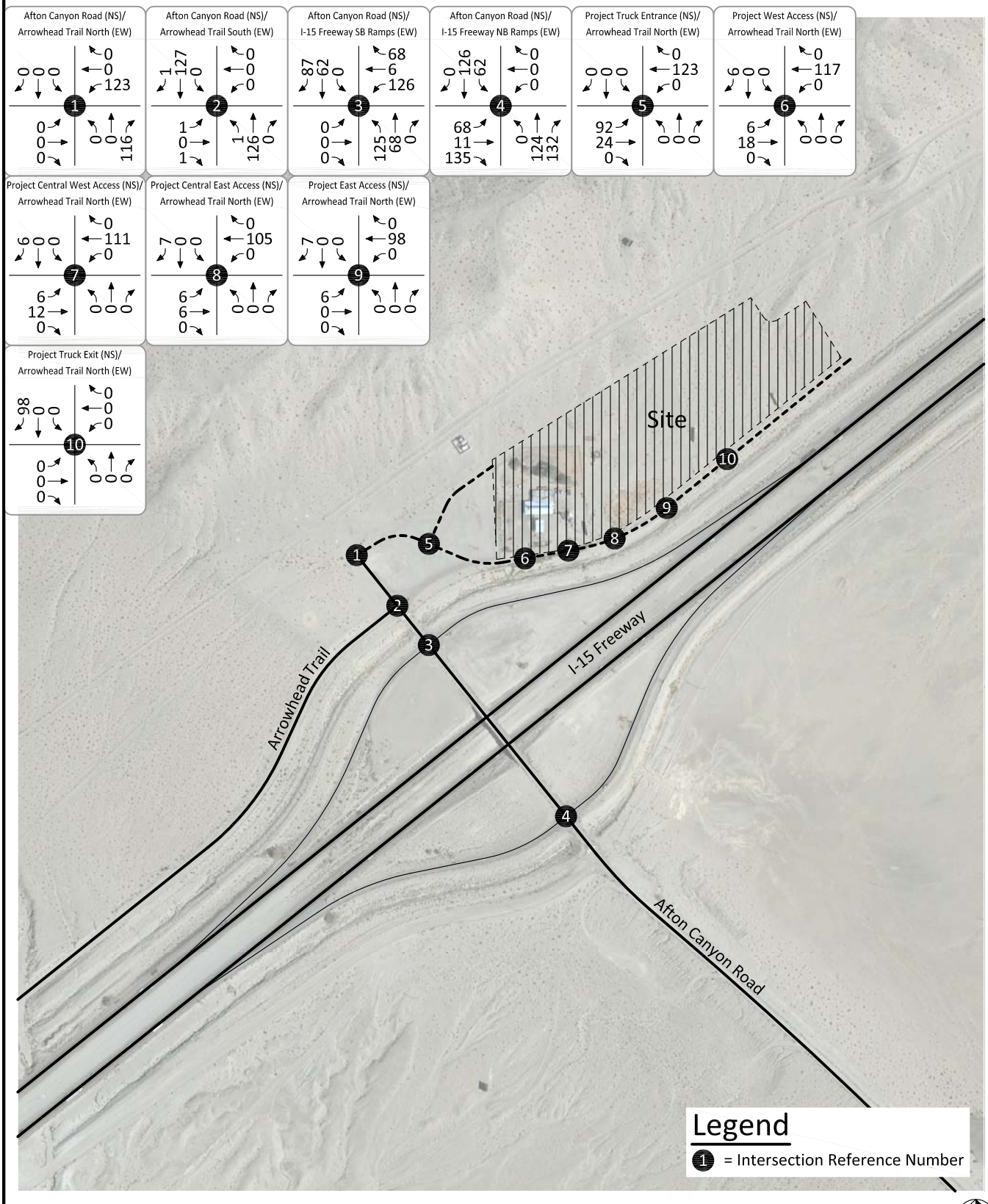


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JN 6131b

Figure 30
Year 2040 With Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

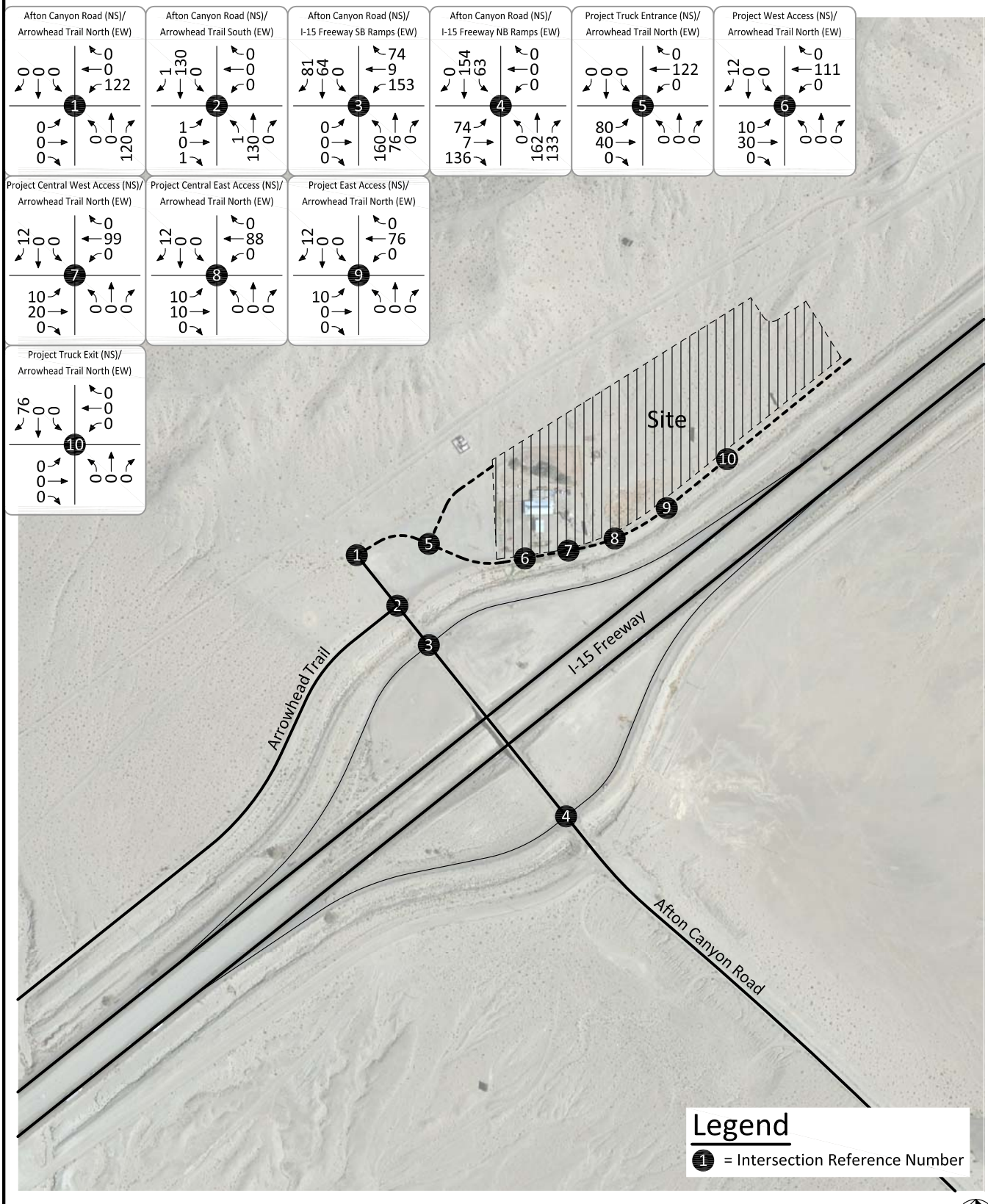


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Figure 31
Year 2040 With Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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V. CONCLUSIONS AND RECOMMENDATIONS

A. Summary

The traffic issues related to the proposed land uses and development have been evaluated in the context of the California Environmental Quality Act.

The County of San Bernardino is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. This report analyzes traffic impacts for the anticipated opening date with full occupancy of the development in Year 2018, at which time it will be generating trips at its full potential, and for the current traffic forecast year, which is the Year 2040.

A series of scoping discussions were conducted with the County of San Bernardino and the California Department of Transportation to define the desired analysis locations for each future analysis year. In addition, the San Bernardino Associated Governments staff has also been contacted to discuss the project.

The average daily traffic volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 average daily traffic volume forecasts (see Appendix E). Traffic model plots are included in Appendix D. This difference defines the growth in traffic over the 28 year period. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between Year 2015 and Year 2040. For this purpose, linear growth between the Year 2012 base condition and the forecast Year 2040 condition was assumed. Since the increment between Year 2015 and Year 2040 is 25 years of the 28 year time frame, a factor of 0.89 (i.e., 25/28) was used.

The Year 2040 without project daily and peak hour directional roadway segment volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 peak hour volumes. The growth increment calculation worksheets are shown in Appendix E. Current peak hour intersection approach/departure data is a necessary input to this approach. The existing traffic count data serves as both the starting point for the refinement process, and also provides important insight into current travel patterns and the relationship between peak hour and daily traffic conditions. The initial turning movement proportions are estimated based upon the relationship of each approach leg's forecast traffic volume to the other legs forecast volumes at the intersection. The initial estimate of turning movement proportions is then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program Report 255. A linear programming algorithm is used to calculate individual turning movements that match the known directional roadway segment volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

Project traffic volumes were then added to the Year 2040 San Bernardino Transportation Analysis Model volumes. Quality control checks and forecast adjustments were performed

as necessary to ensure that all future traffic volume forecasts reflect a minimum of 10% growth over existing traffic volumes. The result of this traffic forecasting procedure is a series of traffic volumes suitable for traffic operations analysis.

B. Existing Conditions

Regional access to the project site is mainly provided by the I-15 Freeway. Local access is provided by various roadways in the vicinity of the site. The north-south roadway which will be most affected by the project is Afton Canyon Road. The east-west roadway which will be most affected by the project is Arrowhead Trail.

The existing delay and Level of Service for the intersection in the vicinity of the project are shown in Table 1. The study area intersections currently operate within acceptable Levels of Service during the peak hours for existing traffic conditions.

C. Project Traffic

Trip generation rates were determined for daily traffic and morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes are determined. The project trip generation is based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012.

As shown in Table 2, the proposed development is projected to generate a total of approximately 5,627 daily vehicle trips, 495 of which will occur during the Friday evening peak hour and 563 of which will occur during the Sunday mid-day peak hour.

The distributions of the project trips were based on existing travel patterns calculated using existing traffic counts. This methodology was approved by the County of San Bernardino Transportation Department and the California Department of Transportation and the California Department of Transportation staff.

D. Future Conditions

An Existing Plus Project, Opening Year (2018) analysis, and Year 2040 analysis are included in this report. Existing Plus Project traffic operations analysis has been completed for Friday evening and Sunday mid-day peak hours and is shown in Table 3. Opening Year (2018) traffic operations analysis has been completed for Friday evening and Sunday mid-day peak hours and is shown in Tables 4 and 5. Year 2040 traffic operations analysis has been completed for Friday evening and Sunday mid-day peak hours and is shown in Tables 6 and 7.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Opening Year (2018) Without Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Opening Year (2018) With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Year 2040 Without Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Year 2040 With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

E. Recommendations

Site-specific circulation and access recommendations are depicted on Figure 32.

1. On-Site Improvements

Construct Afton Canyon Road from the proposed Arrowhead Trail North to the I-15 Freeway SB Ramps at its ultimate cross-section width including landscaping and parkway improvements in conjunction with development.

The project site should provide sufficient parking spaces to meet County of San Bernardino parking code requirements in order to service on-site parking demand.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

Sight distance at each project access should be reviewed with respect to California Department of Transportation/County of San Bernardino standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

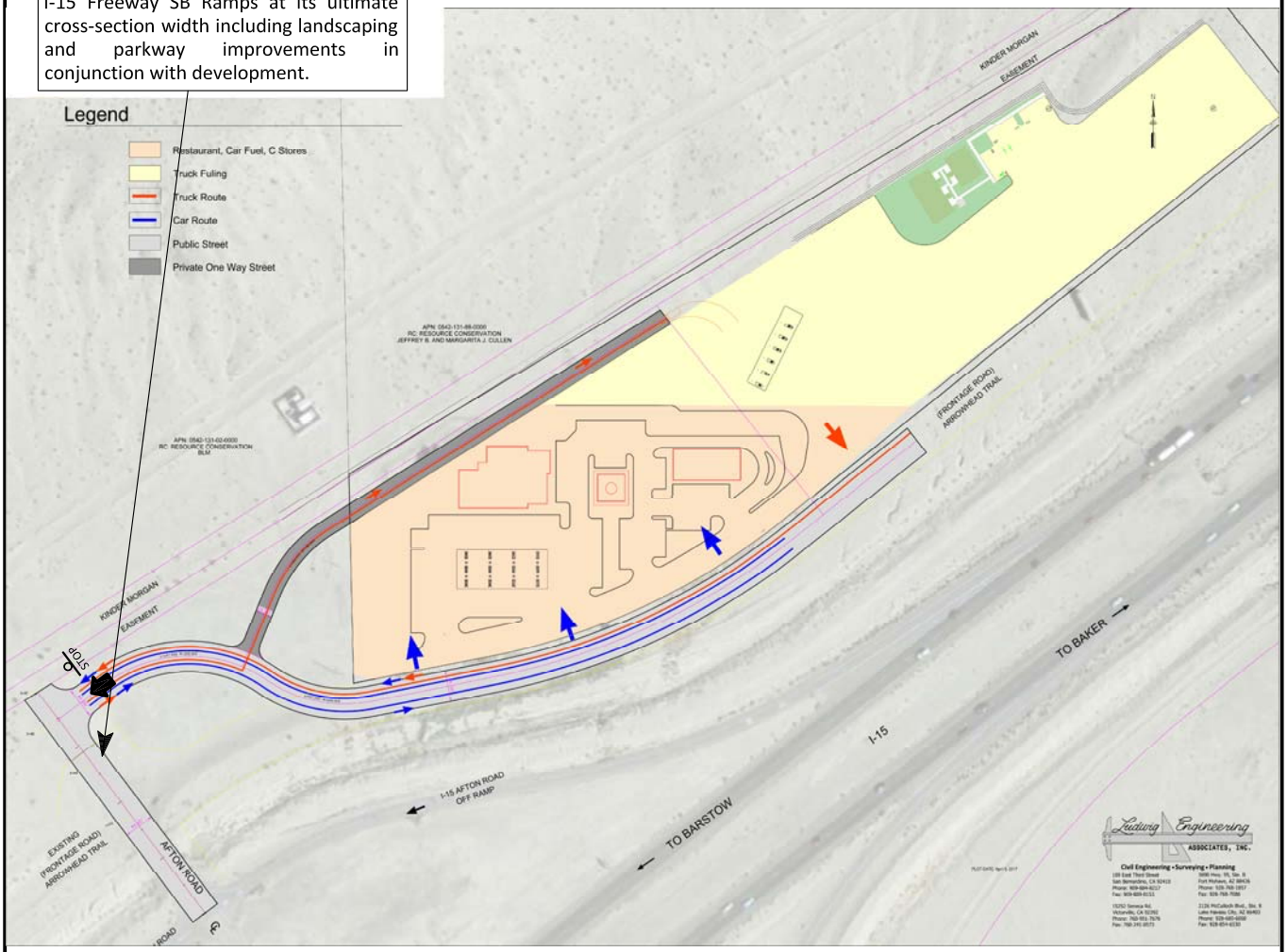
Based on discussions with the County of San Bernardino and the California Department of Transportation, a frontage road will be constructed along the south side of the project site to provide access to the project site as well as future developments adjacent to the project site. In this analysis, this new frontage road is called Arrowhead Trail North.

2. Off-Site Improvements

As is the case for any roadway design, the County of San Bernardino should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Figure 32
Circulation Recommendations

Construct Afton Canyon Road from the Proposed Arrowhead Trail North to the I-15 Freeway SB Ramps at its ultimate cross-section width including landscaping and parkway improvements in conjunction with development.



The project site should provide sufficient parking spaces to meet County of San Bernardino parking code requirements in order to service on-site parking demand.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

Sight distance at each project access should be reviewed with respect to California Department of Transportation/County of San Bernardino standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

As is the case for any roadway design, the County of San Bernardino should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Based on discussions with the County of San Bernardino and the California Department of Transportation, a frontage road will be constructed along the south side of the project site to provide access to the project site as well as future developments adjacent to the project site. In this analysis, this new frontage road is called Arrowhead Trail North.

Legend

STOP = Stop Sign

= Full Access Driveway

APPENDICES

Appendix A – Glossary of Transportation Terms

Appendix B – Scoping Agreement

Appendix C – Traffic Count Worksheets

Appendix D – San Bernardino Transportation Analysis Model Plots

Appendix E – Future Growth Increment Calculation Worksheets

Appendix F – Explanation and Calculation of Intersection Delay

Appendix G – Pass-By Trips

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination (i.e., each trip has two trip-ends). A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Scoping Agreement

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

This Scope for Traffic Study acknowledges San Bernardino County Department of Public Works, Traffic Division requirements of traffic impact analysis for the project and is subject to change:

Project Address:	45307 Afton Canyon Road, Baker, CA 92309		
Project Description:	5 Single-Family Detached Residential Dwelling Units, 3,600 square foot Fast-Food Restaurant with Drive-Through Window and 10 Drive-In Stalls, 22 FP Gasoline/Service Station with Convenience Market, and 26 Alternative Fuel Charging Stations.		
City:	Unincorporated County of San Bernardino		
Project Buildout Year:	2017	**Ambient Growth Rate per Year:**	SBTAM
Closest Intersection (Xtn) to the Project			
Xtn N/S Street Name:	Afton Road [I-15 Freeway 26 mi west of Baker and 38 mi east of Barstow]		
Xtn E/W Street Name:	Project Access		
Thomas Guide Pg+Grid:	N/A	**County Supervisorial District:**	1st

	Engineer	**Developer**
Company:	Kunzman Associates, Inc.	PENINSULA, LP
Name:	Robert Kunzman	Bo Thiara
Address:	1111 Town & Country Rd., Ste. 34	5121 Chapel Drive
City, State, Zip Code:	Orange, CA 92868	Mill Valley, CA 94941
Phone #:	1-714-973-8383	1-415-823-0953
Fax #:	1-714-973-8821	
Email:	robert@traffic-engineer.com	bthiara@peninsulalp.com

By: Robert Kunzman

Print Name:Robert Kunzman **10-20-2015**

Consultant/Developer's Representative **Date**

Reviewed By:

Print Name:

Traffic Divsion Representative **Date**

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

1. Traffic Distribution: Please insert or attach Figure(s) illustrating project trip distribution in percentages and volumes at the study intersections analyzed.

2. Trip Credit: Exact amount of credit subject to approval by Traffic Division.

Transportation Demand Management (TDM)	No	0
Existing ActiveLand Use	Yes	0
Previous Land Use	Yes	0
Internal Trip Reduction	Yes	0
Pass-by Trip Reduction	Yes	0

3. Related Projects: Consultant should check with Planning in the San Bernardino County Department of Land Use Services and planning departments of adjoining Cities. Documentation of the consultation from these agencies shall be included in the traffic study. Related projects list shall be submitted to Traffic Division for our review and approval before being incorporated in the study.

4. Freeway Analysis: The potential traffic impact on the following Freeway(s) must be considered.

No mainline analysis required. Minimal new trips. See Table 1.

The applicant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) and can be obtained from http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tiguide.pdf. If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using HCM procedures. Appendix A of the SANBAG CMP outlines allowable modifications to these procedures. The SANBAG CMP can be viewed online at:
http://www.sanbag.ca.gov/planning/subr_congestion.html

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

5. Trip Generation

Trip Generation Rate(s) Source: ITE Trip Generation	**I – Institute of Transportation Engineers; S – San Diego Traffic Generators; C – County; O – Other:**	**Edition:**	9th

Land Use Code	**Land Use**	**Rate Based on**	**Qty**	***AVTE vs**	**ADT**	Weekday a.m. peak		Weekday p.m. peak		Weekend peak hour	
						In	Out	In	Out	In	Out
210	Single-Family Detached Residential	**I**	5		48			3	2	2	2
935	Fast-Food Restaurant with Drive-Through Window	**I**	3.600		1,786			89	82	126	136
	Fast-Food Drive In Stalls	**O**	10		600			30	30	30	30
945	Gasoline/Service Station with Convenience Market	**I**	22		3,581			149	149	149	149
	Alternative Fuel Station	**O**	26		520			26	26	26	26

* - Average Vehicle Trip Ends.
For ITE Land Uses provide number and name of Land Use. e.g. LU 814 - Variety Store

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

6. Study Intersections: At minimum, the study shall include the following intersections. The list is subject to change after related projects, trip generation and distribution are determined. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

Xtn #	%County	Thomas Guide Page+Grid	NS/EW Street Name	City	Signalized	CMP
1	100%		Afton Canyon Road (NS) at Project North Access (EW)	County	No	
2	100%		Afton Canyon Road (NS) at Project South Access (EW)	County	No	
3	0%		Afton Canyon Road (NS) at I-15 Freeway WB Ramps (EW)	CALTRANS	No	
4	0%		Afton Canyon Road (NS) at I-15 Freeway EB Ramps (EW)	CALTRANS	No	

Cites to be consulted: None

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

7. Other:

Traffic counts may be conducted immediately per the following:
• Must be taken on Tuesdays, Wednesdays or Thursdays (see below).
• Must exclude holidays, and the first weekdays before and after the holiday.
• Must be taken on days when local schools or colleges are in session.
• Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).
• Traffic counts used for other traffic studies in the area shall **NOT** be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.
• New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.
• For all proposed mitigation measures, a conceptual plan for the improvements shall be submitted to our Traffic Studies section for review and approval prior to the approval of the Traffic Impact Analysis. All proposed improvements shall be within the right-of-way.
• For all cumulative mitigation measures, a cost estimate for the improvement shall be submitted.
Peak counts will be conducted on Friday from 4:00 PM to 6:00 PM and on Sunday from 12:00 PM to 3:00 PM. These are the analysis periods to be studied.
SBTAM Model used for forecasting of 2018 and 2040.
Study Scenarios: Existing, Existing Plus Project, Opening Year (2018) Without, Opening Year (2018) With Project, Year 2040 Without Project, and Year 2040 With Project.
Minimum intersection spacing of 150 feet will be adhered to.

This analysis must follow the most current Traffic Impact Study Guidelines for the County as stated in the County's Road Planning and Design Standards.

8. Fees

The County charges on an actual cost basis for review of traffic studies. An initial deposit of $3400 is required at the time that a land use application is filed with the Department of Land Use Services If the review costs exceed the initial deposit, the applicant will be expected to provide additional funds and the review will be suspended until the additional funds are deposited.

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

9. Contact Information:

Please submit a signed copy of this scope for approval by the Traffic Division. Draft scopes may be sent electronically. Final scope with signature should be submitted in person or by US Mail to:

County of San Bernardino
Dept. of Public Works, Traffic Division
825 E. 3rd Street, Rm 115
San Bernardino, CA 92415-0835

Phone: 909-387-8186
Fax: 909-387-7809
Email: epetre@dpw.sbcounty.gov (Ed Petre)

Table 1

Project Trip Generation[1]

Land Use	Quantity[2]	Units[3]	Friday Evening[4]			Sunday Afternoon[4]			Daily[5]
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Single-Family Detached Residential		DU	0.65	0.37	1.02	0.46	0.40	0.86	9.52
Fast-Food Restaurant with Drive-Through Window		TSF	24.60	22.70	47.30	34.92	37.82	72.74	496.12
Fast-Food Drive In Stalls[6]		ST	3.00	3.00	6.00	3.00	3.00	6.00	60.00
Gasoline/Service Station with Convenience Market		FP	6.79	6.78	13.57	6.79	6.78	13.57	162.78
Alternative Fuel Station[7]		CS	1.00	1.00	2.00	1.00	1.00	2.00	20.00
Trips Generated									
Single-Family Detached Residential	5	DU	3	2	5	2	2	4	48
Internal Capture - Residential (25%)[8]			-1	-1	-2	-1	-1	-2	-12
Fast-Food Restaurant with Drive-Through Window	3.600	TSF	89	82	171	126	136	262	1786
Fast-Food Drive In Stalls	10	ST	30	30	60	30	30	60	600
Internal Capture - Restaurant (25%)[9]			-22	-21	-43	-32	-34	-66	-447
Pass-By - Restaurant (95%)			-92	-86	-178	-118	-125	-243	-1,842
Gasoline/Service Station with Convenience Market	22	FP	149	149	298	149	149	298	3,581
Internal Capture - Service Station (25%)[10]			-37	-37	-74	-37	-37	-74	-895
Pass-By - Service Station (95%)			-106	-106	-212	-106	-106	-212	-2,552
Alternative Fuel Station	26	CS	26	26	52	26	26	52	520
Internal Capture - Alternative Fuel Station (50%)[11]			-13	-13	-26	-13	-13	-26	-260
Pass-By - Alternative Fuel Station (90%)			-12	-12	-24	-12	-12	-24	-234
Total Trips Generated			297	289	586	333	343	676	6,535
Total Trips Generated Using Study Area Intersections			224	217	441	250	258	508	4,921
Total Trips Generated Added to Freeway Mainline			14	13	27	14	15	29	293

It should be noted that this facility is completely isolated and adjacent the I-15 Freeway. The site is so remote that the staff lives on-site. Patrons of the facility will likely stop at the facility to fuel their vehicle and obtain food. The site adds virtually no traffic to the freeway but all its traffic utilizes the study area intersections.

[1] Source: Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012, Land Use Categories 210, 934, and 945.

[2] The proposed service station is projected to consist of 16 passenger car fueling positions and 6 diesel truck fueling positions. To remain conservative, the 6 diesel truck fueling positions have been assumed to have the same trip generation as a passenger car fueling position.

[3] DU= Dwelling Unit; TSF = Thousand Square Feet; ST= Stalls; FP = Fueling Positions; CS = Charging Stations

[4] Peak hour trip generation rates for Friday evening and Saturday Mid-day peak periods are not available. Weekday evening peak hour of generator trip generation has been used because it is the highest trip generating period for this land use.

[5] Weekday daily trip generation rates have been used.

[6] It is assumed that each drive in stall will turn over three times per peak hour. It is assumed that the daily total is ten times the peak hour total.

[7] It is assumed that each charging station will turn over one time per peak hour. It is assumed that the daily total is ten times the peak hour total.

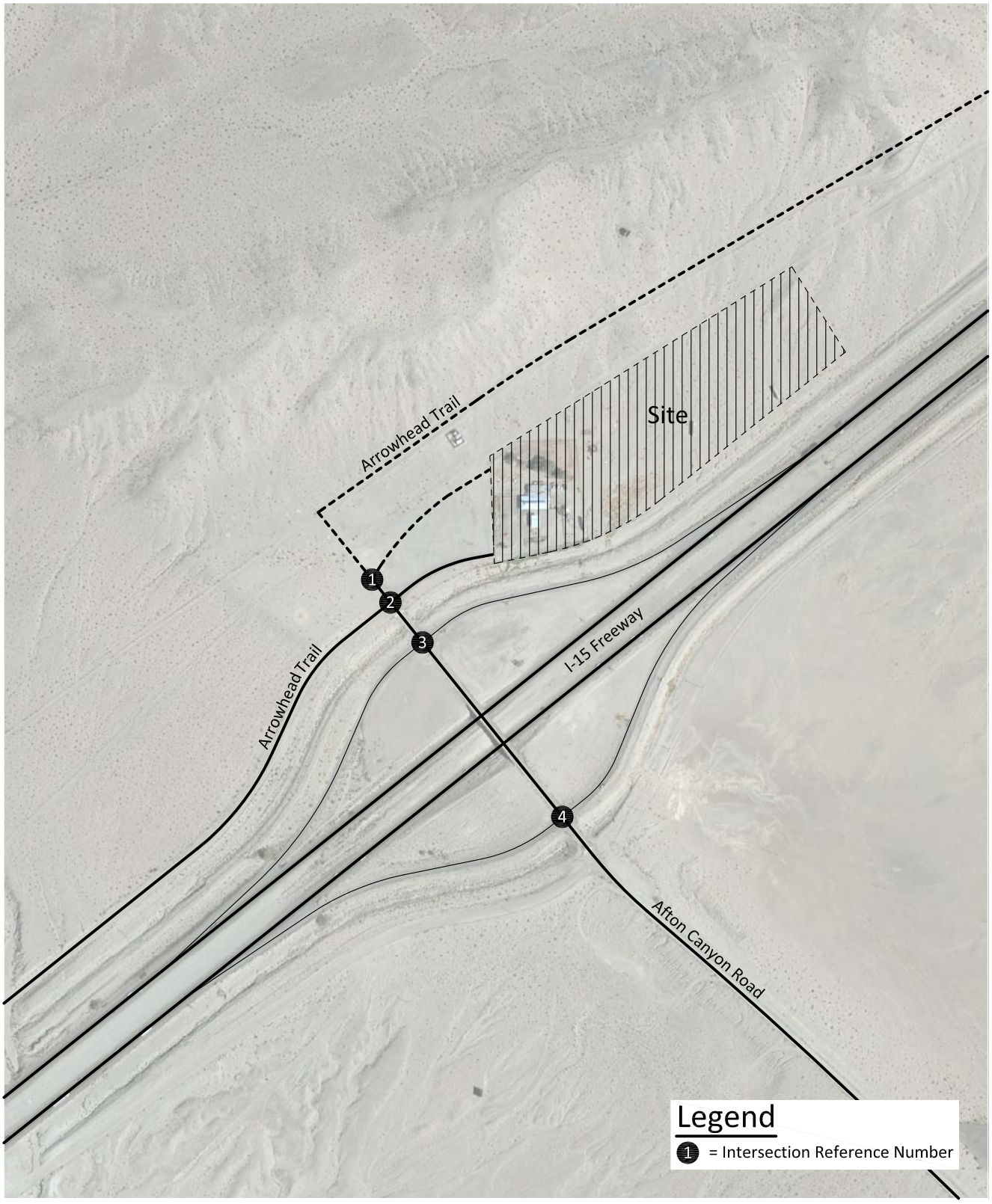
[8] It is assumed that 25 percent of the trips of the residential use will be internal to the site.

[9] It is assumed that approximately 50 percent of the patrons of the restaurants will also utilize the fueling stations. To remain conservative an internal reduction of 25 percent is utilized.

[10] It is assumed that approximately 50 percent of the patrons of the fueling station will also utilize the restaurants. To remain conservative an internal reduction of 25 percent is utilized.

[11] It is assumed that the alternative fuel station will be used passively by patrons of the restaurants. I conservative estimate of 50 percent of the alternative fuel use will be exclusively alternative fuel.

Figure 1
Project Location Map



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Figure 2
Site Plan



Figure 3
Project Outbound Trip Distribution - Cars

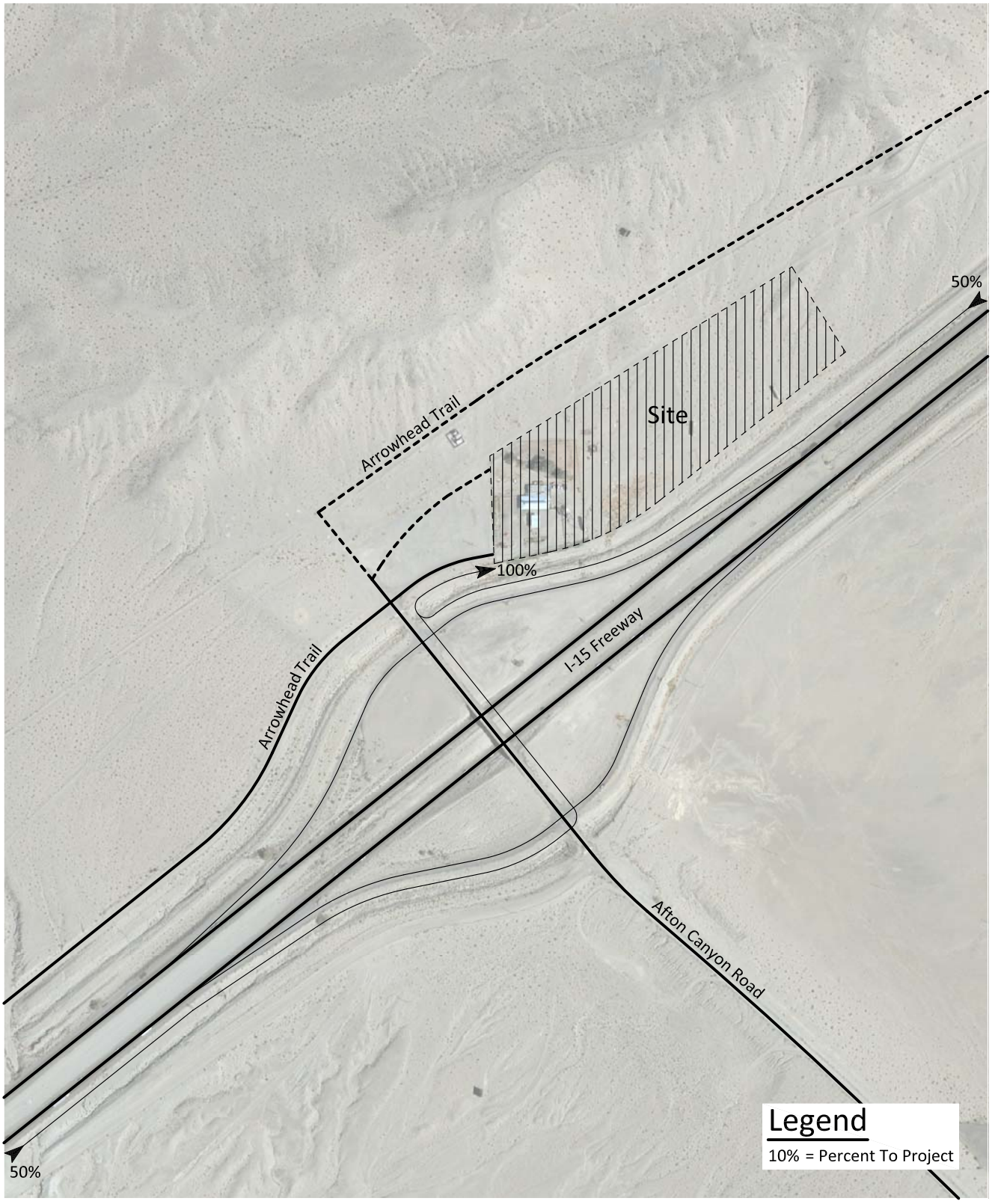


6131/3

KUNZMAN ASSOCIATES, INC.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 4
Project Inbound Trip Distribution - Cars



6131/4

Figure 5
Project Outbound Trip Distribution - Trucks



6131/5

Figure 6
Project Inbound Trip Distribution - Trucks



6131/6

APPENDIX C

Traffic Count Worksheets

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

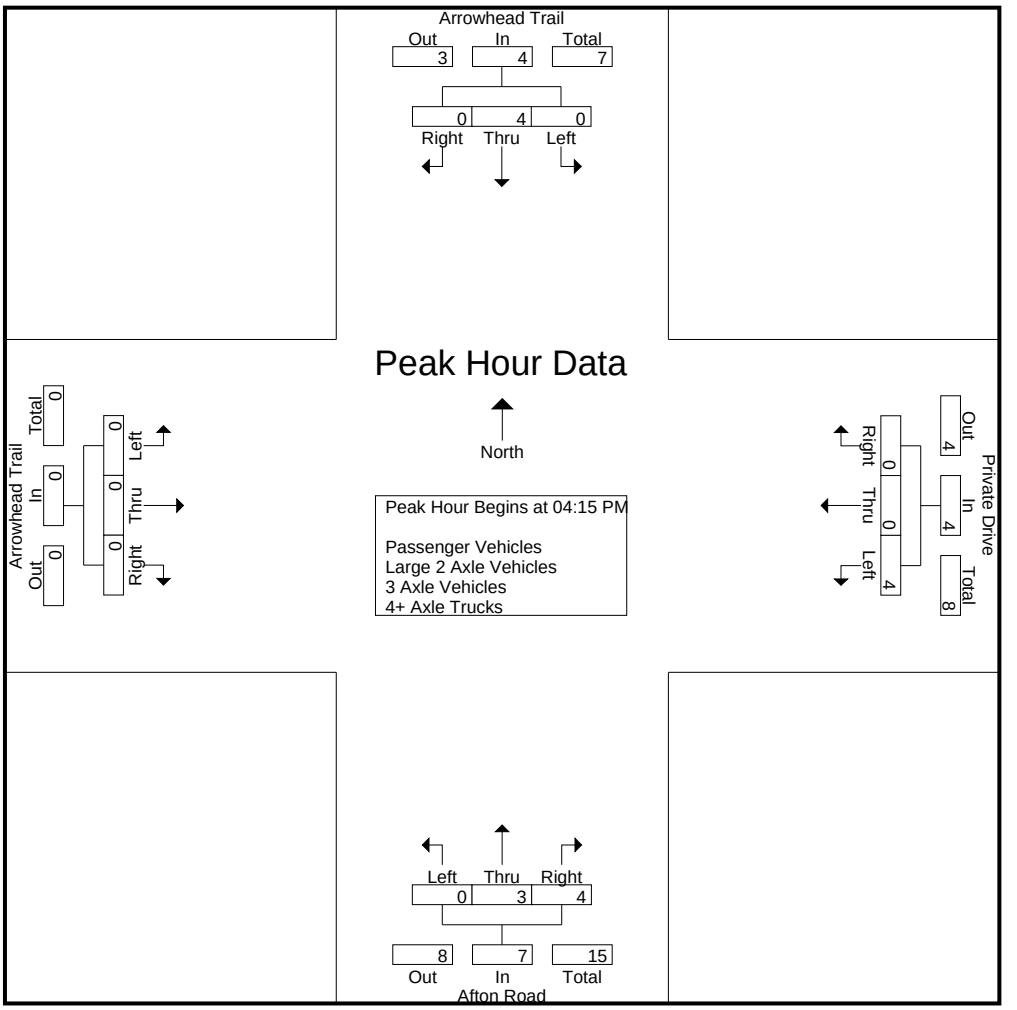
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	2	0	2	0	0	0	0	3
04:15 PM	0	2	0	2	2	0	0	2	0	1	0	1	0	0	0	0	5
04:30 PM	0	2	0	2	1	0	0	1	0	1	2	3	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	4	3	1	0	4	0	4	2	6	0	0	0	0	14
05:00 PM	0	0	0	0	1	0	0	1	0	1	2	3	0	0	0	0	4
05:15 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
05:30 PM	0	1	0	1	1	1	0	2	0	1	1	2	0	0	0	0	5
05:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	2	0	2	5	1	0	6	0	3	4	7	0	0	0	0	15
Grand Total	0	6	0	6	8	2	0	10	0	7	6	13	0	0	0	0	29
Apprch %	0	100	0		80	20	0		0	53.8	46.2		0	0	0		
Total %	0	20.7	0	20.7	27.6	6.9	0	34.5	0	24.1	20.7	44.8	0	0	0	0	
Passenger Vehicles	0	6	0	6	5	2	0	7	0	5	6	11	0	0	0	0	24
% Passenger Vehicles	0	100	0	100	62.5	100	0	70	0	71.4	100	84.6	0	0	0	0	82.8
Large 2 Axle Vehicles	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% Large 2 Axle Vehicles	0	0	0	0	12.5	0	0	10	0	0	0	0	0	0	0	0	3.4
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	2	0	0	2	0	2	0	2	0	0	0	0	4
% 4+ Axle Trucks	0	0	0	0	25	0	0	20	0	28.6	0	15.4	0	0	0	0	13.8

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**2**	0	**2**	**2**	0	0	**2**	0	**1**	0	1	0	0	0	0	5
04:30 PM	0	2	0	2	1	0	0	1	0	1	**2**	**3**	0	0	0	0	**6**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	0	0	1	0	1	2	3	0	0	0	0	4
Total Volume	0	4	0	4	4	0	0	4	0	3	4	7	0	0	0	0	15
% App. Total	0	100	0		100	0	0		0	42.9	57.1		0	0	0		
PHF	.000	.500	.000	.500	.500	.000	.000	.500	.000	.750	.500	.583	.000	.000	.000	.000	.625

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	0	0	0	1	0	0	1	0	**1**	**2**	**3**	0	0	0	0
+15 mins.	0	**2**	0	**2**	1	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	1	**1**	0	**2**	0	1	2	3	0	0	0	0
+45 mins.	0	0	0	0	**2**	0	0	2	0	1	1	2	0	0	0	0
Total Volume	0	4	0	4	5	1	0	6	0	3	5	8	0	0	0	0
% App. Total	0	100	0		83.3	16.7	0		0	37.5	62.5		0	0	0	
PHF	.000	.500	.000	.500	.625	.250	.000	.750	.000	.750	.625	.667	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
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Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles

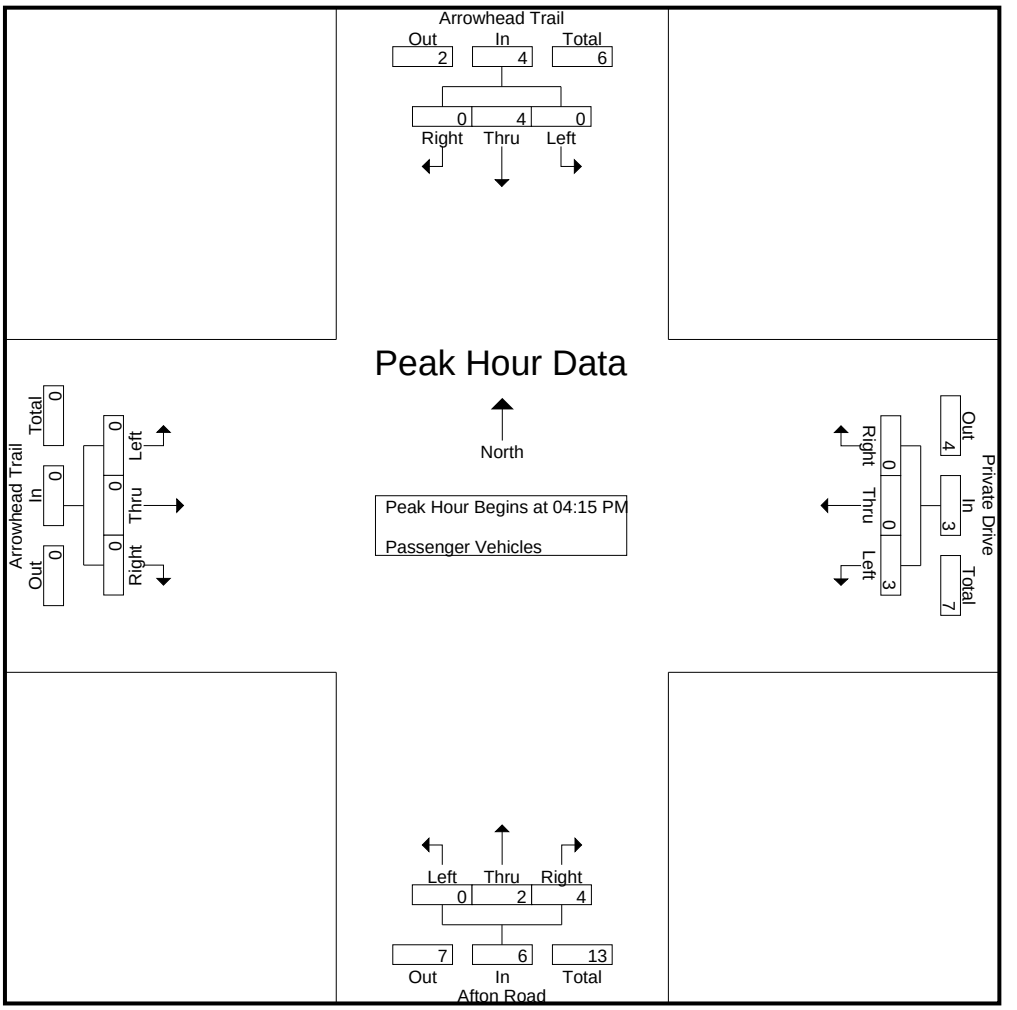
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	2	0	2	0	0	0	0	3
04:15 PM	0	2	0	2	1	0	0	1	0	1	0	1	0	0	0	0	4
04:30 PM	0	2	0	2	1	0	0	1	0	1	2	3	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	4	2	1	0	3	0	4	2	6	0	0	0	0	13
05:00 PM	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0	3
05:15 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
05:30 PM	0	1	0	1	1	1	0	2	0	0	1	1	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	3	1	0	4	0	1	4	5	0	0	0	0	11
Grand Total	0	6	0	6	5	2	0	7	0	5	6	11	0	0	0	0	24
Apprch %	0	100	0		71.4	28.6	0		0	45.5	54.5		0	0	0		
Total %	0	25	0	25	20.8	8.3	0	29.2	0	20.8	25	45.8	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**2**	0	**2**	**1**	0	0	**1**	0	**1**	0	1	0	0	0	0	4
04:30 PM	0	2	0	2	1	0	0	1	0	1	**2**	**3**	0	0	0	0	**6**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0	3
Total Volume	0	4	0	4	3	0	0	3	0	2	4	6	0	0	0	0	13
% App. Total	0	100	0		100	0	0		0	33.3	66.7		0	0	0		
PHF	.000	.500	.000	.500	.750	.000	.000	.750	.000	.500	.500	.500	.000	.000	.000	.000	.542

Counts Unlimited
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County of San Bernardino
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Site Code : 07515579
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**2**	0	**2**	**1**	0	0	**1**	0	**1**	0	1	0	0	0	0
+15 mins.	0	2	0	2	1	0	0	1	0	1	**2**	**3**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0
Total Volume	0	4	0	4	3	0	0	3	0	2	4	6	0	0	0	0
% App. Total	0	100	0		100	0	0		0	33.3	66.7		0	0	0	
PHF	.000	.500	.000	.500	.750	.000	.000	.750	.000	.500	.500	.500	.000	.000	.000	.000

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County of San Bernardino
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Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

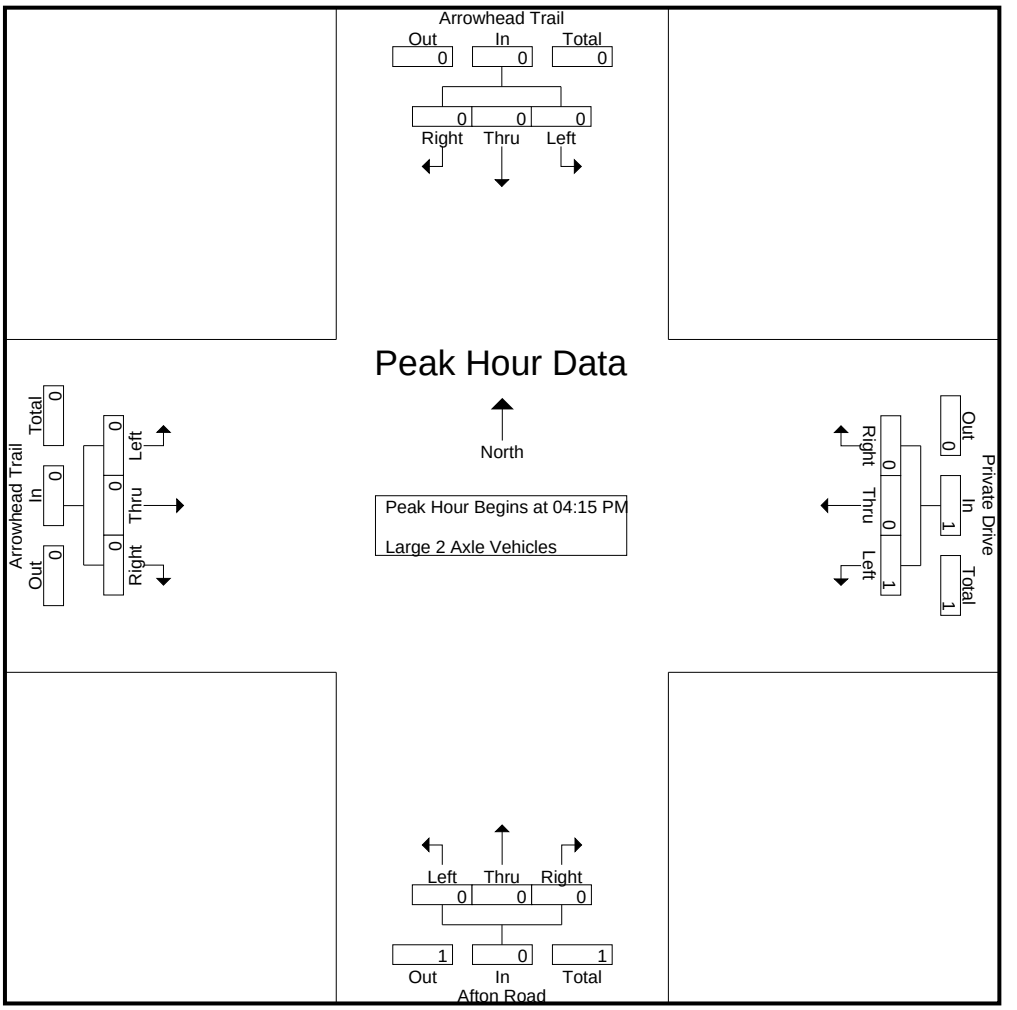
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Apprch %	0	0	0		100	0	0		0	0	0		0	0	0		
Total %	0	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
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Site Code : 07515579
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Page No : 1

Groups Printed- 3 Axle Vehicles

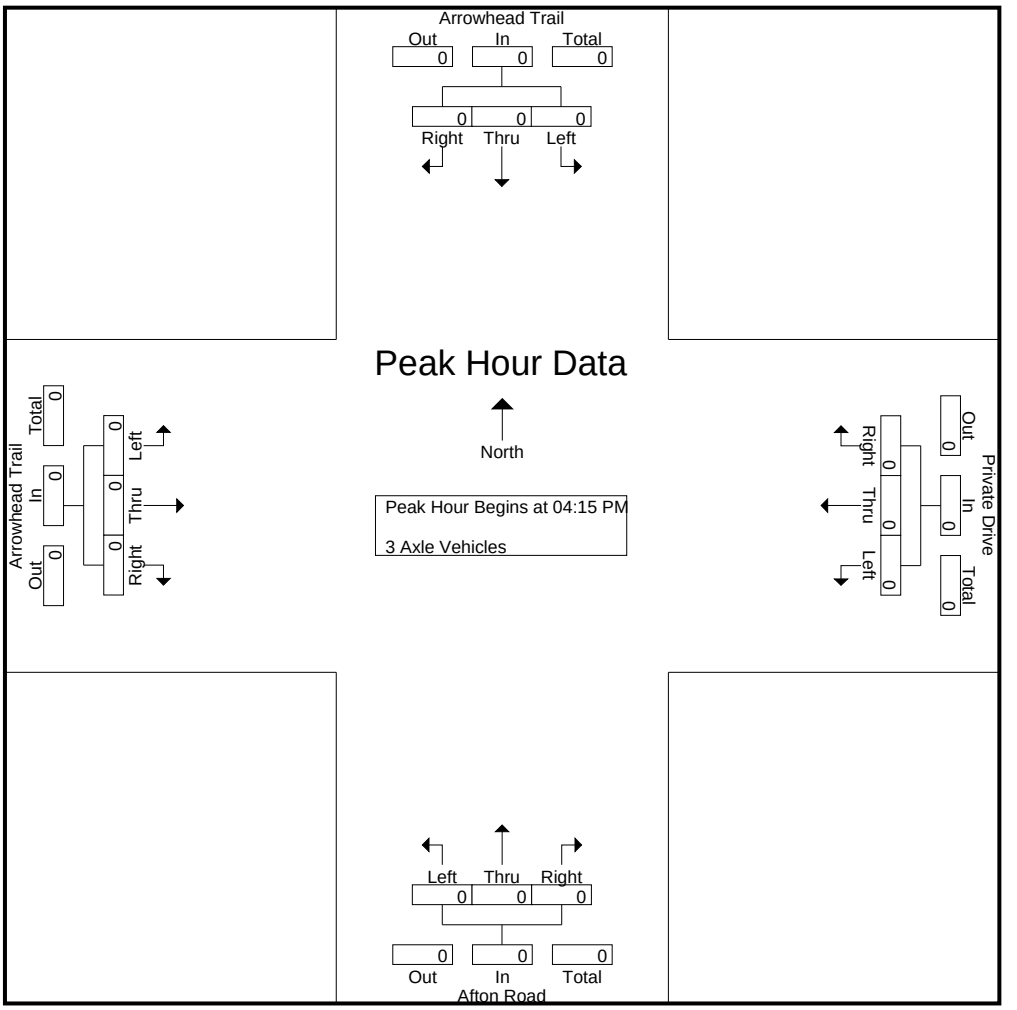
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
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04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

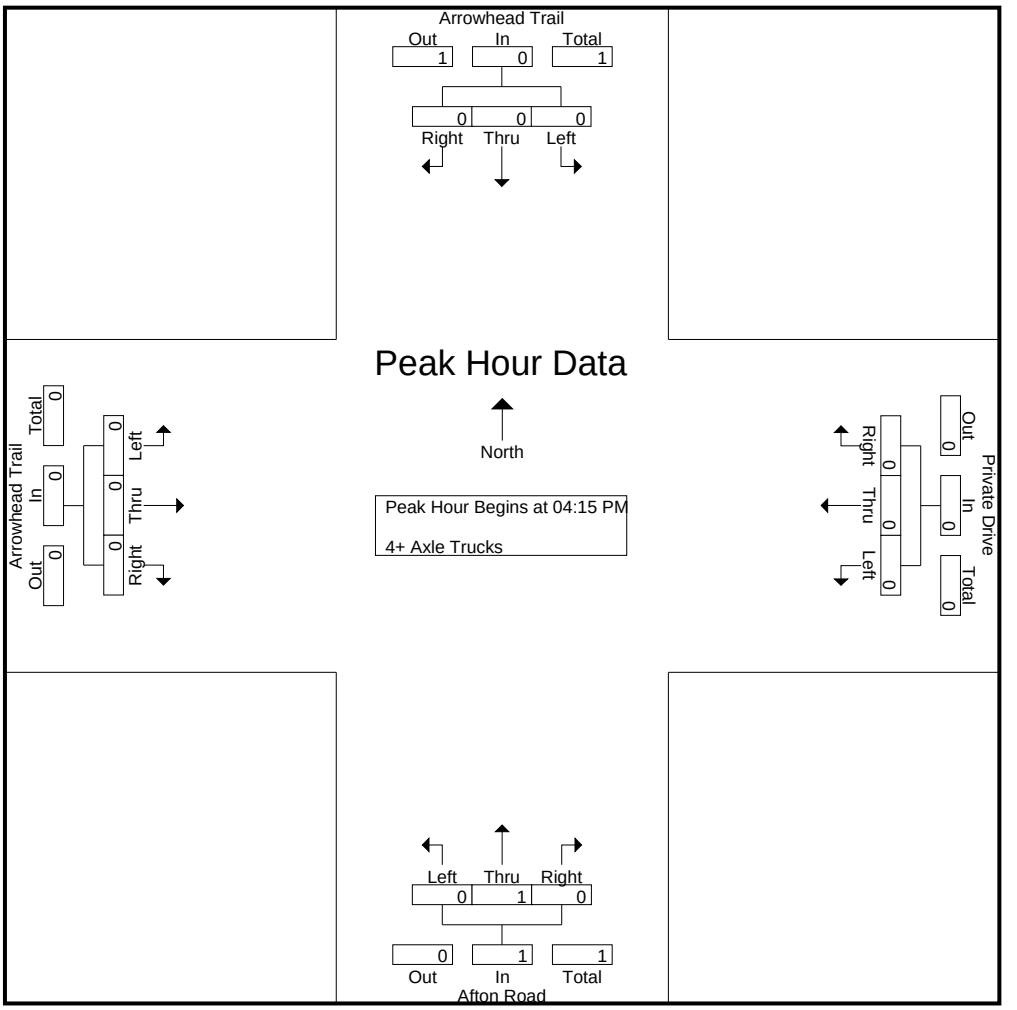
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	2	0	0	2	0	2	0	2	0	0	0	0	4
Grand Total	0	0	0	0	2	0	0	2	0	2	0	2	0	0	0	0	4
Apprch %	0	0	0		100	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	50	0	0	50	0	50	0	50	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

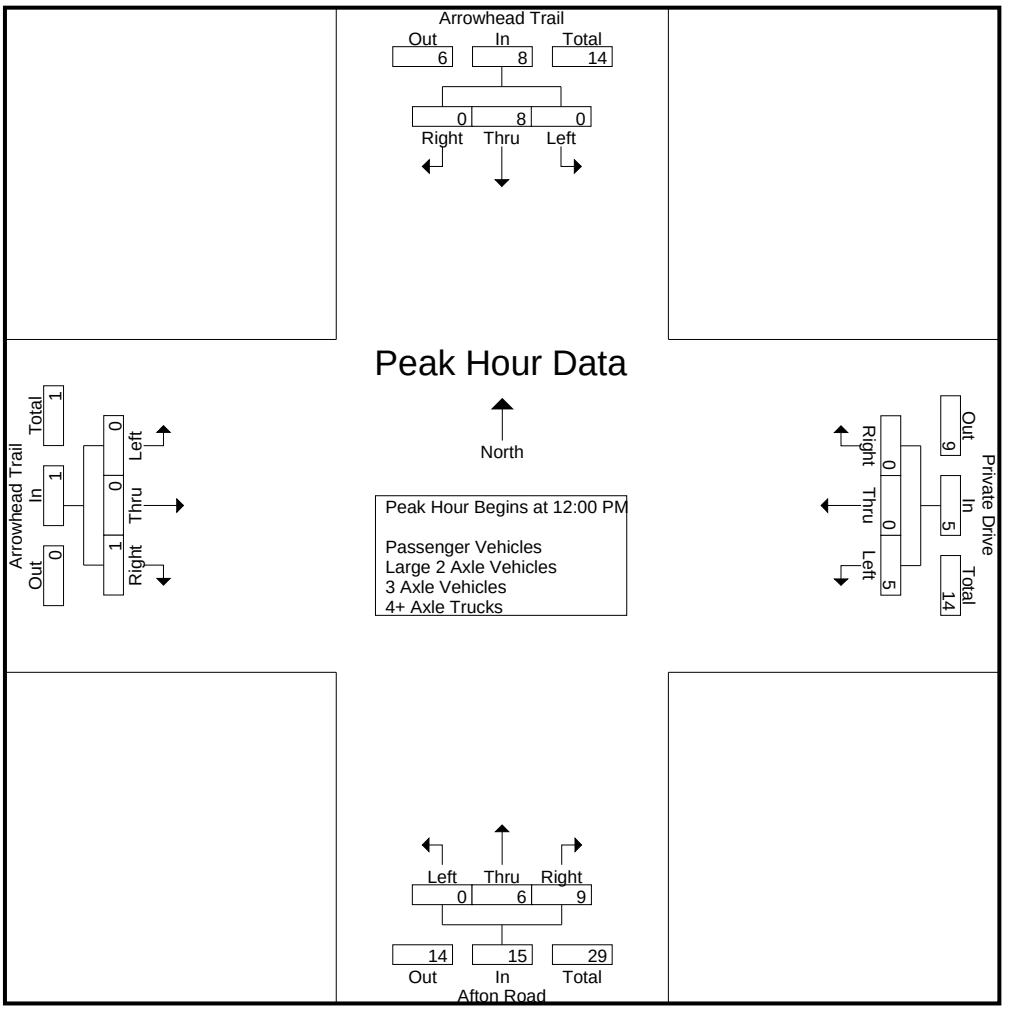
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	5	0	5	3	0	0	3	0	5	4	9	0	0	1	1	18
Total	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
01:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
01:30 PM	0	2	0	2	1	0	0	1	0	2	1	3	0	0	0	0	6
01:45 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total	0	6	0	6	1	0	0	1	0	7	2	9	0	0	0	0	16
02:00 PM	0	1	0	1	1	0	0	1	1	2	0	3	0	0	1	1	6
02:15 PM	0	2	0	2	1	0	0	1	0	1	3	4	0	0	0	0	7
02:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
02:45 PM	1	5	0	6	0	0	0	0	0	1	2	3	0	0	0	0	9
Total	1	8	0	9	2	0	0	2	1	6	5	12	0	0	1	1	24
Grand Total	1	22	0	23	8	0	0	8	1	19	16	36	0	0	2	2	69
Apprch %	4.3	95.7	0		100	0	0		2.8	52.8	44.4		0	0	100		
Total %	1.4	31.9	0	33.3	11.6	0	0	11.6	1.4	27.5	23.2	52.2	0	0	2.9	2.9	
Passenger Vehicles	1	21	0	22	8	0	0	8	1	18	15	34	0	0	2	2	66
% Passenger Vehicles	100	95.5	0	95.7	100	0	0	100	100	94.7	93.8	94.4	0	0	100	100	95.7
Large 2 Axle Vehicles	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% Large 2 Axle Vehicles	0	4.5	0	4.3	0	0	0	0	0	5.3	0	2.8	0	0	0	0	2.9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	6.2	2.8	0	0	0	0	1.4

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	**5**	0	**5**	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**	**18**
Total Volume	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100		
PHF	.000	.400	.000	.400	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250	.403

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:15 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	2	0	2	1	0	0	1	0	0	1	1	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0
+30 mins.	0	**5**	0	**5**	1	0	0	1	0	0	2	2	0	0	0	0
+45 mins.	0	1	0	1	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**
Total Volume	0	9	0	9	5	0	0	5	0	6	9	15	0	0	1	1
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100	
PHF	.000	.450	.000	.450	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles

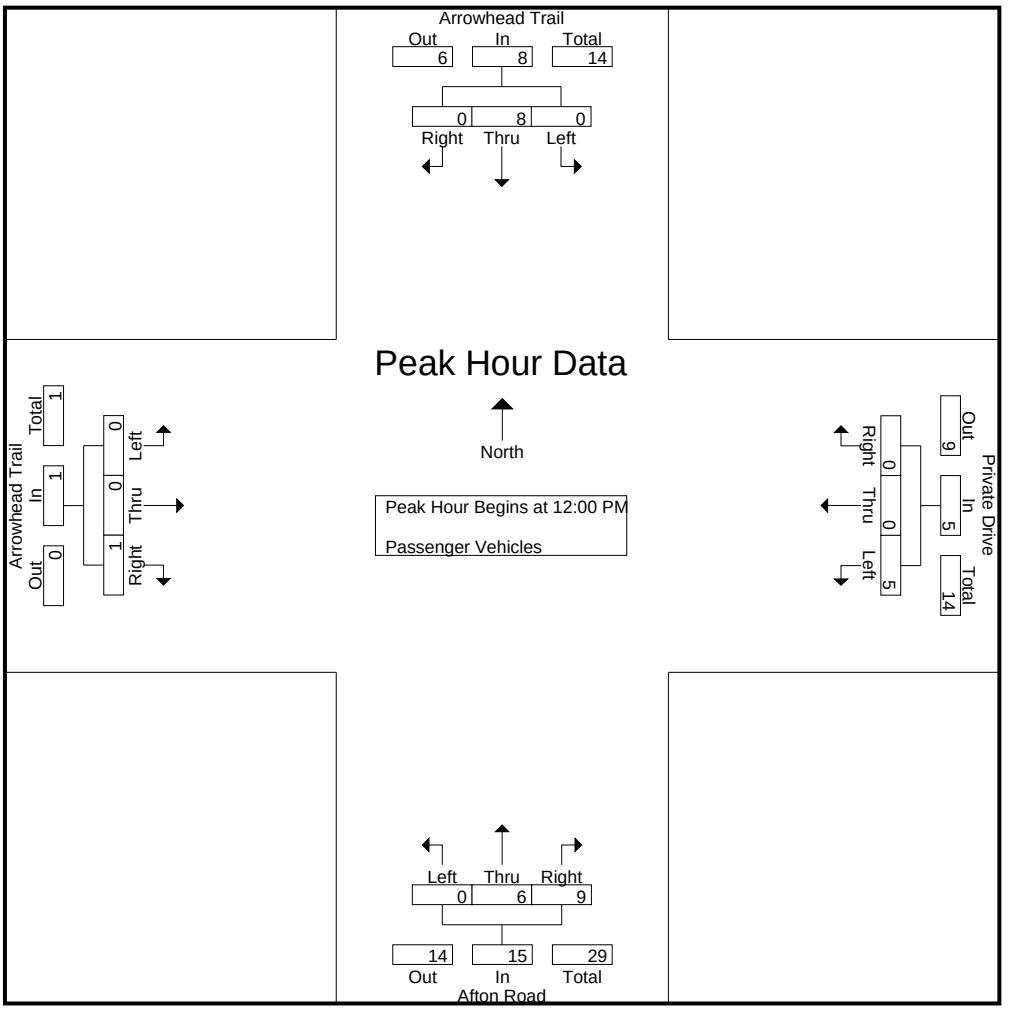
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	5	0	5	3	0	0	3	0	5	4	9	0	0	1	1	18
Total	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
01:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
01:30 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
01:45 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total	0	5	0	5	1	0	0	1	0	6	2	8	0	0	0	0	14
02:00 PM	0	1	0	1	1	0	0	1	1	2	0	3	0	0	1	1	6
02:15 PM	0	2	0	2	1	0	0	1	0	1	2	3	0	0	0	0	6
02:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
02:45 PM	1	5	0	6	0	0	0	0	0	1	2	3	0	0	0	0	9
Total	1	8	0	9	2	0	0	2	1	6	4	11	0	0	1	1	23
Grand Total	1	21	0	22	8	0	0	8	1	18	15	34	0	0	2	2	66
Apprch %	4.5	95.5	0		100	0	0		2.9	52.9	44.1		0	0	100		
Total %	1.5	31.8	0	33.3	12.1	0	0	12.1	1.5	27.3	22.7	51.5	0	0	3	3	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	**5**	0	**5**	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**	**18**
Total Volume	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100		
PHF	.000	.400	.000	.400	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250	.403

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County of San Bernardino
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Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0
+30 mins.	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0
+45 mins.	0	**5**	0	**5**	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**
Total Volume	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100	
PHF	.000	.400	.000	.400	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

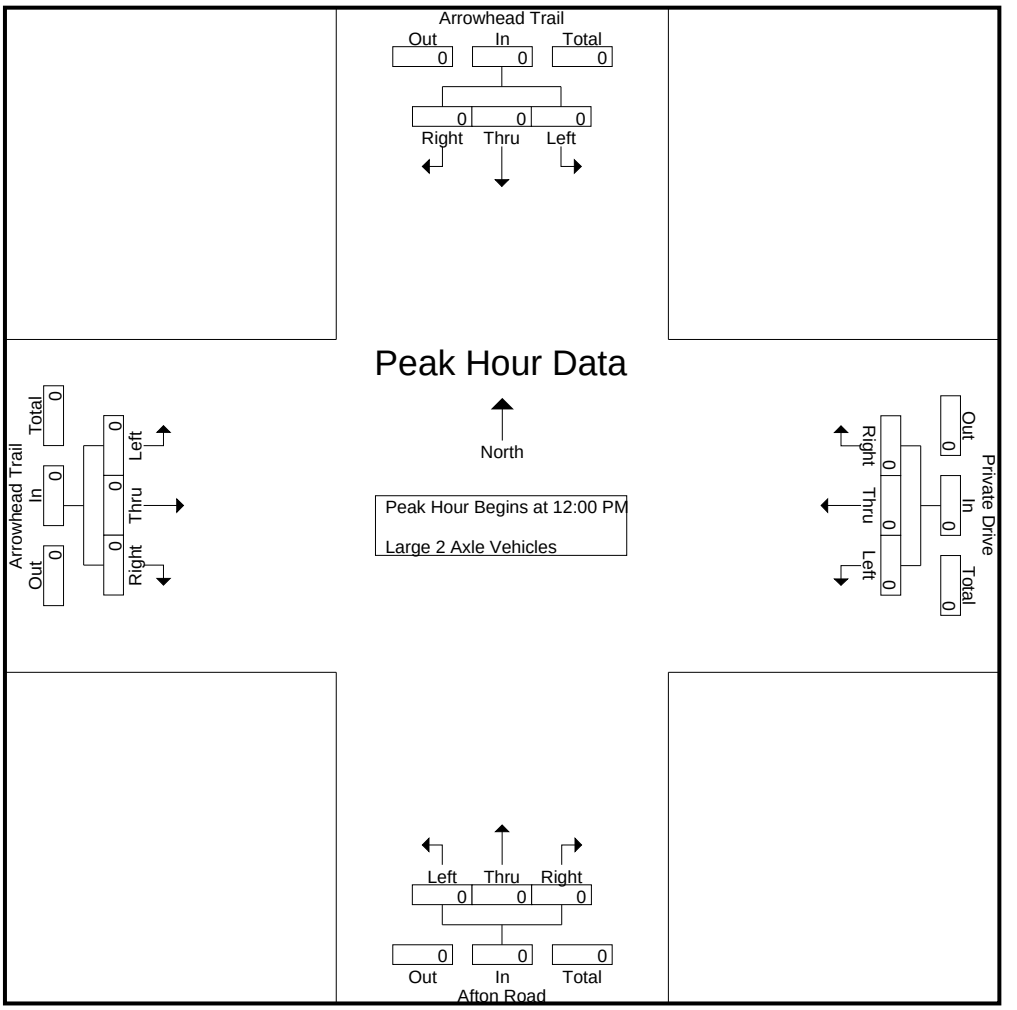
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	50	0	50	0	0	0	0	0	50	0	50	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

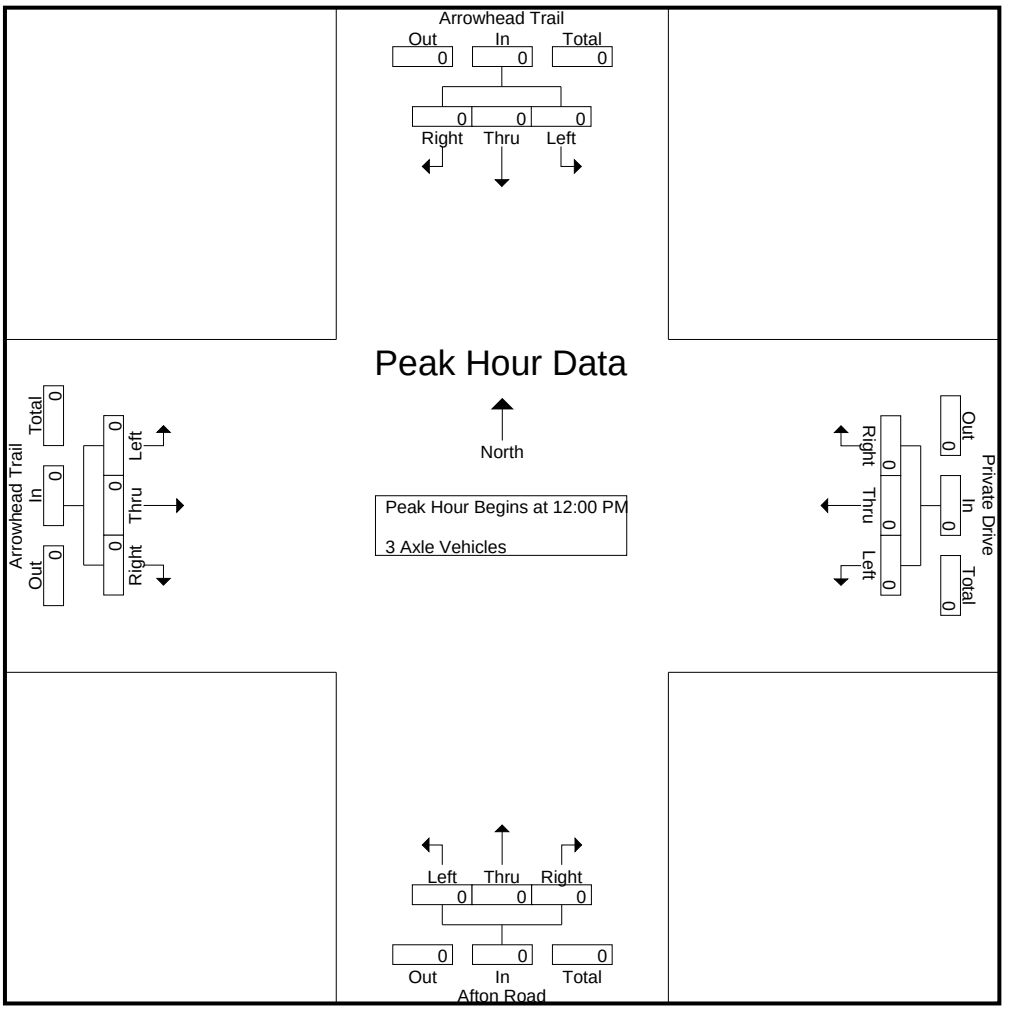
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

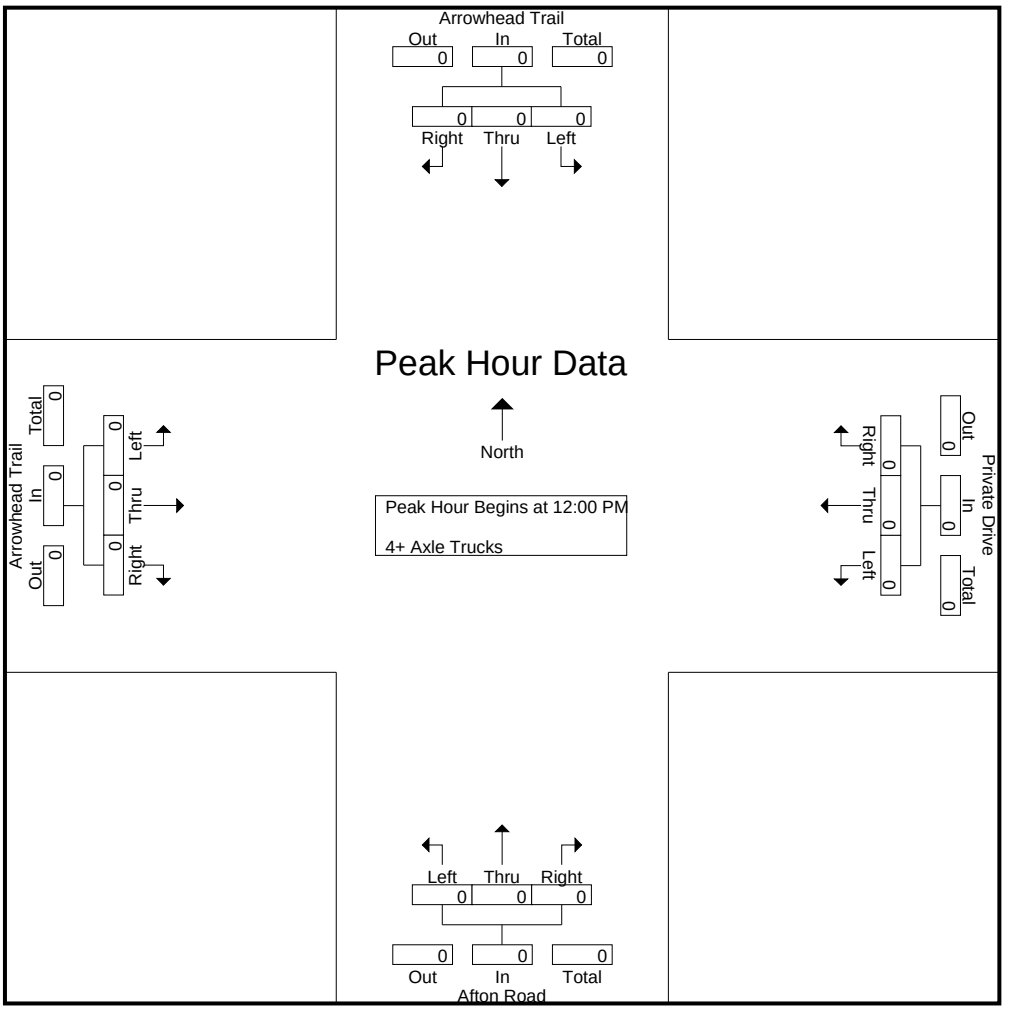
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		0	0	100		0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	100	100	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

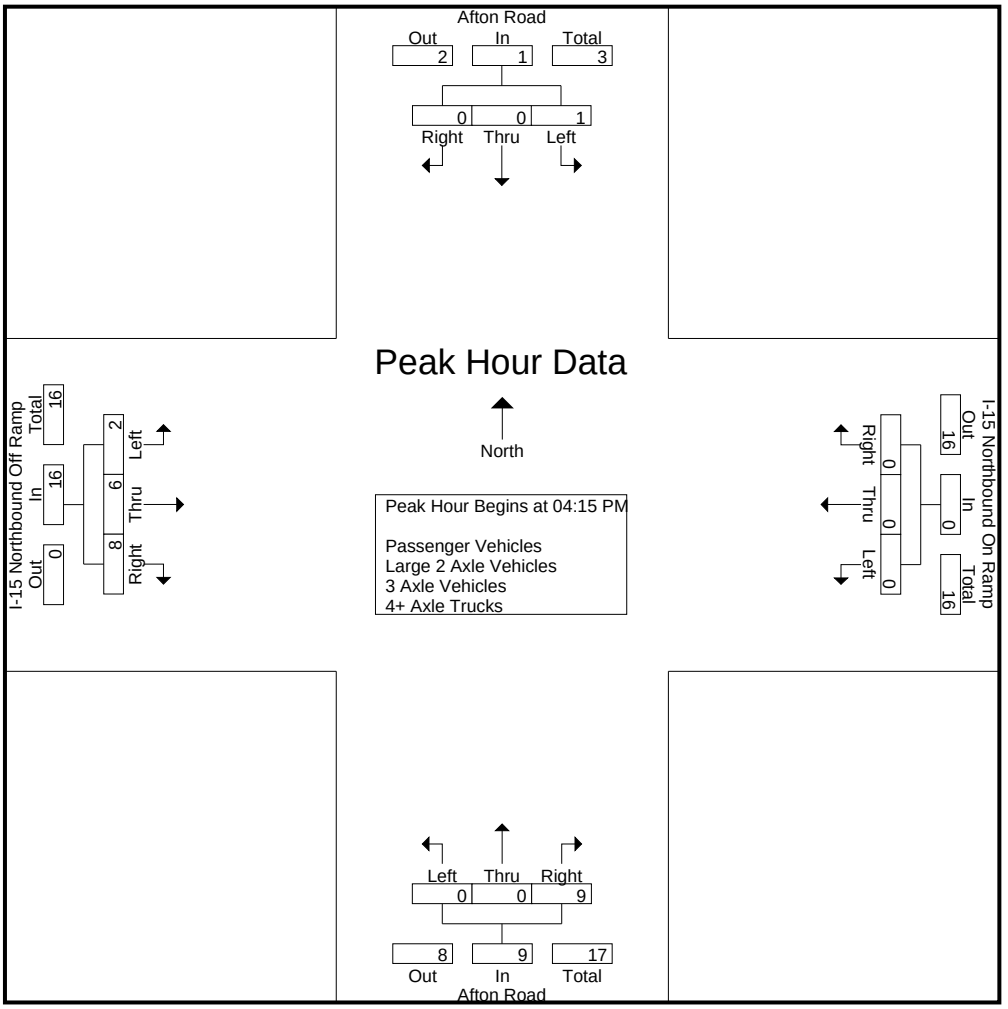
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	1	0	0	1	0	0	0	0	0	0	3	3	1	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4	8	10
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	2	3	5	8
Total	1	0	0	1	0	0	0	0	0	0	8	8	1	7	8	16	25
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
05:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	1	0	2	4
Total	1	1	0	2	0	0	0	0	0	2	2	4	2	1	1	4	10
Grand Total	2	1	0	3	0	0	0	0	0	2	10	12	3	8	9	20	35
Apprch %	66.7	33.3	0		0	0	0		0	16.7	83.3		15	40	45		
Total %	5.7	2.9	0	8.6	0	0	0	0	0	5.7	28.6	34.3	8.6	22.9	25.7	57.1	
Passenger Vehicles	2	1	0	3	0	0	0	0	0	2	10	12	3	3	9	15	30
% Passenger Vehicles	100	100	0	100	0	0	0	0	0	100	100	100	100	37.5	100	75	85.7
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	10	5.7
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	37.5	0	15	8.6

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	0	0	**1**	0	0	0	0	0	0	**3**	**3**	**1**	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	**4**	**4**	**8**	**10**
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	2	3	5	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
Total Volume	1	0	0	1	0	0	0	0	0	0	9	9	2	6	8	16	26
% App. Total	100	0	0		0	0	0		0	0	100		12.5	37.5	50		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.500	.375	.500	.500	.650

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	**3**	**3**	0	1	0	1
+15 mins.	**1**	0	0	**1**	0	0	0	0	0	0	2	2	**1**	0	1	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	3	3	0	**4**	**4**	**8**
+45 mins.	0	**1**	0	1	0	0	0	0	0	0	1	1	0	2	3	5
Total Volume	1	1	0	2	0	0	0	0	0	0	9	9	1	7	8	16
% App. Total	50	50	0		0	0	0		0	0	100		6.2	43.8	50	
PHF	.250	.250	.000	.500	.000	.000	.000	.000	.000	.000	.750	.750	.250	.438	.500	.500

