Maverik Gas / Convenience Store

(Copper Av. / Juan Tabo Blvd.)

Traffic Impact Study

April 03, 2019

F I N A L

Presented to:

NM Dept. of Transportation
District 3

City of Albuquerque
Transportation Development Section

Prepared for:

Tierra West, LLC
5571 Midway Pk. Pl. NE
Albuquerque, NM 87109

Terry O. Brown P.E.
P.O. Box 92051
Albuquerque, NM 87199
505 · 883 · 8807

Maverik Gas / Convenience Store
(Copper Ave. / Juan Tabo Blvd.)
Traffic Impact Study

Executive Summary

The purpose of this study is to evaluate the transportation conditions before and after implementation of the proposed Maverik Gas / Convenience Store, determine the impact of the development on the adjacent transportation system and recommend mitigation measures where necessary. This study is prepared to meet the requirements of the City of Albuquerque Transportation Development Section, Planning Department & the New Mexico Department of Transportation (NMDOT) associated with its review of the Maverik Gas / Convenience Store.

The proposed development is located at the southeast corner of Copper Ave. / Juan Tabo Blvd. The study area includes the intersections of I-40 N. Ramp / Juan Tabo Blvd., I-40 S. Ramp / Juan Tabo Blvd., Copper Ave. / Juan Tabo Blvd., Lomas Blvd. / Juan Tabo Blvd., and Copper Ave. / Paisano St. as well as the two proposed driveways for the project – one on Copper Ave. (the fourth leg of the Hobby Lobby / Starbucks drive) and a right-in only drive on Juan Tabo Blvd.

The proposed development is to be developed as a 20 fueling position Gas Station w/ Gas / Convenience Store. The anticipated implementation year for this site is the year 2019. According to the Institute of Traffic Engineers' (ITE) trip generation rates, the weekday AM Peak Hour period is anticipated to generate approximately 145 entering trips and 139 exiting trips. During the weekday PM Peak Hour period, it is anticipated that it will generate approximately 143 entering trips and 137 exiting trips.

The development will be accessed via four proposed driveways for this parcel of land, one full access driveway on Copper Ave. (Driveway "A"), one right-in only driveway on Juan Tabo Blvd. (Driveway "B"), one full access driveway on Paisano St. (Driveway "C"), and one full access driveway on Zia Rd. (Driveway "D"). Driveway "A" was analyzed in this Study. Driveway "B" did not require analysis since it has no conflicting movements as a right-turn-in only driveway. Driveways "C" and "D" are minor low-volume driveways that do not require analysis. The proposed Driveway "B" on Juan Tabo Blvd. will require approval from the New Mexico Department of Transportation's Access Control Committee since it is located within the access control area of the I-40 / Juan Tabo Interchange. A separate companion Access Justification Report is submitted with this Traffic Impact Study to provide justification for the proposed Driveway "B" on Juan Tabo Blvd.

Traffic Impact Analysis (Study) results by analysis year are included in the following tables:

Executive Summary Results Table

			2019 Conditions		2029 Conditions	
Intersection No. / Name	**Signalization**	**Case**	**AM Peak**	**PM Peak**	**AM Peak**	**PM Peak**
1 - I-25 S. Ramp / Juan Tabo Blvd.	Signalized	NO BUILD	B - 15.3	C - 30.2	B - 17.3	D - 49.9
		BUILD	B - 15.6	C - 30.9	B - 17.7	D - 54.3
2 - I-25 N. Ramp / Juan Tabo Blvd.	Signalized	NO BUILD	F - 86.7	B - 18.4	F - 101.2	B - 18.2
		BUILD	F - 90.5	B - 19.1	F - 104.7	B - 19.3
3 - Copper Ave. / Juan Tabo Blvd.	Signalized	NO BUILD	D - 45.0	C - 30.7	D - 54.3	E - 64.3
		BUILD	D - 54.4	D - 43.0	E - 71.2	E - 79.4
		MIT BLD	**D - 35.7**	**C - 30.0**	**D - 42.6**	**D - 39.3**
4 - Lomas Blvd. / Juan Tabo Blvd.	Signalized	NO BUILD	D - 38.7	D - 38.8	D - 43.5	D - 43.1
		BUILD	D - 39.3	D - 39.9	D - 43.9	D - 46.2
5 - Copper Ave. / Paisano St.	Unsignalized	NO BUILD	C - 19.0	C - 19.4	C - 22.8	C - 22.3
		BUILD	C - 20.3	C - 20.7	C - 24.7	C - 24.2
6 - Copper Ave. / Driveway "A"	Unsignalized	NO BUILD	C - 15.7	B - 14.7	C - 18.9	C - 16.5
		BUILD	F - 78.8	F - 56.9	F - 165	F - 89.0
7 - Driveway "B" / Juan Tabo Blvd. (Right-in- ONLY)	Unsignalized	NO BUILD	N/A	N/A	N/A	N/A
		BUILD	A - 0.0	A - 0.0	A - 0.0	A - 1.1

Note: Unsignalized intersection levels-of-service reported are for the worst case turning movement only (usually the exiting left turn movement).

In summary, the proposed development does not have a significant adverse impact to the adjacent transportation system except at the intersection of Copper Ave. / Juan Tabo Blvd., and the minimal impact to the transportation system can be mitigated by the recommended measures described in this report and summarized in the table above. In summary, the recommendations of this study are:

Recommendations:

2019 (Implementation Year):

Copper Ave / Juan Tabo Blvd.:

- Construct a northbound right turn lane on Juan Tabo Blvd. at Copper Ave. The new northbound right turn lane should be designed and constructed to meet the standards of the New Mexico Department of Transportation's State Access Management Manual. Based on a posted speed limit of 40 MPH, the northbound right turn deceleration lane should be designed and constructed to a length of 641 feet long (516 feet of full width deceleration lane plus 125 feet transition taper).

- Re-stripe the east leg of Copper Ave. at Juan Tabo Blvd. to create dual westbound left turn lanes plus a thru / right turn lane. The dual westbound left turn lanes should be designed and constructed to a length of 150 feet, then transition to the existing center two-way left turn lane in Copper Ave. east of Paisano St. NE.

Access:

Driveway "A" is recommended as a full access unsignalized driveway located approximately 215 feet east of Juan Tabo Blvd. (centerline to centerline) as shown on the proposed site development plan on Page A-3 in the Appendix of this report. Driveway "A" should be designed and constructed with two exiting lanes (one for left turns and one for right turns) and one entering lane. Driveway lanes should be wide enough to accommodate design delivery vehicles.

Driveway "B" is recommended as a right-turn-in only driveway off of Juan Tabo Blvd. at the extreme southwest corner of the project. Design and construction of the proposed driveway shall meet the requirements of the New Mexico Department of Transportation.

