



APPENDIX A: SCOPE MEMO/MEMORANDUM OF UNDERSTANDING



SCOPE FOR TRAFFIC STUDY

Project Name: Memorial Drive 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:	Southeast corner of Fort Cady Road and Memorial Drive		
Project Description:	New construction of a Tire Shop which will provide mechanic services, tire sales and repair, an enclosed truck wash, and an impound yard.		
City:	Unincorporated Community of Newberry Springs, California		
Project Buildout Year:	2019	Ambient or CMP Growth Rate per Year:	1.1%
Closest Intersection (Xtn) to the Project			
Xtn N/S Street Name:	Fort Cady Road		
Xtn E/W Street Name:	Memorial Drive		
Thomas Guide Pg+Grid:	3765-A5 3765-B5 3765-A6	County Supervisorial District:	1

	Engineer	Developer
Company:	David Evans and Associates, Inc	
Name:	Robert Kilpatrick, PE/TE	Money Samra
Address:	14297 Cajon Avenue, Suite 101	10415 Edgebrook Way
City, State, ZIP Code:	Victorville, CA 92392	Northridge, CA 91326
Phone #:	(760) 524-9115	
Fax #:	(760) 524-9101	
E-Mail:	rkilpatrick@deainc.com	

By:

Reviewed By:

Print Name: Robert Kilpatrick 12/6/2018

Print Name:

Consultant/Developer's
Representative Date

Traffic Division Representative Date



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

The attached Exhibit C1 illustrates the Primary Trip Distribution and Exhibit C2 illustrates the Diverted Link Trip Distribution in percentages. The attached Exhibit D1 illustrates the Primary Project Trips, Exhibit D2 illustrates the Diverted Link Project Trips, and Exhibit D3 illustrates the Total Project Trips distribution volumes.

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

Transportation Demand Management (TDM)	☐ YES ☒ NO	No trip credit
Existing Active Land Use	☐ YES ☒ NO	No trip credit
Previous Land Use	☐ YES ☒ NO	No trip credit
Internal Trip Reduction	☐ YES ☒ NO	No trip credit
Pass-by Trip Reduction	☐ YES ☒ NO	No trip credit

Diverted-Link Trip

80%

- 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.

N/A

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:	Memorial Drive Project
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5. Trip Generation

Trip Generation Rate Source(s): ITE Trip Generation Manual		I – Institute of Transportation Engineers; S – San Diego Traffic Generators; C – County; O – Other:						Edition:		10 th	
Land Use Code	Land Use	Rate Based On: (I)	Qty	*AVTE vs	ADT	AM peak hour		Friday PM peak hour	Sunday PM peak hour**		
						In	Out	In	Out	In	Out
LU 848	Tire Shop	Peak hour of Adjacent Street	12,525	1,000 GSF	357	-	-	22	28	22	28
		</									

AVTE* = Average Vehicle Trip Ends; VFP = Vehicle Fueling Positions

For ITE Land Uses provide number and name of Land Use. e.g. LU 814 - Variety Store



SCOPE FOR TRAFFIC STUDY

Project Name:	Memorial Drive Project
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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	N/S + E/W Street Name	City	Signalized	CMP
1	100	3765-A5	Fort Cady Road + Memorial Drive	Newberry Springs (County)	No	No
2	100	3504-F6	Fort Cady Road + I-40 Westbound Ramps	Newberry Springs (County + Caltrans)	No	No
3	100	3504-F6	Fort Cady Road + I-40 Eastbound Ramps	Newberry Springs (County + Caltrans)	No	No

Cites to be consulted: _____ Caltrans D8



SCOPE FOR TRAFFIC STUDY

Project Name:

Memorial Drive Project

7. Other:

Traffic counts may be conducted immediately per the following:
• Must be taken on Tuesdays, Wednesdays or Thursdays.
• 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.

This analysis must follow the most current Traffic Impact Study Guidelines for the County as states 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 \$3,400 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:

Memorial Drive Project

9. Contact Information:

Please submit a signed copy of this MOU for approval by the Traffic Division. The MOU may be submitted in person, by fax, by e-mail 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

E-mail: epetre@dpw.sbcounty.gov (Ed Petre)



December 6, 2018

Job No. NSAM0000-0002

MEMORANDUM

To: Money Samra
10415 Edgebrook Way
Northridge, CA 91326

From: Robert Kilpatrick, PE/TE
Senior Project Manager / Senior Associate



**RE: Traffic Analysis – Memorial Drive Project – Newberry Springs
San Bernardino County, California**

This memorandum presents the anticipated trip generation and distribution of a Memorial Drive Project at the southeast of the corner of Fort Cady Rd and Memorial Dr in the unincorporated community of Newberry Springs in San Bernardino County, California. The proposed project is to be constructed on an approximate 5.08-acre lot, consisting of an 12,525 GSF Tire Shop which will provide mechanic services, tire sales and repair, an enclosed truck wash, and an impound yard. The purpose of this memorandum is to address the anticipated project trip generation and distribution of the proposed project.

A. Project Description

An existing Gasoline / Service Station with Convenience Market at the southeast corner of Fort Cady Rd and Memorial Dr currently provides fueling positions for auto and diesel fueling needs. The proposed project is located at the southeast corner of Fort Cady Rd and Memorial Dr in the unincorporated community of Newberry Springs in San Bernardino County, California as illustrated in *Exhibit A*. It is bounded to the north and east by Memorial Dr and undeveloped land, to the west by Fort Cady Rd and undeveloped land, and the I-40 Freeway to the south.

As presented, the proposed project is comprised of a Tire Shop which will provide 2- bay single truck wash, 2 – bay single truck repair, with parts storage room of 2,003 sq. ft. break room. Offices, lobby & connecting corridor for a total of 1,522 sq. ft. *Exhibit B* illustrates the proposed Site Plan. As illustrated, access to the site will be obtained from an existing driveway along Memorial Dr.

B. Project Trip Generation

The proposed site includes a Tire Shop which will provide several Truck Services and an impound yard. The Tire Shop trip generation factors are provided in the ITE Trip Generation Manual, 10th Edition, under land use ITE 848. The ITE Trip Generation Manual, 10th Edition does not provide trip generation rates for an Impound Yard. The intended use of the impound yard is for storage of vehicles wrenched in traffic collisions within a 5 mile radius of the project site. The collision data query obtained from Transportation Injury Mapping System (TIMS) developed by SafeTREC for the period of January 1, 2017 to December 31, 2017 resulted in five injury collisions. This would translate to a negligible 0.027 daily trips.



Table A summarizes the estimated trip generation for the project site during the Friday (4 – 6 PM) peak and Sunday PM (12 – 3 PM) peak periods. The project is highway oriented, as a result of the adjacent freeway characteristics a diverted link trip factor of 80% is applied to the trip generation. The diverted link trip factor is consistent with Traffic Studies completed for area projects adjoining the I-40 Freeway.

Table A: Project Trip Generation
Traffic Analysis – Memorial Drive Project

Use		Daily	FRIDAY/SUNDAY		
			In	Out	Total
1	Tire Shop				
	(ITE 848) Per 1,000 GSF	28.52	1.71	2.27	3.98
	12,525 Square Feet Gross Floor Area	357	22	28	50
	Diverted Link Trips (80%)	286	18	22	40
	Primary Trips (20%)	71	4	6	10

Source: "Trip Generation Manual, Institute of Transportation Engineers", 10th Edition

It is estimated that the project will generate 10 primary trips and 50 total project trips during the Friday and Sunday peak pm periods.

C. Project Trip Distribution and Assignment

The project trips are distributed based on the local area network streets. The distribution of the primary project trips is illustrated in *Exhibit C1*. The distribution of the diverted links project trips is illustrated in *Exhibit C2*. The Primary Project Trips are illustrated on *Exhibit D1*. The Diverted Link Project Trips are illustrated on *Exhibit D2*. The Total Project Trips are illustrated on *Exhibit D3*. The trip distribution is based on the existing street system.

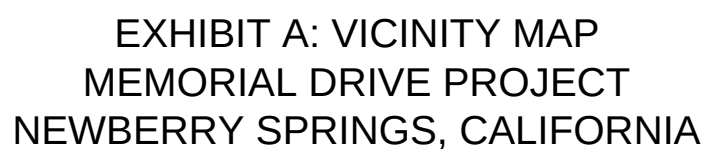
D. Summary and Recommendations

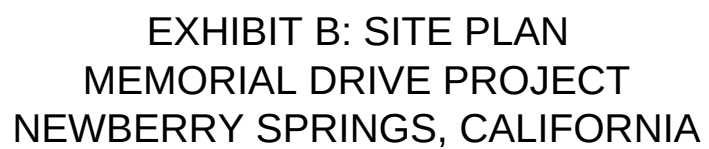
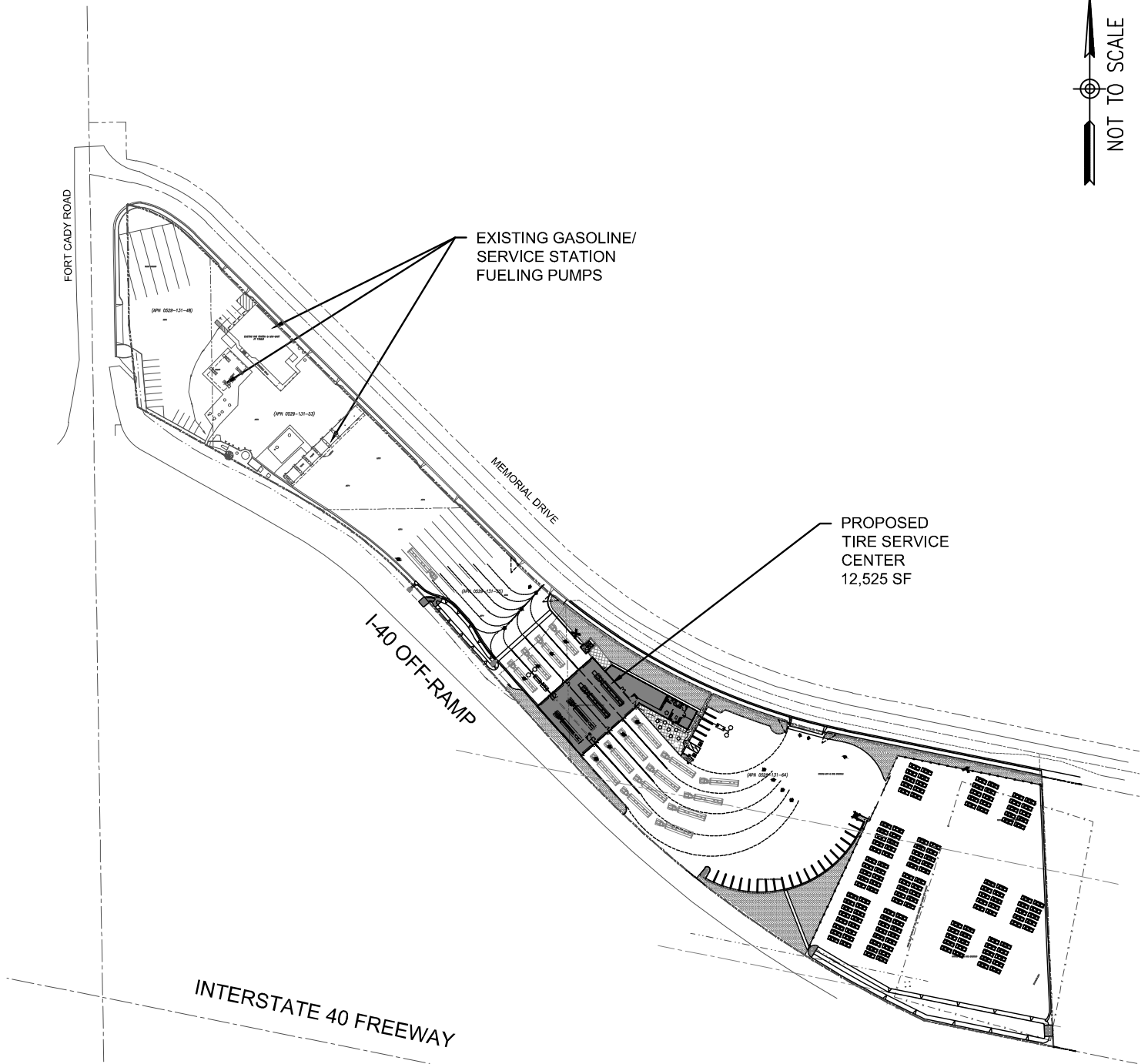
As illustrated on *Exhibit D1*, at the intersection of Fort Cady Rd and Memorial Dr the primary trips entering and exiting during the Friday and Sunday pm peak hour is estimated at 6 and 6 trips, respectively. At the intersection of Fort Cady Rd and Memorial Dr the total trips entering and exiting during the Friday and Sunday pm peak hour is estimated at 29 and 29 trips, respectively. The trips distributed to the area streets are minimal and would not result in negative impacts to the area streets. As such, a full traffic study will not be needed for this project.

If you have any questions or comments, please feel free to contact us.