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles

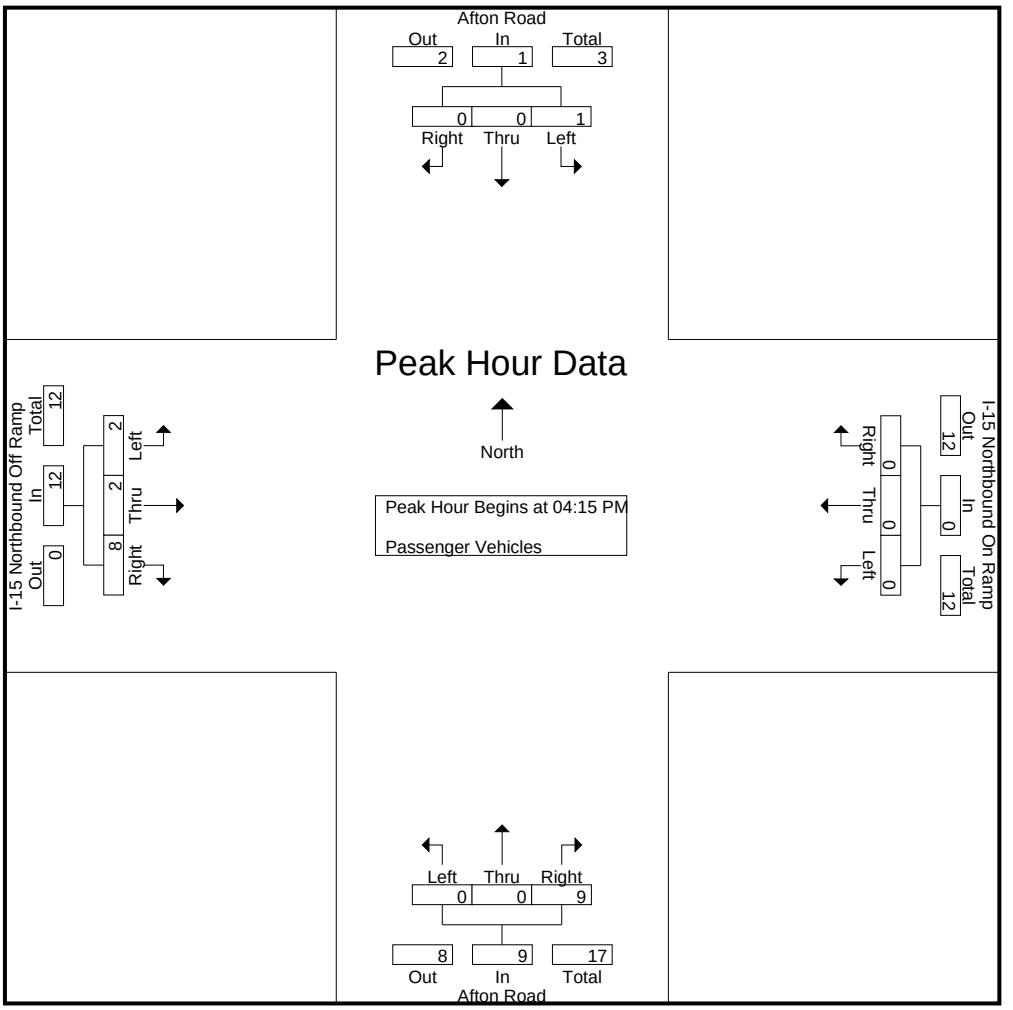
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	0	1	0	0	0	0	0	0	3	3	1	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	1	4	5	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	1	3	4	7
Total	1	0	0	1	0	0	0	0	0	0	8	8	1	2	8	11	20
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
05:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	1	0	2	4
Total	1	1	0	2	0	0	0	0	0	2	2	4	2	1	1	4	10
Grand Total	2	1	0	3	0	0	0	0	0	2	10	12	3	3	9	15	30
Apprch %	66.7	33.3	0		0	0	0		0	16.7	83.3		20	20	60		
Total %	6.7	3.3	0	10	0	0	0	0	0	6.7	33.3	40	10	10	30	50	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	0	0	**1**	0	0	0	0	0	0	**3**	**3**	**1**	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	**1**	**4**	**5**	**7**
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	1	3	4	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
Total Volume	1	0	0	1	0	0	0	0	0	0	9	9	2	2	8	12	22
% App. Total	100	0	0		0	0	0		0	0	100		16.7	16.7	66.7		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.500	.500	.500	.600	.786

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**1**	0	0	**1**	0	0	0	0	0	0	**3**	**3**	**1**	0	1	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	2	2	0	**1**	**4**	**5**
+30 mins.	0	0	0	0	0	0	0	0	0	0	3	3	0	1	3	4
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1
Total Volume	1	0	0	1	0	0	0	0	0	0	9	9	2	2	8	12
% App. Total	100	0	0		0	0	0		0	0	100		16.7	16.7	66.7	
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.500	.500	.500	.600

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County of San Bernardino
N/S: Afton Road
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File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

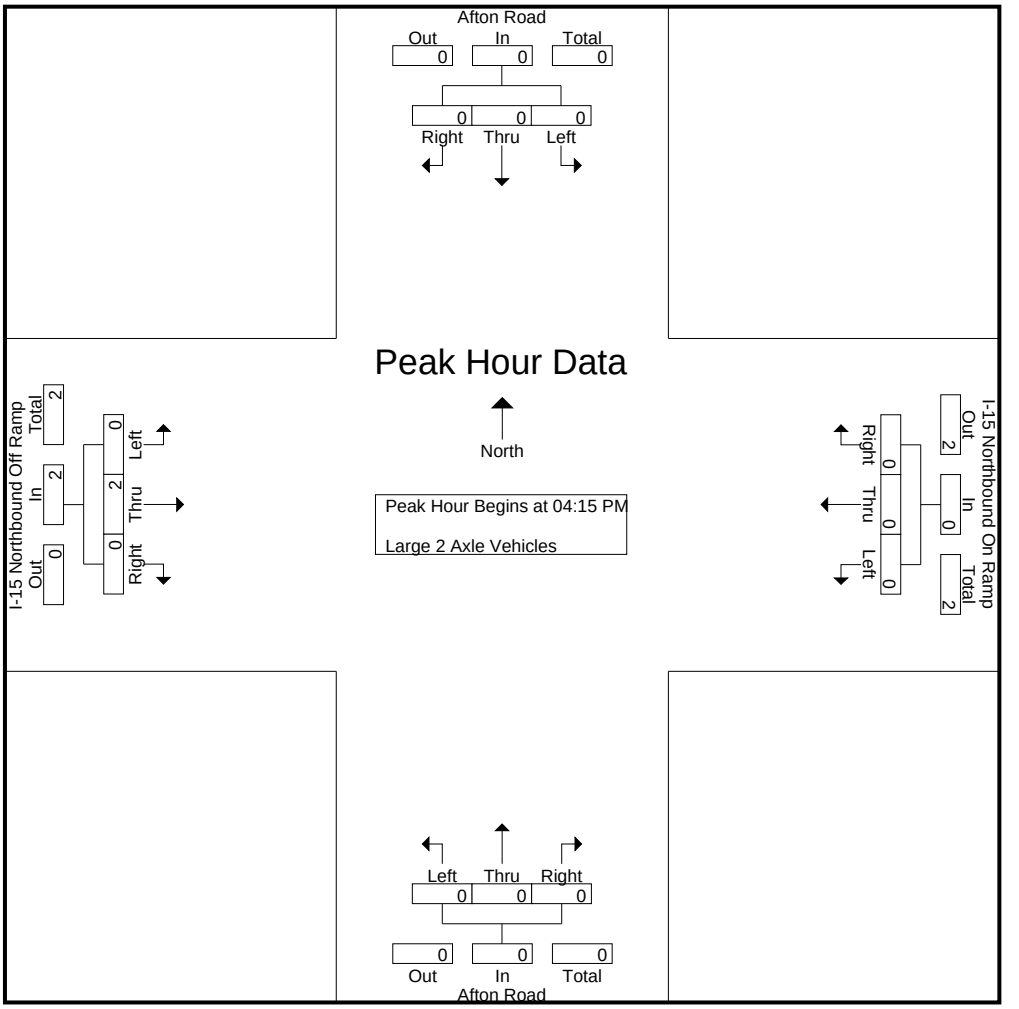
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.500

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500

Counts Unlimited
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Corona, CA 92878
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

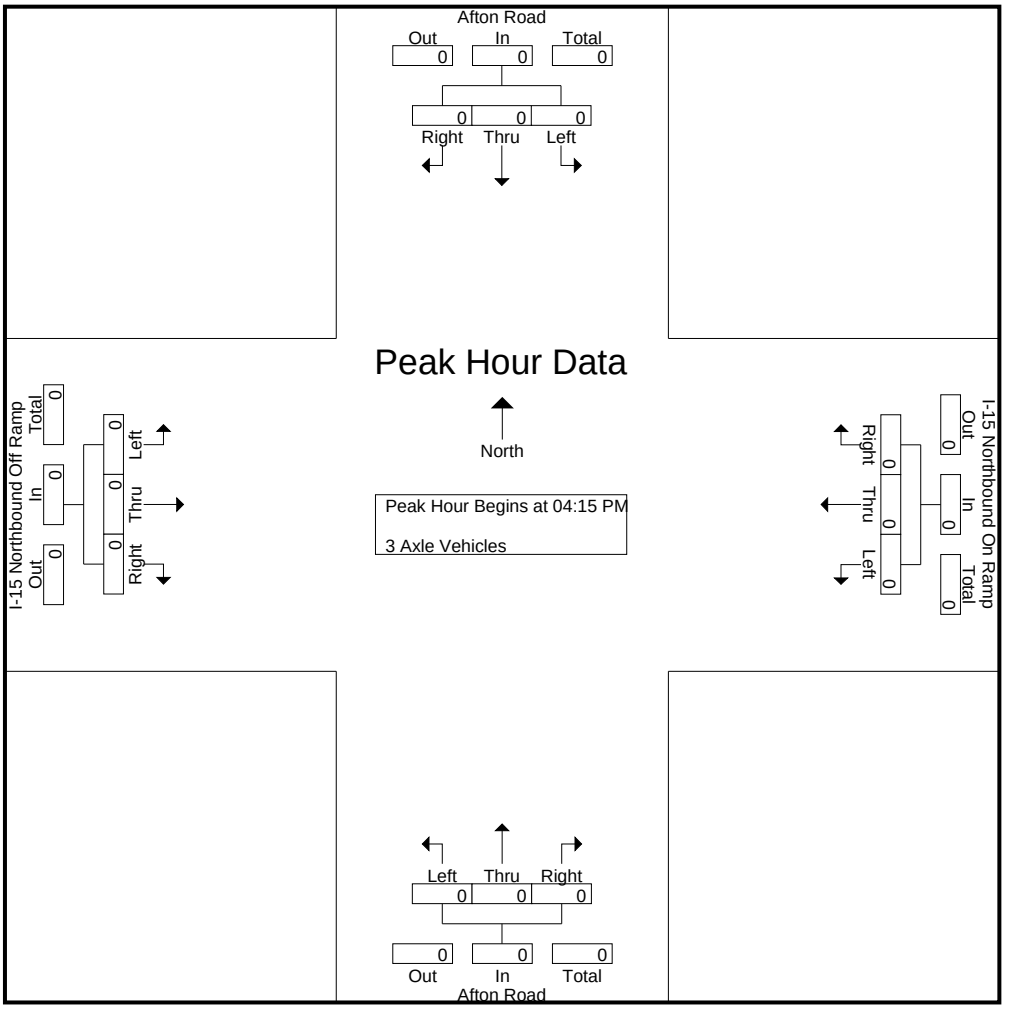
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

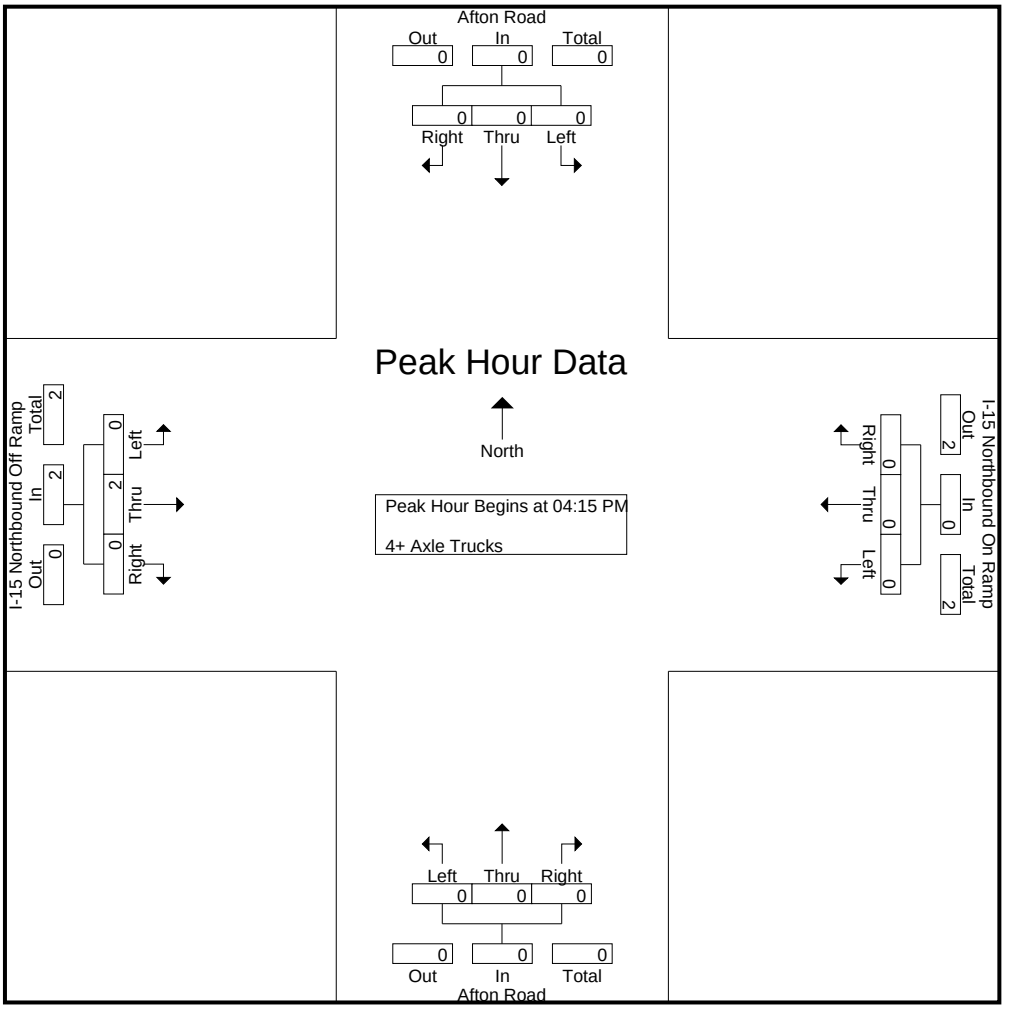
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

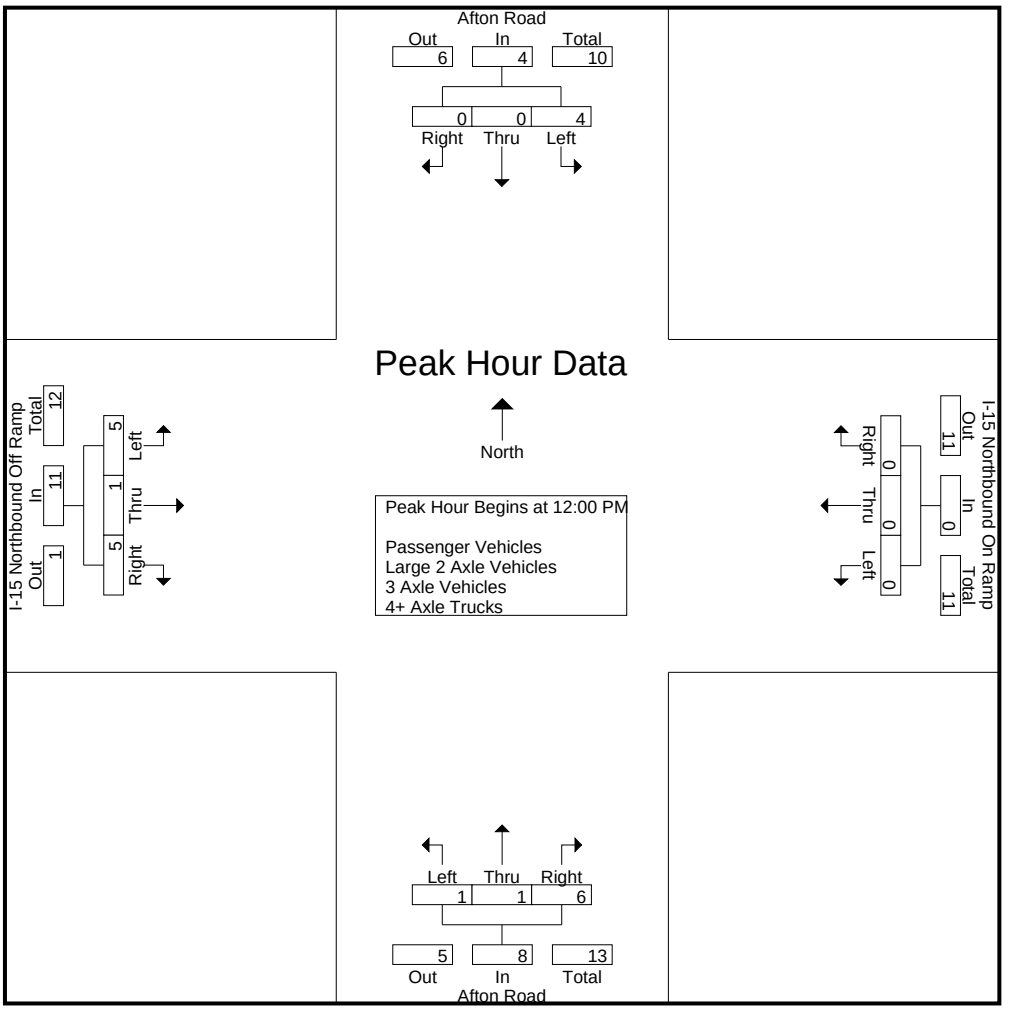
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	3
12:15 PM	1	0	0	1	0	0	0	0	1	0	2	3	1	0	2	3	7
12:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2	0	2	4	6
12:45 PM	2	0	0	2	0	0	0	0	0	0	4	4	1	0	0	1	7
Total	4	0	0	4	0	0	0	0	1	1	6	8	5	1	5	11	23
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	4
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	1	1	0	2	0	0	0	0	0	1	3	4	2	1	3	6	12
Total	1	1	0	2	0	0	0	0	0	1	5	6	2	2	5	9	17
02:00 PM	1	1	0	2	0	0	0	0	0	0	1	1	0	1	1	2	5
02:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
02:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	3	5
Total	1	1	0	2	0	0	0	0	0	2	2	4	3	5	2	10	16
Grand Total	6	2	0	8	0	0	0	0	1	4	13	18	10	8	12	30	56
Apprch %	75	25	0		0	0	0		5.6	22.2	72.2		33.3	26.7	40		
Total %	10.7	3.6	0	14.3	0	0	0	0	1.8	7.1	23.2	32.1	17.9	14.3	21.4	53.6	
Passenger Vehicles	6	2	0	8	0	0	0	0	0	4	13	17	9	7	12	28	53
% Passenger Vehicles	100	100	0	100	0	0	0	0	0	100	100	94.4	90	87.5	100	93.3	94.6
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	3.3	1.8
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	100	0	0	5.6	0	12.5	0	3.3	3.6

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	1	3	3
12:15 PM	1	0	0	1	0	0	0	0	**1**	0	2	3	1	0	**2**	3	**7**
12:30 PM	1	0	0	1	0	0	0	0	0	**1**	0	1	**2**	0	2	**4**	6
12:45 PM	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	1	0	0	1	7
Total Volume	4	0	0	4	0	0	0	0	1	1	6	8	5	1	5	11	23
% App. Total	100	0	0		0	0	0		12.5	12.5	75		45.5	9.1	45.5		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.250	.250	.375	.500	.625	.250	.625	.688	.821

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				01:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**2**	1	**3**	**6**
+15 mins.	1	0	0	1	0	0	0	0	**1**	0	2	3	0	1	1	2
+30 mins.	1	0	0	1	0	0	0	0	0	**1**	0	1	0	1	0	1
+45 mins.	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	2	**2**	0	4
Total Volume	4	0	0	4	0	0	0	0	1	1	6	8	4	5	4	13
% App. Total	100	0	0		0	0	0		12.5	12.5	75		30.8	38.5	30.8	
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.250	.250	.375	.500	.500	.625	.333	.542

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles

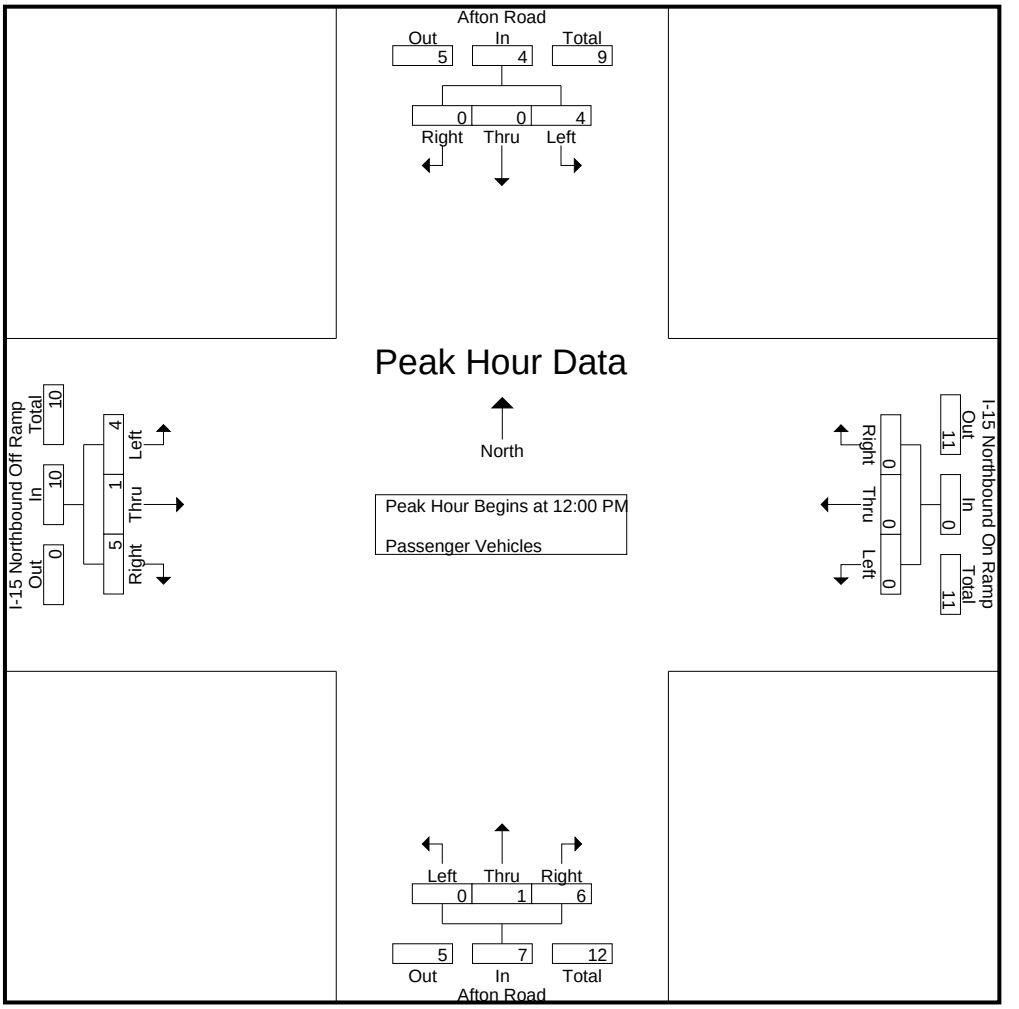
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
12:15 PM	1	0	0	1	0	0	0	0	0	0	2	2	1	0	2	3	6
12:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2	0	2	4	6
12:45 PM	2	0	0	2	0	0	0	0	0	0	4	4	1	0	0	1	7
Total	4	0	0	4	0	0	0	0	0	1	6	7	4	1	5	10	21
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	4
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	1	1	0	2	0	0	0	0	0	1	3	4	2	0	3	5	11
Total	1	1	0	2	0	0	0	0	0	1	5	6	2	1	5	8	16
02:00 PM	1	1	0	2	0	0	0	0	0	0	1	1	0	1	1	2	5
02:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
02:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	3	5
Total	1	1	0	2	0	0	0	0	0	2	2	4	3	5	2	10	16
Grand Total	6	2	0	8	0	0	0	0	0	4	13	17	9	7	12	28	53
Apprch %	75	25	0		0	0	0		0	23.5	76.5		32.1	25	42.9		
Total %	11.3	3.8	0	15.1	0	0	0	0	0	7.5	24.5	32.1	17	13.2	22.6	52.8	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	2	2
12:15 PM	1	0	0	1	0	0	0	0	0	0	2	2	1	0	**2**	3	6
12:30 PM	1	0	0	1	0	0	0	0	0	**1**	0	1	**2**	0	2	**4**	6
12:45 PM	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	1	0	0	1	**7**
Total Volume	4	0	0	4	0	0	0	0	0	1	6	7	4	1	5	10	21
% App. Total	100	0	0		0	0	0		0	14.3	85.7		40	10	50		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.250	.375	.438	.500	.250	.625	.625	.750

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	2
+15 mins.	1	0	0	1	0	0	0	0	0	0	2	2	1	0	**2**	3
+30 mins.	1	0	0	1	0	0	0	0	0	**1**	0	1	**2**	0	2	**4**
+45 mins.	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	1	0	0	1
Total Volume	4	0	0	4	0	0	0	0	0	1	6	7	4	1	5	10
% App. Total	100	0	0		0	0	0		0	14.3	85.7		40	10	50	
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.250	.375	.438	.500	.250	.625	.625

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

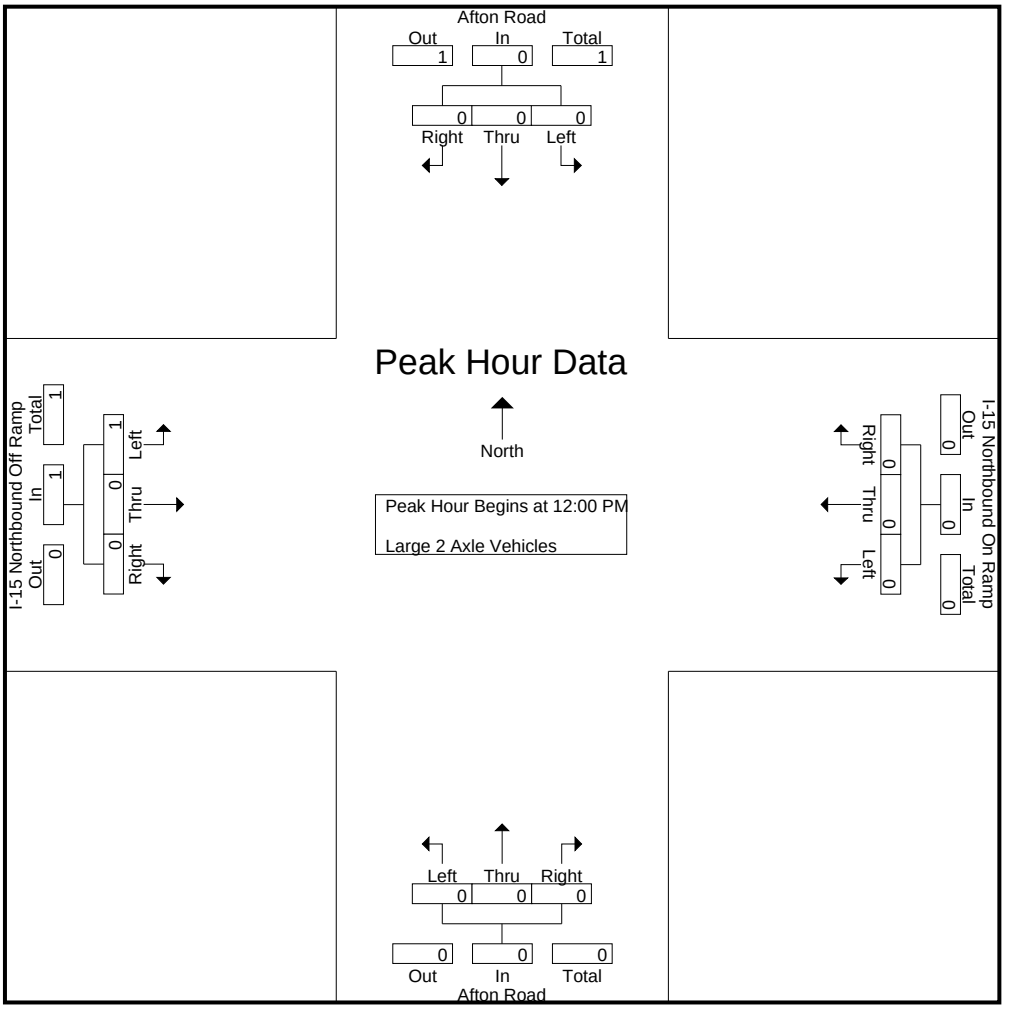
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Apprch %	0	0	0		0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

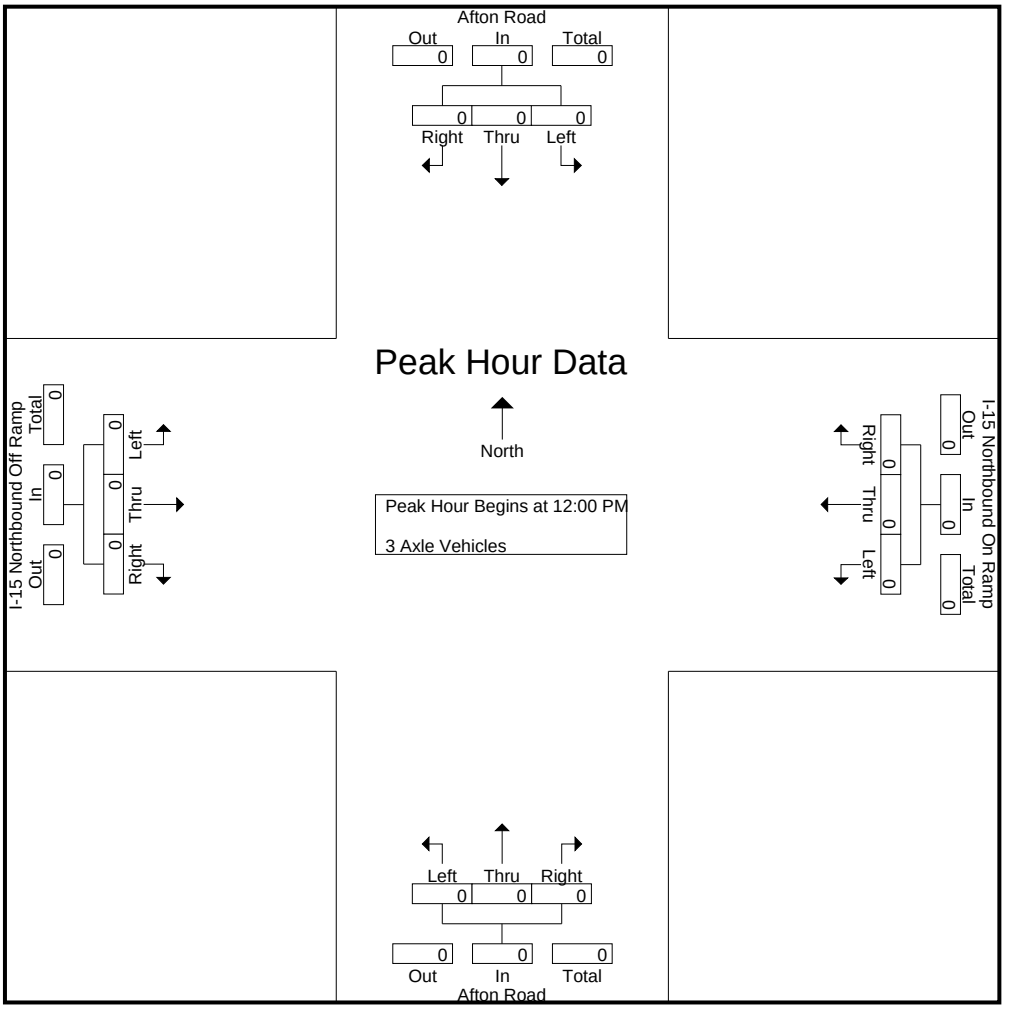
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

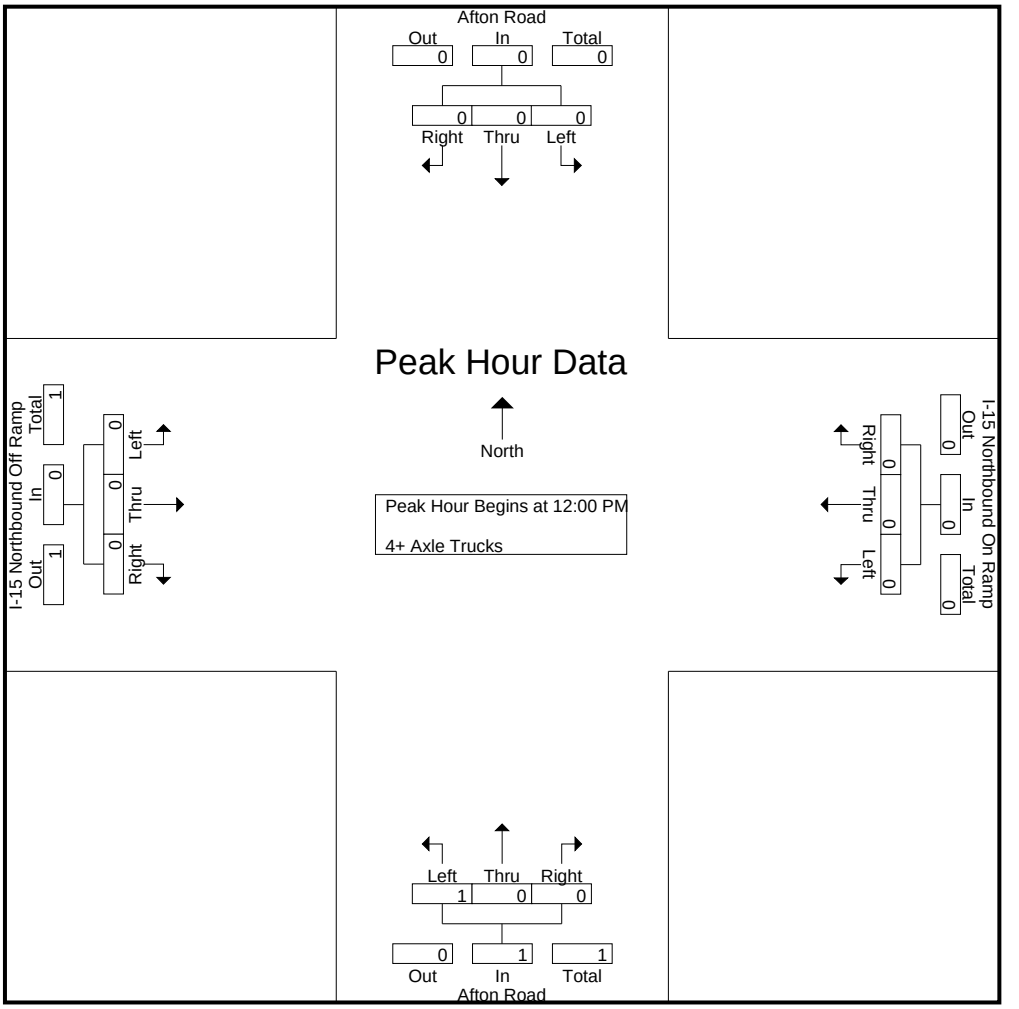
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
Apprch %	0	0	0		0	0	0		100	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	50	0	0	50	0	50	0	50	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**1**
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

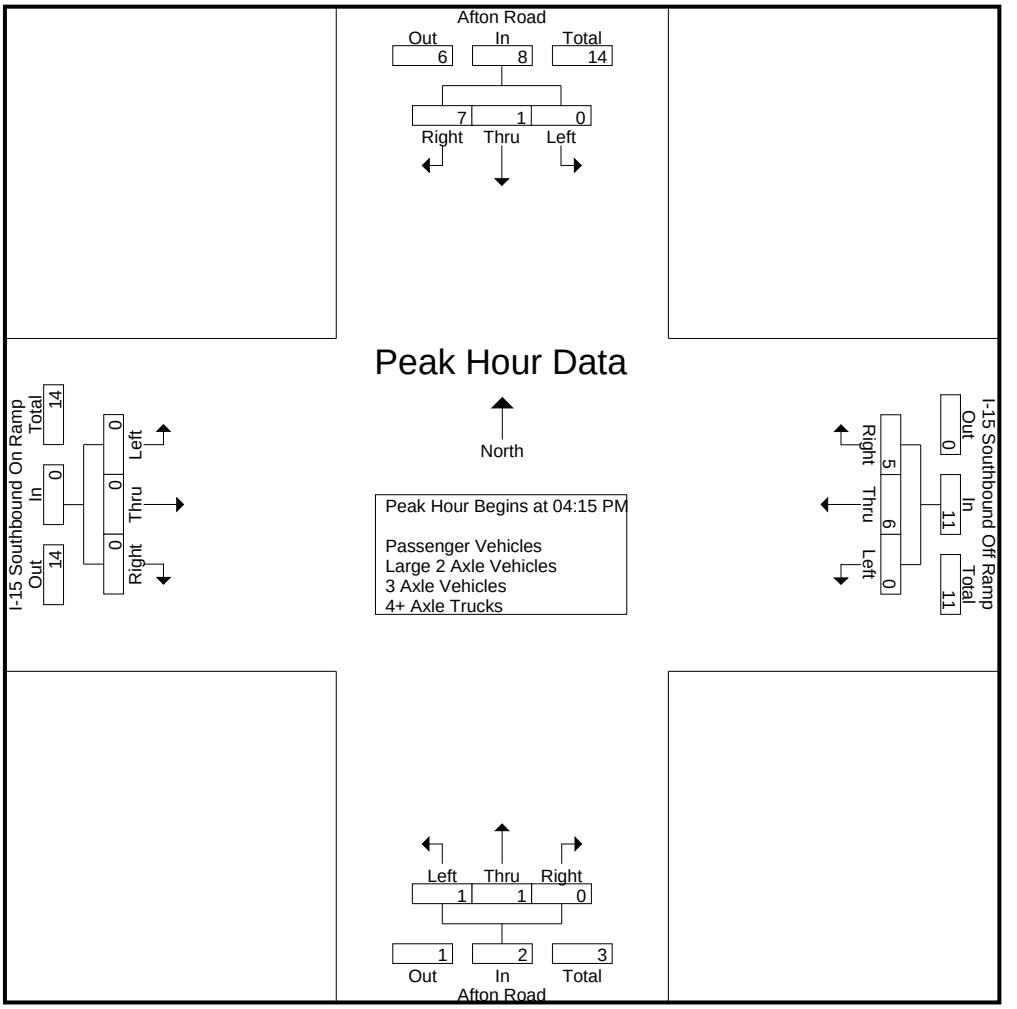
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	3	4	0	1	1	2	1	0	0	1	0	0	0	0	7
04:30 PM	0	0	3	3	0	1	3	4	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	6	7	0	4	4	8	1	0	0	1	0	0	0	0	16
05:00 PM	0	0	1	1	0	3	1	4	0	1	0	1	0	0	0	0	6
05:15 PM	0	1	1	2	0	1	2	3	1	0	0	1	0	0	0	0	6
05:30 PM	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	1	2	0	3	2	0	0	2	0	0	0	0	5
Total	0	1	4	5	1	6	4	11	3	1	0	4	0	0	0	0	20
Grand Total	0	2	10	12	1	10	8	19	4	1	0	5	0	0	0	0	36
Apprch %	0	16.7	83.3		5.3	52.6	42.1		80	20	0		0	0	0		
Total %	0	5.6	27.8	33.3	2.8	27.8	22.2	52.8	11.1	2.8	0	13.9	0	0	0	0	
Passenger Vehicles	0	2	9	11	1	10	8	19	4	1	0	5	0	0	0	0	35
% Passenger Vehicles	0	100	90	91.7	100	100	100	100	100	100	0	100	0	0	0	0	97.2
Large 2 Axle Vehicles	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Large 2 Axle Vehicles	0	0	10	8.3	0	0	0	0	0	0	0	0	0	0	0	0	2.8
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**1**	**3**	**4**	0	1	1	2	**1**	0	0	**1**	0	0	0	0	**7**
04:30 PM	0	0	3	3	0	1	**3**	**4**	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	1	1	0	**3**	1	4	0	**1**	0	1	0	0	0	0	6
Total Volume	0	1	7	8	0	6	5	11	1	1	0	2	0	0	0	0	21
% App. Total	0	12.5	87.5		0	54.5	45.5		50	50	0		0	0	0		
PHF	.000	.250	.583	.500	.000	.500	.417	.688	.250	.250	.000	.500	.000	.000	.000	.000	.750

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	0	**1**	**3**	**4**	0	1	**3**	**4**	0	**1**	0	1	0	0	0	0
+15 mins.	0	0	3	3	0	1	0	1	1	0	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	**3**	1	4	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	1	2	3	**2**	0	0	**2**	0	0	0	0
Total Volume	0	1	7	8	0	6	6	12	3	1	0	4	0	0	0	0
% App. Total	0	12.5	87.5		0	50	50		75	25	0		0	0	0	
PHF	.000	.250	.583	.500	.000	.500	.500	.750	.375	.250	.000	.500	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015

Groups Printed- Passenger Vehicles

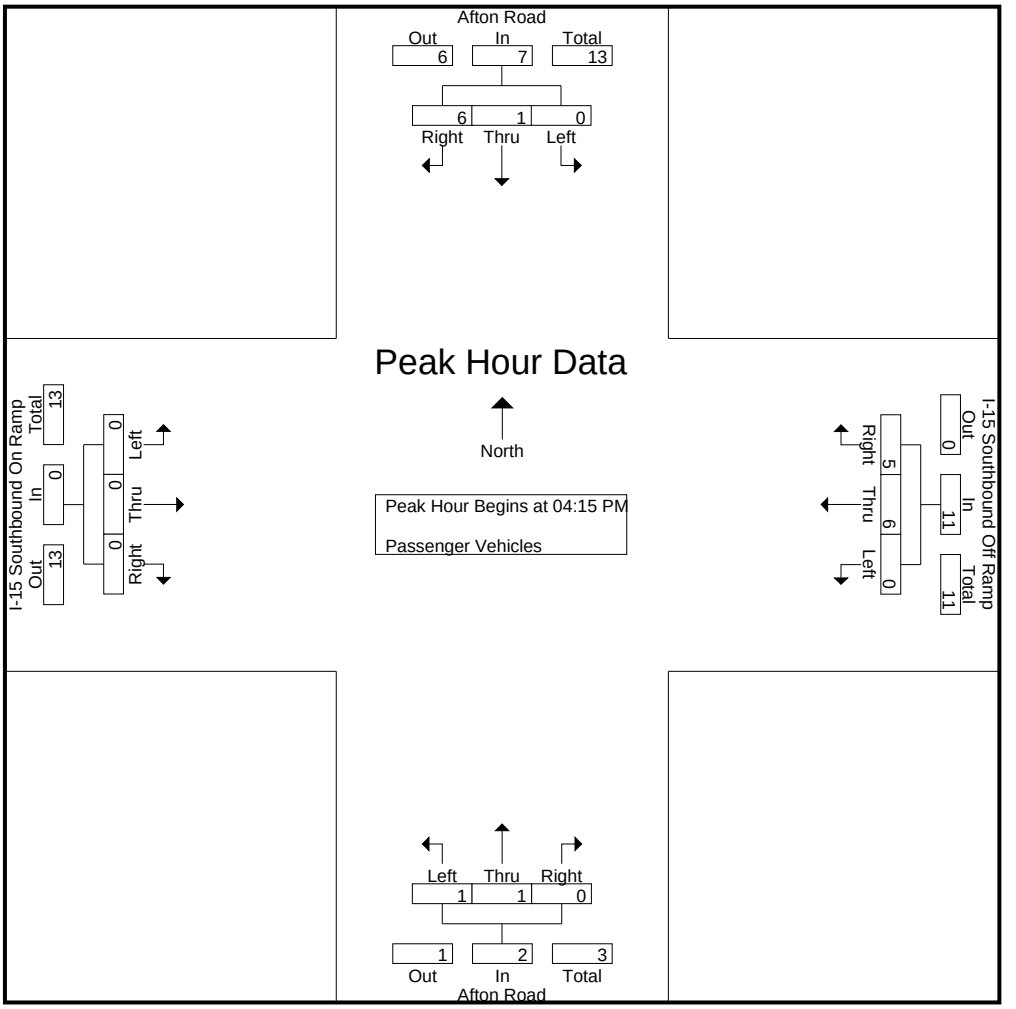
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	2	3	0	1	1	2	1	0	0	1	0	0	0	0	6
04:30 PM	0	0	3	3	0	1	3	4	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	5	6	0	4	4	8	1	0	0	1	0	0	0	0	15
05:00 PM	0	0	1	1	0	3	1	4	0	1	0	1	0	0	0	0	6
05:15 PM	0	1	1	2	0	1	2	3	1	0	0	1	0	0	0	0	6
05:30 PM	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	1	2	0	3	2	0	0	2	0	0	0	0	5
Total	0	1	4	5	1	6	4	11	3	1	0	4	0	0	0	0	20
Grand Total	0	2	9	11	1	10	8	19	4	1	0	5	0	0	0	0	35
Apprch %	0	18.2	81.8		5.3	52.6	42.1		80	20	0		0	0	0		
Total %	0	5.7	25.7	31.4	2.9	28.6	22.9	54.3	11.4	2.9	0	14.3	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**1**	2	**3**	0	1	1	2	**1**	0	0	**1**	0	0	0	0	6
04:30 PM	0	0	**3**	3	0	1	**3**	**4**	0	0	0	0	0	0	0	0	**7**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	1	1	0	**3**	1	4	0	**1**	0	1	0	0	0	0	6
Total Volume	0	1	6	7	0	6	5	11	1	1	0	2	0	0	0	0	20
% App. Total	0	14.3	85.7		0	54.5	45.5		50	50	0		0	0	0		
PHF	.000	.250	.500	.583	.000	.500	.417	.688	.250	.250	.000	.500	.000	.000	.000	.000	.714

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**1**	2	**3**	0	1	1	2	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	0	**3**	3	0	1	**3**	**4**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	**3**	1	4	0	**1**	0	1	0	0	0	0
Total Volume	0	1	6	7	0	6	5	11	1	1	0	2	0	0	0	0
% App. Total	0	14.3	85.7		0	54.5	45.5		50	50	0		0	0	0	
PHF	.000	.250	.500	.583	.000	.500	.417	.688	.250	.250	.000	.500	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

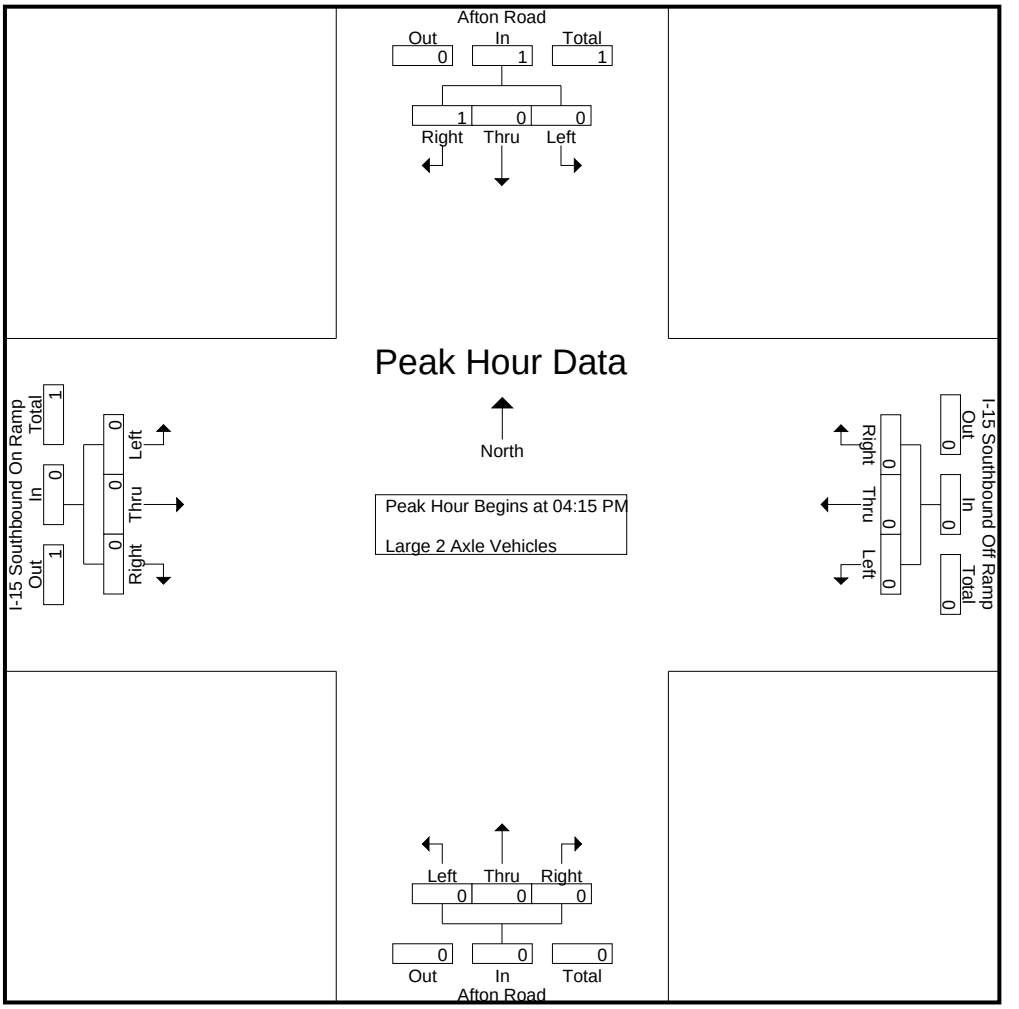
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	0	100		0	0	0		0	0	0		0	0	0		
Total %	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

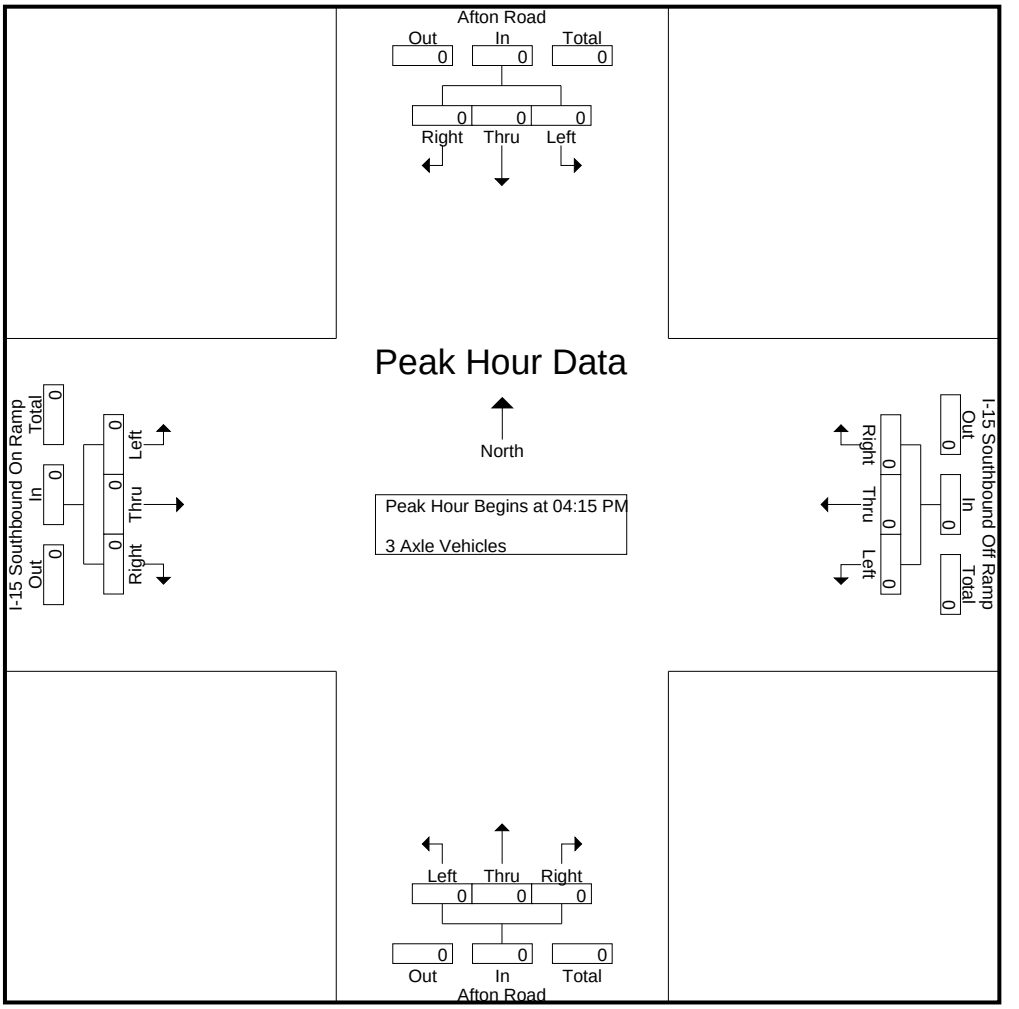
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

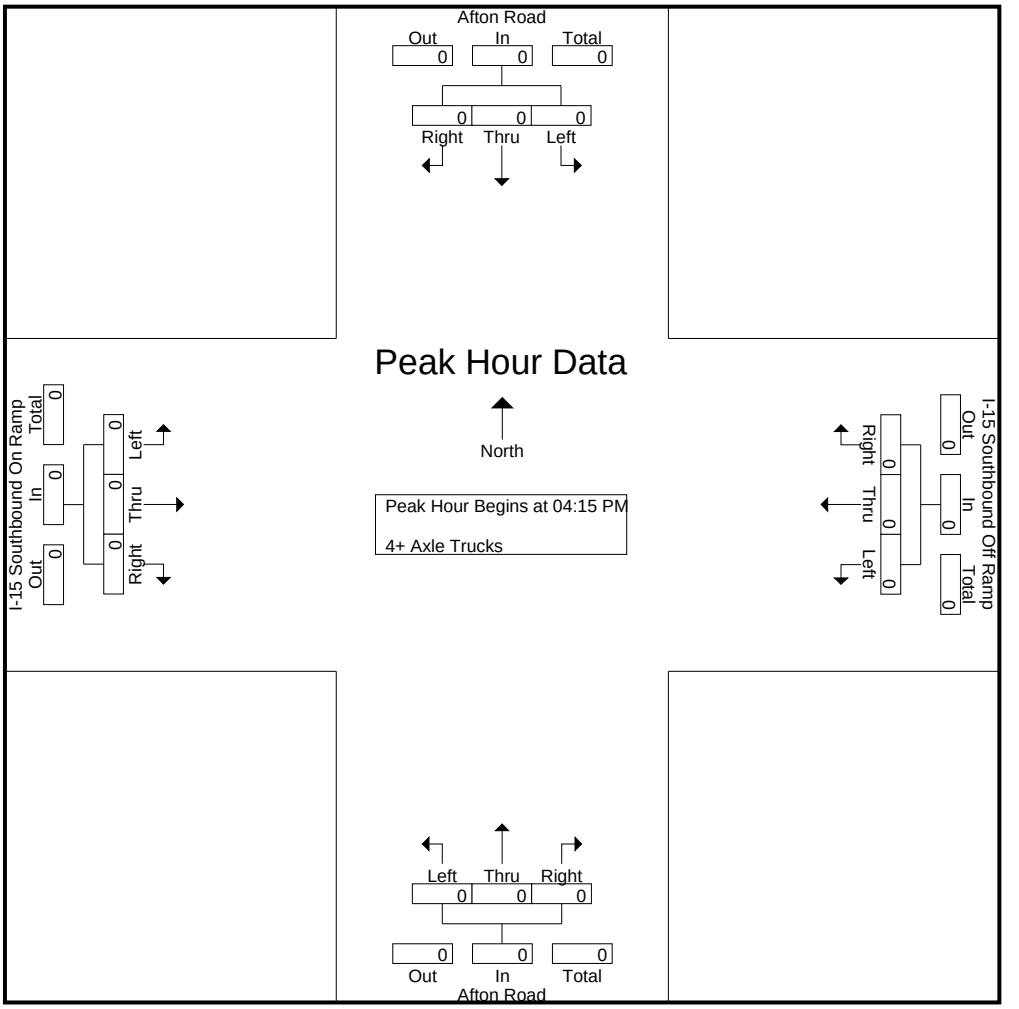
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

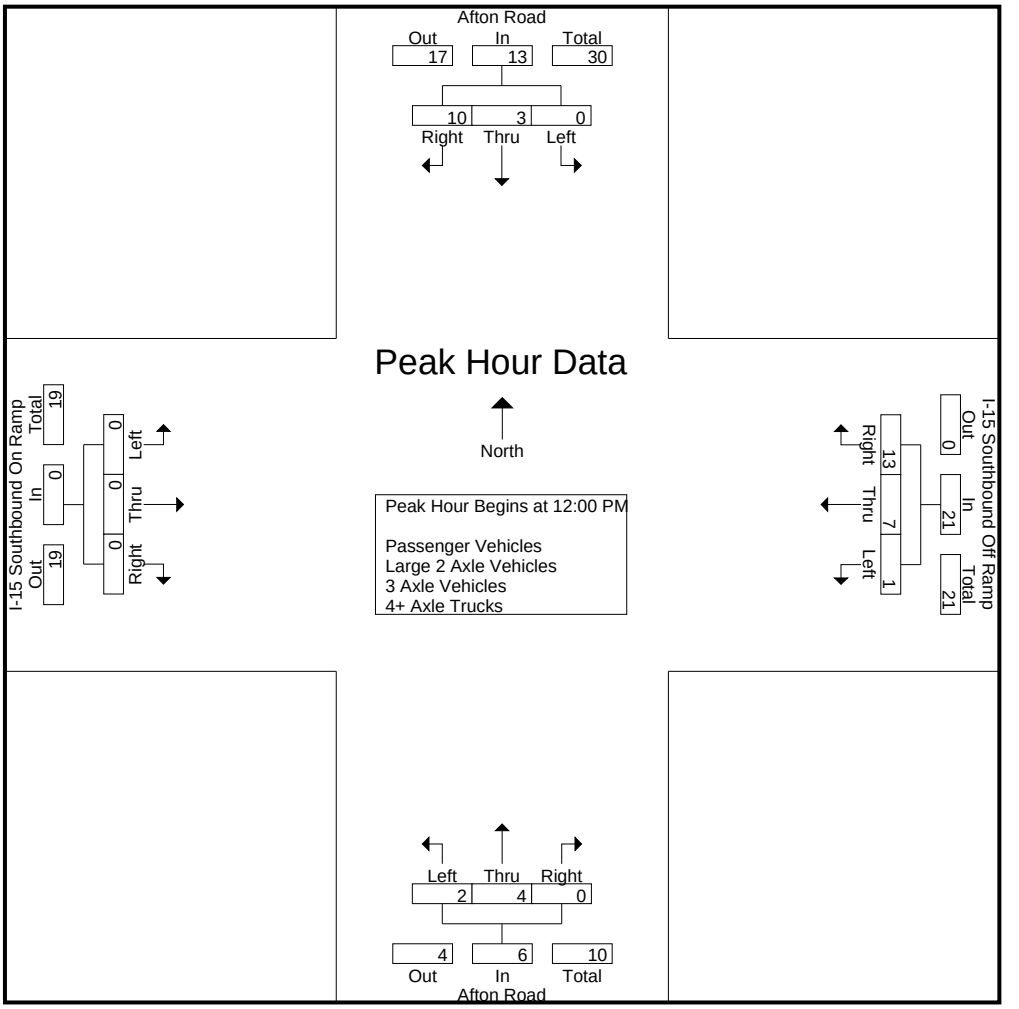
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	1	1	2	0	1	0	1	0	0	0	0	3
12:15 PM	0	1	2	3	0	3	3	6	0	1	0	1	0	0	0	0	10
12:30 PM	0	0	2	2	1	2	1	4	2	1	0	3	0	0	0	0	9
12:45 PM	0	2	6	8	0	1	8	9	0	1	0	1	0	0	0	0	18
Total	0	3	10	13	1	7	13	21	2	4	0	6	0	0	0	0	40
01:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
01:15 PM	0	0	1	1	0	1	3	4	0	0	0	0	0	0	0	0	5
01:30 PM	0	0	3	3	0	2	3	5	0	0	0	0	0	0	0	0	8
01:45 PM	0	1	1	2	1	1	1	3	1	2	0	3	0	0	0	0	8
Total	0	1	6	7	1	5	7	13	1	2	0	3	0	0	0	0	23
02:00 PM	0	2	2	4	0	1	2	3	0	0	0	0	0	0	0	0	7
02:15 PM	0	0	3	3	0	2	3	5	0	1	1	2	0	0	0	0	10
02:30 PM	0	0	0	0	0	1	2	3	2	0	0	2	0	0	0	0	5
02:45 PM	0	0	5	5	0	2	2	4	1	1	0	2	0	0	0	0	11
Total	0	2	10	12	0	6	9	15	3	2	1	6	0	0	0	0	33
Grand Total	0	6	26	32	2	18	29	49	6	8	1	15	0	0	0	0	96
Apprch %	0	18.8	81.2		4.1	36.7	59.2		40	53.3	6.7		0	0	0		
Total %	0	6.2	27.1	33.3	2.1	18.8	30.2	51	6.2	8.3	1	15.6	0	0	0	0	
Passenger Vehicles	0	6	25	31	2	16	26	44	6	7	0	13	0	0	0	0	88
% Passenger Vehicles	0	100	96.2	96.9	100	88.9	89.7	89.8	100	87.5	0	86.7	0	0	0	0	91.7
Large 2 Axle Vehicles	0	0	1	1	0	0	2	2	0	1	0	1	0	0	0	0	4
% Large 2 Axle Vehicles	0	0	3.8	3.1	0	0	6.9	4.1	0	12.5	0	6.7	0	0	0	0	4.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	2	1	3	0	0	1	1	0	0	0	0	4
% 4+ Axle Trucks	0	0	0	0	0	11.1	3.4	6.1	0	0	100	6.7	0	0	0	0	4.2

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	1	1	2	0	**1**	0	1	0	0	0	0	3
12:15 PM	0	1	2	3	0	**3**	3	6	0	1	0	1	0	0	0	0	10
12:30 PM	0	0	2	2	**1**	2	1	4	**2**	1	0	**3**	0	0	0	0	9
12:45 PM	0	**2**	**6**	**8**	0	1	**8**	**9**	0	1	0	1	0	0	0	0	**18**
Total Volume	0	3	10	13	1	7	13	21	2	4	0	6	0	0	0	0	40
% App. Total	0	23.1	76.9		4.8	33.3	61.9		33.3	66.7	0		0	0	0		
PHF	.000	.375	.417	.406	.250	.583	.406	.583	.250	1.00	.000	.500	.000	.000	.000	.000	.556

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:15 PM				12:00 PM				01:45 PM				12:00 PM			
+0 mins.	0	1	2	3	0	1	1	2	1	**2**	0	**3**	0	0	0	0
+15 mins.	0	0	2	2	0	**3**	3	6	0	0	0	0	0	0	0	0
+30 mins.	0	**2**	**6**	**8**	**1**	2	1	4	0	1	**1**	2	0	0	0	0
+45 mins.	0	0	1	1	0	1	**8**	**9**	**2**	0	0	2	0	0	0	0
Total Volume	0	3	11	14	1	7	13	21	3	3	1	7	0	0	0	0
% App. Total	0	21.4	78.6		4.8	33.3	61.9		42.9	42.9	14.3		0	0	0	
PHF	.000	.375	.458	.438	.250	.583	.406	.583	.375	.375	.250	.583	.000	.000	.000	.000

Counts Unlimited
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Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles

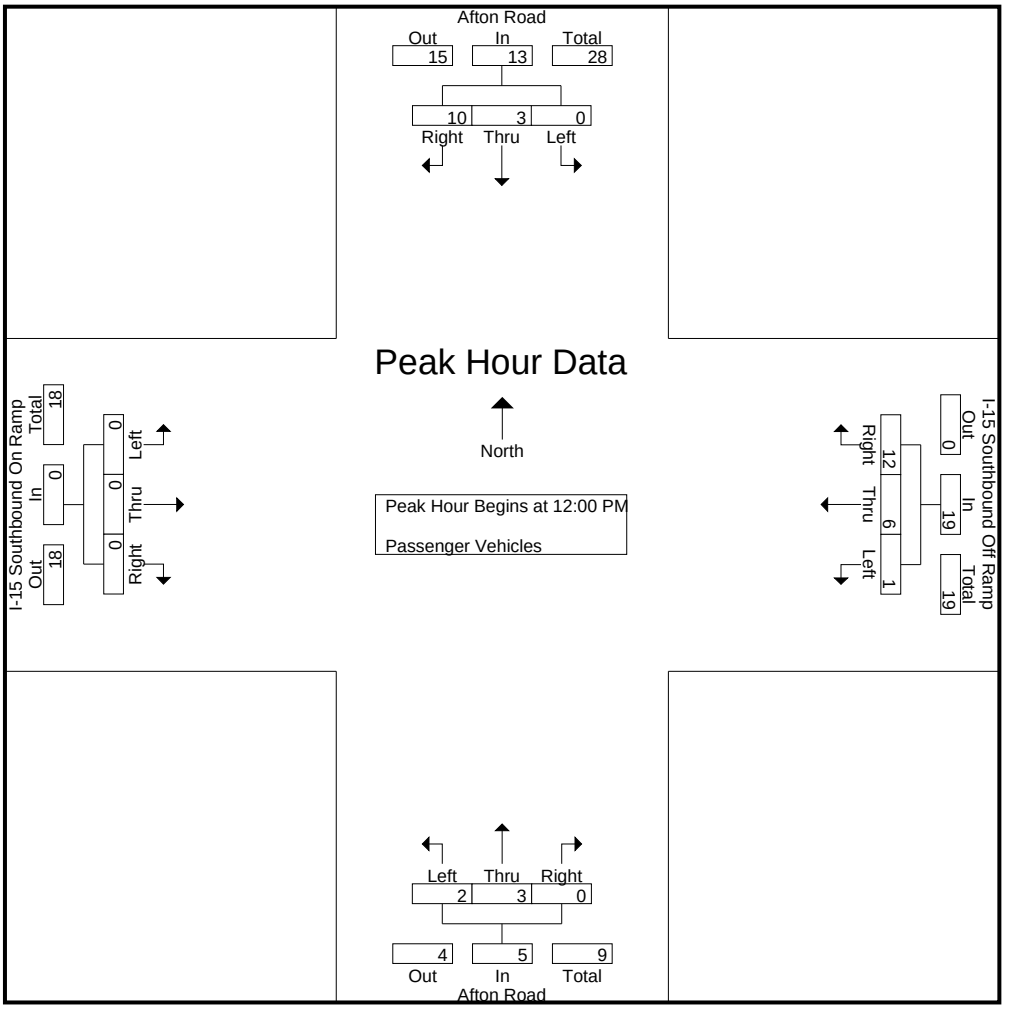
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
12:15 PM	0	1	2	3	0	3	2	5	0	1	0	1	0	0	0	0	9
12:30 PM	0	0	2	2	1	2	1	4	2	1	0	3	0	0	0	0	9
12:45 PM	0	2	6	8	0	0	8	8	0	1	0	1	0	0	0	0	17
Total	0	3	10	13	1	6	12	19	2	3	0	5	0	0	0	0	37
01:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
01:15 PM	0	0	1	1	0	1	3	4	0	0	0	0	0	0	0	0	5
01:30 PM	0	0	2	2	0	1	2	3	0	0	0	0	0	0	0	0	5
01:45 PM	0	1	1	2	1	1	1	3	1	2	0	3	0	0	0	0	8
Total	0	1	5	6	1	4	6	11	1	2	0	3	0	0	0	0	20
02:00 PM	0	2	2	4	0	1	2	3	0	0	0	0	0	0	0	0	7
02:15 PM	0	0	3	3	0	2	2	4	0	1	0	1	0	0	0	0	8
02:30 PM	0	0	0	0	0	1	2	3	2	0	0	2	0	0	0	0	5
02:45 PM	0	0	5	5	0	2	2	4	1	1	0	2	0	0	0	0	11
Total	0	2	10	12	0	6	8	14	3	2	0	5	0	0	0	0	31
Grand Total	0	6	25	31	2	16	26	44	6	7	0	13	0	0	0	0	88
Apprch %	0	19.4	80.6		4.5	36.4	59.1		46.2	53.8	0		0	0	0		
Total %	0	6.8	28.4	35.2	2.3	18.2	29.5	50	6.8	8	0	14.8	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
12:15 PM	0	1	2	3	0	**3**	2	5	0	**1**	0	1	0	0	0	0	9
12:30 PM	0	0	2	2	**1**	2	1	4	**2**	1	0	**3**	0	0	0	0	9
12:45 PM	0	**2**	**6**	**8**	0	0	**8**	**8**	0	1	0	1	0	0	0	0	**17**
Total Volume	0	3	10	13	1	6	12	19	2	3	0	5	0	0	0	0	37
% App. Total	0	23.1	76.9		5.3	31.6	63.2		40	60	0		0	0	0		
PHF	.000	.375	.417	.406	.250	.500	.375	.594	.250	.750	.000	.417	.000	.000	.000	.000	.544

Counts Unlimited
PO Box 1178
Corona, CA 92878
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0
+15 mins.	0	1	2	3	0	**3**	2	5	0	**1**	0	1	0	0	0	0
+30 mins.	0	0	2	2	**1**	2	1	4	**2**	1	0	**3**	0	0	0	0
+45 mins.	0	**2**	**6**	**8**	0	0	**8**	**8**	0	1	0	1	0	0	0	0
Total Volume	0	3	10	13	1	6	12	19	2	3	0	5	0	0	0	0
% App. Total	0	23.1	76.9		5.3	31.6	63.2		40	60	0		0	0	0	
PHF	.000	.375	.417	.406	.250	.500	.375	.594	.250	.750	.000	.417	.000	.000	.000	.000

Counts Unlimited
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Corona, CA 92878
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

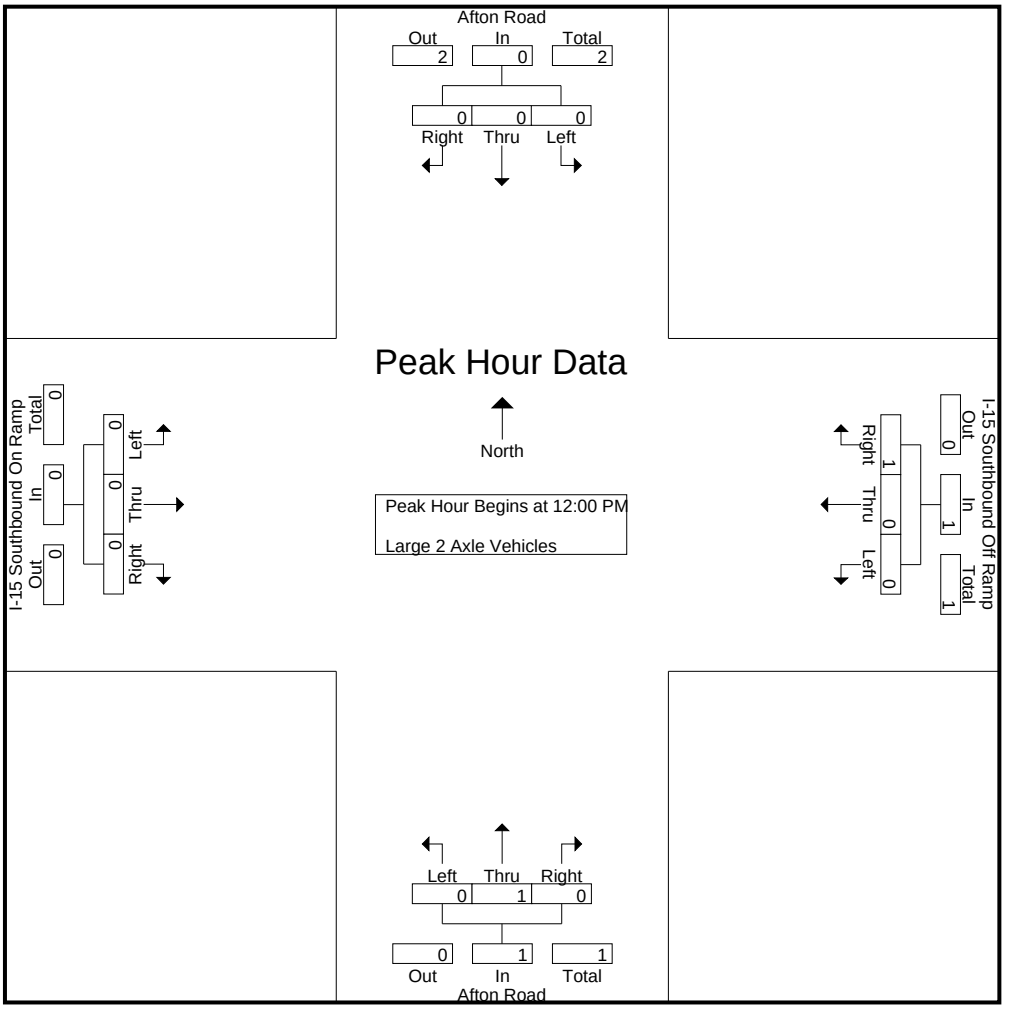
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	1	0	0	2	2	0	1	0	1	0	0	0	0	4
Apprch %	0	0	100		0	0	100		0	100	0		0	0	0		
Total %	0	0	25	25	0	0	50	50	0	25	0	25	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
12:15 PM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
% App. Total	0	0	0		0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.500

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	100		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

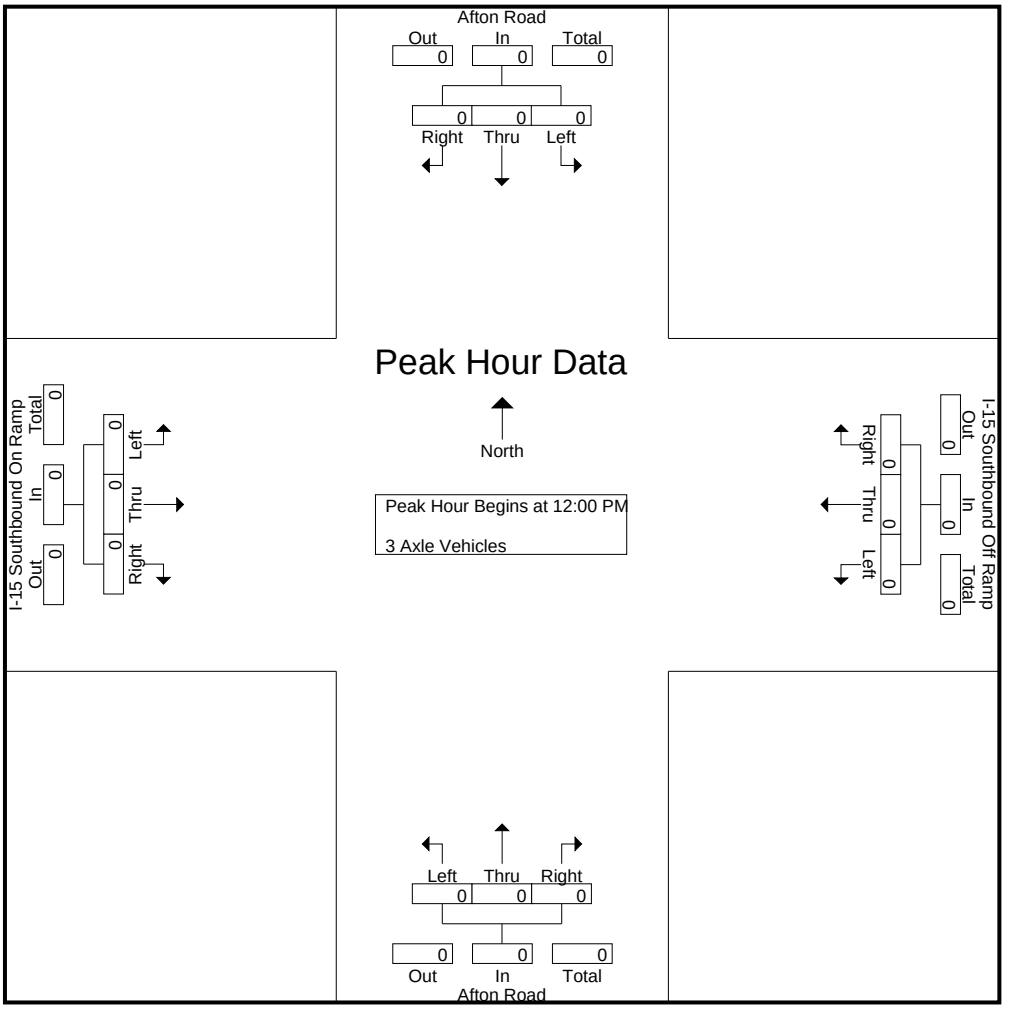
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

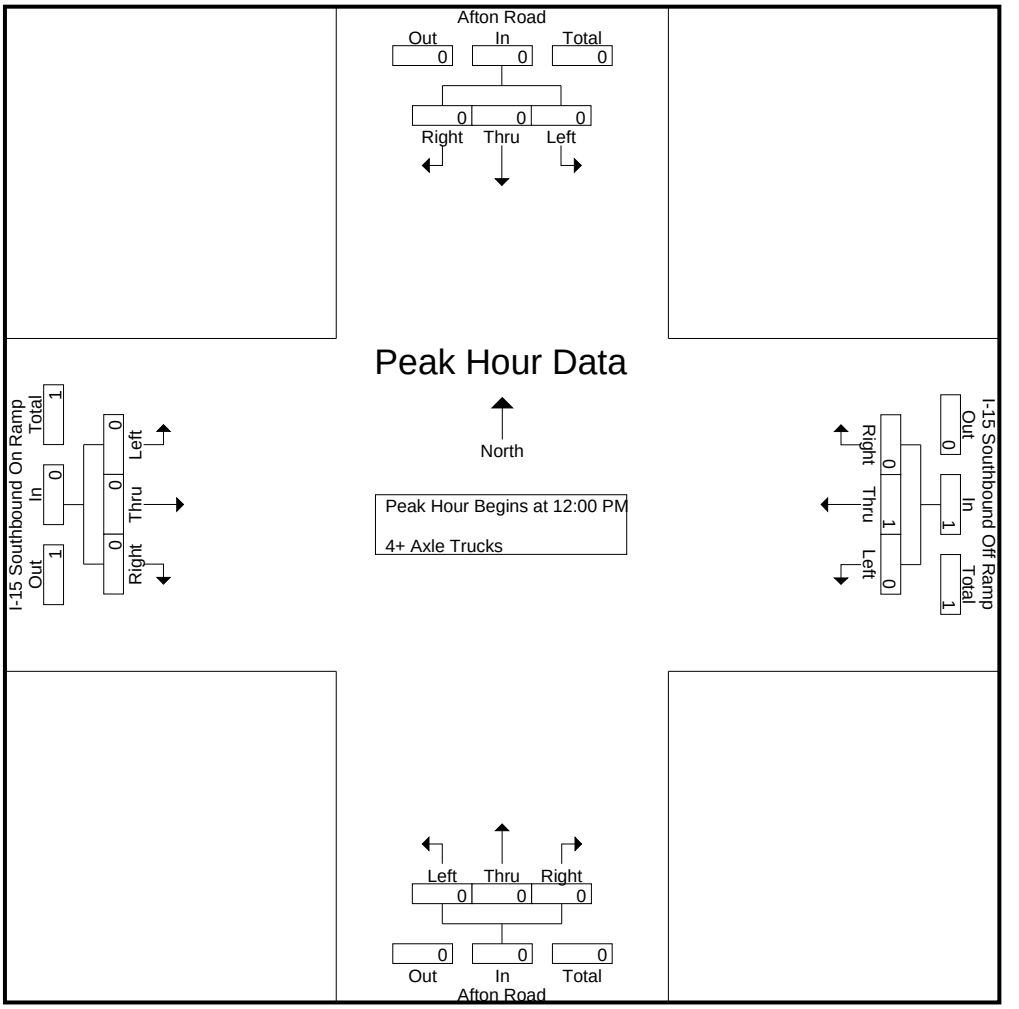
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
Grand Total	0	0	0	0	0	2	1	3	0	0	1	1	0	0	0	0	4
Apprch %	0	0	0		0	66.7	33.3		0	0	100		0	0	0		
Total %	0	0	0	0	0	50	25	75	0	0	25	25	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2