Driveway "C" is recommended as a full access unsignalized driveway on Paisano St. located approximately 80 feet south of Copper Ave. (centerline to centerline).

Driveway "D" is recommended as a full access unsignalized driveway on Zia Rd. to serve for local access to the new facility.

2029 (Horizon Year):

Same recommendations as 2019 (Implementation Year).

New Mexico DEPARTMENT OF TRANSPORTATION

Date: January 31, 2019

TO: Terry Brown, P.E.

FROM: Margaret Haynes, NMDOT Assistant District 3 Traffic Engineer

SUBJECT: Maverik Gas and Convenience Store Traffic Impact Study
SE Corner of Juan Tabo and Copper, North of I-40
Albuquerque, Bernalillo County, New Mexico

The NMDOT received the TIS dated November 27, 2018. District Three and Traffic Technical Support's comments are below.

General Comments:

What are the peak hours?

For future submittals, the report shall identify the 15 minute AM and PM peak periods and those volumes shall be used for the analysis; thus the peak hour factor will be 1 for all movements. If the analysis reveals one or more movements with a v/c ratio . 1, a multiple period analysis shall be conducted that begins with a 15 minute time period with all movement v/c ratios < 1 and continues through the saturated periods until another time period is found with v/c >1.

Report Comments:

Page ii – Should the top table be the 2019 Implementation Year? Both are the 2029 Horizon Year.

Page 4 – Add discussion regarding existing land use in the vicinity area generating traffic at this intersection. For example Starbucks and Manzano High School.

Page 4 - Describe the signal timing for the interchange signals and signal at Juan Tabo and Copper. Are they coordinated?

Page 5 – Add summary of how demand volume was collected.

Page 5 – The demand volume information is conveyed very well for the ramps on pages A-137 thru A-144. What is the reason that it was not done for the intersection at Copper & Juan Tabo?

Page A-138 – The spreadsheet does not seem to be subtracting the previous queue from the total volume calculation. For example from 7:30 to 7:45 at the eastbound leg a volume of 123 is counted but 12 of that is from the previous period. The volume should be adjusted to 111 but remains at 123 in the Total column.

Page 9/10 – Not all the access points and percentages are shown in the trip distributions for the development.

Page 12 – Queuing chart should show HCS queues (95th percentile) instead of Synchro queues.

Page A-142 – The video time labels only show 4-6 minutes in between flights instead of a flight every 15 minutes. Is this correct?

Page 13 – One of the default values seems to be wrong for the SB right movement at I-40 & Juan Tabo WB exit ramp in the AM peak. The analysis is showing a v/c ratio of 1.52 but yet the demand volumes show a v/c ratio near 1 with very little queue left over from 15 minute period to 15 minute period.

Page 13 – Why is the WBR and SBR at I-40 WB off-ramp and Juan Tabo operating so poorly?

Page 15 – At build conditions, the intersection will be operating at an unacceptable LOS.

Page 16 – Any changes to the signal at Juan Tabo and Copper cannot be done unless the signal timings at the interchanges are considered.

Page 17 – It's hard to define the NBT lanes as continuous when they are bound and metered by the signalized intersection of the I-25 SB off ramp and Juan Tabo which is 750-foot away. The thru lanes are metered.

Page 17 – Was dual WBL completed in Build analysis?

Page 17 – NBR existing queue extends past the length of the proposed development's frontage. In order to obtain the desired length to contain the queue the recommended length is not adequate and the partial access on Juan Tabo should be eliminated.

Page 17 – How are SB movements metered?

Page 17 – The HCS queue (50th percentile) for the northbound right at Juan Tabo & Copper is 8 vehicles (200 ft) in the PM peak mitigated condition. This would fit within the distance between Juan Tabo and proposed Driveway B. The 95th percentile queue needs to calculated to make the final determination on whether Driveway B will interfere with the needed right turn bay length at Copper. Also, the City of Albuquerque needs to decide whether they will accept the mitigated geometry on the east leg of Copper. Without these geometric modifications, Driveway B should not be allowed because it will limit the length of the northbound right turn bay at Copper.

Page 21 – Driveway "B" experiences a conflicting movement with a queue at Copper that extends past it.

Page 31 – NMDOT supports the construction of a NBR at Copper however, it should be extended to include the queue.

Page 31 – NMDOT does not support the partial access of Driveway "B" based on the queuing analysis and signal spacing between Copper and I-40 on Juan Tabo.

CC:
Nancy Perea, NMDOT
Brad Julian, NMDOT
Racquel Michel, COA
Ernest Armijo, COA
Matthew Yannoni, COA
file

Terry O. Brown P.E.
Civil / Transportation Engineering

Wednesday, April 03, 2019

Margaret Haynes, P.E.
NM DOT Asst. District 3 Traffic Engineer
7500 Pan American Freeway
P. O. Box 91750
Albuquerque, NM 87199-1750

Re: Maverik Convenience Store (Copper Ave. / Juan Tabo Blvd.)

Dear Margaret:

I am in receipt of your January 31, 2019 comments for the Referenced Maverik Convenience Store (Copper Ave. / Juan Tabo Blvd.) TIS and have revised the report to address your comments as follows.

***Comment**: What are the peak hours?*
Response: The peak hours for each intersection analyzed in the study were clearly defined on the turning movements volumes worksheets near the end of the Appendix of the report.

***Comment**: For future submittals, the report shall identify the 15 minute AM and PM peak periods and those volumes shall be used for the analysis; thus the peak hour factor will be 1 for all movements. If the analysis reveals one or more movements with a v/c ratio . 1, a multiple period analysis shall be conducted that begins with a 15 minute time period with all movement v/c ratios < 1 and continues through the saturated periods until another time period is found with v/c >1.*
Response: I am not sure why this is a comment for the DRAFT Traffic Impact Study for this project. It should be an item of discussion / direction at the Scoping Meeting for each future Traffic Impact Study. It was not suggested at the scoping meeting for this project. The parameters and requirements for the Traffic Impact Study are supposed to be defined and established at the scoping meeting for each particular study. Nonetheless, I acknowledge this requirement for future Traffic Studies.

***Comment**: Page ii — Should the top table be the 2019 Implementation Year? Both are the 2029 Horizon Year.*
Response: Table has been corrected.

***Comment**: Page 4 — Add discussion regarding existing land use in the vicinity area generating traffic at this intersection. For example Starbucks and Manzano High School.*
Response: Language on Page 4 has been modified to comply with request – now Page 5.

***Comment**: Page 4 - Describe the signal timing for the interchange signals and signal at Juan Tabo and Copper. Are they coordinated?*
Response: Language on Page 4 has been modified to comply with request.

Re: Maverik Convenience Store (Copper Ave. / Juan Tabo Blvd.)

***Comment**: Page 5 — Add summary of how demand volume was collected.*
Response: Complied with request under "Analysis of Existing Conditions."