Attachments

1. Exhibit A - Vicinity Map
2. Exhibit B - Site Plan
3. Exhibit C1 - Primary Trip Distribution
4. Exhibit C2 – Diverted Link Trip Distribution
5. Exhibit D1 – Primary Project Trips
6. Exhibit D2 – Diverted Link Project Trips
7. Exhibit D3 – Total Project Trips

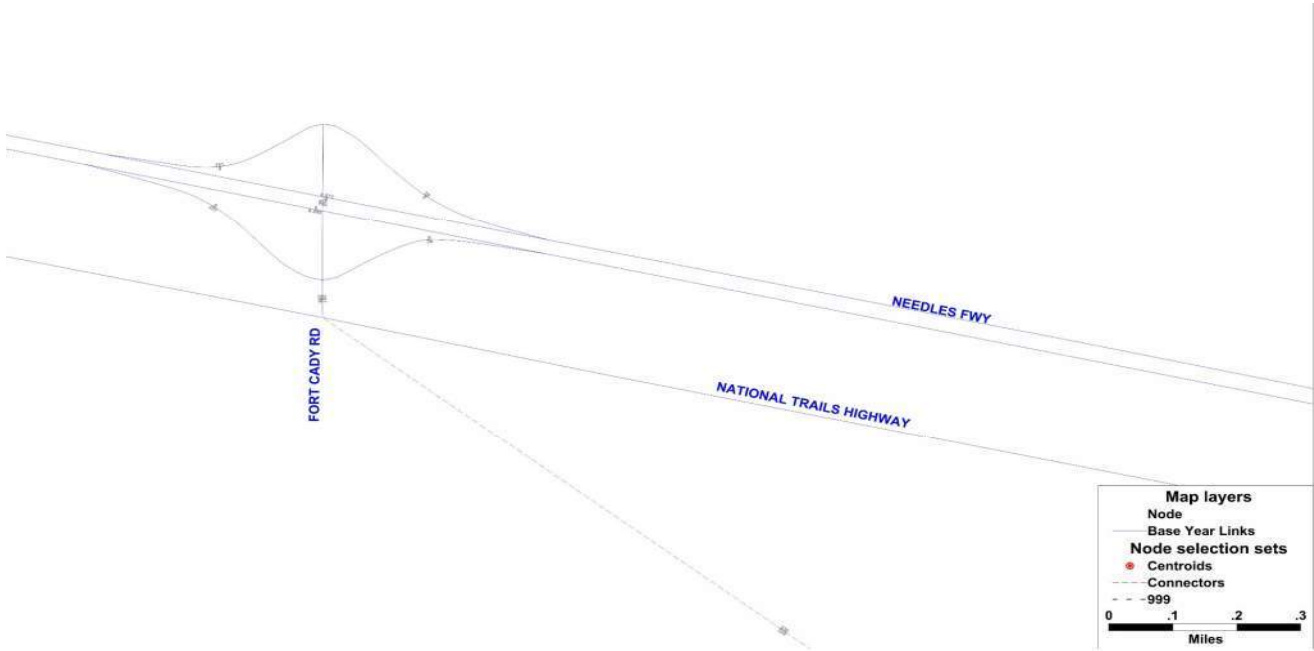






APPENDIX B: MODEL PLOTS

Screenshot of the area in the model:



SBTAM Model Flows - 2035

Fort Cady Bridge Fort Cady S

I-40 @ Fort Cady

NB AMFlow		
SB AMFlow		
NB MDFlow		
SB MDFlow		
NB PMFlow		
SB PMFlow		
NB NTFlow		
SB NTFlow		
WB DayFlow	396	15,371
EB DayFlow	53	14,977

* - NB/SB represent the WB/EB on the National Trails Segment

SBTAM Model Flows - 2012

NB AMFlow		
SB AMFlow		
NB MDFlow		
SB MDFlow		
NB PMFlow		
SB PMFlow		
NB NTFlow		
SB NTFlow		
WB DayFlow	251	8,071
EB DayFlow	39	8,495

Growth Calculation

	2012	2016 Adjustment	2040 Adjusted 2040	Percent Factor	Total Growth
Volumes	16,566	13500	30348	2.02	102%
		3066	27282		4.25%

Home ▶ Roadbook Menu ▶ ADT Menu ▶ Route Menu ▶ TCD Menu ▶ Master Station ▶ Table Menu ▶ Report Menu ▶

-----ADT-----

ADT List

ADT Site Update

ADT Count Update

ADT History

Traffic Census Work Request

ADT History

[Help](#)

Road Number : 540950 MEMORIAL DRIVE

Road Sequence : 010

ADT sequence : 01 ▼

Last count : 04/02/2007

Machine type : 2

Count : 759

Inactive :

Sat Count : 0

Sun Count : 0

Truck Pent : 0

Count Date	Count Site -----	Dir	Type	Count	Truck Pcnt	Sat Count	Sun Count	Recorder
01/03/2001	E FORT CADY RD	TW	2	936	0	0	0	A2153
05/24/1993	E FORT CADY RD	TW	3	20	0	0	0	L0347
11/16/1984	E FORT CADY RD	TW	3	10	0	0	0	F0383

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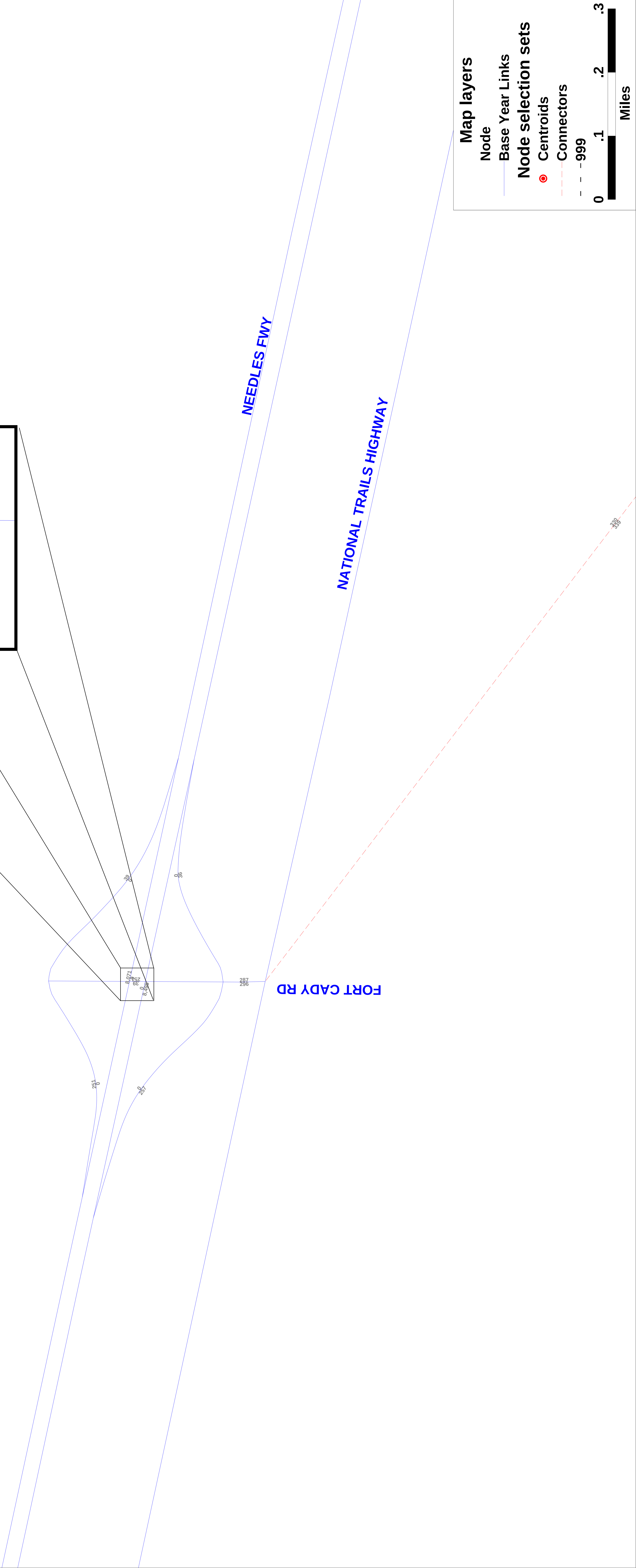
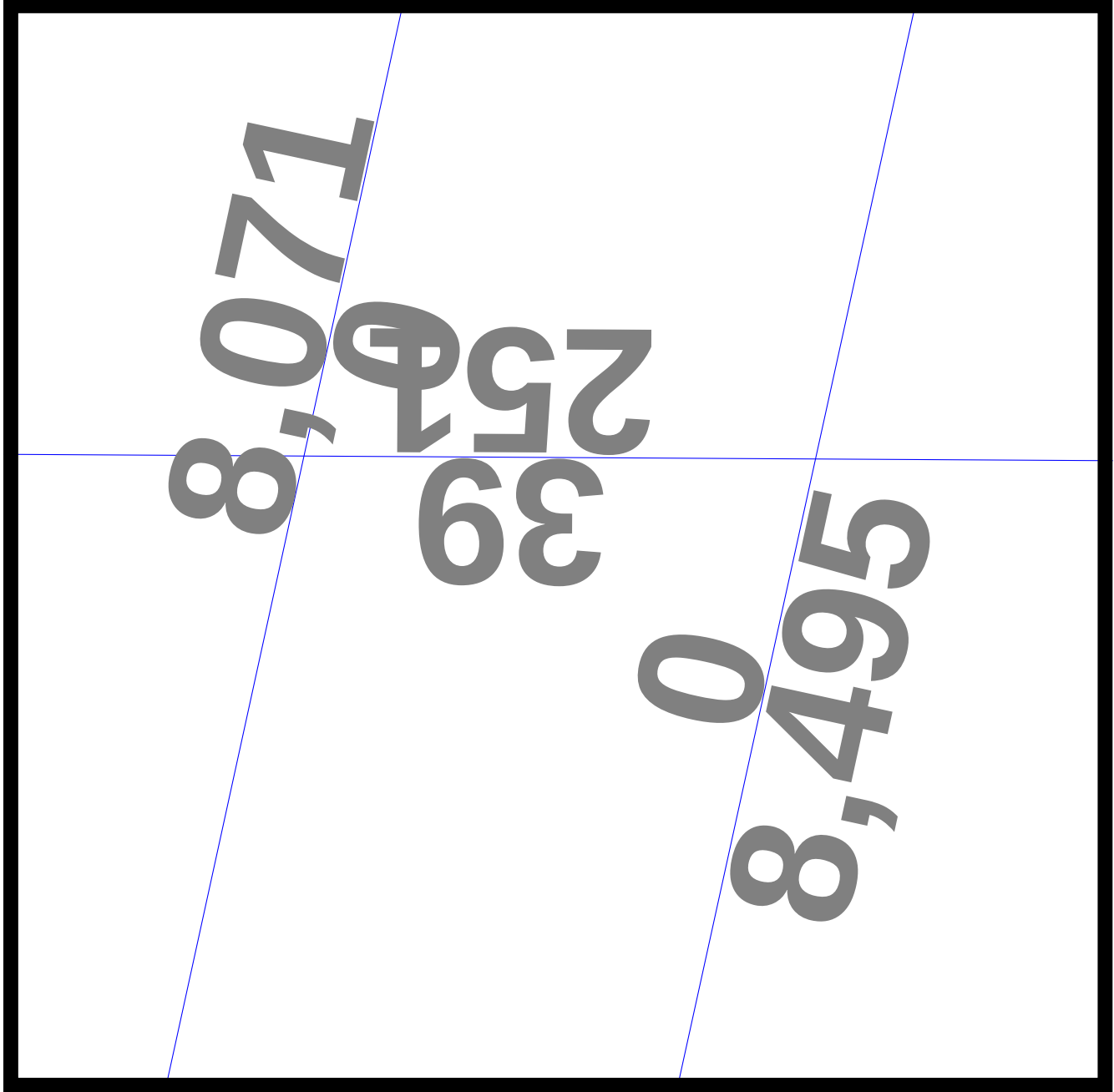
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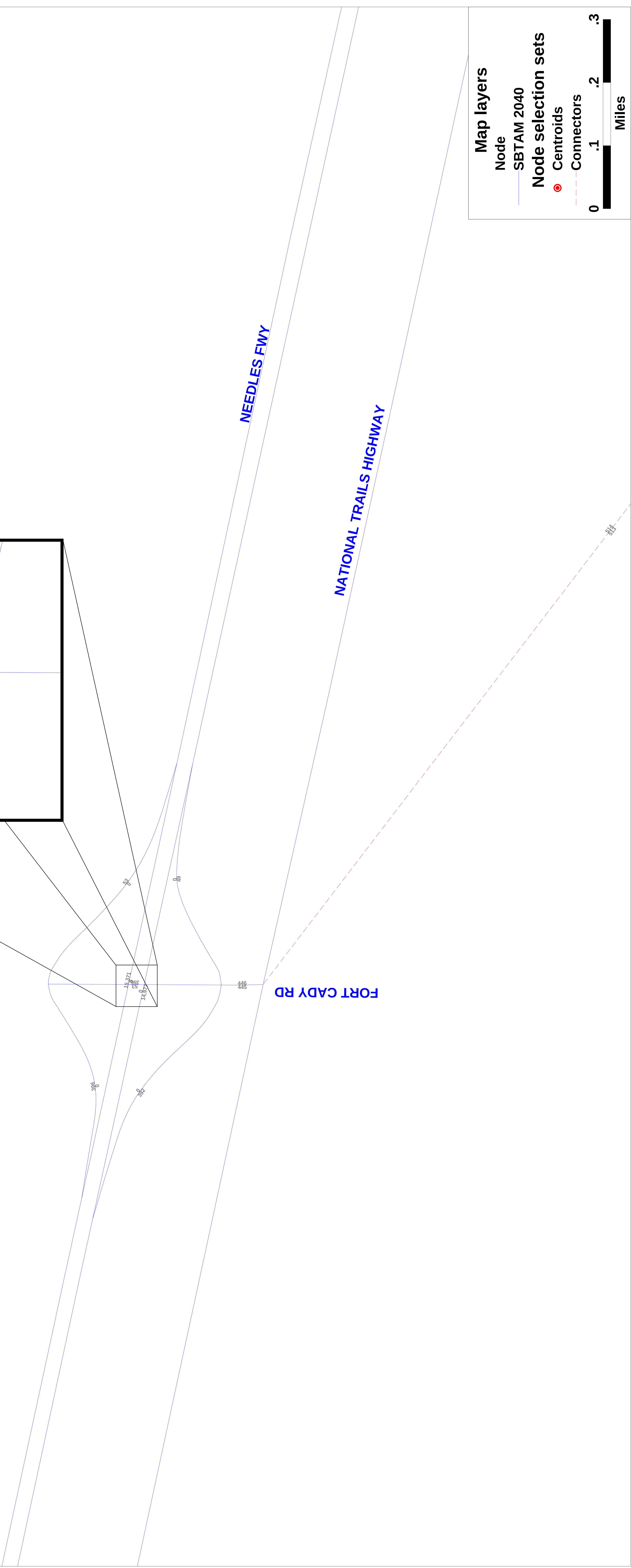
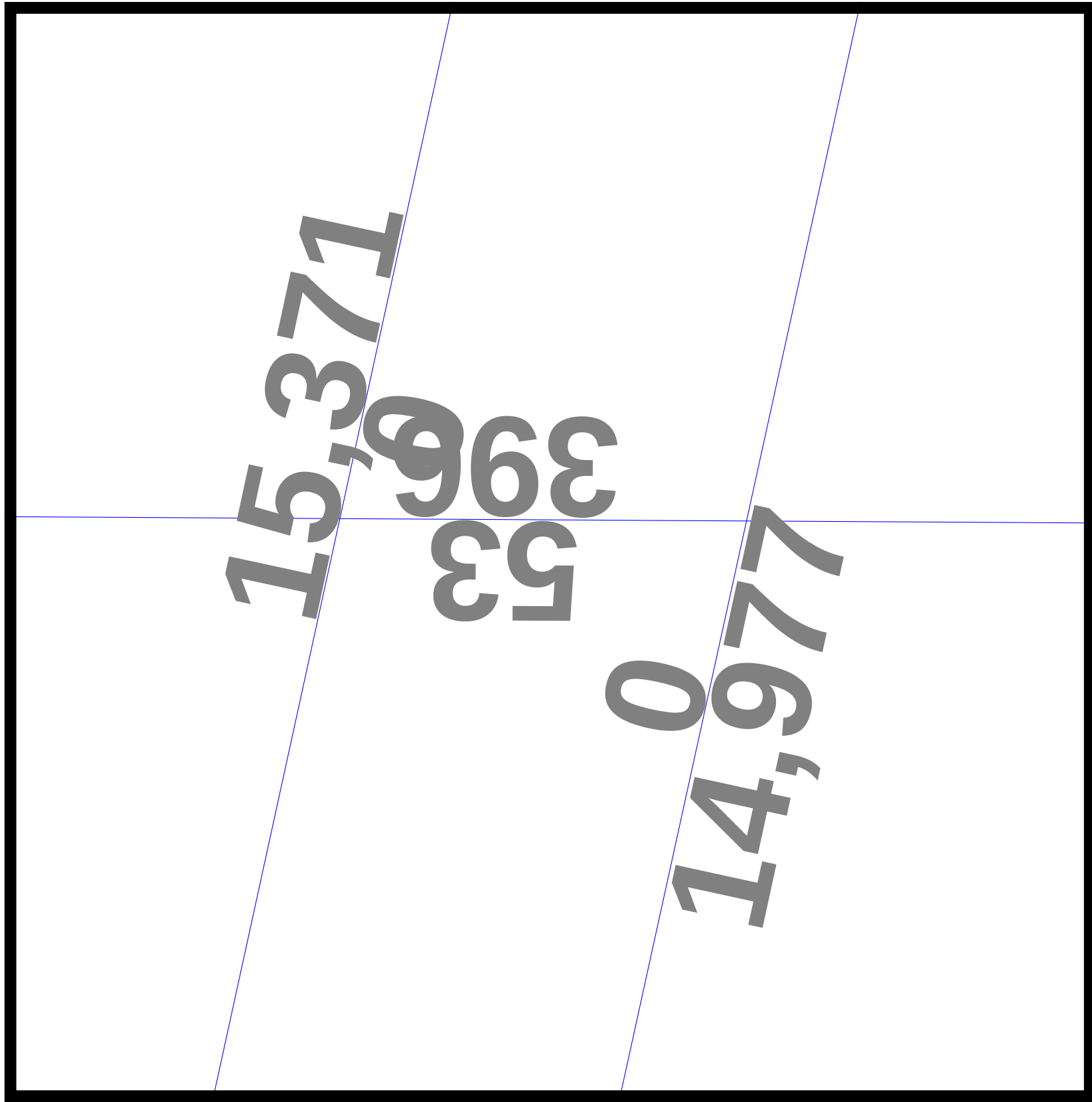
2016 Traffic Volumes on California State Highways