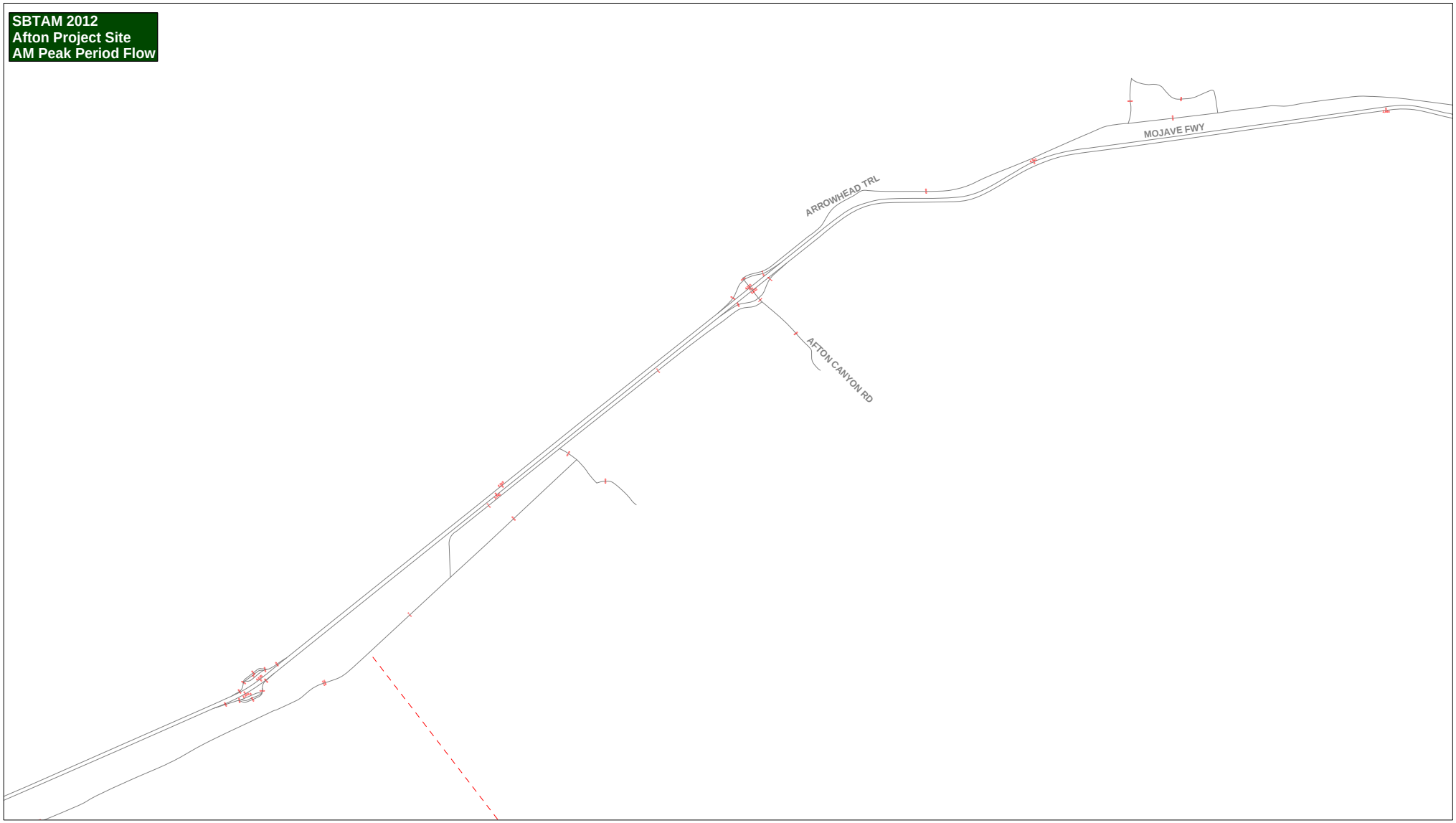


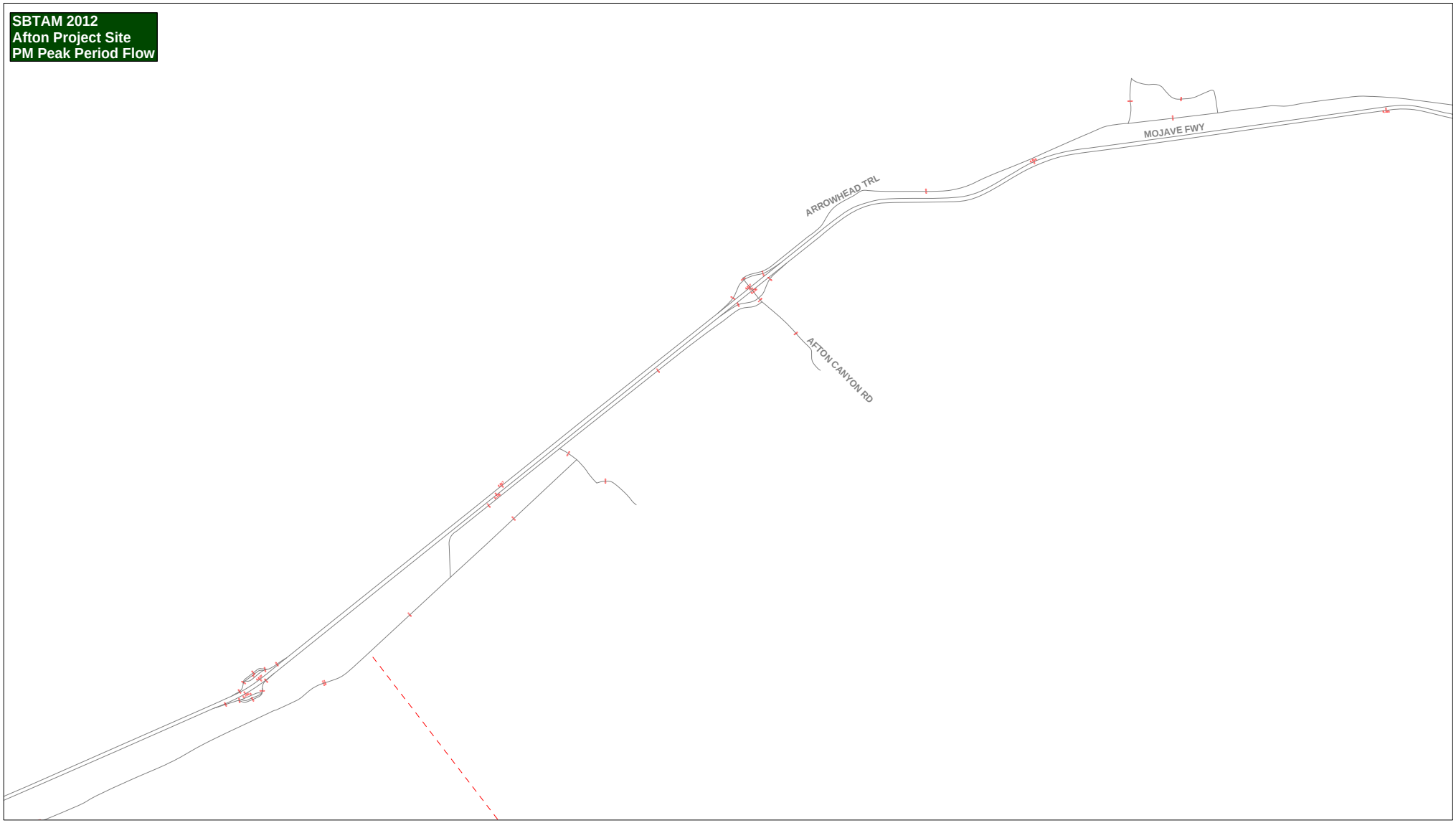
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

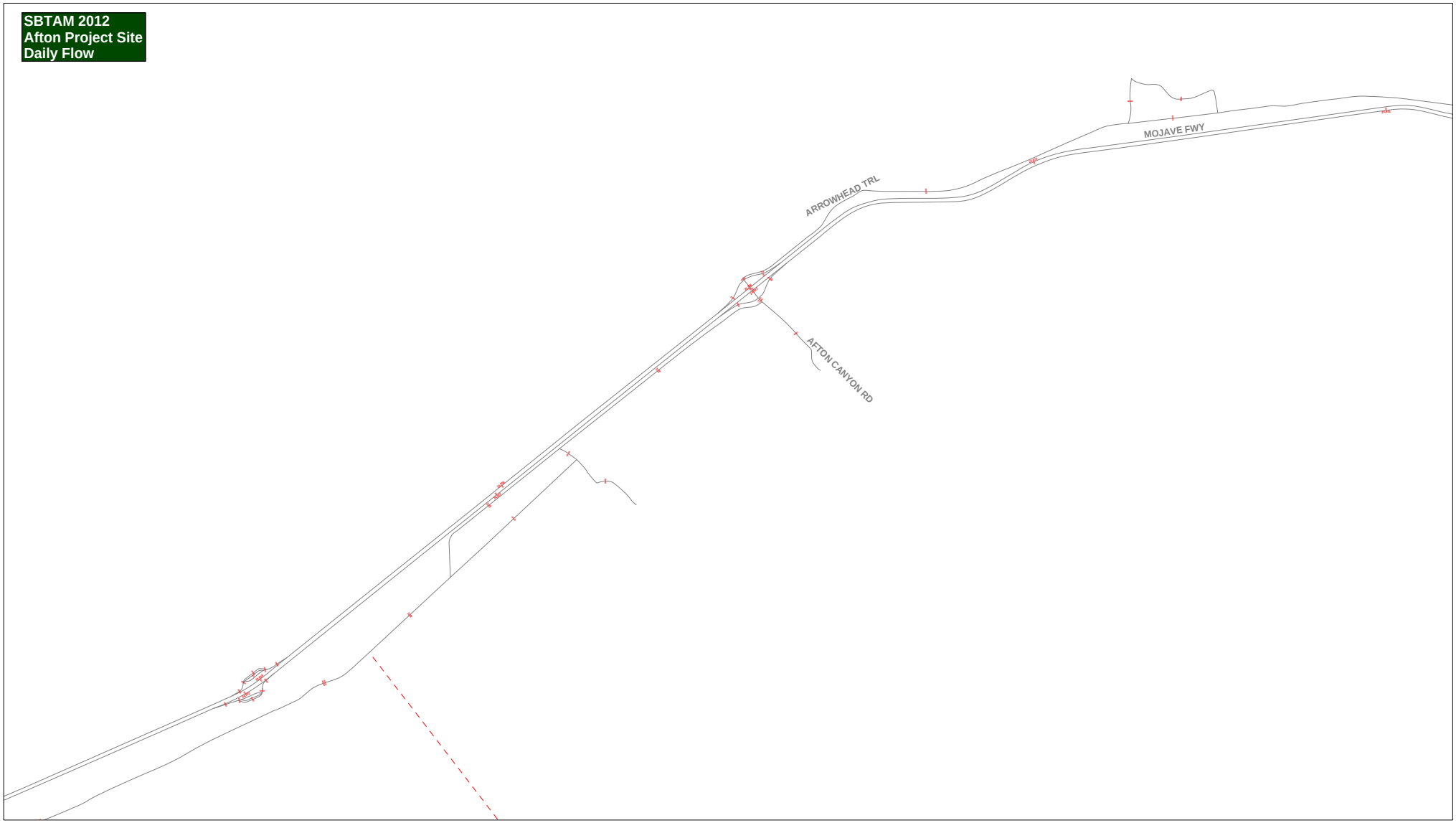
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+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

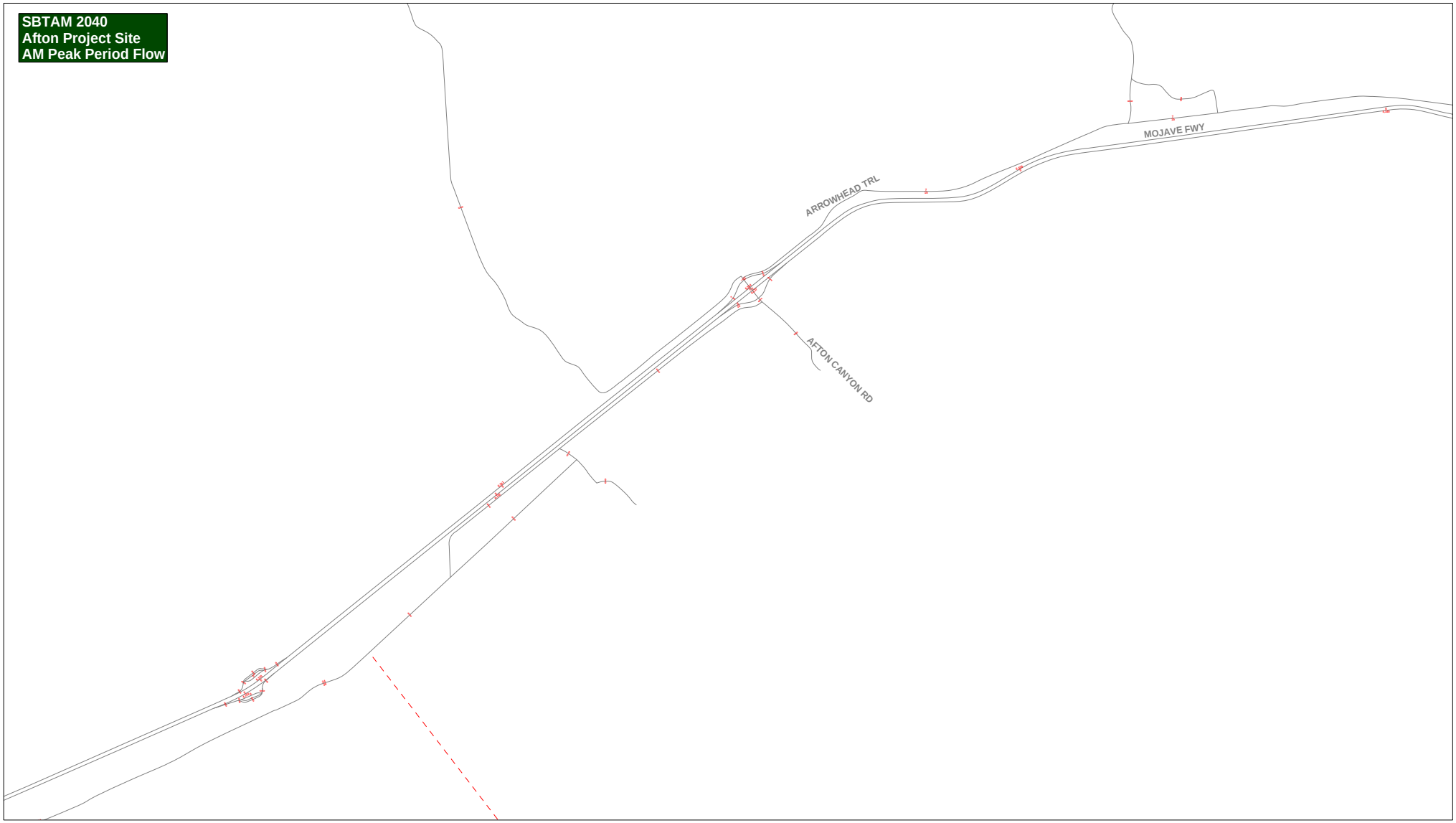
APPENDIX D

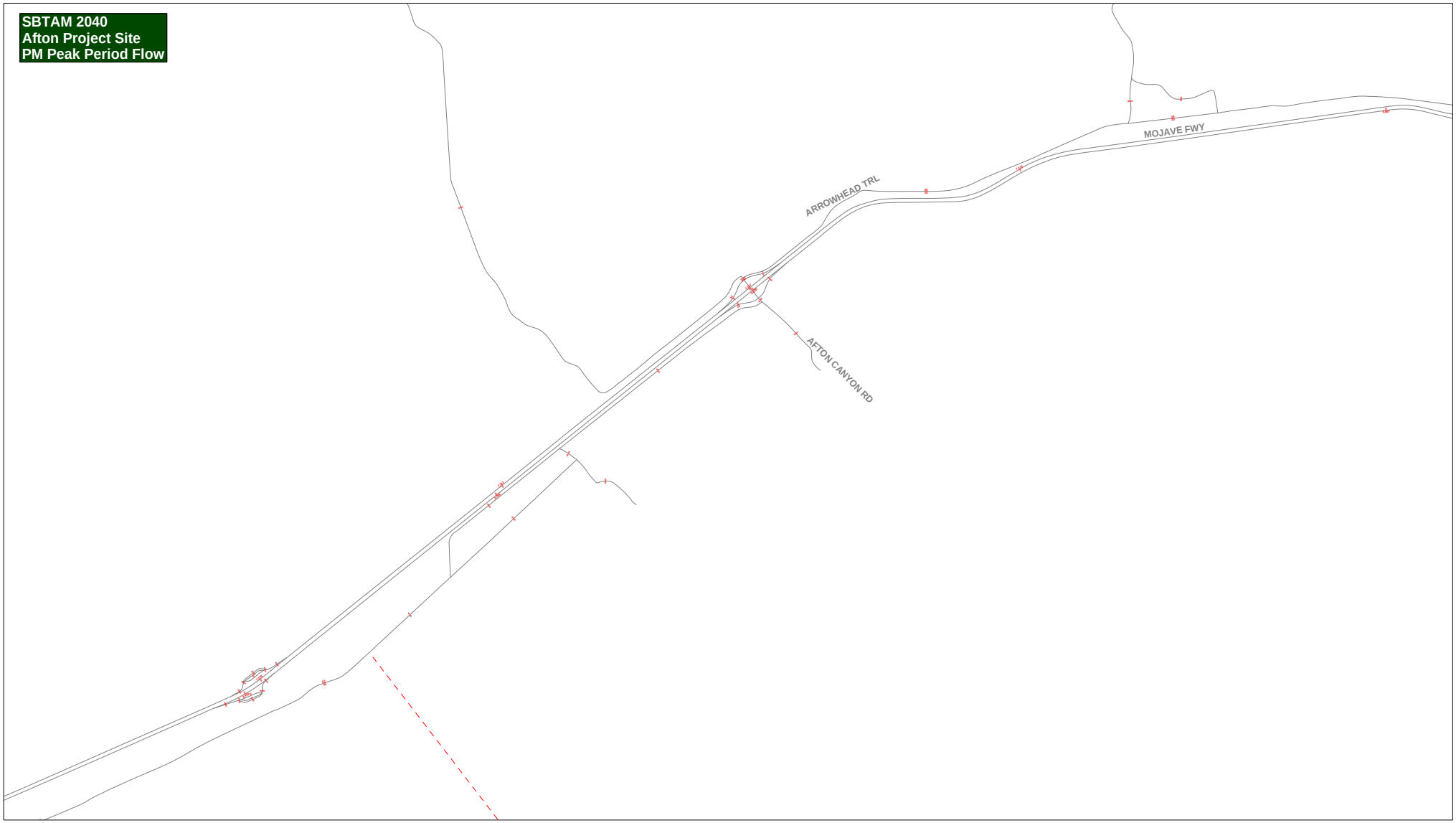
San Bernardino Transportation Analysis Model Plots

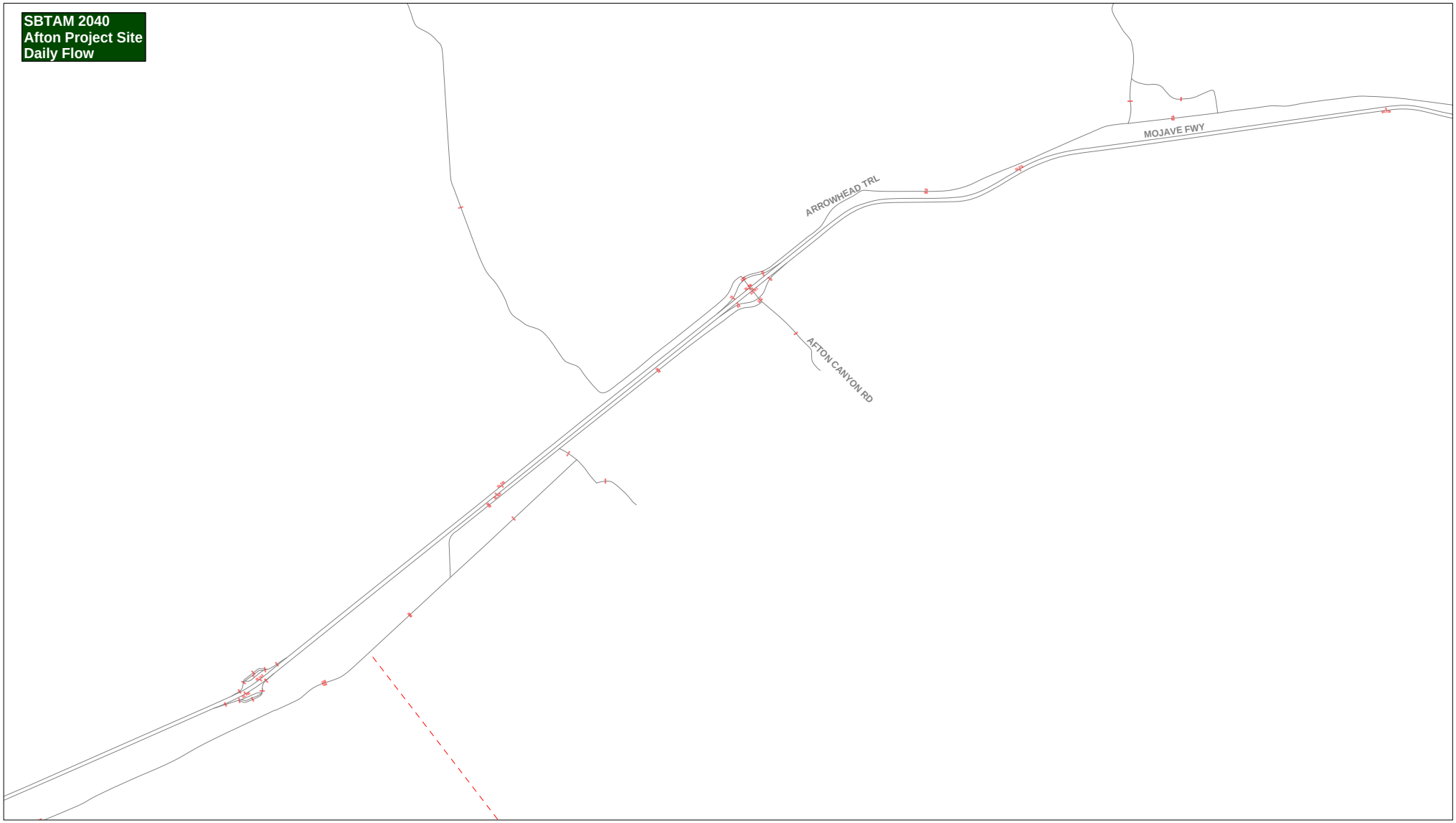

SBTAM 2012
Afton Project Site
AM Peak Period Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2012
Afton Project Site
PM Peak Period Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2012
Afton Project Site
Daily Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2040
Afton Project Site
AM Peak Period Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2040
Afton Project Site
PM Peak Period Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2040
Afton Project Site
Daily Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD

APPENDIX E

Future Growth Increment Calculation Worksheets

AFTON CANYON ROAD (NS) / ARROWHEAD TRAIL (EW)

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				0	4	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	3		
				<	^	>				
				0	2	4				

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					4	2				
					v	^				
			0	<	IN =	13	<	3		
			0	>	OUT =	13	>	4		
					v	^				
					7	6				

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				0	0	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	2		
				<	^	>				
				0	3	0				

PCE FACTORS BY AXLE:

2: **1.5** 3: **2.0** 4+: **3.0**

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				0	4	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	5		
				<	^	>				
				0	5	4				

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.38**

PHF FOR TRUCKS: **0.333**

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: **2040**

FACTOR = **1.50**

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

NEW PROJECTED VOLUMES (PCE'S): 2040

					0	10				
					v	^				
			0	<			<	10		
			0	>			>	0		
					v	^				
					10	10				

YEAR 2018 GROWTH: 2015 TO **2018**

3 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

INITIAL YEAR 2018 VOLUMES:

2018

					0	10				
					v	^				
			0	<	IN =	20	<	10		
			0	>	OUT =	20	>	0		
					v	^				
					10	10				

BALANCED YEAR 2018 VOLUMES:

2018

					0	10				
					v	^				
			0	<	IN =	20	<	10		
			0	>	OUT =	20	>	0		
					v	^				
					10	10				

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				0	8	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		1	v				v	5		
				<	^	>				
				0	6	9				

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					8	6				
					v	^				
			0	<	IN =	29	<	5		
			1	>	OUT =	29	>	9		
					v	^				
					14	15				

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				0	0	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	0		
				<	^	>				
				0	0	0				

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				0	8	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		1	v				v	5		
				<	^	>				
				0	6	9				

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.28**

PHF FOR TRUCKS: **0.25**

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: 2040

FACTOR = 1.50

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

NEW PROJECTED VOLUMES (PCE'S): 2040

					10	10				
					v	^				
			0	<			<	10		
			0	>			>	10		
					v	^				
					10	20				

YEAR 2018 GROWTH: 2015 TO 2018

3 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

INITIAL YEAR 2018 VOLUMES:

2018

					10	10				
					v	^				
			0	<	IN =	40	<	10		
			0	>	OUT =	30	>	10		
					v	^				
					10	20				

BALANCED YEAR 2018 VOLUMES:

2018

					10	10				
					v	^				
			0	<	IN =	40	<	10		
			0	>	OUT =	30	>	10		
					v	^				
					10	20				

AFTON CANYON ROAD (NS) / ARROWHEAD TRAIL (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2018 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**5**	IN ...	**10**	BOUND	THRU	**6**	IN ...	**20**
	RIGHT	**4**	OUT ...	**10**		RIGHT	**9**	OUT ...	**10**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**4**	IN ...	**0**	BOUND	THRU	**8**	IN ...	**10**
	RIGHT	**0**	OUT ...	**10**		RIGHT	**0**	OUT ...	**10**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**1**	OUT ...	**0**
WEST	LEFT	**5**	EAST LEG		WEST	LEFT	**5**	EAST LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**0**	IN ...	**10**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**10**

YEAR 2018 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG		NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**5**	**10**	RATIO	**5.0%**	BOUND	THRU	**6**	**10**	RATIO	**7.5%**
	RIGHT	**4**	**0**	ADT	200		RIGHT	**9**	**10**	ADT	200
SOUTH	LEFT	**0**	**0**	SOUTH LEG		SOUTH	LEFT	**0**	**0**	SOUTH LEG	
BOUND	THRU	**4**	**0**	RATIO	**6.7%**	BOUND	THRU	**8**	**5**	RATIO	**10.0%**
	RIGHT	**0**	**0**	ADT	300		RIGHT	**0**	**0**	ADT	300
EAST	LEFT	**0**	**0**	EAST LEG		EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**0**	**0**	RATIO	**5.0%**	BOUND	THRU	**0**	**0**	RATIO	**7.5%**
	RIGHT	**0**	**0**	ADT	200		RIGHT	**1**	**0**	ADT	200
WEST	LEFT	**5**	**10**	WEST LEG		WEST	LEFT	**5**	**5**	WEST LEG	
BOUND	THRU	**0**	**0**	RATIO	**#DIV/0!**	BOUND	THRU	**0**	**0**	RATIO	**#DIV/0!**
	RIGHT	**0**	**0**	ADT	0		RIGHT	**0**	**0**	ADT	0

AFTON CANYON ROAD (NS) / ARROWHEAD TRAIL (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**5**	IN ...	**10**	BOUND	THRU	**6**	IN ...	**20**
	RIGHT	**4**	OUT ...	**10**		RIGHT	**9**	OUT ...	**10**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**4**	IN ...	**0**	BOUND	THRU	**8**	IN ...	**10**
	RIGHT	**0**	OUT ...	**10**		RIGHT	**0**	OUT ...	**10**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**1**	OUT ...	**0**
WEST	LEFT	**5**	EAST LEG		WEST	LEFT	**5**	EAST LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**0**	IN ...	**10**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**10**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**5**	**10**	RATIO **5.0%**	BOUND	THRU	**6**	**10**	RATIO **7.5%**
	RIGHT	**4**	**0**	ADT 200		RIGHT	**9**	**10**	ADT 200
SOUTH	LEFT	**0**	**0**	SOUTH LEG	SOUTH	LEFT	**0**	**0**	SOUTH LEG
BOUND	THRU	**4**	**0**	RATIO **6.7%**	BOUND	THRU	**8**	**5**	RATIO **10.0%**
	RIGHT	**0**	**0**	ADT 300		RIGHT	**0**	**0**	ADT 300
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG
BOUND	THRU	**0**	**0**	RATIO **5.0%**	BOUND	THRU	**0**	**0**	RATIO **7.5%**
	RIGHT	**0**	**0**	ADT 200		RIGHT	**1**	**0**	ADT 200
WEST	LEFT	**5**	**10**	WEST LEG	WEST	LEFT	**5**	**5**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO **#DIV/0!**	BOUND	THRU	**0**	**0**	RATIO **#DIV/0!**
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0

AFTON CANYON ROAD (NS) / I-15 FREEWAY SB RAMPS (EW)

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				6	1	0		
				<	v	>		
		0	^				^	5
		0	>				<	6
		0	v				v	0
				<	^	>		
				1	1	0		

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					7	6		
					v	^		
			13	<	IN	=	20	< 11
			0	>	OUT	=	20	> 0
					v	^		
					1	2		

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				2	0	0		
				<	v	>		
		0	^				^	0
		0	>				<	0
		0	v				v	0
				<	^	>		

PCE FACTORS BY AXLE:

2: **1.5** 3: **2.0** 4+: **3.0**

				0	0	0		

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				8	1	0		
				<	v	>		
		0	^				^	5
		0	>				<	6
		0	v				v	0
				<	^	>		
				1	1	0		

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**		
					v	^		
			0	<	IN	=	2	< **2**
			0	>	OUT	=	2	> **0**
					v	^		
					2	**0**		

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.38**

PHF FOR TRUCKS: **0.333**

					0	0		
					v	^		
			0	<	IN	=	1	< 1
			0	>	OUT	=	1	> 0
					v	^		
					1	0		

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					35	**20**		
					v	^		
			34	<	IN	=	58	< **3**
			0	>	OUT	=	58	> **0**
					v	^		
					4	**20**		

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

					13	8		
					v	^		
			13	<	IN	=	22	< 1
			0	>	OUT	=	22	> 0
					v	^		
					2	8		

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: **2040**

FACTOR = **1.50**

					13	8		
					v	^		
			13	<			<	0
			0	>			>	0
					v	^		
					1	8		

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					10	10		
					v	^		
			10	<	IN	=	20	< 0
			0	>	OUT	=	20	> 0
					v	^		
					0	10		

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					10	10		
					v	^		
			10	<			<	0
			0	>			>	0
					v	^		
					0	10		

NEW PROJECTED VOLUMES (PCE'S): 2040

					20	20		
					v	^		
			30	<			<	10
			0	>			>	0
					v	^		
					0	10		

YEAR 2018 GROWTH: 2015 TO **2018**

3 YEARS

					0	0		
					v	^		
			0	<			<	0
			0	>			>	0
					v	^		
					0	0		

INITIAL YEAR 2018 VOLUMES:

2018

					10	10		
					v	^		
			20	<	IN	=	20	< 10
			0	>	OUT	=	30	> 0
					v	^		
					0	0		

BALANCED YEAR 2018 VOLUMES:

2018

					20	10		
					v	^		
			20	<	IN	=	40	< 20
			0	>	OUT	=	30	> 0
					v	^		
					0	0		

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				10	3	0		
				<	v	>		
		0	^				^	12
		0	>				<	6
		0	v				v	1
				<	^	>		
				2	3	0		

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					13	15		
					v	^		
			18	<	IN	=	37	< 19
			0	>	OUT	=	37	> 0
					v	^		
					4	5		

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				0	0	0		
				<	v	>		
		0	^				^	2
		0	>				<	3
		0	v				v	0
				<	^	>		

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

				0	2	0		

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				10	3	0		
				<	v	>		
		0	^				^	14
		0	>				<	9
		0	v				v	1
				<	^	>		
				2	5	0		

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**		
					v	^		
			0	<	IN	=	2	< **2**
			0	>	OUT	=	2	> **0**
					v	^		
					2	**0**		

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.28**

PHF FOR TRUCKS: **0.25**

					0	0		
					v	^		
			0	<	IN	=	1	< 1
			0	>	OUT	=	1	> 0
					v	^		
					1	0		

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					35	**20**		
					v	^		
			34	<	IN	=	58	< **3**
			0	>	OUT	=	58	> **0**
					v	^		
					4	**20**		

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

					10	6		
					v	^		
			10	<	IN	=	16	< 1
			0	>	OUT	=	16	> 0
					v	^		
					1	6		

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: 2040

FACTOR = 1.50

					10	6		
					v	^		
			10	<			<	0
			0	>			>	0
					v	^		
					1	6		

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					10	10		
					v	^		
			10	<	IN	=	20	< 0
			0	>	OUT	=	20	> 0
					v	^		
					0	10		

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					10	10		
					v	^		
			10	<			<	0
			0	>			>	0
					v	^		
					0	10		

NEW PROJECTED VOLUMES (PCE'S): 2040

					20	30		
					v	^		
			30	<			<	20
			0	>			>	0
					v	^		
					0	20		

YEAR 2018 GROWTH: 2015 TO 2018

3 YEARS

					0	0		
					v	^		
			0	<			<	0
			0	>			>	0
					v	^		
					0	0		

INITIAL YEAR 2018 VOLUMES:

2018

					10	20		
					v	^		
			20	<	IN	=	40	< 20
			0	>	OUT	=	40	> 0
					v	^		
					0	10		

BALANCED YEAR 2018 VOLUMES:

2018

					10	20		
					v	^		
			20	<	IN	=	40	< 20
			0	>	OUT	=	40	> 0
					v	^		
					0	10		

AFTON CANYON ROAD (NS) / I-15 FREEWAY SB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2018 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL
NORTH	LEFT	**1**	SOUTH LEG		NORTH	LEFT	**2**	SOUTH LEG	
BOUND	THRU	**1**	IN ...	**0**	BOUND	THRU	**5**	IN ...	**10**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**1**	IN ...	**20**	BOUND	THRU	**3**	IN ...	**10**
	RIGHT	**8**	OUT ...	**10**		RIGHT	**10**	OUT ...	**20**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**20**		RIGHT	**0**	OUT ...	**20**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**1**	EAST LEG	
BOUND	THRU	**6**	IN ...	**20**	BOUND	THRU	**9**	IN ...	**20**
	RIGHT	**5**	OUT ...	**0**		RIGHT	**14**	OUT ...	**0**

YEAR 2018 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**1**	**0**	NORTH LEG		NORTH	LEFT	**2**	**3**	NORTH LEG	
BOUND	THRU	**1**	**0**	RATIO	**6.2%**	BOUND	THRU	**5**	**7**	RATIO	**7.5%**
	RIGHT	**0**	**0**	ADT	400		RIGHT	**0**	**0**	ADT	400
SOUTH	LEFT	**0**	**0**	SOUTH LEG		SOUTH	LEFT	**0**	**0**	SOUTH LEG	
BOUND	THRU	**1**	**0**	RATIO	**0.0%**	BOUND	THRU	**3**	**0**	RATIO	**10.0%**
	RIGHT	**8**	**15**	ADT	100		RIGHT	**10**	**10**	ADT	100
EAST	LEFT	**0**	**0**	EAST LEG		EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**0**	**0**	RATIO	**5.0%**	BOUND	THRU	**0**	**0**	RATIO	**6.7%**
	RIGHT	**0**	**0**	ADT	300		RIGHT	**0**	**0**	ADT	300
WEST	LEFT	**0**	**0**	WEST LEG		WEST	LEFT	**1**	**0**	WEST LEG	
BOUND	THRU	**6**	**5**	RATIO	**10.0%**	BOUND	THRU	**9**	**7**	RATIO	**10.0%**
	RIGHT	**5**	**10**	ADT	200		RIGHT	**14**	**13**	ADT	200

AFTON CANYON ROAD (NS) / I-15 FREEWAY SB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**1**	SOUTH LEG		NORTH	LEFT	**2**	SOUTH LEG	
BOUND	THRU	**1**	IN ...	**10**	BOUND	THRU	**5**	IN ...	**20**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**1**	IN ...	**20**	BOUND	THRU	**3**	IN ...	**20**
	RIGHT	**8**	OUT ...	**20**		RIGHT	**10**	OUT ...	**30**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**30**		RIGHT	**0**	OUT ...	**30**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**1**	EAST LEG	
BOUND	THRU	**6**	IN ...	**10**	BOUND	THRU	**9**	IN ...	**20**
	RIGHT	**5**	OUT ...	**0**		RIGHT	**14**	OUT ...	**0**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**1**	**2**	NORTH LEG	NORTH	LEFT	**2**	**4**	NORTH LEG
BOUND	THRU	**1**	**10**	RATIO **8.9%**	BOUND	THRU	**5**	**16**	RATIO **10.0%**
	RIGHT	**0**	**0**	ADT 500		RIGHT	**0**	**0**	ADT 500
SOUTH	LEFT	**0**	**0**	SOUTH LEG	SOUTH	LEFT	**0**	**0**	SOUTH LEG
BOUND	THRU	**1**	**0**	RATIO **6.3%**	BOUND	THRU	**3**	**0**	RATIO **10.0%**
	RIGHT	**8**	**25**	ADT 200		RIGHT	**10**	**20**	ADT 200
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG
BOUND	THRU	**0**	**0**	RATIO **4.2%**	BOUND	THRU	**0**	**0**	RATIO **6.7%**
	RIGHT	**0**	**0**	ADT 300		RIGHT	**0**	**0**	ADT 300
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**1**	**0**	WEST LEG
BOUND	THRU	**6**	**3**	RATIO **10.0%**	BOUND	THRU	**9**	**6**	RATIO **10.0%**
	RIGHT	**5**	**10**	ADT 300		RIGHT	**14**	**14**	ADT 300

AFTON CANYON ROAD (NS) / I-15 FREEWAY NB RAMPS (EW)

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

			0	0	1			
			<	v	>			
		2 ^				^	0	
		2 >				<	0	
		8 v				v	0	
			<	^	>			
			0	0	9			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

				1	2			
				v	^			
			0 <	IN =	22 <		0	
			12 >	OUT =	22 >		12	
				v	^			
				8	9			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

			0	0	0			
			<	v	>			
		0 ^				^	0	
		9 >				<	0	
		0 v				v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: **1.5** 3: **2.0** 4+: **3.0**

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

			0	0	1			
			<	v	>			
		2 ^				^	0	
		11 >				<	0	
		8 v				v	0	
			<	^	>			
			0	0	9			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

				2	**0**			
				v	^			
			0 <	IN =	11 <		**0**	
			0 >	OUT =	11 >		**9**	
				v	^			
				2	**9**			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.38**

PHF FOR TRUCKS: **0.333**

				1	0			
				v	^			
			0 <	IN =	4 <		0	
			0 >	OUT =	4 >		3	
				v	^			
				1	3			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

				4	**20**			
				v	^			
			0 <	IN =	31 <		**0**	
			19 >	OUT =	32 >		**8**	
				v	^			
				4	**8**			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				2	8			
				v	^			
			0 <	IN =	12 <		0	
			7 >	OUT =	12 >		3	
				v	^			
				2	3			

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: **2040**

FACTOR = **1.50**

				1	8			
				v	^			
			0 <		<		0	
			7 >		>		0	
				v	^			
				1	0			

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

				0	10			
				v	^			
			0 <	IN =	10 <		0	
			10 >	OUT =	10 >		0	
				v	^			
				0	0			

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

				0	10			
				v	^			
			0 <		<		0	
			10 >		>		0	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCE'S): 2040

				0	10			
				v	^			
			0 <		<		0	
			30 >		>		20	
				v	^			
				10	10			

YEAR 2018 GROWTH: 2015 TO **2018**

3 YEARS

				0	0			
				v	^			
			0 <		<		0	
			0 >		>		0	
				v	^			
				0	0			

INITIAL YEAR 2018 VOLUMES:

2018

				0	0			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		20	
				v	^			
				10	10			

BALANCED YEAR 2018 VOLUMES:

2018

				0	0			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		20	
				v	^			
				10	10			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

			0	2	2			
			<	v	>			
		4 ^				^	0	
		4 >				<	0	
		4 v				v	0	
			<	^	>			
			0	2	4			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

				4	6			
				v	^			
			0 <	IN =	22 <		0	
			12 >	OUT =	22 >		10	
				v	^			
				6	6			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

			0	0	0			
			<	v	>			
		0 ^				^	0	
		3 >				<	0	
		0 v				v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

			0	2	2			
			<	v	>			
		4 ^				^	0	
		7 >				<	0	
		4 v				v	0	
			<	^	>			
			0	2	4			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

				2	**0**			
				v	^			
			0 <	IN =	11 <		**0**	
			0 >	OUT =	11 >		**9**	
				v	^			
				2	**9**			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.28**

PHF FOR TRUCKS: **0.25**

				1	0			
				v	^			
			0 <	IN =	3 <		0	
			0 >	OUT =	3 >		3	
				v	^			
				1	3			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

				4	**20**			
				v	^			
			0 <	IN =	31 <		**0**	
			19 >	OUT =	32 >		**8**	
				v	^			
				4	**8**			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				1	6			
				v	^			
			0 <	IN =	9 <		0	
			5 >	OUT =	9 >		2	
				v	^			
				1	2			

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: 2040

FACTOR = 1.50

				1	6			
				v	^			
			0 <		<		0	
			5 >		>		0	
				v	^			
				1	0			

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

				0	10			
				v	^			
			0 <	IN =	10 <		0	
			10 >	OUT =	10 >		0	
				v	^			
				0	0			

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

				0	10			
				v	^			
			0 <		<		0	
			10 >		>		0	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCE'S): 2040

				0	20			
				v	^			
			0 <		<		0	
			30 >		>		10	
				v	^			
				10	10			

YEAR 2018 GROWTH: 2015 TO 2018

3 YEARS

				0	0			
				v	^			
			0 <		<		0	
			0 >		>		0	
				v	^			
				0	0			

INITIAL YEAR 2018 VOLUMES:

2018

				0	10			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		10	
				v	^			
				10	10			

BALANCED YEAR 2018 VOLUMES:

2018

				0	10			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		10	
				v	^			
				10	10			

AFTON CANYON ROAD (NS) / I-15 FREEWAY NB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2018 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**2**	IN ...	**10**
	RIGHT	**9**	OUT ...	**10**		RIGHT	**4**	OUT ...	**10**
SOUTH	LEFT	**1**	NORTH LEG		SOUTH	LEFT	**2**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**2**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**10**
EAST	LEFT	**2**	WEST LEG		EAST	LEFT	**4**	WEST LEG	
BOUND	THRU	**11**	IN ...	**20**	BOUND	THRU	**7**	IN ...	**20**
	RIGHT	**8**	OUT ...	**0**		RIGHT	**4**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**20**		RIGHT	**0**	OUT ...	**10**

YEAR 2018 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG		NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**0**	**0**	RATIO	**0.0%**	BOUND	THRU	**2**	**5**	RATIO	**10.0%**
	RIGHT	**9**	**10**	ADT	100		RIGHT	**4**	**5**	ADT	100
SOUTH	LEFT	**1**	**0**	SOUTH LEG		SOUTH	LEFT	**2**	**0**	SOUTH LEG	
BOUND	THRU	**0**	**0**	RATIO	**20.0%**	BOUND	THRU	**2**	**0**	RATIO	**20.0%**
	RIGHT	**0**	**0**	ADT	100		RIGHT	**0**	**0**	ADT	100
EAST	LEFT	**2**	**0**	EAST LEG		EAST	LEFT	**4**	**5**	EAST LEG	
BOUND	THRU	**11**	**10**	RATIO	**20.0%**	BOUND	THRU	**7**	**5**	RATIO	**10.0%**
	RIGHT	**8**	**10**	ADT	100		RIGHT	**4**	**10**	ADT	100
WEST	LEFT	**0**	**0**	WEST LEG		WEST	LEFT	**0**	**0**	WEST LEG	
BOUND	THRU	**0**	**0**	RATIO	**10.0%**	BOUND	THRU	**0**	**0**	RATIO	**10.0%**
	RIGHT	**0**	**0**	ADT	200		RIGHT	**0**	**0**	ADT	200

AFTON CANYON ROAD (NS) / I-15 FREEWAY NB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**2**	IN ...	**10**
	RIGHT	**9**	OUT ...	**10**		RIGHT	**4**	OUT ...	**10**
SOUTH	LEFT	**1**	NORTH LEG		SOUTH	LEFT	**2**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**2**	IN ...	**0**
	RIGHT	**0**	OUT ...	**10**		RIGHT	**0**	OUT ...	**20**
EAST	LEFT	**2**	WEST LEG		EAST	LEFT	**4**	WEST LEG	
BOUND	THRU	**11**	IN ...	**30**	BOUND	THRU	**7**	IN ...	**30**
	RIGHT	**8**	OUT ...	**0**		RIGHT	**4**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**20**		RIGHT	**0**	OUT ...	**10**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**0**	**0**	RATIO **5.0%**	BOUND	THRU	**2**	**6**	RATIO **10.0%**
	RIGHT	**9**	**10**	ADT 200		RIGHT	**4**	**4**	ADT 200
SOUTH	LEFT	**1**	**0**	SOUTH LEG	SOUTH	LEFT	**2**	**0**	SOUTH LEG
BOUND	THRU	**0**	**0**	RATIO **20.0%**	BOUND	THRU	**2**	**0**	RATIO **20.0%**
	RIGHT	**0**	**0**	ADT 100		RIGHT	**0**	**0**	ADT 100
EAST	LEFT	**2**	**10**	EAST LEG	EAST	LEFT	**4**	**14**	EAST LEG
BOUND	THRU	**11**	**10**	RATIO **20.0%**	BOUND	THRU	**7**	**6**	RATIO **10.0%**
	RIGHT	**8**	**10**	ADT 100		RIGHT	**4**	**10**	ADT 100
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**0**	**0**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO **10.0%**	BOUND	THRU	**0**	**0**	RATIO **10.0%**
	RIGHT	**0**	**0**	ADT 300		RIGHT	**0**	**0**	ADT 300

APPENDIX F

Explanation and Calculation of Intersection Delay

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized and signalized intersections are calculated using the delay methodology in the Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane time's 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections
8. Area type (CBD or other)
9. Right turns
10. Left turns

11. Pedestrian activity

12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length

2. Amount of red time faced by a lane group

3. Amount of yellow time for that lane group

4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service E is reached.

LEVEL OF SERVICE DESCRIPTION[1]

Level Of Service	Description	Average Total Delay Per Vehicle (Seconds)	
		Signalized	Unsignalized
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000.

Existing

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Scenario 1 Existing
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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	8.6	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.007	9.1	A
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.014	9.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	5	4	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	5	4	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	0	0
Total Analysis Volume [veh/h]	1	5	4	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.21	0.00	0.00	0.00	8.56	8.33
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.28	0.28	0.00	0.00	0.14	0.14
d_A, Approach Delay [s/veh]	1.20		0.00		8.44	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.85					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	1	1	0	0	1	8	0	0	0	1	6	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	0	0	1	8	0	0	0	1	6	5
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	2	0	0	0	0	2	1
Total Analysis Volume [veh/h]	1	1	0	0	1	8	0	0	0	1	6	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.59	9.11	8.35
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
95th-Percentile Queue Length [ft]	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.94	0.94
d_A, Approach Delay [s/veh]	3.61			0.00			0.00			8.75		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.88											
Intersection LOS	A											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	9	1	1	0	2	11	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	9	1	1	0	2	11	8	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	0	0	0	1	3	2	0	0	0
Total Analysis Volume [veh/h]	0	1	9	1	1	0	2	12	8	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.22	0.00	0.00	8.63	9.16	8.39	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.09	0.09	0.00	1.75	1.75	1.75	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			3.61			8.83			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.93											
Intersection LOS	A											

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Scenario 1 Existing
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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	8.6	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.010	9.2	A
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.008	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	6	8	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	6	8	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	0	0	0
Total Analysis Volume [veh/h]	1	6	8	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.58	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.32	0.32	0.00	0.00	0.14	0.14
d_A, Approach Delay [s/veh]	1.03		0.00		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.34					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	2	5	0	0	3	10	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	5	0	0	3	10	0	0	0	1	9	14
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	0	0	1	3	0	0	0	0	2	4
Total Analysis Volume [veh/h]	2	5	0	0	3	11	0	0	0	1	9	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.69	9.22	8.41
Movement LOS	A	A			A	A				A	A	A
95th-Percentile Queue Length [veh]	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.08
95th-Percentile Queue Length [ft]	0.33	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	1.93	1.93
d_A, Approach Delay [s/veh]	2.07			0.00			0.00			8.71		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.05											
Intersection LOS	A											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	1	1	0	1	2	1	0	0	0
Total Analysis Volume [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.21	0.00	0.00	8.61	9.12	8.37	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	A	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.01	0.01	0.00	0.05	0.05	0.05	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.18	0.18	0.00	1.18	1.18	1.18	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			3.61			8.79			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.85											
Intersection LOS	A											

Existing Plus Project

Baker Fuel Facility Project

Vistro File: J:\...\FE E.vistro
Report File: J:\...\FE Ep.pdf

Scenario 2 Existing Plus Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Afton Canyon Road (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	11.4	B
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	9.9	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.009	10.5	B
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.017	10.5	B
5	Project Truck Entrance (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	EB Left	0.066	7.6	A
6	Project West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.3	A
7	Project Central West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
8	Project Central East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
9	Project East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Right	0.007	8.8	A
10	Project Truck Exit (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Afton Canyon Road (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	116	0	0	0	0	0	0	123	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	116	0	0	0	0	0	0	123	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	31	0	0	0	0	0	0	32	0	0
Total Analysis Volume [veh/h]	0	0	122	0	0	0	0	0	0	129	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	11.43	8.72	0.00	0.00	0.00	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A							A	A	A
95th-Percentile Queue Length [veh]	0.38	0.38	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26	0.26
95th-Percentile Queue Length [ft]	9.41	9.41	9.41	0.00	0.00	0.00	0.00	0.00	0.00	6.41	6.41	6.41
d_A, Approach Delay [s/veh]	8.72			0.00			0.00			7.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	5	4	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	116	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	121	127	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	32	33	0	0	0
Total Analysis Volume [veh/h]	1	127	134	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	9.95	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.29	0.29	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	7.18	7.18	0.00	0.00	0.18	0.18
d_A, Approach Delay [s/veh]	0.06		0.00		9.44	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	1	1	0	0	1	8	0	0	0	1	6	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	58	0	0	61	62	0	0	0	0	0	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	59	0	0	62	70	0	0	0	1	6	63
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	16	0	0	16	18	0	0	0	0	2	17
Total Analysis Volume [veh/h]	1	62	0	0	65	74	0	0	0	1	6	66
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.79	10.47	8.87
Movement LOS	A	A			A	A				A	B	A
95th-Percentile Queue Length [veh]	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.24	0.24
95th-Percentile Queue Length [ft]	3.39	3.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.09	6.09	6.09
d_A, Approach Delay [s/veh]	0.12			0.00			0.00			9.02		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.42											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	9	1	1	0	2	11	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	61	0	0	58	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	9	62	1	0	60	11	8	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	2	16	0	0	16	3	2	0	0	0
Total Analysis Volume [veh/h]	0	1	9	65	1	0	63	12	8	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.08	0.02	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.31	0.00	0.00	9.92	10.47	8.80	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	B	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.13	0.13	0.00	0.34	0.34	0.34	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	3.18	3.18	0.00	8.43	8.43	8.43	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7.20			9.89			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.15											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 5: Project Truck Entrance (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	92	24	123	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	92	24	123	0
Peak Hour Factor	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	24	6	32	0
Total Analysis Volume [veh/h]	0	0	97	25	129	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.07	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.62	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.27	0.27	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	6.78	6.78	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.06		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 6: Project West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	6	18	117	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	6	18	117	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	5	31	0
Total Analysis Volume [veh/h]	0	6	6	19	123	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	8.88	7.45	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft]	0.49	0.49	1.29	1.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		1.79		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Project Central West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	6	12	111	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	6	12	111	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	3	29	0
Total Analysis Volume [veh/h]	0	6	6	13	117	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.25	8.85	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft]	0.48	0.48	0.97	0.97	0.00	0.00
d_A, Approach Delay [s/veh]	8.85		2.35		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 8: Project Central East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	6	6	105	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	6	6	105	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	2	28	0
Total Analysis Volume [veh/h]	0	7	6	6	111	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.18	8.83	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft]	0.56	0.56	0.61	0.61	0.00	0.00
d_A, Approach Delay [s/veh]	8.83		3.71		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	2.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	6	0	98	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	6	0	98	0
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	0	26	0
Total Analysis Volume [veh/h]	0	7	6	0	103	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.79	7.41	0.00	0.00	0.00
Movement LOS		A	A		A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.55	0.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.79		7.41		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Project Truck Exit (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	98	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	98	0	0	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	0	0	0	0
Total Analysis Volume [veh/h]	0	103	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.84	8.64	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh]	0.31	0.31	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	7.80	7.80	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.64		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.64					
Intersection LOS	A					

Baker Fuel Facility Project

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Scenario 2 Existing Plus Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Afton Canyon Road (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	11.4	B
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	10.0	B
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.013	10.6	B
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.010	10.4	B
5	Project Truck Entrance (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	EB Left	0.057	7.6	A
6	Project West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.5	A
7	Project Central West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.3	A
8	Project Central East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
9	Project East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Right	0.013	8.7	A
10	Project Truck Exit (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Afton Canyon Road (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	120	0	0	0	0	0	0	122	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	120	0	0	0	0	0	0	122	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	32	0	0	0	0	0	0	32	0	0
Total Analysis Volume [veh/h]	0	0	126	0	0	0	0	0	0	128	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	11.43	8.73	0.00	0.00	0.00	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A							A	A	A
95th-Percentile Queue Length [veh]	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft]	9.76	9.76	9.76	0.00	0.00	0.00	0.00	0.00	0.00	6.36	6.36	6.36
d_A, Approach Delay [s/veh]	8.73			0.00			0.00			7.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.05											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	6	8	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	120	122	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	126	130	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	34	0	0	0
Total Analysis Volume [veh/h]	1	133	137	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	10.01	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.30	0.30	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	7.58	7.58	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	0.06		0.00		9.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	2	5	0	0	3	10	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	60	0	0	61	61	0	0	0	0	0	60
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	65	0	0	64	71	0	0	0	1	9	74
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	17	0	0	17	19	0	0	0	0	2	19
Total Analysis Volume [veh/h]	2	68	0	0	67	75	0	0	0	1	9	78
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.08
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.94	10.63	8.98
Movement LOS	A	A			A	A				A	B	A
95th-Percentile Queue Length [veh]	0.15	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.30
95th-Percentile Queue Length [ft]	3.79	3.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.61	7.61	7.61
d_A, Approach Delay [s/veh]	0.21			0.00			0.00			9.16		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.74											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	61	0	0	60	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	4	63	2	0	64	7	4	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	17	1	0	17	2	1	0	0	0
Total Analysis Volume [veh/h]	0	2	4	66	2	0	67	7	4	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.08	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.30	0.00	0.00	9.91	10.44	8.78	0.00	0.00	0.00
Movement LOS		A	A	A	A		A	B	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.13	0.13	0.00	0.32	0.32	0.32	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	3.27	3.27	0.00	7.93	7.93	7.93	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			7.09			9.90			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.25											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 5: Project Truck Entrance (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	80	40	122	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	80	40	122	0
Peak Hour Factor	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	21	11	32	0
Total Analysis Volume [veh/h]	0	0	84	42	128	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.60	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.28	0.28	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	7.02	7.02	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.06		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.51					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 6: Project West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	30	111	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	30	111	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	8	29	0
Total Analysis Volume [veh/h]	0	13	11	32	117	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.46	8.88	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.09	0.09	0.00	0.00
95th-Percentile Queue Length [ft]	1.05	1.05	2.24	2.24	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		1.90		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Project Central West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	20	99	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	20	99	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	5	26	0
Total Analysis Volume [veh/h]	0	13	11	21	104	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	8.82	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft]	1.03	1.03	1.63	1.63	0.00	0.00
d_A, Approach Delay [s/veh]	8.82		2.55		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 8: Project Central East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	10	88	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	10	88	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	3	23	0
Total Analysis Volume [veh/h]	0	13	11	11	93	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.20	8.76	7.39	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft]	1.02	1.02	1.11	1.11	0.00	0.00
d_A, Approach Delay [s/veh]	8.76		3.70		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.53					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	2.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	0	76	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	0	76	0
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	0	20	0
Total Analysis Volume [veh/h]	0	13	11	0	80	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.70	7.37	0.00	0.00	0.00
Movement LOS		A	A		A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.00	0.54	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.70		7.37		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.87					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Project Truck Exit (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	76	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	76	0	0	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	0	0	0	0
Total Analysis Volume [veh/h]	0	80	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	8.56	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh]	0.24	0.24	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.92	5.92	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.56		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.56					
Intersection LOS	A					

Opening Year (2018) Without Project

Baker Fuel Facility Project

Vistro File: J:\...\FE OY.vistro
Report File: J:\...\FE OY.pdf

Scenario 1 Opening Year (2018) Without Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	8.6	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.010	12.8	B
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.022	12.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	4	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	10	4	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	1	0	0	0
Total Analysis Volume [veh/h]	1	11	4	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.21	0.00	0.00	0.00	8.59	8.33
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.56	0.56	0.00	0.00	0.14	0.14
d_A, Approach Delay [s/veh]	0.60		0.00		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.27					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	1	1	0	0	1	15	0	0	0	1	6	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	123	0	0	0	0	0	0	0	0	125	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	1	0	0	1	15	0	0	0	126	6	10
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	0	0	0	0	4	0	0	0	33	2	3
Total Analysis Volume [veh/h]	131	1	0	0	1	16	0	0	0	133	6	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.01	0.01
d_M, Delay for Movement [s/veh]	7.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.21	12.81	9.91
Movement LOS	A	A			A	A				B	B	A
95th-Percentile Queue Length [veh]	0.27	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.87	0.87
95th-Percentile Queue Length [ft]	6.67	6.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.80	21.80	21.80
d_A, Approach Delay [s/veh]	7.37			0.00			0.00			12.06		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	9.31											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	10	1	1	0	2	11	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	123	122	0	125	0	0	0	125	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	132	1	126	0	2	11	135	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	35	0	33	0	1	3	36	0	0	0
Total Analysis Volume [veh/h]	0	131	139	1	133	0	2	12	142	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.76	0.00	0.00	11.70	12.60	9.81	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	B	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.34	0.34	0.00	0.65	0.65	0.65	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	8.56	8.56	0.00	16.30	16.30	16.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.06			10.05			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	2.81											
Intersection LOS	B											

Baker Fuel Facility Project

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Scenario 1 Opening Year (2018) Without Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	8.6	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.018	14.9	B
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.014	13.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	8	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	10	8	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	2	0	0	0
Total Analysis Volume [veh/h]	1	11	8	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.61	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.56	0.56	0.00	0.00	0.14	0.14
d_A, Approach Delay [s/veh]	0.60		0.00		8.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.05					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	3	7	0	0	3	10	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	156	0	0	0	0	0	0	0	0	152	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	7	0	0	3	10	0	0	0	153	9	14
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	2	0	0	1	3	0	0	0	40	2	4
Total Analysis Volume [veh/h]	167	7	0	0	3	11	0	0	0	161	9	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.02	0.01
d_M, Delay for Movement [s/veh]	7.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	14.87	11.20
Movement LOS	A	A			A	A				B	B	B
95th-Percentile Queue Length [veh]	0.36	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.36	1.36	1.36
95th-Percentile Queue Length [ft]	9.02	9.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.12	34.12	34.12
d_A, Approach Delay [s/veh]	7.18			0.00			0.00			14.07		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	10.33											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	156	129	0	152	0	0	0	126	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	158	133	2	154	0	4	7	130	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	42	35	1	41	0	1	2	34	0	0	0
Total Analysis Volume [veh/h]	0	166	140	2	162	0	4	7	137	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.85	0.00	0.00	12.32	13.22	9.96	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	B	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.44	0.44	0.00	0.63	0.63	0.63	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	11.12	11.12	0.00	15.86	15.86	15.86	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.10			10.18			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	2.46											
Intersection LOS	B											

Opening Year (2018) With Project

Baker Fuel Facility Project

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Scenario 2 Opening Year (2018) With Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Afton Canyon Road (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	11.4	B
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	10.0	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.013	16.2	C
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.028	15.6	C
5	Project Truck Entrance (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	EB Left	0.066	7.6	A
6	Project West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.3	A
7	Project Central West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
8	Project Central East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
9	Project East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Right	0.007	8.8	A
10	Project Truck Exit (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Afton Canyon Road (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	116	0	0	0	0	0	0	123	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	116	0	0	0	0	0	0	123	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	31	0	0	0	0	0	0	32	0	0
Total Analysis Volume [veh/h]	0	0	122	0	0	0	0	0	0	129	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	11.43	8.72	0.00	0.00	0.00	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A							A	A	A
95th-Percentile Queue Length [veh]	0.38	0.38	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26	0.26
95th-Percentile Queue Length [ft]	9.41	9.41	9.41	0.00	0.00	0.00	0.00	0.00	0.00	6.41	6.41	6.41
d_A, Approach Delay [s/veh]	8.72			0.00			0.00			7.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	4	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	116	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	126	127	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	33	0	0	0
Total Analysis Volume [veh/h]	1	133	134	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	9.99	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.30	0.30	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	7.55	7.55	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	0.06		0.00		9.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	1	1	0	0	1	15	0	0	0	1	6	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	123	58	0	0	61	62	0	0	0	125	0	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	124	59	0	0	62	77	0	0	0	126	6	68
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	16	0	0	16	20	0	0	0	33	2	18
Total Analysis Volume [veh/h]	131	62	0	0	65	81	0	0	0	133	6	72
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.01	0.07
d_M, Delay for Movement [s/veh]	7.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.38	16.22	11.76
Movement LOS	A	A			A	A				C	C	B
95th-Percentile Queue Length [veh]	0.46	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	1.57	1.57
95th-Percentile Queue Length [ft]	11.50	11.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.20	39.20	39.20
d_A, Approach Delay [s/veh]	5.25			0.00			0.00			14.17		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	7.28											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	10	1	1	0	2	11	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	123	122	61	125	0	58	0	125	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	132	62	126	0	60	11	135	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	35	16	33	0	16	3	36	0	0	0
Total Analysis Volume [veh/h]	0	131	139	65	133	0	63	12	142	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.13	0.03	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.90	0.00	0.00	14.63	15.65	11.20	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	C	B			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.53	0.53	0.00	1.32	1.32	1.32	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	13.36	13.36	0.00	33.01	33.01	33.01	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			2.59			12.44			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.69											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 5: Project Truck Entrance (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	92	24	123	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	92	24	123	0
Peak Hour Factor	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	24	6	32	0
Total Analysis Volume [veh/h]	0	0	97	25	129	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.07	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.62	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.27	0.27	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	6.78	6.78	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.06		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 6: Project West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	6	18	117	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	6	18	117	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	5	31	0
Total Analysis Volume [veh/h]	0	6	6	19	123	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	8.88	7.45	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft]	0.49	0.49	1.29	1.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		1.79		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Project Central West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	6	12	111	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	6	12	111	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	3	29	0
Total Analysis Volume [veh/h]	0	6	6	13	117	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.25	8.85	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft]	0.48	0.48	0.97	0.97	0.00	0.00
d_A, Approach Delay [s/veh]	8.85		2.35		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 8: Project Central East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	6	6	105	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	6	6	105	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	2	28	0
Total Analysis Volume [veh/h]	0	7	6	6	111	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.18	8.83	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft]	0.56	0.56	0.61	0.61	0.00	0.00
d_A, Approach Delay [s/veh]	8.83		3.71		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	2.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	6	0	98	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	6	0	98	0
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	0	26	0
Total Analysis Volume [veh/h]	0	7	6	0	103	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.79	7.41	0.00	0.00	0.00
Movement LOS		A	A		A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.55	0.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.79		7.41		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Project Truck Exit (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	98	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	98	0	0	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	0	0	0	0
Total Analysis Volume [veh/h]	0	103	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.84	8.64	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh]	0.31	0.31	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	7.80	7.80	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.64		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.64					
Intersection LOS	A					

Baker Fuel Facility Project

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Report File: J:\...\SM OYp.pdf

Scenario 2 Opening Year (2018) With Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Afton Canyon Road (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	11.4	B
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	10.0	B
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.023	20.1	C
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.018	16.8	C
5	Project Truck Entrance (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	EB Left	0.057	7.6	A
6	Project West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.5	A
7	Project Central West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.3	A
8	Project Central East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
9	Project East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Right	0.013	8.7	A
10	Project Truck Exit (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Afton Canyon Road (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	120	0	0	0	0	0	0	122	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	120	0	0	0	0	0	0	122	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	32	0	0	0	0	0	0	32	0	0
Total Analysis Volume [veh/h]	0	0	126	0	0	0	0	0	0	128	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	11.43	8.73	0.00	0.00	0.00	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A							A	A	A
95th-Percentile Queue Length [veh]	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft]	9.76	9.76	9.76	0.00	0.00	0.00	0.00	0.00	0.00	6.36	6.36	6.36
d_A, Approach Delay [s/veh]	8.73			0.00			0.00			7.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.05											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	8	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	120	122	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	130	130	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	34	0	0	0
Total Analysis Volume [veh/h]	1	137	137	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	10.03	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.31	0.31	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	7.83	7.83	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	0.05		0.00		9.49	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	3	7	0	0	3	10	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	156	60	0	0	61	61	0	0	0	152	0	60
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	67	0	0	64	71	0	0	0	153	9	74
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	18	0	0	17	19	0	0	0	40	2	19
Total Analysis Volume [veh/h]	167	71	0	0	67	75	0	0	0	161	9	78
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.02	0.08
d_M, Delay for Movement [s/veh]	7.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.29	20.13	14.60
Movement LOS	A	A			A	A				C	C	B
95th-Percentile Queue Length [veh]	0.59	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50
95th-Percentile Queue Length [ft]	14.63	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.60	62.60	62.60
d_A, Approach Delay [s/veh]	5.47			0.00			0.00			17.84		
Approach LOS	A			A			A			C		
d_I, Intersection Delay [s/veh]	9.12											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	156	129	61	152	0	60	0	126	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	158	133	63	154	0	64	7	130	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	42	35	17	41	0	17	2	34	0	0	0
Total Analysis Volume [veh/h]	0	166	140	66	162	0	67	7	137	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.15	0.02	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.00	0.00	0.00	15.75	16.77	11.67	0.00	0.00	0.00
Movement LOS		A	A	A	A		C	C	B			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.66	0.66	0.00	1.40	1.40	1.40	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	16.39	16.39	0.00	34.97	34.97	34.97	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			2.32			13.13			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.43											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 5: Project Truck Entrance (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	80	40	122	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	80	40	122	0
Peak Hour Factor	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	21	11	32	0
Total Analysis Volume [veh/h]	0	0	84	42	128	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.60	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.28	0.28	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	7.02	7.02	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.06		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.51					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 6: Project West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	30	111	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	30	111	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	8	29	0
Total Analysis Volume [veh/h]	0	13	11	32	117	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.46	8.88	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.09	0.09	0.00	0.00
95th-Percentile Queue Length [ft]	1.05	1.05	2.24	2.24	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		1.90		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Project Central West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	20	99	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	20	99	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	5	26	0
Total Analysis Volume [veh/h]	0	13	11	21	104	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	8.82	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft]	1.03	1.03	1.63	1.63	0.00	0.00
d_A, Approach Delay [s/veh]	8.82		2.55		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 8: Project Central East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	10	88	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	10	88	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	3	23	0
Total Analysis Volume [veh/h]	0	13	11	11	93	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.20	8.76	7.39	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft]	1.02	1.02	1.11	1.11	0.00	0.00
d_A, Approach Delay [s/veh]	8.76		3.70		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.53					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	2.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	0	76	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	0	76	0
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	0	20	0
Total Analysis Volume [veh/h]	0	13	11	0	80	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.70	7.37	0.00	0.00	0.00
Movement LOS		A	A		A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.00	0.54	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.70		7.37		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.87					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 10: Project Truck Exit (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	76	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	76	0	0	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	0	0	0	0
Total Analysis Volume [veh/h]	0	80	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	8.56	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh]	0.24	0.24	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.92	5.92	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.56		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.56					
Intersection LOS	A					

Year 2040 Without Project

Baker Fuel Facility Project

Vistro File: J:\...\FE LR.vistro
Report File: J:\...\FE LR.pdf

Scenario 1 Year 2040 Without Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	8.6	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.011	13.1	B
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.022	12.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	4	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	10	4	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	1	0	0	0
Total Analysis Volume [veh/h]	1	11	4	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.21	0.00	0.00	0.00	8.59	8.33
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.56	0.56	0.00	0.00	0.14	0.14
d_A, Approach Delay [s/veh]	0.60		0.00		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.27					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	2	10	0	0	1	25	0	0	0	1	6	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	123	0	0	0	0	0	0	0	0	125	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	10	0	0	1	25	0	0	0	126	6	10
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	3	0	0	0	7	0	0	0	33	2	3
Total Analysis Volume [veh/h]	132	11	0	0	1	26	0	0	0	133	6	11
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.01	0.01
d_M, Delay for Movement [s/veh]	7.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.46	13.10	10.05
Movement LOS	A	A			A	A				B	B	B
95th-Percentile Queue Length [veh]	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.90	0.90
95th-Percentile Queue Length [ft]	7.35	7.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.55	22.55	22.55
d_A, Approach Delay [s/veh]	6.88			0.00			0.00			12.31		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	8.85											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	10	1	1	0	10	11	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	123	122	0	125	0	0	0	125	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	132	1	126	0	10	11	135	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	35	0	33	0	3	3	36	0	0	0
Total Analysis Volume [veh/h]	0	131	139	1	133	0	11	12	142	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.76	0.00	0.00	11.81	12.72	9.92	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	B	A			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.34	0.34	0.00	0.72	0.72	0.72	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	8.56	8.56	0.00	17.92	17.92	17.92	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.06			10.25			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	2.99											
Intersection LOS	B											

Baker Fuel Facility Project

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Scenario 1 Year 2040 Without Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	8.6	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.018	15.3	C
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.014	13.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	8	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	10	8	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	2	0	0	0
Total Analysis Volume [veh/h]	1	11	8	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	0.00	8.61	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	0.56	0.56	0.00	0.00	0.14	0.14
d_A, Approach Delay [s/veh]	0.60		0.00		8.47	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.05					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	4	16	0	0	3	20	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	156	0	0	0	0	0	0	0	0	152	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	16	0	0	3	20	0	0	0	153	9	14
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	4	0	0	1	5	0	0	0	40	2	4
Total Analysis Volume [veh/h]	168	17	0	0	3	21	0	0	0	161	9	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.02	0.01
d_M, Delay for Movement [s/veh]	7.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.67	15.29	11.44
Movement LOS	A	A			A	A				B	C	B
95th-Percentile Queue Length [veh]	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42	1.42	1.42
95th-Percentile Queue Length [ft]	9.76	9.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.43	35.43	35.43
d_A, Approach Delay [s/veh]	6.82			0.00			0.00			14.44		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	9.98											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	6	4	2	2	0	14	7	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	156	129	0	152	0	0	0	126	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	162	133	2	154	0	14	7	136	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	43	35	1	41	0	4	2	36	0	0	0
Total Analysis Volume [veh/h]	0	171	140	2	162	0	15	7	143	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.16	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.86	0.00	0.00	12.57	13.47	10.17	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	B	B			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.45	0.45	0.00	0.75	0.75	0.75	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	11.18	11.18	0.00	18.84	18.84	18.84	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			0.10			10.53			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	2.74											
Intersection LOS	B											

Year 2040 With Project

Baker Fuel Facility Project

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Scenario 2 Year 2040 With Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Afton Canyon Road (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	11.4	B
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	10.0	A
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.014	16.7	C
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.028	15.9	C
5	Project Truck Entrance (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	EB Left	0.066	7.6	A
6	Project West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.3	A
7	Project Central West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
8	Project Central East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
9	Project East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Right	0.007	8.8	A
10	Project Truck Exit (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Afton Canyon Road (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	116	0	0	0	0	0	0	123	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	116	0	0	0	0	0	0	123	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	31	0	0	0	0	0	0	32	0	0
Total Analysis Volume [veh/h]	0	0	122	0	0	0	0	0	0	129	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	11.43	8.72	0.00	0.00	0.00	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A							A	A	A
95th-Percentile Queue Length [veh]	0.38	0.38	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26	0.26
95th-Percentile Queue Length [ft]	9.41	9.41	9.41	0.00	0.00	0.00	0.00	0.00	0.00	6.41	6.41	6.41
d_A, Approach Delay [s/veh]	8.72			0.00			0.00			7.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.03											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	4	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	116	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	126	127	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	33	0	0	0
Total Analysis Volume [veh/h]	1	133	134	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	9.99	8.92
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.30	0.30	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	7.55	7.55	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	0.06		0.00		9.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	2	10	0	0	1	25	0	0	0	1	6	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	123	58	0	0	61	62	0	0	0	125	0	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	68	0	0	62	87	0	0	0	126	6	68
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	18	0	0	16	23	0	0	0	33	2	18
Total Analysis Volume [veh/h]	132	72	0	0	65	92	0	0	0	133	6	72
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.01	0.07
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.80	16.70	12.02
Movement LOS	A	A			A	A				C	C	B
95th-Percentile Queue Length [veh]	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.63	1.63
95th-Percentile Queue Length [ft]	12.39	12.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.67	40.67	40.67
d_A, Approach Delay [s/veh]	5.02			0.00			0.00			14.53		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	7.15											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	10	1	1	0	10	11	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	123	122	61	125	0	58	0	125	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	124	132	62	126	0	68	11	135	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	35	16	33	0	18	3	36	0	0	0
Total Analysis Volume [veh/h]	0	131	139	65	133	0	72	12	142	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.15	0.03	0.15	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.90	0.00	0.00	14.87	15.89	11.45	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	C	B			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.53	0.53	0.00	1.43	1.43	1.43	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	13.36	13.36	0.00	35.81	35.81	35.81	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			2.59			12.77			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.90											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 5: Project Truck Entrance (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.066

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	92	24	123	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	92	24	123	0
Peak Hour Factor	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	24	6	32	0
Total Analysis Volume [veh/h]	0	0	97	25	129	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane						
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance						
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.07	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.62	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.27	0.27	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	6.78	6.78	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		6.06		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 6: Project West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	6	18	117	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	6	18	117	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	5	31	0
Total Analysis Volume [veh/h]	0	6	6	19	123	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	8.88	7.45	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft]	0.49	0.49	1.29	1.29	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		1.79		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.64					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Project Central West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	6	12	111	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	6	12	111	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	3	29	0
Total Analysis Volume [veh/h]	0	6	6	13	117	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.25	8.85	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft]	0.48	0.48	0.97	0.97	0.00	0.00
d_A, Approach Delay [s/veh]	8.85		2.35		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 8: Project Central East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	6	6	105	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	6	6	105	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	2	28	0
Total Analysis Volume [veh/h]	0	7	6	6	111	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.18	8.83	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.02	0.02	0.02	0.02	0.00	0.00
95th-Percentile Queue Length [ft]	0.56	0.56	0.61	0.61	0.00	0.00
d_A, Approach Delay [s/veh]	8.83		3.71		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	2.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	6	0	98	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	6	0	98	0
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	0	26	0
Total Analysis Volume [veh/h]	0	7	6	0	103	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.79	7.41	0.00	0.00	0.00
Movement LOS		A	A		A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.55	0.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.79		7.41		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 10: Project Truck Exit (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	98	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	98	0	0	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	26	0	0	0	0
Total Analysis Volume [veh/h]	0	103	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.84	8.64	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh]	0.31	0.31	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	7.80	7.80	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.64		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.64					
Intersection LOS	A					

Baker Fuel Facility Project

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Scenario 2 Year 2040 With Project
5/17/2017

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Afton Canyon Road (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	NB Thru	0.000	11.4	B
2	Afton Canyon Road (NS) at Arrowhead Trail South (EW)	Two-way stop	HCM 6th Edition	EB Left	0.001	10.0	B
3	Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)	Two-way stop	HCM 6th Edition	WB Thru	0.024	20.8	C
4	Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)	Two-way stop	HCM 6th Edition	EB Thru	0.018	17.3	C
5	Project Truck Entrance (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	EB Left	0.057	7.6	A
6	Project West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.5	A
7	Project Central West Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.3	A
8	Project Central East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	9.2	A
9	Project East Access (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Right	0.013	8.7	A
10	Project Truck Exit (NS) at Arrowhead Trail North (EW)	Two-way stop	HCM 6th Edition	SB Left	0.000	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Afton Canyon Road (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			Arrowhead Trail North (EW)			Arrowhead Trail North (EW)		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	120	0	0	0	0	0	0	122	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	120	0	0	0	0	0	0	122	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	32	0	0	0	0	0	0	32	0	0
Total Analysis Volume [veh/h]	0	0	126	0	0	0	0	0	0	128	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	10.89	11.43	8.73	0.00	0.00	0.00	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A							A	A	A
95th-Percentile Queue Length [veh]	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25
95th-Percentile Queue Length [ft]	9.76	9.76	9.76	0.00	0.00	0.00	0.00	0.00	0.00	6.36	6.36	6.36
d_A, Approach Delay [s/veh]	8.73			0.00			0.00			7.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	8.05											
Intersection LOS	B											

Intersection Level Of Service Report

Intersection 2: Afton Canyon Road (NS) at Arrowhead Trail South (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Afton Canyon Road (NS)		Afton Canyon Road (NS)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	1	10	8	1	1	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	120	122	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	130	130	1	1	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	34	0	0	0
Total Analysis Volume [veh/h]	1	137	137	1	1	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.47	0.00	0.00	0.00	10.03	8.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.31	0.31	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft]	7.83	7.83	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	0.05		0.00		9.49	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	4	16	0	0	3	20	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	156	60	0	0	61	61	0	0	0	152	0	60
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	76	0	0	64	81	0	0	0	153	9	74
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	20	0	0	17	21	0	0	0	40	2	19
Total Analysis Volume [veh/h]	168	80	0	0	67	85	0	0	0	161	9	78
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.02	0.08
d_M, Delay for Movement [s/veh]	7.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.93	20.83	15.06
Movement LOS	A	A			A	A				C	C	C
95th-Percentile Queue Length [veh]	0.62	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61	2.61	2.61
95th-Percentile Queue Length [ft]	15.52	15.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.16	65.16	65.16
d_A, Approach Delay [s/veh]	5.30			0.00			0.00			18.43		
Approach LOS	A			A			A			C		
d_I, Intersection Delay [s/veh]	9.08											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	6	4	2	2	0	14	7	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	156	129	61	152	0	60	0	126	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	162	133	63	154	0	74	7	136	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	43	35	17	41	0	19	2	36	0	0	0
Total Analysis Volume [veh/h]	0	171	140	66	162	0	78	7	143	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.18	0.02	0.16	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.01	0.00	0.00	16.29	17.30	12.14	0.00	0.00	0.00
Movement LOS		A	A	A	A		C	C	B			
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.66	0.66	0.00	1.61	1.61	1.61	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	16.47	16.47	0.00	40.30	40.30	40.30	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			2.32			13.72			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.77											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 5: Project Truck Entrance (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail North (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	80	40	122	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	80	40	122	0
Peak Hour Factor	1.0000	1.0000	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	21	11	32	0
Total Analysis Volume [veh/h]	0	0	84	42	128	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.60	0.00	0.00	0.00
Movement LOS			A	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.00	0.28	0.28	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	7.02	7.02	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		5.06		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.51					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 6: Project West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	30	111	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	30	111	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	8	29	0
Total Analysis Volume [veh/h]	0	13	11	32	117	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.46	8.88	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.09	0.09	0.00	0.00
95th-Percentile Queue Length [ft]	1.05	1.05	2.24	2.24	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		1.90		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.14					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 7: Project Central West Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	20	99	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	20	99	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	5	26	0
Total Analysis Volume [veh/h]	0	13	11	21	104	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.32	8.82	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.07	0.07	0.00	0.00
95th-Percentile Queue Length [ft]	1.03	1.03	1.63	1.63	0.00	0.00
d_A, Approach Delay [s/veh]	8.82		2.55		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 8: Project Central East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	10	88	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	10	88	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	3	23	0
Total Analysis Volume [veh/h]	0	13	11	11	93	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.20	8.76	7.39	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.04	0.04	0.04	0.04	0.00	0.00
95th-Percentile Queue Length [ft]	1.02	1.02	1.11	1.11	0.00	0.00
d_A, Approach Delay [s/veh]	8.76		3.70		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.53					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 9: Project East Access (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	2.00	0.00	0.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	10	0	76	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	10	0	76	0
Peak Hour Factor	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	3	0	20	0
Total Analysis Volume [veh/h]	0	13	11	0	80	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.70	7.37	0.00	0.00	0.00
Movement LOS		A	A		A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.02	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	1.00	0.54	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.70		7.37		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.87					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Project Truck Exit (NS) at Arrowhead Trail North (EW)

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Project Driveway (NS)		Arrowhead Trail (EW)		Arrowhead Trail (EW)	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	76	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	76	0	0	0	0
Peak Hour Factor	0.9500	0.9500	1.0000	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	20	0	0	0	0
Total Analysis Volume [veh/h]	0	80	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.07	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.76	8.56	0.00	0.00	0.00	0.00
Movement LOS	A	A		A	A	
95th-Percentile Queue Length [veh]	0.24	0.24	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	5.92	5.92	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.56		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	8.56					
Intersection LOS	A					

APPENDIX G

Pass-By Trips

CHAPTER 5

Pass-by, Primary, and Diverted Linked Trips

5.1 Background

The trip generation rates and equations contained in *Trip Generation* are derived from actual measurements of traffic generated by individual sites. These rates and equations represent vehicles entering and exiting a site at its driveways. Therefore, these volumes are appropriate for determining the total traffic to be accommodated by site driveways.

The pass-by trip-making phenomenon, if estimated to be significant, should be recognized when examining the traffic impact of a development on the adjacent street system.

There are instances, however, when the total number of trips generated by a site is different from the amount of new traffic **added** to the street system by the generator. For example, retail-oriented developments such as shopping centers, discount stores, restaurants, banks, service stations, and convenience markets often locate adjacent to busy streets in order to attract the motorists already on the street. These sites attract a portion of their trips from traffic passing the site on the way from an origin to an ultimate destination. These retail trips **may not add new traffic** to the adjacent street system.

Trip-making can be broken down into two major categories: **pass-by trips** and **non-pass-by trips.** In some traffic impact study applications, it is necessary to further subdivide non-pass-by trips into **primary trips** and **diverted linked** trips. These trip types are illustrated in figure 5.1 and are defined below.