***Comment**: Page 5 — The demand volume information is conveyed very well for the ramps on pages A-137 thru A-144. What is the reason that it was not done for the intersection at Copper & Juan Tabo?*
Response: The intersection of Copper / Juan Tabo was counted in the same manner as for the I-40 Ramps. Language has been added to clarify and turning movements volumes tables added to the Appendix for the other intersections.

***Comment**: Page A-138 —The spreadsheet does not seem to be subtracting the previous queue from the total volume calculation. For example from 7:30 to 7:45 at the eastbound leg a volume of 123 is counted but 12 of that is from the previous period. The volume should be adjusted to 111 but remains at 123 in the Total column.*
Response: Complied with request.

***Comment**: Page 9/10 — Not all the access points and percentages are shown in the trip distributions for the development.*
Response: The proposed access driveway on Paisano St. and on Zia Rd. are such minor driveways that they were not shown nor analyzed in this study. They are now shown on the Trips Assignments Maps with a lightweight line. They are minor driveways intersecting residential streets. The LOS is intuitively LOS "A". Also, the driveway on Zia Rd. is a right-in, left-out only driveway with no conflicting movements. Therefore, it requires no analysis.

***Comment**: Page 12 — Queuing chart should show HCS queues (95th percentile) instead of Synchro queues.*
Response: All queuing calculations in the FINAL Traffic Impact Study for the proposed Maverik Convenience Store (Copper Ave. / Juan Tabo Blvd.) are 95th Percentile Queues calculated using HCM 6 equations based on the forecast 2029 AM and PM Peak Hour NO BUILD and BUILD volumes.

***Comment**: Page A-142 — The video time labels only show 4-6 minutes in between flights instead of a flight every 15 minutes. Is this correct?*
Response: I have added some language to the "Analysis of Existing Conditions" section to explain further. In summary, the drone flights are launched at each 15-minute interval to collect video data two minutes before the end of the 15-minute interval to two minutes after the end of the 15-minute interval. So there is four minutes of video data – two minutes before and two minutes after the end of each 15-minute interval. Battery technology does not allow us to keep the drones in the air for the entire traffic count period (two hours).

Re: Maverik Convenience Store (Copper Ave. / Juan Tabo Blvd.)

***Comment**: Page 13 — One of the default values seems to be wrong for the SB right movement at 1-40 & Juan Tabo WB exit ramp in the AM peak. The analysis is showing a v/c ratio of 1.52 but yet the demand volumes show a v/c ratio near 1 with very little queue left over from 15 minute period to 15 minute period.*
Response: The southbound right turn movement at I-40 Juan Tabo WB is very congested during the AM Peak Hour. The southbound right turn movement backs up almost to Copper Ave. occasionally, but had evidently cleared substantially by the end of the 15-minute period. While the backups are substantial, the queuing varies a great deal during the AM Peak Hour.

***Comment**: Page 13 — Why is the WBR and SBR at 1-40 WB off-ramp and Juan Tabo operating so poorly?*
Response: The volume of SBR movement is just under 1,000 vph during the 2019 AM Peak Hour NO BUILD Condition. The WBR movement is about 327 during the 2019 AM Peak Hour NO BUILD Condition. These volumes for the two turning movements are substantial and the overall intersection is congested. The SBR / WBR volumes would work better if the rest of the intersection was not so congested.

***Comment**: Page 15 — At build conditions, the intersection will be operating at an unacceptable LOS.*
Response: Acknowledged. That is why mitigation measures are being proposed.

***Comment**: Page 16 — Any changes to the signal at Juan Tabo and Copper cannot be done unless the signal timings at the interchanges are considered.*
Response: The report has been modified to show the impact of the Copper / Juan Tabo mitigation improvements on the I-40 N. Ramp / Juan Tabo. The impact is minimal.

***Comment**: Page 17 — It's hard to define the NBT lanes as continuous when they are bound and metered by the signalized intersection of the 1-25 SB off ramp and Juan Tabo which is 750-foot away. The thru lanes are metered.*
Response: This comment no longer applies due to new method of calculating queuing.

***Comment**: Page 17 — Was dual WBL completed in Build analysis?*
Response: The queuing table on old Page 17 (now Page 25) considers the dual westbound left turn lanes on Copper Ave.

***Comment**: Page 17 — NBR existing queue extends past the length of the proposed development's frontage. In order to obtain the desired length to contain the queue the recommended length is not adequate and the partial access on Juan Tabo should be eliminated.*
Response: The FINAL TIS uses the new method of calculating queuing and the associated report table. The resulting NB RT queue is not much different, but the proposed design of the NB RT lane has been modified to better accommodate the proposed NB RT ONLY driveway to the Maverik facility.

Margaret Haynes, P.E.
Wednesday, April 03, 2019

Re: Maverik Convenience Store (Copper Ave. / Juan Tabo Blvd.)

***Comment**: Page 17 — How are SB movements metered?*
Response: This comment no longer applies due to the new method of calculating queuing and the associated report table.

***Comment**: Page 17 — The HCS queue (50th percentile) for the northbound right at Juan Tabo & Copper is 8 vehicles (200 ft) in the PM peak mitigated condition. This would fit within the distance between Juan Tabo and proposed Driveway B. The 95th percentile queue needs to calculated to make the final determination on whether Driveway B will interfere with the needed right turn bay length at Copper. Also, the City of Albuquerque needs to decide whether they will accept the mitigated geometry on the east leg of Copper. Without these geometric modifications, Driveway B should not be allowed because it will limit the length of the northbound right turn bay at Copper.*
Response: The 95th Percentile queue lengths (95th Percentile) are incorporated into this report and the proposed design of the northbound right turn deceleration lane on Juan Tabo Blvd. at Copper Ave. has been revised to accommodate the proposed Driveway "B" (right-turn-in ONLY).

***Comment**: Page 21 — Driveway "B" experiences a conflicting movement with a queue at Copper that extends past it.*
Response: A right-in only driveway cannot have a conflicting movement.

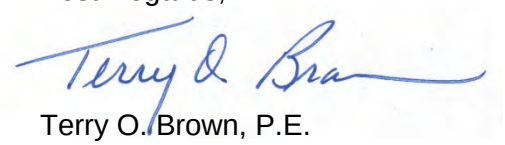
***Comment**: Page 31 — NMDOT supports the construction of a NBR at Copper however, it should be extended to include the queue.*
Response: This FINAL TIS contains a new plan for the project that depicts the northbound right turn lane on Juan Tabo Blvd. at Copper Ave. designed to include the 95th Percentile queue length plus the deceleration length.

***Comment**: Page 31 — NMDOT does not support the partial access of Driveway "B" based on the queuing analysis and signal spacing between Copper and 1-40 on Juan Tabo.*
Response: We think that the NM DOT should support this request.