Dist	Route	County	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
12	039	ORA	16.13	STAGE ROAD/CASCADE WAY	6000	71000	66400	5900	73000	66400
12	039	ORA	16.38	BUENA PARK, LA MIRADA BOULEVARD	5800	72000	65600	4400	54000	48600
12	039	LA D	17.34	ROSECRANS AVE	4050	50000	45000	3900	49000	44000
12	039	ORA	19.168	LA HABRA, JCT. RTE. 90 EAST	4300	54000	48800	4150	54000	48800
12	039	ORA	19.671	LA HABRA, LAMBERT ROAD	3550	46000	41700	3000	36000	34700
12	039	ORA	20.719	LA HABRA, JCT. RTE. 72	2650	33000	31700	3350	40500	39700
12	039	ORA	20.88	LA HABRA, HACIENDA BOULEVARD	3350	40500	39700	3100	38500	37200
12	039	ORA	22.6	HARBOR BOULEVARD	2850	33000	31800			
07	039	LA	17.813	SAN GABRIEL RIVER BRIDGE				490	2900	2350
07	039	LA	19.73	MORRIS DAM ROAD	490	2900	2350	430	2550	2100
07	039	LA	25.71	EAST FORK ROAD	330	1950	1600	390	2300	1850
07	039	LA	32.49	COLD BROOK RANGER STATION	50	270	220	50	270	220
07	039	LA	38.15	CRYSTAL LAKE ROAD	30	180	150	20	140	110
07	039	LA	44.4	ISLIP SADDLE, JCT. RTE. 2	20	140	110			
08	040	SBD	0	BARSTOW, JCT. RTE. 15				2500	24600	20500
08	040	SBD	.794	MONTARA AVENUE	2500	24600	20500	2550	24800	20700
08	040	SBD R	2.348	MAIN STREET	2550	24800	20700	2300	22700	18900
08	040	SBD R	4.708	NEBO STREET	2300	22700	18900	2250	22100	18400
08	040	SBD R	7.181	A STREET	2250	22100	18400	1950	19200	16000
08	040	SBD R	12.191	AIRPORT ROAD	1950	19200	16000	1850	18000	15000
08	040	SBD R	18.446	WEST NEWBERRY ROAD	1850	18000	15000	1650	16200	13500
08	040	SBD R	23.334	FORT CADY ROAD	1650	16200	13500	1600	15700	13100
08	040	SBD R	32.496	HECTOR ROAD	1650	16000	13000	1600	15600	13000
08	040	SBD R	49.984	CRUCERO ROAD	1600	15600	13000	1450	14300	11900
08	040	SBD R	78.172	KELBAKER ROAD	1450	14300	11900	1450	14400	12000
08	040	SBD R	99.728	ESSEX ROAD	1450	14400	12000	1450	14400	12000
08	040	SBD R	107.17	GOFFS ROAD	1450	14400	12000	1400	13700	11400
08	040	SBD R	115.199	MOUNTAIN SPRINGS ROAD	1400	13700	11400	1450	14300	11900
08	040	SBD R	119.975	WATER ROAD	1450	14300	11900	1450	14300	11900
08	040	SBD R	132.739	JCT. RTE. 95 NORTH	1450	14300	11900	1650	17800	15500
08	040	SBD R	139.117	PARK ROAD	1650	17800	15500	1350	14700	12800
08	040	SBD R	141.017	RIVER ROAD	1350	14700	12800	1350	15000	13000
08	040	SBD R	142.37	NEEDLES, J STREET	1350	15000	13000	1650	18200	15800
08	040	SBD R	143.764	JCT. RTE. 95 SOUTH	1650	18200	15800	1250	15100	13000
08	040	SBD	148.198	FIVE MILE ROAD	1250	15100	13000	1300	15500	13400
08	040	SBD R	153.315	PARK MOABI ROAD	1300	15500	13400	1300	15500	13400
08	040	SBD R	154.643	ARIZONA STATE LINE	1300	15600	13500			

SBTAM 2012
Newberry Springs Project
Daily Traffic Flow



SBTAM 2040
Newberry Springs Project
Daily Traffic Flow





APPENDIX C: INTERSECTION CAPACITY ANALYSIS CALCULATIONS

Intersection	Jurisdiction	Existing Condition		Project Opening - Year 2019				Project Opening - Year 2019 with Project				Buildout - Year 2040	
		Friday	Sunday	Tuesday	Thursday	Saturday	Monday	Wednesday	Friday			Wednesday	Friday
1 Fort Cady Road and Memorial Drive (3)	Newberry Springs (County)	Delay (1) LOS(2) 9.5	Delay (1) LOS(2) 9.3	Delay (1) LOS(2) 9.6	Delay (1) LOS(2) 9.4	Delay (1) LOS(2) 10.0	Delay (1) LOS(2) 9.8	Delay (1) LOS(2) 10.0	Delay (1) LOS(2) 9.8			Delay (1) LOS(2) 9.8	Delay (1) LOS(2) 9.8
2 Fort Cady Road and I-40 WB Ramps (3)	Newberry Springs (Caltrans)	8.9	9.0	8.9	9.0	9.0	9.3	9.1	9.4			9.1	9.4
3 Fort Cady Road and I-40 EB Ramps (3)	Newberry Springs (Caltrans)	9.6	8.8	9.6	8.9	10.3	9.8	10.5	9.8			10.5	9.8



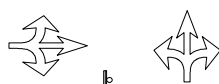
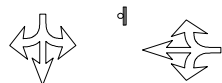
DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	6-Dec-18	NSAM0000-0002	1 OF 2

E/W STREET : MEMORIAL DR
N/S STREET : FORT CADY RD
CONDITION : FRIDAY PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH : 1.1%
PER YEAR TO 2019
PROJECTED GROWTH : 21%
2019 TO 2040
PROJECTED GROWTH : 1.0%
PER YEAR TO 2040

CONDITION DIAGRAMS



EXISTING GEOMETRICS

PROPOSED GEOMETRICS

TURN MOVEMENTS

CONDITION	EXISTING TRAFFIC	TRUCK PERCENTAGE	YEAR 2019 AMBIENT GROWTH TRIPS	YEAR 2019 AMBIENT TRAFFIC	PROJECT TRIPS	YEAR 2019 AMBIENT + PROJECT TRAFFIC	YEAR 2040 AMBIENT GROWTH TRIPS	YEAR 2040 TRAFFIC

MEMORIAL DR

EB LEFT	1	1%	1	2	0	2	1	2
EB THRU	1	1%	1	2	0	2	1	2
EB RIGHT	1	1%	1	2	0	2	1	2
WB LEFT	30	84%	1	31	30	61	7	67
WB THRU	1	1%	1	2	0	2	1	2
WB RIGHT	1	1%	1	2	0	2	1	2

FORT CADY RD

NB LEFT	1	1%	1	2	0	2	1	2
NB THRU	1	1%	1	2	0	2	1	2
NB RIGHT	18	84%	1	19	29	48	4	51
SB LEFT	1	1%	1	2	0	2	1	2
SB THRU	1	1%	1	2	0	2	1	2
SB RIGHT	1	1%	1	2	0	2	1	2
TOTALS	58	2	12	70	59	129	21	138

Los Angeles Office: 213.337.3680 ~ Ontario Office: 909.481.5750 ~ San Diego Office: 619.400.0600

Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	6-Dec-18	NSAM0000-0002	2	OF 2

E/W STREET : MEMORIAL DR N/S STREET : FORT CADY RD
 CONDITION : FRIDAY PEAK HOUR PHF : 0.92

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	0	0	0	0	0	0	0	0	4	0	0
0	0	0	0	0	0	0	0	0	3	0	0
1	0	0	0	0	0	0	0	0	4	0	0
1	0	0	0	0	0	0	0	0	4	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	2	0	0	0	0	0	0	0	0	6
0	0	2	0	0	0	0	0	0	0	0	8
0	0	1	0	0	0	0	0	0	0	0	5
0	0	0	0	0	0	0	0	0	0	0	6

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Truck	Auto		Rounded	Truck
Volumes	Volumes	Totals	Totals	Percentage

MEMORIAL DR

EBL	0	0	0	1	1%
EBTH	0	0	0	1	1%
EBR	0	0	0	1	1%
WBL	25	5	30	30	84%
WBTH	0	0	0	1	1%
WBR	0	0	0	1	1%

FORT CADY RD

NBL	0	0	0	1	1%
NBTH	0	0	0	1	1%
NBR	15	3	18	18	84%
SBL	0	0	0	1	1%
SBTH	0	0	0	1	1%
SBR	0	0	0	1	1%

Los Angeles Office: 213.337.3680 ~ Ontario Office: 909.481.5750 ~ San Diego Office: 619.400.0600

Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

JURISDICTION: NEWBERRY SPRINGS

DATE: 11-16-18

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 0

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 30

Rt
Thru
Lt

8	10	6	6	30

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG =

SOUTH LEG = 0.90

EAST LEG = 0.75

WEST LEG =

ALL LEGS = 0.92

Lt Thru Rt

1st			5
2nd			3
3rd			5
4th			5
Total			18

TOTAL: 18

SOUTH LEG

HOOR TOTAL: 48

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : FORT CADY RD

NEWBERRY SPRINGS

EAST-WEST STREET : MEMORIAL

11-16-18

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
2	0	0	0	0	0	0	0	0	4	0	0	6
0	0	0	0	0	0	0	0	0	3	0	0	3
0	0	0	0	0	0	0	0	0	5	0	0	5
1	0	0	0	0	0	0	0	0	4	0	0	5
0	0	0	0	0	0	0	0	0	3	0	0	3
1	0	0	0	0	0	0	0	0	4	0	0	5
1	0	0	0	0	0	0	0	0	4	0	0	5
1	0	0	0	0	0	0	0	0	3	0	0	4
6	0	0	0	0	0	0	0	0	30	0	0	36
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	4	4
0	0	0	0	0	0	0	0	0	0	0	5	5
0	0	0	0	0	0	0	0	0	0	0	5	5
0	0	2	0	0	0	0	0	0	0	0	6	8
0	0	2	0	0	0	0	0	0	0	0	8	10
0	0	1	0	0	0	0	0	0	0	0	5	6
0	0	0	0	0	0	0	0	0	0	0	6	6
0	0	0	0	0	0	0	0	0	0	0	3	3
0	0	5	0	0	0	0	0	0	0	0	42	47
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

TIME: 04:00PM-05:00PM

DATE: 11-16-18

NORTH LEG

Total

1st

2nd

3rd

4th

Rt Thru Lt

Rt
Thru
Lt

4	5	5	8	22

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

1st 2nd 3rd 4th Total

Lt Thru Rt

1st			6
2nd			3
3rd			5
4th			5
Total			19

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

TIME: 05:00PM-06:00PM

DATE: 11-16-18

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

					Lt
					Thru
					Rt

Rt
Thru
Lt

10	6	6	3	25

1st 2nd 3rd 4th Total

Lt Thru Rt

1st			3
2nd			5
3rd			5
4th			4
Total			17

Prepared by NEWPORT TRAFFIC STUDIES

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	30	1	1	1	1	18	1	1	1
Future Vol, veh/h	1	1	1	30	1	1	1	1	18	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	84	1	1	1	1	84	1	1	1
Mvmt Flow	1	1	1	33	1	1	1	1	20	1	1	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	18	27	2	18	17	11	2	0	0	21	0	0
Stage 1	4	4	-	13	13	-	-	-	-	-	-	-
Stage 2	14	23	-	5	4	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.94	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	4.256	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	999	868	1085	822	879	1073	1627	-	-	1601	-	-
Stage 1	1021	894	-	831	887	-	-	-	-	-	-	-
Stage 2	1009	878	-	840	894	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	996	866	1085	820	877	1073	1627	-	-	1601	-	-
Mov Cap-2 Maneuver	996	866	-	820	877	-	-	-	-	-	-	-
Stage 1	1020	893	-	830	886	-	-	-	-	-	-	-
Stage 2	1006	877	-	837	893	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.7			9.5			0.4			2.4		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1627	-	-	974 828	1601	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003 0.042	0.001	-	-
HCM Control Delay (s)	7.2	0	-	8.7 9.5	7.2	0	-
HCM Lane LOS	A	A	-	A A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1	0	-	-

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	2	31	2	2	2	2	19	2	2	2
Future Vol, veh/h	2	2	2	31	2	2	2	2	19	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	84	1	1	1	1	84	1	1	1
Mvmt Flow	2	2	2	34	2	2	2	2	21	2	2	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	26	34	3	26	25	13	4	0	0	23	0	0
Stage 1	7	7	-	17	17	-	-	-	-	-	-	-
Stage 2	19	27	-	9	8	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.94	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	4.256	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	987	861	1084	811	870	1070	1624	-	-	1599	-	-
Stage 1	1017	892	-	827	883	-	-	-	-	-	-	-
Stage 2	1003	875	-	836	891	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	982	859	1084	807	868	1070	1624	-	-	1599	-	-
Mov Cap-2 Maneuver	982	859	-	807	868	-	-	-	-	-	-	-
Stage 1	1016	891	-	826	882	-	-	-	-	-	-	-
Stage 2	997	874	-	831	890	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.8			9.6			0.6			2.4		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1624	-	-	966	822	1599	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.046	0.001	-
HCM Control Delay (s)	7.2	0	-	8.8	9.6	7.3	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	2	61	2	2	2	2	48	2	2	2
Future Vol, veh/h	2	2	2	61	2	2	2	2	48	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	84	1	1	1	1	84	1	1	1
Mvmt Flow	2	2	2	66	2	2	2	2	52	2	2	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	41	65	3	41	40	28	4	0	0	54	0	0
Stage 1	7	7	-	32	32	-	-	-	-	-	-	-
Stage 2	34	58	-	9	8	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.94	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	4.256	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	965	828	1084	792	854	1050	1624	-	-	1558	-	-
Stage 1	1017	892	-	810	870	-	-	-	-	-	-	-
Stage 2	985	849	-	836	891	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	959	826	1084	787	852	1050	1624	-	-	1558	-	-
Mov Cap-2 Maneuver	959	826	-	787	852	-	-	-	-	-	-	-
Stage 1	1016	891	-	809	869	-	-	-	-	-	-	-
Stage 2	980	848	-	831	890	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.8		10		0.3		2.4	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1624	-	-	945	795	1558	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.089	0.001	-
HCM Control Delay (s)	7.2	0	-	8.8	10	7.3	0
HCM Lane LOS	A	A	-	A	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	2	67	2	2	2	2	51	2	2	2
Future Vol, veh/h	2	2	2	67	2	2	2	2	51	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	84	1	1	1	1	84	1	1	1
Mvmt Flow	2	2	2	73	2	2	2	2	55	2	2	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	43	68	3	43	42	30	4	0	0	57	0	0
Stage 1	7	7	-	34	34	-	-	-	-	-	-	-
Stage 2	36	61	-	9	8	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.94	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.94	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	4.256	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	962	825	1084	789	852	1047	1624	-	-	1554	-	-
Stage 1	1017	892	-	808	869	-	-	-	-	-	-	-
Stage 2	982	846	-	836	891	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	956	823	1084	784	850	1047	1624	-	-	1554	-	-
Mov Cap-2 Maneuver	956	823	-	784	850	-	-	-	-	-	-	-
Stage 1	1016	891	-	807	868	-	-	-	-	-	-	-
Stage 2	977	845	-	831	890	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.8		10		0.3		2.4	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1624	-	-	942	791	1554	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.098	0.001	-
HCM Control Delay (s)	7.2	0	-	8.8	10	7.3	0
HCM Lane LOS	A	A	-	A	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN MOVEMENTS	TNM	6-Dec-18	NSAM0000-0002	1	OF 2

E/W STREET : MEMORIAL DR
N/S STREET : FORT CADY RD
CONDITION : SUNDAY PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH : 1.1%
PER YEAR TO 2019
PROJECTED GROWTH : 21%
2019 TO 2040
PROJECTED GROWTH : 1.0%
PER YEAR TO 2040

TURN MOVEMENTS

CONDITION	EXISTING TRAFFIC	TRUCK PERCENTAGE	YEAR 2019 AMBIENT GROWTH TRIPS	YEAR 2019 AMBIENT TRAFFIC	PROJECT TRIPS	YEAR 2019 AMBIENT + PROJECT TRAFFIC	YEAR 2040 AMBIENT GROWTH TRIPS	YEAR 2040 TRAFFIC

MEMORIAL DR

EB LEFT	1	1%	1	2	0	2	1	2
EB THRU	1	1%	1	2	0	2	1	2
EB RIGHT	1	1%	1	2	0	2	1	2
WB LEFT	22	55%	1	23	30	53	5	57
WB THRU	1	1%	1	2	0	2	1	2
WB RIGHT	1	1%	1	2	0	2	1	2

FORT CADY RD

NB LEFT	1	1%	1	2	0	2	1	2
NB THRU	1	1%	1	2	0	2	1	2
NB RIGHT	19	64%	1	20	29	49	4	52
SB LEFT	1	1%	1	2	0	2	1	2
SB THRU	1	1%	1	2	0	2	1	2
SB RIGHT	1	1%	1	2	0	2	1	2
TOTALS	51	1	12	63	59	122	19	129

Los Angeles Office: 213.337.3680 ~ Ontario Office: 909.481.5750 ~ San Diego Office: 619.400.0600

Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	6-Dec-18	NSAM0000-0002	2	OF 2

E/W STREET : MEMORIAL DR N/S STREET : FORT CADY RD
 CONDITION : SUNDAY PEAK HOUR PHF : 0.79

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	0	0	0	0	0	0	0	0	3	0	0
1	0	0	0	0	0	0	0	0	4	0	0
2	0	0	0	0	0	0	0	0	2	0	0
2	0	0	0	0	0	0	0	0	3	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	2	0	0	0	0	0	0	0	0	4
0	0	2	0	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	0	0	3
0	0	5	0	0	0	0	0	0	0	0	3

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Truck	Auto		Rounded	Truck
Volumes	Volumes	Totals	Totals	Percentage

MEMORIAL DR

EBL	0	0	0	1	1%
EBTH	0	0	0	1	1%
EBR	0	0	0	1	1%
WBL	12	10	22	22	55%
WBTH	0	0	0	1	1%
WBR	0	0	0	1	1%

FORT CADY RD

NBL	0	0	0	1	1%
NBTH	0	0	0	1	1%
NBR	12	7	19	19	64%
SBL	0	0	0	1	1%
SBTH	0	0	0	1	1%
SBR	0	0	0	1	1%

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Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

JURISDICTION: NEWBERRY SPRINGS

DATE: 11-18-18

PEAK HOUR: 12:15PM

NORTH LEG

TOTAL:

0

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL:

25

Rt

Thru

Lt

5	8	5	7	25

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

WEST LEG TOTAL:

0

PEAK HOUR FACTORS

NORTH LEG =

SOUTH LEG = 0.71

EAST LEG = 0.78

WEST LEG =

ALL LEGS = 0.81

Lt Thru Rt

1st

2nd

3rd

4th

Total

17

TOTAL:

17

SOUTH LEG

HOUR TOTAL:

42

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY
NORTH-SOUTH STREET : FORT CADY RD
EAST-WEST STREET : MEMORIAL
BEGINNING TIME : 12:00PM
NEWBERRY SPRINGS
11-18-18

11-18-18

BEGINNING TIME : 12:00PM

Prepared by Newport Traffic Studies

SANBAG CLASSIFICATION SUMMARY
 NORTH-SOUTH STREET : FORT CADY RD
 EAST-WEST STREET : MEMORIAL
 BEGINNING TIME : 02:00PM

NEWBERRY SPRINGS
 11-18-18

AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
2	0	0	0	0	0	0	0	0	3	0	0	5
1	0	0	0	0	0	0	0	0	4	0	0	5
2	0	0	0	0	0	0	0	0	2	0	0	4
2	0	0	0	0	0	0	0	0	3	0	0	5
7	0	0	0	0	0	0	0	0	12	0	0	19
EAST LEG												
0	0	2	0	0	0	0	0	0	0	0	4	6
0	0	2	0	0	0	0	0	0	0	0	2	4
0	0	1	0	0	0	0	0	0	0	0	3	4
0	0	5	0	0	0	0	0	0	0	0	3	8
0	0	10	0	0	0	0	0	0	0	0	12	22
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