Types of Trips Generated by a Site

Pass-By Trip
Non-Pass-By Trips
Primary Trips
Diverted Linked Trips

Pass-by trips are made as intermediate stops *on the way* from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site *on an adjacent street* or roadway that offers direct access to the generator. **Pass-by trips are not diverted from another roadway.**

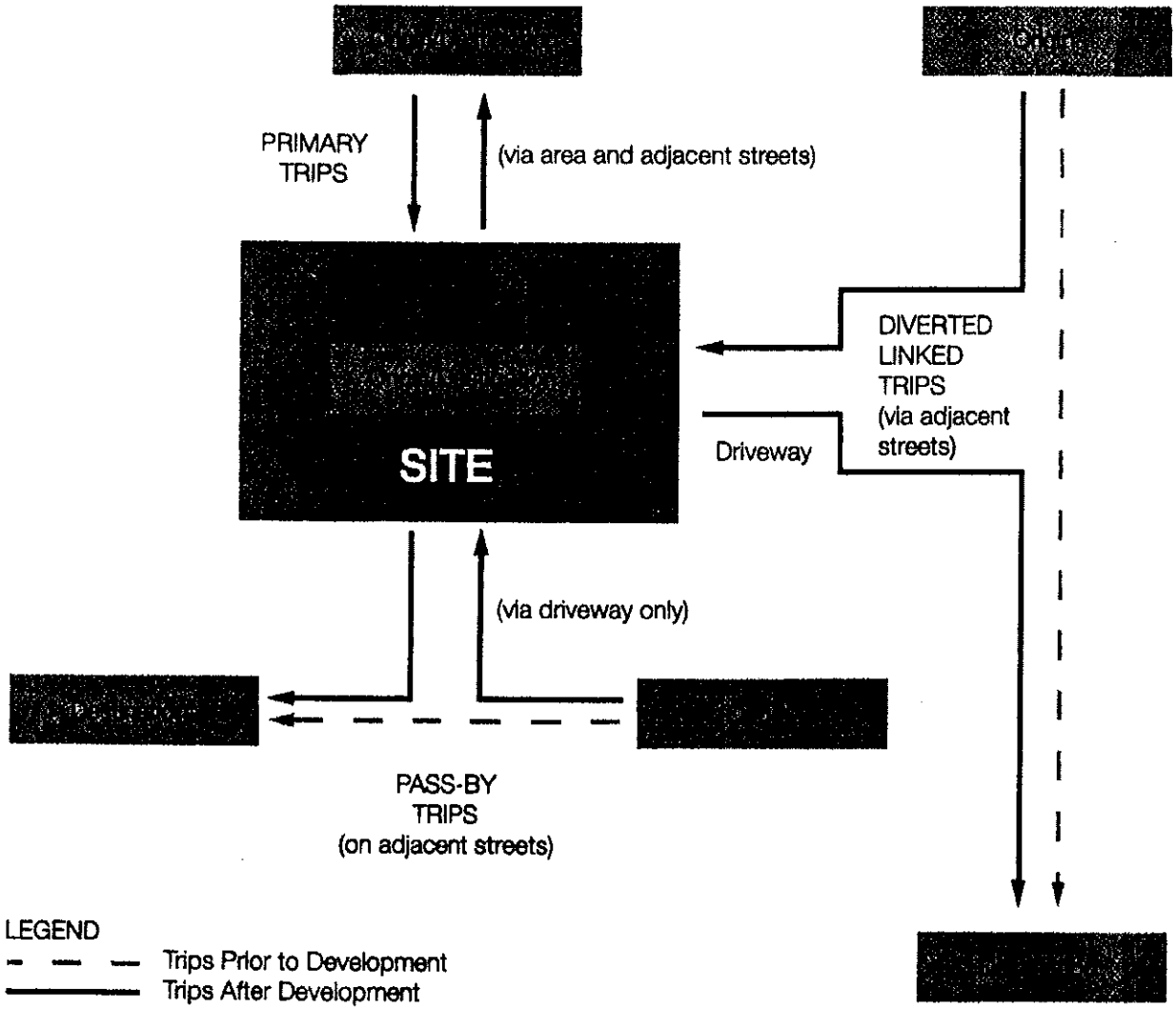
Pass-by trips do not require a route diversion to enter the site driveway.

Non-pass-by trips are simply all trips generated by a site that are not pass-by trips. This term is sometimes used when diverted linked trips are not tabulated separately from primary trips.

Primary trips are trips made for the specific purpose of visiting the generator. The stop at the generator is the primary reason for the trip. The trip typically goes from origin to generator and then returns to the origin. For example, a home-to-shopping-to-home combination of trips is a primary trip set.

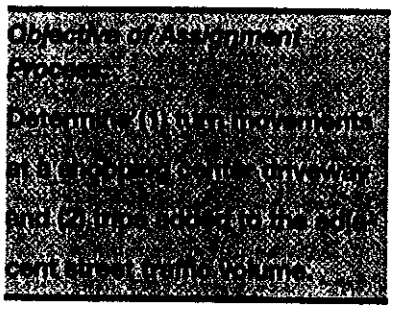
Diverted linked trips are trips that are attracted from the traffic volume on roadways within the vicinity of the generator but that require a diversion from that roadway to another roadway to gain access to the site. These trips could travel on highways or freeways adjacent to a generator, but without access to the generator. **Diverted linked trips add traffic to streets adjacent to a site, but may not add traffic to the area's major travel routes** (see figure 5.1). Both pass-by and diverted linked trips may be part of a multiple-stop chain of trips.

Figure 5.1 Types of Trips



5.2 Sample Application of Pass-By Trip Assignment Process

In this example, the objectives are to (1) estimate the number of new trips added to the adjacent street traffic volume with the development of a shopping center with 580,000 square feet of gross leasable area, and (2) determine the turn movements at the shopping center driveway. The forecasted two-way evening peak hour traffic on a street adjacent to the proposed shopping center is 1,200 vehicles, as shown in figure 5.2(A)—1,000 traveling west and 200 traveling east.



The shopping center is estimated to generate 2,000 evening peak hour trips (based on the fitted curve equation given for Land Use Code 820 on page 1,339 of *Trip Generation*, Sixth Edition). An assessment of the shopping center parking configuration and access points indicates that an estimated 20 percent of the site-generated traffic will use the driveway being analyzed in this example. Thus, the driveway volume is estimated to be 400 evening peak hour trips (i.e., 20 percent of 2,000 trips). For this example, 50 percent enter and 50 percent exit the shopping center (as shown in figure 5.2(B)).

From data collected at other shopping centers, it is estimated (in this example) that about 15 percent of the driveway volume is pass-by (figure 5.2(B)). Therefore, 30 of the inbound vehicles (i.e., 15 percent of 200 vehicles) and 30 of the outbound vehicles are considered pass-by trips.

The assumed trip distribution for the non-pass-by trips is shown in figure 5.2(C). These values are based on local knowledge of expected trip patterns for primary and diverted linked trips to and from the shopping center (based on existing travel patterns, surrounding land uses, etc.). For example, 80 percent of the non-pass-by trips are expected to arrive from the east and to return to the east after the trip to the shopping center.

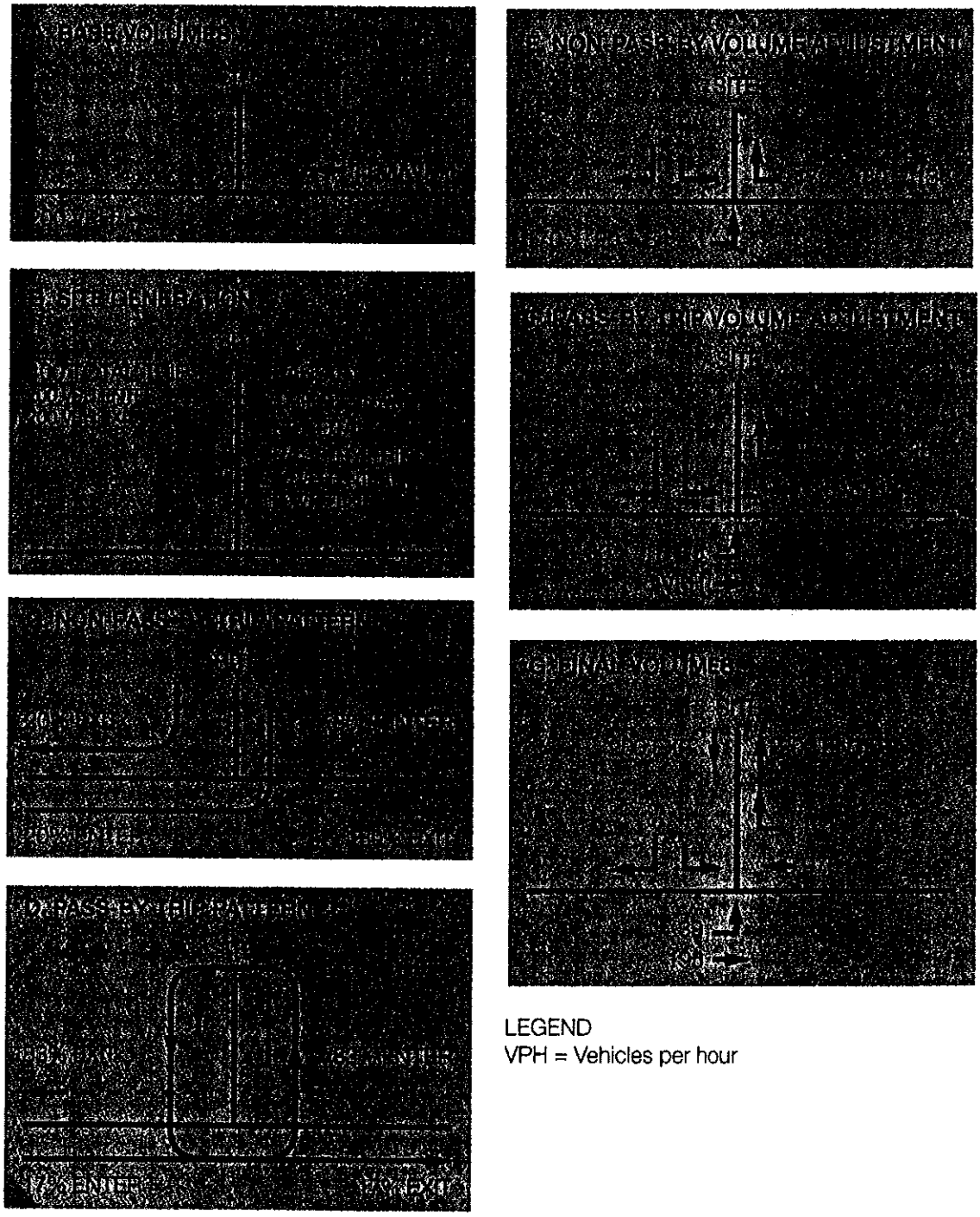
The distribution of the pass-by trips is based on the volume of traffic passing the driveway, as shown in figure 5.2(D). Because 83 percent of the traffic passing by the site comes from the east (i.e., 1,000 of the 1,200 shown previously in figure 5.2 (A)), it is assumed that 83 percent of the pass-by trips will likewise arrive from the east and will depart toward the west.

The assignment of the non-pass-by trips generated by the site is shown in figure 5.2(E). The total number of non-pass-by trips destined to the site is 170 (the 200 total trips minus the 30 inbound pass-by trips shown earlier in figure 5.2(B)). Eighty percent (or 136) are expected to arrive from the east and to return to the east.

The assignment of the pass-by trips is shown in figure 5.2(F). Of the 30 pass-by trips, 83 percent (or 25) arrive from the east and depart to the west. Likewise, 17 percent (or 5) arrive from the west and depart to the east. Note that the calculation also shows the expected through-trip reductions as the trips passing the site turn into the new driveway. For example, the new westbound right-turn volume of 25 causes a reduction in the westbound through movement.

The final assignment of all trips entering and leaving the shopping center driveway, as well as passing the driveway, is shown in figure 5.2(G). These values are simply the sum of the base volumes (from figure 5.2(A)), the non-pass-by trips generated by the site (from figure 5.2(E)), and the pass-by trips generated by the site (from figure 5.2(F)). Note that the through-traffic volumes in both directions on the major street are reduced as a result of the pass-by trip analysis.

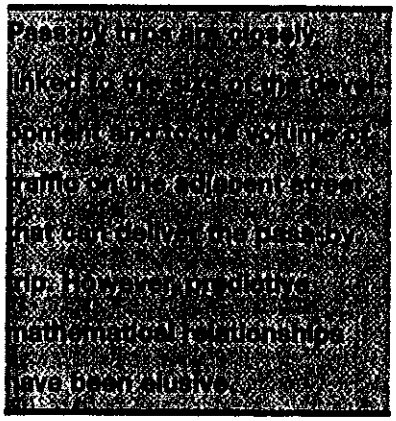
Figure 5.2 Application of Pass-By Trips



LEGEND
VPH = Vehicles per hour

5.3 Cautions

Statistical analysis and correlation of the pass-by data collected by the profession continue to evolve. However, due to the limited amount of pass-by data available and the inherent variability in surveyed site characteristics, it has still proven difficult to obtain high correlation indices.



Traditional pass-by trip analyses have attempted to correlate pass-by trip percentages (i.e., percent of the total number of trips generated by a site) with units of occupied site development (such as gross leasable area, gross floor area, seats in a restaurant, or fueling positions at a gas/service station). Limited results for some land uses show that this correlation can be enhanced further by including the magnitude of the traffic passing the site on the adjacent roadways.

The analyst should exercise caution in the use of pass-by and diverted linked data presented in this chapter to ensure that the following aspects of pass-by trip characteristics are handled appropriately in the analysis process.

Diverted linked trips are clearly different from pass-by trips. Diverted linked trips add trips to the adjacent roads at a proposed or expanded site, but may not add trips to nearby major highways or freeways.

Diverted linked trips are often difficult to identify. Therefore, **diverted linked trips should be treated similarly to primary trips,** unless: (1) all three (primary, pass-by, and diverted linked) categories are being analyzed and processed separately, and (2) the travel routes for diverted linked trips can be clearly established.

Pass-by trips are drawn from the passing traffic stream, **but are always included in the site driveway movements.** In traffic analyses, summation of driveway volumes must equal the total external site generation (i.e., the sum of primary, pass-by, and diverted linked trips). Pass-by trips are not included in (and thus, subtracted from) the through-volumes passing a given site access point on an adjacent road. Standard methodologies for assessing the traffic impacts of site development typically require that diverted linked trips be included as additional trips within the confines of local impact assessment studies.

In a multi-use development, it is likely that there will be trips internal to the site (refer to chapter 7 for guidance). Before applying the pass-by reduction, the internal trips should be removed from the total number of trips generated by the multi-use site. **Pass-by trips are only applicable to trips that enter or exit the site, not internal trips.**

Overall, diverted linked trips represent a change in local area travel patterns but constitute no new increase on a *macroscopic* scale. Within the immediate study area, diverted linked trips do represent additional traffic on individual streets and should be analyzed that way.

5.4 Data Base on Pass-By, Primary, and Diverted Linked Trips

Listed in table 5.1 are 19 land uses for which ITE has received and compiled pass-by and diverted linked trip data. The table denotes whether the data are presented in this handbook in a table or a figure (in a data plot similar to those presented in *Trip Generation* for trip end data). Table 5.1 also identifies the time periods for which the data have been reported.

Tables 5.2 through 5.26 present the values for percentage of site generation that is accounted for by pass-by, non-pass-by, primary, and diverted linked trips.

Figures 5.3 through 5.15 plot the average *pass-by* trip percentages associated with the various land uses. No plots are provided for *diverted linked* trips. These figures are provided to enable the user to visualize the data scatter provided in tables 5.2 through 5.26.

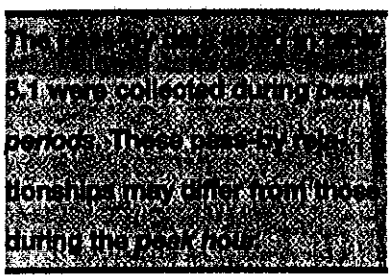
Data plots are provided for each land use where nine or more data points are available for a specific independent variable.

For all land uses except shopping centers, data are plotted for only one independent variable. For shopping centers, data are plotted for GLA and peak hour traffic on adjacent streets for the weekday evening peak period; GLA is also used as the independent variable for shopping centers during the midday Saturday time period.

A regression equation is shown on the data plot if there are more than 10 points and the R^2 is greater than 0.25 (which only occurs on two of the Land Use Code 820 data plots). Note that this threshold is less than the 0.5 threshold for R^2 used for data plots in *Trip Generation*.

Recommended guidelines for using the data presented in these figures and tables are provided in section 5.5 of this chapter. In particular, the guidelines recommend when to use the data and how to select a pass-by percentage.

Users of the data are cautioned that the number and geographic distribution of sites are limited. Little or no data on adjacent street traffic volumes have been collected for uses other than shopping centers. The actual pass-by and diverted



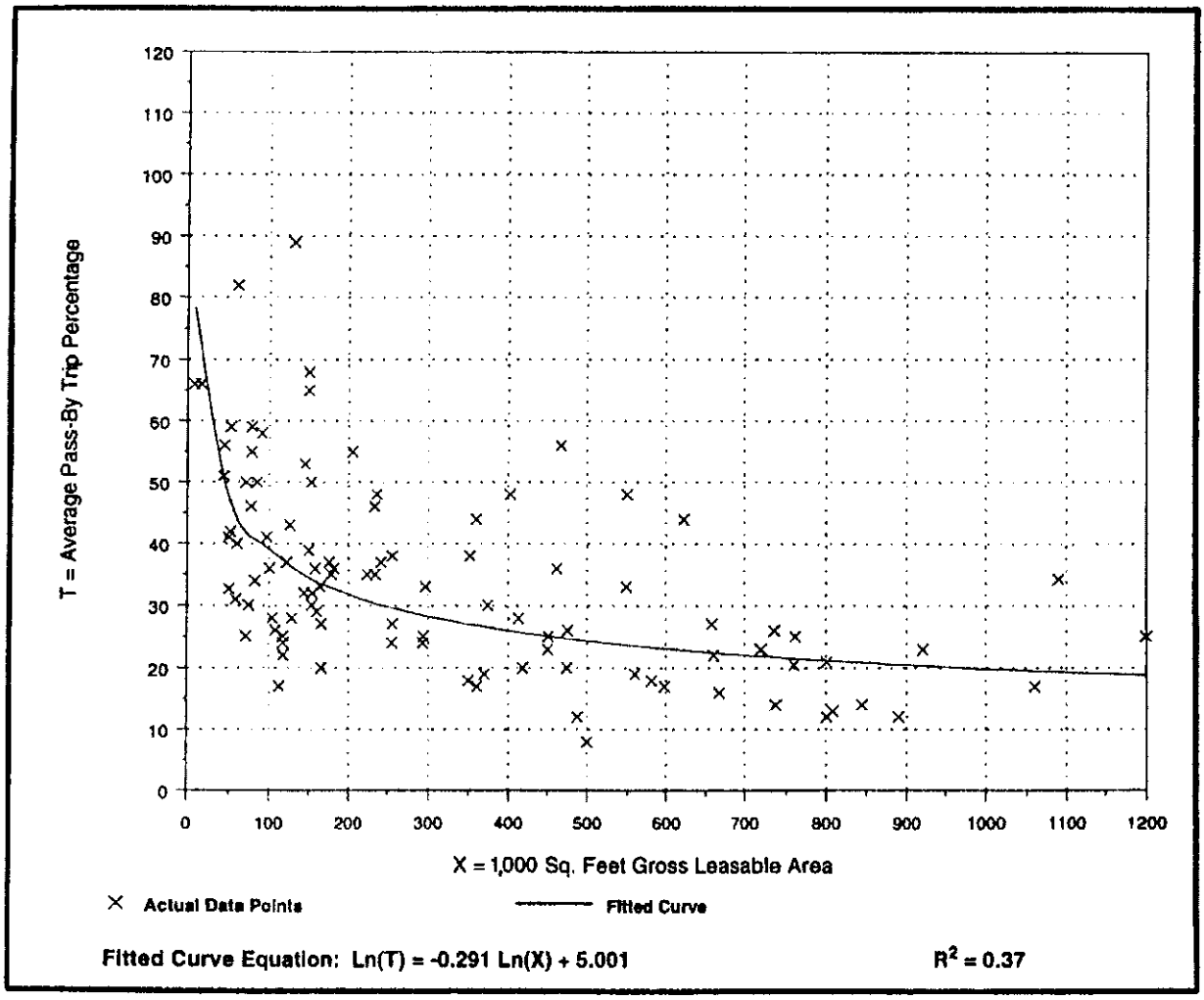
linked trip percentages may vary by site due to the specific influences of the characteristics of passing traffic, area roadway network patterns, specific businesses in the site being analyzed, other nearby development, and so forth. Surveys of similar developments near the analysis site are encouraged.

Because data are limited for many of the land uses, the analyst is encouraged to collect pass-by trip data and transmit the data to ITE. Section 5.6 of this chapter describes how to collect the appropriate data and provides sample forms to use.

Figure 5.5 Shopping Center (820)

Average Pass-By Trip Percentage vs: **1,000 Sq. Feet Gross Leasable Area**
On a: **Weekday, P.M. Peak Period**
Number of Studies: 100
Average 1,000 Sq. Feet GLA: 329

Data Plot





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TRAFFIC IMPACT ANALYSIS

May 11, 2016

Prepared by:

Robert Kunzman
Carl Ballard, LEED GA
William Kunzman, P.E.





1111 Town & Country Road, Suite 34
Orange, California 92868
(714) 973-8383

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I. INTRODUCTION

The purpose of this report is to provide an assessment of the traffic impacts resulting from the development of the proposed Baker Fuel Facility project and to identify the traffic mitigation measures necessary to maintain the established level of service standard for the elements of the impacted roadway system. The traffic issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act.

The County of San Bernardino is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. This report analyzes traffic impacts for the anticipated opening date with partial occupancy of the development in Opening Year 2018, at which time it will be generating trips at its full potential, and for the current traffic forecast year, which is the Year 2040.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided in Appendix A.

A. Project Description

The proposed development is located east of Afton Canyon Road and north of the I-15 Freeway SB Ramps. A vicinity map showing the project location is provided on Figure 1.

The project site is proposed to be developed with 5 apartment dwelling units, 3,600 square feet of fast-food restaurant with drive-through window, 10 fast-food drive in stalls, a 30 fueling position gasoline/service station with convenience market, and 15 alternative fuel charging stations. Figure 2 illustrates the project site plan.

B. Study Area

Regional access to the project site is mainly provided by the I-15 Freeway. Local access is provided by various roadways in the vicinity of the site. The north-south roadway which will be most affected by the project is Afton Canyon Road. The east-west roadway which will be most affected by the project is Arrowhead Trail.

A series of scoping discussions were conducted with the County of San Bernardino and the California Department of Transportation to define the desired analysis locations for each future analysis year. In addition, the San Bernardino Associated Governments staff has also been contacted to discuss the project.

C. Analysis Methodology

The analysis of the traffic impacts from the proposed development and the assessment of the required mitigation measures were based on an evaluation of the existing and forecast traffic conditions in the vicinity of the site with and without the project. The following analysis years are considered in this report:

- Existing Conditions (2015)
- Existing Plus Project Conditions[1]
- Project Opening Year Conditions (2018)
- Horizon Year Conditions (2040)

Existing intersection traffic conditions were established through Friday evening and Sunday mid-day peak period traffic counts obtained by Kunzman Associates, Inc. in October 2015 (see Appendix C). In addition, truck classification counts were conducted at the study area intersections. The existing percent of trucks was used in the conversion of trucks to Passenger Car Equivalent's (see Appendix E).

Project traffic volumes for all future projections were estimated using the manual approach. Trip generation has been based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012.

The distributions of the project trips were based on existing travel patterns calculated using existing traffic counts. This methodology was approved by the County of San Bernardino Transportation Department and the California Department of Transportation staff (see Appendix B).

The average daily traffic volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 average daily traffic volume forecasts (see Appendix E). Traffic model plots are included in Appendix D. This difference defines the growth in traffic over the 28 year period. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between Year 2015 and Year 2040. For this purpose, linear growth between the Year 2012 base condition and the forecast Year 2040 condition was assumed. Since the increment between Year 2015 and Year 2040 is 25 years of the 28 year time frame, a factor of 0.89 (i.e., 25/28) was used.

The Year 2040 without project daily and peak hour directional roadway segment volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 peak hour volumes. The growth increment calculation worksheets are shown in Appendix E. Current peak hour intersection approach/departure data is a necessary input to this approach. The existing traffic count data serves as both the starting point for the refinement process, and also provides important insight into current travel patterns and the relationship between peak hour and daily traffic conditions. The initial turning movement proportions are estimated based upon the relationship of each approach leg's forecast traffic volume to the other legs forecast volumes at the intersection. The initial estimate of turning movement proportions is then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program Report 255. A linear programming algorithm is used to calculate individual turning movements that match the known directional roadway segment volumes computed in the previous step. This program computes a likely set of intersection

[1] The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time.

turning movements from intersection approach counts and the initial turning proportions from each approach leg.

The Opening Year (2018) traffic volumes have been interpolated from the Year 2040 traffic volumes based upon a portion of the future growth increment. The remaining un-built portion of the original project is then added to the projected volumes to create the new future base volumes.

The remaining un-built portion of the original project is then added to the Year 2040 San Bernardino Transportation Analysis Model volumes to create the new future base volumes. Project traffic is then added to the new future base volumes. Quality control checks and forecast adjustments were performed as necessary to ensure that all future traffic volume forecasts reflect a minimum of 10% growth over existing traffic volumes. The result of this traffic forecasting procedure is a series of traffic volumes suitable for traffic operations analysis.

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix F) based on the Highway Capacity Manual – Transportation Research Board Special Report 209. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite queue.

The Level of Service analysis for signalized intersections has been performed using optimized signal timing. This analysis has included an assumed lost time of two seconds per phase. Signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in the signalized intersection analysis. The following formula has been used to calculate the pedestrian minimum times for all Highway Capacity Manual runs:

(Curb to curb distance) / (4 feet/second) + 7 seconds

For existing/existing plus project/Opening Year (2018) traffic conditions, saturation flow rates of 1,800 vehicles per hour of green for through and right turn lanes and 1,700 vehicles per lane 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 the capacity analysis.

For Year 2040 traffic conditions, saturation flow rates of 1,900 vehicles per hour of green for through and right turn lanes and 1,800 vehicles per lane for single left turn lanes, 1,700 vehicles per lane for dual left turn lanes and 1,800 vehicles per lane for double right turn lanes have been assumed for the capacity analysis.

The peak hour traffic volumes have been adjusted to peak 15 minute volumes for analysis purposes using the existing observed peak 15 minute to peak hour factors for all scenarios analyzed. Where feasible improvements in accordance with the local jurisdiction's General Plan and which result in acceptable operations cannot be identified, the Year 2040 peak

hour factor has been adjusted upwards to 0.95. This is to account for the effects of congestion on peak spreading. Peak spreading refers to the tendency of traffic to spread more evenly across time as congestion increases.

The traffic mitigation needs anticipated at the time of the project opening with full occupancy and for the Year 2040 were combined into a summary of mitigation requirements and costs. The mitigation cost responsibility for the proposed development was estimated based on the percent of the increase in traffic from the existing condition to the Year 2040 that was attributed to the project generated trips.

D. Definition of Deficiency and Significant Impact

The following definitions of deficiencies and significant impacts have been developed in accordance with the County of San Bernardino requirements.

1. Definition of Deficiency

The definition of an intersection deficiency has been obtained from the County of San Bernardino General Plan. The General Plan states that peak hour intersection operations of Level of Service C or better are generally acceptable. Therefore, any intersection operating at Level of Service E or F will be considered deficient.

For freeway facilities, the Congestion Management Program controls the definition of deficiency for purposes of this study. The Congestion Management Program definition of deficiency is based on maintaining a Level of Service standard of Level of Service E or better, except where an existing Level of Service F condition is identified in the Congestion Management Program document (San Bernardino County Congestion Management Program Table 2-1). A Congestion Management Program deficiency is, therefore, defined as any freeway segment operating or projected to operate at Level of Service F, unless the segment is identified explicitly in the Congestion Management Program document.

The identification of a Congestion Management Program deficiency requires further analysis in satisfaction of Congestion Management Program requirements, including:

- Evaluation of the mitigation measures required to restore traffic operations to an acceptable level with respect to Congestion Management Program Level of Service standards.
- Calculation of the project share of new traffic on the impacted Congestion Management Program facility during peak hours of traffic.
- Estimation of the cost required to implement the improvements required to restore traffic operations to an acceptable Level of Service as described above.

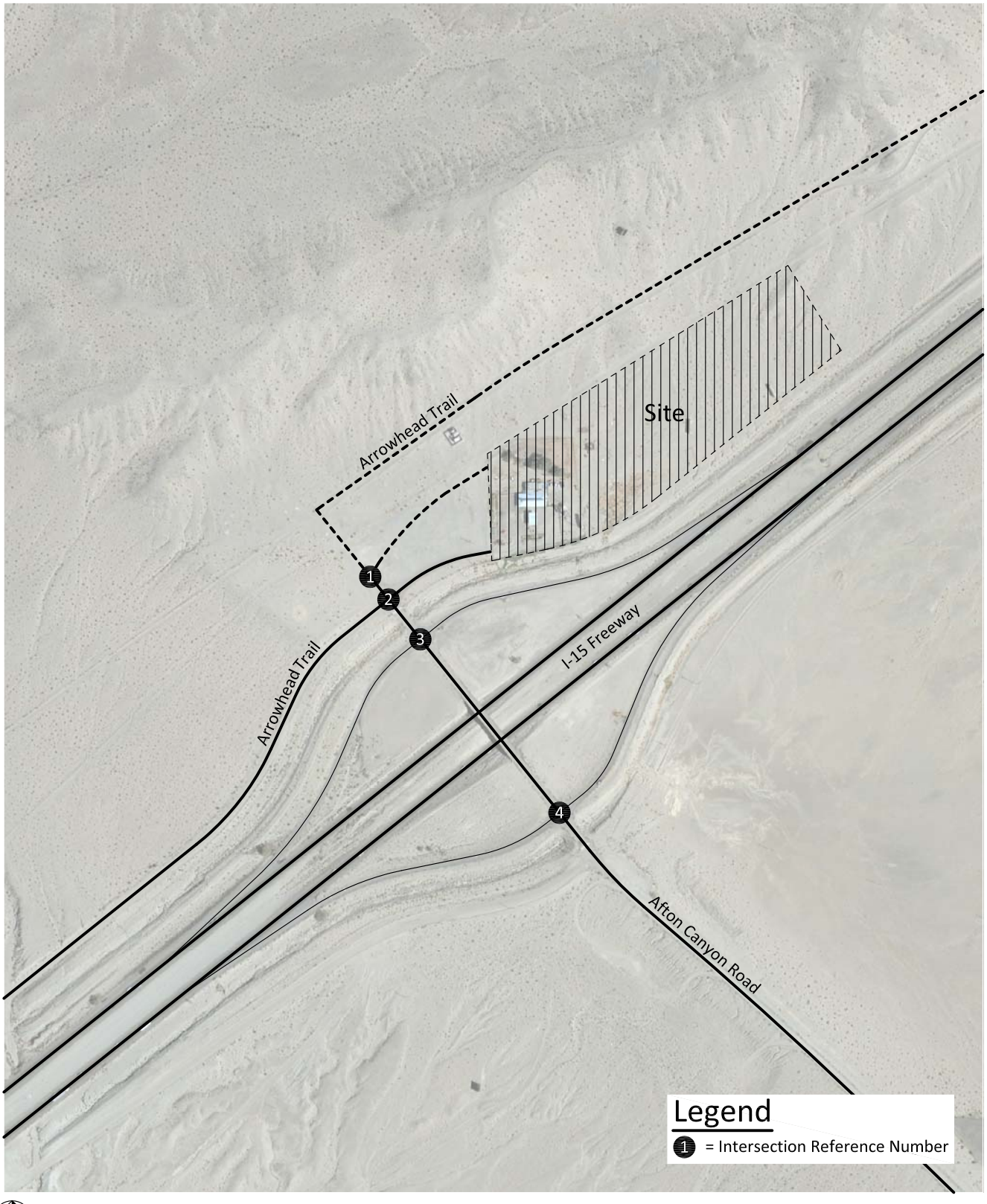
This study incorporates each of these aspects for all locations where a Congestion Management Program deficiency is identified.

2. Definition of Significant Impact

The identification of significant impacts is a requirement of the California Environmental Quality Act. The County of San Bernardino General Plan and Circulation Element have been adopted in accordance with California Environmental Quality Act requirements, and any roadway improvements within the County of San Bernardino that are consistent with these documents are not considered a significant impact, so long as the project contributes its "fair share" funding for improvements.

A traffic impact is considered significant if the project both: i) contributes measurable traffic to and ii) substantially and adversely changes the Level of Service at any off-site location projected to experience deficient operations under foreseeable cumulative conditions, where feasible improvements consistent with the County of San Bernardino General Plan cannot be constructed.

Figure 1
Project Location Map

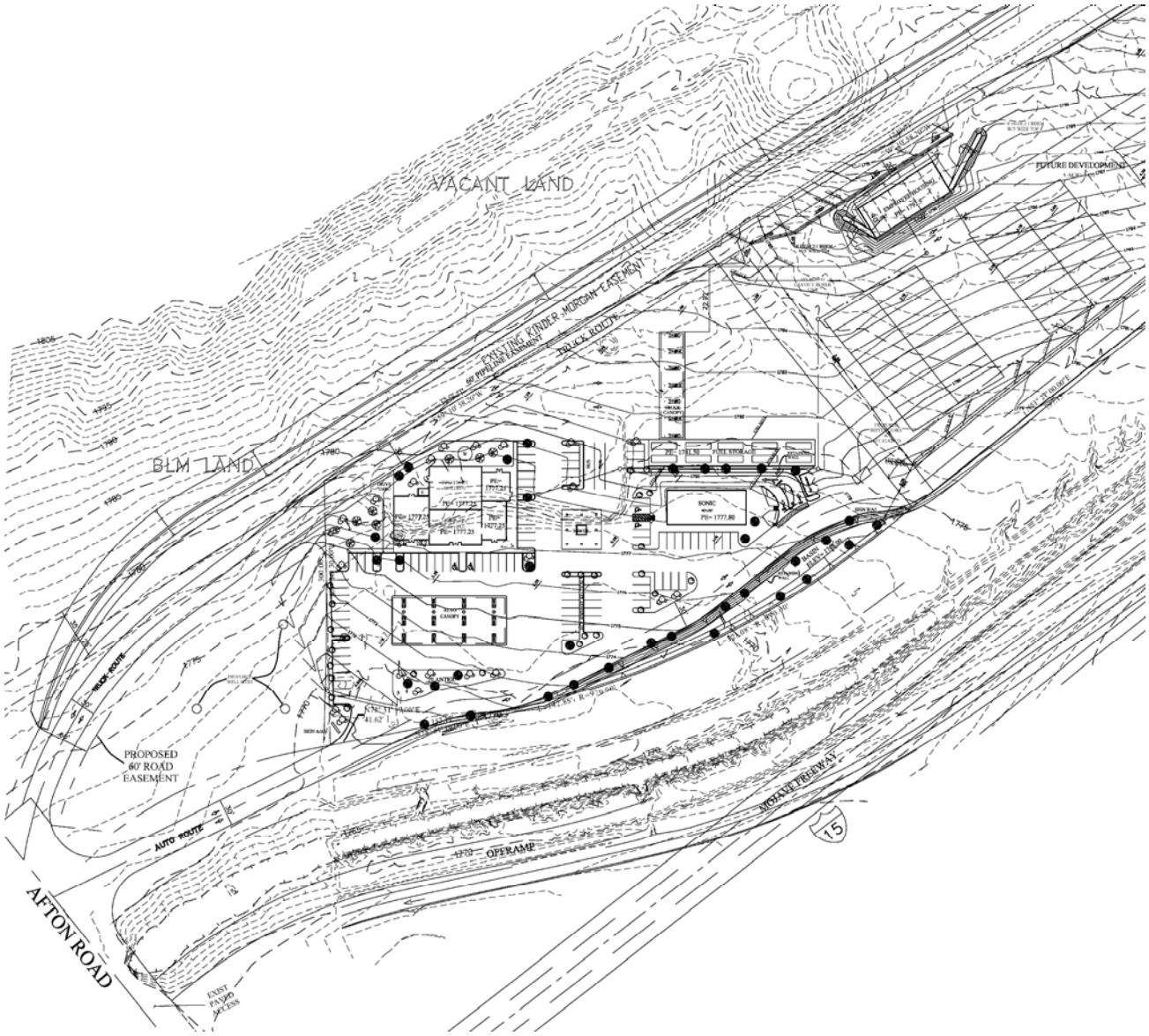


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Figure 2
Site Plan



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II. EXISTING CONDITIONS

A. Existing Roadway System

Figure 3 identifies the existing conditions for the study area roadways. The number of through lanes for existing roadways and the existing intersection controls are identified.

Regional access to the project site is mainly provided by the I-15 Freeway. Local access is provided by various roadways in the vicinity of the site. The north-south roadway which will be most affected by the project is Afton Canyon Road. The east-west roadway which will be most affected by the project is Arrowhead Trail.

B. Existing Volumes

Existing intersection traffic conditions were established through Friday evening and Sunday mid-day peak period traffic counts obtained by Kunzman Associates, Inc. in October 2015 (see Appendix C) and shown on Figures 4 and 5, respectively. Explicit peak hour factors have been calculated using the data collected for this effort as well. The Friday evening peak hour traffic volumes were identified by counting the two-hour period from 4:00 PM – 6:00 PM. The Sunday mid-day peak hour traffic volumes were identified by counting the three-hour period from 12:00 Noon – 3:00 PM. The peak periods were defined by the County of San Bernardino and verified by the California Department of Transportation.

C. Existing Level of Service

The existing delay and Level of Service for the intersection in the vicinity of the project are shown in Table 1. The study area intersections currently operate within acceptable Levels of Service during the peak hours for existing traffic conditions. Existing delay worksheets are provided in Appendix F.

D. Planned Transportation Improvements and Relationship to General Plan

The County of San Bernardino General Plan Circulation Element is shown on Figure 6. Existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 6. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the Land Use Element of the General Plan. The County of San Bernardino General Plan roadway cross-sections are illustrated on Figure 7.

Table 1

Existing Intersection Delay and Level of Service

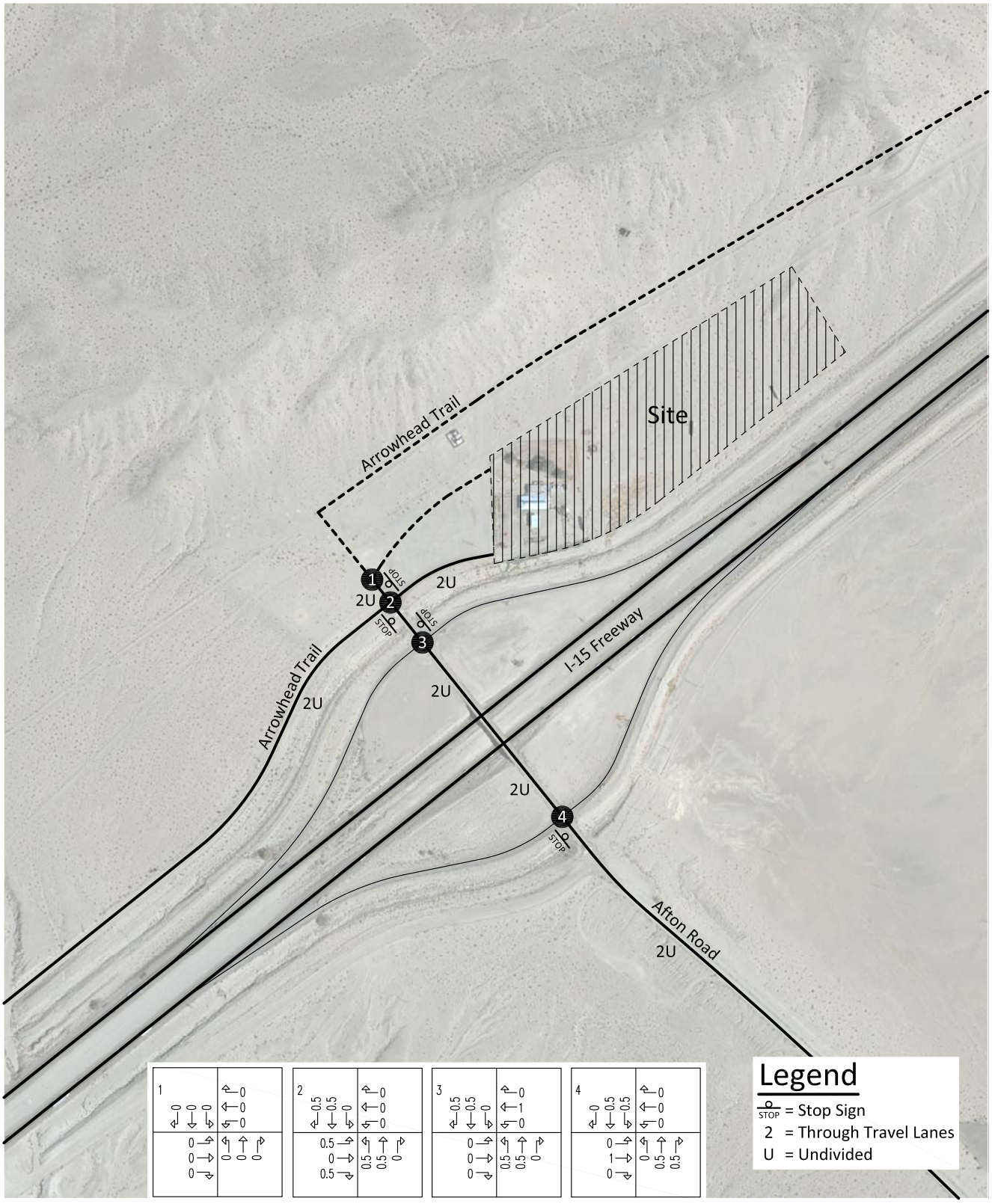
Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	9.0-A	9.2-A
I-15 Freeway SB Ramps (EW) - #3	California Department of Transpertation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	8.8-A	8.8-A
I-15 Freeway NB Ramps (EW) - #4	California Department of Transpertation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	8.9-A	8.8-A

[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.
L = Left; T = Through; R = Right

[2] Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

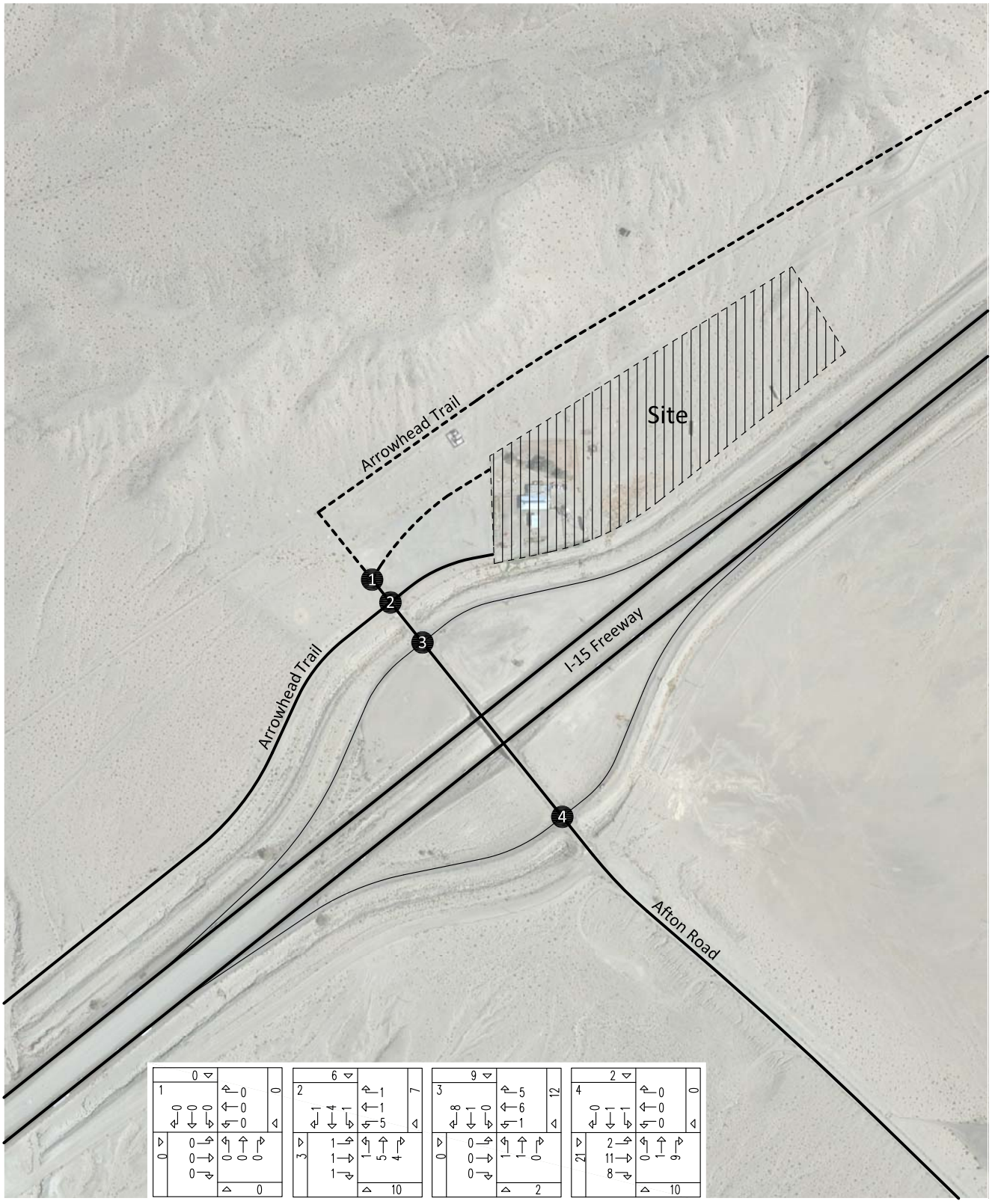
Figure 3
Existing Through Travel Lanes and Intersection Controls



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Intersection reference numbers are in upper left corner of turning movement boxes.

Figure 4
Existing Friday Evening Peak Hour Intersection Turning Movement Volumes

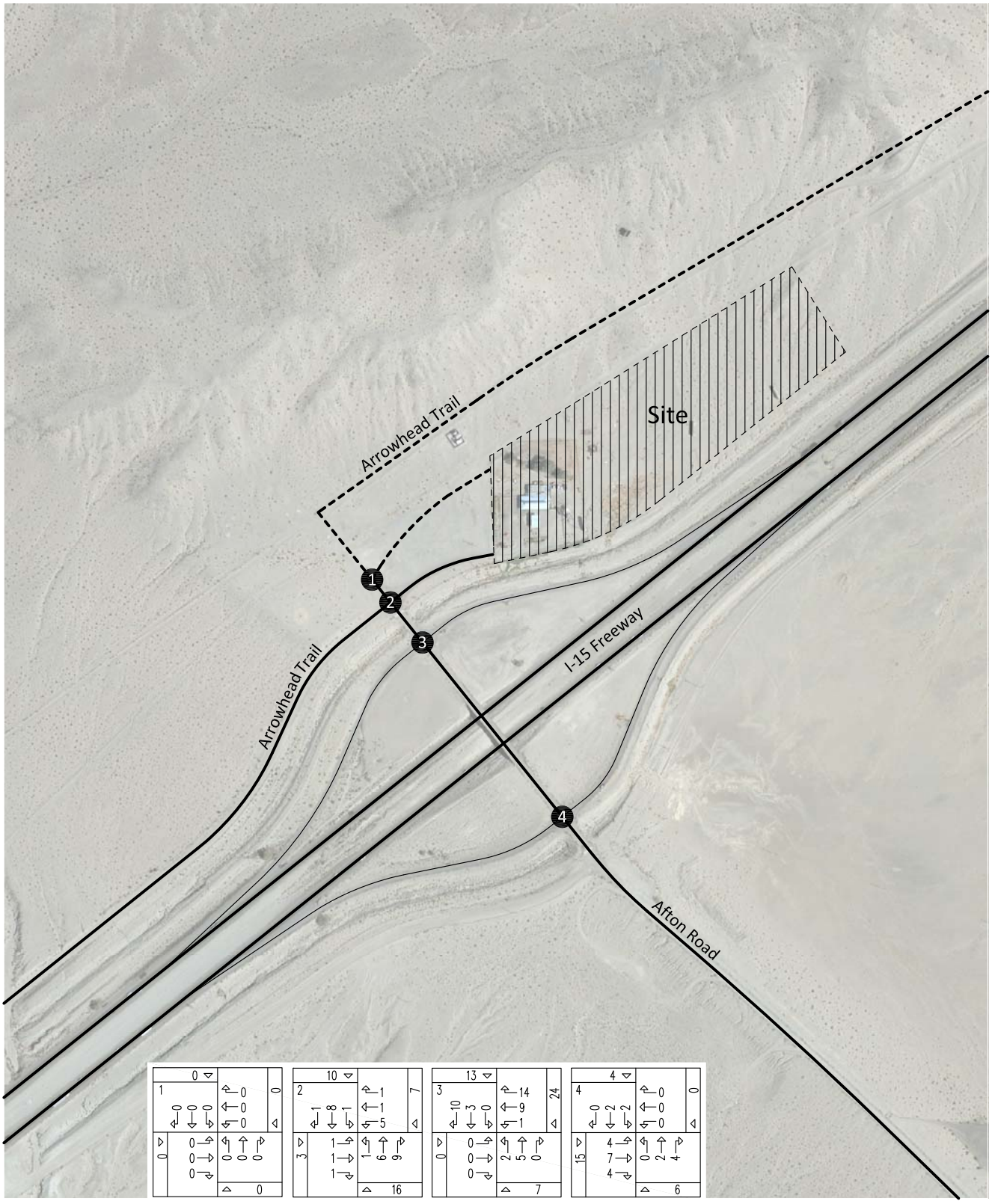


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 5
Existing Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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Intersection reference numbers are in upper left corner of turning movement boxes.

Figure 6
County of San Bernardino General Plan Circulation Element



Legend

Existing	Proposed	
		Freeway
		Major Divided Highway
		Major Arterial Highway
		Major Highway
		Secondary Highway
		Controlled/Limited Access Collector
		Mountain Major Highway
		Mountain Secondary Highway
		State Highway (Special Standards or Conditions)

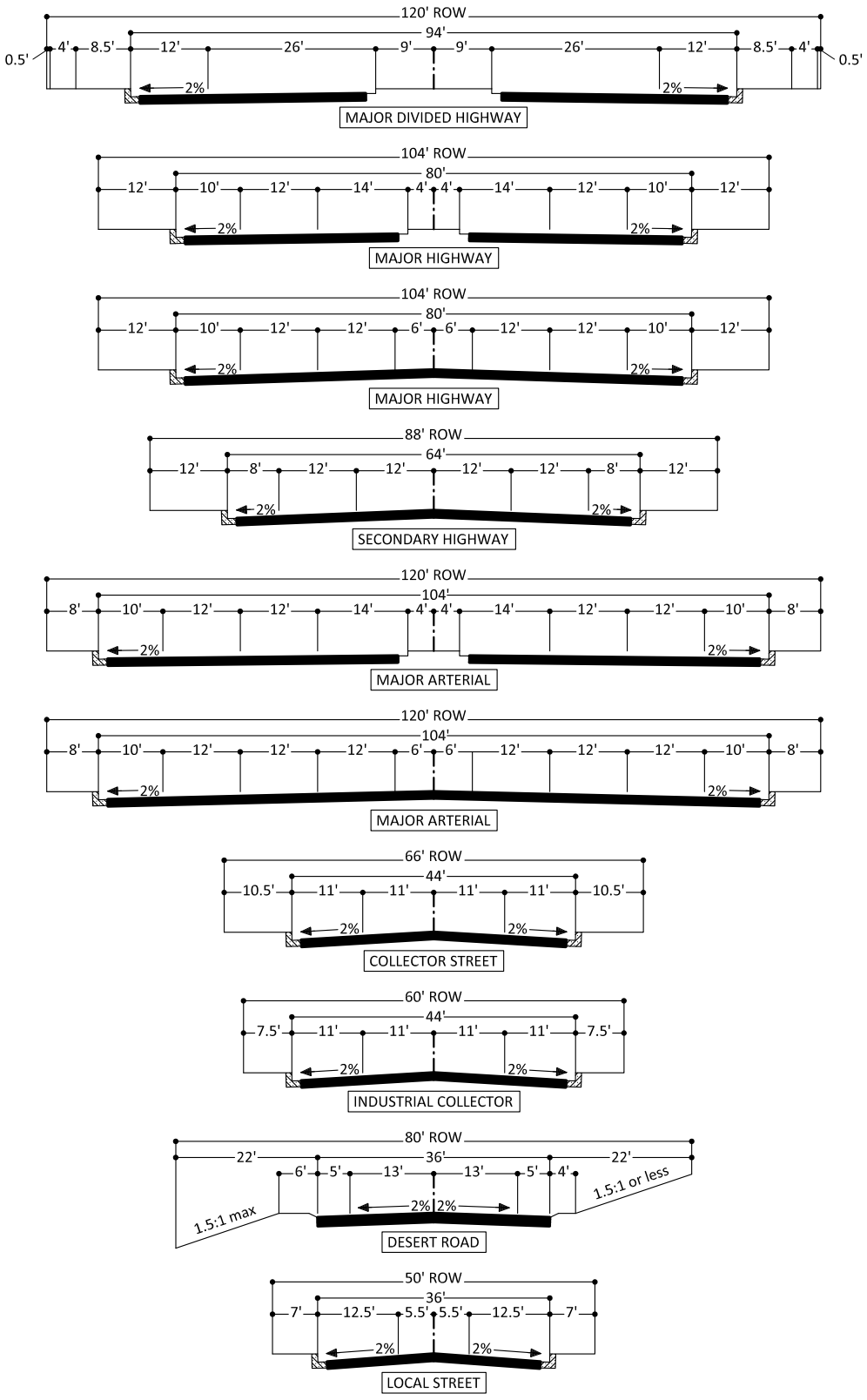
P Park and Ride × Airport / Airfield

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KUNZMAN ASSOCIATES, INC. Source: County of San Bernardino

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Figure 7
County of San Bernardino General Plan Roadway Cross-Sections



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KUNZMAN ASSOCIATES, INC. Source: County of San Bernardino

OVER 40 YEARS OF EXCELLENT SERVICE

III. PROJECT TRAFFIC

A. Project Description

The project site is proposed to be developed with 5 apartment dwelling units, 3,600 square feet of fast-food restaurant with drive-through window, 10 fast-food drive in stalls, a 30 fueling position gasoline/service station with convenience market, and 15 alternative fuel charging stations.

B. Trip Generation

The trips generated by the project are determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are based on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily traffic and Friday evening peak hour inbound and outbound traffic, and Sunday mid-day peak hour inbound and outbound traffic for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes are determined. The project trip generation is based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012.

As shown in Table 2, the proposed development is projected to generate a total of approximately 5,627 daily vehicle trips, 495 of which will occur during the Friday evening peak hour and 563 of which will occur during the Sunday mid-day peak hour.

Traffic volumes shown in Table 2 consist of the total trips generated for each project land use. As a restaurant trip generated by the project will also be making trips to the fueling station within the project, a double counting of those trips occurs.

It should be noted that for restaurant and service station land uses, a portion of the project trips would come from pass-by trips from the I-15 Freeway, trips that are currently on the roadway system (see Appendix G). These trips will utilize all of the study area intersections but they are already on the I-15 Freeway.

C. Trip Distribution

The distributions of the project trips were based on existing travel patterns calculated using existing traffic counts. This methodology was approved by the County of San Bernardino Transportation Department and the California Department of Transportation staff. Figures 8 to 11 contain the directional distributions of the project trips for the proposed land uses.

D. Trip Assignment

Based on the identified trip generation and distributions, Friday evening and Sunday Mid-day peak hour intersection turning movement volumes expected from the project are shown on Figures 12 and 13, respectively.

Table 2

Project Trip Generation[1]

Land Use	Quantity[2]	Units[3]	Friday Evening[4]			Sunday Afternoon[4]			Daily[5]
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Apartments		DU	0.10	0.41	0.51	0.40	0.22	0.62	6.65
Fast-Food Restaurant with Drive-Through Window		TSF	24.60	22.70	47.30	34.92	37.82	72.74	496.12
Fast-Food Drive In Stalls[6]		ST	3.00	3.00	6.00	3.00	3.00	6.00	60.00
Gasoline/Service Station with Convenience Market		FP	6.79	6.78	13.57	6.79	6.78	13.57	162.78
Alternative Fuel Station[7]		CS	1.00	1.00	2.00	1.00	1.00	2.00	20.00
Trips Generated									
Apartments	5	DU	1	2	3	2	1	3	33
Internal Capture - Residential (25%)[8]			0	-1	-1	-1	0	-1	-8
Fast-Food Restaurant with Drive-Through Window	3.600	TSF	89	82	171	126	136	262	1786
Fast-Food Drive In Stalls	10	ST	30	30	60	30	30	60	600
Internal Capture - Restaurant (25%)[9]			-30	-28	-58	-39	-42	-81	-597
Pass-By - Restaurant (95%)			-85	-80	-165	-111	-118	-229	-1,700
Gasoline/Service Station with Convenience Market - Trucks	6	FP	41	41	82	41	41	82	977
Gasoline/Service Station with Convenience Market - Cars	24	FP	163	163	326	163	163	326	3,907
Internal Capture - Service Station (25%)[10]			-51	-51	-102	-51	-51	-102	-1,221
Pass-By - Service Station (95%)			-145	-145	-290	-145	-145	-290	-3,480
Alternative Fuel Station	15	CS	15	15	30	15	15	30	300
Internal Capture - Alternative Fuel Station (50%)[11]			-8	-8	-16	-8	-8	-16	-150
Pass-By - Alternative Fuel Station (90%)			-6	-6	-12	-6	-6	-12	-135
Total Trips Generated			339	333	672	377	386	763	7,603
Total Trips Generated Using Study Area Intersections			250	245	495	278	285	563	5,627
Total Trips Generated Added to Freeway Mainline			14	14	28	16	16	32	312

It should be noted that this facility is completely isolated and adjacent to the I-15 Freeway. The site is so remote that the staff will live on-site. Patrons of the facility will likely stop at the facility to fuel their vehicle and obtain food. It is projected that the site adds virtually no traffic to the adjacent I-15 Freeway but all its traffic utilizes the study area intersections.

[1] Source: Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012, Land Use Categories 210, 934, and 945.

[2] The proposed service station is projected to consist of 24 passenger car fueling positions and 6 diesel truck fueling positions. To remain conservative, the 6 diesel truck fueling positions have been assumed to have the same trip generation as a passenger car fueling position.

[3] DU= Dwelling Unit; TSF = Thousand Square Feet; ST= Stalls; FP = Fueling Positions; CS = Charging Stations

[4] Peak hour trip generation rates for Friday evening and Sunday Mid-day peak periods are not available. Weekday evening peak hour of generator trip generation has been used because it is the highest trip generating period for this land use.

[5] Weekday daily trip generation rates have been used.

[6] It is assumed that each drive in stall will turn over three times per peak hour. It is assumed that the daily total is ten times the peak hour total.

[7] It is assumed that each charging station will turn over one time per peak hour. It is assumed that the daily total is ten times the peak hour total.

[8] It is assumed that 25 percent of the trips of the residential use will be internal to the site.

[9] It is assumed that approximately 50 percent of the patrons of the restaurants will also utilize the fueling stations. To remain conservative an internal reduction of 25 percent is utilized.

[10] It is assumed that approximately 50 percent of the patrons of the fueling station will also utilize the restaurants. To remain conservative an internal reduction of 25 percent is utilized.

[11] It is assumed that the alternative fuel station will be used passively by patrons of the restaurants. I conservative estimate of 50 percent of the alternative fuel use will be exclusively alternative fuel.

Figure 8
Project Outbound Trip Distribution - Cars

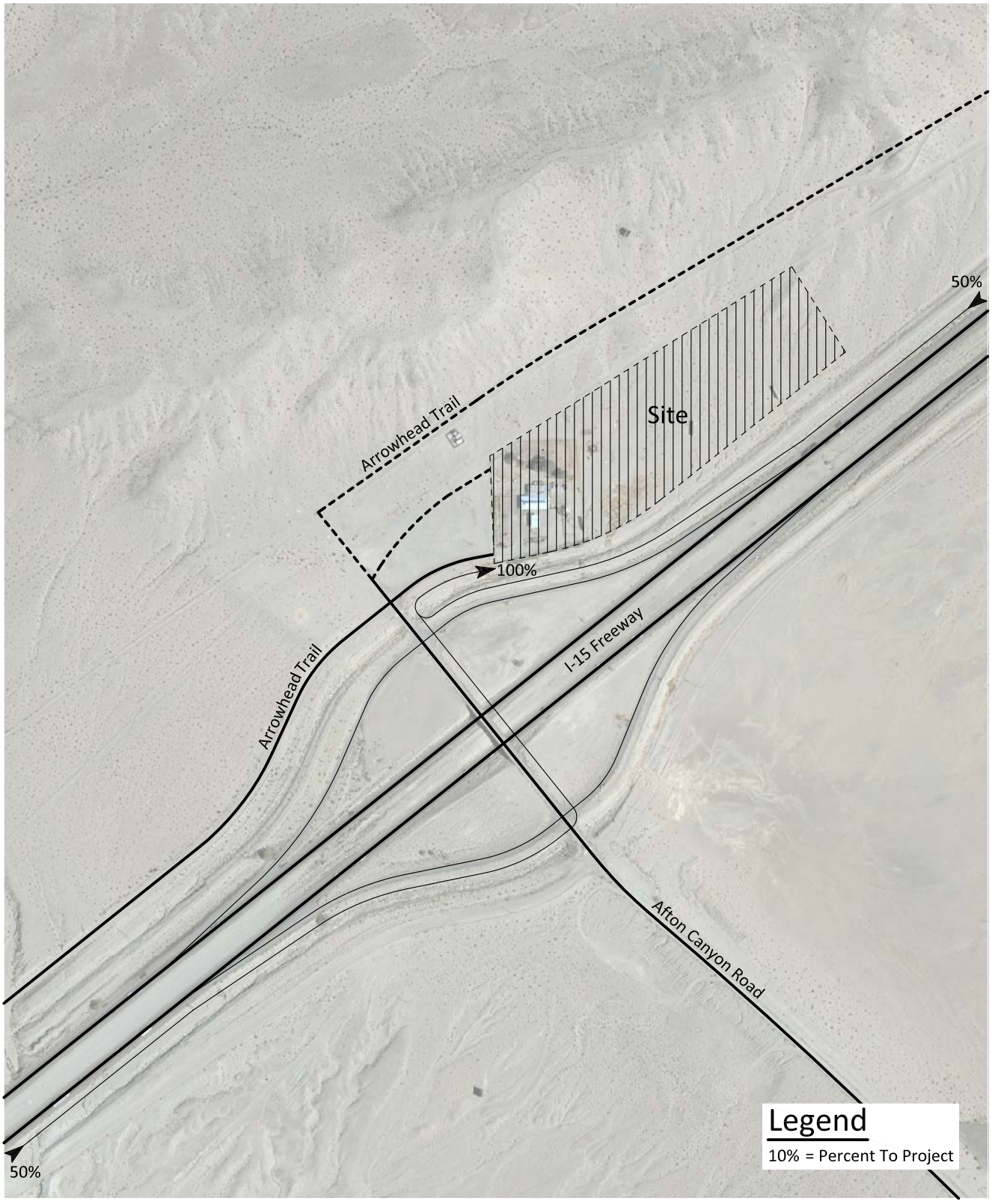


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OVER 40 YEARS OF EXCELLENT SERVICE

Figure 9
Project Inbound Trip Distribution - Cars



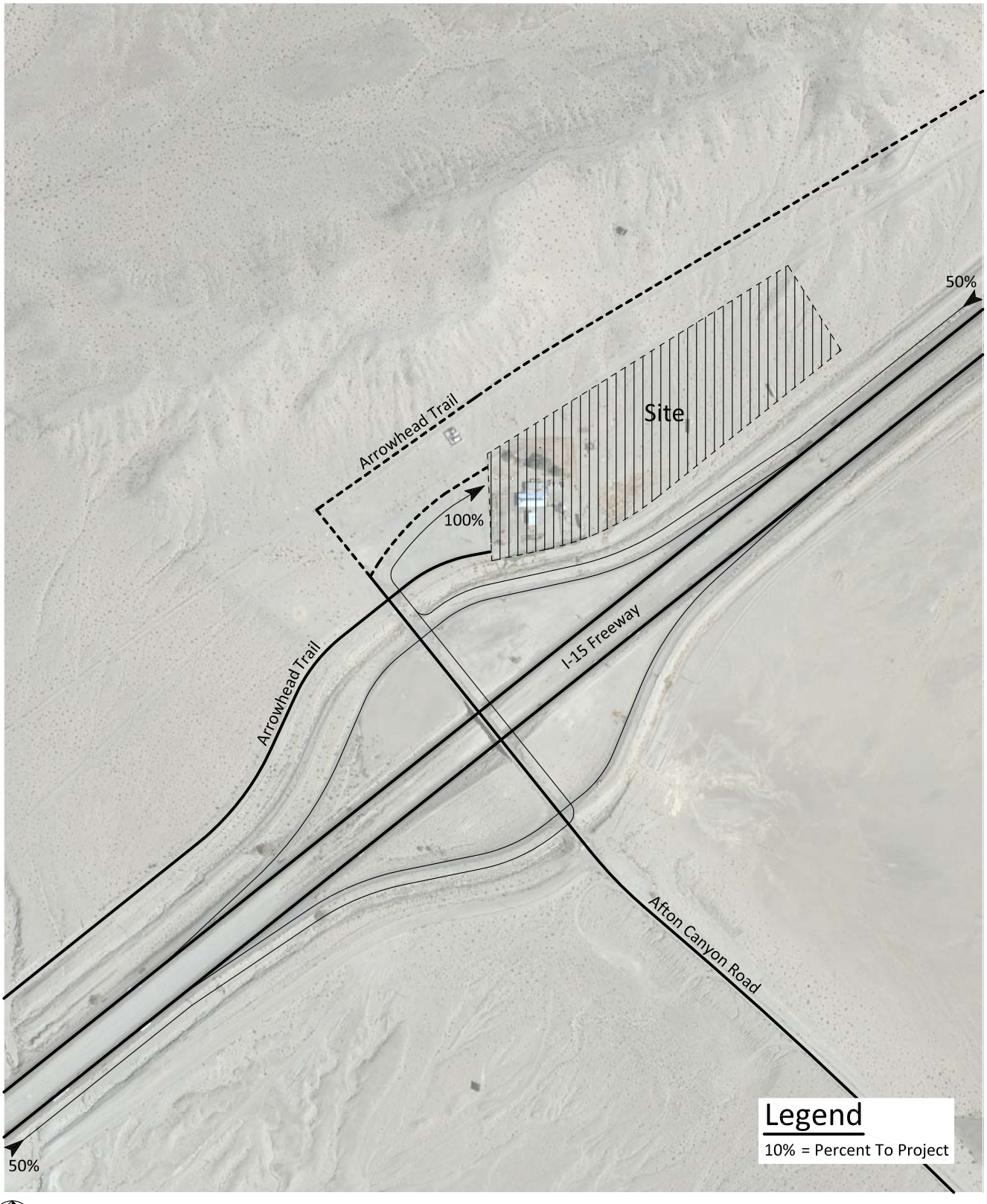
6131/9

Figure 10
Project Outbound Trip Distribution - Trucks



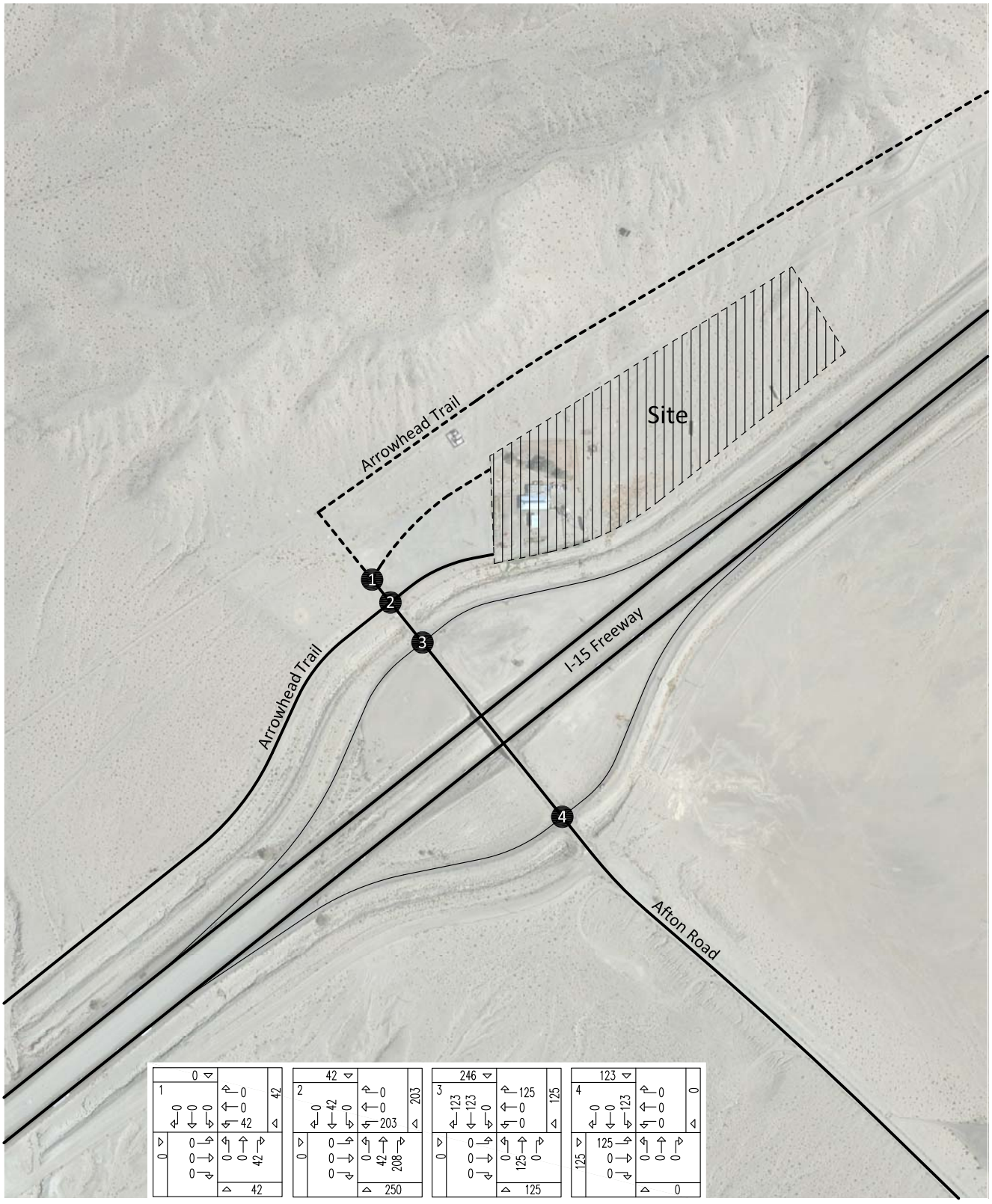
6131/10

Figure 11
Project Inbound Trip Distribution - Trucks



6131/11

Figure 12
Project Friday Evening Peak Hour Intersection Turning Movement Volumes

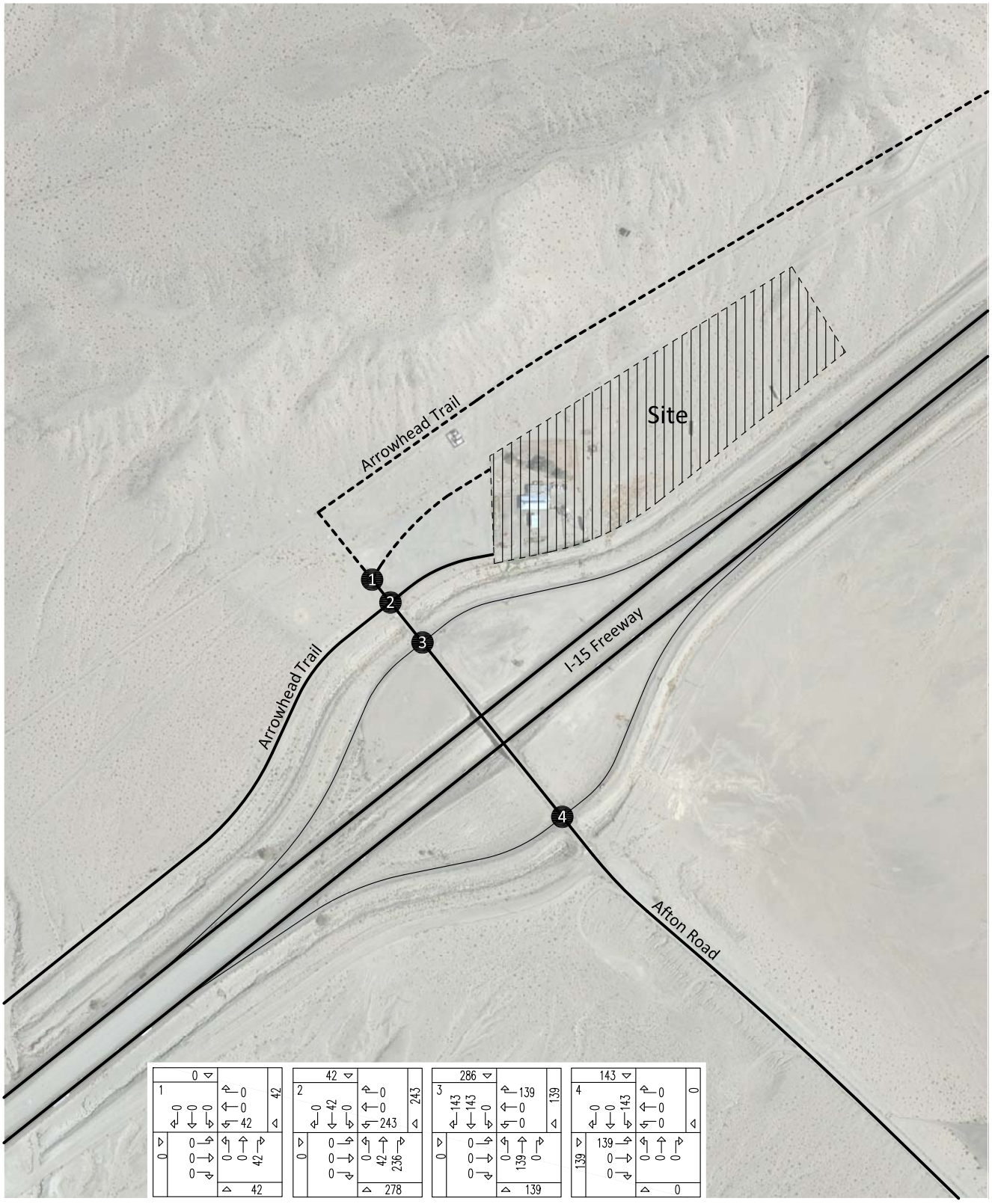


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 13
Project Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

IV. FUTURE CONDITIONS

A. Future Volumes

As described within Section I.C., the Year 2040 average daily traffic volume forecasts with the project are developed using a growth increment process based on volumes predicted by the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 traffic models. The growth increment for Year 2040 on each roadway segment is the increase in San Bernardino Transportation Analysis Model volumes from existing Year 2015 to Year 2040. The final Year 2040 roadway segment volume used for analysis purposes is then determined by adding the Year 2040 growth increment volume to the existing counted volume.

The Opening Year (2018) traffic projections have been interpolated between Year 2040 traffic volumes and existing traffic volumes utilizing a portion of the growth increment (see Section I.C.). Project traffic volumes for all future projections were estimated using the manual approach.

B. Future Level of Service

1. Existing Plus Project

The Existing Plus Project delay and Level of Service for the study area roadway network are shown in Table 3 without and with improvements. Existing Plus Project delay calculation worksheets are provided in Appendix F. Existing Plus Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 14 and 15, respectively.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

2. Opening Year (2018) Without Project

The Opening Year (2018) Without Project delay and Level of Service for the study area roadway network without the proposed project are shown in Table 4. Opening Year (2018) Without Project delay calculation worksheets are provided in Appendix F. Opening Year (2018) Without Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 16 and 17, respectively.

For Opening Year (2018) Without Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

3. Opening Year (2018) With Project

The Opening Year (2018) With Project delay and Level of Service for the study area roadway network are shown in Table 5 without and with improvements. Opening

Year (2018) With Project delay calculation worksheets are provided in Appendix F. Opening Year (2018) With Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 18 and 19, respectively.

For Opening Year (2018) With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

4. Year 2040 Without Project

The Year 2040 Without Project delay and Level of Service for the study area roadway network are shown in Table 6. Year 2040 Without Project delay calculation worksheets are provided in Appendix F. Year 2040 Without Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 20 and 21, respectively.

For Year 2040 Without Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

5. Year 2040 With Project

The Year 2040 With Project delay and Level of Service for the study area roadway network are shown in Table 7 without and with improvements. Year 2040 With Project delay calculation worksheets are provided in Appendix F. Year 2040 With Project Friday evening and Sunday mid-day peak hour intersection turning movement volumes are shown on Figures 22 and 23, respectively.

For Year 2040 With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

Table 3

Existing Plus Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Project North Access (EW) - #1	County of San Bernardino	**CSS**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	9.2-A	9.2-A
Arrowhead Trail/Project South Access (EW) - #2	County of San Bernardino	CSS	0	1	0	0	1	0	0	1	0	0	**1**	0	14.4-B	16.3-C
I-15 Freeway SB Ramps (EW) - #3	California Department of Transpertation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	9.8-A	10.2-B
I-15 Freeway NB Ramps (EW) - #4	California Department of Transpertation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	11.8-B	12.6-B

[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.