I believe this addresses your comments regarding the Sierra Vista Development TIS.

Please call me if you have questions.

Best Regards,



Terry O. Brown, P.E.

attachments as noted

cc: Nancy Perea, P.E., NM DOT District 3 Traffic Engineer

CITY OF ALBUQUERQUE

December 24, 2018

Terry O. Brown P.E.
PO Box 92051
Albuquerque, NM 87199

Re: Maverik Store
Copper Ave. / Juan Tabo Blvd.
Traffic Impact Study Comments
Engineer's Stamp dated 11-29-2018 (K22D059)

Dear Mr. Brown,

Based upon the information provided in your submittal received 11-29-2018, Transportation cannot approve the TIS for the above referenced project.

Prior to approval, the following items must be addressed:

1. Page *ii*: The two tables at the top of the page are identical, one should be for 2019. Also the recommendations column should be dated the same as the table, not 2040.
2. Page 3: Please zoom out the image to show the Hobby Lobby driveway as it is analyzed in this report.
3. Page 4: Intersection 6 is called out as Copper Ave. / Hobby Lobby Dr., but throughout the report the intersection is called out as Copper Ave. / Driveway A. Please be consistent.
4. Page 15: Please check your table inputs as LOS numbers do not match figures included after page 31.
5. Page 21: Please add text on this page describing how Driveway A was analyzed as a 4-way intersection with the Hobby Lobby Driveway, such as on page 30. This would clear up confusion earlier.
6. Page 25: Same as comment for page 15.
7. Page 28: Same as comments for page 21.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

CITY OF ALBUQUERQUE

Once corrections are complete, along with any comments from NMDOT, resubmit along with a completed Drainage Transportation Information Sheet to front counter personnel for log in and evaluation by Transportation. For digital submittal please submit to PLNDRS@cabq.gov. If you have any questions, please contact me at (505) 924-3633.

Sincerely,

Ernest Armijo P.E.
Senior Engineer, Planning Dept.
Development Review Services

via: email
C: Applicant, File

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Terry O. Brown P.E.
Civil / Transportation Engineering

Wednesday, April 03, 2019

Ernest Armijo, P.E.
City of Albuquerque Transportation Development Section
Planning Department
P. O. Box 1293
Albuquerque, NM 87102

Re: Maverik Store (Copper Ave. / Juan Tabo Blvd.)

Dear Ernest:

Attached is a hard copy of the FINAL Traffic Impact Study for the referenced land development project for your review and approval. Also attached is a CD with the electronic version of the full TIS.

I have modified the DRAFT Traffic Impact Study to create the FINAL Traffic Impact Study which addresses your comments as follows:

***Comment**: Page ii: The two tables at the top of the page are identical, one should be for 2019. Also the recommendations column should be dated the same as the table, not 2040.*
Response: The two tables have been replaced with a new format which is labelled correctly.

***Comment**: Page 3: Please zoom out the image to show the Hobby Lobby driveway as it is analyzed in this report.*
Response: The image has been modified as requested.

***Comment**: Page 4: Intersection 6 is called out as Copper Ave. / Hobby Lobby Dr., but throughout the report the intersection is called out as Copper Ave. / Driveway A. Please be consistent.*
Response: The Hobby Lobby driveway is almost aligned with the Maverik Driveway "A". In my opinion, it is not offset sufficiently to be analyzed as a separate driveway. Therefore, I analyzed it as one driveway, so that in the NO BUILD condition it is the technically the analysis of the Hobby Lobby driveway / Copper Ave. and in the BUILD condition, it is the analysis of the Hobby Lobby Driveway (Driveway "A") / Copper Ave. I have modified the designation on Page 4 to clear up the issue by labelling it as "Copper Ave. / Hobby Lobby Dr. (Driveway "A") which links to two accesses.

Ernest Armijo, P.E.
Wednesday, April 03, 2019

Re: Maverik Store (Copper Ave. / Juan Tabo Blvd.)

***Comment**: Page 15: Please check your table inputs as LOS numbers do not match figures included after page 31.*
Response: It appears to me that the two pages matched each other, but the entire analysis has been re-calculated, and the new table should match the LOS / Volume Analysis Map at the end of the front-end text.

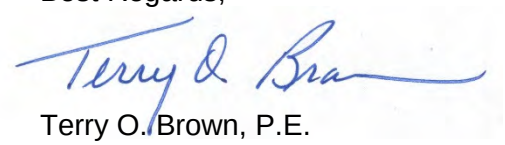
***Comment**: Page 21: Please add text on this page describing how Driveway A was analyzed as a 4-way intersection with the Hobby Lobby Driveway, such as on page 30.*
Response: Language has been added as requested – now Page 18.

***Comment**: Page 25: Same as comment for page 15.*
Response: Same response as for page 15 – now Page 24.

***Comment**: Page 28: Same as comment for page 21.*
Response: Same response as for page 21 – now Page 29.

I believe that addresses all of your comments. Please call me if you have questions.

Best Regards,



Terry O. Brown, P.E.

attachments as noted

cc: Nancy Perea, P.E., NM DOT District 3 Traffic Engineer
Margaret Haynes, P.E., NM DOT Asst. District 3 Traffic Engineer

Maverik Gas / Convenience Store
(Copper Ave. / Juan Tabo Blvd.)
Traffic Impact Study

Contents

Executive Summary i

Comments from Reviewing Agencies iv

Transmittal Letters (FINAL TIS) ix

Introduction 1

Description of Proposed Development 2

Study Area Conditions 4

Analysis of Existing Conditions 5

Analysis of Implementation Year Conditions 6

Traffic Projections 6

Traffic Analysis 12

Analysis of Horizon Year Conditions 19

Traffic Projections 19

Traffic Analysis 19

Special Analysis - Weaving 30

Impact Assessment 31

Access Design Specifications 31

Summary of Deficiencies, Anticipated Impacts, and Recommendations 32

Recommendations: 32

APPENDIX 34

Maverik Gas / Convenience Store
(Copper Av. / Juan Tabo Blvd.)
Traffic Impact Study

Introduction

The purpose of this study is to evaluate the transportation conditions before and after implementation of the proposed Maverik Gas / Convenience Store and determine the impact of the development on the adjacent transportation system. The recommendations of this study will provide measures to mitigate the impact of the development of the site plan on critical intersections and street segments. This study is prepared to meet the requirements of the City of Albuquerque Transportation Development Section, Planning Department and NMDOT District 3 Traffic Engineer associated with their review of the Maverik Gas / Convenience Store as shown on the plan on Page A-3 in the Appendix of this report.

The proposed development is located at the southeast corner of Copper Ave. / Juan Tabo Blvd. in Albuquerque, New Mexico. If the property was to develop in a manner significantly different than the proposed plan considered in this report such that the number of generated trips is significantly greater, then an update to this study may be required by either or both of the reviewing agencies.