TIME: 12:00PM-01:00PM

DATE: 11-18-18

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

Rt
Thru
Lt

4	5	8	5	22

1st 2nd 3rd 4th Total

Lt Thru Rt

1st			5
2nd			6
3rd			5
4th			3
Total			19

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

TIME: 01:00PM-02:00PM

DATE: 11-18-18

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

					Lt
					Thru
					Rt

Rt
Thru
Lt

7	3	3	5	18	
1st	2nd	3rd	4th	Total	

Lt Thru Rt

1st			3
2nd			1
3rd			2
4th			3
Total			9

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: MEMORIAL

TIME: 02:00PM-03:00PM

DATE: 11-18-18

NORTH LEG

Total

1st

2nd

3rd

4th

Rt Thru Lt

Rt					
Thru					
Lt	6	4	4	8	22

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

1st 2nd 3rd 4th Total

Lt Thru Rt

1st

2nd

3rd

4th

Total

		5
		5
		4
		5
		19

Prepared by NEWPORT TRAFFIC STUDIES

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	22	1	1	1	1	19	1	1	1
Future Vol, veh/h	1	1	1	22	1	1	1	1	19	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	55	1	1	1	1	64	1	1	1
Mvmt Flow	1	1	1	28	1	1	1	1	24	1	1	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	20	31	2	20	19	13	2	0	0	25	0	0
Stage 1	4	4	-	15	15	-	-	-	-	-	-	-
Stage 2	16	27	-	5	4	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.65	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.995	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	996	864	1085	873	877	1070	1627	-	-	1596	-	-
Stage 1	1021	894	-	884	885	-	-	-	-	-	-	-
Stage 2	1006	875	-	895	894	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	992	862	1085	870	875	1070	1627	-	-	1596	-	-
Mov Cap-2 Maneuver	992	862	-	870	875	-	-	-	-	-	-	-
Stage 1	1020	893	-	883	884	-	-	-	-	-	-	-
Stage 2	1002	874	-	892	893	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.7		9.3		0.3		2.4	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1627	-	-	971	877	1596	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.035	0.001	-
HCM Control Delay (s)	7.2	0	-	8.7	9.3	7.3	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	2	23	2	2	2	2	20	2	2	2
Future Vol, veh/h	2	2	2	23	2	2	2	2	20	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	55	1	1	1	1	64	1	1	1
Mvmt Flow	3	3	3	29	3	3	3	3	25	3	3	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	36	45	5	36	34	16	6	0	0	28	0	0
Stage 1	11	11	-	22	22	-	-	-	-	-	-	-
Stage 2	25	34	-	14	12	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.65	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.995	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	972	849	1081	852	861	1066	1622	-	-	1592	-	-
Stage 1	1012	888	-	876	879	-	-	-	-	-	-	-
Stage 2	995	869	-	885	888	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	964	846	1081	845	858	1066	1622	-	-	1592	-	-
Mov Cap-2 Maneuver	964	846	-	845	858	-	-	-	-	-	-	-
Stage 1	1010	886	-	874	877	-	-	-	-	-	-	-
Stage 2	988	867	-	879	886	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.8		9.4		0.6		2.4	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	954	859	1592	-
HCM Lane V/C Ratio	0.002	-	-	0.008	0.04	0.002	-
HCM Control Delay (s)	7.2	0	-	8.8	9.4	7.3	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	2	53	2	2	2	2	49	2	2	2
Future Vol, veh/h	2	2	2	53	2	2	2	2	49	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	55	1	1	1	1	64	1	1	1
Mvmt Flow	3	3	3	67	3	3	3	3	62	3	3	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	54	82	5	54	52	34	6	0	0	65	0	0
Stage 1	11	11	-	40	40	-	-	-	-	-	-	-
Stage 2	43	71	-	14	12	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.65	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.995	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	947	810	1081	828	841	1042	1622	-	-	1544	-	-
Stage 1	1012	888	-	856	864	-	-	-	-	-	-	-
Stage 2	974	838	-	885	888	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	939	807	1081	821	838	1042	1622	-	-	1544	-	-
Mov Cap-2 Maneuver	939	807	-	821	838	-	-	-	-	-	-	-
Stage 1	1010	886	-	854	862	-	-	-	-	-	-	-
Stage 2	967	836	-	879	886	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.9			9.8			0.3			2.4		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	929 828	1544	-	-
HCM Lane V/C Ratio	0.002	-	-	0.008 0.087	0.002	-	-
HCM Control Delay (s)	7.2	0	-	8.9 9.8	7.3	0	-
HCM Lane LOS	A	A	-	A A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0 0.3	0	-	-

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	2	57	2	2	2	2	52	2	2	2
Future Vol, veh/h	2	2	2	57	2	2	2	2	52	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	1	1	1	55	1	1	1	1	64	1	1	1
Mvmt Flow	3	3	3	72	3	3	3	3	66	3	3	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	56	86	5	56	54	36	6	0	0	69	0	0
Stage 1	11	11	-	42	42	-	-	-	-	-	-	-
Stage 2	45	75	-	14	12	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.65	6.51	6.21	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.65	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.995	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	944	806	1081	825	839	1039	1622	-	-	1538	-	-
Stage 1	1012	888	-	853	862	-	-	-	-	-	-	-
Stage 2	971	834	-	885	888	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	936	803	1081	818	836	1039	1622	-	-	1538	-	-
Mov Cap-2 Maneuver	936	803	-	818	836	-	-	-	-	-	-	-
Stage 1	1010	886	-	851	860	-	-	-	-	-	-	-
Stage 2	964	832	-	879	886	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.9		9.8		0.3		2.4	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	926	824	1538	-
HCM Lane V/C Ratio	0.002	-	-	0.008	0.094	0.002	-
HCM Control Delay (s)	7.2	0	-	8.9	9.8	7.3	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-



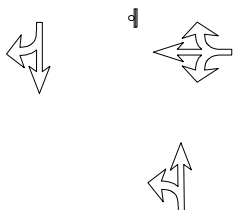
DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN MOVEMENTS	TNM	6-Dec-18	NSAM0000-0002	1	OF 2

E/W STREET : I-40 WB RAMPS
N/S STREET : FORT CADY RD
CONDITION : FRIDAY PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH : 1.1%
PER YEAR TO 2019
PROJECTED GROWTH : 21%
2019 TO 2040
PROJECTED GROWTH : 1.0%
PER YEAR TO 2040

CONDITION DIAGRAMS



EXISTING GEOMETRICS

PROPOSED GEOMETRICS

TURN MOVEMENTS

CONDITION	EXISTING TRAFFIC	TRUCK PERCENTAGE	YEAR 2019 AMBIENT GROWTH TRIPS	YEAR 2019 AMBIENT TRAFFIC	PROJECT TRIPS	YEAR 2019 AMBIENT + PROJECT TRAFFIC	YEAR 2040 AMBIENT GROWTH TRIPS	YEAR 2040 TRAFFIC

I-40 WB RAMPS

EB LEFT	0	0%	0	0	0	0	0	0
EB THRU	0	0%	0	0	0	0	0	0
EB RIGHT	0	0%	0	0	0	0	0	0
WB LEFT	6	17%	1	7	0	7	2	8
WB THRU	1	1%	1	2	0	2	1	2
WB RIGHT	18	34%	1	19	11	30	4	33

FORT CADY RD

NB LEFT	2	1%	1	3	0	3	1	3
NB THRU	17	71%	1	18	18	36	4	39
NB RIGHT	0	0%	0	0	0	0	0	0
SB LEFT	0	0%	0	0	0	0	0	0
SB THRU	23	79%	1	24	18	42	5	46
SB RIGHT	17	48%	1	18	12	30	4	33
TOTALS	84	3	7	91	59	150	21	164

Los Angeles Office: 213.337.3680 ~ Ontario Office: 909.481.5750 ~ San Diego Office: 619.400.0600

Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	6-Dec-18	NSAM0000-0002	2	OF 2

E/W STREET : I-40 WB RAMPS N/S STREET : FORT CADY RD
CONDITION : FRIDAY PEAK HOUR PHF : 0.94

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	2	0	0	0	0	0	0	0	2	4	0
2	1	0	0	0	0	0	0	0	3	5	0
4	1	0	0	0	0	0	0	0	1	4	0
1	1	0	0	0	0	0	0	0	2	5	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	1	0	0	0	0	0	0	0	3	0
0	3	1	0	0	0	0	0	0	0	3	0
0	1	0	0	0	0	0	0	0	0	3	0
0	1	0	0	0	0	0	0	0	0	3	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	0	1	0	0	0	0	0	0	1	0	1
3	0	0	0	0	0	0	0	0	1	0	0
3	0	1	0	0	0	0	0	0	2	0	0
1	0	3	0	0	0	0	0	0	2	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Truck Volumes	Auto Volumes	Totals	Rounded Totals	Truck Percentage
------------------	-----------------	--------	-------------------	---------------------

I-40 WB RAMPS

EBL	0	0	0	0	0%
EBTH	0	0	0	0	0%
EBR	0	0	0	0	0%
WBL	1	5	6	6	17%
WBTH	0	0	0	1	1%
WBR	6	12	18	18	34%

FORT CADY RD

NBL	0	2	2	2	1%
NBTH	12	5	17	17	71%
NBR	0	0	0	0	0%
SBL	0	0	0	0	0%
SBTH	18	5	23	23	79%
SBR	8	9	17	17	48%

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INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: FORT CADY RD
 EAST-WEST STREET: I-40 WB RAMPS
 JURISDICTION: NEWBERRY SPRINGS

DATE: 11-16-18

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 39

19	20	
5	3	
4	6	
5	6	
5	5	

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 26

Rt	7	6	4	5	22
Thru	1	0	0	0	1
Lt	0	2	0	1	3

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.89

SOUTH LEG = 0.75

EAST LEG = 0.81

WEST LEG =

ALL LEGS = 0.98

	Lt	Thru	Rt
1st	1	5	
2nd	1	3	
3rd	1	6	
4th	0	4	
Total	3	18	

TOTAL: 21

SOUTH LEG

HOOR TOTAL: 86

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY
 NORTH-SOUTH STREET : FORT CADY RD
 EAST-WEST STREET : I-40 WB RAMPS
 BEGINNING TIME : 04:00PM

NEWBERRY SPRINGS
 11-16-18

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	2	0	0	0	0	0	0	0	3	2	0	7
0	1	0	0	0	0	0	0	0	3	3	0	7
3	0	0	0	0	0	0	0	0	2	3	0	8
2	2	0	0	0	0	0	0	0	2	4	0	10
2	1	0	0	0	0	0	0	0	3	5	0	11
4	1	0	0	0	0	0	0	0	1	4	0	10
1	1	0	0	0	0	0	0	0	2	5	0	9
2	1	0	0	0	0	0	0	0	1	3	0	7
14	9	0	0	0	0	0	0	0	17	29	0	69
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	3	0	3
0	2	0	0	0	0	0	0	0	0	1	0	3
0	1	1	0	0	0	0	0	0	0	4	0	6
0	0	1	0	0	0	0	0	0	0	3	0	4
0	3	1	0	0	0	0	0	0	0	3	0	7
0	1	0	0	0	0	0	0	0	0	3	0	4
0	1	0	0	0	0	0	0	0	0	3	0	4
0	2	2	0	0	0	0	0	0	0	2	0	6
0	10	5	0	0	0	0	0	0	0	22	0	37
EAST LEG												
3	0	0	0	0	0	0	0	0	1	0	0	4
2	1	0	0	0	0	0	0	0	2	0	1	6
4	1	0	0	0	0	0	0	0	3	0	0	8
5	0	1	0	0	0	0	0	0	1	0	1	8
3	0	0	0	0	0	0	0	0	1	0	0	4
3	0	1	0	0	0	0	0	0	2	0	0	6
1	0	3	0	0	0	0	0	0	2	0	0	6
2	0	0	0	0	0	0	0	0	3	0	0	5
23	2	5	0	0	0	0	0	0	15	0	2	47
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 WB RAMPS

TIME: 04:00PM-05:00PM

DATE: 11-16-18

NORTH LEG

15	17		Total
3	4		1st
3	4		2nd
5	3		3rd
4	6		4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

					Lt
					Thru
					Rt

Rt	4	4	7	6	21
Thru	0	1	1	0	2
Lt	0	1	0	2	3
	1st	2nd	3rd	4th	Total

	Lt	Thru	Rt
1st	0	3	
2nd	0	3	
3rd	1	5	
4th	1	3	
Total	2	14	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 WB RAMPS

TIME: 05:00PM-06:00PM

DATE: 11-16-18

NORTH LEG

16	21		Total
5	6		1st
5	5		2nd
3	6		3rd
3	4		4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

Rt	4	5	3	5	17
Thru	0	0	0	0	0
Lt	0	1	3	0	4
	1st	2nd	3rd	4th	Total

Lt Thru Rt

1st	1	6	
2nd	0	4	
3rd	0	4	
4th	2	4	
Total	3	18	

Prepared by NEWPORT TRAFFIC STUDIES

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	6	1	18	2	17	0	0	23	17
Future Vol, veh/h	0	0	0	6	1	18	2	17	0	0	23	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	17	1	34	1	71	0	0	79	48
Mvmt Flow	0	0	0	6	1	19	2	18	0	0	24	18
Major/Minor				Minor1		Major1		Major2				
Conflicting Flow All				55	64	18	42	0	-	-	-	0
Stage 1				22	22	-	-	-	-	-	-	-
Stage 2				33	42	-	-	-	-	-	-	-
Critical Hdwy				6.57	6.51	6.54	4.11	-	-	-	-	-
Critical Hdwy Stg 1				5.57	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.57	5.51	-	-	-	-	-	-	-
Follow-up Hdwy				3.653	4.009	3.606	2.209	-	-	-	-	-
Pot Cap-1 Maneuver				916	829	975	1573	-	0	0	-	-
Stage 1				963	879	-	-	-	0	0	-	-
Stage 2				952	862	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				915	0	975	1573	-	-	-	-	-
Mov Cap-2 Maneuver				915	0	-	-	-	-	-	-	-
Stage 1				962	0	-	-	-	-	-	-	-
Stage 2				952	0	-	-	-	-	-	-	-
Approach				WB		NB		SB				
HCM Control Delay, s				8.9		0.8		0				
HCM LOS				A								
Minor Lane/Major Mvmt		NBL	NBTWBLn1	SBT	SBR							
Capacity (veh/h)		1573	-	959	-							
HCM Lane V/C Ratio		0.001	-	0.028	-							
HCM Control Delay (s)		7.3	0	8.9	-							
HCM Lane LOS		A	A	A	-							
HCM 95th %tile Q(veh)		0	-	0.1	-							

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	7	2	19	3	18	0	0	24	18
Future Vol, veh/h	0	0	0	7	2	19	3	18	0	0	24	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	17	1	34	1	71	0	0	79	48
Mvmt Flow	0	0	0	7	2	20	3	19	0	0	26	19