L = Left; T = Through; R = Right; **BOLD** = Improvement

[2] Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 4

Opening Year (2018) Without Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	9.0-A	9.0-A
I-15 Freeway SB Ramps (EW) - #3	California Department of Transpertation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	8.7-A	8.7-A
I-15 Freeway NB Ramps (EW) - #4	California Department of Transpertation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	8.8-A	8.7-A

[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.
L = Left; T = Through; R = Right

[2] Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 5

Opening Year (2018) With Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Project North Access (EW) - #1	County of San Bernardino	**CSS**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	9.2-A	9.2-A
Arrowhead Trail/Project South Access (EW) - #2	County of San Bernardino	CSS	0	1	0	0	1	0	0	1	0	0	**1**	0	14.6-A	16.3-C
I-15 Freeway SB Ramps (EW) - #3	California Department of Transpertation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	9.8-A	10.3-A
I-15 Freeway NB Ramps (EW) - #4	California Department of Transpertation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	11.8-B	12.6-B

[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.
L = Left; T = Through; R = Right; **BOLD** = Improvement

[2] Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 6

Year 2040 Without Project Intersection Delay and Level of Service

Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Arrowhead Trail (EW) - #2	County of San Bernardino	CSS	0.5	0.5	0	0	0.5	0.5	0.5	0	0.5	0	0	0	9.0-A	9.0-A
I-15 Freeway SB Ramps (EW) - #3	California Department of Transpertation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	8.7-A	8.8-A
I-15 Freeway NB Ramps (EW) - #4	California Department of Transpertation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	8.8-A	8.7-A

[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.
L = Left; T = Through; R = Right

[2] Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Table 7

Year 2040 With Project Intersection Delay and Level of Service

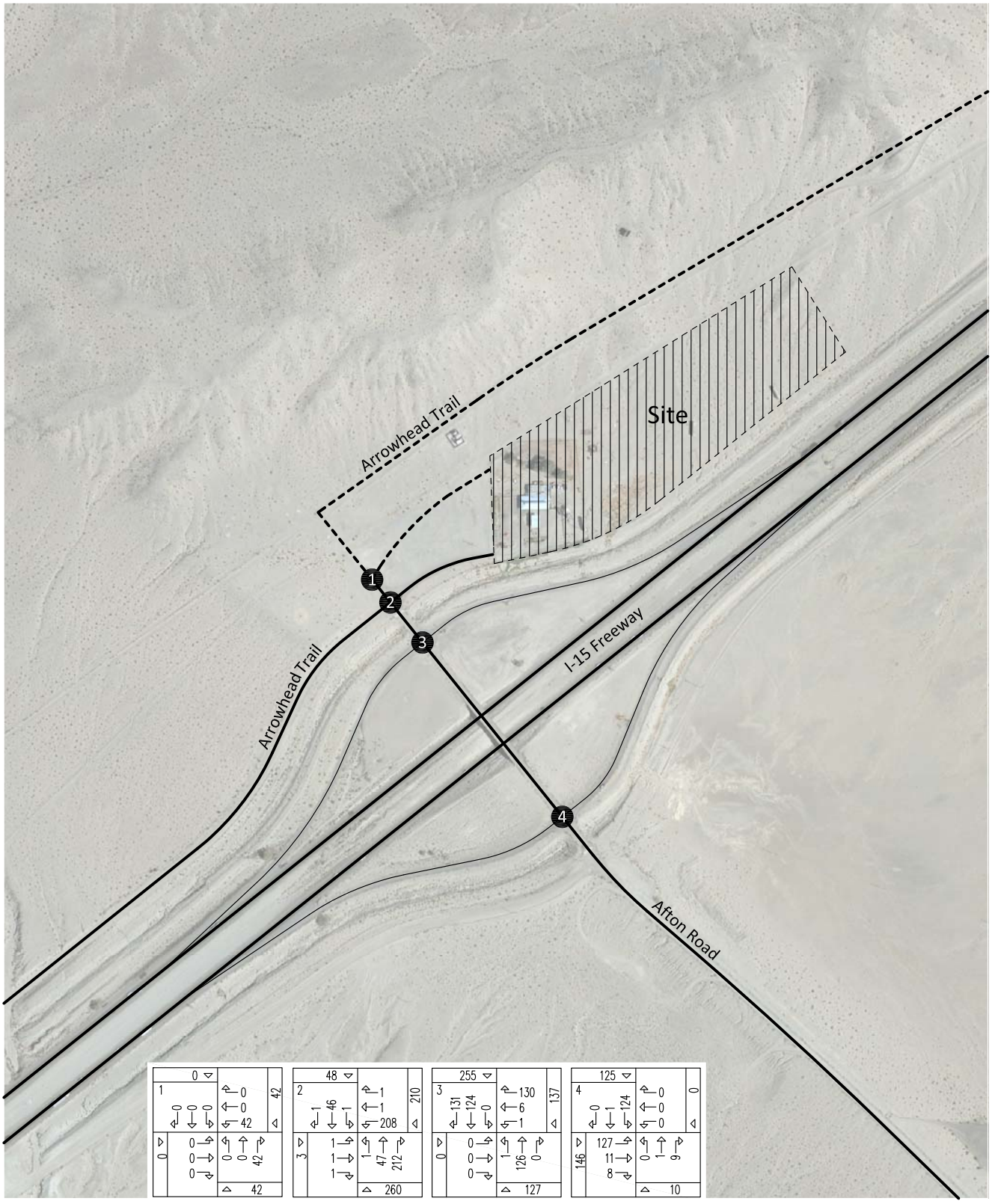
Intersection	Jurisdiction	Traffic Control[3]	Intersection Approach Lanes[1]												Peak Hour Delay Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound				
			L	T	R	L	T	R	L	T	R	L	T	R	Friday Evening	Sunday Mid-day
Afton Canyon Road (NS) at:																
Project North Access (EW) - #1	County of San Bernardino	**CSS**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	9.2-A	9.2-A
Arrowhead Trail/Project South Access (EW) - #2	County of San Bernardino	CSS	0	1	0	0	1	0	0	1	0	0	**1**	0	14.6-B	16.3-C
I-15 Freeway SB Ramps (EW) - #3	California Department of Transpertation	CSS	0.5	0.5	0	0	0.5	0.5	0	0	0	0	1	0	9.9-A	10.3-B
I-15 Freeway NB Ramps (EW) - #4	California Department of Transpertation	CSS	0	0.5	0.5	0.5	0.5	0	0	1	0	0	0	0	11.9-B	12.8-B

[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.
L = Left; T = Through; R = Right; **BOLD** = Improvement

[2] Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215. Per the Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] CSS = Cross Street Stop

Figure 14
Existing Plus Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

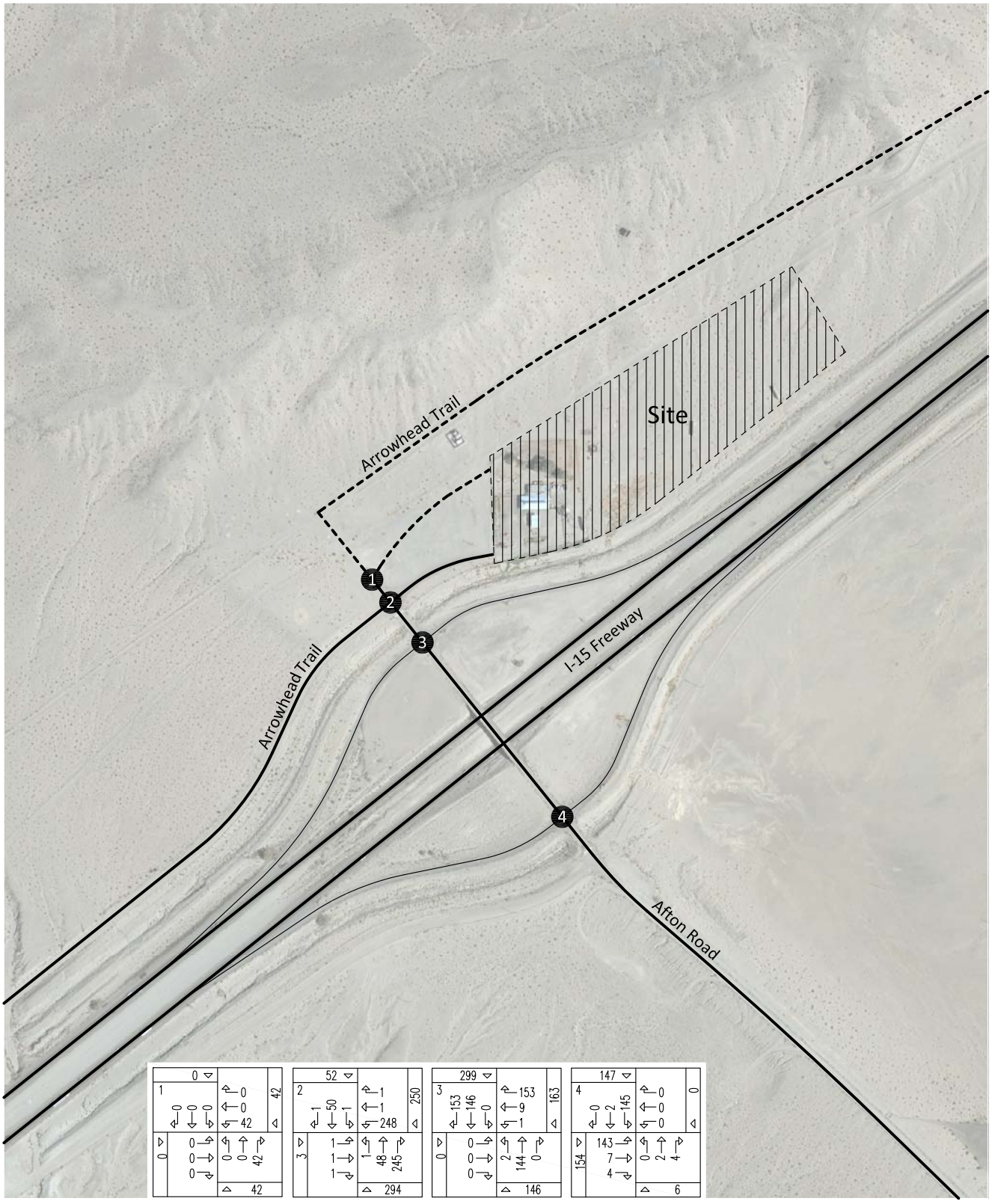


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 15
Existing Plus Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

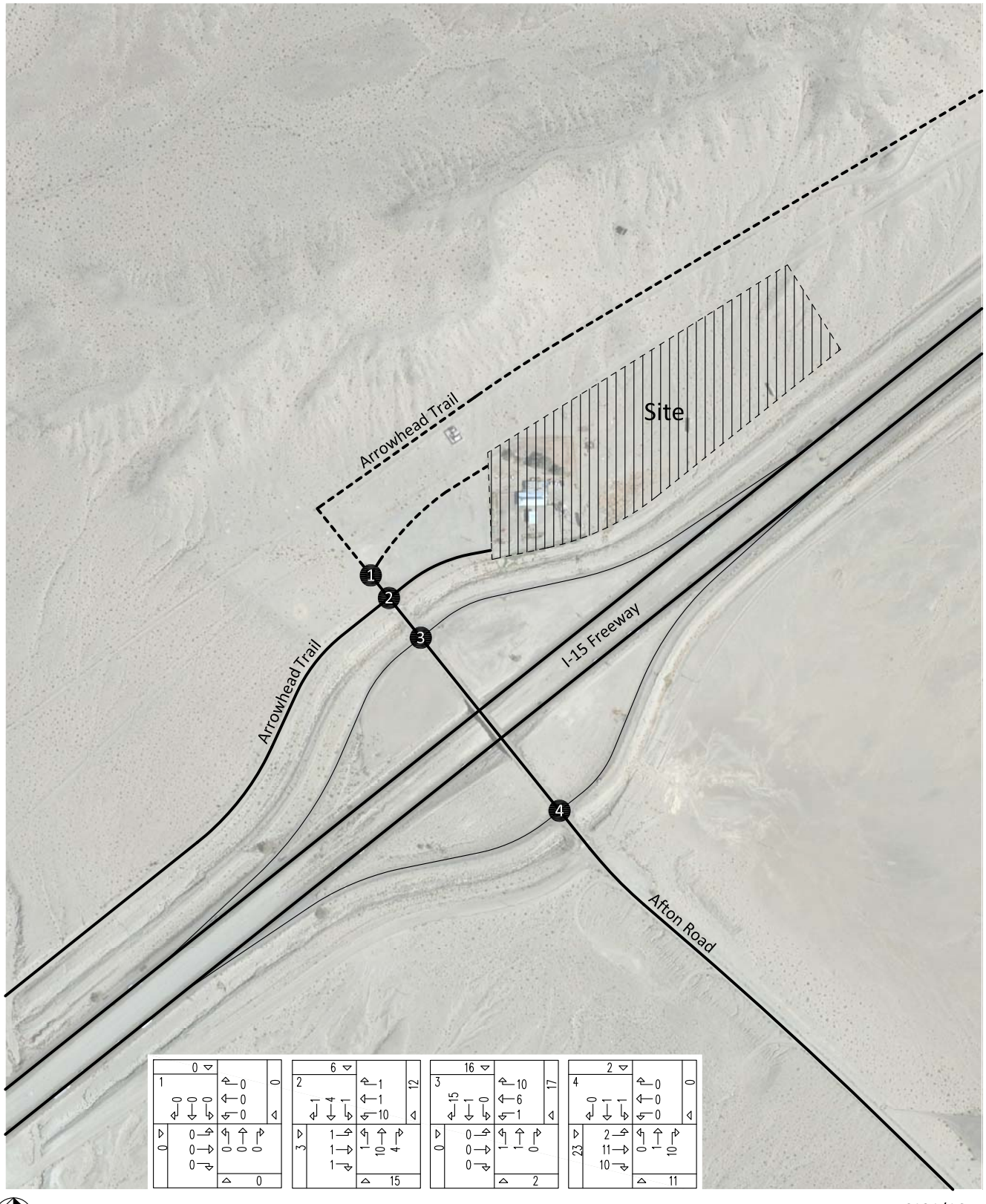


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

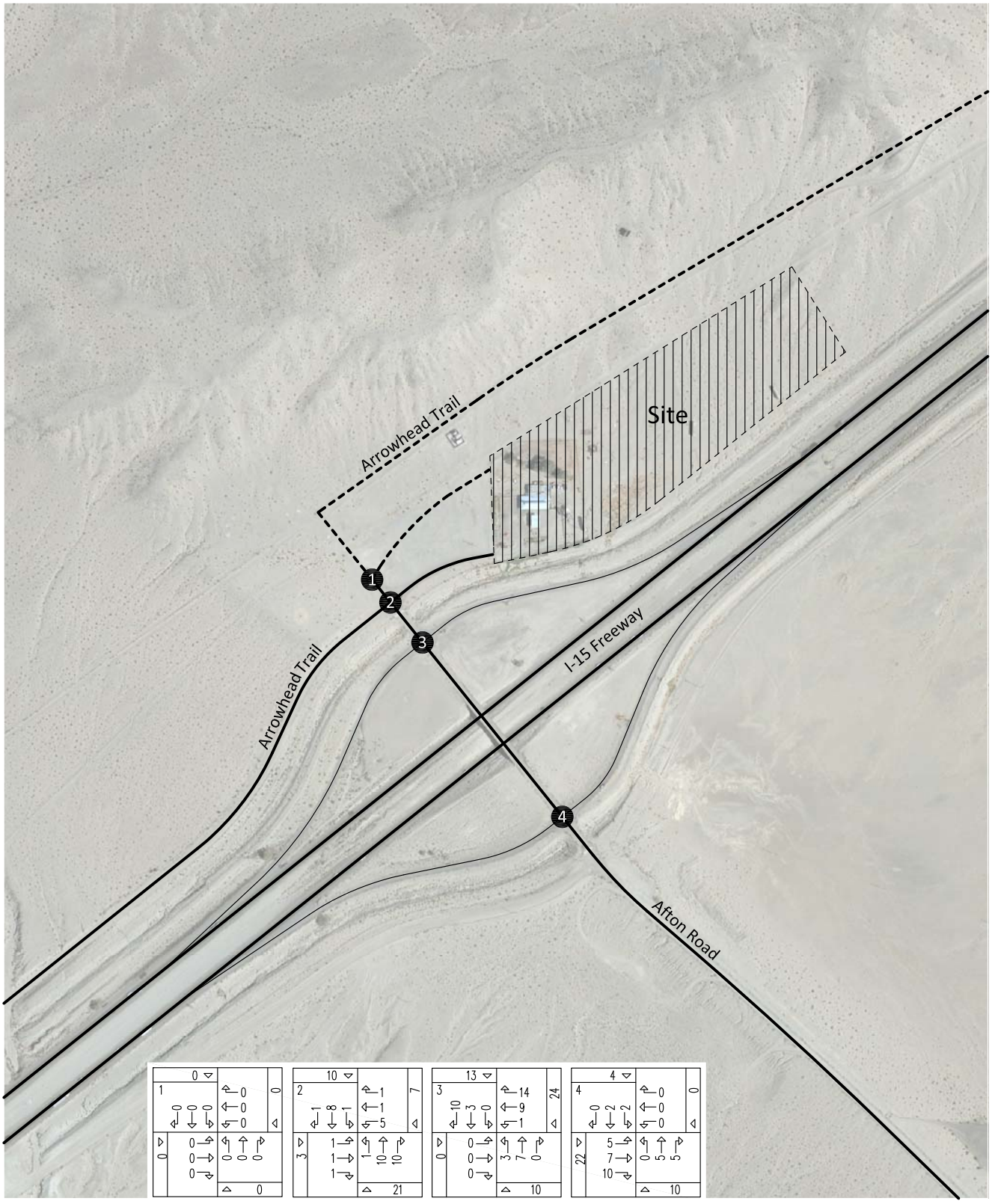
Figure 16
Opening Year (2018) Without Project
Friday Evening Peak Hour Intersection Turning Movement Volumes



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Intersection reference numbers are in upper left corner of turning movement boxes.

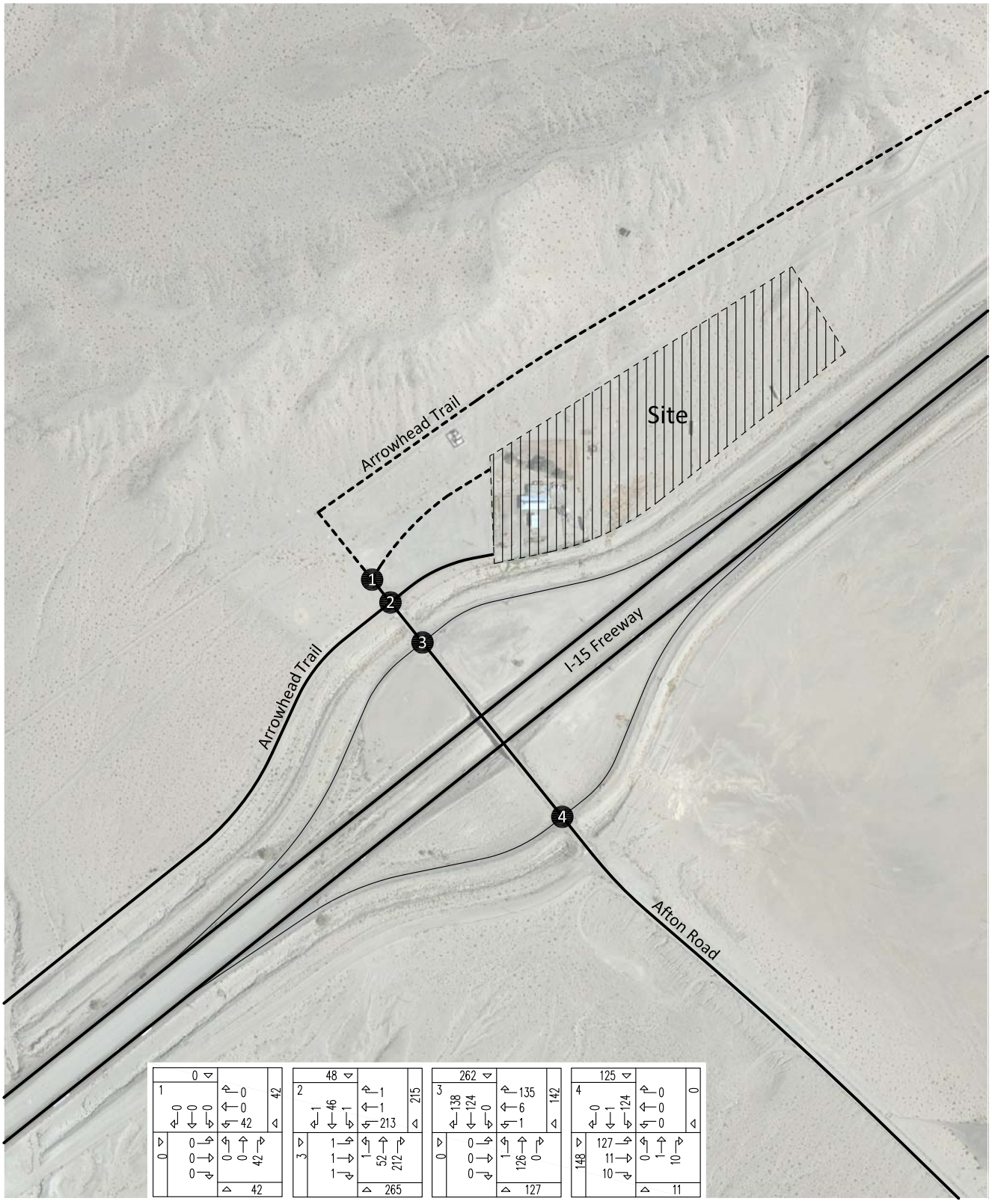
Figure 17
Opening Year (2018) Without Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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Intersection reference numbers are in upper left corner of turning movement boxes.

Figure 18
Opening Year (2018) With Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

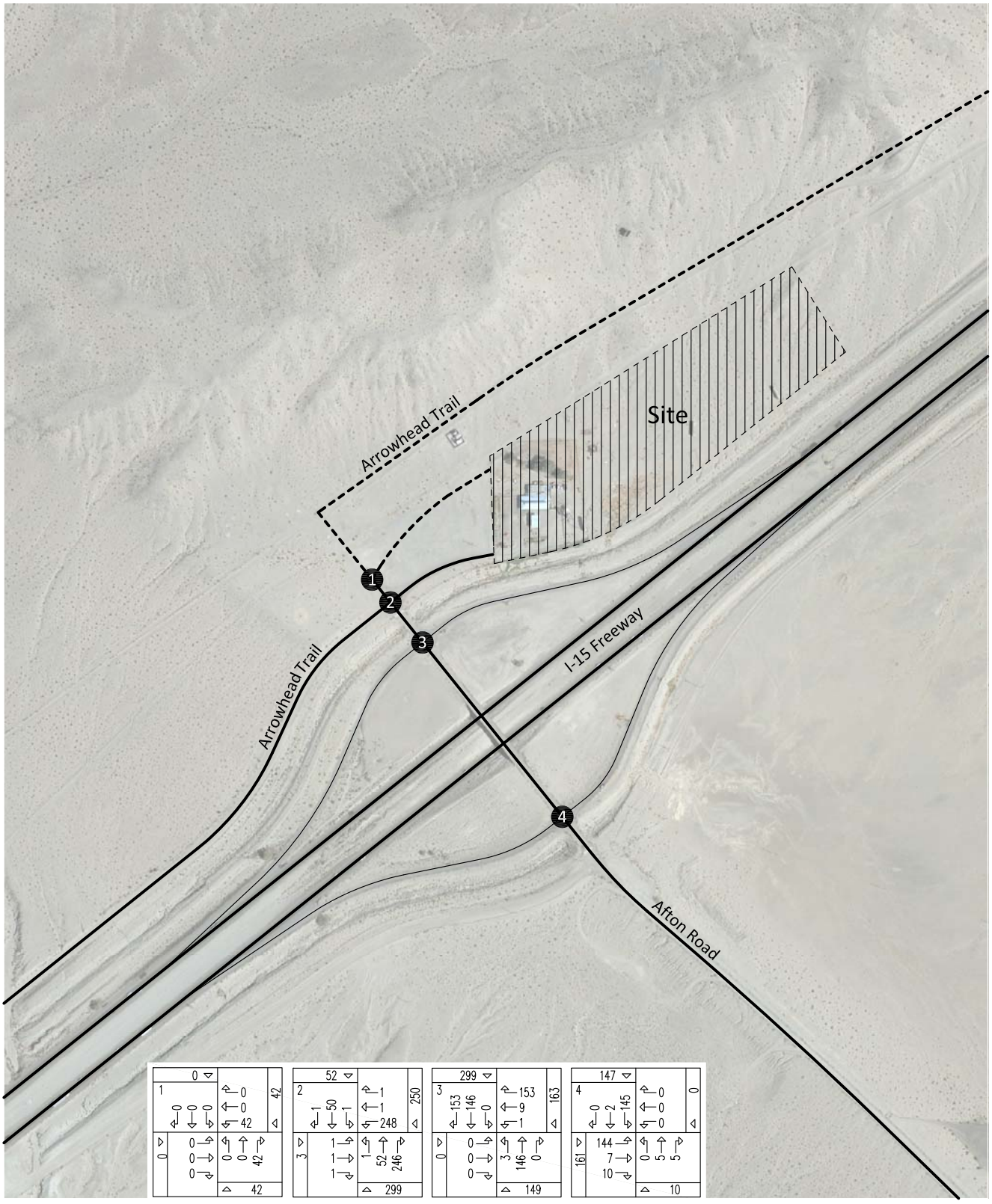


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 19
Opening Year (2018) With Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

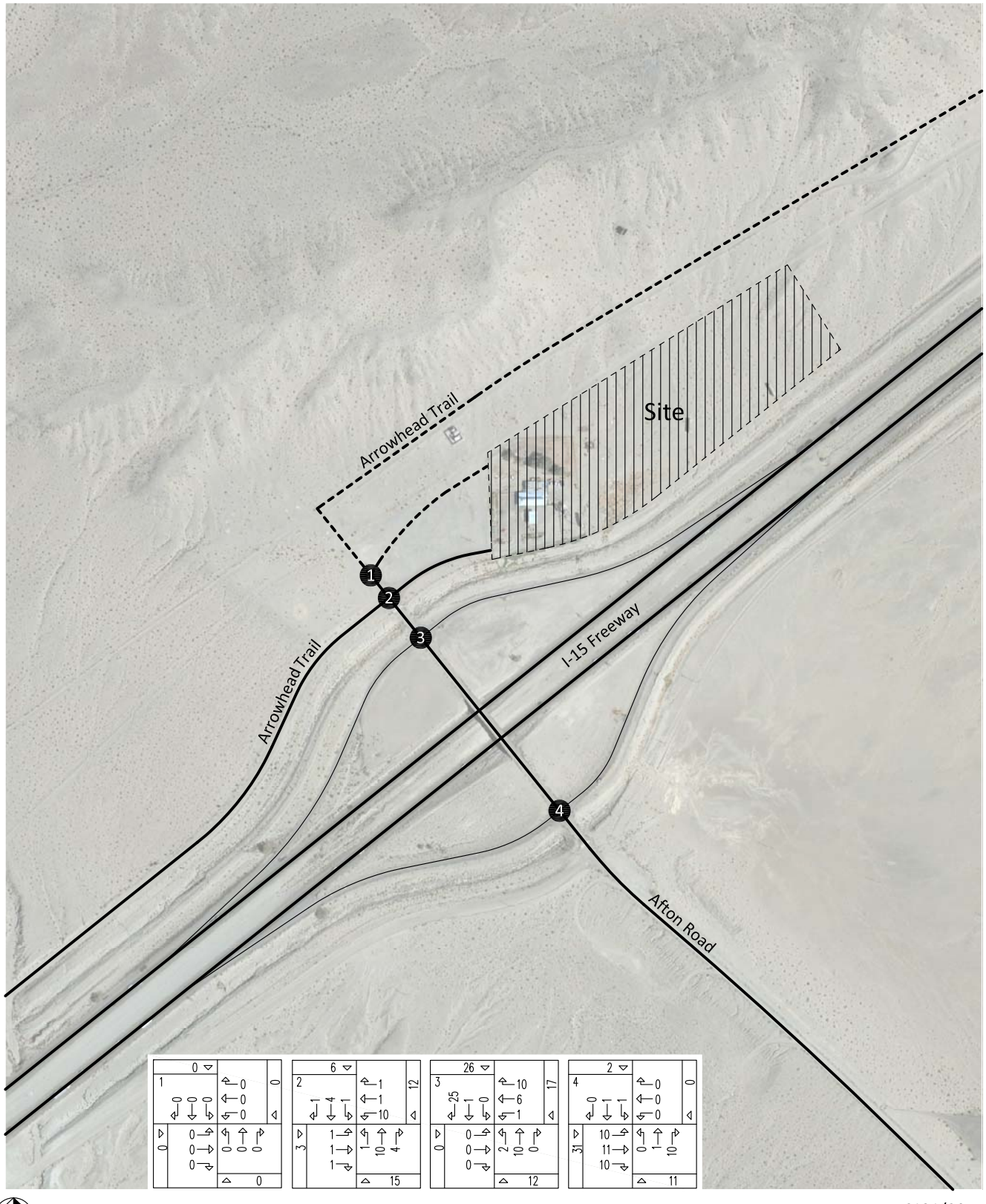


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 20
Year 2040 Without Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

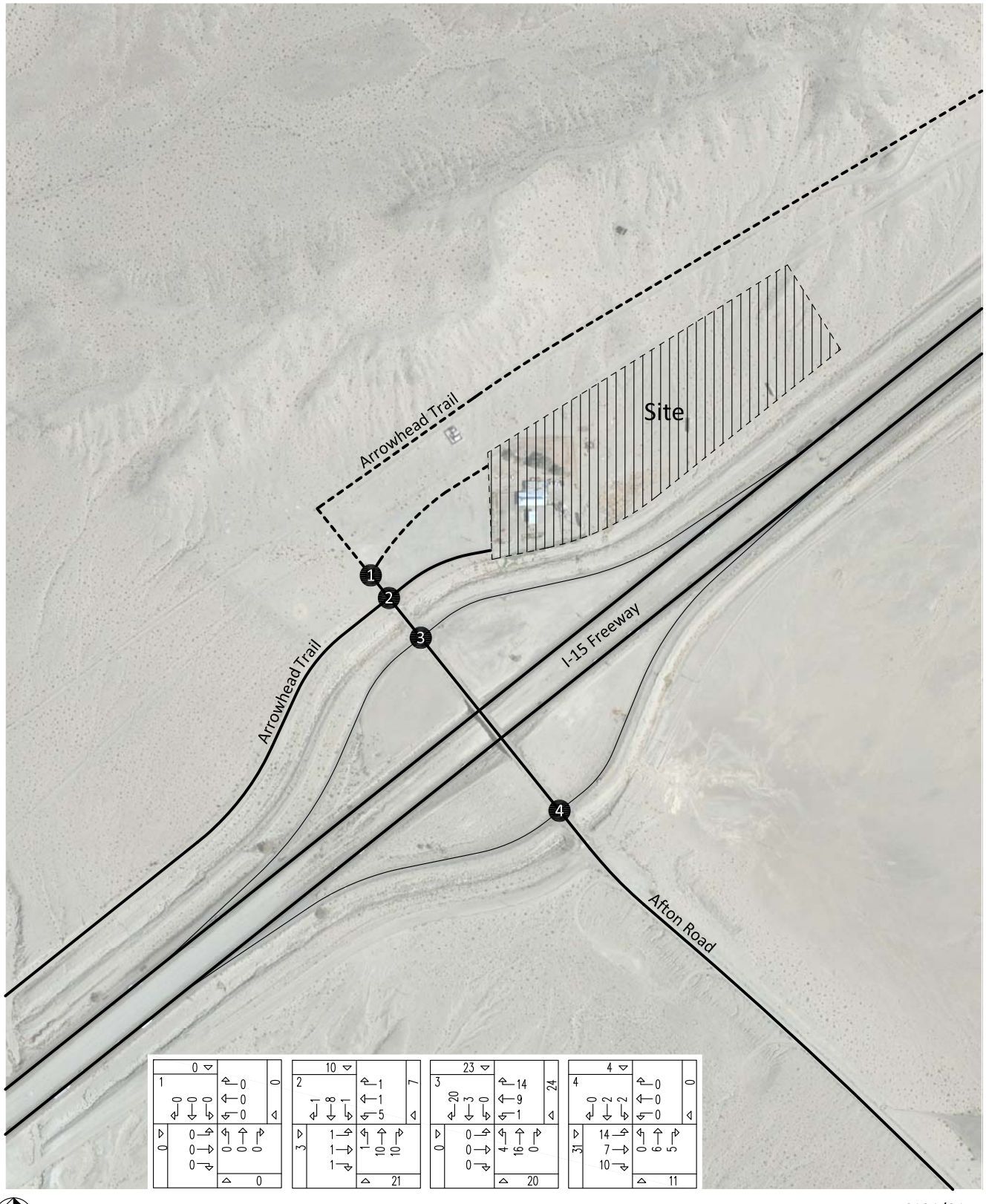


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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 21
Year 2040 Without Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes

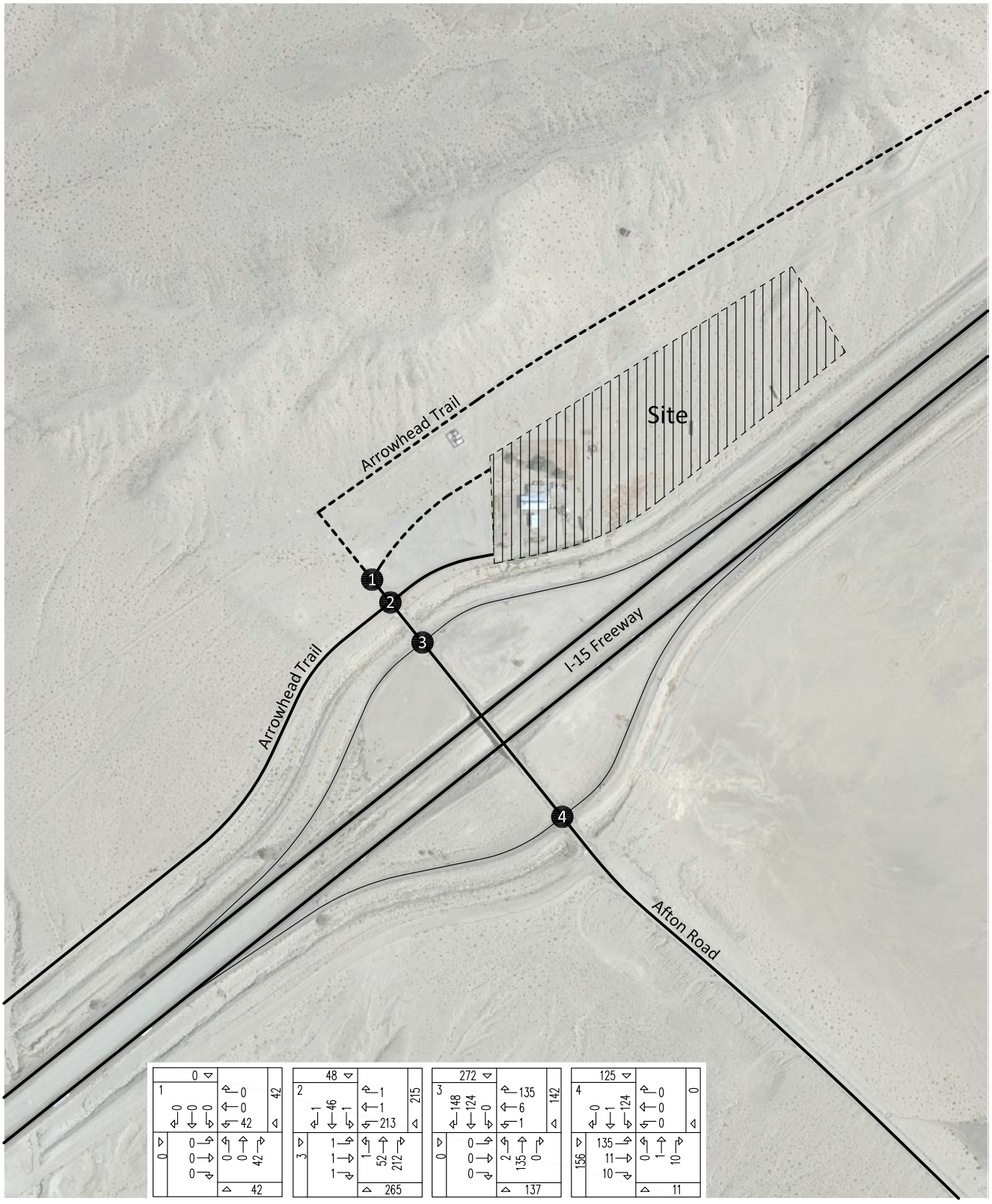


6131/21

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 22
Year 2040 With Project
Friday Evening Peak Hour Intersection Turning Movement Volumes

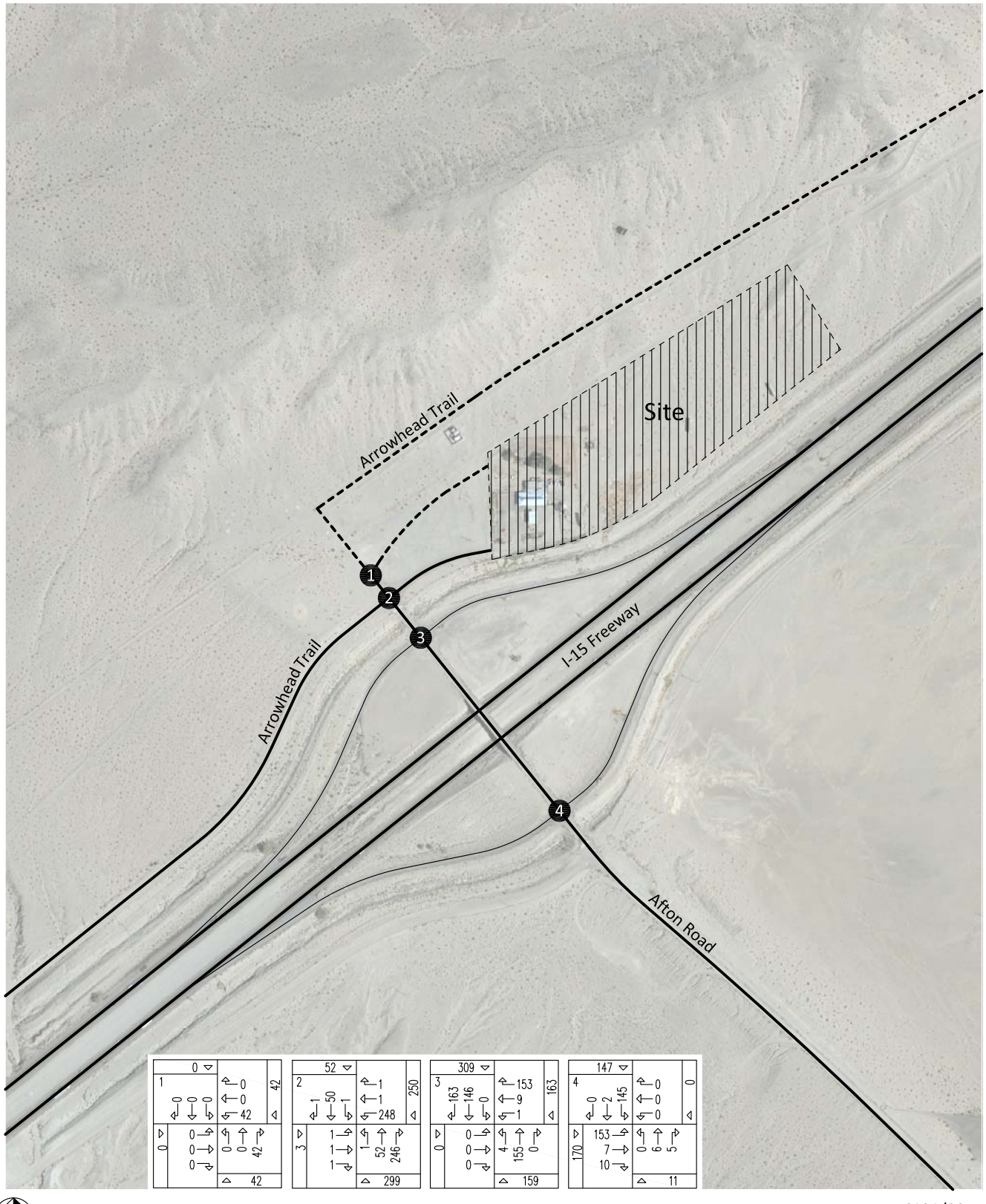


6131/22

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

Figure 23
Year 2040 With Project
Sunday Mid-day Peak Hour Intersection Turning Movement Volumes



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KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 40 YEARS OF EXCELLENT SERVICE

V. CONCLUSIONS AND RECOMMENDATIONS

A. Summary

The traffic issues related to the proposed land uses and development have been evaluated in the context of the California Environmental Quality Act.

The County of San Bernardino is the lead agency responsible for preparation of the traffic impact analysis, in accordance with California Environmental Quality Act authorizing legislation. This report analyzes traffic impacts for the anticipated opening date with full occupancy of the development in Year 2018, at which time it will be generating trips at its full potential, and for the current traffic forecast year, which is the Year 2040.

A series of scoping discussions were conducted with the County of San Bernardino and the California Department of Transportation to define the desired analysis locations for each future analysis year. In addition, the San Bernardino Associated Governments staff has also been contacted to discuss the project.

The average daily traffic volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 average daily traffic volume forecasts (see Appendix E). Traffic model plots are included in Appendix D. This difference defines the growth in traffic over the 28 year period. The incremental growth in average daily traffic volume has been factored to reflect the forecast growth between Year 2015 and Year 2040. For this purpose, linear growth between the Year 2012 base condition and the forecast Year 2040 condition was assumed. Since the increment between Year 2015 and Year 2040 is 25 years of the 28 year time frame, a factor of 0.89 (i.e., 25/28) was used.

The Year 2040 without project daily and peak hour directional roadway segment volume forecasts have been determined using the growth increment approach on the San Bernardino Transportation Analysis Model Year 2012 and Year 2040 peak hour volumes. The growth increment calculation worksheets are shown in Appendix E. Current peak hour intersection approach/departure data is a necessary input to this approach. The existing traffic count data serves as both the starting point for the refinement process, and also provides important insight into current travel patterns and the relationship between peak hour and daily traffic conditions. The initial turning movement proportions are estimated based upon the relationship of each approach leg's forecast traffic volume to the other legs forecast volumes at the intersection. The initial estimate of turning movement proportions is then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program Report 255. A linear programming algorithm is used to calculate individual turning movements that match the known directional roadway segment volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions rom each approach leg.

Project traffic volumes were then added to the Year 2040 San Bernardino Transportation Analysis Model volumes. Quality control checks and forecast adjustments were performed

as necessary to ensure that all future traffic volume forecasts reflect a minimum of 10% growth over existing traffic volumes. The result of this traffic forecasting procedure is a series of traffic volumes suitable for traffic operations analysis.

B. Existing Conditions

Regional access to the project site is mainly provided by the I-15 Freeway. Local access is provided by various roadways in the vicinity of the site. The north-south roadway which will be most affected by the project is Afton Canyon Road. The east-west roadway which will be most affected by the project is Arrowhead Trail.

The existing delay and Level of Service for the intersection in the vicinity of the project are shown in Table 1. The study area intersections currently operate within acceptable Levels of Service during the peak hours for existing traffic conditions.

C. Project Traffic

Trip generation rates were determined for daily traffic and morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes are determined. The project trip generation is based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 9th Edition, 2012.

As shown in Table 2, the proposed development is projected to generate a total of approximately 5,627 daily vehicle trips, 495 of which will occur during the Friday evening peak hour and 563 of which will occur during the Sunday mid-day peak hour.

The distributions of the project trips were based on existing travel patterns calculated using existing traffic counts. This methodology was approved by the County of San Bernardino Transportation Department and the California Department of Transportation and the California Department of Transportation staff.

D. Future Conditions

An Existing Plus Project, Opening Year (2018) analysis, and Year 2040 analysis are included in this report. Existing Plus Project traffic operations analysis has been completed for Friday evening and Sunday mid-day peak hours and is shown in Table 3. Opening Year (2018) traffic operations analysis has been completed for Friday evening and Sunday mid-day peak hours and is shown in Tables 4 and 5. Year 2040 traffic operations analysis has been completed for Friday evening and Sunday mid-day peak hours and is shown in Tables 6 and 7.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Opening Year (2018) Without Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Opening Year (2018) With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Year 2040 Without Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

For Year 2040 With Project traffic conditions, the study area intersections are projected to operate at an acceptable Levels of Service during the peak hours.

E. Recommendations

Site-specific circulation and access recommendations are depicted on Figure 24.

1. On-Site Improvements

Construct Afton Canyon Road from the Project North Access to the I-15 Freeway SB Ramps at its ultimate cross-section width including landscaping and parkway improvements in conjunction with development.

The project site should provide sufficient parking spaces to meet County of San Bernardino parking code requirements in order to service on-site parking demand.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

Sight distance at each project access should be reviewed with respect to California Department of Transportation/County of San Bernardino standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

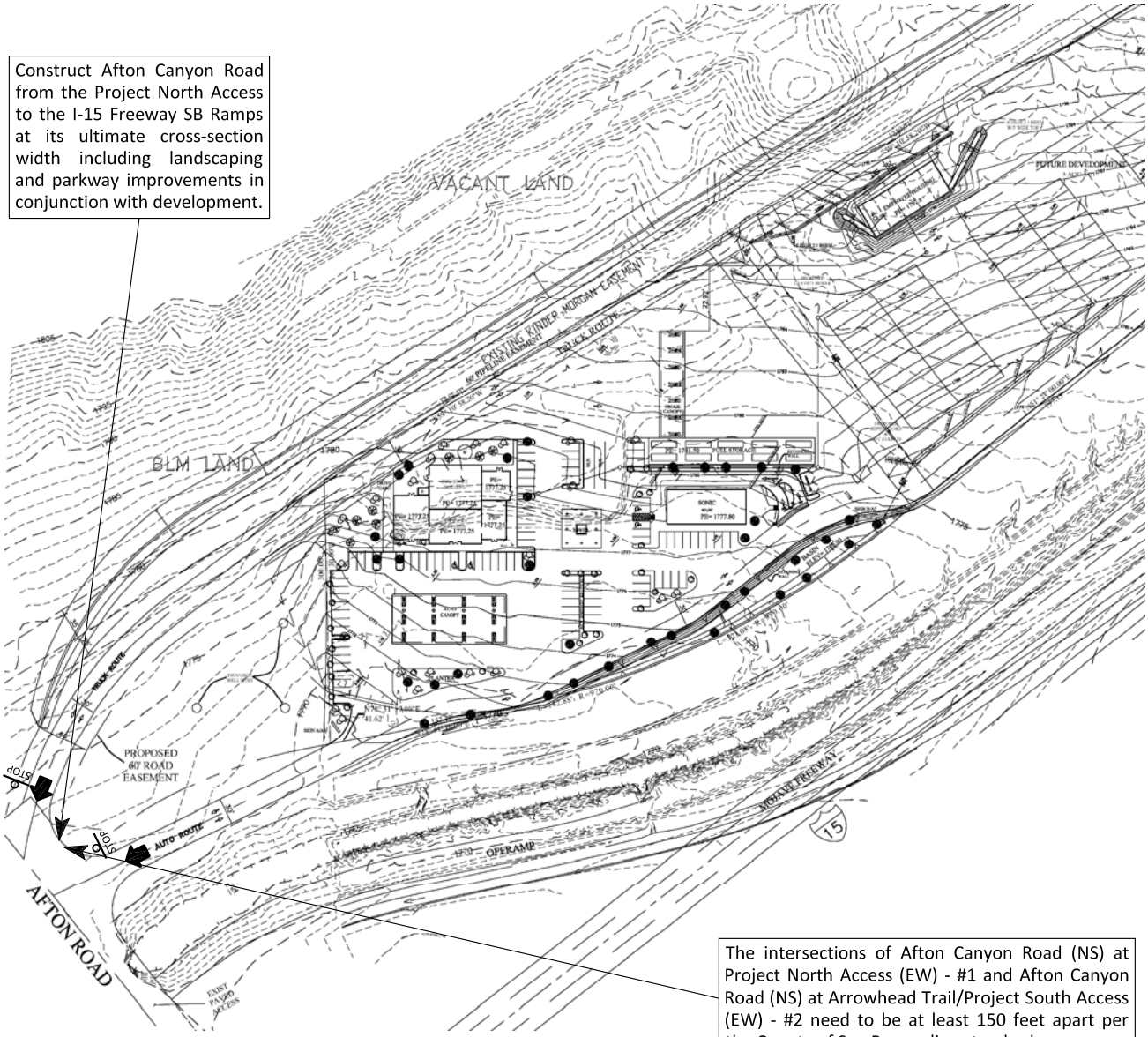
The intersections of Afton Canyon Road (NS) at Project North Access (EW) - #1 and Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (EW) - #2 need to be at least 150 feet apart per the County of San Bernardino standards.

2. Off-Site Improvements

As is the case for any roadway design, the County of San Bernardino should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Figure 24
Circulation Recommendations

Construct Afton Canyon Road from the Project North Access to the I-15 Freeway SB Ramps at its ultimate cross-section width including landscaping and parkway improvements in conjunction with development.



The intersections of Afton Canyon Road (NS) at Project North Access (EW) - #1 and Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (EW) - #2 need to be at least 150 feet apart per the County of San Bernardino standards.

The project site should provide sufficient parking spaces to meet County of San Bernardino parking code requirements in order to service on-site parking demand.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

Sight distance at each project access should be reviewed with respect to California Department of Transportation/County of San Bernardino standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

As is the case for any roadway design, the County of San Bernardino should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Legend

STOP = Stop Sign

= Full Access Driveway

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APPENDICES

Appendix A – Glossary of Transportation Terms

Appendix B – Scoping Agreement

Appendix C – Traffic Count Worksheets

Appendix D – Model Plots

Appendix E – Future Growth Increment Calculation Worksheets

Appendix F – Explanation and Calculation of Intersection Delay

Appendix G – Pass-By Trips

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Scoping Agreement

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

This Scope for Traffic Study acknowledges San Bernardino County Department of Public Works, Traffic Division requirements of traffic impact analysis for the project and is subject to change:

Project Address:	45307 Afton Canyon Road, Baker, CA 92309		
Project Description:	5 Single-Family Detached Residential Dwelling Units, 3,600 square foot Fast-Food Restaurant with Drive-Through Window and 10 Drive-In Stalls, 22 FP Gasoline/Service Station with Convenience Market, and 26 Alternative Fuel Charging Stations.		
City:	Unincorporated County of San Bernardino		
Project Buildout Year:	2017	**Ambient Growth Rate per Year:**	SBTAM
Closest Intersection (Xtn) to the Project			
Xtn N/S Street Name:	Afton Road [I-15 Freeway 26 mi west of Baker and 38 mi east of Barstow]		
Xtn E/W Street Name:	Project Access		
Thomas Guide Pg+Grid:	N/A	**County Supervisorial District:**	1st

	Engineer	**Developer**
Company:	Kunzman Associates, Inc.	PENINSULA, LP
Name:	Robert Kunzman	Bo Thiara
Address:	1111 Town & Country Rd., Ste. 34	5121 Chapel Drive
City, State, Zip Code:	Orange, CA 92868	Mill Valley, CA 94941
Phone #:	1-714-973-8383	1-415-823-0953
Fax #:	1-714-973-8821	
Email:	robert@traffic-engineer.com	bthiara@peninsulalp.com

By: Robert Kunzman

Print Name:Robert Kunzman **10-20-2015**

Consultant/Developer's Representative **Date**

Reviewed By:

Print Name:

Traffic Divsion Representative **Date**

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

1. Traffic Distribution: Please insert or attach Figure(s) illustrating project trip distribution in percentages and volumes at the study intersections analyzed.

2. Trip Credit: Exact amount of credit subject to approval by Traffic Division.

Transportation Demand Management (TDM)	No	0
Existing ActiveLand Use	Yes	0
Previous Land Use	Yes	0
Internal Trip Reduction	Yes	0
Pass-by Trip Reduction	Yes	0

3. Related Projects: Consultant should check with Planning in the San Bernardino County Department of Land Use Services and planning departments of adjoining Cities. Documentation of the consultation from these agencies shall be included in the traffic study. Related projects list shall be submitted to Traffic Division for our review and approval before being incorporated in the study.

4. Freeway Analysis: The potential traffic impact on the following Freeway(s) must be considered.

No mainline analysis required. Minimal new trips. See Table 1.

The applicant shall consult with the State of California Department of Transportation (Caltrans) to determine the California Environmental Quality Act levels of significance with regard to traffic impacts on Caltrans' freeway facilities. This consultation shall also include a determination of Caltrans requirements for the study of traffic impacts to its facilities and the mitigation of any such impacts. This analysis must follow the most current Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) and can be obtained from http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tiguide.pdf. If Caltrans finds that the project has a significant impact on the freeway, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be included with the traffic study and submitted to Public Works for review and approval. If a documented good faith effort is made to consult with Caltrans and written comments cannot be obtained from within a reasonable amount of time, an analysis of the freeway impact shall be made using HCM procedures. Appendix A of the SANBAG CMP outlines allowable modifications to these procedures. The SANBAG CMP can be viewed online at:
http://www.sanbag.ca.gov/planning/subr_congestion.html

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

5. Trip Generation

Trip Generation Rate(s) Source: ITE Trip Generation	**I – Institute of Transportation Engineers; S – San Diego Traffic Generators; C – County; O – Other:**	**Edition:**	9th

Land Use Code	**Land Use**	**Rate Based on**	**Qty**	***AVTE vs**	**ADT**	Weekday a.m. peak		Weekday p.m. peak		Weekend peak hour	
						In	Out	In	Out	In	Out
210	Single-Family Detached Residential	**I**	5		48			3	2	2	2
935	Fast-Food Restaurant with Drive-Through Window	**I**	3.600		1,786			89	82	126	136
	Fast-Food Drive In Stalls	**O**	10		600			30	30	30	30
945	Gasoline/Service Station with Convenience Market	**I**	22		3,581			149	149	149	149
	Alternative Fuel Station	**O**	26		520			26	26	26	26

* - Average Vehicle Trip Ends.
For ITE Land Uses provide number and name of Land Use. e.g. LU 814 - Variety Store

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

6. Study Intersections: At minimum, the study shall include the following intersections. The list is subject to change after related projects, trip generation and distribution are determined. Consultant should check with adjoining Cities regarding their requirements in addition to the following County/City intersections. Documentation of the consultation from these agencies shall be included in the traffic study.

Xtn #	%County	Thomas Guide Page+Grid	NS/EW Street Name	City	Signalized	CMP
1	100%		Afton Canyon Road (NS) at Project North Access (EW)	County	No	
2	100%		Afton Canyon Road (NS) at Project South Access (EW)	County	No	
3	0%		Afton Canyon Road (NS) at I-15 Freeway WB Ramps (EW)	CALTRANS	No	
4	0%		Afton Canyon Road (NS) at I-15 Freeway EB Ramps (EW)	CALTRANS	No	

Cites to be consulted: None

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

7. Other:

Traffic counts may be conducted immediately per the following:
• Must be taken on Tuesdays, Wednesdays or Thursdays (see below).
• Must exclude holidays, and the first weekdays before and after the holiday.
• Must be taken on days when local schools or colleges are in session.
• Must be taken on days of good weather, and avoid atypical conditions (e.g., road construction, detours, or major traffic incidents).
• Traffic counts used for other traffic studies in the area shall **NOT** be reused again, unless 25% of the counts conducted for that particular traffic study are validated with new counts. The difference in volumes between the old and new counts at each corresponding movement should not be more than 10%.
• New traffic counts shall be checked to ensure the difference in volumes at corresponding approaches, if applicable, between two adjacent intersections is no more than 10% unless the difference can be justified.
• For all proposed mitigation measures, a conceptual plan for the improvements shall be submitted to our Traffic Studies section for review and approval prior to the approval of the Traffic Impact Analysis. All proposed improvements shall be within the right-of-way.
• For all cumulative mitigation measures, a cost estimate for the improvement shall be submitted.
Peak counts will be conducted on Friday from 4:00 PM to 6:00 PM and on Sunday from 12:00 PM to 3:00 PM. These are the analysis periods to be studied.
SBTAM Model used for forecasting of 2018 and 2040.
Study Scenarios: Existing, Existing Plus Project, Opening Year (2018) Without, Opening Year (2018) With Project, Year 2040 Without Project, and Year 2040 With Project.
Minimum intersection spacing of 150 feet will be adhered to.

This analysis must follow the most current Traffic Impact Study Guidelines for the County as stated in the County's Road Planning and Design Standards.

8. Fees

The County charges on an actual cost basis for review of traffic studies. An initial deposit of $3400 is required at the time that a land use application is filed with the Department of Land Use Services If the review costs exceed the initial deposit, the applicant will be expected to provide additional funds and the review will be suspended until the additional funds are deposited.

SCOPE FOR TRAFFIC STUDY

Project Name:	Baker Fuel Facility Project

9. Contact Information:

Please submit a signed copy of this scope for approval by the Traffic Division. Draft scopes may be sent electronically. Final scope with signature should be submitted in person or by US Mail to:

County of San Bernardino
Dept. of Public Works, Traffic Division
825 E. 3rd Street, Rm 115
San Bernardino, CA 92415-0835

Phone: 909-387-8186
Fax: 909-387-7809
Email: epetre@dpw.sbcounty.gov (Ed Petre)

Table 1

Project Trip Generation[1]

Land Use	Quantity[2]	Units[3]	Friday Evening[4]			Sunday Afternoon[4]			Daily[5]
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Single-Family Detached Residential		DU	0.65	0.37	1.02	0.46	0.40	0.86	9.52
Fast-Food Restaurant with Drive-Through Window		TSF	24.60	22.70	47.30	34.92	37.82	72.74	496.12
Fast-Food Drive In Stalls[6]		ST	3.00	3.00	6.00	3.00	3.00	6.00	60.00
Gasoline/Service Station with Convenience Market		FP	6.79	6.78	13.57	6.79	6.78	13.57	162.78
Alternative Fuel Station[7]		CS	1.00	1.00	2.00	1.00	1.00	2.00	20.00
Trips Generated									
Single-Family Detached Residential	5	DU	3	2	5	2	2	4	48
Internal Capture - Residential (25%)[8]			-1	-1	-2	-1	-1	-2	-12
Fast-Food Restaurant with Drive-Through Window	3.600	TSF	89	82	171	126	136	262	1786
Fast-Food Drive In Stalls	10	ST	30	30	60	30	30	60	600
Internal Capture - Restaurant (25%)[9]			-22	-21	-43	-32	-34	-66	-447
Pass-By - Restaurant (95%)			-92	-86	-178	-118	-125	-243	-1,842
Gasoline/Service Station with Convenience Market	22	FP	149	149	298	149	149	298	3,581
Internal Capture - Service Station (25%)[10]			-37	-37	-74	-37	-37	-74	-895
Pass-By - Service Station (95%)			-106	-106	-212	-106	-106	-212	-2,552
Alternative Fuel Station	26	CS	26	26	52	26	26	52	520
Internal Capture - Alternative Fuel Station (50%)[11]			-13	-13	-26	-13	-13	-26	-260
Pass-By - Alternative Fuel Station (90%)			-12	-12	-24	-12	-12	-24	-234
Total Trips Generated			297	289	586	333	343	676	6,535
Total Trips Generated Using Study Area Intersections			224	217	441	250	258	508	4,921
Total Trips Generated Added to Freeway Mainline			14	13	27	14	15	29	293

It should be noted that this facility is completely isolated and adjacent the I-15 Freeway. The site is so remote that the staff lives on-site. Patrons of the facility will likely stop at the facility to fuel their vehicle and obtain food. The site adds virtually no traffic to the freeway but all its traffic utilizes the study area intersections.

[1] Source: Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012, Land Use Categories 210, 934, and 945.

[2] The proposed service station is projected to consist of 16 passenger car fueling positions and 6 diesel truck fueling positions. To remain conservative, the 6 diesel truck fueling positions have been assumed to have the same trip generation as a passenger car fueling position.

[3] DU= Dwelling Unit; TSF = Thousand Square Feet; ST= Stalls; FP = Fueling Positions; CS = Charging Stations

[4] Peak hour trip generation rates for Friday evening and Saturday Mid-day peak periods are not available. Weekday evening peak hour of generator trip generation has been used because it is the highest trip generating period for this land use.

[5] Weekday daily trip generation rates have been used.

[6] It is assumed that each drive in stall will turn over three times per peak hour. It is assumed that the daily total is ten times the peak hour total.

[7] It is assumed that each charging station will turn over one time per peak hour. It is assumed that the daily total is ten times the peak hour total.

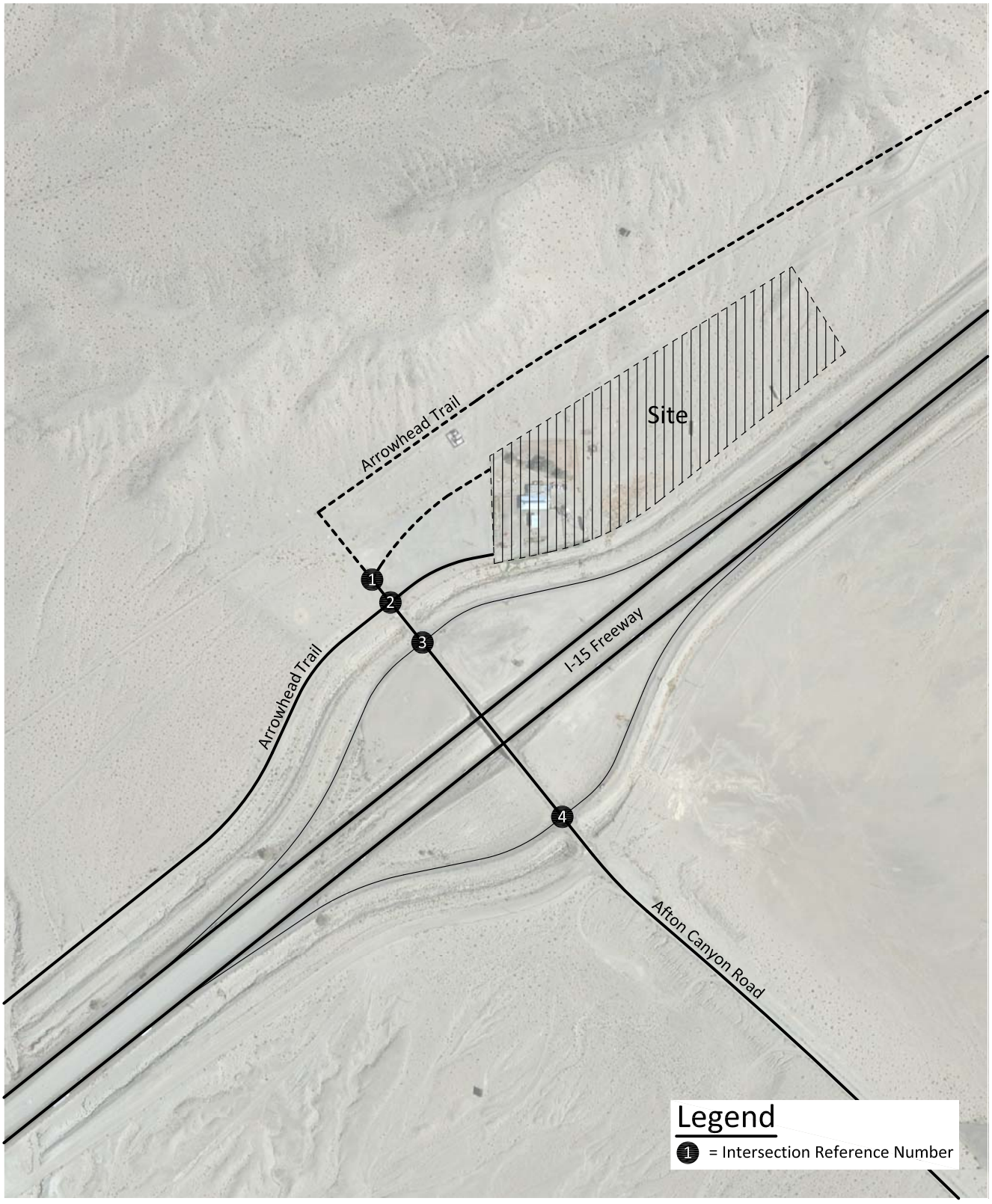
[8] It is assumed that 25 percent of the trips of the residential use will be internal to the site.

[9] It is assumed that approximately 50 percent of the patrons of the restaurants will also utilize the fueling stations. To remain conservative an internal reduction of 25 percent is utilized.

[10] It is assumed that approximately 50 percent of the patrons of the fueling station will also utilize the restaurants. To remain conservative an internal reduction of 25 percent is utilized.

[11] It is assumed that the alternative fuel station will be used passively by patrons of the restaurants. I conservative estimate of 50 percent of the alternative fuel use will be exclusively alternative fuel.

Figure 1
Project Location Map



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KUNZMAN ASSOCIATES, INC.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 2
Site Plan



Figure 3
Project Outbound Trip Distribution - Cars

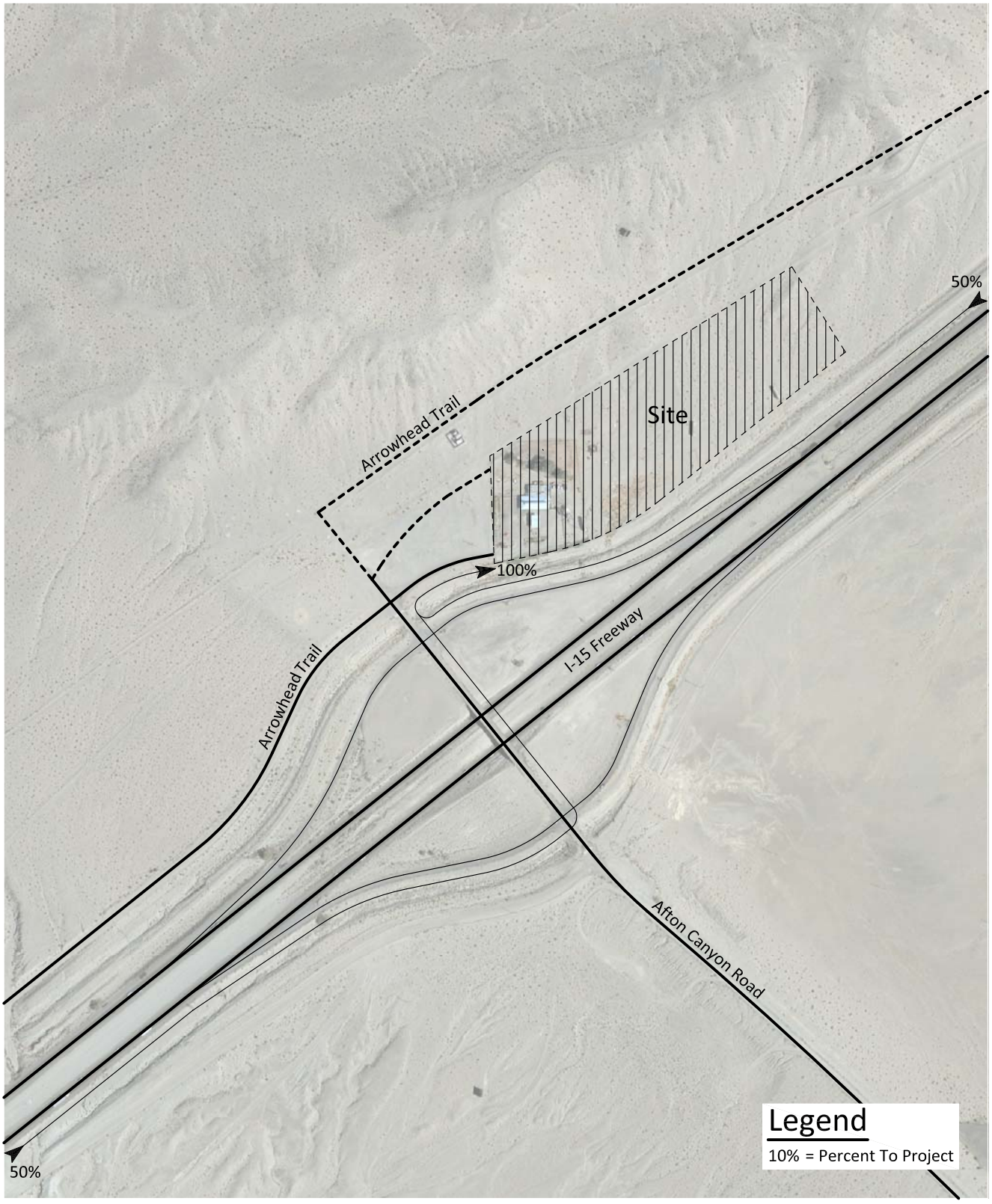


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KUNZMAN ASSOCIATES, INC.

OVER 35 YEARS OF EXCELLENT SERVICE

Figure 4
Project Inbound Trip Distribution - Cars



6131/4

Figure 5
Project Outbound Trip Distribution - Trucks



6131/5

Figure 6
Project Inbound Trip Distribution - Trucks



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APPENDIX C

Traffic Count Worksheets

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

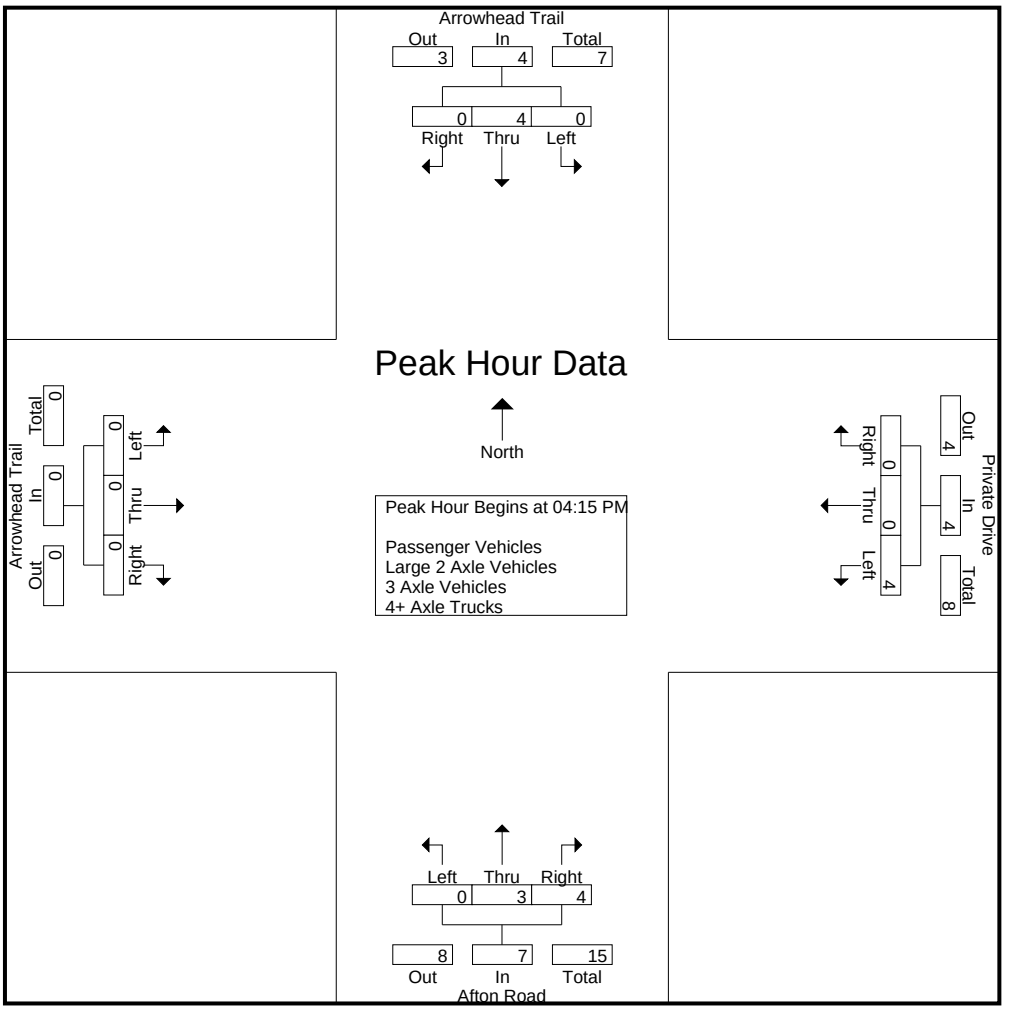
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	2	0	2	0	0	0	0	3
04:15 PM	0	2	0	2	2	0	0	2	0	1	0	1	0	0	0	0	5
04:30 PM	0	2	0	2	1	0	0	1	0	1	2	3	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	4	3	1	0	4	0	4	2	6	0	0	0	0	14
05:00 PM	0	0	0	0	1	0	0	1	0	1	2	3	0	0	0	0	4
05:15 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
05:30 PM	0	1	0	1	1	1	0	2	0	1	1	2	0	0	0	0	5
05:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	2	0	2	5	1	0	6	0	3	4	7	0	0	0	0	15
Grand Total	0	6	0	6	8	2	0	10	0	7	6	13	0	0	0	0	29
Apprch %	0	100	0		80	20	0		0	53.8	46.2		0	0	0		
Total %	0	20.7	0	20.7	27.6	6.9	0	34.5	0	24.1	20.7	44.8	0	0	0	0	
Passenger Vehicles	0	6	0	6	5	2	0	7	0	5	6	11	0	0	0	0	24
% Passenger Vehicles	0	100	0	100	62.5	100	0	70	0	71.4	100	84.6	0	0	0	0	82.8
Large 2 Axle Vehicles	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% Large 2 Axle Vehicles	0	0	0	0	12.5	0	0	10	0	0	0	0	0	0	0	0	3.4
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	2	0	0	2	0	2	0	2	0	0	0	0	4
% 4+ Axle Trucks	0	0	0	0	25	0	0	20	0	28.6	0	15.4	0	0	0	0	13.8

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**2**	0	**2**	**2**	0	0	**2**	0	**1**	0	1	0	0	0	0	5
04:30 PM	0	2	0	2	1	0	0	1	0	1	**2**	**3**	0	0	0	0	**6**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	0	0	1	0	1	2	3	0	0	0	0	4
Total Volume	0	4	0	4	4	0	0	4	0	3	4	7	0	0	0	0	15
% App. Total	0	100	0		100	0	0		0	42.9	57.1		0	0	0		
PHF	.000	.500	.000	.500	.500	.000	.000	.500	.000	.750	.500	.583	.000	.000	.000	.000	.625

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County of San Bernardino
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Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	0	0	0	1	0	0	1	0	**1**	**2**	**3**	0	0	0	0
+15 mins.	0	**2**	0	**2**	1	0	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	1	**1**	0	**2**	0	1	2	3	0	0	0	0
+45 mins.	0	0	0	0	**2**	0	0	2	0	1	1	2	0	0	0	0
Total Volume	0	4	0	4	5	1	0	6	0	3	5	8	0	0	0	0
% App. Total	0	100	0		83.3	16.7	0		0	37.5	62.5		0	0	0	
PHF	.000	.500	.000	.500	.625	.250	.000	.750	.000	.750	.625	.667	.000	.000	.000	.000

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County of San Bernardino
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Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles

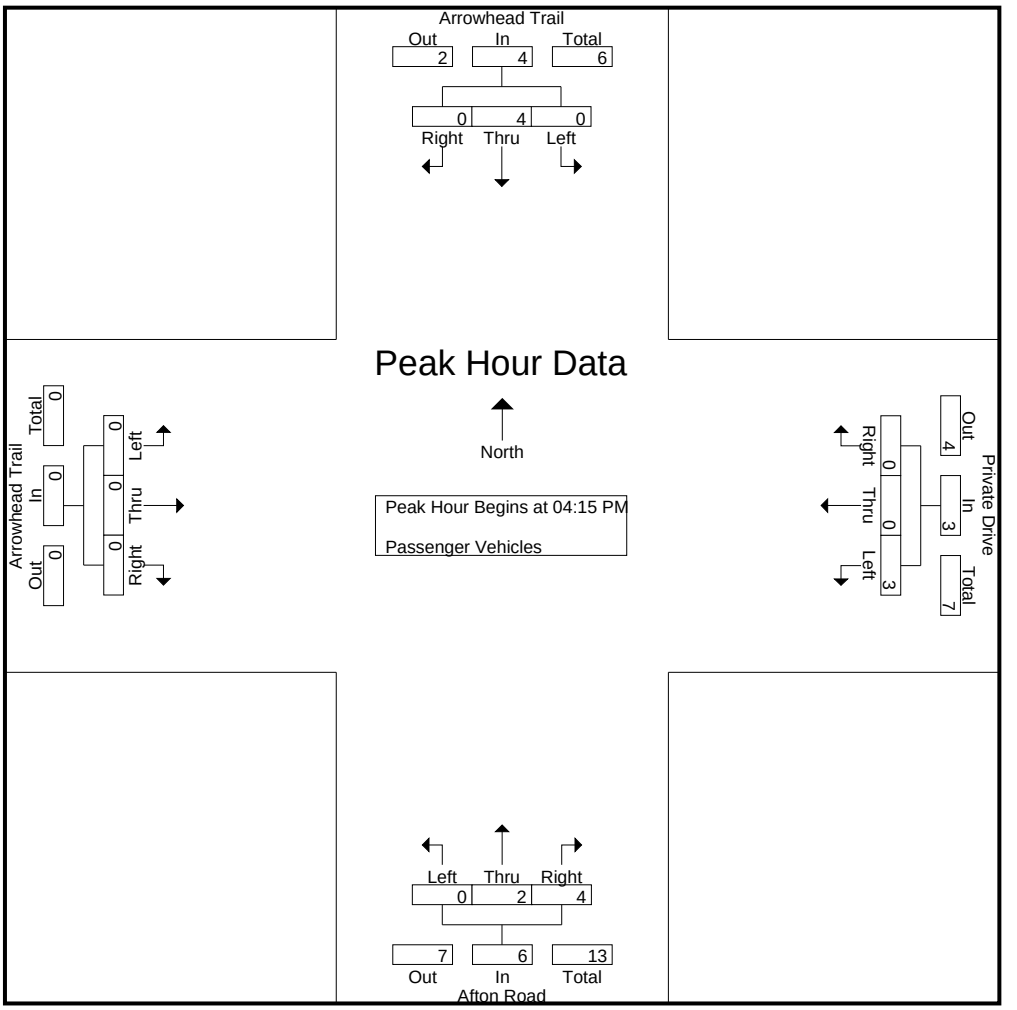
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	2	0	2	0	0	0	0	3
04:15 PM	0	2	0	2	1	0	0	1	0	1	0	1	0	0	0	0	4
04:30 PM	0	2	0	2	1	0	0	1	0	1	2	3	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	4	2	1	0	3	0	4	2	6	0	0	0	0	13
05:00 PM	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0	3
05:15 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
05:30 PM	0	1	0	1	1	1	0	2	0	0	1	1	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	3	1	0	4	0	1	4	5	0	0	0	0	11
Grand Total	0	6	0	6	5	2	0	7	0	5	6	11	0	0	0	0	24
Apprch %	0	100	0		71.4	28.6	0		0	45.5	54.5		0	0	0		
Total %	0	25	0	25	20.8	8.3	0	29.2	0	20.8	25	45.8	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**2**	0	**2**	**1**	0	0	**1**	0	**1**	0	1	0	0	0	0	4
04:30 PM	0	2	0	2	1	0	0	1	0	1	**2**	**3**	0	0	0	0	**6**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0	3
Total Volume	0	4	0	4	3	0	0	3	0	2	4	6	0	0	0	0	13
% App. Total	0	100	0		100	0	0		0	33.3	66.7		0	0	0		
PHF	.000	.500	.000	.500	.750	.000	.000	.750	.000	.500	.500	.500	.000	.000	.000	.000	.542

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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**2**	0	**2**	**1**	0	0	**1**	0	**1**	0	1	0	0	0	0
+15 mins.	0	2	0	2	1	0	0	1	0	1	**2**	**3**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	2	2	0	0	0	0
Total Volume	0	4	0	4	3	0	0	3	0	2	4	6	0	0	0	0
% App. Total	0	100	0		100	0	0		0	33.3	66.7		0	0	0	
PHF	.000	.500	.000	.500	.750	.000	.000	.750	.000	.500	.500	.500	.000	.000	.000	.000

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E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

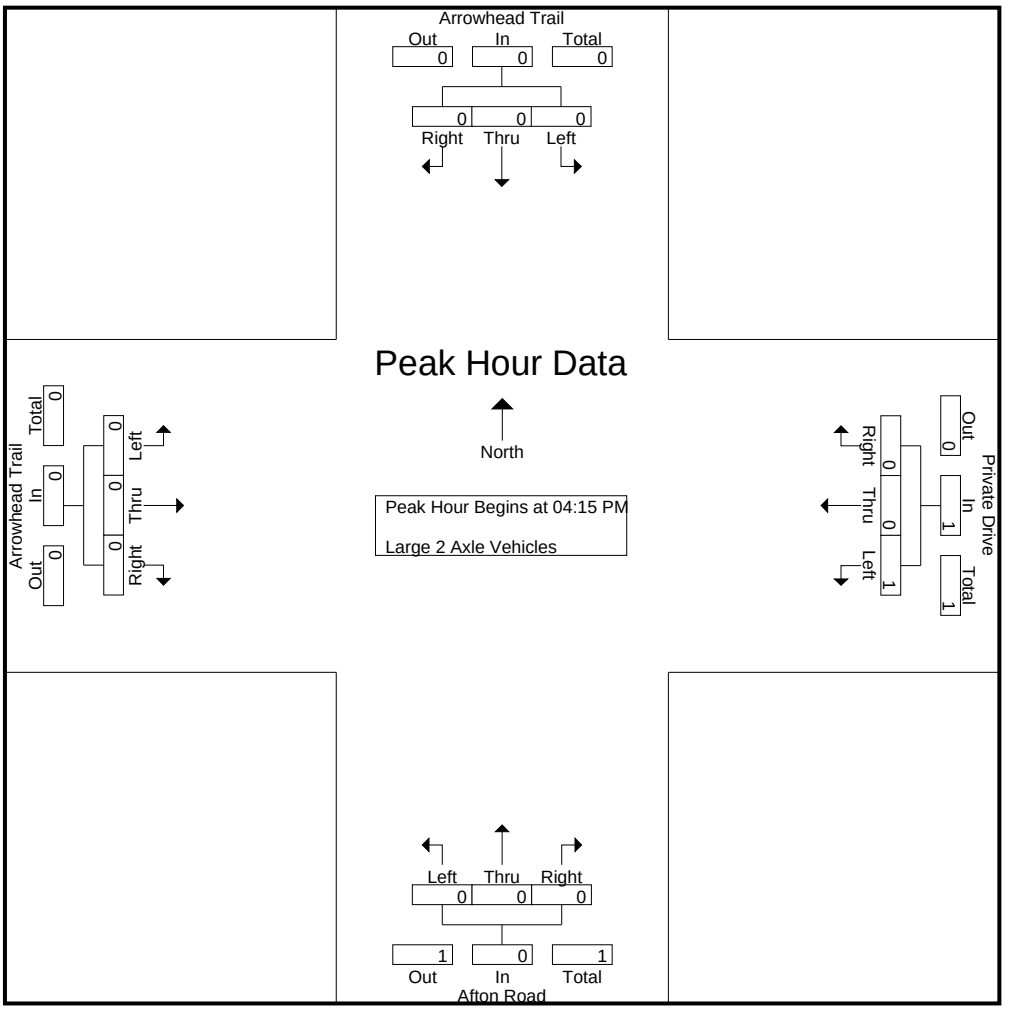
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Apprch %	0	0	0		100	0	0		0	0	0		0	0	0		
Total %	0	0	0	0	100	0	0	100	0	0	0	0	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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Site Code : 07515579
Start Date : 10/16/2015
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
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Groups Printed- 3 Axle Vehicles

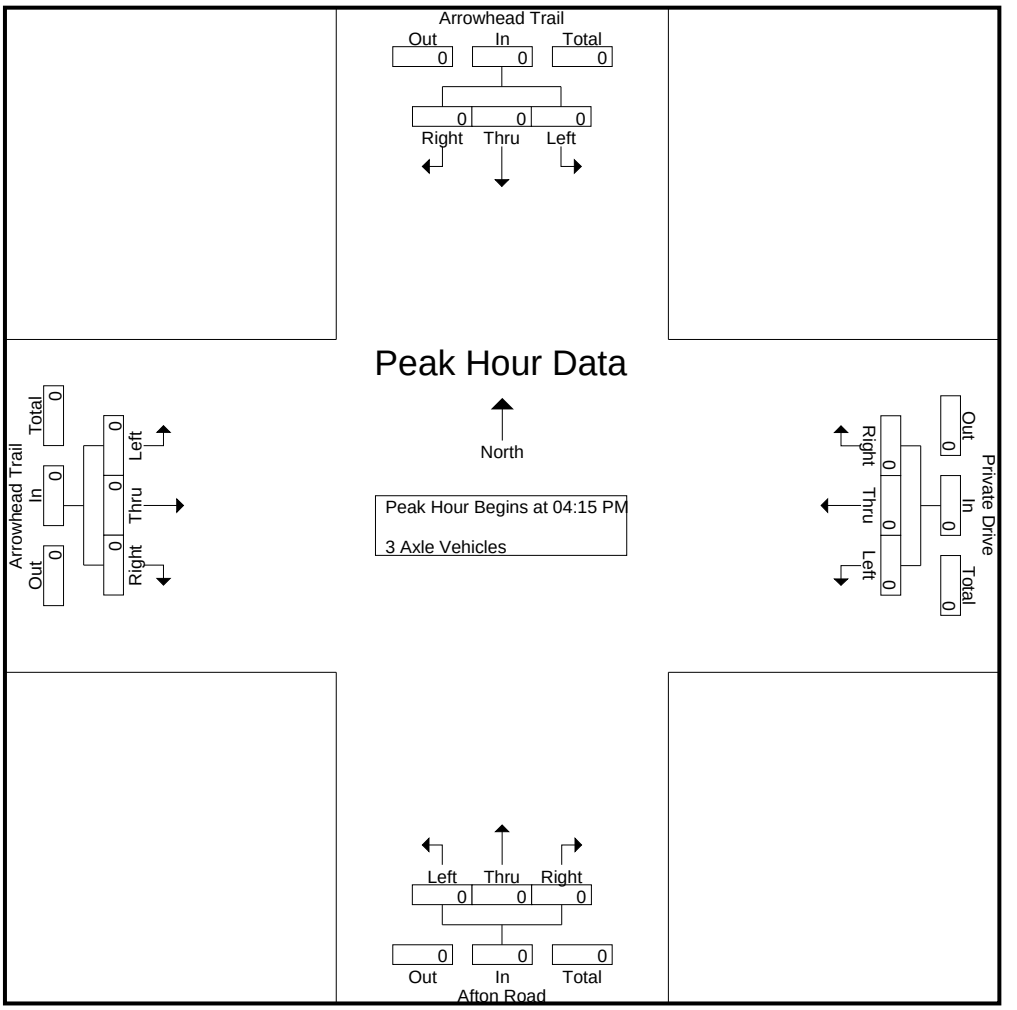
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : CSBAFAR FRI
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Groups Printed- 4+ Axle Trucks