Following is a vicinity map depicting the location of the proposed project:

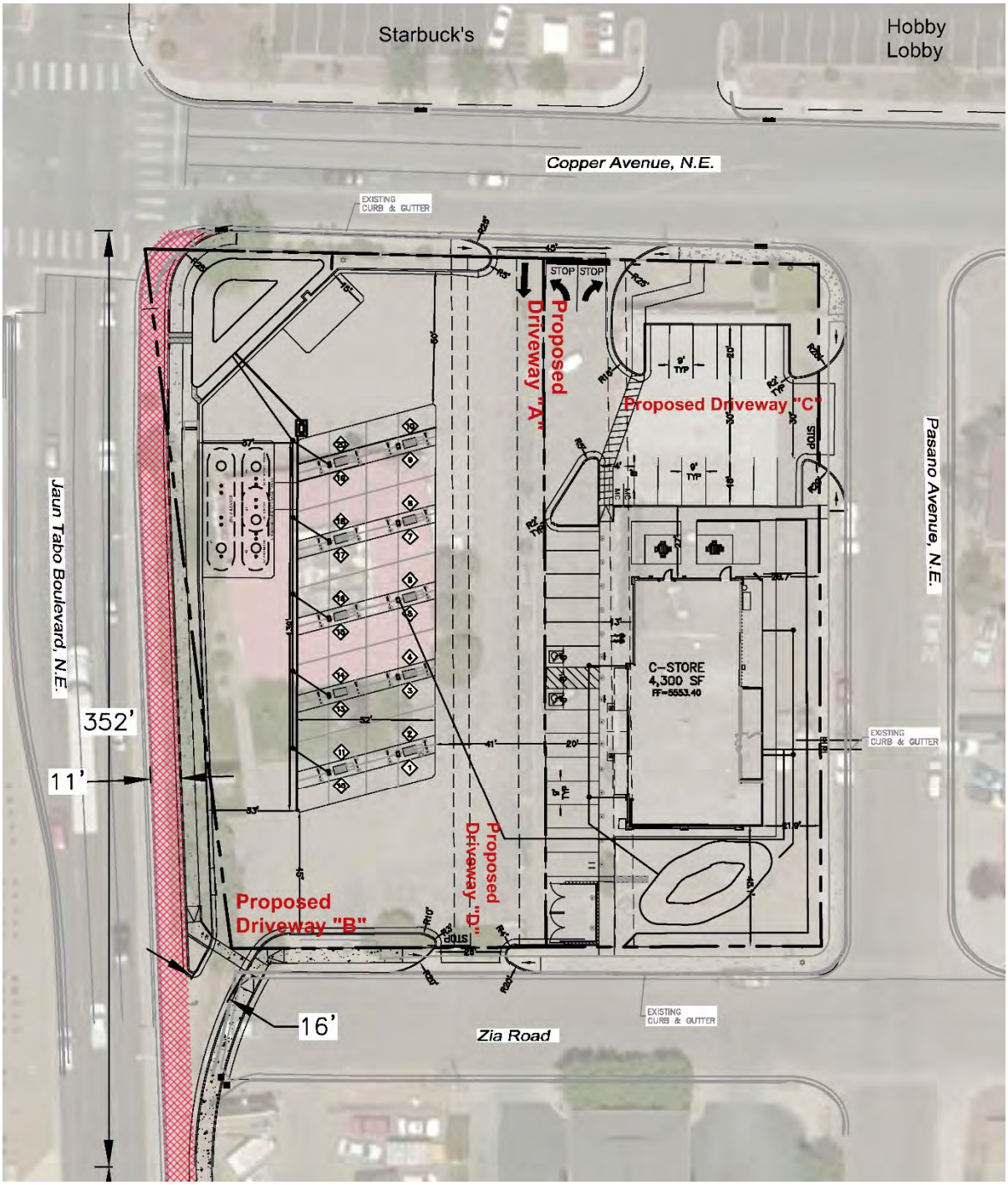
Description of Proposed Development

The proposed project is described as a 20 fueling position Gas station w/ Gas / Convenience market at the southeast corner of Copper Ave. / Juan Tabo Blvd. The project lies in the city limits of Albuquerque, NM. The project is near the Interstate 40 / Juan Tabo Blvd. Interchange which is maintained by the New Mexico Department of Transportation. Therefore, the project will be required to comply with the requirements of the City of Albuquerque with regard to the overall development and with the requirements of the New Mexico Department of Transportation with regard to transportation issues within the control access area of the I-40 / Juan Tabo Blvd. Interchange.

This development will be constructed in one phase and will be comprised of a 20 fueling position Gas station w/ Gas / Convenience market. This study will analyze an implementation year of 2019 and a horizon year of 2029.

The development will be accessed via four proposed driveways for this parcel of land. Three of the driveways are proposed as full access unsignalized driveways that directly access Copper Ave. (Driveway "A"), Paisano St. (Driveway "C"), and Zia Rd. (Driveway "D"). The fourth driveway (Driveway "B") is proposed as a right-in only access directly off of Juan Tabo Blvd. south of Copper Ave. Driveway "B" will require approval of the New Mexico Department of Transportation's Access Control Committee. A separate companion Access Justification Report is submitted with this Traffic Impact Study to provide justification for the proposed Driveway "B" on Juan Tabo Blvd.

On the following page is the proposed site development plan depicting driveway (access) locations (also, see Appendix Page A-3 for a more complete version of the proposed site development plan):



Proposed Site Plan
For
Maverik Store
(Copper Ave. / Juan Blvd.)

Study Area Conditions

A Traffic Impact Study Scoping Meeting was held with the New Mexico Department of Transportation District 3 office with staff (Nancy Perea, P.E., Margaret Haynes, P.E., and Brad Julian, P.E.) and City of Albuquerque staff (Racquel Michel, P.E., and Ernest Armijo, P.E.). During the scoping meeting, it was determined that the study area would include the following list of intersections to be analyzed in the Traffic Impact Study:

1. I-40 S. Ramp / Juan Tabo Blvd.
2. I-40 N. Ramp / Juan Tabo Blvd.
3. Copper Ave. / Juan Tabo Blvd.
4. Lomas Blvd. / Juan Tabo Blvd.
5. Copper Ave. / Paisano St.
6. Copper Ave. / Hobby Lobby Dr. (Driveway "A")

The traffic signals are coordinated for the intersections of the I-40 S. Ramp / Juan Tabo Blvd., the I-40 N. Ramp / Juan Tabo Blvd., and Copper Ave. / Juan Tabo Blvd. for the northbound and southbound traffic flows.