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	61	70	19	45	0	-
Stage 1	25	25	-	-	-	-
Stage 2	36	45	-	-	-	-
Critical Hdwy	6.57	6.51	6.54	4.11	-	-
Critical Hdwy Stg 1	5.57	5.51	-	-	-	-
Critical Hdwy Stg 2	5.57	5.51	-	-	-	-
Follow-up Hdwy	3.653	4.009	3.606	2.209	-	-
Pot Cap-1 Maneuver	909	822	974	1570	-	0
Stage 1	960	876	-	-	-	0
Stage 2	949	859	-	-	-	0
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	907	0	974	1570	-	-
Mov Cap-2 Maneuver	907	0	-	-	-	-
Stage 1	958	0	-	-	-	-
Stage 2	949	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1570	-	955	-
HCM Lane V/C Ratio	0.002	-	0.031	-
HCM Control Delay (s)	7.3	0	8.9	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	7	2	30	3	36	0	0	42	30
Future Vol, veh/h	0	0	0	7	2	30	3	36	0	0	42	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	17	1	34	1	71	0	0	79	48
Mvmt Flow	0	0	0	7	2	32	3	38	0	0	45	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	105	121	38	77	0	-
Stage 1	44	44	-	-	-	-
Stage 2	61	77	-	-	-	-
Critical Hdwy	6.57	6.51	6.54	4.11	-	-
Critical Hdwy Stg 1	5.57	5.51	-	-	-	-
Critical Hdwy Stg 2	5.57	5.51	-	-	-	-
Follow-up Hdwy	3.653	4.009	3.606	2.209	-	-
Pot Cap-1 Maneuver	858	771	950	1528	-	0
Stage 1	941	860	-	-	-	0
Stage 2	925	833	-	-	-	0
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	856	0	950	1528	-	-
Mov Cap-2 Maneuver	856	0	-	-	-	-
Stage 1	939	0	-	-	-	-
Stage 2	925	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1528	-	931	-
HCM Lane V/C Ratio	0.002	-	0.045	-
HCM Control Delay (s)	7.4	0	9	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.1	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	8	2	33	3	39	0	0	46	33
Future Vol, veh/h	0	0	0	8	2	33	3	39	0	0	46	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	17	1	34	1	71	0	0	79	48
Mvmt Flow	0	0	0	9	2	35	3	41	0	0	49	35

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	114	131	41	84	0	-
Stage 1	47	47	-	-	-	-
Stage 2	67	84	-	-	-	-
Critical Hdwy	6.57	6.51	6.54	4.11	-	-
Critical Hdwy Stg 1	5.57	5.51	-	-	-	-
Critical Hdwy Stg 2	5.57	5.51	-	-	-	-
Follow-up Hdwy	3.653	4.009	3.606	2.209	-	-
Pot Cap-1 Maneuver	848	762	946	1519	-	0
Stage 1	938	858	-	-	-	0
Stage 2	919	827	-	-	-	0
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	846	0	946	1519	-	-
Mov Cap-2 Maneuver	846	0	-	-	-	-
Stage 1	936	0	-	-	-	-
Stage 2	919	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1519	-	925	-
HCM Lane V/C Ratio	0.002	-	0.049	-
HCM Control Delay (s)	7.4	0	9.1	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.2	-



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN MOVEMENTS	TNM	6-Dec-18	NSAM0000-0002	1	OF 2

E/W STREET : I-40 WB RAMPS
N/S STREET : FORT CADY RD
CONDITION : SUNDAY PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH : 1.1%
PER YEAR TO 2019
PROJECTED GROWTH : 21%
2019 TO 2040
PROJECTED GROWTH : 1.0%
PER YEAR TO 2040

TURN MOVEMENTS

CONDITION	EXISTING TRAFFIC	TRUCK PERCENTAGE	YEAR 2019 AMBIENT GROWTH TRIPS	YEAR 2019 AMBIENT TRAFFIC	PROJECT TRIPS	YEAR 2019 AMBIENT + PROJECT TRAFFIC	YEAR 2040 AMBIENT GROWTH TRIPS	YEAR 2040 TRAFFIC

I-40 WB RAMPS

EB LEFT	0	0%	0	0	0	0	0	0
EB THRU	0	0%	0	0	0	0	0	0
EB RIGHT	0	0%	0	0	0	0	0	0
WB LEFT	11	1%	1	12	0	12	3	14
WB THRU	1	1%	1	2	0	2	1	2
WB RIGHT	26	62%	1	27	16	43	6	48

FORT CADY RD

NB LEFT	1	1%	1	2	0	2	1	2
NB THRU	2	1%	1	3	13	16	1	16
NB RIGHT	0	0%	0	0	0	0	0	0
SB LEFT	0	0%	0	0	0	0	0	0
SB THRU	3	34%	1	4	13	17	1	17
SB RIGHT	26	54%	1	27	17	44	6	49
TOTALS	70	2	7	77	59	136	19	148

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Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	6-Dec-18	NSAM0000-0002	2	OF 2

E/W STREET : I-40 WB RAMPS N/S STREET : FORT CADY RD
CONDITION : SUNDAY PEAK HOUR PHF : 0.76

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	1	0	0	0	0	0	0	0	4	0	0
2	0	0	0	0	0	0	0	0	3	0	0
3	1	0	0	0	0	0	0	0	3	0	0
4	0	0	0	0	0	0	0	0	4	1	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	0	9	0	0	0	0	0	0	5	0	0
5	1	1	0	0	0	0	0	0	4	0	0
2	0	1	0	0	0	0	0	0	3	0	0
2	0	0	0	0	0	0	0	0	4	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Truck	Auto		Rounded	Truck
Volumes	Volumes	Totals	Totals	Percentage

I-40 WB RAMPS

EBL	0	0	0	0	0%
EBTH	0	0	0	0	0%
EBR	0	0	0	0	0%
WBL	0	11	11	11	1%
WBTH	0	1	1	1	1%
WBR	16	10	26	26	62%

FORT CADY RD

NBL	0	1	1	1	1%
NBTH	0	2	2	2	1%
NBR	0	0	0	0	0%
SBL	0	0	0	0	0%
SBTH	1	2	3	3	34%
SBR	14	12	26	26	54%

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Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: FORT CADY RD
 EAST-WEST STREET: I-40 WB RAMPS
 JURISDICTION: NEWBERRY SPRINGS

DATE: 11-18-18

PEAK HOUR: 02:00PM

NORTH LEG

TOTAL: 29

26	3	
7	1	
5	0	
6	1	
8	1	

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 38

Rt	6	9	5	6	26
Thru	0	1	0	0	1
Lt	9	1	1	0	11

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

WEST LEG TOTAL: 0

PEAK HOUR FACTORS

NORTH LEG = 0.81

SOUTH LEG = 0.38

EAST LEG = 0.63

WEST LEG =

ALL LEGS = 0.76

	Lt	Thru	Rt
1st	0	0	
2nd	1	1	
3rd	0	1	
4th	0	0	
Total	1	2	

SOUTH LEG

TOTAL: 3

HOOR TOTAL: 70

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY
 NORTH-SOUTH STREET : FORT CADY RD
 EAST-WEST STREET : I-40 WB RAMPS
 BEGINNING TIME : 12:00PM

NEWBERRY SPRINGS
 11-18-18

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	4	0	0	4
5	1	0	0	0	0	0	0	0	3	0	0	9
4	0	0	0	0	0	0	0	0	3	1	0	8
0	2	0	0	0	0	0	0	0	3	0	0	5
0	2	0	0	0	0	1	0	0	3	2	0	8
1	0	0	0	0	0	0	0	0	3	0	0	4
0	0	0	0	0	0	0	0	0	1	0	0	1
1	2	0	0	0	0	0	0	0	3	0	0	6
11	7	0	0	0	0	1	0	0	23	3	0	45
SOUTH LEG												
0	3	0	0	0	0	0	0	0	0	0	0	3
0	3	1	0	0	0	0	0	0	0	0	0	4
0	4	0	0	0	0	0	0	0	0	0	0	4
0	1	0	0	0	0	0	0	0	0	1	0	2
0	0	1	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	2	0	0	0	0	0	0	0	0	0	0	2
0	15	2	0	0	0	0	0	0	0	1	0	18
EAST LEG												
1	0	1	0	0	0	0	0	0	4	0	1	7
0	0	0	0	0	0	0	0	0	3	0	0	3
0	0	0	0	0	0	0	0	0	4	0	0	4
2	1	0	0	0	0	1	0	0	6	0	0	10
2	0	2	0	0	0	0	0	0	5	0	0	9
0	0	2	0	0	0	0	0	0	2	0	0	4
0	0	0	0	0	0	0	0	0	4	0	1	5
5	0	1	0	0	0	0	0	0	0	0	0	6
10	1	6	0	0	0	1	0	0	28	0	2	48
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

SANBAG CLASSIFICATION SUMMARY
 NORTH-SOUTH STREET : FORT CADY RD
 EAST-WEST STREET : I-40 WB RAMPS
 BEGINNING TIME : 02:00PM

NEWBERRY SPRINGS
 11-18-18

AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
3	1	0	0	0	0	0	0	0	4	0	0	8
2	0	0	0	0	0	0	0	0	3	0	0	5
3	1	0	0	0	0	0	0	0	3	0	0	7
4	0	0	0	0	0	0	0	0	4	1	0	9
12	2	0	0	0	0	0	0	0	14	1	0	29
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	2	1	0	0	0	0	0	0	0	0	0	3
EAST LEG												
1	0	9	0	0	0	0	0	0	5	0	0	15
5	1	1	0	0	0	0	0	0	4	0	0	11
2	0	1	0	0	0	0	0	0	3	0	0	6
2	0	0	0	0	0	0	0	0	4	0	0	6
10	1	11	0	0	0	0	0	0	16	0	0	38
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 WB RAMPS

TIME: 12:00PM-01:00PM

DATE: 11-18-18

NORTH LEG

22	4		Total
4	0		1st
8	1		2nd
7	1		3rd
3	2		4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

Rt	5	3	4	9	21
Thru	0	0	0	1	1
Lt	2	0	0	0	2
	1st	2nd	3rd	4th	Total

Lt Thru Rt

1st	0	3	
2nd	1	3	
3rd	0	4	
4th	0	2	
Total	1	12	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 WB RAMPS

TIME: 01:00PM-02:00PM

DATE: 11-18-18

NORTH LEG

13	6		Total
4	4		1st
4	0		2nd
1	0		3rd
4	2		4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

Rt	7	2	4	5	18
Thru	0	0	0	0	0
Lt	2	2	1	1	6
	1st	2nd	3rd	4th	Total

Lt Thru Rt

1st	1	0	
2nd	0	1	
3rd	0	1	
4th	0	2	
Total	1	4	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 WB RAMPS

TIME: 02:00PM-03:00PM

DATE: 11-18-18

NORTH LEG

26	3		Total
7	1		1st
5	0		2nd
6	1		3rd
8	1		4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

Lt

Thru

Rt

Rt	6	9	5	6	26
Thru	0	1	0	0	1
Lt	9	1	1	0	11
	1st	2nd	3rd	4th	Total

Lt Thru Rt

1st	0	0	
2nd	1	1	
3rd	0	1	
4th	0	0	
Total	1	2	

Prepared by NEWPORT TRAFFIC STUDIES

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	11	1	26	1	2	0	0	3	26
Future Vol, veh/h	0	0	0	11	1	26	1	2	0	0	3	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	1	1	62	1	1	0	0	34	54
Mvmt Flow	0	0	0	14	1	34	1	3	0	0	4	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	26	43	3	38	0	-
Stage 1	5	5	-	-	-	-
Stage 2	21	38	-	-	-	-
Critical Hdwy	6.41	6.51	6.82	4.11	-	-
Critical Hdwy Stg 1	5.41	5.51	-	-	-	-
Critical Hdwy Stg 2	5.41	5.51	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.858	2.209	-	-
Pot Cap-1 Maneuver	992	851	929	1579	-	0
Stage 1	1021	894	-	-	0	0
Stage 2	1004	865	-	-	0	0
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	991	0	929	1579	-	-
Mov Cap-2 Maneuver	991	0	-	-	-	-
Stage 1	1020	0	-	-	-	-
Stage 2	1004	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1579	-	947	-
HCM Lane V/C Ratio	0.001	-	0.053	-
HCM Control Delay (s)	7.3	0	9	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.2	-

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	12	2	27	2	3	0	0	4	27
Future Vol, veh/h	0	0	0	12	2	27	2	3	0	0	4	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	1	1	62	1	1	0	0	34	54
Mvmt Flow	0	0	0	16	3	36	3	4	0	0	5	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	33	51	4	41	0	-
Stage 1	10	10	-	-	-	-
Stage 2	23	41	-	-	-	-
Critical Hdwy	6.41	6.51	6.82	4.11	-	-
Critical Hdwy Stg 1	5.41	5.51	-	-	-	-
Critical Hdwy Stg 2	5.41	5.51	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.858	2.209	-	-
Pot Cap-1 Maneuver	983	842	928	1575	-	0
Stage 1	1016	889	-	-	-	0
Stage 2	1002	863	-	-	-	0
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	981	0	928	1575	-	-
Mov Cap-2 Maneuver	981	0	-	-	-	-
Stage 1	1014	0	-	-	-	-
Stage 2	1002	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1575	-	944	-
HCM Lane V/C Ratio	0.002	-	0.057	-
HCM Control Delay (s)	7.3	0	9	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.2	-