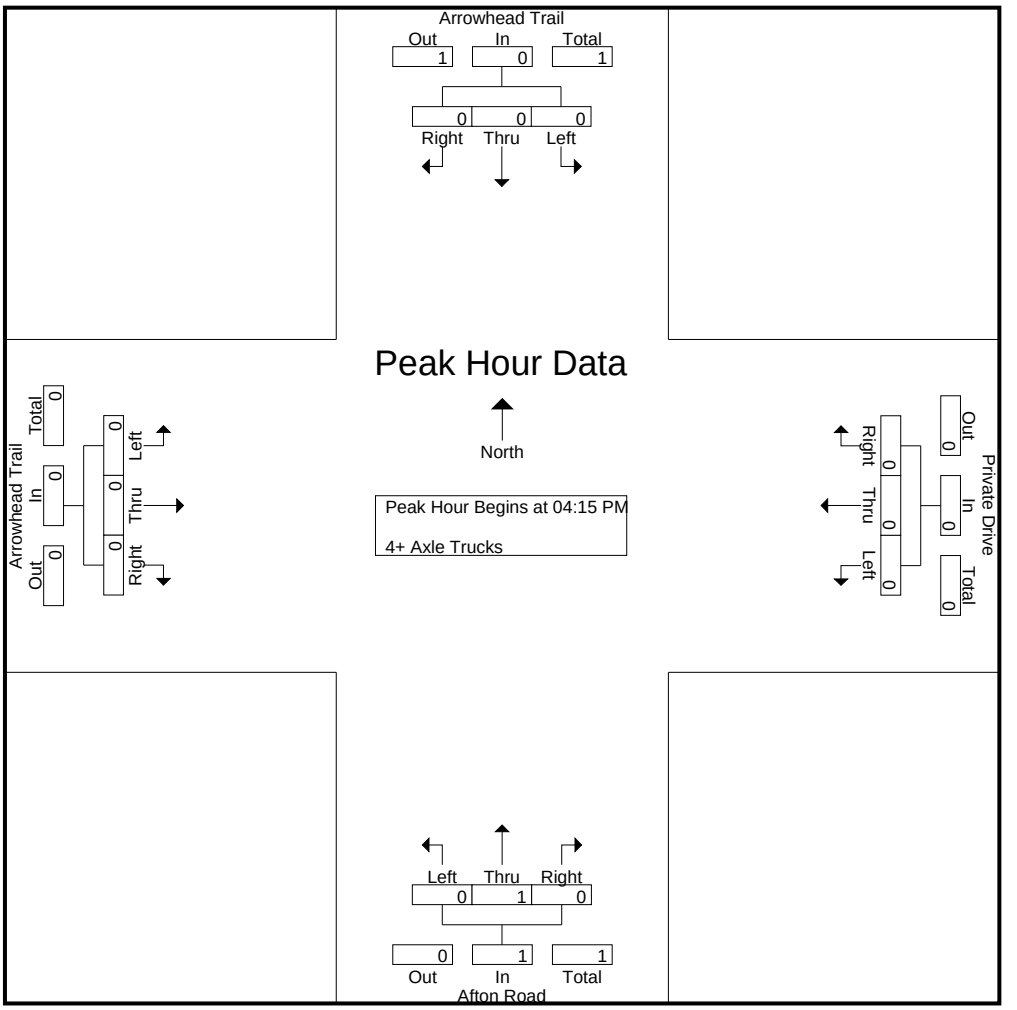
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	2	0	0	2	0	2	0	2	0	0	0	0	4
Grand Total	0	0	0	0	2	0	0	2	0	2	0	2	0	0	0	0	4
Apprch %	0	0	0		100	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	50	0	0	50	0	50	0	50	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
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04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

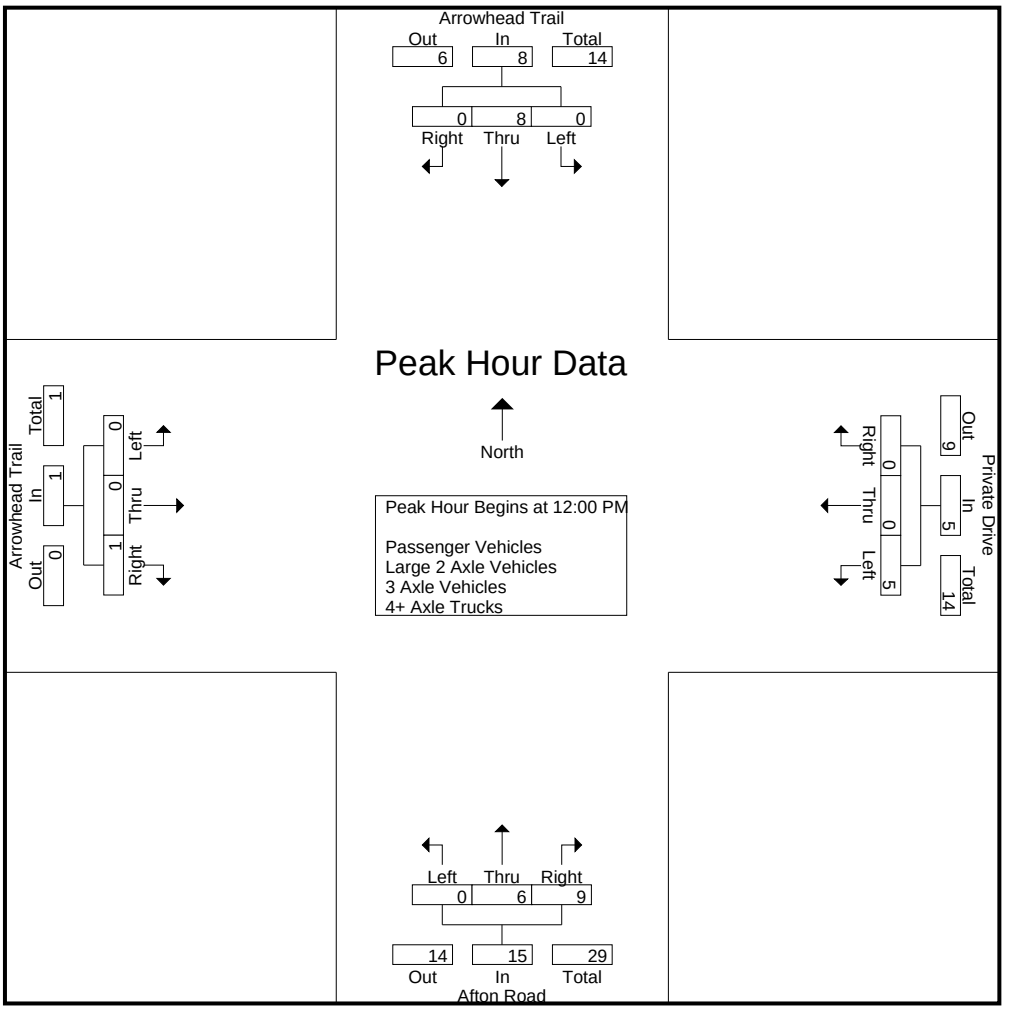
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	5	0	5	3	0	0	3	0	5	4	9	0	0	1	1	18
Total	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
01:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
01:30 PM	0	2	0	2	1	0	0	1	0	2	1	3	0	0	0	0	6
01:45 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total	0	6	0	6	1	0	0	1	0	7	2	9	0	0	0	0	16
02:00 PM	0	1	0	1	1	0	0	1	1	2	0	3	0	0	1	1	6
02:15 PM	0	2	0	2	1	0	0	1	0	1	3	4	0	0	0	0	7
02:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
02:45 PM	1	5	0	6	0	0	0	0	0	1	2	3	0	0	0	0	9
Total	1	8	0	9	2	0	0	2	1	6	5	12	0	0	1	1	24
Grand Total	1	22	0	23	8	0	0	8	1	19	16	36	0	0	2	2	69
Apprch %	4.3	95.7	0		100	0	0		2.8	52.8	44.4		0	0	100		
Total %	1.4	31.9	0	33.3	11.6	0	0	11.6	1.4	27.5	23.2	52.2	0	0	2.9	2.9	
Passenger Vehicles	1	21	0	22	8	0	0	8	1	18	15	34	0	0	2	2	66
% Passenger Vehicles	100	95.5	0	95.7	100	0	0	100	100	94.7	93.8	94.4	0	0	100	100	95.7
Large 2 Axle Vehicles	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% Large 2 Axle Vehicles	0	4.5	0	4.3	0	0	0	0	0	5.3	0	2.8	0	0	0	0	2.9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	6.2	2.8	0	0	0	0	1.4

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	**5**	0	**5**	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**	**18**
Total Volume	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100		
PHF	.000	.400	.000	.400	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250	.403

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:15 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	2	0	2	1	0	0	1	0	0	1	1	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0
+30 mins.	0	**5**	0	**5**	1	0	0	1	0	0	2	2	0	0	0	0
+45 mins.	0	1	0	1	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**
Total Volume	0	9	0	9	5	0	0	5	0	6	9	15	0	0	1	1
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100	
PHF	.000	.450	.000	.450	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles

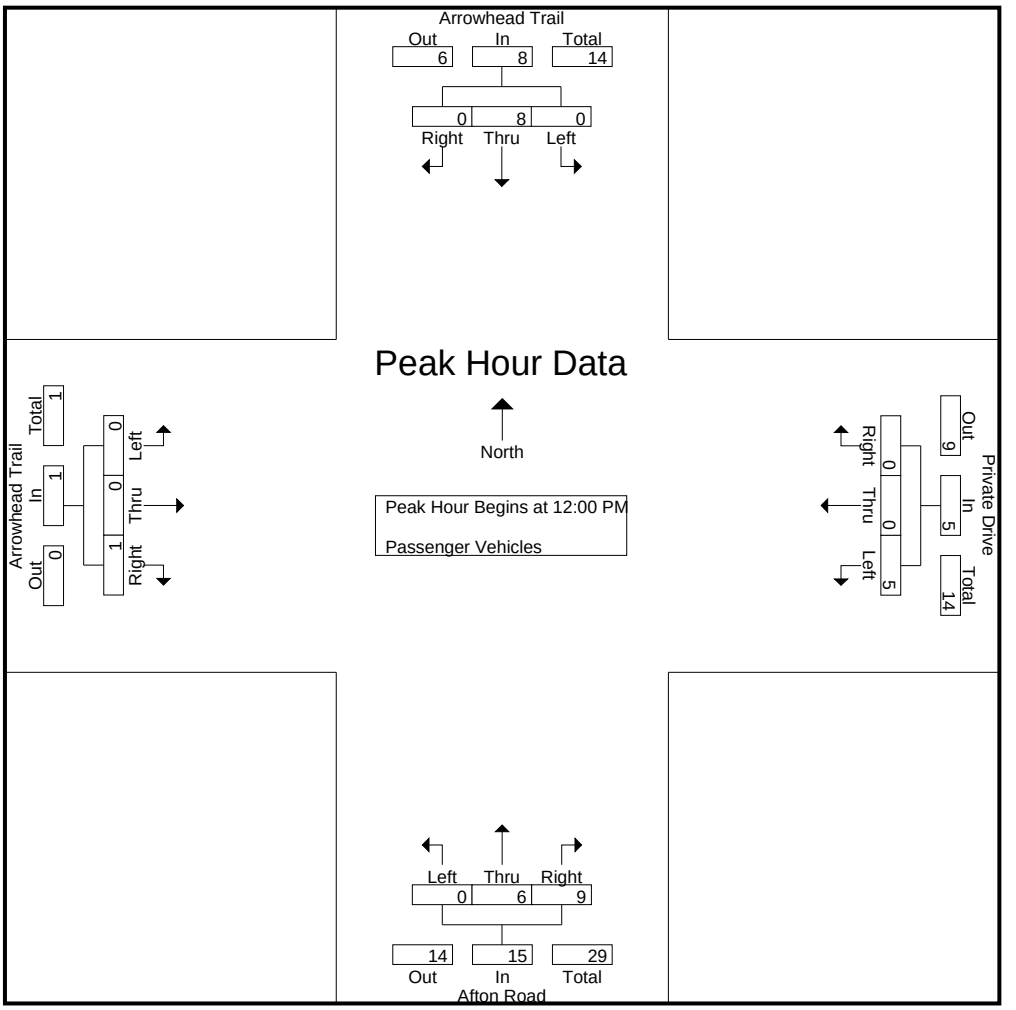
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	5	0	5	3	0	0	3	0	5	4	9	0	0	1	1	18
Total	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
01:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15 PM	0	1	0	1	0	0	0	0	0	2	1	3	0	0	0	0	4
01:30 PM	0	1	0	1	1	0	0	1	0	1	1	2	0	0	0	0	4
01:45 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total	0	5	0	5	1	0	0	1	0	6	2	8	0	0	0	0	14
02:00 PM	0	1	0	1	1	0	0	1	1	2	0	3	0	0	1	1	6
02:15 PM	0	2	0	2	1	0	0	1	0	1	2	3	0	0	0	0	6
02:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
02:45 PM	1	5	0	6	0	0	0	0	0	1	2	3	0	0	0	0	9
Total	1	8	0	9	2	0	0	2	1	6	4	11	0	0	1	1	23
Grand Total	1	21	0	22	8	0	0	8	1	18	15	34	0	0	2	2	66
Apprch %	4.5	95.5	0		100	0	0		2.9	52.9	44.1		0	0	100		
Total %	1.5	31.8	0	33.3	12.1	0	0	12.1	1.5	27.3	22.7	51.5	0	0	3	3	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
12:15 PM	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0	5
12:30 PM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
12:45 PM	0	**5**	0	**5**	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**	**18**
Total Volume	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1	29
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100		
PHF	.000	.400	.000	.400	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250	.403

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County of San Bernardino
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Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	1	2	3	0	0	0	0
+30 mins.	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0
+45 mins.	0	**5**	0	**5**	**3**	0	0	**3**	0	**5**	**4**	**9**	0	0	**1**	**1**
Total Volume	0	8	0	8	5	0	0	5	0	6	9	15	0	0	1	1
% App. Total	0	100	0		100	0	0		0	40	60		0	0	100	
PHF	.000	.400	.000	.400	.417	.000	.000	.417	.000	.300	.563	.417	.000	.000	.250	.250

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

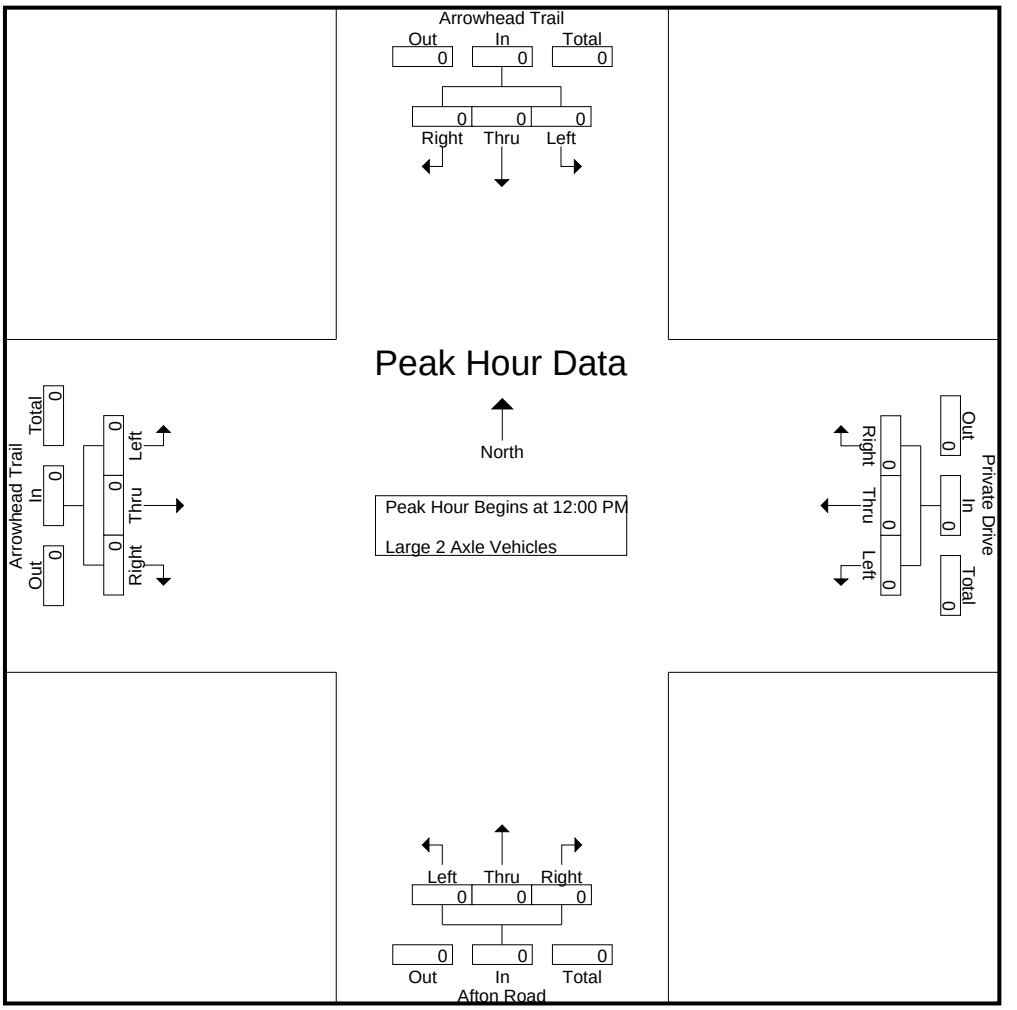
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	50	0	50	0	0	0	0	0	50	0	50	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

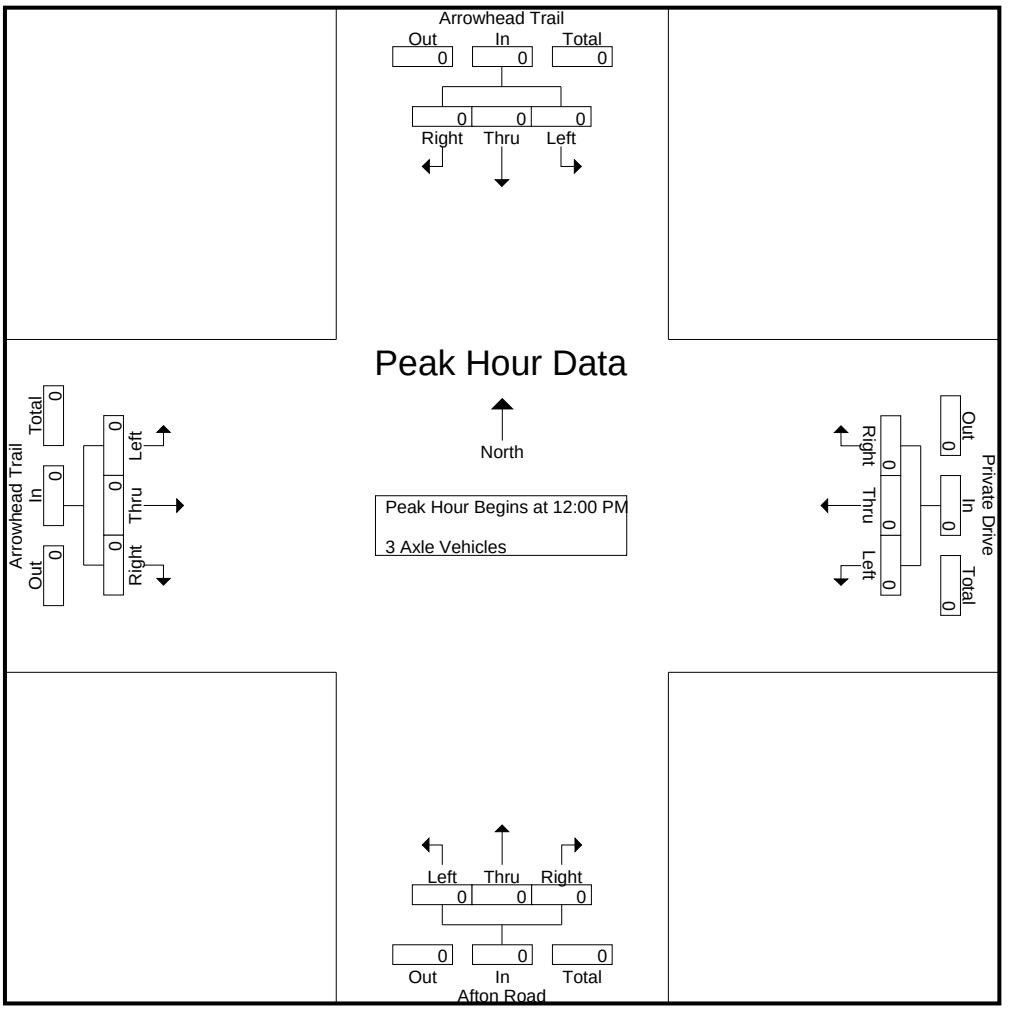
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

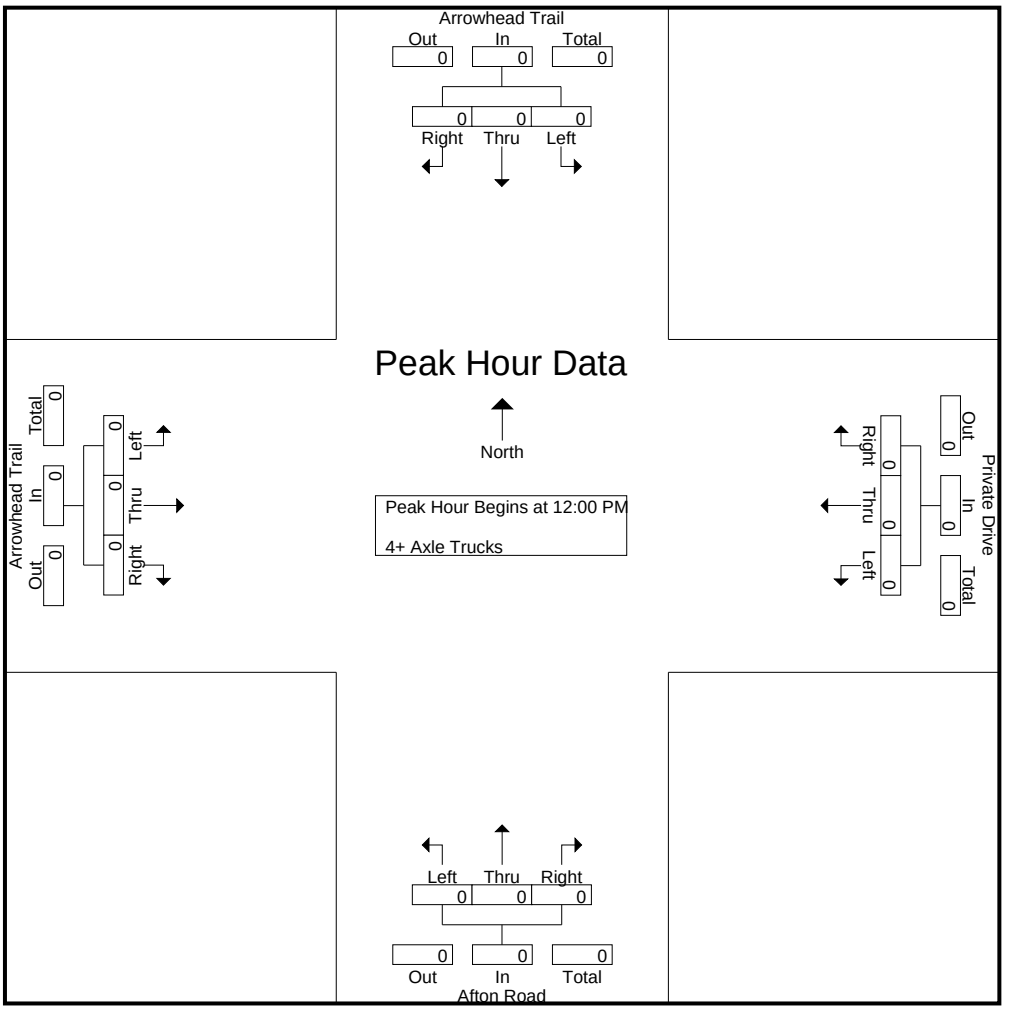
	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		0	0	100		0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	100	100	0	0	0	0	

	Arrowhead Trail Southbound				Private Drive Westbound				Afton Road Northbound				Arrowhead Trail Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: Arrowhead Trail
Weather: Clear

File Name : CSBAFAR SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

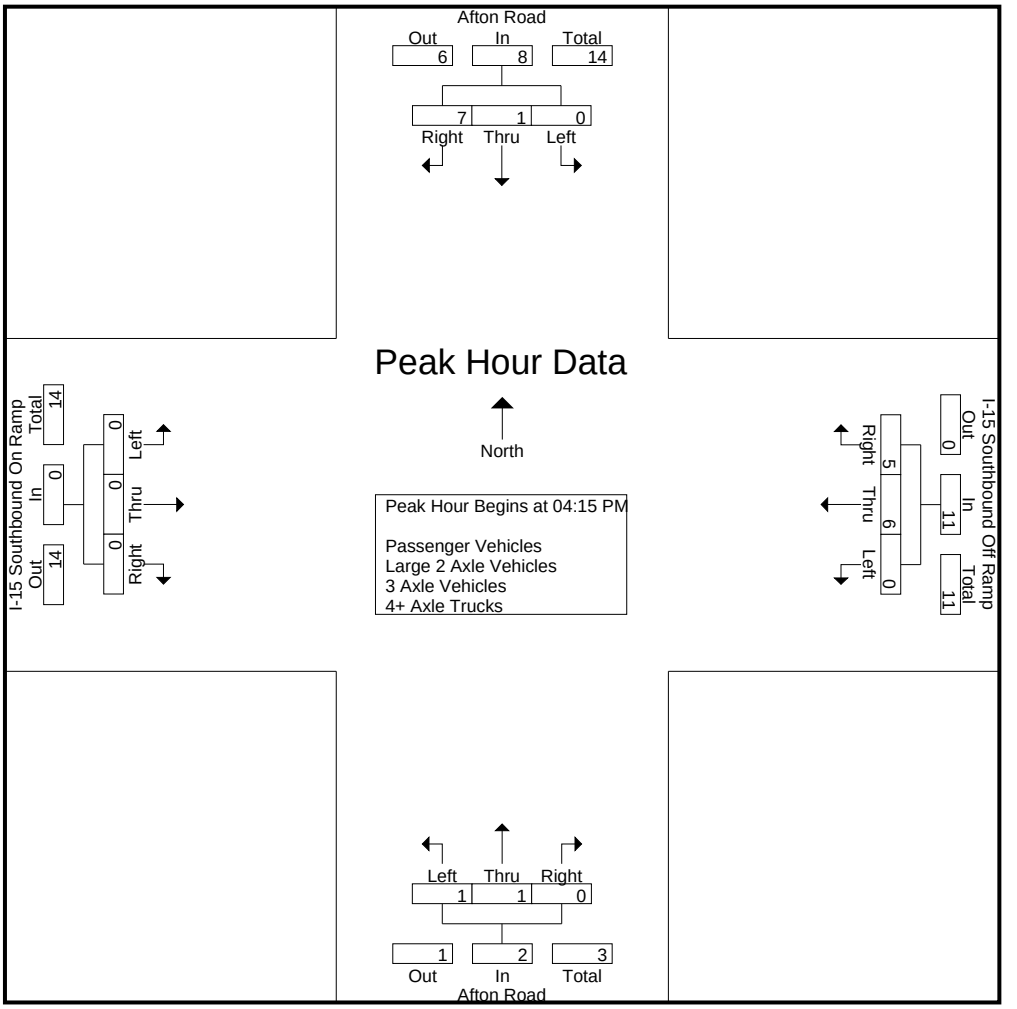
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	3	4	0	1	1	2	1	0	0	1	0	0	0	0	7
04:30 PM	0	0	3	3	0	1	3	4	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	6	7	0	4	4	8	1	0	0	1	0	0	0	0	16
05:00 PM	0	0	1	1	0	3	1	4	0	1	0	1	0	0	0	0	6
05:15 PM	0	1	1	2	0	1	2	3	1	0	0	1	0	0	0	0	6
05:30 PM	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	1	2	0	3	2	0	0	2	0	0	0	0	5
Total	0	1	4	5	1	6	4	11	3	1	0	4	0	0	0	0	20
Grand Total	0	2	10	12	1	10	8	19	4	1	0	5	0	0	0	0	36
Apprch %	0	16.7	83.3		5.3	52.6	42.1		80	20	0		0	0	0		
Total %	0	5.6	27.8	33.3	2.8	27.8	22.2	52.8	11.1	2.8	0	13.9	0	0	0	0	
Passenger Vehicles	0	2	9	11	1	10	8	19	4	1	0	5	0	0	0	0	35
% Passenger Vehicles	0	100	90	91.7	100	100	100	100	100	100	0	100	0	0	0	0	97.2
Large 2 Axle Vehicles	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Large 2 Axle Vehicles	0	0	10	8.3	0	0	0	0	0	0	0	0	0	0	0	0	2.8
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**1**	**3**	**4**	0	1	1	2	**1**	0	0	**1**	0	0	0	0	**7**
04:30 PM	0	0	3	3	0	1	**3**	**4**	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	1	1	0	**3**	1	4	0	**1**	0	1	0	0	0	0	6
Total Volume	0	1	7	8	0	6	5	11	1	1	0	2	0	0	0	0	21
% App. Total	0	12.5	87.5		0	54.5	45.5		50	50	0		0	0	0		
PHF	.000	.250	.583	.500	.000	.500	.417	.688	.250	.250	.000	.500	.000	.000	.000	.000	.750

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	0	**1**	**3**	**4**	0	1	**3**	**4**	0	**1**	0	1	0	0	0	0
+15 mins.	0	0	3	3	0	1	0	1	1	0	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	**3**	1	4	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	1	2	3	**2**	0	0	**2**	0	0	0	0
Total Volume	0	1	7	8	0	6	6	12	3	1	0	4	0	0	0	0
% App. Total	0	12.5	87.5		0	50	50		75	25	0		0	0	0	
PHF	.000	.250	.583	.500	.000	.500	.500	.750	.375	.250	.000	.500	.000	.000	.000	.000

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015

Groups Printed- Passenger Vehicles

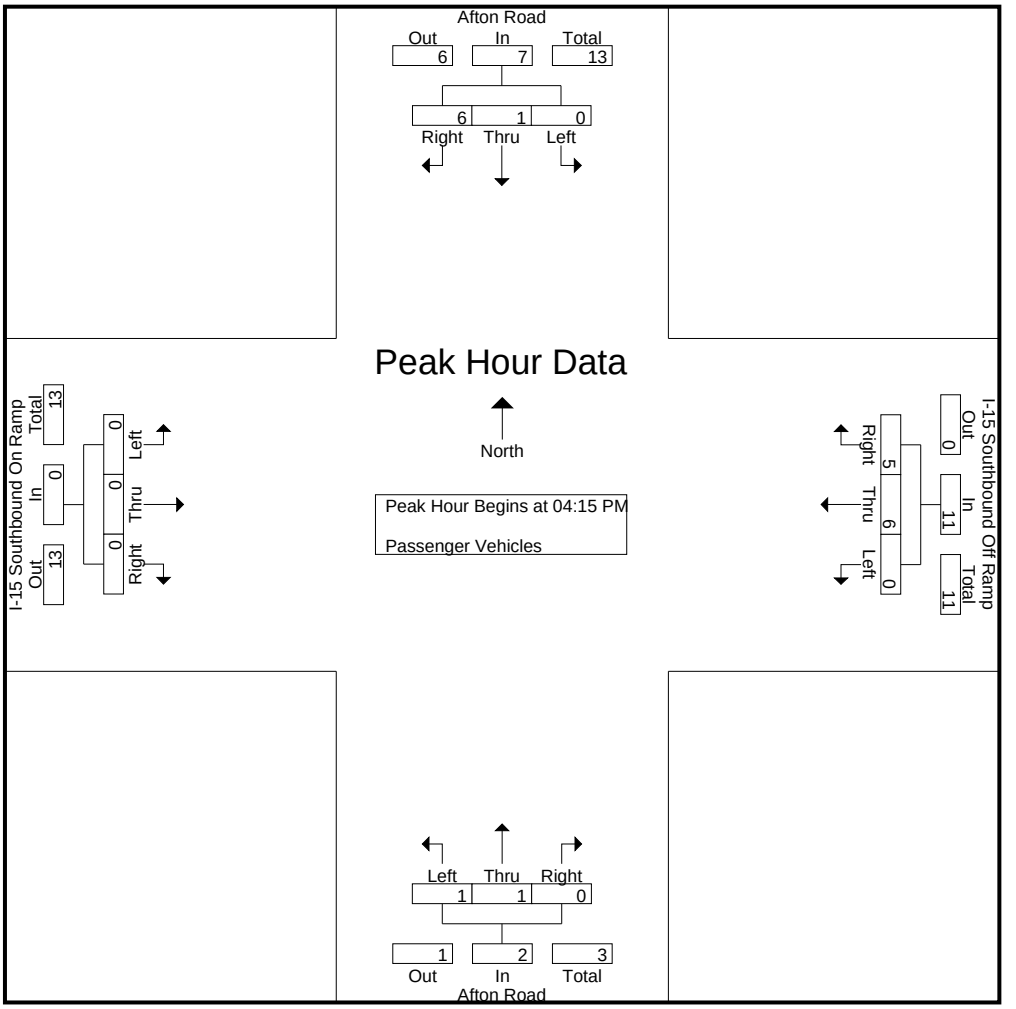
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	1	2	3	0	1	1	2	1	0	0	1	0	0	0	0	6
04:30 PM	0	0	3	3	0	1	3	4	0	0	0	0	0	0	0	0	7
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	5	6	0	4	4	8	1	0	0	1	0	0	0	0	15
05:00 PM	0	0	1	1	0	3	1	4	0	1	0	1	0	0	0	0	6
05:15 PM	0	1	1	2	0	1	2	3	1	0	0	1	0	0	0	0	6
05:30 PM	0	0	2	2	0	0	1	1	0	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	1	2	0	3	2	0	0	2	0	0	0	0	5
Total	0	1	4	5	1	6	4	11	3	1	0	4	0	0	0	0	20
Grand Total	0	2	9	11	1	10	8	19	4	1	0	5	0	0	0	0	35
Apprch %	0	18.2	81.8		5.3	52.6	42.1		80	20	0		0	0	0		
Total %	0	5.7	25.7	31.4	2.9	28.6	22.9	54.3	11.4	2.9	0	14.3	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**1**	2	**3**	0	1	1	2	**1**	0	0	**1**	0	0	0	0	6
04:30 PM	0	0	**3**	3	0	1	**3**	**4**	0	0	0	0	0	0	0	0	**7**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	1	1	0	**3**	1	4	0	**1**	0	1	0	0	0	0	6
Total Volume	0	1	6	7	0	6	5	11	1	1	0	2	0	0	0	0	20
% App. Total	0	14.3	85.7		0	54.5	45.5		50	50	0		0	0	0		
PHF	.000	.250	.500	.583	.000	.500	.417	.688	.250	.250	.000	.500	.000	.000	.000	.000	.714

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**1**	2	**3**	0	1	1	2	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	0	**3**	3	0	1	**3**	**4**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	**3**	1	4	0	**1**	0	1	0	0	0	0
Total Volume	0	1	6	7	0	6	5	11	1	1	0	2	0	0	0	0
% App. Total	0	14.3	85.7		0	54.5	45.5		50	50	0		0	0	0	
PHF	.000	.250	.500	.583	.000	.500	.417	.688	.250	.250	.000	.500	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

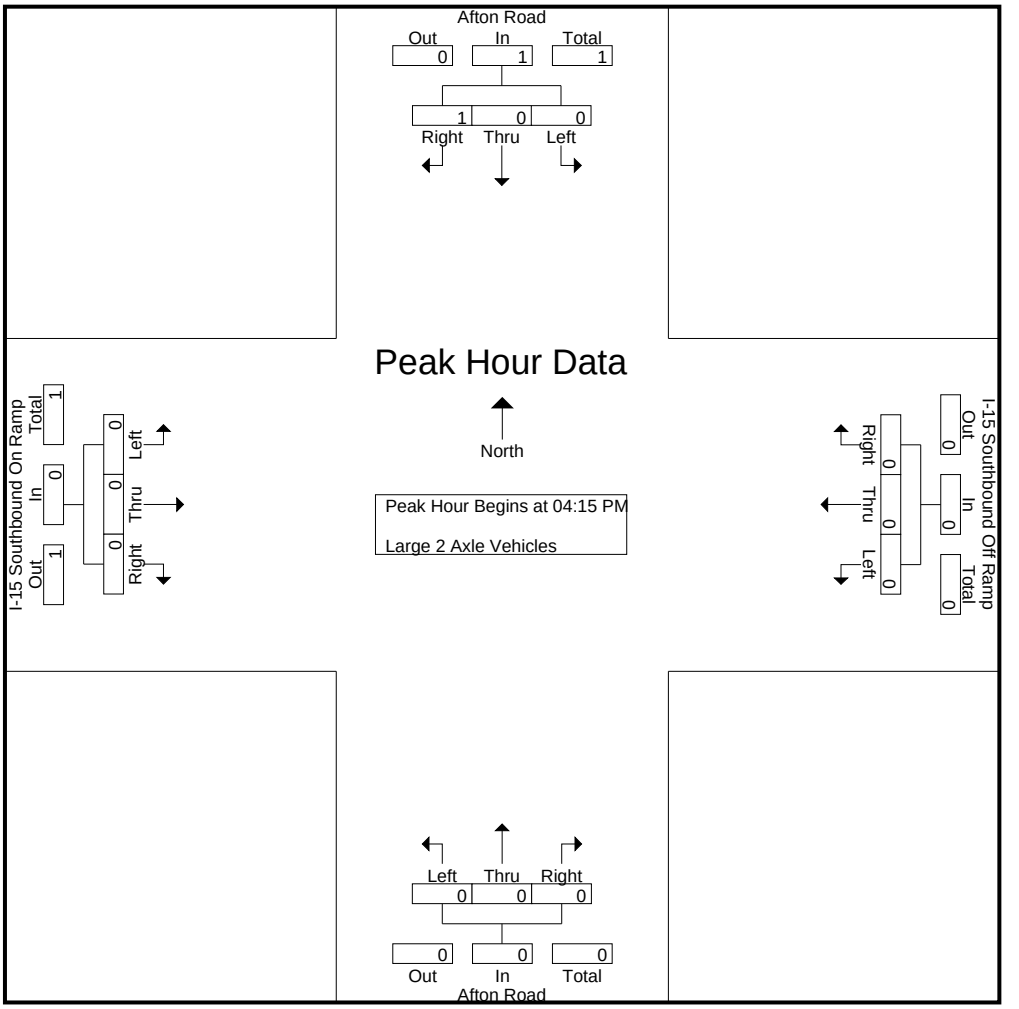
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	0	100		0	0	0		0	0	0		0	0	0		
Total %	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

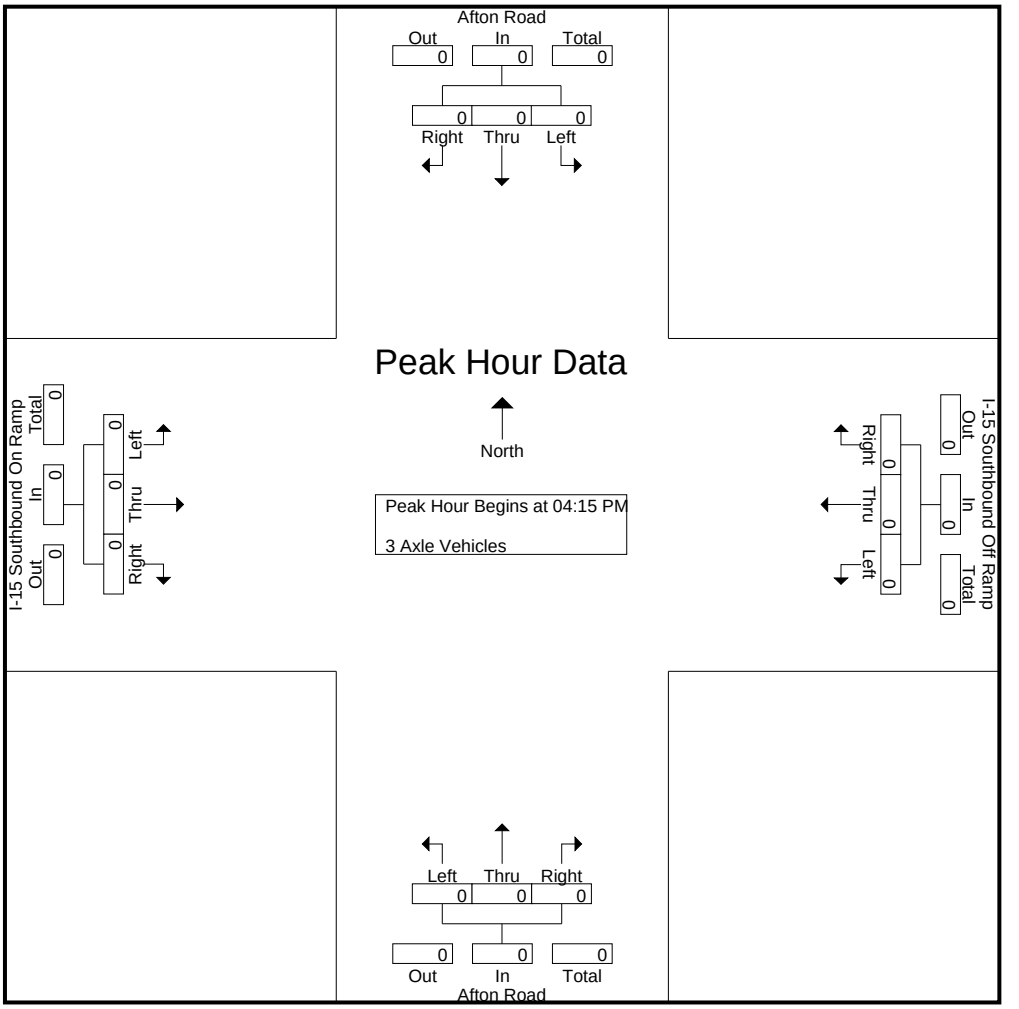
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

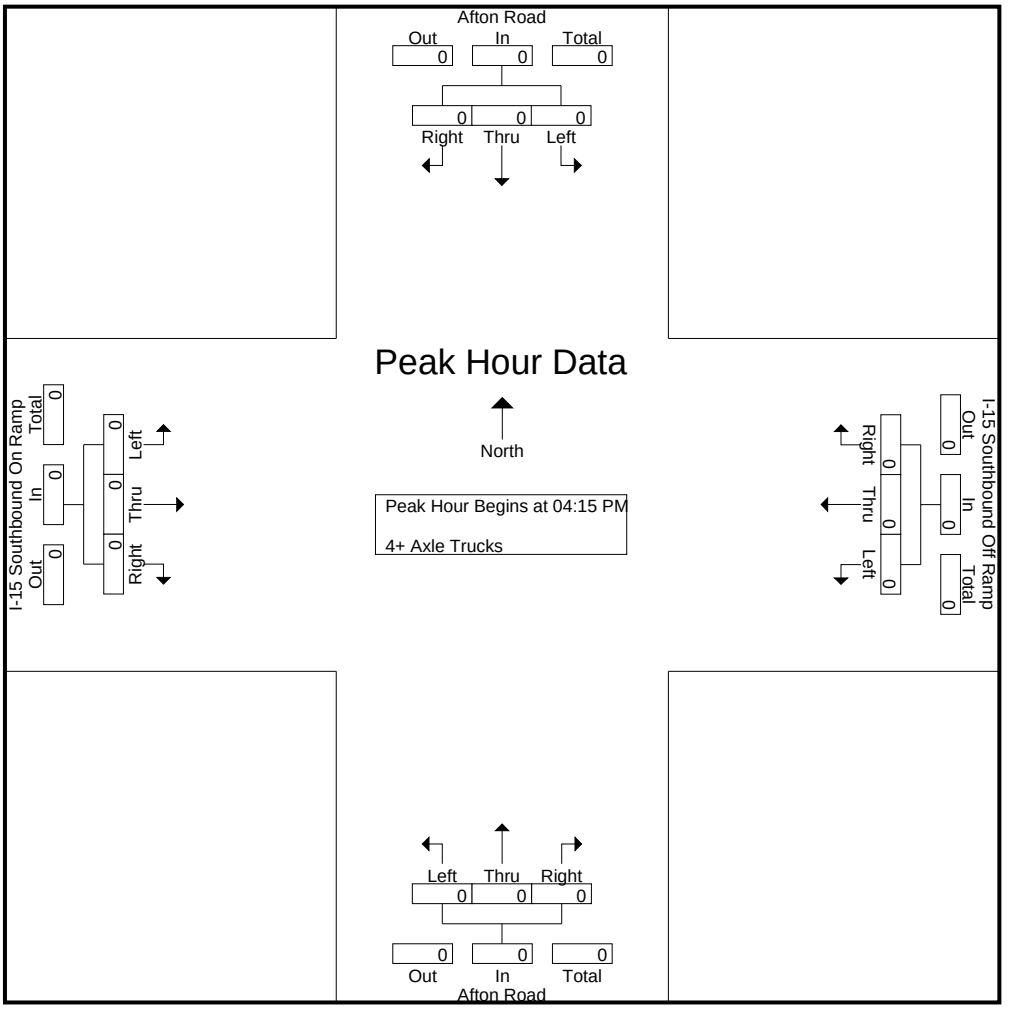
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S FRI
Site Code : 07515579
Start Date : 10/16/2015
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

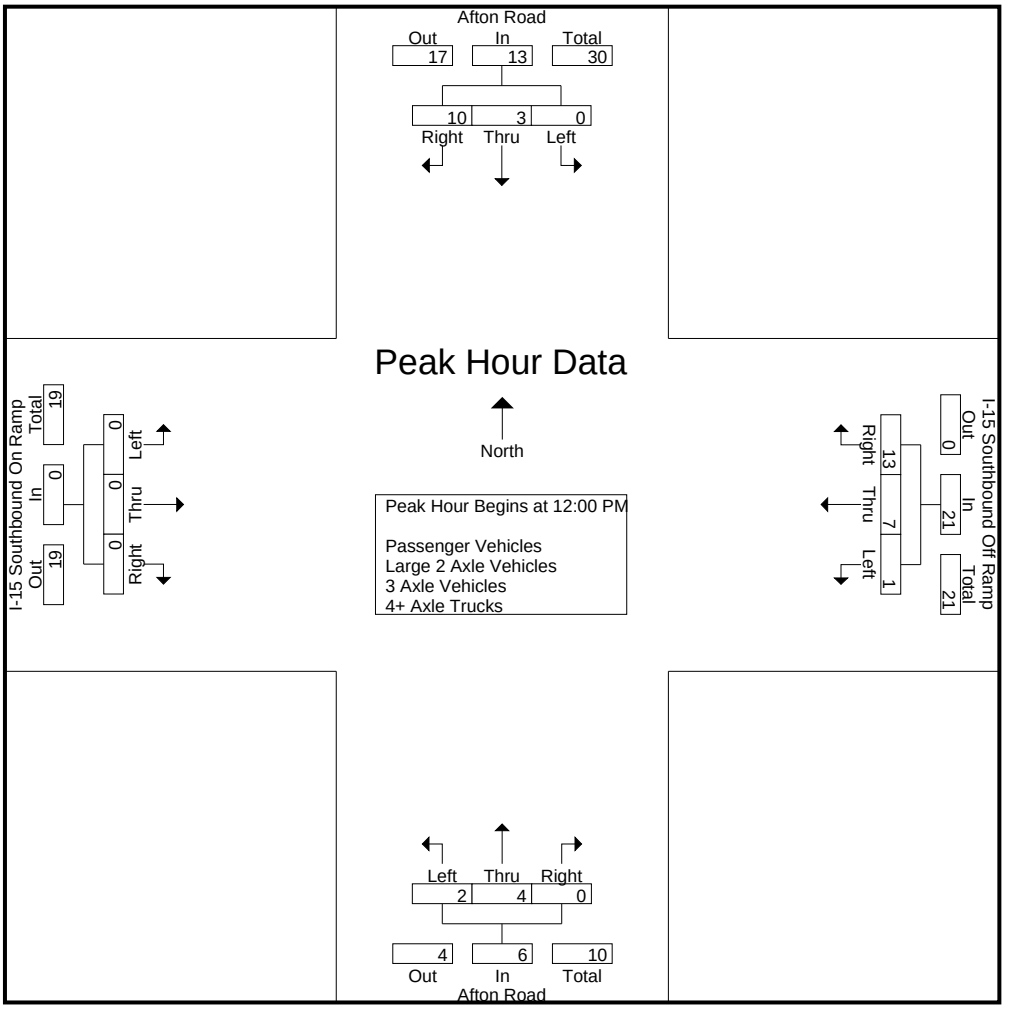
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	1	1	2	0	1	0	1	0	0	0	0	3
12:15 PM	0	1	2	3	0	3	3	6	0	1	0	1	0	0	0	0	10
12:30 PM	0	0	2	2	1	2	1	4	2	1	0	3	0	0	0	0	9
12:45 PM	0	2	6	8	0	1	8	9	0	1	0	1	0	0	0	0	18
Total	0	3	10	13	1	7	13	21	2	4	0	6	0	0	0	0	40
01:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
01:15 PM	0	0	1	1	0	1	3	4	0	0	0	0	0	0	0	0	5
01:30 PM	0	0	3	3	0	2	3	5	0	0	0	0	0	0	0	0	8
01:45 PM	0	1	1	2	1	1	1	3	1	2	0	3	0	0	0	0	8
Total	0	1	6	7	1	5	7	13	1	2	0	3	0	0	0	0	23
02:00 PM	0	2	2	4	0	1	2	3	0	0	0	0	0	0	0	0	7
02:15 PM	0	0	3	3	0	2	3	5	0	1	1	2	0	0	0	0	10
02:30 PM	0	0	0	0	0	1	2	3	2	0	0	2	0	0	0	0	5
02:45 PM	0	0	5	5	0	2	2	4	1	1	0	2	0	0	0	0	11
Total	0	2	10	12	0	6	9	15	3	2	1	6	0	0	0	0	33
Grand Total	0	6	26	32	2	18	29	49	6	8	1	15	0	0	0	0	96
Apprch %	0	18.8	81.2		4.1	36.7	59.2		40	53.3	6.7		0	0	0		
Total %	0	6.2	27.1	33.3	2.1	18.8	30.2	51	6.2	8.3	1	15.6	0	0	0	0	
Passenger Vehicles	0	6	25	31	2	16	26	44	6	7	0	13	0	0	0	0	88
% Passenger Vehicles	0	100	96.2	96.9	100	88.9	89.7	89.8	100	87.5	0	86.7	0	0	0	0	91.7
Large 2 Axle Vehicles	0	0	1	1	0	0	2	2	0	1	0	1	0	0	0	0	4
% Large 2 Axle Vehicles	0	0	3.8	3.1	0	0	6.9	4.1	0	12.5	0	6.7	0	0	0	0	4.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	2	1	3	0	0	1	1	0	0	0	0	4
% 4+ Axle Trucks	0	0	0	0	0	11.1	3.4	6.1	0	0	100	6.7	0	0	0	0	4.2

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	1	1	2	0	**1**	0	1	0	0	0	0	3
12:15 PM	0	1	2	3	0	**3**	3	6	0	1	0	1	0	0	0	0	10
12:30 PM	0	0	2	2	**1**	2	1	4	**2**	1	0	**3**	0	0	0	0	9
12:45 PM	0	**2**	**6**	**8**	0	1	**8**	**9**	0	1	0	1	0	0	0	0	**18**
Total Volume	0	3	10	13	1	7	13	21	2	4	0	6	0	0	0	0	40
% App. Total	0	23.1	76.9		4.8	33.3	61.9		33.3	66.7	0		0	0	0		
PHF	.000	.375	.417	.406	.250	.583	.406	.583	.250	1.00	.000	.500	.000	.000	.000	.000	.556

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County of San Bernardino
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Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:15 PM				12:00 PM				01:45 PM				12:00 PM			
+0 mins.	0	1	2	3	0	1	1	2	1	**2**	0	**3**	0	0	0	0
+15 mins.	0	0	2	2	0	**3**	3	6	0	0	0	0	0	0	0	0
+30 mins.	0	**2**	**6**	**8**	**1**	2	1	4	0	1	**1**	2	0	0	0	0
+45 mins.	0	0	1	1	0	1	**8**	**9**	**2**	0	0	2	0	0	0	0
Total Volume	0	3	11	14	1	7	13	21	3	3	1	7	0	0	0	0
% App. Total	0	21.4	78.6		4.8	33.3	61.9		42.9	42.9	14.3		0	0	0	
PHF	.000	.375	.458	.438	.250	.583	.406	.583	.375	.375	.250	.583	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles

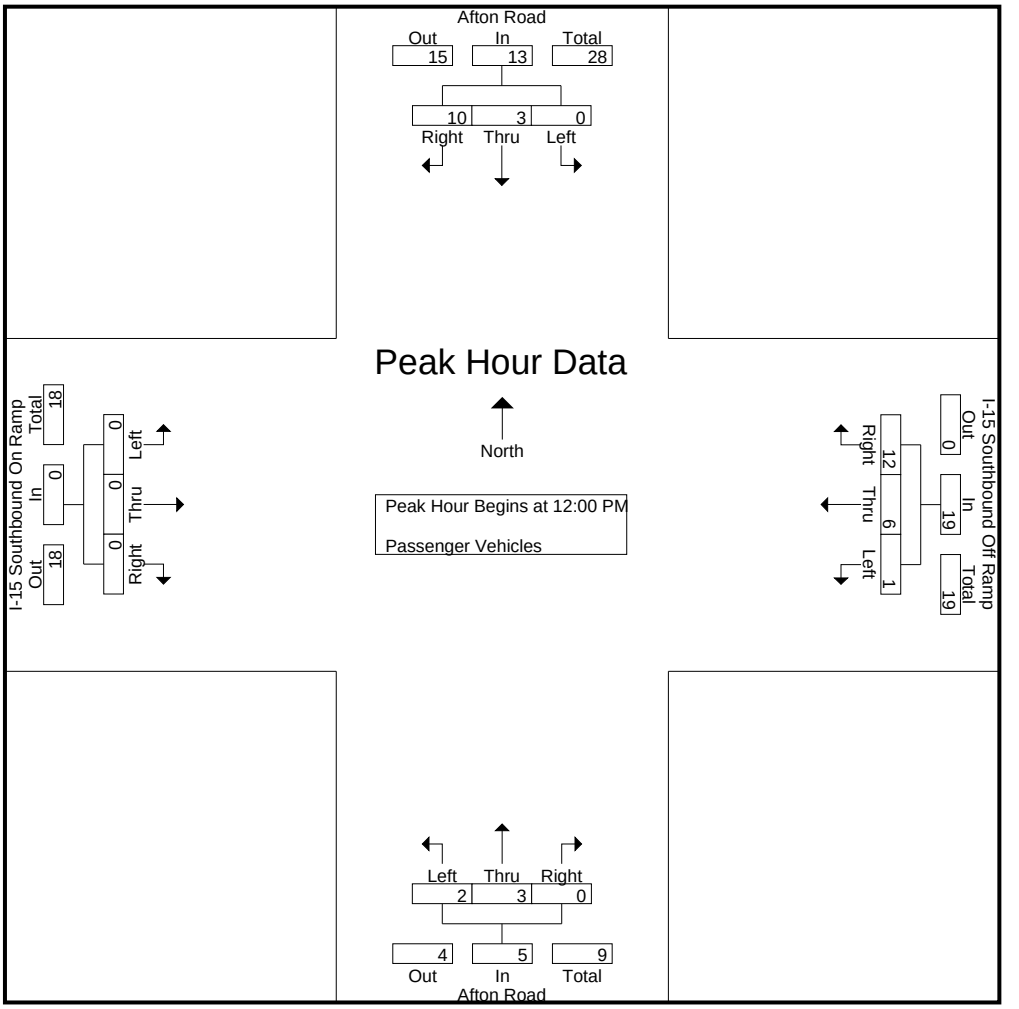
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
12:15 PM	0	1	2	3	0	3	2	5	0	1	0	1	0	0	0	0	9
12:30 PM	0	0	2	2	1	2	1	4	2	1	0	3	0	0	0	0	9
12:45 PM	0	2	6	8	0	0	8	8	0	1	0	1	0	0	0	0	17
Total	0	3	10	13	1	6	12	19	2	3	0	5	0	0	0	0	37
01:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
01:15 PM	0	0	1	1	0	1	3	4	0	0	0	0	0	0	0	0	5
01:30 PM	0	0	2	2	0	1	2	3	0	0	0	0	0	0	0	0	5
01:45 PM	0	1	1	2	1	1	1	3	1	2	0	3	0	0	0	0	8
Total	0	1	5	6	1	4	6	11	1	2	0	3	0	0	0	0	20
02:00 PM	0	2	2	4	0	1	2	3	0	0	0	0	0	0	0	0	7
02:15 PM	0	0	3	3	0	2	2	4	0	1	0	1	0	0	0	0	8
02:30 PM	0	0	0	0	0	1	2	3	2	0	0	2	0	0	0	0	5
02:45 PM	0	0	5	5	0	2	2	4	1	1	0	2	0	0	0	0	11
Total	0	2	10	12	0	6	8	14	3	2	0	5	0	0	0	0	31
Grand Total	0	6	25	31	2	16	26	44	6	7	0	13	0	0	0	0	88
Apprch %	0	19.4	80.6		4.5	36.4	59.1		46.2	53.8	0		0	0	0		
Total %	0	6.8	28.4	35.2	2.3	18.2	29.5	50	6.8	8	0	14.8	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
12:15 PM	0	1	2	3	0	**3**	2	5	0	**1**	0	1	0	0	0	0	9
12:30 PM	0	0	2	2	**1**	2	1	4	**2**	1	0	**3**	0	0	0	0	9
12:45 PM	0	**2**	**6**	**8**	0	0	**8**	**8**	0	1	0	1	0	0	0	0	**17**
Total Volume	0	3	10	13	1	6	12	19	2	3	0	5	0	0	0	0	37
% App. Total	0	23.1	76.9		5.3	31.6	63.2		40	60	0		0	0	0		
PHF	.000	.375	.417	.406	.250	.500	.375	.594	.250	.750	.000	.417	.000	.000	.000	.000	.544

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Site Code : 07515579
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Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0
+15 mins.	0	1	2	3	0	**3**	2	5	0	**1**	0	1	0	0	0	0
+30 mins.	0	0	2	2	**1**	2	1	4	**2**	1	0	**3**	0	0	0	0
+45 mins.	0	**2**	**6**	**8**	0	0	**8**	**8**	0	1	0	1	0	0	0	0
Total Volume	0	3	10	13	1	6	12	19	2	3	0	5	0	0	0	0
% App. Total	0	23.1	76.9		5.3	31.6	63.2		40	60	0		0	0	0	
PHF	.000	.375	.417	.406	.250	.500	.375	.594	.250	.750	.000	.417	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

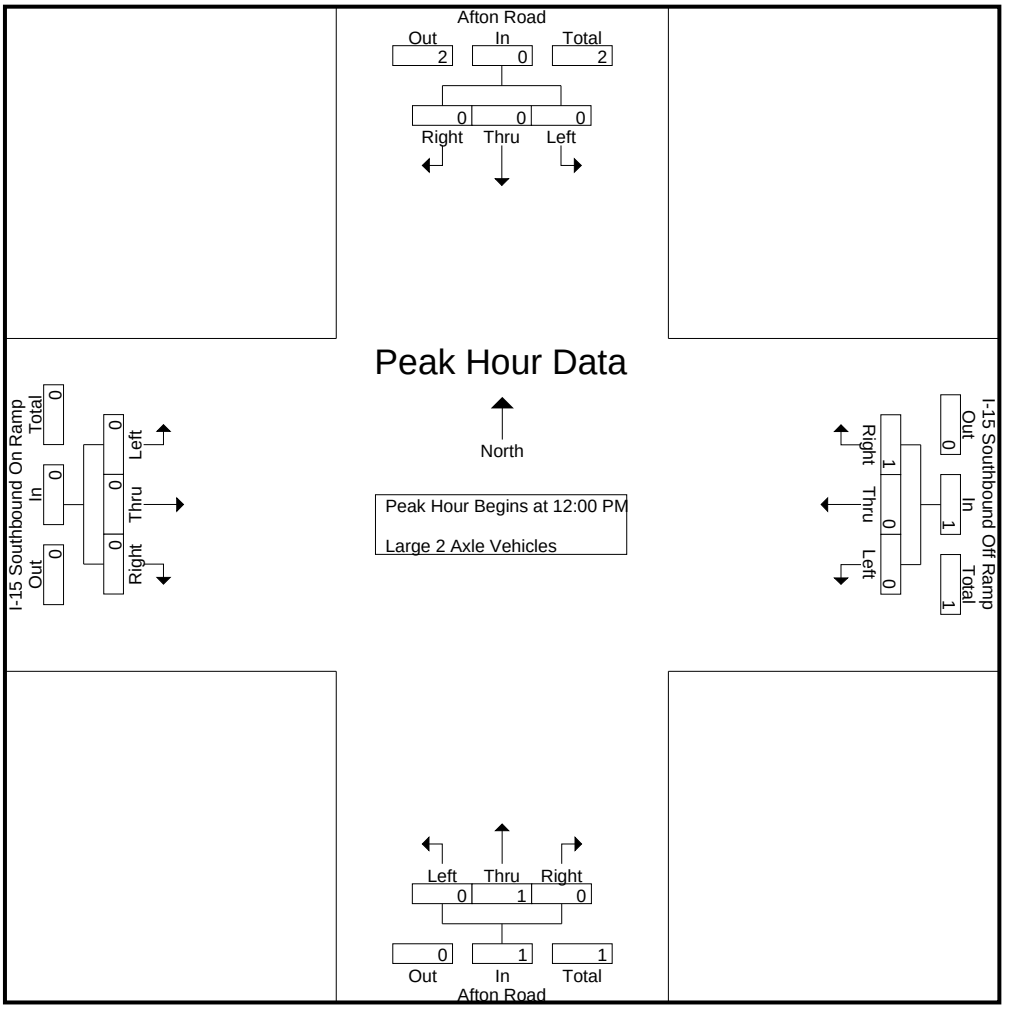
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	2
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	1	0	0	2	2	0	1	0	1	0	0	0	0	4
Apprch %	0	0	100		0	0	100		0	100	0		0	0	0		
Total %	0	0	25	25	0	0	50	50	0	25	0	25	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
12:15 PM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
% App. Total	0	0	0		0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.500

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	100		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

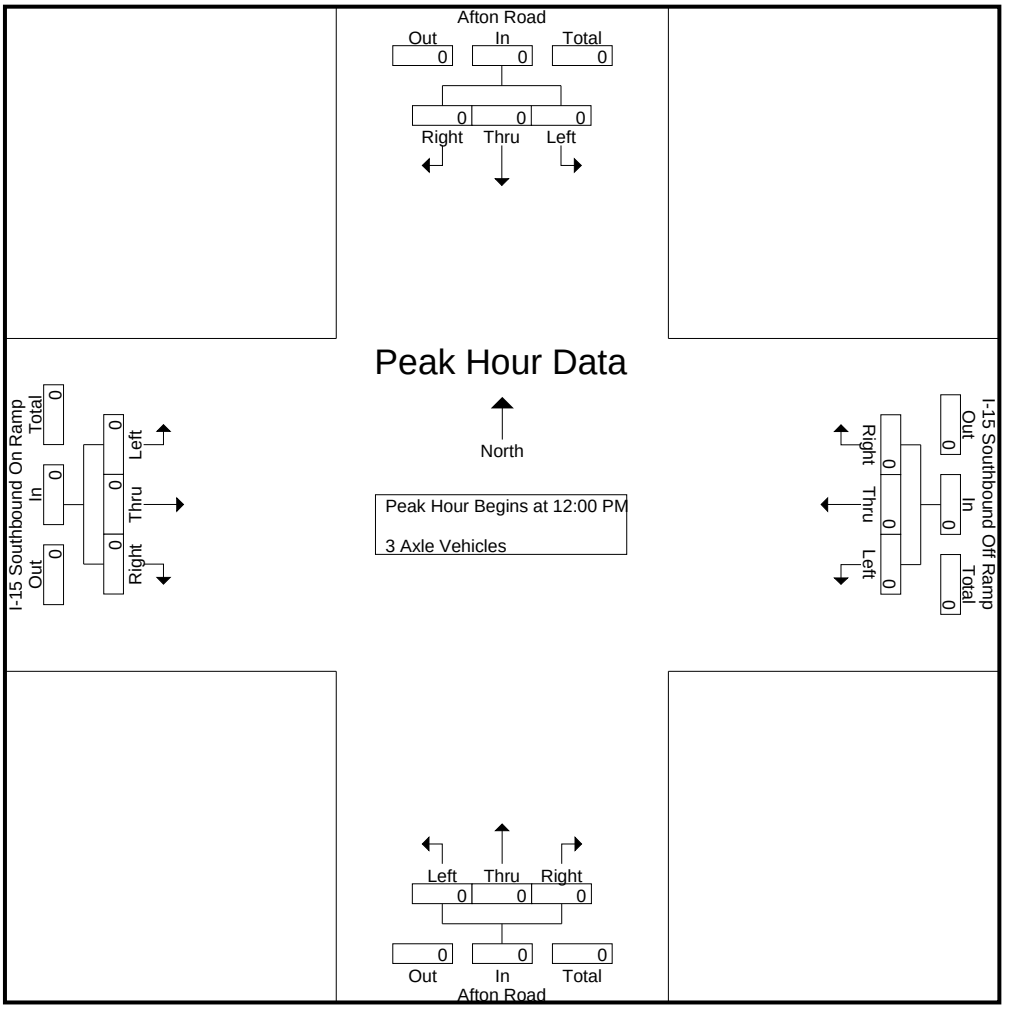
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

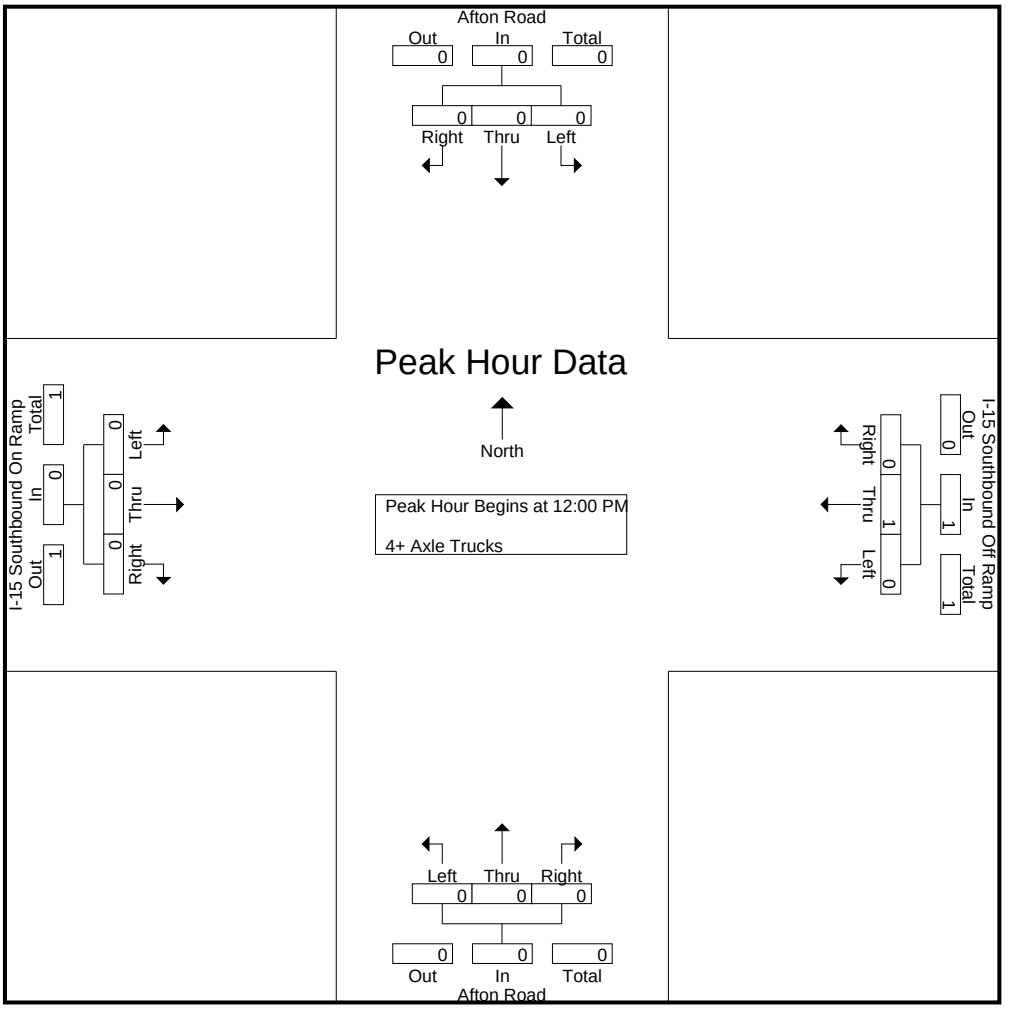
	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
Grand Total	0	0	0	0	0	2	1	3	0	0	1	1	0	0	0	0	4
Apprch %	0	0	0		0	66.7	33.3		0	0	100		0	0	0		
Total %	0	0	0	0	0	50	25	75	0	0	25	25	0	0	0	0	

	Afton Road Southbound				I-15 Southbound Off Ramp Westbound				Afton Road Northbound				I-15 Southbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Southbound Ramps
Weather: Clear

File Name : CSBAF15S SUN
Site Code : 07515579
Start Date : 10/18/2015
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Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

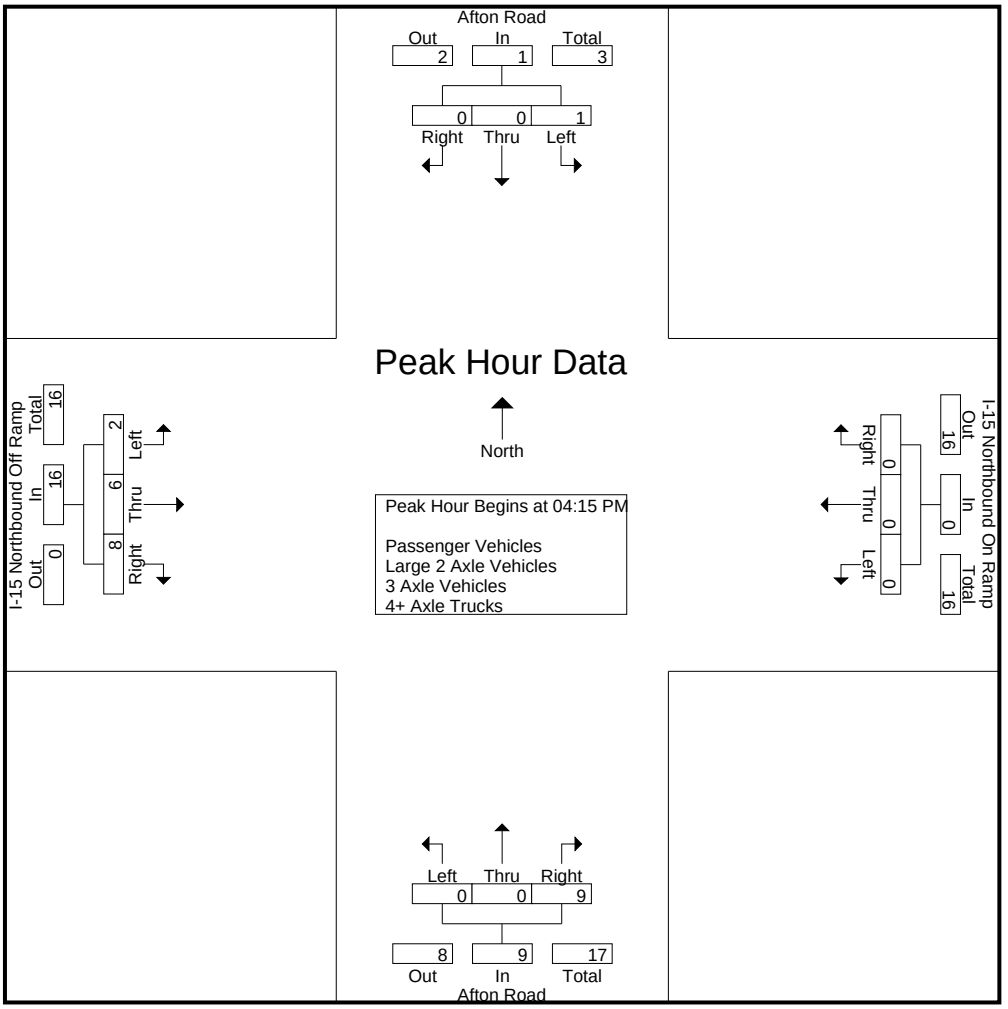
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	1	0	0	1	0	0	0	0	0	0	3	3	1	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4	8	10
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	2	3	5	8
Total	1	0	0	1	0	0	0	0	0	0	8	8	1	7	8	16	25
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
05:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	1	0	2	4
Total	1	1	0	2	0	0	0	0	0	2	2	4	2	1	1	4	10
Grand Total	2	1	0	3	0	0	0	0	0	2	10	12	3	8	9	20	35
Apprch %	66.7	33.3	0		0	0	0		0	16.7	83.3		15	40	45		
Total %	5.7	2.9	0	8.6	0	0	0	0	0	5.7	28.6	34.3	8.6	22.9	25.7	57.1	
Passenger Vehicles	2	1	0	3	0	0	0	0	0	2	10	12	3	3	9	15	30
% Passenger Vehicles	100	100	0	100	0	0	0	0	0	100	100	100	100	37.5	100	75	85.7
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	10	5.7
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	37.5	0	15	8.6

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	0	0	**1**	0	0	0	0	0	0	**3**	**3**	**1**	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	**4**	**4**	**8**	**10**
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	2	3	5	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
Total Volume	1	0	0	1	0	0	0	0	0	0	9	9	2	6	8	16	26
% App. Total	100	0	0		0	0	0		0	0	100		12.5	37.5	50		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.500	.375	.500	.500	.650

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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	**3**	**3**	0	1	0	1
+15 mins.	**1**	0	0	**1**	0	0	0	0	0	0	2	2	**1**	0	1	2
+30 mins.	0	0	0	0	0	0	0	0	0	0	3	3	0	**4**	**4**	**8**
+45 mins.	0	**1**	0	1	0	0	0	0	0	0	1	1	0	2	3	5
Total Volume	1	1	0	2	0	0	0	0	0	0	9	9	1	7	8	16
% App. Total	50	50	0		0	0	0		0	0	100		6.2	43.8	50	
PHF	.250	.250	.000	.500	.000	.000	.000	.000	.000	.000	.750	.750	.250	.438	.500	.500

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County of San Bernardino
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E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Passenger Vehicles

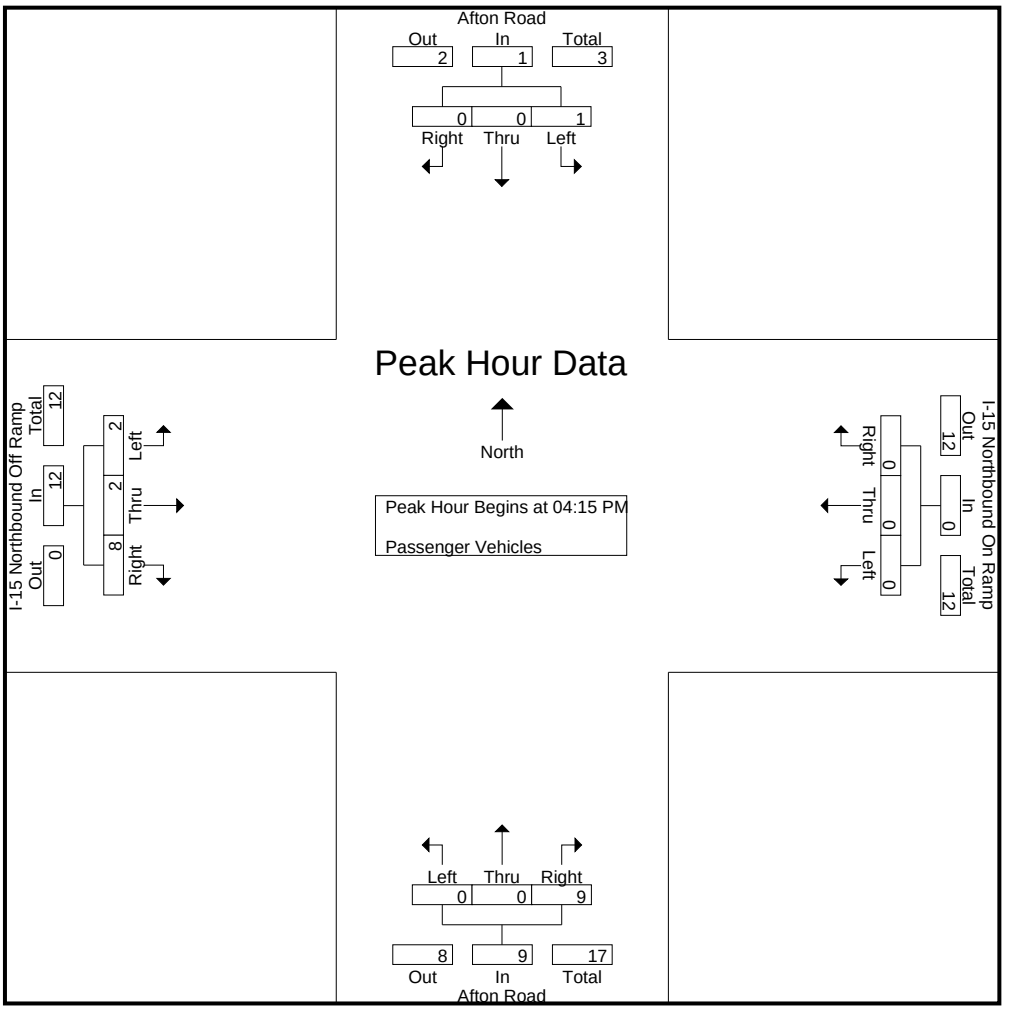
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	0	1	0	0	0	0	0	0	3	3	1	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	1	4	5	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	1	3	4	7
Total	1	0	0	1	0	0	0	0	0	0	8	8	1	2	8	11	20
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
05:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	1	0	2	4
Total	1	1	0	2	0	0	0	0	0	2	2	4	2	1	1	4	10
Grand Total	2	1	0	3	0	0	0	0	0	2	10	12	3	3	9	15	30
Apprch %	66.7	33.3	0		0	0	0		0	16.7	83.3		20	20	60		
Total %	6.7	3.3	0	10	0	0	0	0	0	6.7	33.3	40	10	10	30	50	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	0	0	**1**	0	0	0	0	0	0	**3**	**3**	**1**	0	1	2	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	**1**	**4**	**5**	**7**
04:45 PM	0	0	0	0	0	0	0	0	0	0	3	3	0	1	3	4	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
Total Volume	1	0	0	1	0	0	0	0	0	0	9	9	2	2	8	12	22
% App. Total	100	0	0		0	0	0		0	0	100		16.7	16.7	66.7		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.500	.500	.500	.600	.786

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**1**	0	0	**1**	0	0	0	0	0	0	**3**	**3**	**1**	0	1	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	2	2	0	**1**	**4**	**5**
+30 mins.	0	0	0	0	0	0	0	0	0	0	3	3	0	1	3	4
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1
Total Volume	1	0	0	1	0	0	0	0	0	0	9	9	2	2	8	12
% App. Total	100	0	0		0	0	0		0	0	100		16.7	16.7	66.7	
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.750	.750	.500	.500	.500	.600

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

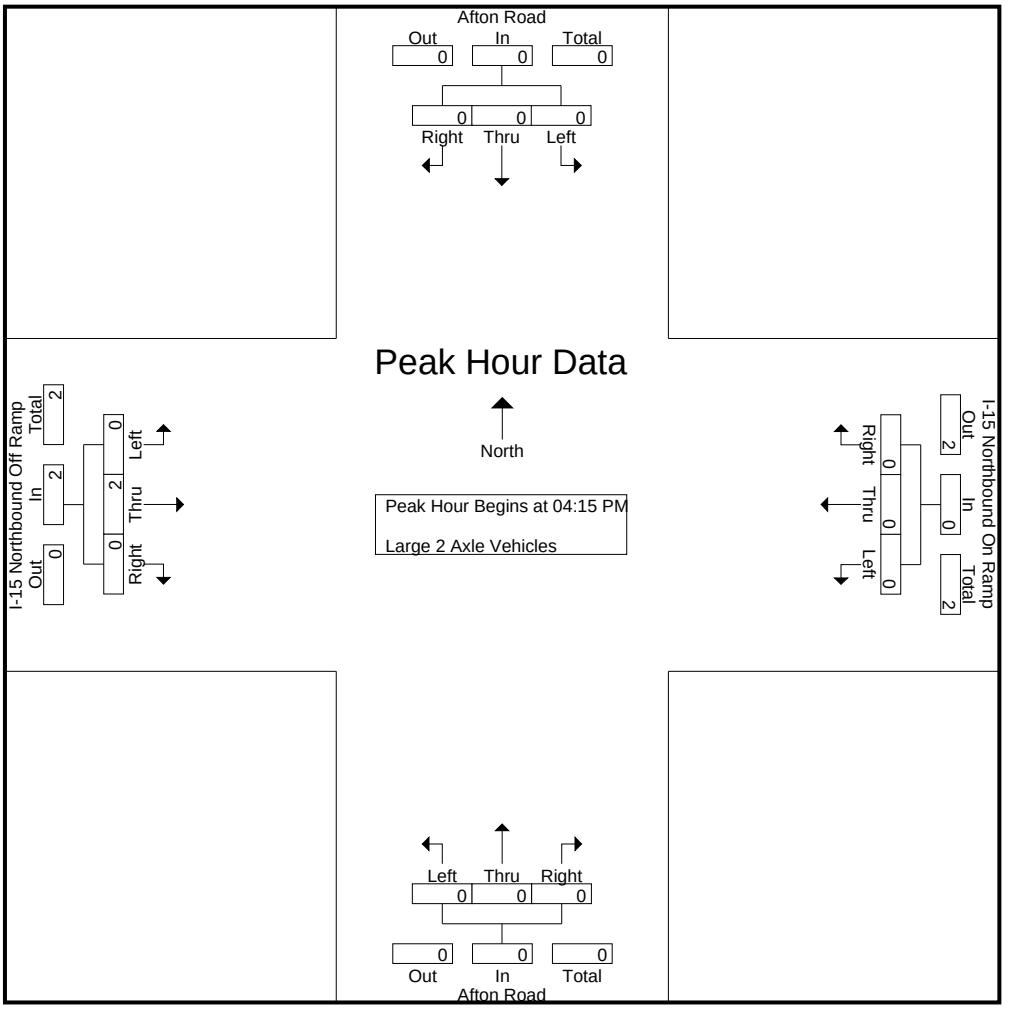
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.500