In addition, two proposed driveways will be analyzed: one on Copper Ave. (considered the fourth leg of the Hobby Lobby / Starbuck's driveway) and one on Juan Tabo Blvd. (a right-in only drive). However, the proposed right-in only driveway cannot be analyzed based on standard Highway Capacity Manual methods since there will be no conflicting movements created. The other driveways on the project are considered low-volume driveways and, therefore, no analysis required.

This scope of study was based on the assumption that the parcel in question would be developed as a 20 fueling position Gas station w/ Gas / Convenience market as shown on the proposed site plan.

There are no other known land development projects in the area which need to be incorporated into the background traffic model for this study. There are no known Transportation Improvement Program projects in the area that need to be considered in the Traffic Impact Study.

This project is served by public transit services in the area; specifically Routes #1 and 11. These routes run along Juan Tabo Blvd. and along Lomas Blvd. in the vicinity of this project. See Appendix Page A-136 for Transit Route Map.

A few of the roadways in this vicinity are designated on the Futures 2040 Metropolitan Transportation Plan (2040 Long Range Bikeway System) as either Proposed or Existing Bicycle Lanes.

There are pedestrian facilities in the project area – curb & gutter and sidewalks along the roads, as well as raised medians for pedestrians & bicyclists crossing against traffic.

Copper Ave. is classified as a Major Collector Roadway on the Mid-Region Council of Government's Futures 2040 Long Range Roadway System Map. In the vicinity of this project, it is a three-lane urban-type roadway (two driving lanes plus a center two-way left turn lane) with curb, gutter and sidewalks. The posted speed limit along this road is assumed to be 35 MPH.

Lomas Blvd. is classified as a Regional Principal Arterial Roadway on the Mid-Region Council of Government's Futures 2040 Long Range Roadway System Map. It is generally a four-lane divided roadway east of Juan Tabo Blvd. and has curb & gutter with sidewalks. The posted speed limit along Lomas Blvd. near Juan Tabo Blvd. is 40 MPH.

Juan Tabo Blvd. is classified as a Community Principal Arterial Roadway on the Mid-Region Council of Government's Futures 2040 Long Range Roadway System Map. It is generally a six-lane roadway with raised medians and curb & gutter with sidewalks. The posted speed limit along this section of Juan Tabo Blvd. is 40 MPH.

The area around the proposed project is a mix of residential and retail commercial uses. The Maverik property itself is zoned MX-M (Mixed Use – Moderate Intensity). The northeast and southwest corner of Copper Ave. / Juan Tabo are zoned MX-L (Mixed Use – Low Intensity). Also, some of the property to the southeast behind the proposed Maverik Convenience Store is zoned MX-L. Much of the rest of the surrounding area is zoned R-1B (Residential Single-Family), RT (Residential Townhome), and R-ML (Residential Multifamily). Apache Elementary School is located along the south side of Copper Ave. approximately ¾ of a mile east of Juan Tabo Blvd. and is a substantial contributor to traffic at the intersection of Copper / Juan Tabo, especially during the AM Peak Hour period.

Analysis of Existing Conditions

Due to the fact that the Implementation Year is only one year in the future, no existing analysis was performed. Existing traffic volumes (turning movement counts) were collected at the intersections targeted for analysis in this study in 2018 which are included on Appendix Pages A-137 thru A-148c. The traffic counts collected were adjusted for demand based on queuing data collected at the end of each 15-minute turning movement count period using drones with video cameras to best determine queuing lengths and volumes.

Background traffic was taken from recent traffic counts (Appendix A-137 through A-148c). Traffic count data (i.e., AM / PM Peak Hour turning movements volumes) were adjusted for demand based on the remnant queue on each approach of a major intersection at the end of

each 15-minute period of the count interval. Volumes were adjusted for demand at the intersections of the I-40 S. Ramp / Juan Tabo Blvd., the I-40 N. Ramp / Juan Tabo Blvd., and Copper Ave. / Juan Tabo Blvd. The intersection of Lomas Blvd. / Juan Tabo Blvd. was too far away to see with the drone flights. To accomplish this quantification of queuing at the end of each 15-minute interval, a company was hired to launch a drone with video camera to an altitude of approximately 400 feet above ground level to capture the queuing during the following time intervals:

For the AM Peak Hour count period:	For the PM Peak Hour count period:
7:13 AM to 7:17 AM	4:13 PM to 4:17 PM
7:28 AM to 7:32 AM	4:28 PM to 4:32 PM
7:43 AM to 7:47 AM	4:43 PM to 4:47 PM
7:58 AM to 8:02 AM	4:58 PM to 5:02 PM
8:13 AM to 8:17 AM	5:13 PM to 5:17 PM
8:28 AM to 8:32 AM	5:28 PM to 5:32 PM
8:43 AM to 8:47 AM	5:43 PM to 5:47 PM

The drone capture video of the queuing conditions for a four-minute interval. The video was stopped at each 15-minute interval (i.e., 7:15 AM, 7:30 AM, 7:45 AM, etc.) to estimate the number of vehicles queued for each approach in the video. The queued vehicles were included in the previous 15-minute count interval and subtracted out from the subsequent 15-minute count interval.

Analysis of Implementation Year Conditions

Traffic Projections

Background traffic data for the implementation year was calculated based on recent traffic counts (Appendix A-137 thru A-148c) conducted for this project and displayed on the Lanes / Volumes Analysis maps located prior to Appendix of this report. The Lanes / Volumes Analysis maps summarize the Implementation Year NO BUILD Volumes / BUILD Volumes, Existing Lane Configuration / Mitigated Lane Configuration, and calculated levels-of-services for each lane group at each intersection in the study area.

This study assumes that the development will be implemented in one phase with an implementation year of 2019 and a horizon year of 2029.

Projected trips were calculated based on the Institute of Traffic Engineers (ITE) Trip Generation Manual (10th Edition). Trips for the development were determined based on land use defined on the Conceptual Site Development Plan on Page A-3 in the Appendix of this report. The following table summarizes the trip generation rate for the project:

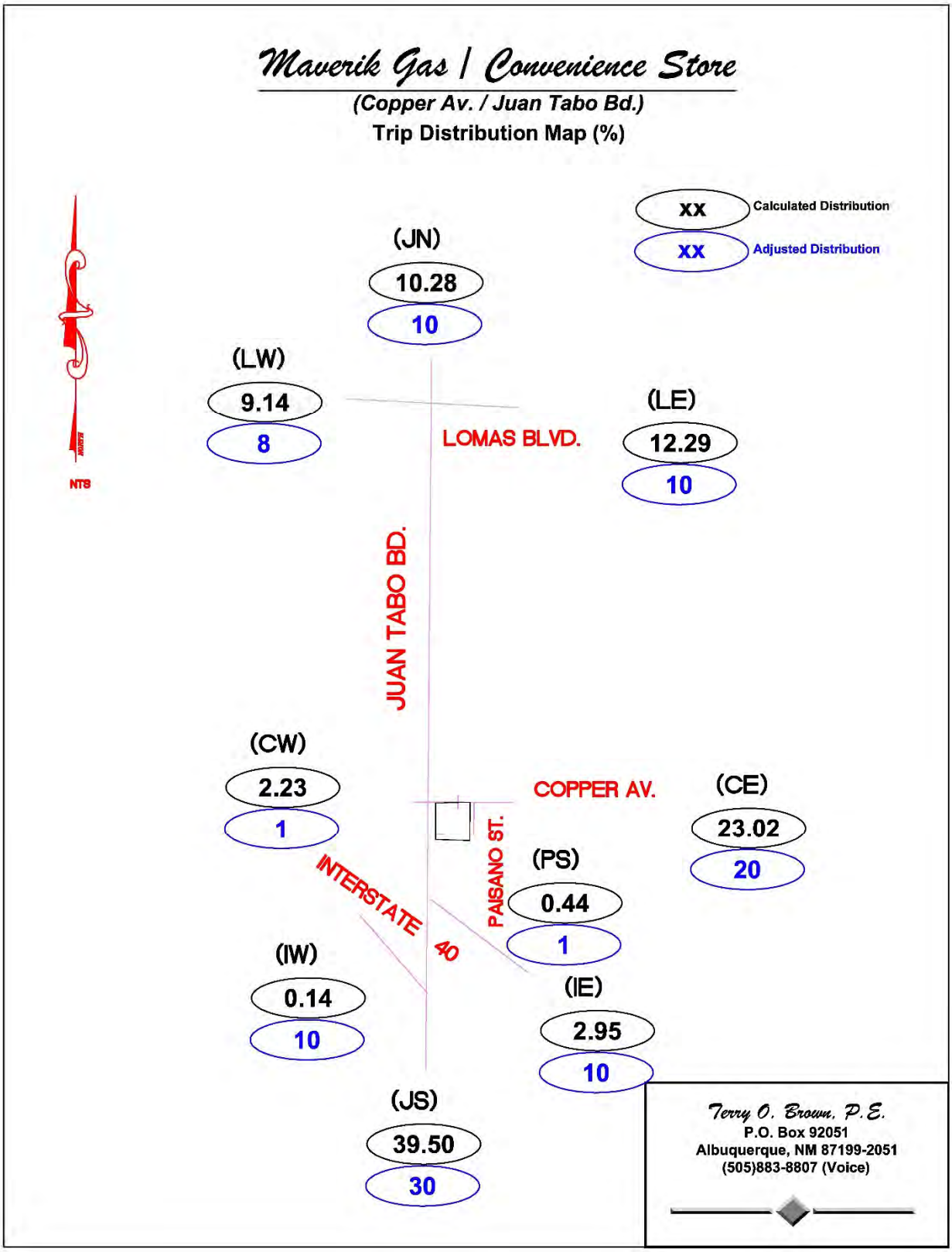
Maverik C-Store (Copper Ave. / Juan Tabo Blvd.)

Trip Generation Data (ITE Trip Generation Manual - 10th Edition)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A.M. PEAK HOUR		P.M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Gasoline / Service Station w/ Convenience Market (945)	*20*	4,208	145	139	143	137
	Fueling Positions					

Pass-by trips were not applied to this project. See Appendix Page A-7 for more information regarding the trip generation.

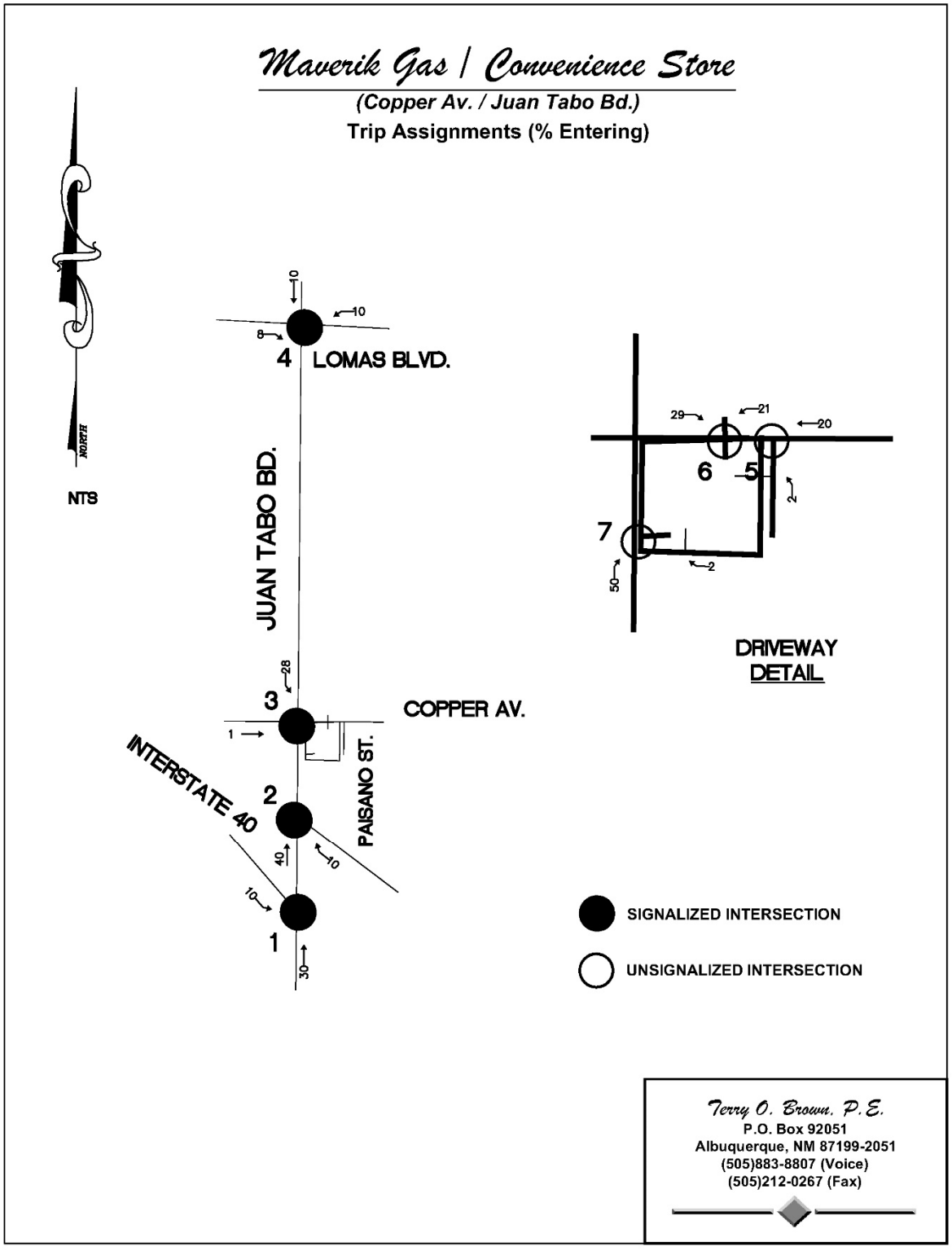
The Gravity Model was used to determine trip distribution where primary trips for the commercial land use development were distributed proportionally to the 2019 projected population of citywide subareas. Population data for the years 2012 and 2040 were taken from the 2040 Socioeconomic Forecasts by Subareas for the Mid-Region of New Mexico supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2012 and 2040 was interpolated linearly to obtain 2019 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The gravity model utilized in this trip distribution analysis yielded percentages of trips to and from I-40 that seemed inordinately low. Therefore, the results of the trip distribution model were adjusted based on the type of facility being proposed to yield more reliable assumptions, especially regarding the percentages of trips that will originate or terminate to and from Interstate 40. The adjusted trip distribution percentages were then utilized to determine trip assignments used in this report for the actual analysis. The trip distribution worksheets and associated map of data analysis subzones are shown in the Appendix on Pages A-8 thru A-14. The commercial Trip Distribution map can be found on the following page and in the Appendix on Page A-12.