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	12	2	43	2	16	0	0	17	44
Future Vol, veh/h	0	0	0	12	2	43	2	16	0	0	17	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	1	1	62	1	1	0	0	34	54
Mvmt Flow	0	0	0	16	3	57	3	21	0	0	22	58
Major/Minor				Minor1		Major1		Major2				
Conflicting Flow All				78	107	21	80	0	-	-	-	0
Stage 1				27	27	-	-	-	-	-	-	-
Stage 2				51	80	-	-	-	-	-	-	-
Critical Hdwy				6.41	6.51	6.82	4.11	-	-	-	-	-
Critical Hdwy Stg 1				5.41	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.41	5.51	-	-	-	-	-	-	-
Follow-up Hdwy				3.509	4.009	3.858	2.209	-	-	-	-	-
Pot Cap-1 Maneuver				927	785	907	1524	-	0	0	-	-
Stage 1				998	875	-	-	-	0	0	-	-
Stage 2				974	830	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				925	0	907	1524	-	-	-	-	-
Mov Cap-2 Maneuver				925	0	-	-	-	-	-	-	-
Stage 1				996	0	-	-	-	-	-	-	-
Stage 2				974	0	-	-	-	-	-	-	-
Approach				WB		NB		SB				
HCM Control Delay, s				9.3		0.8		0				
HCM LOS				A								
Minor Lane/Major Mvmt		NBL	NBTWBLn1	SBT	SBR							
Capacity (veh/h)		1524	-	911	-							
HCM Lane V/C Ratio		0.002	-	0.082	-							
HCM Control Delay (s)		7.4	0	9.3	-							
HCM Lane LOS		A	A	A	-							
HCM 95th %tile Q(veh)		0	-	0.3	-							

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	14	2	48	2	16	0	0	17	49
Future Vol, veh/h	0	0	0	14	2	48	2	16	0	0	17	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	1	1	62	1	1	0	0	34	54
Mvmt Flow	0	0	0	18	3	63	3	21	0	0	22	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	81	113	21	86	0	-
Stage 1	27	27	-	-	-	-
Stage 2	54	86	-	-	-	-
Critical Hdwy	6.41	6.51	6.82	4.11	-	-
Critical Hdwy Stg 1	5.41	5.51	-	-	-	-
Critical Hdwy Stg 2	5.41	5.51	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.858	2.209	-	-
Pot Cap-1 Maneuver	924	779	907	1517	-	0
Stage 1	998	875	-	-	-	0
Stage 2	971	826	-	-	-	0
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	922	0	907	1517	-	-
Mov Cap-2 Maneuver	922	0	-	-	-	-
Stage 1	996	0	-	-	-	-
Stage 2	971	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1517	-	910	-
HCM Lane V/C Ratio	0.002	-	0.093	-
HCM Control Delay (s)	7.4	0	9.4	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0	-	0.3	-



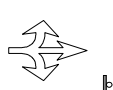
DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN MOVEMENTS	TNM	6-Dec-18	NSAM0000-0002	1	OF 2

E/W STREET : I-40 EB RAMPS
N/S STREET : FORT CADY RD
CONDITION : FRIDAY PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH : 1.1%
PER YEAR TO 2019
PROJECTED GROWTH : 21%
2019 TO 2040
PROJECTED GROWTH : 1.0%
PER YEAR TO 2040

CONDITION DIAGRAMS



EXISTING GEOMETRICS

PROPOSED GEOMETRICS

TURN MOVEMENTS

CONDITION	EXISTING TRAFFIC	TRUCK PERCENTAGE	YEAR 2019 AMBIENT GROWTH TRIPS	YEAR 2019 AMBIENT TRAFFIC	PROJECT TRIPS	YEAR 2019 AMBIENT + PROJECT TRAFFIC	YEAR 2040 AMBIENT GROWTH TRIPS	YEAR 2040 TRAFFIC

I-40 EB RAMPS

EB LEFT	13	77%	1	14	17	31	3	33
EB THRU	1	1%	1	2	0	2	1	2
EB RIGHT	3	1%	1	4	0	4	1	4
WB LEFT	0	0%	0	0	0	0	0	0
WB THRU	0	0%	0	0	0	0	0	0
WB RIGHT	0	0%	0	0	0	0	0	0

FORT CADY RD

NB LEFT	0	0%	0	0	0	0	0	0
NB THRU	4	1%	1	5	1	6	1	6
NB RIGHT	3	1%	1	4	0	4	1	4
SB LEFT	24	71%	1	25	17	42	6	47
SB THRU	5	1%	1	6	1	7	2	8
SB RIGHT	0	0%	0	0	0	0	0	0
TOTALS	53	2	7	60	36	96	15	104

Los Angeles Office: 213.337.3680 ~ Ontario Office: 909.481.5750 ~ San Diego Office: 619.400.0600

Santa Clarita Office: 661.284.7400 ~ Temecula Office: 951.294.9300 ~ Tustin Office: 714.665.4500

Victorville Office: 760.524.9100



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	6-Dec-18	NSAM0000-0002	2 OF 2

E/W STREET : I-40 EB RAMPS N/S STREET : FORT CADY RD
CONDITION : FRIDAY PEAK HOUR PHF : 0.81

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	1	3	0	0	0	0	0	0	0	0	4
0	0	2	0	0	0	0	0	0	0	0	4
0	1	1	0	0	0	0	0	0	0	0	4
0	3	1	0	0	0	0	0	0	0	0	5

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	1	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0
1	2	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	2
1	0	2	0	0	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	2
2	0	1	0	0	0	0	0	0	0	0	3

Truck Volumes	Auto Volumes	Totals	Rounded Totals	Truck Percentage
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I-40 EB RAMPS

EBL	10	3	13	13	77%
EBTH	0	0	0	1	1%
EBR	0	3	3	3	1%
WBL	0	0	0	0	0%
WBTH	0	0	0	0	0%
WBR	0	0	0	0	0%

FORT CADY RD

NBL	0	0	0	0	0%
NBTH	0	4	4	4	1%
NBR	0	3	3	3	1%
SBL	17	7	24	24	71%
SBTH	0	5	5	5	1%
SBR	0	0	0	0	0%

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Victorville Office: 760.524.9100

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 EB RAMPS

JURISDICTION: NEWBERRY SPRINGS

DATE: 11-16-18

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 29

	5	24
	1	7
	0	6
	1	5
	3	6

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 0

Rt

Thru

Lt

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

13	2	5	2	4
	0	0	0	0
3	0	1	0	2

Lt

Thru

Rt

WEST LEG TOTAL: 16

PEAK HOUR FACTORS

NORTH LEG = 0.81

SOUTH LEG = 0.58

EAST LEG =

WEST LEG = 0.67

ALL LEGS = 0.81

Lt Thru Rt

1st

2nd

3rd

4th

Total

	1	1
	1	0
	2	1
	0	1
	4	3

SOUTH LEG

TOTAL: 7

HOURLY TOTAL: 52

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : FORT CADY RD

NEWBERRY SPRINGS

EAST-WEST STREET : I-40 EB RAMP

11-16-18

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	1	1	0	0	0	0	0	0	0	0	2	4
0	0	2	0	0	0	0	0	0	0	0	3	5
0	0	0	0	0	0	0	0	0	0	0	3	3
0	1	3	0	0	0	0	0	0	0	0	4	8
0	0	2	0	0	0	0	0	0	0	0	4	6
0	1	1	0	0	0	0	0	0	0	0	4	6
0	3	1	0	0	0	0	0	0	0	0	5	9
0	1	0	0	0	0	0	0	0	0	0	3	4
0	7	10	0	0	0	0	0	0	0	0	28	45
SOUTH LEG												
2	0	0	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0	0	1
1	1	0	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	0	1
1	2	0	0	0	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
6	6	0	0	0	0	0	0	0	0	0	0	12
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	3	3
2	0	1	0	0	0	0	0	0	0	0	1	4
2	1	1	0	0	0	0	0	0	0	0	4	8
0	0	0	0	0	0	0	0	0	0	0	2	2
1	0	2	0	0	0	0	0	0	0	0	3	6
0	0	0	0	0	0	0	0	0	0	0	2	2
2	0	1	0	0	0	0	0	0	0	0	3	6
0	2	2	0	0	0	0	0	0	0	0	1	5
7	3	7	0	0	0	0	0	0	0	0	19	36

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 EB RAMP

TIME: 04:00PM-05:00PM

DATE: 11-16-18

NORTH LEG

	2	18	Total
	1	3	1st
	0	5	2nd
	0	3	3rd
	1	7	4th
Rt	Thru	Lt	

Rt					
Thru					
Lt					
	1st	2nd	3rd	4th	Total

Total 1st 2nd 3rd 4th

12	3	2	5	2	Lt
1	0	0	1	0	Thru
4	0	2	2	0	Rt

	Lt	Thru	Rt
1st		0	2
2nd		1	0
3rd		0	1
4th		1	1
Total		2	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 EB RAMP

TIME: 05:00PM-06:00PM

DATE: 11-16-18

NORTH LEG

	5	20	Total
	0	6	1st
	1	5	2nd
	3	6	3rd
	1	3	4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

14	5	2	4	3	Lt
2	0	0	0	2	Thru
3	1	0	2	0	Rt

Rt
Thru
Lt

1st	2nd	3rd	4th	Total

Lt Thru Rt

1st		1	0
2nd		2	1
3rd		0	1
4th		1	0
Total		4	2

Prepared by NEWPORT TRAFFIC STUDIES

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	13	1	3	0	0	0	0	4	3	24	5	0
Future Vol, veh/h	13	1	3	0	0	0	0	4	3	24	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	77	1	1	0	0	0	0	1	1	71	1	0
Mvmt Flow	16	1	4	0	0	0	0	5	4	30	6	0
Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	73	75	6				-	0	0	9	0	0
Stage 1	66	66	-				-	-	-	-	-	-
Stage 2	7	9	-				-	-	-	-	-	-
Critical Hdwy	7.17	6.51	6.21				-	-	-	4.81	-	-
Critical Hdwy Stg 1	6.17	5.51	-				-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.51	-				-	-	-	-	-	-
Follow-up Hdwy	4.193	4.009	3.309				-	-	-	2.839	-	-
Pot Cap-1 Maneuver	774	817	1080				0	-	-	1257	-	0
Stage 1	797	842	-				0	-	-	-	-	0
Stage 2	852	890	-				0	-	-	-	-	0
Platoon blocked, %								-	-	-		
Mov Cap-1 Maneuver	755	0	1080				-	-	-	1257	-	-
Mov Cap-2 Maneuver	755	0	-				-	-	-	-	-	-
Stage 1	778	0	-				-	-	-	-	-	-
Stage 2	852	0	-				-	-	-	-	-	-
Approach	EB						NB			SB		
HCM Control Delay, s	9.6						0			6.6		
HCM LOS	A											
Minor Lane/Major Mvmt		NBT	NBR	EBLn1	SBL	SBT						
Capacity (veh/h)		-	-	800	1257	-						
HCM Lane V/C Ratio		-	-	0.026	0.024	-						
HCM Control Delay (s)		-	-	9.6	7.9	0						
HCM Lane LOS		-	-	A	A	A						
HCM 95th %tile Q(veh)		-	-	0.1	0.1	-						

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↔			↕	
Traffic Vol, veh/h	14	2	4	0	0	0	0	5	4	25	6	0
Future Vol, veh/h	14	2	4	0	0	0	0	5	4	25	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	77	1	1	0	0	0	0	1	1	71	1	0
Mvmt Flow	17	2	5	0	0	0	0	6	5	31	7	0
Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	78	80	7				-	0	0	11	0	0
Stage 1	69	69	-				-	-	-	-	-	-
Stage 2	9	11	-				-	-	-	-	-	-
Critical Hdwy	7.17	6.51	6.21				-	-	-	4.81	-	-
Critical Hdwy Stg 1	6.17	5.51	-				-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.51	-				-	-	-	-	-	-
Follow-up Hdwy	4.193	4.009	3.309				-	-	-	2.839	-	-
Pot Cap-1 Maneuver	769	812	1078				0	-	-	1255	-	0
Stage 1	794	839	-				0	-	-	-	-	0
Stage 2	850	888	-				0	-	-	-	-	0
Platoon blocked, %								-	-	-		
Mov Cap-1 Maneuver	750	0	1078				-	-	-	1255	-	-
Mov Cap-2 Maneuver	750	0	-				-	-	-	-	-	-
Stage 1	774	0	-				-	-	-	-	-	-
Stage 2	850	0	-				-	-	-	-	-	-
Approach	EB						NB			SB		
HCM Control Delay, s	9.6						0			6.4		
HCM LOS	A											
Minor Lane/Major Mvmt		NBT	NBR	EBLn1	SBL	SBT						
Capacity (veh/h)		-	-	804	1255	-						
HCM Lane V/C Ratio		-	-	0.031	0.025	-						
HCM Control Delay (s)		-	-	9.6	7.9	0						
HCM Lane LOS		-	-	A	A	A						
HCM 95th %tile Q(veh)		-	-	0.1	0.1	-						