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500

Counts Unlimited
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Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

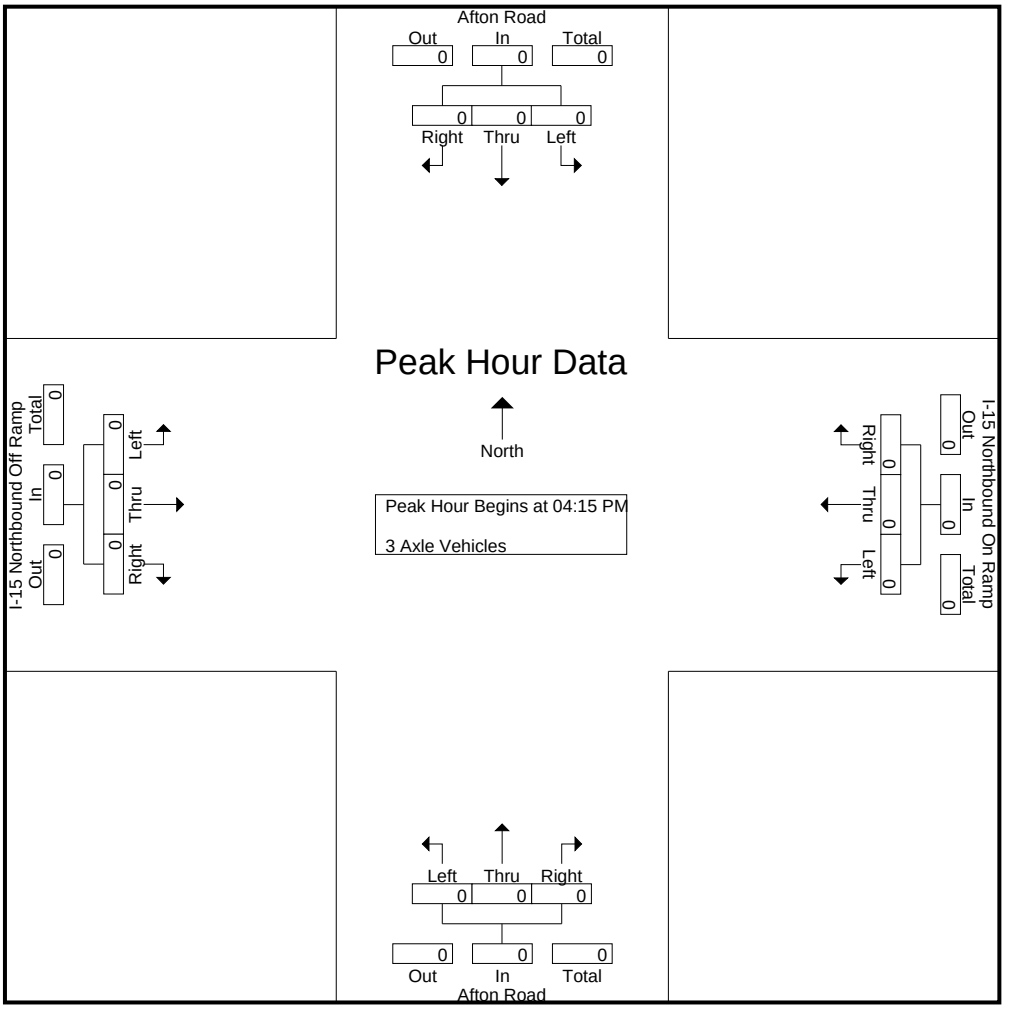
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

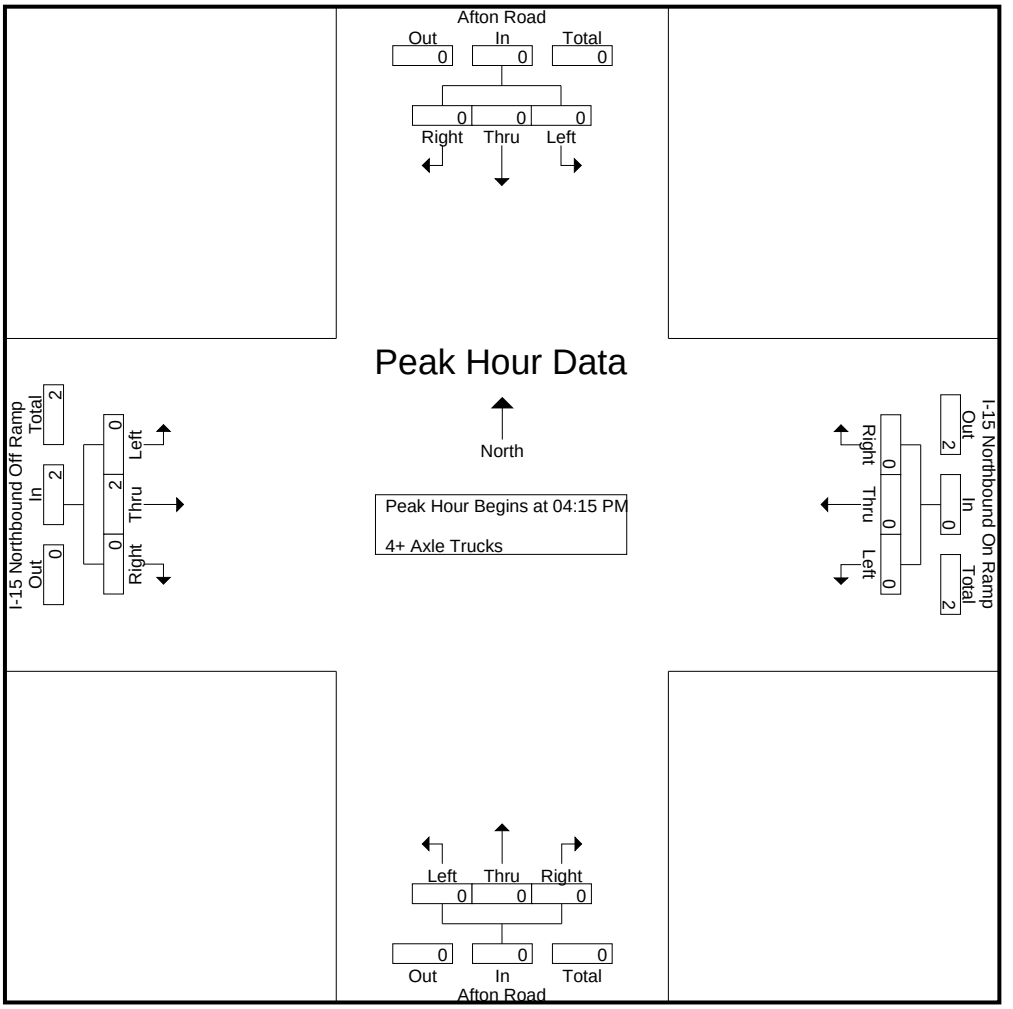
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

Counts Unlimited
PO Box 1178
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(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N FRI
Site Code : 07515579
Start Date : 10/16/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

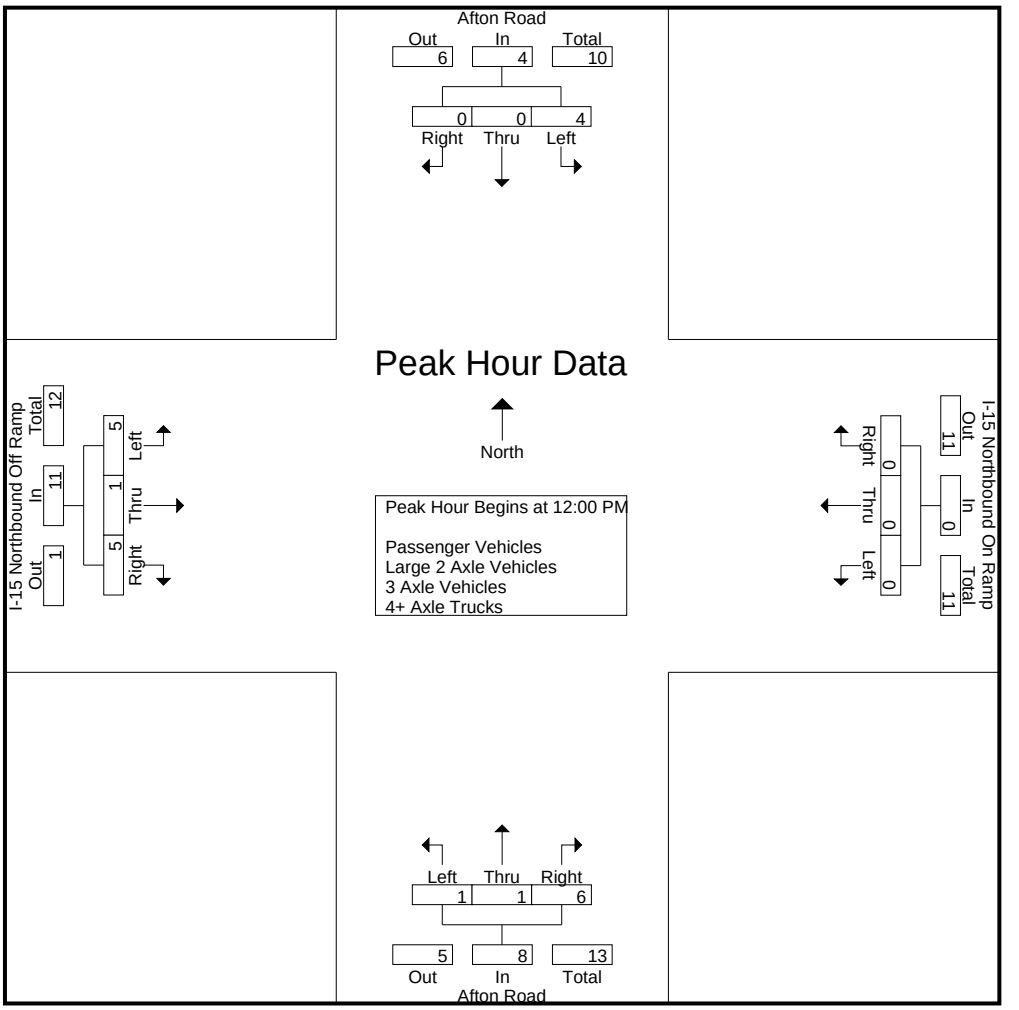
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	3
12:15 PM	1	0	0	1	0	0	0	0	1	0	2	3	1	0	2	3	7
12:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2	0	2	4	6
12:45 PM	2	0	0	2	0	0	0	0	0	0	4	4	1	0	0	1	7
Total	4	0	0	4	0	0	0	0	1	1	6	8	5	1	5	11	23
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	4
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	1	1	0	2	0	0	0	0	0	1	3	4	2	1	3	6	12
Total	1	1	0	2	0	0	0	0	0	1	5	6	2	2	5	9	17
02:00 PM	1	1	0	2	0	0	0	0	0	0	1	1	0	1	1	2	5
02:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
02:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	3	5
Total	1	1	0	2	0	0	0	0	0	2	2	4	3	5	2	10	16
Grand Total	6	2	0	8	0	0	0	0	1	4	13	18	10	8	12	30	56
Apprch %	75	25	0		0	0	0		5.6	22.2	72.2		33.3	26.7	40		
Total %	10.7	3.6	0	14.3	0	0	0	0	1.8	7.1	23.2	32.1	17.9	14.3	21.4	53.6	
Passenger Vehicles	6	2	0	8	0	0	0	0	0	4	13	17	9	7	12	28	53
% Passenger Vehicles	100	100	0	100	0	0	0	0	0	100	100	94.4	90	87.5	100	93.3	94.6
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	3.3	1.8
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	100	0	0	5.6	0	12.5	0	3.3	3.6

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	1	3	3
12:15 PM	1	0	0	1	0	0	0	0	**1**	0	2	3	1	0	**2**	3	**7**
12:30 PM	1	0	0	1	0	0	0	0	0	**1**	0	1	**2**	0	2	**4**	6
12:45 PM	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	1	0	0	1	7
Total Volume	4	0	0	4	0	0	0	0	1	1	6	8	5	1	5	11	23
% App. Total	100	0	0		0	0	0		12.5	12.5	75		45.5	9.1	45.5		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.250	.250	.375	.500	.625	.250	.625	.688	.821

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				01:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**2**	1	**3**	**6**
+15 mins.	1	0	0	1	0	0	0	0	**1**	0	2	3	0	1	1	2
+30 mins.	1	0	0	1	0	0	0	0	0	**1**	0	1	0	1	0	1
+45 mins.	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	2	**2**	0	4
Total Volume	4	0	0	4	0	0	0	0	1	1	6	8	4	5	4	13
% App. Total	100	0	0		0	0	0		12.5	12.5	75		30.8	38.5	30.8	
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.250	.250	.375	.500	.500	.625	.333	.542

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Passenger Vehicles

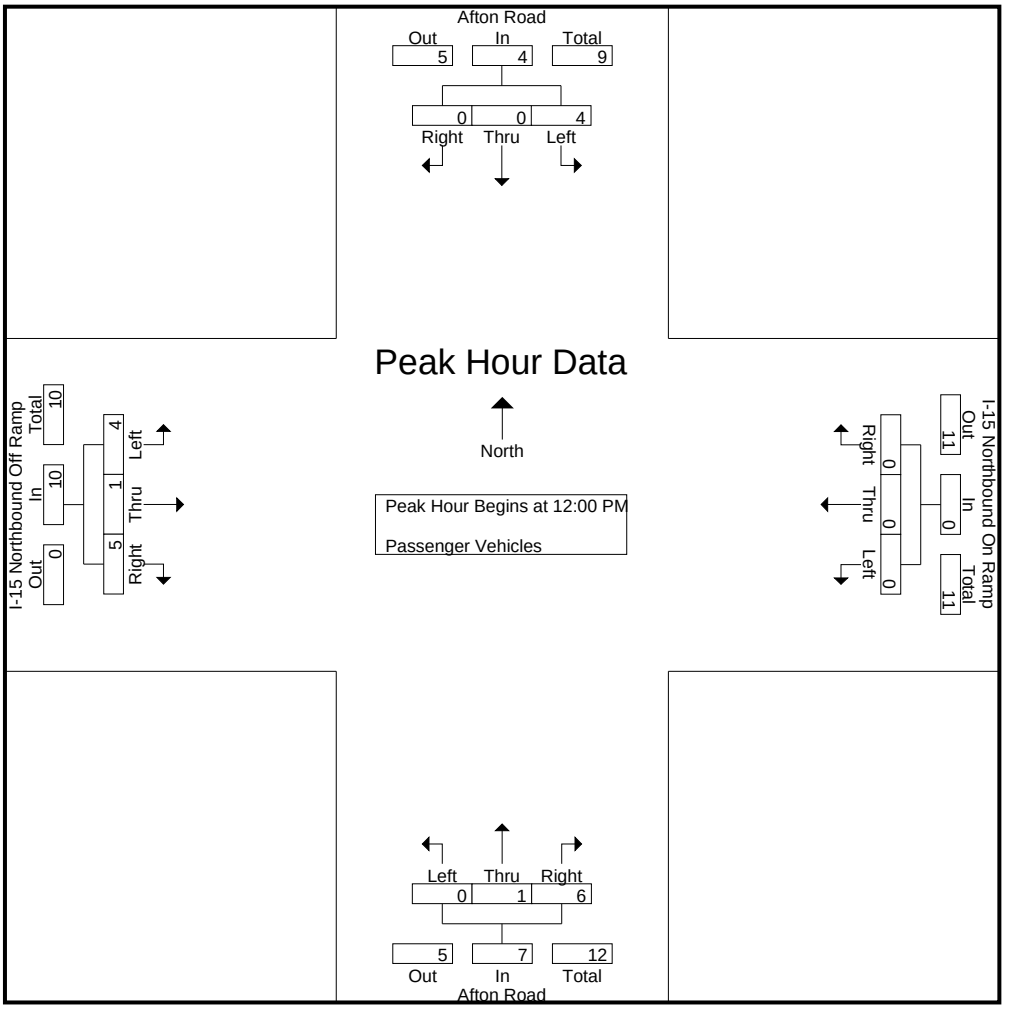
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
12:15 PM	1	0	0	1	0	0	0	0	0	0	2	2	1	0	2	3	6
12:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2	0	2	4	6
12:45 PM	2	0	0	2	0	0	0	0	0	0	4	4	1	0	0	1	7
Total	4	0	0	4	0	0	0	0	0	1	6	7	4	1	5	10	21
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	4
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	1	1	0	2	0	0	0	0	0	1	3	4	2	0	3	5	11
Total	1	1	0	2	0	0	0	0	0	1	5	6	2	1	5	8	16
02:00 PM	1	1	0	2	0	0	0	0	0	0	1	1	0	1	1	2	5
02:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
02:45 PM	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	3	5
Total	1	1	0	2	0	0	0	0	0	2	2	4	3	5	2	10	16
Grand Total	6	2	0	8	0	0	0	0	0	4	13	17	9	7	12	28	53
Apprch %	75	25	0		0	0	0		0	23.5	76.5		32.1	25	42.9		
Total %	11.3	3.8	0	15.1	0	0	0	0	0	7.5	24.5	32.1	17	13.2	22.6	52.8	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	2	2
12:15 PM	1	0	0	1	0	0	0	0	0	0	2	2	1	0	**2**	3	6
12:30 PM	1	0	0	1	0	0	0	0	0	**1**	0	1	**2**	0	2	**4**	6
12:45 PM	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	1	0	0	1	**7**
Total Volume	4	0	0	4	0	0	0	0	0	1	6	7	4	1	5	10	21
% App. Total	100	0	0		0	0	0		0	14.3	85.7		40	10	50		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.250	.375	.438	.500	.250	.625	.625	.750

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	2
+15 mins.	1	0	0	1	0	0	0	0	0	0	2	2	1	0	**2**	3
+30 mins.	1	0	0	1	0	0	0	0	0	**1**	0	1	**2**	0	2	**4**
+45 mins.	**2**	0	0	**2**	0	0	0	0	0	0	**4**	**4**	1	0	0	1
Total Volume	4	0	0	4	0	0	0	0	0	1	6	7	4	1	5	10
% App. Total	100	0	0		0	0	0		0	14.3	85.7		40	10	50	
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.250	.375	.438	.500	.250	.625	.625

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

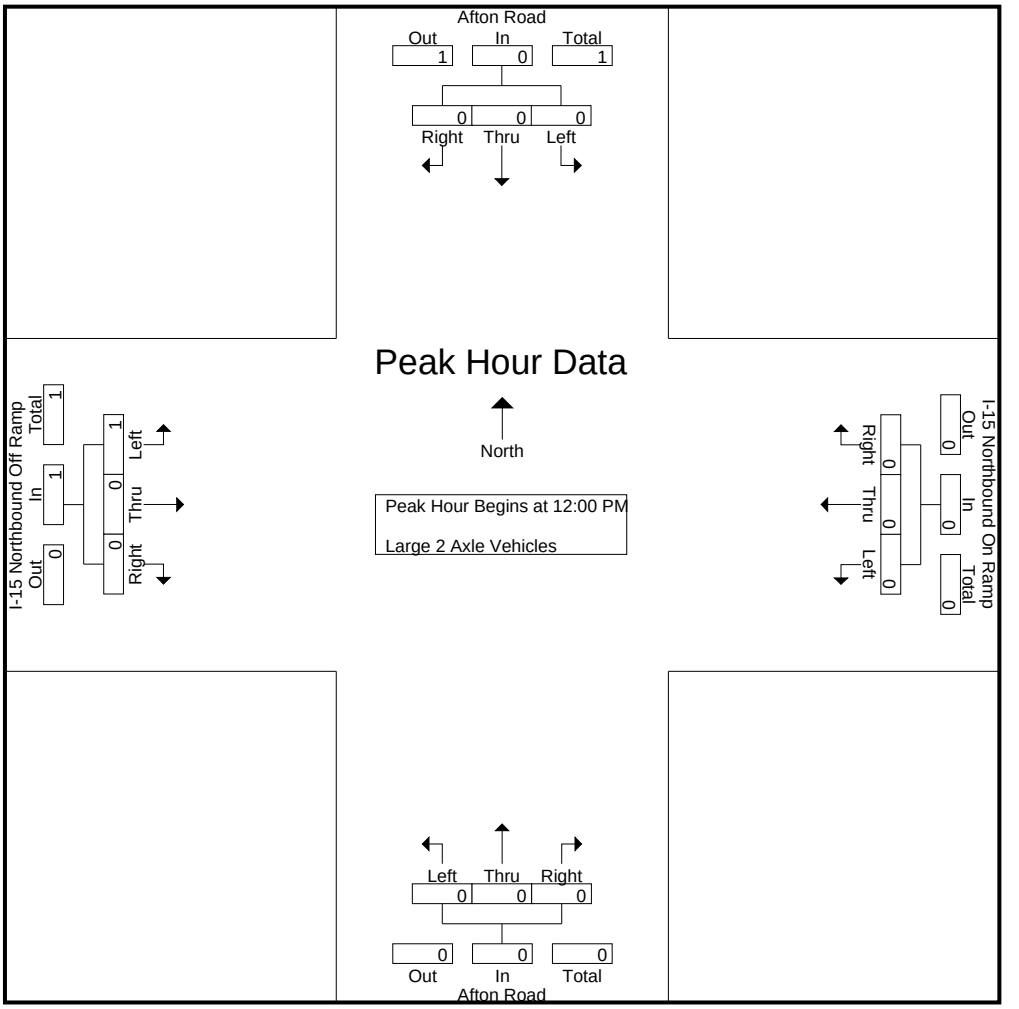
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Apprch %	0	0	0		0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

Counts Unlimited
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

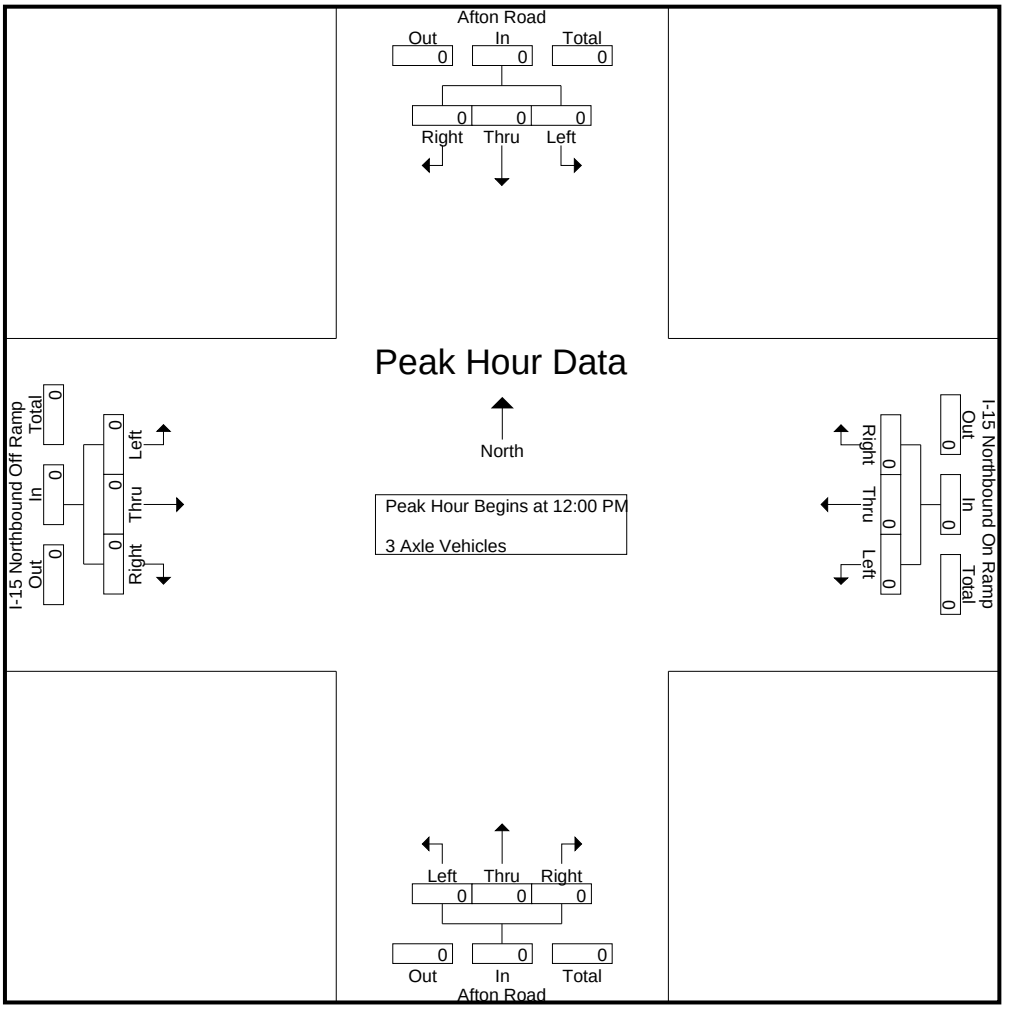
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2



Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

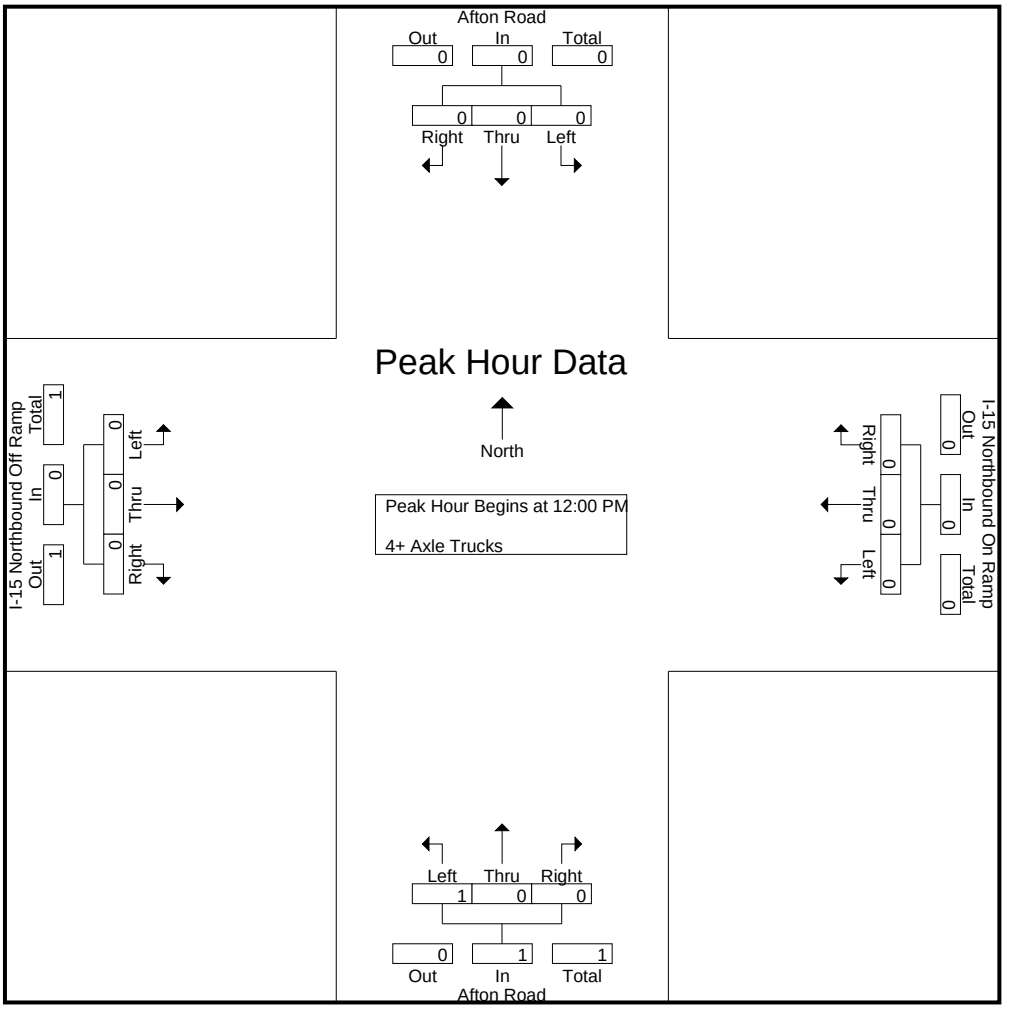
	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
Apprch %	0	0	0		0	0	0		100	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	50	0	0	50	0	50	0	50	

	Afton Road Southbound				I-15 Northbound On Ramp Westbound				Afton Road Northbound				I-15 Northbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**1**
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250

Counts Unlimited
PO Box 1178
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County of San Bernardino
N/S: Afton Road
E/W: I-15 Northbound Ramps
Weather: Clear

File Name : CSBAF15N SUN
Site Code : 07515579
Start Date : 10/18/2015
Page No : 2

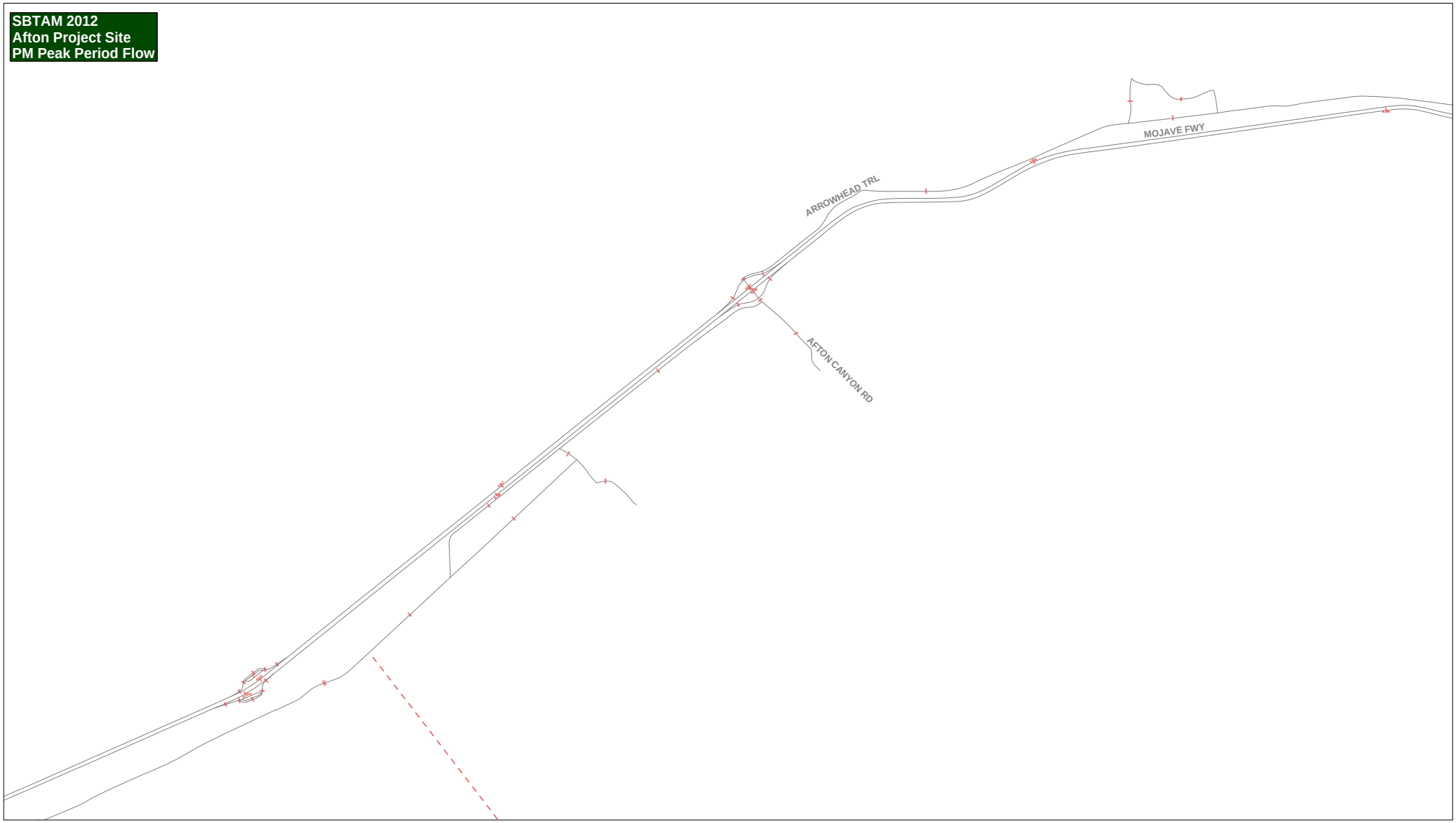


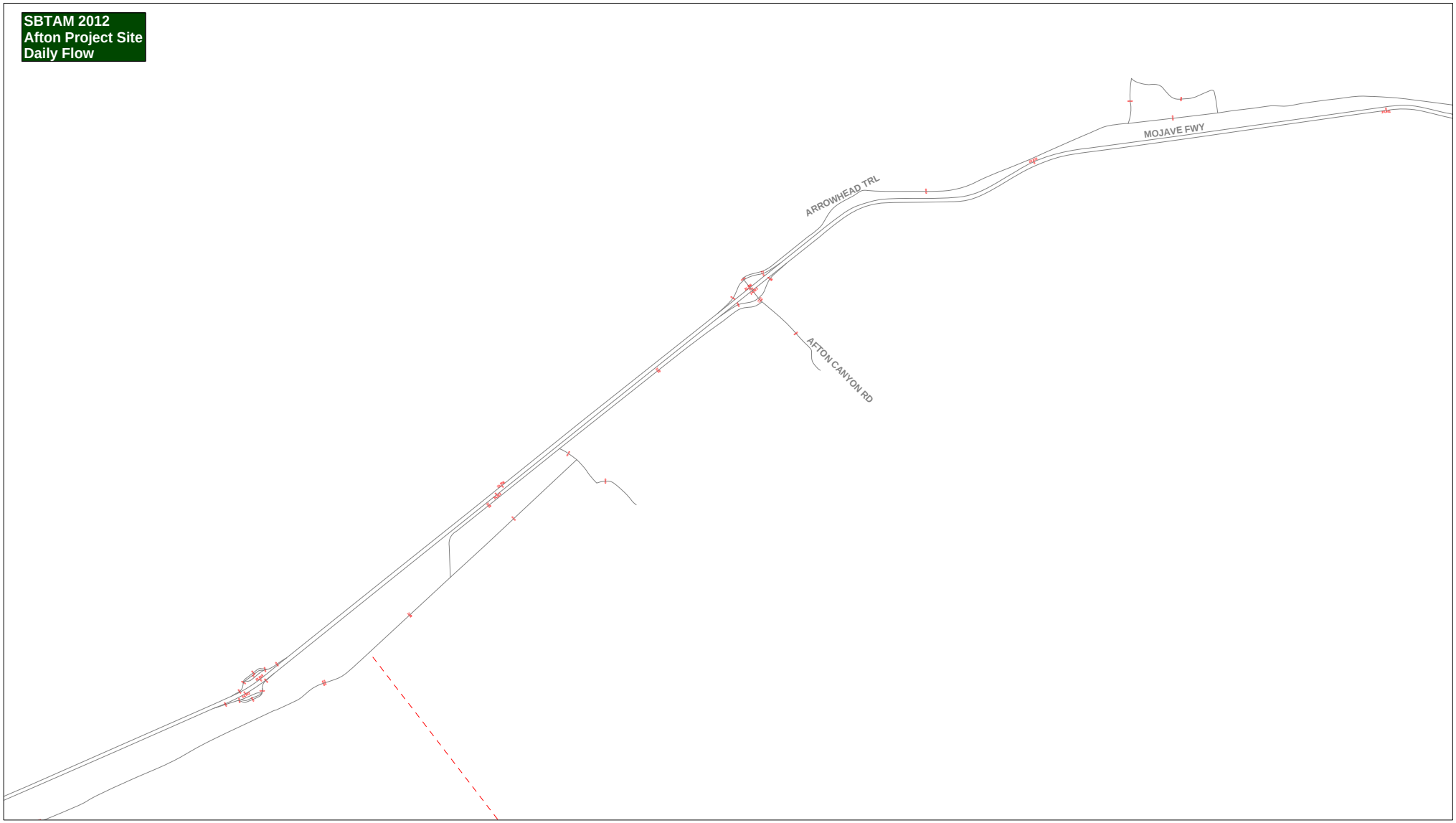
Peak Hour Analysis From 12:00 PM to 12:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

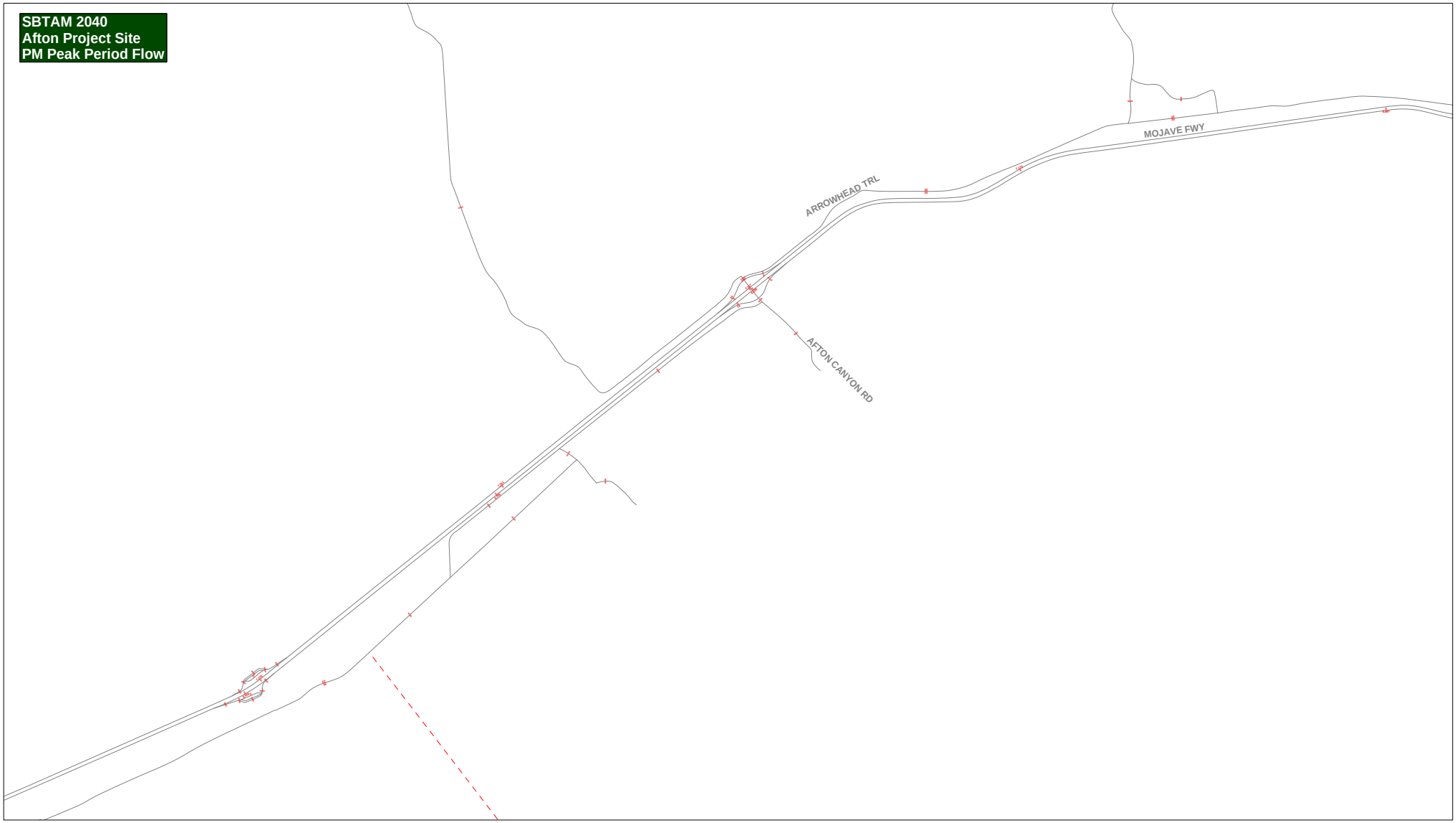
	12:00 PM				12:00 PM				12:00 PM				12:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000

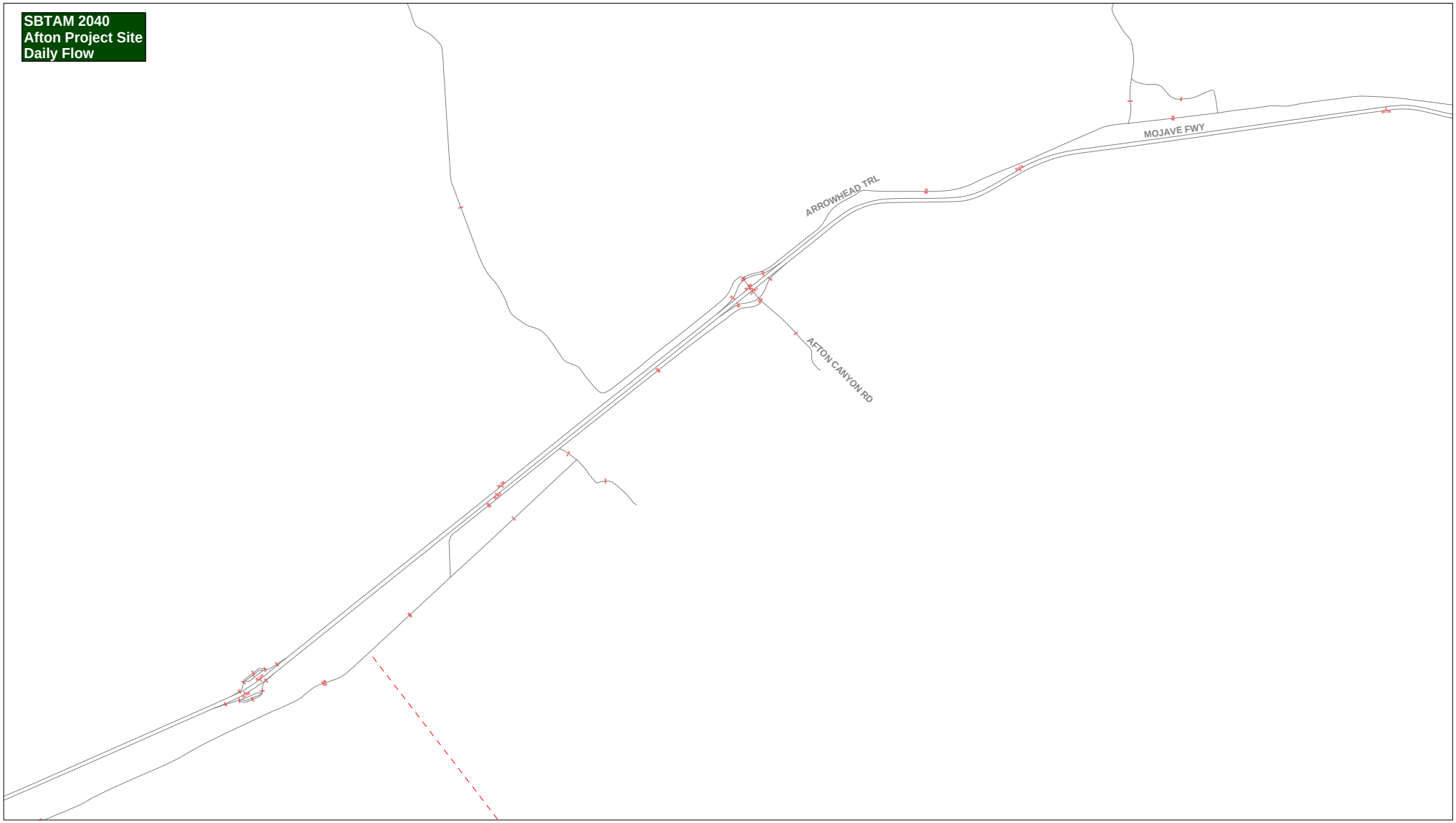
APPENDIX D

SBTAM Model Plots


SBTAM 2012
Afton Project Site
PM Peak Period Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2012
Afton Project Site
Daily Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2040
Afton Project Site
PM Peak Period Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD


SBTAM 2040
Afton Project Site
Daily Flow
MOJAVE FWY
ARROWHEAD TRL
AFTON CANYON RD

APPENDIX E

Future Growth Increment Calculation Worksheets

AFTON CANYON ROAD (NS) / ARROWHEAD TRAIL (EW)

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				0	4	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	3		
				<	^	>				
				0	2	4				

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					4	2				
					v	^				
			0	<	IN =	13	<	3		
			0	>	OUT =	13	>	4		
					v	^				
					7	6				

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				0	0	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	2		
				<	^	>				
				0	3	0				

PCE FACTORS BY AXLE:

2: **1.5** 3: **2.0** 4+: **3.0**

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				0	4	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	5		
				<	^	>				
				0	5	4				

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.38**

PHF FOR TRUCKS: **0.333**

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: **2040**

FACTOR = **1.50**

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

NEW PROJECTED VOLUMES (PCE'S): 2040

					0	10				
					v	^				
			0	<			<	10		
			0	>			>	0		
					v	^				
					10	10				

YEAR 2018 GROWTH: 2015 TO **2018**

3 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

INITIAL YEAR 2018 VOLUMES:

2018

					0	10				
					v	^				
			0	<	IN =	20	<	10		
			0	>	OUT =	20	>	0		
					v	^				
					10	10				

BALANCED YEAR 2018 VOLUMES:

2018

					0	10				
					v	^				
			0	<	IN =	20	<	10		
			0	>	OUT =	20	>	0		
					v	^				
					10	10				

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				0	8	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		1	v				v	5		
				<	^	>				
				0	6	9				

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					8	6				
					v	^				
			0	<	IN =	29	<	5		
			1	>	OUT =	29	>	9		
					v	^				
					14	15				

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				0	0	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		0	v				v	0		
				<	^	>				
				0	0	0				

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				0	8	0				
				<	v	>				
		0	^				^	0		
		0	>				<	0		
		1	v				v	5		
				<	^	>				
				0	6	9				

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.28**

PHF FOR TRUCKS: **0.25**

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**				
					v	^				
			0	<	IN =	0	<	**0**		
			0	>	OUT =	0	>	**0**		
					v	^				
					0	**0**				

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: 2040

FACTOR = 1.50

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					0	0				
					v	^				
			0	<	IN =	0	<	0		
			0	>	OUT =	0	>	0		
					v	^				
					0	0				

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

NEW PROJECTED VOLUMES (PCE'S): 2040

					10	10				
					v	^				
			0	<			<	10		
			0	>			>	10		
					v	^				
					10	20				

YEAR 2018 GROWTH: 2015 TO 2018

3 YEARS

					0	0				
					v	^				
			0	<			<	0		
			0	>			>	0		
					v	^				
					0	0				

INITIAL YEAR 2018 VOLUMES:

2018

					10	10				
					v	^				
			0	<	IN =	40	<	10		
			0	>	OUT =	30	>	10		
					v	^				
					10	20				

BALANCED YEAR 2018 VOLUMES:

2018

					10	10				
					v	^				
			0	<	IN =	40	<	10		
			0	>	OUT =	30	>	10		
					v	^				
					10	20				

AFTON CANYON ROAD (NS) / ARROWHEAD TRAIL (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2018 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**5**	IN ...	**10**	BOUND	THRU	**6**	IN ...	**20**
	RIGHT	**4**	OUT ...	**10**		RIGHT	**9**	OUT ...	**10**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**4**	IN ...	**0**	BOUND	THRU	**8**	IN ...	**10**
	RIGHT	**0**	OUT ...	**10**		RIGHT	**0**	OUT ...	**10**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**1**	OUT ...	**0**
WEST	LEFT	**5**	EAST LEG		WEST	LEFT	**5**	EAST LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**0**	IN ...	**10**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**10**

YEAR 2018 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG		NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**5**	**10**	RATIO	**5.0%**	BOUND	THRU	**6**	**10**	RATIO	**7.5%**
	RIGHT	**4**	**0**	ADT	200		RIGHT	**9**	**10**	ADT	200
SOUTH	LEFT	**0**	**0**	SOUTH LEG		SOUTH	LEFT	**0**	**0**	SOUTH LEG	
BOUND	THRU	**4**	**0**	RATIO	**6.7%**	BOUND	THRU	**8**	**5**	RATIO	**10.0%**
	RIGHT	**0**	**0**	ADT	300		RIGHT	**0**	**0**	ADT	300
EAST	LEFT	**0**	**0**	EAST LEG		EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**0**	**0**	RATIO	**5.0%**	BOUND	THRU	**0**	**0**	RATIO	**7.5%**
	RIGHT	**0**	**0**	ADT	200		RIGHT	**1**	**0**	ADT	200
WEST	LEFT	**5**	**10**	WEST LEG		WEST	LEFT	**5**	**5**	WEST LEG	
BOUND	THRU	**0**	**0**	RATIO	**#DIV/0!**	BOUND	THRU	**0**	**0**	RATIO	**#DIV/0!**
	RIGHT	**0**	**0**	ADT	0		RIGHT	**0**	**0**	ADT	0

AFTON CANYON ROAD (NS) / ARROWHEAD TRAIL (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**5**	IN ...	**10**	BOUND	THRU	**6**	IN ...	**20**
	RIGHT	**4**	OUT ...	**10**		RIGHT	**9**	OUT ...	**10**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**4**	IN ...	**0**	BOUND	THRU	**8**	IN ...	**10**
	RIGHT	**0**	OUT ...	**10**		RIGHT	**0**	OUT ...	**10**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**1**	OUT ...	**0**
WEST	LEFT	**5**	EAST LEG		WEST	LEFT	**5**	EAST LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**0**	IN ...	**10**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**10**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**5**	**10**	RATIO **5.0%**	BOUND	THRU	**6**	**10**	RATIO **7.5%**
	RIGHT	**4**	**0**	ADT 200		RIGHT	**9**	**10**	ADT 200
SOUTH	LEFT	**0**	**0**	SOUTH LEG	SOUTH	LEFT	**0**	**0**	SOUTH LEG
BOUND	THRU	**4**	**0**	RATIO **6.7%**	BOUND	THRU	**8**	**5**	RATIO **10.0%**
	RIGHT	**0**	**0**	ADT 300		RIGHT	**0**	**0**	ADT 300
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG
BOUND	THRU	**0**	**0**	RATIO **5.0%**	BOUND	THRU	**0**	**0**	RATIO **7.5%**
	RIGHT	**0**	**0**	ADT 200		RIGHT	**1**	**0**	ADT 200
WEST	LEFT	**5**	**10**	WEST LEG	WEST	LEFT	**5**	**5**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO **#DIV/0!**	BOUND	THRU	**0**	**0**	RATIO **#DIV/0!**
	RIGHT	**0**	**0**	ADT 0		RIGHT	**0**	**0**	ADT 0

AFTON CANYON ROAD (NS) / I-15 FREEWAY SB RAMPS (EW)

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				6	1	0		
				<	v	>		
		0	^				^	5
		0	>				<	6
		0	v				v	0
				<	^	>		
				1	1	0		

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					7	6		
					v	^		
			13	<	IN	=	20	< 11
			0	>	OUT	=	20	> 0
					v	^		
					1	2		

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				2	0	0		
				<	v	>		
		0	^				^	0
		0	>				<	0
		0	v				v	0
				<	^	>		

PCE FACTORS BY AXLE:

2: **1.5** 3: **2.0** 4+: **3.0**

				0	0	0		

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				8	1	0		
				<	v	>		
		0	^				^	5
		0	>				<	6
		0	v				v	0
				<	^	>		
				1	1	0		

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**		
					v	^		
			0	<	IN	=	2	< **2**
			0	>	OUT	=	2	> **0**
					v	^		
					2	**0**		

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.38**

PHF FOR TRUCKS: **0.333**

					0	0		
					v	^		
			0	<	IN	=	1	< 1
			0	>	OUT	=	1	> 0
					v	^		
					1	0		

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					35	**20**		
					v	^		
			34	<	IN	=	58	< **3**
			0	>	OUT	=	58	> **0**
					v	^		
					4	**20**		

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

					13	8		
					v	^		
			13	<	IN	=	22	< 1
			0	>	OUT	=	22	> 0
					v	^		
					2	8		

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: **2040**

FACTOR = **1.50**

					13	8		
					v	^		
			13	<			<	0
			0	>			>	0
					v	^		
					1	8		

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					10	10		
					v	^		
			10	<	IN	=	20	< 0
			0	>	OUT	=	20	> 0
					v	^		
					0	10		

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					10	10		
					v	^		
			10	<			<	0
			0	>			>	0
					v	^		
					0	10		

NEW PROJECTED VOLUMES (PCE'S): 2040

					20	20		
					v	^		
			30	<			<	10
			0	>			>	0
					v	^		
					0	10		

YEAR 2018 GROWTH: 2015 TO **2018**

3 YEARS

					0	0		
					v	^		
			0	<			<	0
			0	>			>	0
					v	^		
					0	0		

INITIAL YEAR 2018 VOLUMES:

2018

					10	10		
					v	^		
			20	<	IN	=	20	< 10
			0	>	OUT	=	30	> 0
					v	^		
					0	0		

BALANCED YEAR 2018 VOLUMES:

2018

					20	10		
					v	^		
			20	<	IN	=	40	< 20
			0	>	OUT	=	30	> 0
					v	^		
					0	0		

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

				10	3	0		
				<	v	>		
		0	^				^	12
		0	>				<	6
		0	v				v	1
				<	^	>		
				2	3	0		

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

					13	15		
					v	^		
			18	<	IN	=	37	< 19
			0	>	OUT	=	37	> 0
					v	^		
					4	5		

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

				0	0	0		
				<	v	>		
		0	^				^	2
		0	>				<	3
		0	v				v	0
				<	^	>		

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

				0	2	0		

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

				10	3	0		
				<	v	>		
		0	^				^	14
		0	>				<	9
		0	v				v	1
				<	^	>		
				2	5	0		

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

					0	**0**		
					v	^		
			0	<	IN	=	2	< **2**
			0	>	OUT	=	2	> **0**
					v	^		
					2	**0**		

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.28**

PHF FOR TRUCKS: **0.25**

					0	0		
					v	^		
			0	<	IN	=	1	< 1
			0	>	OUT	=	1	> 0
					v	^		
					1	0		

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

					35	**20**		
					v	^		
			34	<	IN	=	58	< **3**
			0	>	OUT	=	58	> **0**
					v	^		
					4	**20**		

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

					0	**0**		
					v	^		
			0	<	IN	=	0	< **0**
			0	>	OUT	=	0	> **0**
					v	^		
					0	**0**		

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

					10	6		
					v	^		
			10	<	IN	=	16	< 1
			0	>	OUT	=	16	> 0
					v	^		
					1	6		

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: 2040

FACTOR = 1.50

					10	6		
					v	^		
			10	<			<	0
			0	>			>	0
					v	^		
					1	6		

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

					10	10		
					v	^		
			10	<	IN	=	20	< 0
			0	>	OUT	=	20	> 0
					v	^		
					0	10		

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

					10	10		
					v	^		
			10	<			<	0
			0	>			>	0
					v	^		
					0	10		

NEW PROJECTED VOLUMES (PCE'S): 2040

					20	30		
					v	^		
			30	<			<	20
			0	>			>	0
					v	^		
					0	20		

YEAR 2018 GROWTH: 2015 TO 2018

3 YEARS

					0	0		
					v	^		
			0	<			<	0
			0	>			>	0
					v	^		
					0	0		

INITIAL YEAR 2018 VOLUMES:

2018

					10	20		
					v	^		
			20	<	IN	=	40	< 20
			0	>	OUT	=	40	> 0
					v	^		
					0	10		

BALANCED YEAR 2018 VOLUMES:

2018

					10	20		
					v	^		
			20	<	IN	=	40	< 20
			0	>	OUT	=	40	> 0
					v	^		
					0	10		

AFTON CANYON ROAD (NS) / I-15 FREEWAY SB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2018 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL
NORTH	LEFT	**1**	SOUTH LEG		NORTH	LEFT	**2**	SOUTH LEG	
BOUND	THRU	**1**	IN ...	**0**	BOUND	THRU	**5**	IN ...	**10**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**1**	IN ...	**20**	BOUND	THRU	**3**	IN ...	**10**
	RIGHT	**8**	OUT ...	**10**		RIGHT	**10**	OUT ...	**20**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**20**		RIGHT	**0**	OUT ...	**20**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**1**	EAST LEG	
BOUND	THRU	**6**	IN ...	**20**	BOUND	THRU	**9**	IN ...	**20**
	RIGHT	**5**	OUT ...	**0**		RIGHT	**14**	OUT ...	**0**

YEAR 2018 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**1**	**0**	NORTH LEG		NORTH	LEFT	**2**	**3**	NORTH LEG	
BOUND	THRU	**1**	**0**	RATIO	**6.2%**	BOUND	THRU	**5**	**7**	RATIO	**7.5%**
	RIGHT	**0**	**0**	ADT	400		RIGHT	**0**	**0**	ADT	400
SOUTH	LEFT	**0**	**0**	SOUTH LEG		SOUTH	LEFT	**0**	**0**	SOUTH LEG	
BOUND	THRU	**1**	**0**	RATIO	**0.0%**	BOUND	THRU	**3**	**0**	RATIO	**10.0%**
	RIGHT	**8**	**15**	ADT	100		RIGHT	**10**	**10**	ADT	100
EAST	LEFT	**0**	**0**	EAST LEG		EAST	LEFT	**0**	**0**	EAST LEG	
BOUND	THRU	**0**	**0**	RATIO	**5.0%**	BOUND	THRU	**0**	**0**	RATIO	**6.7%**
	RIGHT	**0**	**0**	ADT	300		RIGHT	**0**	**0**	ADT	300
WEST	LEFT	**0**	**0**	WEST LEG		WEST	LEFT	**1**	**0**	WEST LEG	
BOUND	THRU	**6**	**5**	RATIO	**10.0%**	BOUND	THRU	**9**	**7**	RATIO	**10.0%**
	RIGHT	**5**	**10**	ADT	200		RIGHT	**14**	**13**	ADT	200

AFTON CANYON ROAD (NS) / I-15 FREEWAY SB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**1**	SOUTH LEG		NORTH	LEFT	**2**	SOUTH LEG	
BOUND	THRU	**1**	IN ...	**10**	BOUND	THRU	**5**	IN ...	**20**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**0**
SOUTH	LEFT	**0**	NORTH LEG		SOUTH	LEFT	**0**	NORTH LEG	
BOUND	THRU	**1**	IN ...	**20**	BOUND	THRU	**3**	IN ...	**20**
	RIGHT	**8**	OUT ...	**20**		RIGHT	**10**	OUT ...	**30**
EAST	LEFT	**0**	WEST LEG		EAST	LEFT	**0**	WEST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**30**		RIGHT	**0**	OUT ...	**30**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**1**	EAST LEG	
BOUND	THRU	**6**	IN ...	**10**	BOUND	THRU	**9**	IN ...	**20**
	RIGHT	**5**	OUT ...	**0**		RIGHT	**14**	OUT ...	**0**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**1**	**2**	NORTH LEG	NORTH	LEFT	**2**	**4**	NORTH LEG
BOUND	THRU	**1**	**10**	RATIO **8.9%**	BOUND	THRU	**5**	**16**	RATIO **10.0%**
	RIGHT	**0**	**0**	ADT 500		RIGHT	**0**	**0**	ADT 500
SOUTH	LEFT	**0**	**0**	SOUTH LEG	SOUTH	LEFT	**0**	**0**	SOUTH LEG
BOUND	THRU	**1**	**0**	RATIO **6.3%**	BOUND	THRU	**3**	**0**	RATIO **10.0%**
	RIGHT	**8**	**25**	ADT 200		RIGHT	**10**	**20**	ADT 200
EAST	LEFT	**0**	**0**	EAST LEG	EAST	LEFT	**0**	**0**	EAST LEG
BOUND	THRU	**0**	**0**	RATIO **4.2%**	BOUND	THRU	**0**	**0**	RATIO **6.7%**
	RIGHT	**0**	**0**	ADT 300		RIGHT	**0**	**0**	ADT 300
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**1**	**0**	WEST LEG
BOUND	THRU	**6**	**3**	RATIO **10.0%**	BOUND	THRU	**9**	**6**	RATIO **10.0%**
	RIGHT	**5**	**10**	ADT 300		RIGHT	**14**	**14**	ADT 300

AFTON CANYON ROAD (NS) / I-15 FREEWAY NB RAMPS (EW)

MORNING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

			0	0	1			
			<	v	>			
		2 ^				^	0	
		2 >				<	0	
		8 v				v	0	
			<	^	>			
			0	0	9			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

				1	2			
				v	^			
			0 <	IN =	22 <		0	
			12 >	OUT =	22 >		12	
				v	^			
				8	9			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

			0	0	0			
			<	v	>			
		0 ^				^	0	
		9 >				<	0	
		0 v				v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: **1.5** 3: **2.0** 4+: **3.0**

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

			0	0	1			
			<	v	>			
		2 ^				^	0	
		11 >				<	0	
		8 v				v	0	
			<	^	>			
			0	0	9			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

				2	**0**			
				v	^			
			0 <	IN =	11 <		**0**	
			0 >	OUT =	11 >		**9**	
				v	^			
				2	**9**			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.38**

PHF FOR TRUCKS: **0.333**

				1	0			
				v	^			
			0 <	IN =	4 <		0	
			0 >	OUT =	4 >		3	
				v	^			
				1	3			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

				4	**20**			
				v	^			
			0 <	IN =	31 <		**0**	
			19 >	OUT =	32 >		**8**	
				v	^			
				4	**8**			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.38

PHF FOR TRUCKS: 0.333

				2	8			
				v	^			
			0 <	IN =	12 <		0	
			7 >	OUT =	12 >		3	
				v	^			
				2	3			

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: **2040**

FACTOR = **1.50**

				1	8			
				v	^			
			0 <		<		0	
			7 >		>		0	
				v	^			
				1	0			

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

				0	10			
				v	^			
			0 <	IN =	10 <		0	
			10 >	OUT =	10 >		0	
				v	^			
				0	0			

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

				0	10			
				v	^			
			0 <		<		0	
			10 >		>		0	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCE'S): 2040

				0	10			
				v	^			
			0 <		<		0	
			30 >		>		20	
				v	^			
				10	10			

YEAR 2018 GROWTH: 2015 TO **2018**

3 YEARS

				0	0			
				v	^			
			0 <		<		0	
			0 >		>		0	
				v	^			
				0	0			

INITIAL YEAR 2018 VOLUMES:

2018

				0	0			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		20	
				v	^			
				10	10			

BALANCED YEAR 2018 VOLUMES:

2018

				0	0			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		20	
				v	^			
				10	10			

EVENING PEAK HOUR

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (AUTOS):

2015

			0	2	2			
			<	v	>			
		4 ^				^	0	
		4 >				<	0	
		4 v				v	0	
			<	^	>			
			0	2	4			

EXISTING PEAK HOUR COUNT YEAR (AUTOS):

2015

				4	6			
				v	^			
			0 <	IN =	22 <		0	
			12 >	OUT =	22 >		10	
				v	^			
				6	6			

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (TRUCKS IN PCE'S):

			0	0	0			
			<	v	>			
		0 ^				^	0	
		3 >				<	0	
		0 v				v	0	
			<	^	>			
			0	0	0			

PCE FACTORS BY AXLE:

2: 1.5 3: 2 4+: 3.0

TOTAL EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES (PCES):

2015

			0	2	2			
			<	v	>			
		4 ^				^	0	
		7 >				<	0	
		4 v				v	0	
			<	^	>			
			0	2	4			

EXISTING PEAK PERIOD MODEL YEAR (AUTO):

2012

				2	**0**			
				v	^			
			0 <	IN =	11 <		**0**	
			0 >	OUT =	11 >		**9**	
				v	^			
				2	**9**			

EXISTING PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2012

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

EXISTING PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: **0.28**

PHF FOR TRUCKS: **0.25**

				1	0			
				v	^			
			0 <	IN =	3 <		0	
			0 >	OUT =	3 >		3	
				v	^			
				1	3			

FUTURE PEAK PERIOD MODEL YEAR (AUTO):

2040

				4	**20**			
				v	^			
			0 <	IN =	31 <		**0**	
			19 >	OUT =	32 >		**8**	
				v	^			
				4	**8**			

FUTURE PEAK PERIOD MODEL YEAR (TRUCKS IN PCE'S):

2040

				0	**0**			
				v	^			
			0 <	IN =	0 <		**0**	
			0 >	OUT =	0 >		**0**	
				v	^			
				0	**0**			

FUTURE PEAK HOUR MODEL YEAR (PCE'S):

PHF FOR CARS: 0.28

PHF FOR TRUCKS: 0.25

				1	6			
				v	^			
			0 <	IN =	9 <		0	
			5 >	OUT =	9 >		2	
				v	^			
				1	2			

RAW GROWTH (PCE'S): 2012 TO 2040

CONVERSION OF TRUCKS TO: 2040

FACTOR = 1.50

				1	6			
				v	^			
			0 <		<		0	
			5 >		>		0	
				v	^			
				1	0			

ADJUSTED GROWTH (PCE'S): 2012 TO 2040

10 MINIMUM GROWTH %

				0	10			
				v	^			
			0 <	IN =	10 <		0	
			10 >	OUT =	10 >		0	
				v	^			
				0	0			

PRORATED GROWTH (PCE'S): 2015 TO 2040

25 YEARS

				0	10			
				v	^			
			0 <		<		0	
			10 >		>		0	
				v	^			
				0	0			

NEW PROJECTED VOLUMES (PCE'S): 2040

				0	20			
				v	^			
			0 <		<		0	
			30 >		>		10	
				v	^			
				10	10			

YEAR 2018 GROWTH: 2015 TO 2018

3 YEARS

				0	0			
				v	^			
			0 <		<		0	
			0 >		>		0	
				v	^			
				0	0			

INITIAL YEAR 2018 VOLUMES:

2018

				0	10			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		10	
				v	^			
				10	10			

BALANCED YEAR 2018 VOLUMES:

2018

				0	10			
				v	^			
			0 <	IN =	30 <		0	
			20 >	OUT =	30 >		10	
				v	^			
				10	10			

AFTON CANYON ROAD (NS) / I-15 FREEWAY NB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2018 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2018 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**2**	IN ...	**10**
	RIGHT	**9**	OUT ...	**10**		RIGHT	**4**	OUT ...	**10**
SOUTH	LEFT	**1**	NORTH LEG		SOUTH	LEFT	**2**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**2**	IN ...	**0**
	RIGHT	**0**	OUT ...	**0**		RIGHT	**0**	OUT ...	**10**
EAST	LEFT	**2**	WEST LEG		EAST	LEFT	**4**	WEST LEG	
BOUND	THRU	**11**	IN ...	**20**	BOUND	THRU	**7**	IN ...	**20**
	RIGHT	**8**	OUT ...	**0**		RIGHT	**4**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**20**		RIGHT	**0**	OUT ...	**10**

YEAR 2018 TRAFFIC CONDITIONS										
MORNING PEAK HOUR RESULTS						EVENING PEAK HOUR RESULTS					
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP		APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2018 FORECAST	PEAK - DAILY RELATIONSHIP	
NORTH	LEFT	**0**	**0**	NORTH LEG		NORTH	LEFT	**0**	**0**	NORTH LEG	
BOUND	THRU	**0**	**0**	RATIO	**0.0%**	BOUND	THRU	**2**	**5**	RATIO	**10.0%**
	RIGHT	**9**	**10**	ADT	100		RIGHT	**4**	**5**	ADT	100
SOUTH	LEFT	**1**	**0**	SOUTH LEG		SOUTH	LEFT	**2**	**0**	SOUTH LEG	
BOUND	THRU	**0**	**0**	RATIO	**20.0%**	BOUND	THRU	**2**	**0**	RATIO	**20.0%**
	RIGHT	**0**	**0**	ADT	100		RIGHT	**0**	**0**	ADT	100
EAST	LEFT	**2**	**0**	EAST LEG		EAST	LEFT	**4**	**5**	EAST LEG	
BOUND	THRU	**11**	**10**	RATIO	**20.0%**	BOUND	THRU	**7**	**5**	RATIO	**10.0%**
	RIGHT	**8**	**10**	ADT	100		RIGHT	**4**	**10**	ADT	100
WEST	LEFT	**0**	**0**	WEST LEG		WEST	LEFT	**0**	**0**	WEST LEG	
BOUND	THRU	**0**	**0**	RATIO	**10.0%**	BOUND	THRU	**0**	**0**	RATIO	**10.0%**
	RIGHT	**0**	**0**	ADT	200		RIGHT	**0**	**0**	ADT	200

AFTON CANYON ROAD (NS) / I-15 FREEWAY NB RAMPS (EW)

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES

NCHRP 255

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR INPUT DATA					EVENING PEAK HOUR INPUT DATA				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	APPROACH	YEAR 2040 TOTAL
NORTH	LEFT	**0**	SOUTH LEG		NORTH	LEFT	**0**	SOUTH LEG	
BOUND	THRU	**0**	IN ...	**10**	BOUND	THRU	**2**	IN ...	**10**
	RIGHT	**9**	OUT ...	**10**		RIGHT	**4**	OUT ...	**10**
SOUTH	LEFT	**1**	NORTH LEG		SOUTH	LEFT	**2**	NORTH LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**2**	IN ...	**0**
	RIGHT	**0**	OUT ...	**10**		RIGHT	**0**	OUT ...	**20**
EAST	LEFT	**2**	WEST LEG		EAST	LEFT	**4**	WEST LEG	
BOUND	THRU	**11**	IN ...	**30**	BOUND	THRU	**7**	IN ...	**30**
	RIGHT	**8**	OUT ...	**0**		RIGHT	**4**	OUT ...	**0**
WEST	LEFT	**0**	EAST LEG		WEST	LEFT	**0**	EAST LEG	
BOUND	THRU	**0**	IN ...	**0**	BOUND	THRU	**0**	IN ...	**0**
	RIGHT	**0**	OUT ...	**20**		RIGHT	**0**	OUT ...	**10**

YEAR 2040 TRAFFIC CONDITIONS									
MORNING PEAK HOUR RESULTS					EVENING PEAK HOUR RESULTS				
APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP	APPROACH	TURNING MOVEMENT	BASE YEAR COUNT	YEAR 2040 FORECAST	PEAK - DAILY RELATIONSHIP
NORTH	LEFT	**0**	**0**	NORTH LEG	NORTH	LEFT	**0**	**0**	NORTH LEG
BOUND	THRU	**0**	**0**	RATIO **5.0%**	BOUND	THRU	**2**	**6**	RATIO **10.0%**
	RIGHT	**9**	**10**	ADT 200		RIGHT	**4**	**4**	ADT 200
SOUTH	LEFT	**1**	**0**	SOUTH LEG	SOUTH	LEFT	**2**	**0**	SOUTH LEG
BOUND	THRU	**0**	**0**	RATIO **20.0%**	BOUND	THRU	**2**	**0**	RATIO **20.0%**
	RIGHT	**0**	**0**	ADT 100		RIGHT	**0**	**0**	ADT 100
EAST	LEFT	**2**	**10**	EAST LEG	EAST	LEFT	**4**	**14**	EAST LEG
BOUND	THRU	**11**	**10**	RATIO **20.0%**	BOUND	THRU	**7**	**6**	RATIO **10.0%**
	RIGHT	**8**	**10**	ADT 100		RIGHT	**4**	**10**	ADT 100
WEST	LEFT	**0**	**0**	WEST LEG	WEST	LEFT	**0**	**0**	WEST LEG
BOUND	THRU	**0**	**0**	RATIO **10.0%**	BOUND	THRU	**0**	**0**	RATIO **10.0%**
	RIGHT	**0**	**0**	ADT 300		RIGHT	**0**	**0**	ADT 300

APPENDIX F

Explanation and Calculation of Intersection Delay

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized and signalized intersections are calculated using the delay methodology in the Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane time's 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections
8. Area type (CBD or other)
9. Right turns
10. Left turns

11. Pedestrian activity

12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length

2. Amount of red time faced by a lane group

3. Amount of yellow time for that lane group

4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service E is reached.

LEVEL OF SERVICE DESCRIPTION[1]

Level Of Service	Description	Average Total Delay Per Vehicle (Seconds)	
		Signalized	Unsignalized
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

[1] Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000.