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	31	2	4	0	0	0	0	6	4	42	7	0
Future Vol, veh/h	31	2	4	0	0	0	0	6	4	42	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	77	1	1	0	0	0	0	1	1	71	1	0
Mvmt Flow	38	2	5	0	0	0	0	7	5	52	9	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	123	125	9	-	0	0	12	0	0
Stage 1	113	113	-	-	-	-	-	-	-
Stage 2	10	12	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.51	6.21	-	-	-	4.81	-	-
Critical Hdwy Stg 1	6.17	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	4.193	4.009	3.309	-	-	-	2.839	-	-
Pot Cap-1 Maneuver	721	767	1076	0	-	-	1254	-	0
Stage 1	755	804	-	0	-	-	-	-	0
Stage 2	849	888	-	0	-	-	-	-	0
Platoon blocked, %				-	-	-	-	-	-
Mov Cap-1 Maneuver	691	0	1076	-	-	-	1254	-	-
Mov Cap-2 Maneuver	691	0	-	-	-	-	-	-	-
Stage 1	723	0	-	-	-	-	-	-	-
Stage 2	849	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0	6.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	720	1254	-
HCM Lane V/C Ratio	-	-	0.063	0.041	-
HCM Control Delay (s)	-	-	10.3	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	33	2	4	0	0	0	0	6	4	47	8	0
Future Vol, veh/h	33	2	4	0	0	0	0	6	4	47	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	77	1	1	0	0	0	0	1	1	71	1	0
Mvmt Flow	41	2	5	0	0	0	0	7	5	58	10	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	136	138	10	-	0	0	12	0	0
Stage 1	126	126	-	-	-	-	-	-	-
Stage 2	10	12	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.51	6.21	-	-	-	4.81	-	-
Critical Hdwy Stg 1	6.17	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	4.193	4.009	3.309	-	-	-	2.839	-	-
Pot Cap-1 Maneuver	708	755	1074	0	-	-	1254	-	0
Stage 1	744	794	-	0	-	-	-	-	0
Stage 2	849	888	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	675	0	1074	-	-	-	1254	-	-
Mov Cap-2 Maneuver	675	0	-	-	-	-	-	-	-
Stage 1	709	0	-	-	-	-	-	-	-
Stage 2	849	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	6.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	703	1254	-
HCM Lane V/C Ratio	-	-	0.068	0.046	-
HCM Control Delay (s)	-	-	10.5	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN MOVEMENTS	TNM	6-Dec-18	NSAM0000-0002	1	OF 2

E/W STREET : I-40 EB RAMPS
N/S STREET : FORT CADY RD
CONDITION : SUNDAY PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH : 1.1%
PER YEAR TO 2019
PROJECTED GROWTH : 21%
2019 TO 2040
PROJECTED GROWTH : 1.0%
PER YEAR TO 2040

TURN MOVEMENTS

CONDITION	EXISTING TRAFFIC	TRUCK PERCENTAGE	YEAR 2019 AMBIENT GROWTH TRIPS	YEAR 2019 AMBIENT TRAFFIC	PROJECT TRIPS	YEAR 2019 AMBIENT + PROJECT TRAFFIC	YEAR 2040 AMBIENT GROWTH TRIPS	YEAR 2040 TRAFFIC

I-40 EB RAMPS

EB LEFT	2	50%	1	3	12	15	1	15
EB THRU	1	1%	1	2	0	2	1	2
EB RIGHT	4	1%	1	5	0	5	1	5
WB LEFT	0	0%	0	0	0	0	0	0
WB THRU	0	0%	0	0	0	0	0	0
WB RIGHT	0	0%	0	0	0	0	0	0

FORT CADY RD

NB LEFT	0	0%	0	0	0	0	0	0
NB THRU	3	34%	1	4	1	5	1	5
NB RIGHT	3	1%	1	4	0	4	1	4
SB LEFT	3	34%	1	4	12	16	1	16
SB THRU	11	1%	1	12	1	13	3	15
SB RIGHT	0	0%	0	0	0	0	0	0
TOTALS	27	1	7	34	26	60	9	62

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Victorville Office: 760.524.9100



DAVID EVANS
AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TNM	6-Dec-18	NSAM0000-0002	2	OF 2

E/W STREET : I-40 EB RAMPS
CONDITION : SUNDAY PEAK HOUR

N/S STREET : FORT CADY RD
PHF : 0.41

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	9	1	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	2	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1
1	0	1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0

Truck Volumes	Auto Volumes	Totals	Rounded Totals	Truck Percentage
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I-40 EB RAMPS

EBL	1	1	2	2	50%
EBTH	0	0	0	1	1%
EBR	0	4	4	4	1%
WBL	0	0	0	0	0%
WBTH	0	0	0	0	0%
WBR	0	0	0	0	0%

FORT CADY RD

NBL	0	0	0	0	0%
NBTH	1	2	3	3	34%
NBR	0	3	3	3	1%
SBL	1	2	3	3	34%
SBTH	0	11	11	11	1%
SBR	0	0	0	0	0%

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Victorville Office: 760.524.9100

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: FORT CADY RD
 EAST-WEST STREET: I-40 EB RAMP
 JURISDICTION: NEWBERRY SPRINGS

DATE: 11-18-18

PEAK HOUR: 01:45PM

NORTH LEG

TOTAL: 16

	12	4
	1	2
	9	1
	1	0
	1	1

Total

1st

2nd

3rd

4th

Rt Thru Lt

EAST LEG TOTAL: 0

Rt

Thru

Lt

1st 2nd 3rd 4th Total

Total 1st 2nd 3rd 4th

3	1	0	1	1
	0	0	0	0
4	1	2	0	1

Lt

Thru

Rt

WEST LEG TOTAL: 7

PEAK HOUR FACTORS

NORTH LEG = 0.40

SOUTH LEG = 0.44

EAST LEG =

WEST LEG = 0.88

ALL LEGS = 0.47

Lt Thru Rt

1st		1	0
2nd		2	2
3rd		1	0
4th		0	1
Total		4	3

TOTAL: 7

SOUTH LEG

HOURLY TOTAL: 30

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY
NORTH-SOUTH STREET : FORT CADY RD
EAST-WEST STREET : I-40 EB RAMP
BEGINNING TIME : 12:00PM

NEWBERRY SPRINGS
11-18-18

TIME : 12:00PM												
AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	2	0	0	0	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	1	0	2
0	2	2	0	0	0	0	0	0	0	0	2	6
0	1	1	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	1	0	1
0	1	1	0	0	0	0	0	0	0	0	1	3
0	7	6	0	0	0	0	0	0	0	2	3	18
SOUTH LEG												
0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	0	0	0	1
4	4	0	0	0	0	0	0	0	0	0	0	8
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
0	0	2	0	0	0	0	0	0	0	0	0	2
2	0	3	0	0	0	0	0	0	0	0	0	5
0	0	3	0	0	0	0	0	0	0	0	0	3
0	0	1	0	0	0	0	0	0	0	0	1	2
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0	2
4	0	11	0	0	0	0	0	0	0	0	1	16

Prepared by Newport Traffic Studies

SANBAG CLASSIFICATION SUMMARY
NORTH-SOUTH STREET : FORT CADY RD
EAST-WEST STREET : I-40 EB RAMPS
BEGINNING TIME : 02:00PM

NEWBERRY SPRINGS
11-18-18

AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	9	1	0	0	0	0	0	0	0	0	0	10
0	1	0	0	0	0	0	0	0	0	0	0	1
0	1	1	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	1	1
0	11	2	0	0	0	0	0	0	0	0	1	14
SOUTH LEG												
2	2	0	0	0	0	0	0	0	0	0	0	4
0	0	0	0	0	0	0	1	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
3	2	0	0	0	0	0	1	0	0	0	0	6
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	1	1
1	0	1	0	0	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	0	0	0	1
4	0	1	0	0	0	0	0	0	0	0	1	6

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 EB RAMPS

TIME: 12:00PM-01:00PM

DATE: 11-18-18

NORTH LEG

	4	2	Total
	2	0	1st
	0	1	2nd
	1	0	3rd
	1	1	4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

10	2	3	3	2	Lt
0	0	0	0	0	Thru
2	0	2	0	0	Rt

Rt
Thru
Lt

1st	2nd	3rd	4th	Total

Lt Thru Rt

1st		1	0
2nd		0	0
3rd		1	0
4th		0	2
Total		2	2

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INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 EB RAMPS

TIME: 01:00PM-02:00PM

DATE: 11-18-18

NORTH LEG

	5	7	Total
	2	4	1st
	1	1	2nd
	1	0	3rd
	1	2	4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

2	0	1	0	1	Lt
0	0	0	0	0	Thru
2	1	0	0	1	Rt

Rt
Thru
Lt

1st	2nd	3rd	4th	Total

Lt Thru Rt

1st		0	0
2nd		1	1
3rd		0	1
4th		1	0
Total		2	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: FORT CADY RD

EAST-WEST STREET: I-40 EB RAMPS

TIME: 02:00PM-03:00PM

DATE: 11-18-18

NORTH LEG

	11	3	Total
	9	1	1st
	1	0	2nd
	1	1	3rd
	0	1	4th
Rt	Thru	Lt	

Total 1st 2nd 3rd 4th

2	0	1	1	0	Lt
0	0	0	0	0	Thru
4	2	0	1	1	Rt

Rt
Thru
Lt

1st	2nd	3rd	4th	Total

Lt Thru Rt

1st		2	2
2nd		1	0
3rd		0	1
4th		0	0
Total		3	3

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Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	2	1	4	0	0	0	0	3	3	3	11	0
Future Vol, veh/h	2	1	4	0	0	0	0	3	3	3	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	41	41	41	41	41	41	41	41	41	41	41	41
Heavy Vehicles, %	50	1	1	0	0	0	0	34	1	34	1	0
Mvmt Flow	5	2	10	0	0	0	0	7	7	7	27	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	52	55	27	-	0	0	14	0	0
Stage 1	41	41	-	-	-	-	-	-	-
Stage 2	11	14	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.51	6.21	-	-	-	4.44	-	-
Critical Hdwy Stg 1	5.9	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.009	3.309	-	-	-	2.506	-	-
Pot Cap-1 Maneuver	849	838	1051	0	-	-	1419	-	0
Stage 1	871	863	-	0	-	-	-	-	0
Stage 2	901	886	-	0	-	-	-	-	0
Platoon blocked, %					-	-			
Mov Cap-1 Maneuver	845	0	1051	-	-	-	1419	-	-
Mov Cap-2 Maneuver	845	0	-	-	-	-	-	-	-
Stage 1	867	0	-	-	-	-	-	-	-
Stage 2	901	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	972	1419	-
HCM Lane V/C Ratio	-	-	0.018	0.005	-
HCM Control Delay (s)	-	-	8.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	3	2	5	0	0	0	0	4	4	4	12	0
Future Vol, veh/h	3	2	5	0	0	0	0	4	4	4	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	41	41	41	41	41	41	41	41	41	41	41	41
Heavy Vehicles, %	50	1	1	0	0	0	0	34	1	34	1	0
Mvmt Flow	7	5	12	0	0	0	0	10	10	10	29	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	64	69	29	-	0	0	20	0	0
Stage 1	49	49	-	-	-	-	-	-	-
Stage 2	15	20	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.51	6.21	-	-	-	4.44	-	-
Critical Hdwy Stg 1	5.9	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.009	3.309	-	-	-	2.506	-	-
Pot Cap-1 Maneuver	835	823	1049	0	-	-	1411	-	0
Stage 1	864	856	-	0	-	-	-	-	0
Stage 2	897	881	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	829	0	1049	-	-	-	1411	-	-
Mov Cap-2 Maneuver	829	0	-	-	-	-	-	-	-
Stage 1	858	0	-	-	-	-	-	-	-
Stage 2	897	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	954	1411	-
HCM Lane V/C Ratio	-	-	0.026	0.007	-
HCM Control Delay (s)	-	-	8.9	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	15	2	5	0	0	0	0	5	4	16	13	0
Future Vol, veh/h	15	2	5	0	0	0	0	5	4	16	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	41	41	41	41	41	41	41	41	41	41	41	41
Heavy Vehicles, %	50	1	1	0	0	0	0	34	1	34	1	0
Mvmt Flow	37	5	12	0	0	0	0	12	10	39	32	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	127	132	32	-	0	0	22	0	0
Stage 1	110	110	-	-	-	-	-	-	-
Stage 2	17	22	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.51	6.21	-	-	-	4.44	-	-
Critical Hdwy Stg 1	5.9	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.009	3.309	-	-	-	2.506	-	-
Pot Cap-1 Maneuver	765	761	1045	0	-	-	1409	-	0
Stage 1	808	806	-	0	-	-	-	-	0
Stage 2	895	879	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	744	0	1045	-	-	-	1409	-	-
Mov Cap-2 Maneuver	744	0	-	-	-	-	-	-	-
Stage 1	785	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	4.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	802	1409	-
HCM Lane V/C Ratio	-	-	0.067	0.028	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	15	2	5	0	0	0	0	5	4	16	15	0
Future Vol, veh/h	15	2	5	0	0	0	0	5	4	16	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	41	41	41	41	41	41	41	41	41	41	41	41
Heavy Vehicles, %	50	1	1	0	0	0	0	34	1	34	1	0
Mvmt Flow	37	5	12	0	0	0	0	12	10	39	37	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	132	137	37	-	0	0	22	0	0
Stage 1	115	115	-	-	-	-	-	-	-
Stage 2	17	22	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.51	6.21	-	-	-	4.44	-	-
Critical Hdwy Stg 1	5.9	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4.009	3.309	-	-	-	2.506	-	-
Pot Cap-1 Maneuver	760	756	1038	0	-	-	1409	-	0
Stage 1	803	802	-	0	-	-	-	-	0
Stage 2	895	879	-	0	-	-	-	-	0
Platoon blocked, %					-	-			
Mov Cap-1 Maneuver	739	0	1038	-	-	-	1409	-	-
Mov Cap-2 Maneuver	739	0	-	-	-	-	-	-	-
Stage 1	781	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	796	1409	-
HCM Lane V/C Ratio	-	-	0.067	0.028	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-