Existing

Baker Fuel Facility
Existing
Friday Evening Peak Hour

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 7.1 Worst Case Level Of Service: A[9.0]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	5	4	1	4	1	1	1	1	5	1	1
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:	1	5	4	1	4	1	1	1	1	5	1	1
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:	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
PHF Volume:	2	8	6	2	6	2	2	2	2	8	2	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	8	6	2	6	2	2	2	2	8	2	2
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	28	25	2	31	25	2	3	xxxx	xxxxx	3	xxxx	xxxxx
Potent Cap.:	987	873	1088	982	873	1088	1632	xxxx	xxxxx	1632	xxxx	xxxxx
Move Cap.:	975	867	1088	965	867	1088	1632	xxxx	xxxxx	1632	xxxx	xxxxx
Volume/Cap:	0.00	0.01	0.01	0.00	0.01	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	955	xxxxx	xxxx	914	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	8.8	xxxxx	xxxxx	9.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		8.8			9.0			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

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

Baker Fuel Facility
Existing
Saunday Mid-day Peak Hour

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 7.7 Worst Case Level Of Service: A[9.2]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	6	9	1	8	1	1	1	1	5	1	1
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:	1	6	9	1	8	1	1	1	1	5	1	1
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:	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
PHF Volume:	2	15	22	2	20	2	2	2	2	12	2	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	15	22	2	20	2	2	2	2	12	2	2
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	48	38	4	56	38	4	5	xxxx	xxxxx	5	xxxx	xxxxx
Potent Cap.:	957	858	1086	947	858	1086	1630	xxxx	xxxxx	1630	xxxx	xxxxx
Move Cap.:	931	850	1086	908	850	1086	1630	xxxx	xxxxx	1630	xxxx	xxxxx
Volume/Cap:	0.00	0.02	0.02	0.00	0.02	0.00	0.00	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	974	xxxxx	xxxx	874	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	8.9	xxxxx	xxxxx	9.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		8.9			9.2		xxxxxx			xxxxxx		
ApproachLOS:		A			A		*			*		

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

Baker Fuel Facility
Existing
Friday Evening Peak Hour

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

****

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

****

Average Delay (sec/veh): 4.9 Worst Case Level Of Service: A[8.8]

****

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0	0 0	0 0	0	0 0	1! 0 0
Volume Module:												
Base Vol:	1	1	0	0	1	8	0	0	0	1	6	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1	0	0	1	8	0	0	0	1	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	1	1	0	0	1	11	0	0	0	1	8	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	1	0	0	1	11	0	0	0	1	8	7
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	12	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	11	16	1
Potent Cap.:	1620	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1014	882	1089
Move Cap.:	1620	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1014	881	1089
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.01
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	969	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.8	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.8		
ApproachLOS:	*			*			*			A		

****

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

****

Baker Fuel Facility
Existing
Saunday Mid-day Peak Hour

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

****

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

****

Average Delay (sec/veh): 5.2 Worst Case Level Of Service: A[8.8]

****

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0 0	0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	2	5	0	0	3	10	0	0	0	1	9	14
Growth Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	5	0	0	3	10	0	0	0	1	9	14
User Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.56 0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
PHF Volume:	4	9	0	0	5	18	0	0	0	2	16	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	9	0	0	5	18	0	0	0	2	16	25
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		6.4	6.5	6.2
FollowUpTim:	2.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	23 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		31	40	9
Potent Cap.:	1605 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		989	856	1079
Move Cap.:	1605 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		987	855	1079
Volume/Cap:	0.00 xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx		0.00	0.02	0.02
Level Of Service Module:												
2Way95thQ:	0.0 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	
Control Del:	7.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT	LT - LTR	- RT		
Shared Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	979	xxxxx	
SharedQueue:	0.0 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	
Shrd ConDel:	7.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.8	xxxxx	
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx		xxxxxx		xxxxxx					8.8		
ApproachLOS:	*		*		*					A		

****

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

****

Baker Fuel Facility
Existing
Friday Evening Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: A[8.9]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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	0 1	0	0 1	0 0	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	1	9	1	1	0	2	11	8	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	9	1	1	0	2	11	8	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
PHF Volume:	0	2	14	2	2	0	3	18	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	2	14	2	2	0	3	18	13	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	16	xxxx	xxxxx	14	21	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1615	xxxx	xxxxx	1011	877	1089	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1615	xxxx	xxxxx	1010	876	1089	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.00	0.02	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	960	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	8.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.9			xxxxxx		
ApproachLOS:	*			*			A			*		

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

Baker Fuel Facility
Existing
Saunday Mid-day Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: A[8.8]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	2	4	2	2	0	4	7	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2	4	2	2	0	4	7	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
PHF Volume:	0	2	5	2	2	0	5	9	5	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	2	5	2	2	0	5	9	5	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	7	xxxx	xxxxx	12	15	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1626	xxxx	xxxxx	1013	884	1088	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1626	xxxx	xxxxx	1011	882	1088	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.00	0.01	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	964	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	8.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.8			xxxxxx		
ApproachLOS:	*			*			A			*		

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

Existing Plus Project

Baker Fuel Facility
Existing Plus Project
Friday Evening Peak Hour - With Improvements

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

Intersection #1 Afton Canyon Road (NS) at Project North Access (EW) - #1

Average Delay (sec/veh): 4.6 Worst Case Level Of Service: A[9.2]

Street Name:	Afton Canyon Road						Project North Access					
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 0 0 1			0 0 0 0 0			0 0 0 0 0			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	42	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	42	0	0	0	0	0	0	42	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	0	44	0	0	0	0	0	0	44	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	44	0	0	0	0	0	0	44	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
Existing Plus Project
Saunday Mid-day Peak Hour - With Improvements

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

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Intersection #1 Afton Canyon Road (NS) at Project North Access (EW) - #1

****

Average Delay (sec/veh): 4.6 Worst Case Level Of Service: A[9.2]

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Street Name:	Afton Canyon Road						Project North Access					
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 0 0 1			0 0 0 0 0			0 0 0 0 0			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	42	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	42	0	0	0	0	0	0	42	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	0	44	0	0	0	0	0	0	44	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	44	0	0	0	0	0	0	44	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

****

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

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Baker Fuel Facility
Existing Plus Project
Friday Evening Peak Hour - With Improvements

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

****

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

****

Average Delay (sec/veh): 10.0 Worst Case Level Of Service: B[14.4]

****

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	5	4	1	4	1	1	1	1	5	1	1
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:	1	5	4	1	4	1	1	1	1	5	1	1
Added Vol:	0	42	208	0	42	0	0	0	0	203	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	47	212	1	46	1	1	1	1	208	1	1
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:	1	49	223	1	48	1	1	1	1	219	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	49	223	1	48	1	1	1	1	219	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	468	444	2	579	444	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	509	512	1089	429	512	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	411	433	1089	275	433	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.11	0.20	0.00	0.11	0.00	0.00	xxxx	xxxx	0.13	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.5	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	851	xxxxx	xxxx	434	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.4	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.2	xxxxx	xxxxx	14.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		11.2			14.4		xxxxxx			xxxxxx		
ApproachLOS:		B			B		*			*		

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

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Baker Fuel Facility
Existing Plus Project
Saunday Mid-day Peak Hour - With Improvements

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 10.5 Worst Case Level Of Service: C[16.3]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	6	9	1	8	1	1	1	1	5	1	1
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:	1	6	9	1	8	1	1	1	1	5	1	1
Added Vol:	0	42	236	0	42	0	0	0	0	243	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	48	245	1	50	1	1	1	1	248	1	1
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:	1	51	258	1	53	1	1	1	1	261	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	51	258	1	53	1	1	1	1	261	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	554	528	2	682	528	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	446	459	1089	367	459	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	341	373	1089	215	373	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.14	0.24	0.00	0.14	0.00	0.00	xxxx	xxxx	0.16	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.6	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	824	xxxxx	xxxx	372	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.8	xxxxx	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.0	xxxxx	xxxxx	16.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	C	*	*	*	*	*	*	*
ApproachDel:		12.0			16.3		xxxxxx			xxxxxx		
ApproachLOS:		B			C		*			*		

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

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Baker Fuel Facility
Existing Plus Project
Friday Evening Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: A[9.8]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0	0	0	1 0	0	0	0	0	0	1! 0 0
Volume Module:												
Base Vol:	1	1	0	0	1	8	0	0	0	1	6	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1	0	0	1	8	0	0	0	1	6	5
Added Vol:	0	125	0	0	123	123	0	0	0	0	0	125
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	126	0	0	124	131	0	0	0	1	6	130
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:	1	133	0	0	131	138	0	0	0	1	6	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	133	0	0	131	138	0	0	0	1	6	137
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	268	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	334	403	133
Potent Cap.:	1307	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	665	539	922
Move Cap.:	1307	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	665	539	922
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.15
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	892	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.8	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.8		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
Existing Plus Project
Saunday Mid-day Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: B[10.2]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1 0	0 0		0 0 0	1 0		0 0 0	0 0		0 0	1! 0	0
Volume Module:												
Base Vol:	2	5	0	0	3	10	0	0	0	1	9	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	5	0	0	3	10	0	0	0	1	9	14
Added Vol:	0	139	0	0	143	143	0	0	0	0	0	139
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	144	0	0	146	153	0	0	0	1	9	153
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:	2	152	0	0	154	161	0	0	0	1	9	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	152	0	0	154	161	0	0	0	1	9	161
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	315	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	390	471	152
Potent Cap.:	1257	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	618	494	900
Move Cap.:	1257	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	617	493	900
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.02	0.18
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	859	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx
Shrd ConDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.2		
ApproachLOS:	*			*			*			B		

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

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Baker Fuel Facility
Existing Plus Project
Friday Evening Peak Hour

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

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Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

****

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: B[11.8]

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Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	1	9	1	1	0	2	11	8	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	9	1	1	0	2	11	8	0	0	0
Added Vol:	0	0	0	123	0	0	125	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1	9	124	1	0	127	11	8	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	1	9	131	1	0	134	12	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	1	9	131	1	0	134	12	8	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	11	xxxx	xxxxx	268	273	1	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1622	xxxx	xxxxx	726	638	1089	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1622	xxxx	xxxxx	677	582	1089	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	xxxx	xxxx	0.20	0.02	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	683	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	11.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			11.8			xxxxxx		
ApproachLOS:	*			*			B			*		

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

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Baker Fuel Facility
Existing Plus Project
Saunday Mid-day Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 9.8 Worst Case Level Of Service: B[12.6]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	2	4	2	2	0	4	7	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2	4	2	2	0	4	7	4	0	0	0
Added Vol:	0	0	0	143	0	0	139	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2	4	145	2	0	143	7	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	2	4	153	2	0	151	7	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	2	4	153	2	0	151	7	4	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	6	xxxx	xxxxx	312	314	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1628	xxxx	xxxxx	685	605	1088	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1628	xxxx	xxxxx	631	543	1088	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	0.24	0.01	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	634	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	12.6	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.6			xxxxxx		
ApproachLOS:	*			*			B			*		

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

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Opening Year (2018) Without Project

Baker Fuel Facility
Opening Year (2018) Without Project
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 7.4 Worst Case Level Of Service: A[9.0]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	4	1	4	1	1	1	1	10	1	1
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:	1	10	4	1	4	1	1	1	1	10	1	1
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:	1	11	4	1	4	1	1	1	1	11	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	11	4	1	4	1	1	1	1	11	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	29	27	2	34	27	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	985	870	1089	978	870	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	975	864	1089	960	864	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.01	0.00	0.00	0.00	0.00	0.00	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	922	xxxxx	xxxx	911	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.0	xxxxx	xxxxx	9.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		9.0			9.0		xxxxxx			xxxxxx		
ApproachLOS:		A			A		*			*		

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

Baker Fuel Facility
Opening Year (2018) Without Project
Saunday Mid-day Peak Hour

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 7.8 Worst Case Level Of Service: A[9.0]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	10	1	8	1	1	1	1	5	1	1
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:	1	10	10	1	8	1	1	1	1	5	1	1
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:	1	11	11	1	8	1	1	1	1	5	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	11	11	1	8	1	1	1	1	5	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	21	16	2	26	16	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	998	882	1089	989	882	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	986	878	1089	968	878	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.01	0.01	0.00	0.01	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	973	xxxxx	xxxx	904	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	8.8	xxxxx	xxxxx	9.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		8.8			9.0			xxxxxx			xxxxxx	
ApproachLOS:		A			A			*			*	

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

Baker Fuel Facility
Opening Year (2018) Without Project
Friday Evening Peak Hour

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

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Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

****

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: A[8.7]

****

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1 0	0 0	0	0 0 0	1 0		0 0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	1	1	0	0	1	15	0	0	0	1	6	10
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:	1	1	0	0	1	15	0	0	0	1	6	10
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:	1	1	0	0	1	16	0	0	0	1	6	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	1	0	0	1	16	0	0	0	1	6	11
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	17	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	12	20	1
Potent Cap.:	1614	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1013	878	1089
Move Cap.:	1614	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1012	877	1089
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.01
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1000	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.7	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.7		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
Opening Year (2018) Without Project
Saunday Mid-day Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 4.9 Worst Case Level Of Service: A[8.7]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0	0 0	0 0	0	0	1! 0 0
Volume Module:												
Base Vol:	3	7	0	0	3	10	0	0	0	1	9	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	7	0	0	3	10	0	0	0	1	9	14
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:	3	7	0	0	3	11	0	0	0	1	9	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	3	7	0	0	3	11	0	0	0	1	9	15
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	14	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	22	27	7
Potent Cap.:	1618	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1000	870	1081
Move Cap.:	1618	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	998	868	1081
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.01
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	987	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.7	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.7		
ApproachLOS:	*			*			*			A		

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

Baker Fuel Facility
Opening Year (2018) Without Project
Friday Evening Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 5.8 Worst Case Level Of Service: A[8.8]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	1	10	1	1	0	2	11	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	10	1	1	0	2	11	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	1	11	1	1	0	2	12	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	1	11	1	1	0	2	12	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	12	xxxx	xxxxx	9	15	1	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	1016	884	1089	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	1016	883	1089	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.00	0.01	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	974	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	8.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.8			xxxxxx		
ApproachLOS:	*			*			A			*		

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

Baker Fuel Facility
Opening Year (2018) Without Project
Saunday Mid-day Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 5.7 Worst Case Level Of Service: A[8.7]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	5	5	2	2	0	5	7	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	5	5	2	2	0	5	7	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	5	5	2	2	0	5	7	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	5	5	2	2	0	5	7	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	11	xxxx	xxxxx	14	17	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1622	xxxx	xxxxx	1010	881	1088	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1622	xxxx	xxxxx	1009	880	1088	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.01	0.01	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	995	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	8.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.7			xxxxxx		
ApproachLOS:	*			*			A			*		

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

Opening Year (2018) With Project

Baker Fuel Facility
Opening Year (2018) With Project
Friday Evening Peak Hour - With Improvements

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

Intersection #1 Afton Canyon Road (NS) at Project North Access (EW) - #1

Average Delay (sec/veh): 4.6 Worst Case Level Of Service: A[9.2]

Street Name:	Afton Canyon Road						Project North Access					
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 0 0 1			0 0 0 0 0			0 0 0 0 0			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	42	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	42	0	0	0	0	0	0	42	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	0	44	0	0	0	0	0	0	44	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	44	0	0	0	0	0	0	44	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
Opening Year (2018) With Project
Saunday Mid-day Peak Hour - With Improvements

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

Intersection #1 Afton Canyon Road (NS) at Project North Access (EW) - #1

Average Delay (sec/veh): 4.6 Worst Case Level Of Service: A[9.2]

Street Name:	Afton Canyon Road						Project North Access					
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 0 0 1			0 0 0 0 0			0 0 0 0 0			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	42	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	42	0	0	0	0	0	0	42	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	0	44	0	0	0	0	0	0	44	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	44	0	0	0	0	0	0	44	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
Opening Year (2018) With Project
Friday Evening Peak Hour - With Improvements

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 10.1 Worst Case Level Of Service: B[14.6]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	4	1	4	1	1	1	1	10	1	1
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:	1	10	4	1	4	1	1	1	1	10	1	1
Added Vol:	0	42	208	0	42	0	0	0	0	203	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	52	212	1	46	1	1	1	1	213	1	1
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:	1	55	223	1	48	1	1	1	1	224	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	55	223	1	48	1	1	1	1	224	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	478	454	2	593	454	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	501	505	1089	420	505	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	402	425	1089	266	425	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.13	0.20	0.00	0.11	0.00	0.00	xxxx	xxxx	0.14	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.5	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	830	xxxxx	xxxx	425	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.5	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.5	xxxxx	xxxxx	14.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		11.5			14.6		xxxxxx			xxxxxx		
ApproachLOS:		B			B		*			*		

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

Baker Fuel Facility
Opening Year (2018) With Project
Saunday Mid-day Peak Hour - With Improvements

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

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Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

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Average Delay (sec/veh): 10.6 Worst Case Level Of Service: C[16.3]

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Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	10	1	8	1	1	1	1	5	1	1
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:	1	10	10	1	8	1	1	1	1	5	1	1
Added Vol:	0	42	236	0	42	0	0	0	0	243	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	52	246	1	50	1	1	1	1	248	1	1
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:	1	55	259	1	53	1	1	1	1	261	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	55	259	1	53	1	1	1	1	261	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	554	528	2	684	528	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	446	459	1089	365	459	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	341	373	1089	212	373	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.15	0.24	0.00	0.14	0.00	0.00	xxxx	xxxx	0.16	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.6	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	812	xxxxx	xxxx	372	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.8	xxxxx	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.2	xxxxx	xxxxx	16.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	C	*	*	*	*	*	*	*
ApproachDel:		12.2			16.3		xxxxxx			xxxxxx		
ApproachLOS:		B			C		*			*		

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

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Baker Fuel Facility
Opening Year (2018) With Project
Friday Evening Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: A[9.8]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0 0	0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	1	1	0	0	1	15	0	0	0	1	6	10
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:	1	1	0	0	1	15	0	0	0	1	6	10
Added Vol:	0	125	0	0	123	123	0	0	0	0	0	125
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	126	0	0	124	138	0	0	0	1	6	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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:	1	133	0	0	131	145	0	0	0	1	6	142
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	133	0	0	131	145	0	0	0	1	6	142
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	276	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	338	411	133
Potent Cap.:	1299	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	662	534	922
Move Cap.:	1299	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	661	534	922
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.15
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	892	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.8	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.8		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
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Saunday Mid-day Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: B[10.3]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0 0	0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	3	7	0	0	3	10	0	0	0	1	9	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	7	0	0	3	10	0	0	0	1	9	14
Added Vol:	0	139	0	0	143	143	0	0	0	0	0	139
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	146	0	0	146	153	0	0	0	1	9	153
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:	3	154	0	0	154	161	0	0	0	1	9	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	3	154	0	0	154	161	0	0	0	1	9	161
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	315	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	394	475	154
Potent Cap.:	1257	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	614	491	898
Move Cap.:	1257	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	613	490	898
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.02	0.18
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	856	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx
Shrd ConDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.3	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.3		
ApproachLOS:	*			*			*			B		

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

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

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Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

****

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: B[11.8]

****

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	1	10	1	1	0	2	11	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	10	1	1	0	2	11	10	0	0	0
Added Vol:	0	0	0	123	0	0	125	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1	10	124	1	0	127	11	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	1	11	131	1	0	134	12	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	1	11	131	1	0	134	12	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	12	xxxx	xxxxx	268	274	1	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	725	637	1089	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	677	581	1089	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	xxxx	xxxx	0.20	0.02	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	686	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	11.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			11.8			xxxxxx		
ApproachLOS:	*			*			B			*		

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

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 9.8 Worst Case Level Of Service: B[12.6]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	5	5	2	2	0	5	7	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	5	5	2	2	0	5	7	10	0	0	0
Added Vol:	0	0	0	143	0	0	139	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	5	5	145	2	0	144	7	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	5	5	153	2	0	152	7	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	5	5	153	2	0	152	7	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	11	xxxx	xxxxx	315	318	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1622	xxxx	xxxxx	682	602	1088	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1622	xxxx	xxxxx	628	540	1088	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	0.24	0.01	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	640	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	12.6	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.6			xxxxxx		
ApproachLOS:	*			*			B			*		

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

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 7.4 Worst Case Level Of Service: A[9.0]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	4	1	4	1	1	1	1	10	1	1
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:	1	10	4	1	4	1	1	1	1	10	1	1
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:	1	11	4	1	4	1	1	1	1	11	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	11	4	1	4	1	1	1	1	11	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	29	27	2	34	27	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	985	870	1089	978	870	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	975	864	1089	960	864	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.01	0.00	0.00	0.00	0.00	0.00	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	922	xxxxx	xxxx	911	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.0	xxxxx	xxxxx	9.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		9.0			9.0		xxxxxx			xxxxxx		
ApproachLOS:		A			A		*			*		

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

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

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

Average Delay (sec/veh): 7.8 Worst Case Level Of Service: A[9.0]

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	10	1	8	1	1	1	1	5	1	1
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:	1	10	10	1	8	1	1	1	1	5	1	1
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:	1	11	11	1	8	1	1	1	1	5	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	11	11	1	8	1	1	1	1	5	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	21	16	2	26	16	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	998	882	1089	989	882	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	986	878	1089	968	878	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.01	0.01	0.00	0.01	0.00	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	973	xxxxx	xxxx	904	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	8.8	xxxxx	xxxxx	9.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*
ApproachDel:		8.8			9.0		xxxxxx			xxxxxx		
ApproachLOS:		A			A		*			*		

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

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: A[8.7]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0 0	0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	2	10	0	0	1	25	0	0	0	1	6	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	10	0	0	1	25	0	0	0	1	6	10
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:	2	11	0	0	1	26	0	0	0	1	6	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	11	0	0	1	26	0	0	0	1	6	11
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	27	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	29	42	11
Potent Cap.:	1599	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	991	854	1076
Move Cap.:	1599	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	990	853	1076
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.01
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	981	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.7	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.7		
ApproachLOS:	*			*			*			A		

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

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: A[8.8]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1	0	0 0	0	0 0	1 0	0 0	0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	4	16	0	0	3	20	0	0	0	1	9	14
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	16	0	0	3	20	0	0	0	1	9	14
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	17	0	0	3	21	0	0	0	1	9	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	17	0	0	3	21	0	0	0	1	9	15
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	24	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	39	49	17
Potent Cap.:	1604	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	978	846	1068
Move Cap.:	1604	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	976	844	1068
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.01
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	968	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	8.8	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.8		
ApproachLOS:	*			*			*			A		

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

Baker Fuel Facility
Year 2040 Without Project
Friday Evening Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 6.4 Worst Case Level Of Service: A[8.8]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	1	10	1	1	0	10	11	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	10	1	1	0	10	11	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	1	11	1	1	0	11	12	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	1	11	1	1	0	11	12	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	12	xxxx	xxxxx	9	15	1	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	1016	884	1089	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	1016	883	1089	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.01	0.01	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	985	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	8.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.8			xxxxxx		
ApproachLOS:	*			*			A			*		

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

Baker Fuel Facility
Year 2040 Without Project
Saunday Mid-day Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 6.2 Worst Case Level Of Service: A[8.7]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	6	5	2	2	0	14	7	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	6	5	2	2	0	14	7	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	6	5	2	2	0	15	7	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	6	5	2	2	0	15	7	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	12	xxxx	xxxxx	15	18	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	1008	880	1088	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	1007	879	1088	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.01	0.01	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	998	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	8.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			8.7			xxxxxx		
ApproachLOS:	*			*			A			*		

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

Year 2040 With Project

Baker Fuel Facility
Year 2040 With Project
Friday Evening Peak Hour - With Improvements

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

****

Intersection #1 Afton Canyon Road (NS) at Project North Access (EW) - #1

****

Average Delay (sec/veh): 4.6 Worst Case Level Of Service: A[9.2]

****

Street Name:	Afton Canyon Road						Project North Access					
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 0 0 1			0 0 0 0 0			0 0 0 0 0			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	42	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	42	0	0	0	0	0	0	42	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	0	44	0	0	0	0	0	0	44	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	44	0	0	0	0	0	0	44	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

****

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

****

Baker Fuel Facility
Year 2040 With Project
Saunday Mid-day Peak Hour - With Improvements

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

****

Intersection #1 Afton Canyon Road (NS) at Project North Access (EW) - #1

****

Average Delay (sec/veh): 4.6 Worst Case Level Of Service: A[9.2]

****

Street Name:	Afton Canyon Road						Project North Access					
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 0 0 1			0 0 0 0 0			0 0 0 0 0			1 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	42	0	0	0	0	0	0	42	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	42	0	0	0	0	0	0	42	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	0	44	0	0	0	0	0	0	44	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	44	0	0	0	0	0	0	44	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	900	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

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

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Baker Fuel Facility
Year 2040 With Project
Friday Evening Peak Hour - With Improvements

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

****

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

****

Average Delay (sec/veh): 10.1 Worst Case Level Of Service: B[14.6]

****

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	4	1	4	1	1	1	1	10	1	1
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:	1	10	4	1	4	1	1	1	1	10	1	1
Added Vol:	0	42	208	0	42	0	0	0	0	203	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	52	212	1	46	1	1	1	1	213	1	1
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:	1	55	223	1	48	1	1	1	1	224	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	55	223	1	48	1	1	1	1	224	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	478	454	2	593	454	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	501	505	1089	420	505	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	402	425	1089	266	425	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.13	0.20	0.00	0.11	0.00	0.00	xxxx	xxxx	0.14	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.5	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	830	xxxxx	xxxx	425	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.5	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.5	xxxxx	xxxxx	14.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		11.5			14.6		xxxxxx			xxxxxx		
ApproachLOS:		B			B		*			*		

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

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Baker Fuel Facility
Year 2040 With Project
Saunday Mid-day Peak Hour - With Improvements

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

****

Intersection #2 Afton Canyon Road (NS) at Arrowhead Trail/Project South Access (

****

Average Delay (sec/veh): 10.6 Worst Case Level Of Service: C[16.3]

****

Street Name:	Afton Canyon Road						Arrowhead Trail/Project South Acc					
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 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	10	10	1	8	1	1	1	1	5	1	1
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:	1	10	10	1	8	1	1	1	1	5	1	1
Added Vol:	0	42	236	0	42	0	0	0	0	243	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	52	246	1	50	1	1	1	1	248	1	1
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:	1	55	259	1	53	1	1	1	1	261	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	55	259	1	53	1	1	1	1	261	1	1
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	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:	554	528	2	684	528	2	2	xxxx	xxxxx	2	xxxx	xxxxx
Potent Cap.:	446	459	1089	365	459	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Move Cap.:	341	373	1089	212	373	1089	1633	xxxx	xxxxx	1633	xxxx	xxxxx
Volume/Cap:	0.00	0.15	0.24	0.00	0.14	0.00	0.00	xxxx	xxxx	0.16	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.6	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	812	xxxxx	xxxx	372	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.8	xxxxx	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	12.2	xxxxx	xxxxx	16.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	C	*	*	*	*	*	*	*
ApproachDel:		12.2			16.3		xxxxxx			xxxxxx		
ApproachLOS:		B			C		*			*		

****

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

****

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Baker Fuel Facility
Year 2040 With Project
Friday Evening Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: A[9.9]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1 0	0	0	0 0 0	1	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	2 10	0	0	1	25	0	0	0	1	6	10	
Growth Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	2 10	0	0	1	25	0	0	0	1	6	10	
Added Vol:	0 125	0	0	123	123	0	0	0	0	0	125	
PasserByVol:	0 0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	2 135	0	0	124	148	0	0	0	1	6	135	
User Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	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:	2 142	0	0	131	156	0	0	0	1	6	142	
Reduct Vol:	0 0	0	0	0	0	0	0	0	0	0	0	
FinalVolume:	2 142	0	0	131	156	0	0	0	1	6	142	
Critical Gap Module:												
Critical Gp:	4.1 xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2		
FollowUpTim:	2.2 xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3		
Capacity Module:												
Cnflict Vol:	286 xxxx xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	355	433	142		
Potent Cap.:	1287 xxxx xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	647	519	911		
Move Cap.:	1287 xxxx xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	646	518	911		
Volume/Cap:	0.00 xxxx xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.01	0.16		
Level Of Service Module:												
2Way95thQ:	0.0 xxxx xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		
Control Del:	7.8 xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
LOS by Move:	A *	*	*	*	*	*	*	*	*	*		
Movement:	LT - LTR - RT		LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			
Shared Cap.:	xxxx xxxx xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	880	xxxxx		
SharedQueue:	0.0 xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx		
Shrd ConDel:	7.8 xxxx xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.9	xxxxx		
Shared LOS:	A *	*	*	*	*	*	*	*	*	A	*	
ApproachDel:	xxxxxx		xxxxxx			xxxxxx			9.9			
ApproachLOS:	*		*			*			A			

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

Baker Fuel Facility
Year 2040 With Project
Saunday Mid-day Peak Hour

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

Intersection #3 Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW) - #3

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: B[10.3]

Street Name:	Afton Canyon Road						I-15 Freeway SB Ramps					
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 1 0	0 0		0 0	0 1	0	0 0	0 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	4	16	0	0	3	20	0	0	0	1	9	14
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	16	0	0	3	20	0	0	0	1	9	14
Added Vol:	0	139	0	0	143	143	0	0	0	0	0	139
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	155	0	0	146	163	0	0	0	1	9	153
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	163	0	0	154	172	0	0	0	1	9	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	163	0	0	154	172	0	0	0	1	9	161
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	325	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	411	497	163
Potent Cap.:	1246	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	601	478	887
Move Cap.:	1246	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	599	476	887
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.02	0.18
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	844	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx
Shrd ConDel:	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.3	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.3		
ApproachLOS:	*			*			*			B		

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

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Baker Fuel Facility
Year 2040 With Project
Friday Evening Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 9.5 Worst Case Level Of Service: B[11.9]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	1	10	1	1	0	10	11	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1	10	1	1	0	10	11	10	0	0	0
Added Vol:	0	0	0	123	0	0	125	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1	10	124	1	0	135	11	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	1	11	131	1	0	142	12	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	1	11	131	1	0	142	12	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	12	xxxx	xxxxx	268	274	1	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	725	637	1089	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	677	581	1089	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	xxxx	xxxx	0.21	0.02	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	686	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	11.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			11.9			xxxxxx		
ApproachLOS:	*			*			B			*		

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

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Baker Fuel Facility
Year 2040 With Project
Saunday Mid-day Peak Hour

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

Intersection #4 Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW) - #4

Average Delay (sec/veh): 9.9 Worst Case Level Of Service: B[12.8]

Street Name:	Afton Canyon Road						I-15 Freeway NB Ramps					
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 0 1 0			0 1 0 0 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	6	5	2	2	0	14	7	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	6	5	2	2	0	14	7	10	0	0	0
Added Vol:	0	0	0	143	0	0	139	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	6	5	145	2	0	153	7	10	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	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	6	5	153	2	0	161	7	11	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	6	5	153	2	0	161	7	11	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	12	xxxx	xxxxx	316	319	2	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	681	601	1088	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1621	xxxx	xxxxx	627	539	1088	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	0.26	0.01	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	639	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	12.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.8			xxxxxx		
ApproachLOS:	*			*			B			*		

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

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APPENDIX G

Pass-By Trips

CHAPTER 5

Pass-by, Primary, and Diverted Linked Trips

5.1 Background

The trip generation rates and equations contained in *Trip Generation* are derived from actual measurements of traffic generated by individual sites. These rates and equations represent vehicles entering and exiting a site at its driveways. Therefore, these volumes are appropriate for determining the total traffic to be accommodated by site driveways.

The pass-by trip-making phenomenon, if estimated to be significant, should be recognized when examining the traffic impact of a development on the adjacent street system.

There are instances, however, when the total number of trips generated by a site is different from the amount of new traffic **added** to the street system by the generator. For example, retail-oriented developments such as shopping centers, discount stores, restaurants, banks, service stations, and convenience markets often locate adjacent to busy streets in order to attract the motorists already on the street. These sites attract a portion of their trips from traffic passing the site on the way from an origin to an ultimate destination. These retail trips **may not add new traffic** to the adjacent street system.

Trip-making can be broken down into two major categories: **pass-by trips** and **non-pass-by trips.** In some traffic impact study applications, it is necessary to further subdivide non-pass-by trips into **primary trips** and **diverted linked** trips. These trip types are illustrated in figure 5.1 and are defined below.

Types of Trips Generated by a Site

Pass-By Trip
Non-Pass-By Trips
Primary Trips
Diverted Linked Trips

Pass-by trips are made as intermediate stops *on the way* from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site *on an adjacent street* or roadway that offers direct access to the generator. **Pass-by trips are not diverted from another roadway.**

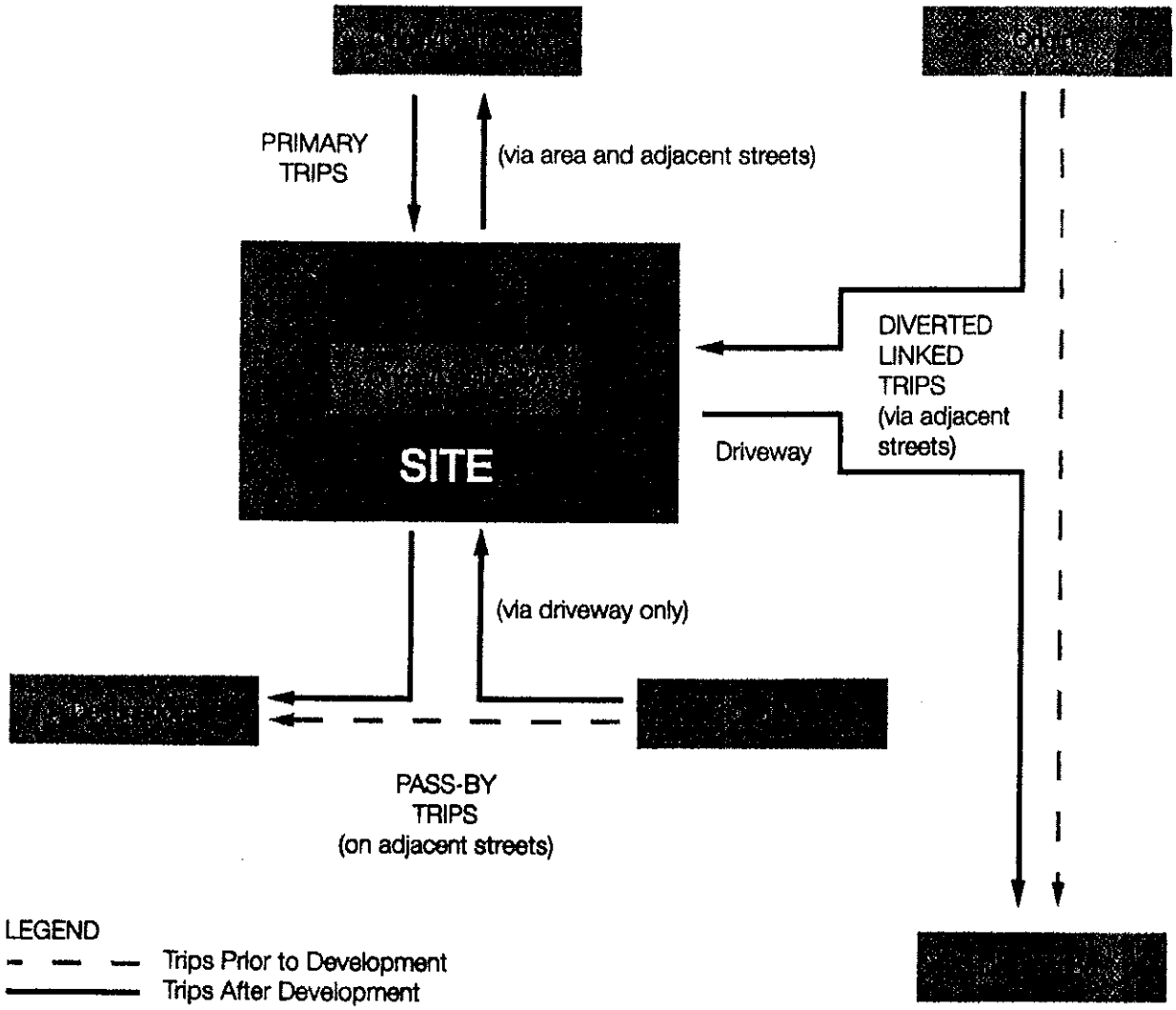
Pass-by trips do not require a route diversion to enter the site driveway.

Non-pass-by trips are simply all trips generated by a site that are not pass-by trips. This term is sometimes used when diverted linked trips are not tabulated separately from primary trips.

Primary trips are trips made for the specific purpose of visiting the generator. The stop at the generator is the primary reason for the trip. The trip typically goes from origin to generator and then returns to the origin. For example, a home-to-shopping-to-home combination of trips is a primary trip set.

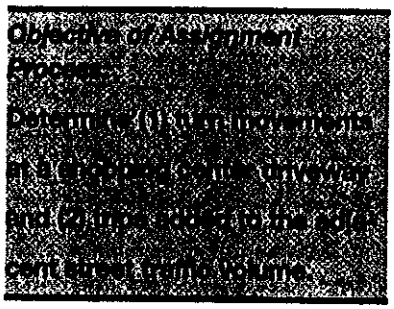
Diverted linked trips are trips that are attracted from the traffic volume on roadways within the vicinity of the generator but that require a diversion from that roadway to another roadway to gain access to the site. These trips could travel on highways or freeways adjacent to a generator, but without access to the generator. **Diverted linked trips add traffic to streets adjacent to a site, but may not add traffic to the area's major travel routes** (see figure 5.1). Both pass-by and diverted linked trips may be part of a multiple-stop chain of trips.

Figure 5.1 Types of Trips



5.2 Sample Application of Pass-By Trip Assignment Process

In this example, the objectives are to (1) estimate the number of new trips added to the adjacent street traffic volume with the development of a shopping center with 580,000 square feet of gross leasable area, and (2) determine the turn movements at the shopping center driveway. The forecasted two-way evening peak hour traffic on a street adjacent to the proposed shopping center is 1,200 vehicles, as shown in figure 5.2(A)—1,000 traveling west and 200 traveling east.



The shopping center is estimated to generate 2,000 evening peak hour trips (based on the fitted curve equation given for Land Use Code 820 on page 1,339 of *Trip Generation*, Sixth Edition). An assessment of the shopping center parking configuration and access points indicates that an estimated 20 percent of the site-generated traffic will use the driveway being analyzed in this example. Thus, the driveway volume is estimated to be 400 evening peak hour trips (i.e., 20 percent of 2,000 trips). For this example, 50 percent enter and 50 percent exit the shopping center (as shown in figure 5.2(B)).

From data collected at other shopping centers, it is estimated (in this example) that about 15 percent of the driveway volume is pass-by (figure 5.2(B)). Therefore, 30 of the inbound vehicles (i.e., 15 percent of 200 vehicles) and 30 of the outbound vehicles are considered pass-by trips.

The assumed trip distribution for the non-pass-by trips is shown in figure 5.2(C). These values are based on local knowledge of expected trip patterns for primary and diverted linked trips to and from the shopping center (based on existing travel patterns, surrounding land uses, etc.). For example, 80 percent of the non-pass-by trips are expected to arrive from the east and to return to the east after the trip to the shopping center.

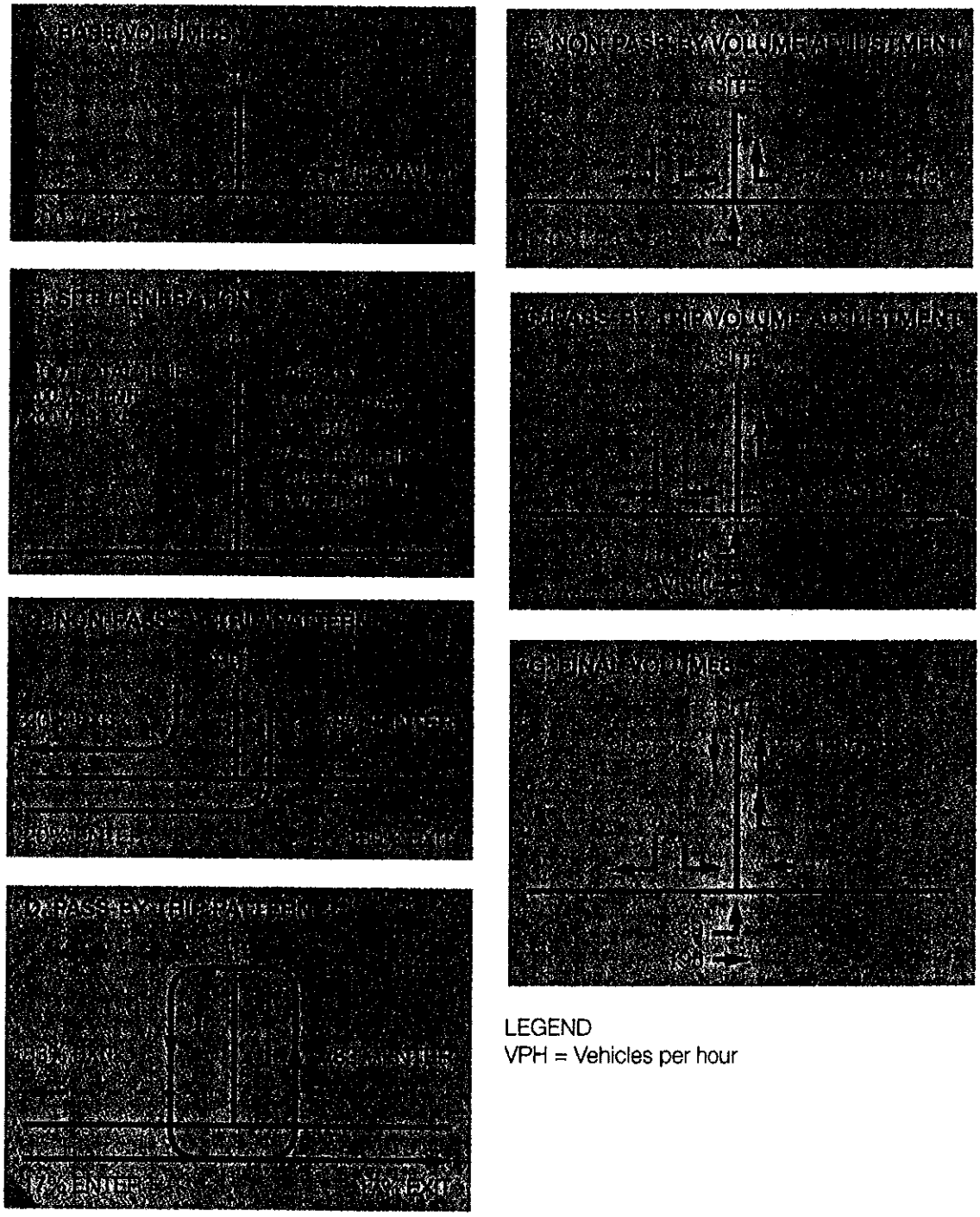
The distribution of the pass-by trips is based on the volume of traffic passing the driveway, as shown in figure 5.2(D). Because 83 percent of the traffic passing by the site comes from the east (i.e., 1,000 of the 1,200 shown previously in figure 5.2 (A)), it is assumed that 83 percent of the pass-by trips will likewise arrive from the east and will depart toward the west.

The assignment of the non-pass-by trips generated by the site is shown in figure 5.2(E). The total number of non-pass-by trips destined to the site is 170 (the 200 total trips minus the 30 inbound pass-by trips shown earlier in figure 5.2(B)). Eighty percent (or 136) are expected to arrive from the east and to return to the east.

The assignment of the pass-by trips is shown in figure 5.2(F). Of the 30 pass-by trips, 83 percent (or 25) arrive from the east and depart to the west. Likewise, 17 percent (or 5) arrive from the west and depart to the east. Note that the calculation also shows the expected through-trip reductions as the trips passing the site turn into the new driveway. For example, the new westbound right-turn volume of 25 causes a reduction in the westbound through movement.

The final assignment of all trips entering and leaving the shopping center driveway, as well as passing the driveway, is shown in figure 5.2(G). These values are simply the sum of the base volumes (from figure 5.2(A)), the non-pass-by trips generated by the site (from figure 5.2(E)), and the pass-by trips generated by the site (from figure 5.2(F)). Note that the through-traffic volumes in both directions on the major street are reduced as a result of the pass-by trip analysis.

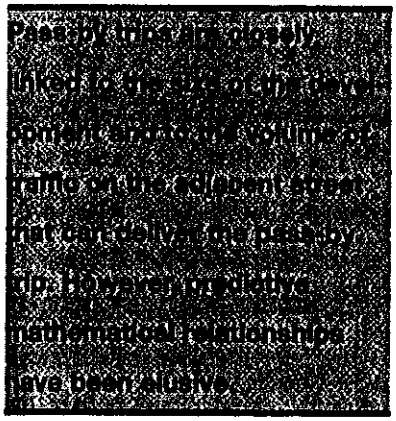
Figure 5.2 Application of Pass-By Trips



LEGEND
VPH = Vehicles per hour

5.3 Cautions

Statistical analysis and correlation of the pass-by data collected by the profession continue to evolve. However, due to the limited amount of pass-by data available and the inherent variability in surveyed site characteristics, it has still proven difficult to obtain high correlation indices.



Traditional pass-by trip analyses have attempted to correlate pass-by trip percentages (i.e., percent of the total number of trips generated by a site) with units of occupied site development (such as gross leasable area, gross floor area, seats in a restaurant, or fueling positions at a gas/service station). Limited results for some land uses show that this correlation can be enhanced further by including the magnitude of the traffic passing the site on the adjacent roadways.

The analyst should exercise caution in the use of pass-by and diverted linked data presented in this chapter to ensure that the following aspects of pass-by trip characteristics are handled appropriately in the analysis process.

Diverted linked trips are clearly different from pass-by trips. Diverted linked trips add trips to the adjacent roads at a proposed or expanded site, but may not add trips to nearby major highways or freeways.

Diverted linked trips are often difficult to identify. Therefore, **diverted linked trips should be treated similarly to primary trips,** unless: (1) all three (primary, pass-by, and diverted linked) categories are being analyzed and processed separately, and (2) the travel routes for diverted linked trips can be clearly established.

Pass-by trips are drawn from the passing traffic stream, **but are always included in the site driveway movements.** In traffic analyses, summation of driveway volumes must equal the total external site generation (i.e., the sum of primary, pass-by, and diverted linked trips). Pass-by trips are not included in (and thus, subtracted from) the through-volumes passing a given site access point on an adjacent road. Standard methodologies for assessing the traffic impacts of site development typically require that diverted linked trips be included as additional trips within the confines of local impact assessment studies.

In a multi-use development, it is likely that there will be trips internal to the site (refer to chapter 7 for guidance). Before applying the pass-by reduction, the internal trips should be removed from the total number of trips generated by the multi-use site. **Pass-by trips are only applicable to trips that enter or exit the site, not internal trips.**

Overall, diverted linked trips represent a change in local area travel patterns but constitute no new increase on a *macroscopic* scale. Within the immediate study area, diverted linked trips do represent additional traffic on individual streets and should be analyzed that way.

5.4 Data Base on Pass-By, Primary, and Diverted Linked Trips

Listed in table 5.1 are 19 land uses for which ITE has received and compiled pass-by and diverted linked trip data. The table denotes whether the data are presented in this handbook in a table or a figure (in a data plot similar to those presented in *Trip Generation* for trip end data). Table 5.1 also identifies the time periods for which the data have been reported.

Tables 5.2 through 5.26 present the values for percentage of site generation that is accounted for by pass-by, non-pass-by, primary, and diverted linked trips.

Figures 5.3 through 5.15 plot the average *pass-by* trip percentages associated with the various land uses. No plots are provided for *diverted linked* trips. These figures are provided to enable the user to visualize the data scatter provided in tables 5.2 through 5.26.

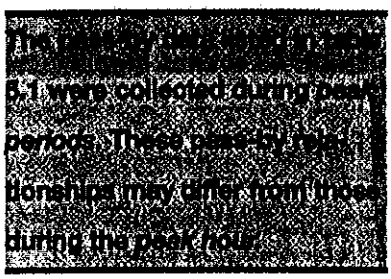
Data plots are provided for each land use where nine or more data points are available for a specific independent variable.

For all land uses except shopping centers, data are plotted for only one independent variable. For shopping centers, data are plotted for GLA and peak hour traffic on adjacent streets for the weekday evening peak period; GLA is also used as the independent variable for shopping centers during the midday Saturday time period.

A regression equation is shown on the data plot if there are more than 10 points and the R^2 is greater than 0.25 (which only occurs on two of the Land Use Code 820 data plots). Note that this threshold is less than the 0.5 threshold for R^2 used for data plots in *Trip Generation*.

Recommended guidelines for using the data presented in these figures and tables are provided in section 5.5 of this chapter. In particular, the guidelines recommend when to use the data and how to select a pass-by percentage.

Users of the data are cautioned that the number and geographic distribution of sites are limited. Little or no data on adjacent street traffic volumes have been collected for uses other than shopping centers. The actual pass-by and diverted



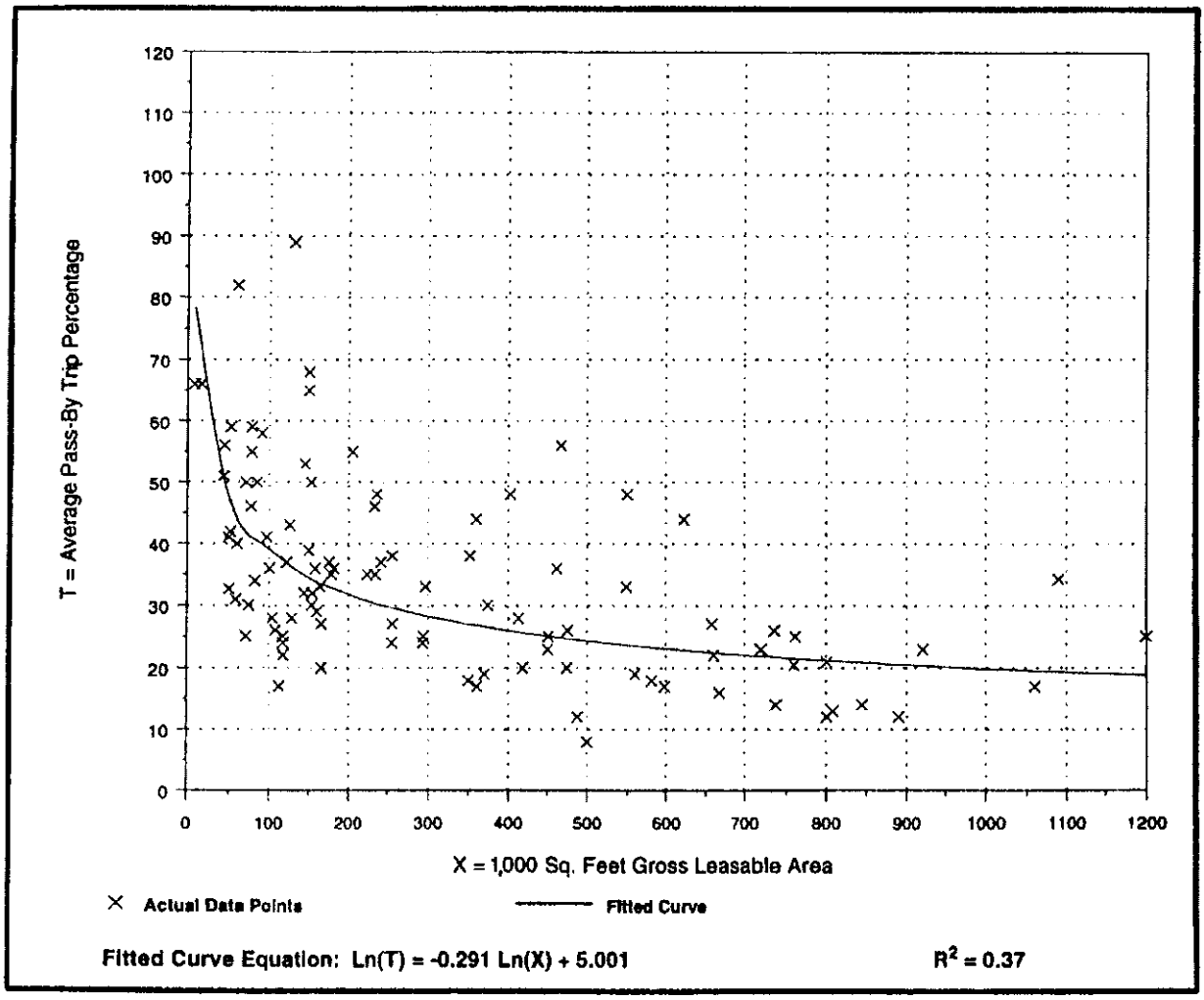
linked trip percentages may vary by site due to the specific influences of the characteristics of passing traffic, area roadway network patterns, specific businesses in the site being analyzed, other nearby development, and so forth. Surveys of similar developments near the analysis site are encouraged.

Because data are limited for many of the land uses, the analyst is encouraged to collect pass-by trip data and transmit the data to ITE. Section 5.6 of this chapter describes how to collect the appropriate data and provides sample forms to use.

Figure 5.5 Shopping Center (820)

Average Pass-By Trip Percentage vs: **1,000 Sq. Feet Gross Leasable Area**
On a: **Weekday, P.M. Peak Period**
Number of Studies: 100
Average 1,000 Sq. Feet GLA: 329

Data Plot





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November 24, 2021

Ms. Maria Miranda, Engineer II
COUNTY OF SAN BERNARDINO
385 N. Arrowhead Avenue
San Bernardino, CA 92415

Dear Ms. Miranda:

INTRODUCTION

As requested, Ganddini Group, Inc. is pleased to provide this circulation assessment for the proposed Baker Fuel Facility project. The purpose of this circulation assessment is to provide a qualitative and quantitative assessment of the benefits between the currently proposed circulation plan and the previously approved circulation plan. We trust these findings will aid the County of San Bernardino in assessing the revised circulation plan.

The project site is located at Afton Road and the Interstate 15 (I-15) Freeway in the County of San Bernardino. The project location map is shown on Figure 1.

PROJECT BACKGROUND

The proposed project was originally assessed by Kunzman Associates, Inc. in May 2016. The traffic impact analysis was later revised in May 2017 and is based on the currently approved site plan. Upon further review by the development team, it appeared that the currently approved site plan would result in poor circulation; therefore, a revised site plan is currently proposed that would address previous concerns while improving site access and circulation. A circulation assessment was conducted by Ganddini Group, Inc in January 2019 to assess circulation improvements based upon the revised site plan.

This circulation assessment has been prepared based on comments made by the County of San Bernardino Department of Public Works in an e-mail from Maria Miranda on October 13, 2021.

PROPOSED SITE PLAN

The currently proposed project site plan and circulation design is shown on Figure 2. Figure 3 shows a close up of the currently proposed circulation along Afton Road at the intersections of the I-15 Freeway Ramps and Arrowhead Trail.

Immediately upon exiting the I-15 Westbound Off-Ramp, the proposed design provides two northbound lanes and separates inbound truck and non-truck traffic using lane utilization signs and pavement markings. The northbound approach on Afton Road is proposed to be uncontrolled, thus allowing free-flow movements through the intersection at Arrowhead Trail and precluding any vehicle queues that may interfere with the I-15 Freeway Ramps.

When first approaching Arrowhead Trail, trucks will pass to the left in a dedicated 14-foot wide lane and continue north into the project site through a 19-foot wide, 145-foot radius turn without stopping. Other non-truck traffic will pass to the right in a dedicated 14-foot wide lane and turn onto Arrowhead Trail through a dedicated 15-foot wide, 45-foot radius free right turn lane. As previously noted, all northbound movements along Afton Road (both cars and trucks) are proposed to be uncontrolled at the intersection with Arrowhead Trail, thus allowing free flow movement through the intersection and precluding vehicle queues between the intersection and the freeway ramps.

Upon leaving the site, trucks will utilize an uncontrolled southbound through lane through the Afton Road/Arrowhead Trail intersection to access the I-15 Freeway. Outbound non-truck traffic approaching westbound will be stop-controlled at the intersection and the only conflict will be with slow moving southbound truck traffic.

The currently proposed site plan also provides multiple driveways on Arrowhead Trail. Instead of all non-truck traffic being concentrated at a single driveway, the current plan will disperse traffic and help prevent vehicle queues from accumulating at a single driveway.

PROJECT TRIP GENERATION

The project trip generation was updated to the current Institute of Transportation Engineers (ITE) *Trip Generation Manual* 11th Edition (2021). For consistency with prior studies, internal capture and pass-by adjustments made in the initial project trip generation (e.g., internal capture, pass-by) were maintained in conjunction with updated gross trip generation forecasts based on the revised trip rates from the latest ITE *Trip Generation Manual*. Table 1 shows the project trip generation based on the latest edition of the ITE *Trip Generation Manual*.

Compared to the original project trip generation, the updated trip generation rates result in 7 additional project trips during the Friday evening peak hour and 65 fewer project trips during the Sunday mid-day peak hour.

REVISED OPENING YEAR (2023) WITH PROJECT VOLUMES

To provide qualitative evaluation of the currently proposed plan, the Opening Year (2018) With Project volumes from a traffic impact analysis for the previously approved site plan were adjusted using a one percent annual ambient growth rate over a five-year period, with the project trip generation updated and applied to reflect Opening Year (2023) With Project conditions. Additionally, the roadway network on Afton Road was realigned to reflect a single intersection based on the currently proposed design. Opening Year (2018) With Project volumes have been obtained from the Baker Fuel Facility Traffic Impact Analysis (Kunzman Associates, Inc., May 2016). The previous traffic impact analysis evaluated the truck access road and Arrowhead Trail intersections at Afton Road as two separate intersections, but in a comparable configuration from which traffic volume forecasts can be converted into the currently proposed lane movements.

REVISED DELAY AND LEVEL OF SERVICE

Table 2 shows the intersection delay and Level of Service (LOS) at the off-site study area intersections for the previously approved site plan with an Opening Year of 2018 and the currently proposed site plan Opening Year (2023) With Project conditions. As shown on Table 2 the study area intersections are expected to continue to operate at acceptable Levels of Service during the peak hours when the project opening year is updated from 2018 to 2023. The Level of Service worksheets for Opening Year (2023) With Project are included in Attachment A.

The long-range/horizon forecast (Year 2040) would remain the same as previously documented in the May 2017 traffic study and January 2019 circulation assessment, which forecast Level of Service C or better operations with the addition of the proposed project. The marginal increase in project trip generation during the Friday evening peak hour (+7 trips) resulting from use of the latest ITE Trip Generation Manual would not appreciably change the projected Level of Service operations since the study intersections are forecast to operate well above acceptable Levels of Service.

TRUCK TURNING TEMPLATES

Figure 4 shows the design vehicle turning radius for a California Legal 65-foot truck. Truck turning templates are shown on the site plan on Figure 5 and 6. Figure 5 shows an inbound truck heading northbound on Afton Road entering the project site to the fueling canopy. Figure 6 shows an outbound truck leaving the project site from the fueling canopy heading southbound on Afton Road.

PREVIOUS CALTRANS REVIEW

The California Department of Transportation (Caltrans) provided a review letter of the previous 2019 circulation assessment on August 8, 2019, that is included in Attachment B for reference. This letter concludes that "The Revised Site Plan and the Traffic Impact Analysis Update were reviewed by Traffic Operations and Truck Services Functional Units, with no comments made recommending corrections or revisions."

CONCLUSION

Compared to the original project trip generation, the updated trip generation rates result in 7 additional project trips during the Friday evening peak hour and 65 fewer project trips during the Sunday mid-day peak hour.

The study area intersections are expected to continue to operate at acceptable Levels of Service during the peak hours when the project opening year is updated from 2018 to 2023.

We appreciate the opportunity to assist you on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100 x 106.

Respectfully submitted,

GANDDINI GROUP, INC.
Bryan Crawford, Senior Transportation Analyst
Giancarlo Ganddini, TE, PTP, Principal



Table 1
Project Trip Generation[1]

Trip Generation Rates									
			Friday Evening[3]			Sunday Afternoon[3]			
Land Use	Source[1]	Units[2]	In	Out	Total	In	Out	Total	Daily[4]
Apartments	ITE 220	DU	62%	38%	0.57	62%	38%	0.57	6.74
Fast-Food Restaurant with Drive-Through Window	ITE 934	TSF	51%	49%	50.94	48%	52%	55.15	467.48
Convenience Store/Gas Station	ITE 944	FP	50%	50%	14.41	50%	50%	14.41	172.01
Truck Stop	ITE 950	FP	50%	50%	15.20	50%	50%	15.20	224.00
Alternative Fuel Station[5]		CS	50%	50%	1.00	50%	50%	1.00	20.00
Trips Generated									
Apartments	5	DU	2	1	3	2	1	3	34
Internal Capture - Residential (25%)[6]			-1	0	-1	-1	0	-1	-9
Fast-Food Restaurant with Drive-Through Window	4.445	TSF	115	111	226	118	127	245	2078
Internal Capture - Restaurant (25%)[7]			-29	-28	-57	-30	-32	-62	-520
Pass-By - Restaurant (95%)			-82	-79	-161	-84	-90	-174	-1,480
Gasoline/Service Station with Convenience Market - Cars	24	FP	173	173	346	173	173	346	4128
Gasoline/Service Station with Convenience Market - Trucks	6	CS	46	46	92	46	46	92	1344
Internal Capture - Service Station (25%)[8]			-55	-55	-110	-55	-55	-110	-1,368
Pass-By - Service Station (95%)			-156	-156	-312	-156	-156	-312	-3,899
Alternative Fuel Station	11	CS	6	6	12	6	6	12	220
Internal Capture - Alternative Fuel Station (50%)[9]			-3	-3	-6	-3	-3	-6	-110
Pass-By - Alternative Fuel Station (90%)			-3	-3	-6	-3	-3	-6	-99
Total Trips Generated			342	337	679	345	353	698	7,804
Total Trips Generated Using Study Area Intersections			254	251	505	256	263	519	5,797
Total Trips Generated Added to Freeway Mainline			13	13	26	13	14	27	319

Notes:

It should be noted that this facility is completely isolated and adjacent to the I-15 Freeway. The site is so remote that the staff will live on-site. Patrons of the facility will likely stop at the facility to fuel their vehicle and obtain food. It is projected that the site adds virtually no traffic to the adjacent I-15 Freeway but all its traffic utilizes the study area intersections.

(1) ITE = Institute of Transportation Engineers, *Trip Generation Manual* , 11th Edition, 2021; ### = Land Use Code

(2) DU = Dwelling Units; TSF = Thousand Square Feet; FP = Fueling Positions; CS = Charging Stations

(3) Peak hour trip generation rates for Friday evening and Sunday Mid-day peak periods are not available. Weekday evening peak hour of generator trip generation has been used because it is the highest trip generating period for this land use.

(4) Weekday daily trip generation rates have been used.

(5) It is assumed that each charging station will turn over one time per peak hour. It is assumed that the daily total is ten times the peak hour total.

(6) It is assumed that 25 percent of the trips of the residential use will be internal to the site.

(7) It is assumed that approximately 50 percent of the patrons of the restaurants will also utilize the fueling stations. To remain conservative an internal reducti

(8) It is assumed that approximately 50 percent of the patrons of the fueling station will also utilize the restaurants. To remain conservative an internal reductio

(9) It is assumed that the alternative fuel station will be used passively by patrons of the restaurants. A conservative estimate of 50 percent of the alternative fuel use will be exclusively alternative fuel.

Table 2
Opening Year (2023) With Project Delay and Levels of Service

Study Intersection	Traffic Control[1]	Friday Evening Peak Hour		Sunday Mid-day Peak Hour	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]
Previously Approved Site Plan - Opening Year (2018)[4]					
Afton Canyon Road at Arrowhead Trail	CSS	--	--	--	--
Afton Canyon Road at I-15 SB Ramps	CSS	16.2	C	20.1	C
Afton Canyon Road at I-15 NB Ramps	CSS	15.6	C	16.8	C
Currently Proposed Site Plan					
Afton Canyon Road at Arrowhead Trail	CSS	10.1	B	10.3	B
Afton Canyon Road at I-15 SB Ramps	CSS	16.7	C	19.1	C
Afton Canyon Road at I-15 NB Ramps	CSS	15.9	C	16.1	C

Notes:

(1) CSS = Cross Street Stop

(2) For intersections with cross street stop control, Level of Service is based on average delay of the worst individual lane (or movements sharing a lane).

(3) LOS = Level of Service

(4) Source: Baker Fuel Facility Traffic Impact Analysis (Kunzman Associates, Inc, May 2017).

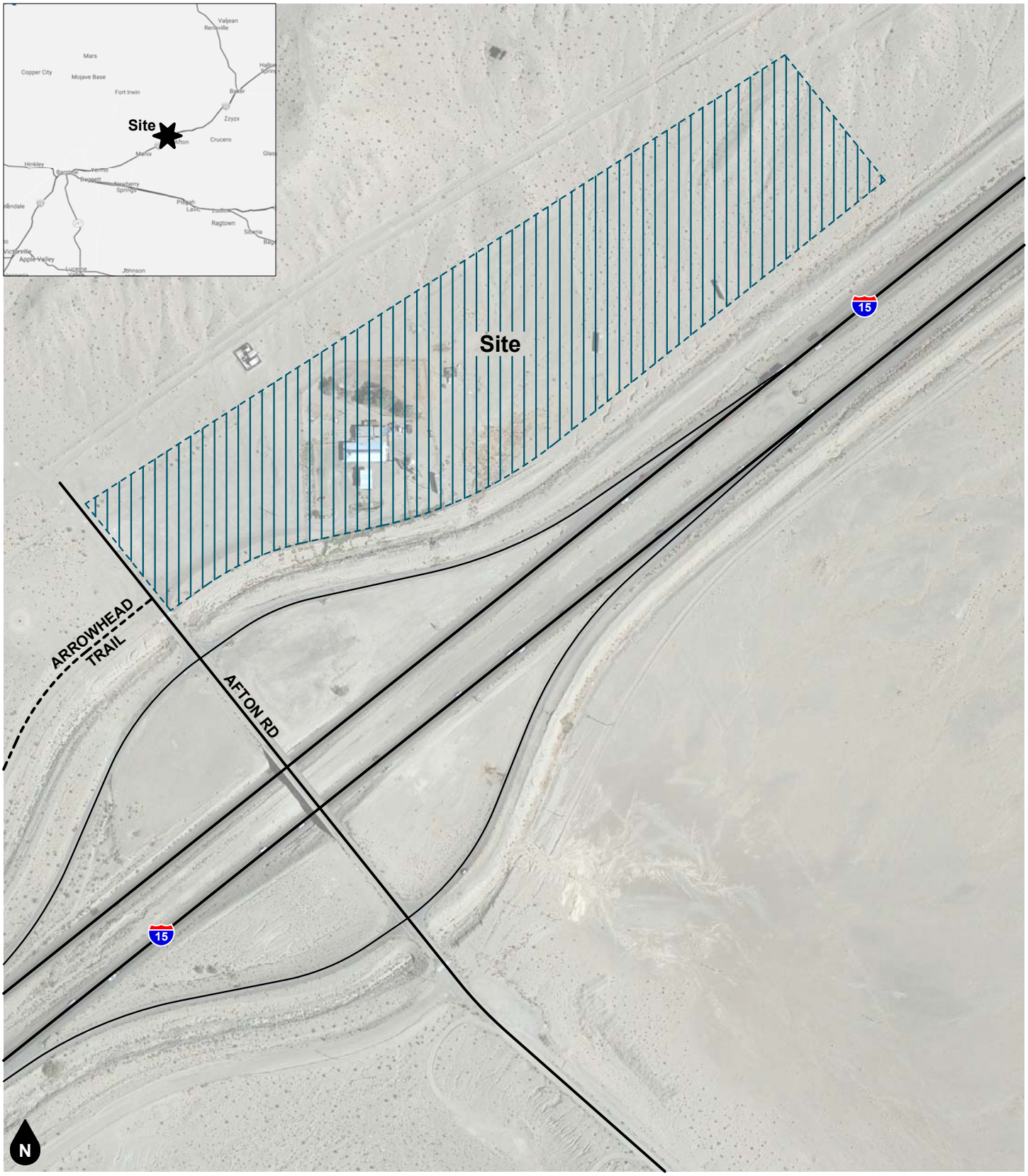


Figure 1
Project Location Map

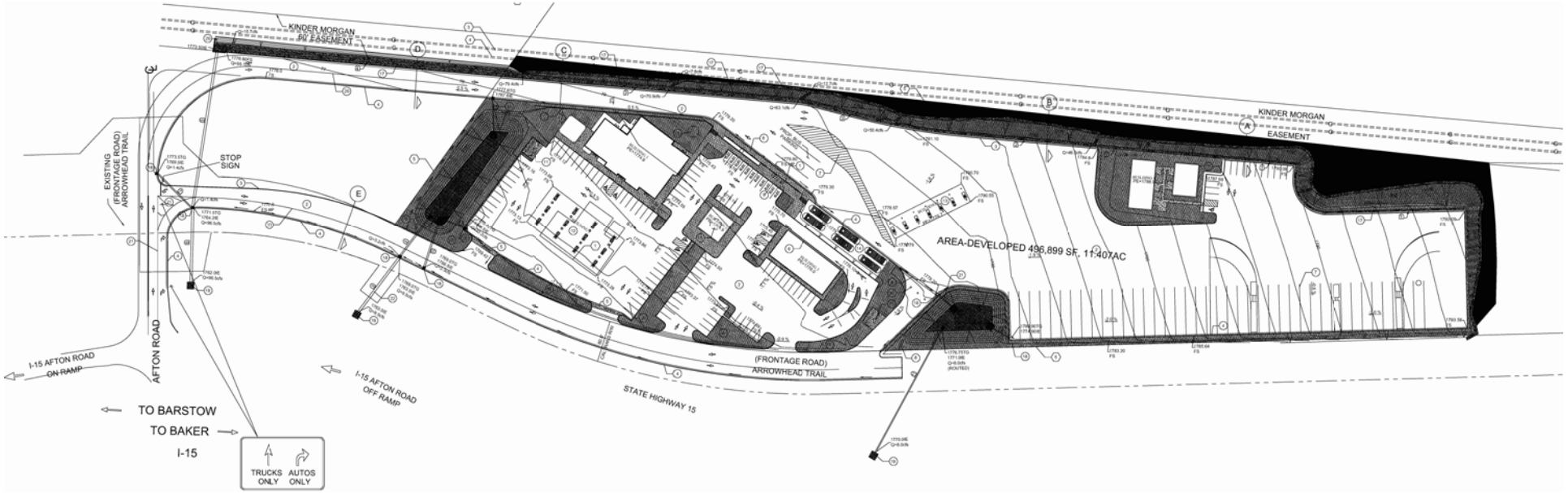
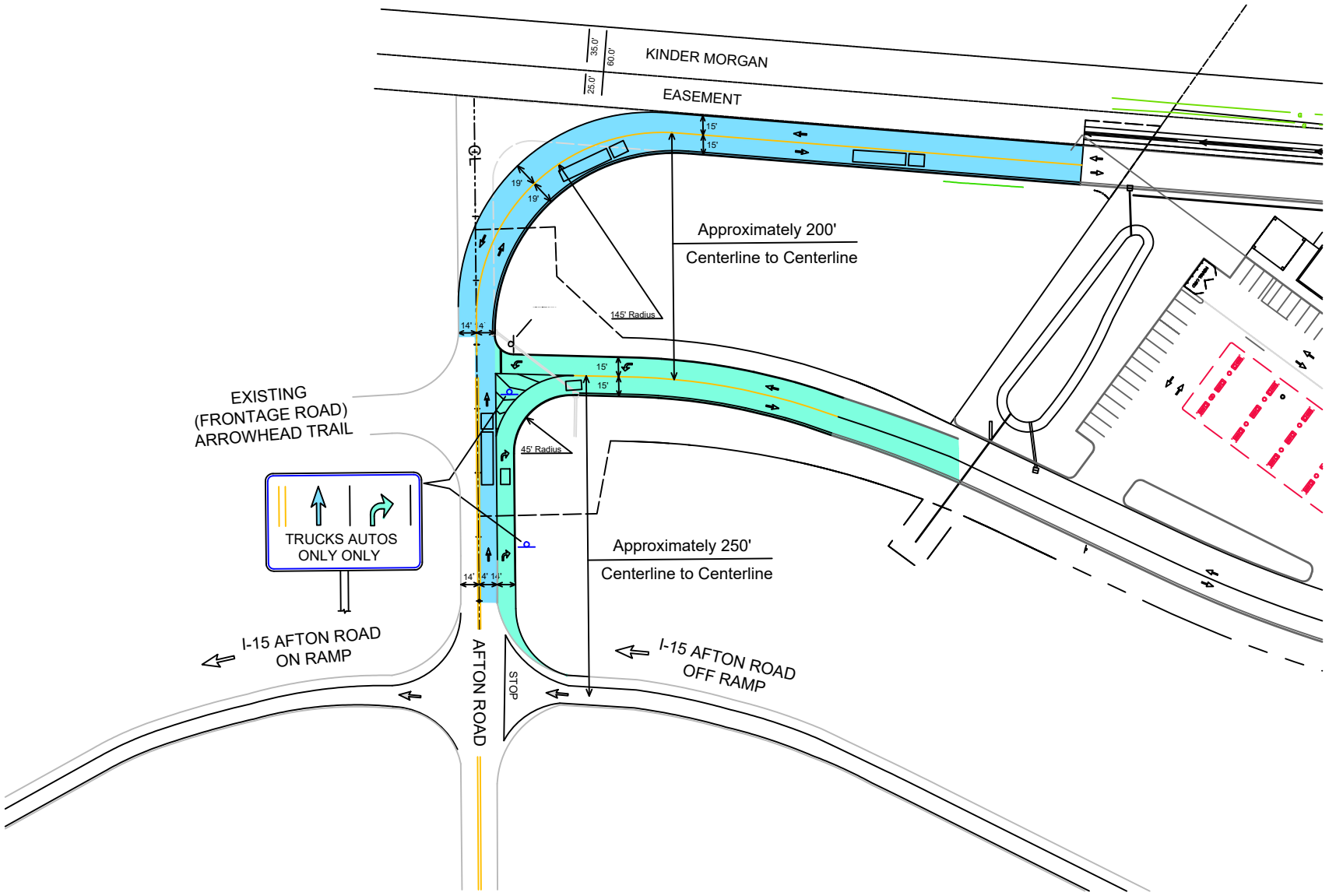


Figure 2
Currently Proposed Site Plan



Source: Substrate Inc./The Perfect Solution

Figure 3
Proposed Afton Road Circulation

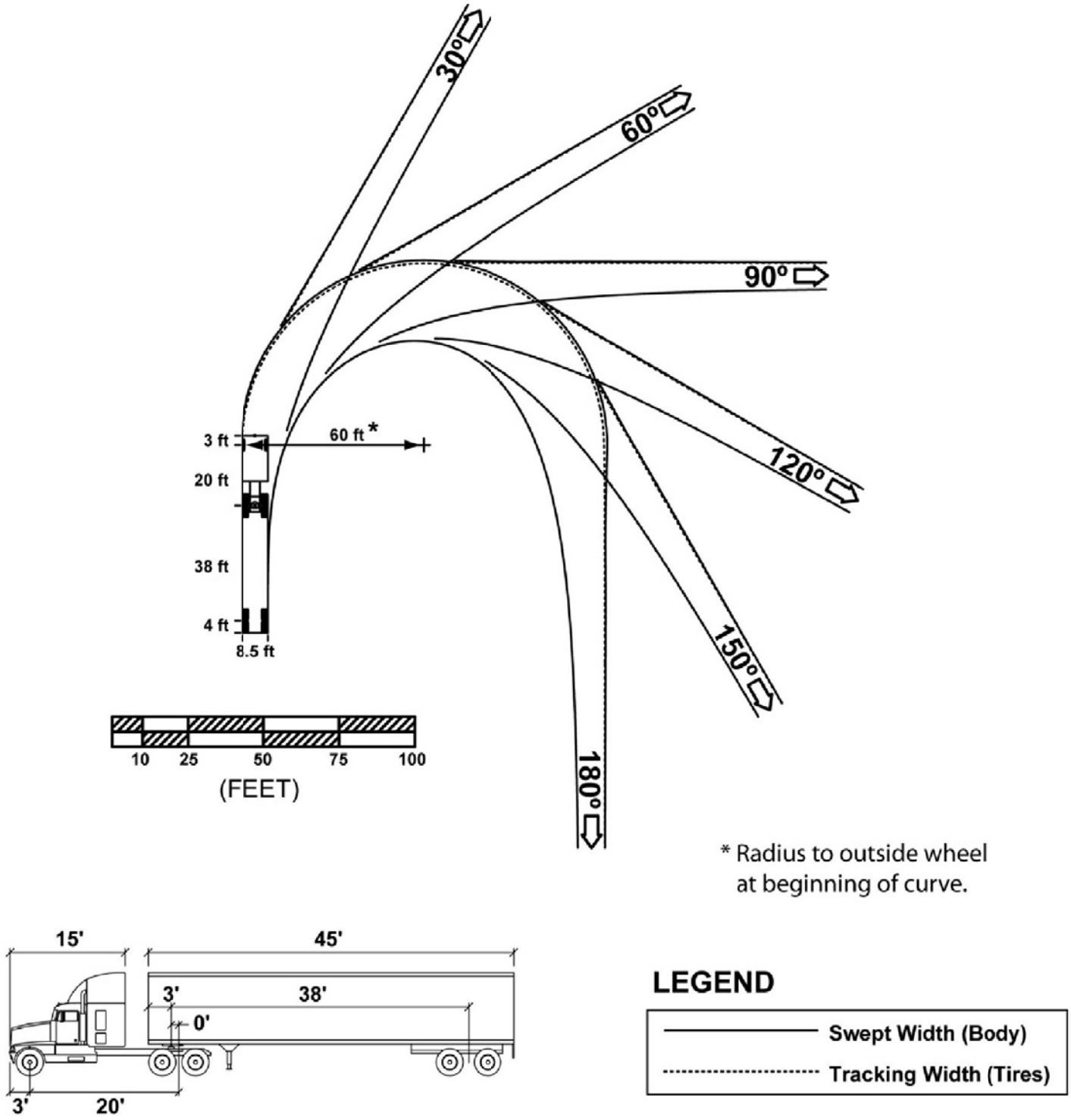
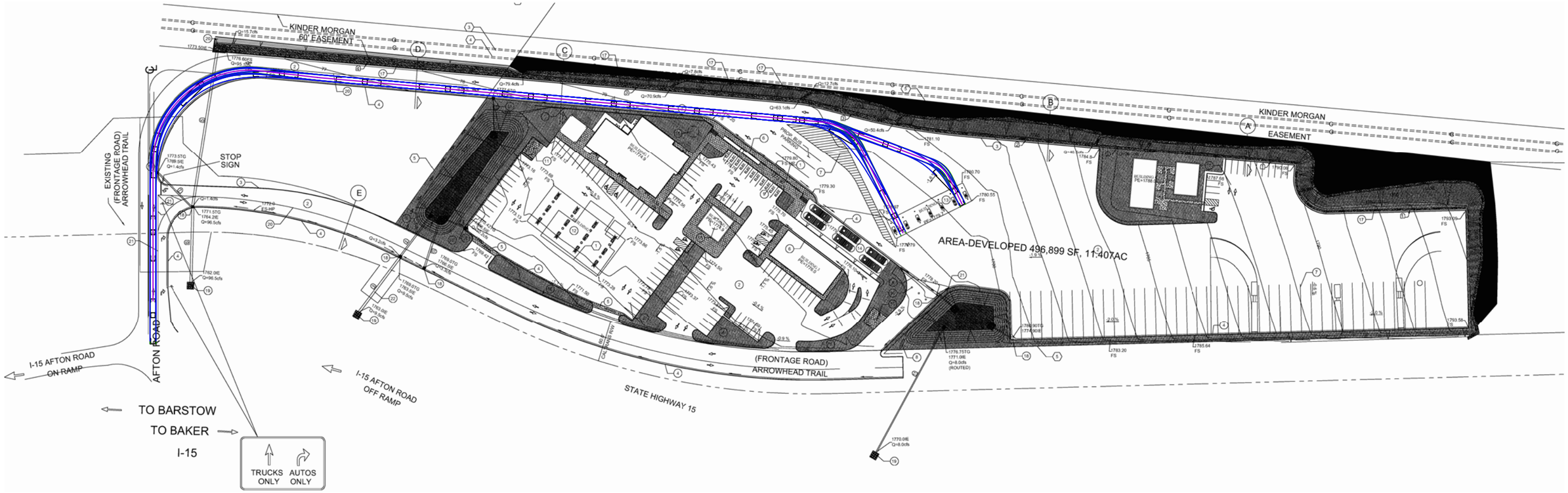
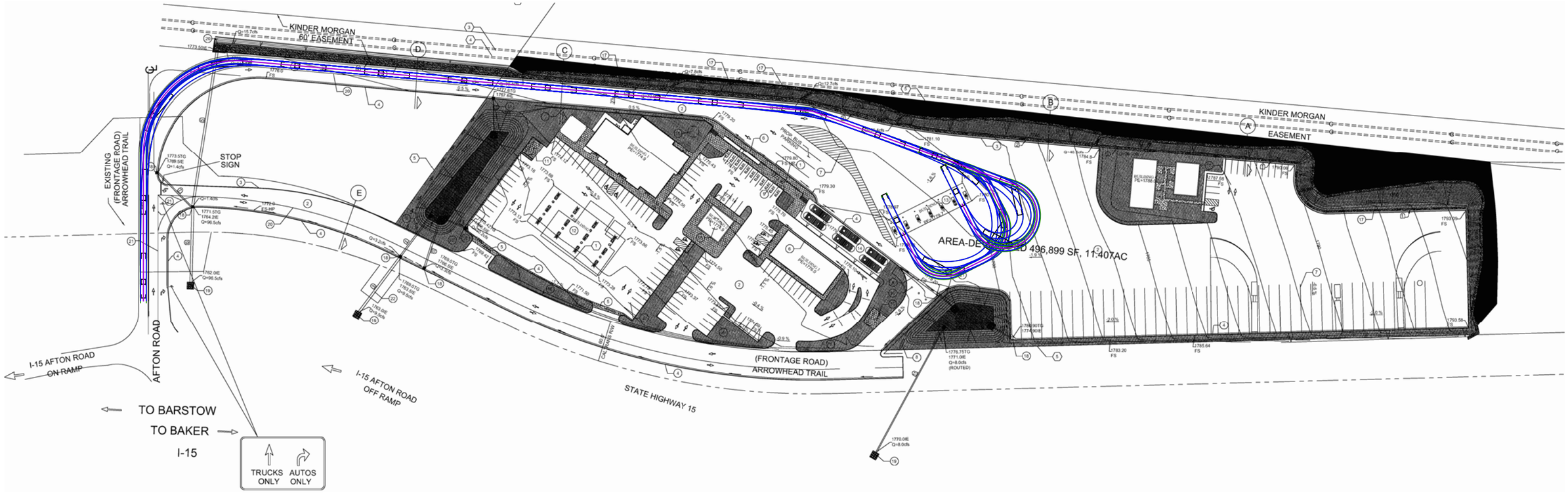


Figure 4
Design Vehicle



Legend
- Vehicle Wheel Path
- Vehicle Overhang
- Vehicle Centerline

Figure 5
Inbound Truck Turning Template



Legend
- Vehicle Wheel Path
- Vehicle Overhang
- Vehicle Centerline

Figure 6
Outbound Truck Turning Template

ATTACHMENT A

LEVEL OF SERVICE WORKSHEETS

Intersection Level Of Service Report
Intersection 1: Afton Rd (NS) at Project Access (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	45	211	0	45	211	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	211	0	45	211	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	53	0	11	53	0
Total Analysis Volume [veh/h]	45	211	0	45	211	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.23	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.14	0.00
Movement LOS	A	A		A	B	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.90	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	22.40	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.18					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	1	1	0	0	1	15	0	0	0	1	6	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.05
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	126	58	0	0	61	62	0	0	0	128	0	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	59	0	0	62	78	0	0	0	129	6	69
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	16	0	0	16	21	0	0	0	34	2	18
Total Analysis Volume [veh/h]	134	62	0	0	65	82	0	0	0	136	6	73
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.01	0.07
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.99	16.66	12.10
Movement LOS	A	A			A	A				C	C	B
95th-Percentile Queue Length [veh/ln]	0.29	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68	1.68	1.68
95th-Percentile Queue Length [ft/ln]	7.20	7.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.06	42.06	42.06
d_A, Approach Delay [s/veh]	5.29			0.00			0.00			14.69		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	7.52											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	1	10	1	1	0	2	11	10	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.00	1.05	1.05	1.05	1.05	1.00	1.05	1.05	1.05	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	126	125	61	128	0	58	0	128	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	127	136	62	129	0	60	12	139	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	33	36	16	34	0	16	3	37	0	0	0
Total Analysis Volume [veh/h]	0	134	143	65	136	0	63	13	146	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.13	0.03	0.16	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.92	0.00	0.00	14.97	15.91	11.37	0.00	0.00	0.00
Movement LOS		A	A	A	A		B	C	B			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.15	0.15	0.00	1.39	1.39	1.39	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.76	3.76	0.00	34.68	34.68	34.68	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			2.56			12.66			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.75											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Afton Rd (NS) at Project Access (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.248

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	45	221	0	45	226	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	221	0	45	226	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	55	0	11	57	0
Total Analysis Volume [veh/h]	45	221	0	45	226	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.25	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.25	0.00
Movement LOS	A	A		A	B	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.98	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	24.48	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.25	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.32					
Intersection LOS	B					

Intersection Level Of Service Report

Intersection 3: Afton Canyon Road (NS) at I-15 Freeway SB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	3	7	0	0	3	10	0	0	0	1	9	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	2.00	0.00	0.00	2.00	2.00	2.00	0.00	0.00	0.00
Growth Factor	1.05	1.05	1.00	1.00	1.05	1.05	1.00	1.00	1.00	1.05	1.05	1.05
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	145	60	0	0	61	61	0	0	0	142	0	60
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	148	67	0	0	64	72	0	0	0	143	9	75
Peak Hour Factor	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	18	0	0	17	19	0	0	0	38	2	20
Total Analysis Volume [veh/h]	156	71	0	0	67	76	0	0	0	151	9	79
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.02	0.08
d_M, Delay for Movement [s/veh]	7.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.51	19.11	13.90
Movement LOS	A	A			A	A				C	C	B
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.27	2.27	2.27
95th-Percentile Queue Length [ft/ln]	8.49	8.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.86	56.86	56.86
d_A, Approach Delay [s/veh]	5.34			0.00			0.00			17.01		
Approach LOS	A			A			A			C		
d_I, Intersection Delay [s/veh]	8.67											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 4: Afton Canyon Road (NS) at I-15 Freeway NB Ramps (EW)

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Afton Canyon Road (NS)			Afton Canyon Road (NS)			I-15			I-15		
Base Volume Input [veh/h]	0	2	4	2	2	0	4	7	4	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00	2.00
Growth Factor	1.00	1.05	1.05	1.05	1.05	1.00	1.05	1.05	1.05	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	145	118	61	142	0	60	0	115	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	147	122	63	144	0	64	7	119	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	39	32	17	38	0	17	2	31	0	0	0
Total Analysis Volume [veh/h]	0	155	128	66	152	0	67	7	125	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.15	0.02	0.14	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	7.94	0.00	0.00	15.27	16.12	11.37	0.00	0.00	0.00
Movement LOS		A	A	A	A		C	C	B			
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.15	0.15	0.00	1.28	1.28	1.28	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.84	3.84	0.00	31.91	31.91	31.91	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			2.40			12.85			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	4.40											
Intersection LOS	C											

ATTACHMENT B

CALTRANS COMMENT LETTER

DEPARTMENT OF TRANSPORTATION
OFFICE OF LOCAL DEVELOPMENT-INTERGOVERNMENTAL REVIEW
DISTRICT 8, PLANNING
464 W. 4TH STREET, 6TH FLOOR MS-725
SAN BERNARDINO, CA 92401
PHONE (909) 806-3923
TTY 711
www.dot.ca.gov/dist8

Making Conservation a California Way of Life.

August 8, 2019

File: 08-SBd-15-PM R111.6
Cross Street: Afton Canyon Road
Case No: P201600118/CF

Mr. John Oquendo
County of San Bernardino
Land Use Services Department
15900 Smoke Tree Street
Hesperia, CA 92345

Revised Site Plan/Traffic Analysis Update: Baker(Afton) Fuel Facility

Dear Mr. Oquendo,

The California Department of Transportation (Caltrans) has completed the review of the Revised Site Plan with the Spilt Access Diagram and the Traffic Impact Analysis Update submitted for a fuel facility project, proposed at the northeast corner of Interstate 15 (I-15) and Afton Canyon Road in the Country of San Bernardino. This project proposes to construct five apartment dwelling units, 3,600 square feet of fast-food restaurant with drive through window, 10 fast-food drive in stall, a 30 fueling position gasoline/service station with convenience market, and 15 alternative fuel charging stations on a portion of 26.68-acre property (APNs: 0542-131-87).

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when a proposed development may impact our facilities. As the responsible agency under the California Environmental Quality Act, it is also our responsibility to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the County of San Bernardino, due to the project's potential impact to the State facilities, it is also subject to the policies and regulations that govern the SHS.

The Revised Site Plan and the Traffic Impact Analysis Update were reviewed by Traffic Operations and Truck Services Functional Units, with no comments made recommending corrections or revisions. However, pavement marking is recommended for trucks, the design and location of which may be finalized with assistance from the Traffic Design Unit during the Encroachment Permit Process. No further review by this Office is considered necessary at this time for purpose of entitlement.

Issuance of a Caltrans Encroachment Permit will be required when an encroachment into State Right-of-Way is undertaken at time of development. For information regarding the Encroachment Permit application and submittal requirements, contact:

Caltrans Office of Encroachment Permits
464 West 4th Street, Basement, MS 619
San Bernardino, CA 92401-1400
(909) 383-4526
http://www.dot.ca.gov/hq/traffops/developserv/permits/

These comments result from a review of the Revised Site Plan with the Split Access Diagram and the TIA Update provided for our evaluation. If this project is later modified in any way, please forward copies of revised plans as necessary so that we may evaluate all proposed changes for potential impacts to the SHS. If you have any questions regarding this letter, please contact Jacob Mathew at (909) 806-3928 or me at (909) 806-3923.

Sincerely,

Rosa F. Clark

ROSA F. CLARK
Office Chief
Local Development-Intergovernmental Review (LD-IGR)