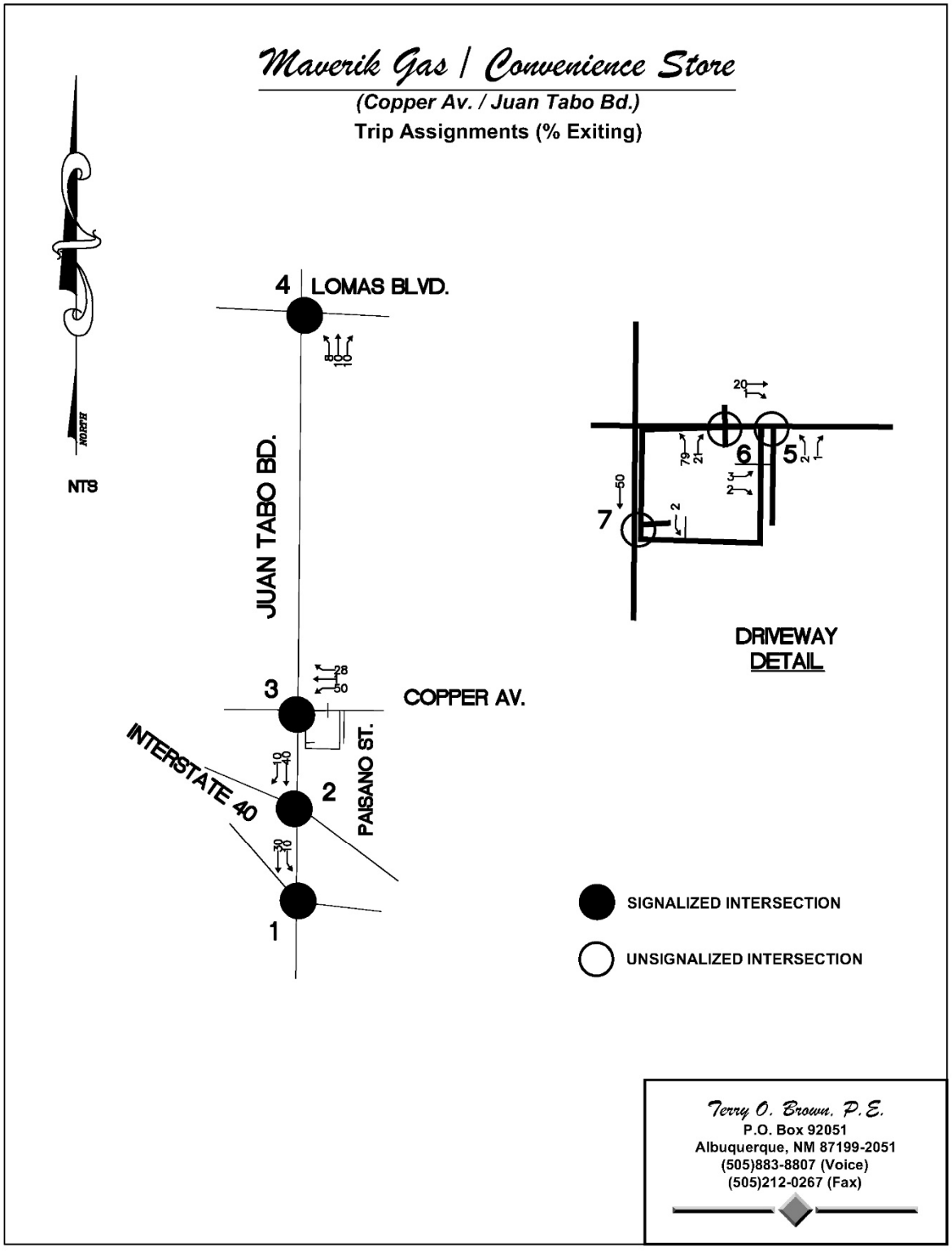

Maverik Gas / Convenience Store
(Copper Av. / Juan Tabo Bd.)
Trip Distribution Map (%)
XX
Calculated Distribution
XX
Adjusted Distribution
NTS
(JN)
10.28
10
(LW)
9.14
8
LOMAS BLVD.
(LE)
12.29
10
JUAN TABO BD.
(CW)
2.23
1
COPPER AV.
(CE)
23.02
20
PAISANO ST.
(PS)
0.44
1
INTERSTATE
40
(IW)
0.14
10
(IE)
2.95
10
(JS)
39.50
30
Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)

Trip assignments are first made on a percentage basis derived from data established in the trip distribution determination process and logical routing. Those percentages are then applied to the projected trips to determine individual traffic movements. Percentage trip assignments for commercial trips are shown below and in the Appendix on Pages A-13 thru A-14. No adjustments for pass-by trips on this project were applied.

Background traffic growth rates were considered for each individual approach to an intersection that was targeted for analysis based on data from the 2008 through 2017 Traffic Flow maps prepared by the Mid-Region Council of Governments. Most of the Traffic Flow Data for those years taken from the MRCOG Traffic Flow Maps were Standard Data. The data from those years for each approach was plotted on a graph and a linear "regression trend line" calculated using the equation format y=mx+b. The growth rate was determined by calculating the average volume increase per year during the time period considered and dividing that volume into the most recent AWDT used in the analysis from which future volumes will be calculated. The rate of growth of that trend line was utilized as the annual growth rate for each approach if that calculated rate appeared feasible. However, in every roadway segment considered in this analysis, the rate indicated either an inconsistent or a negative growth trend; therefore, the growth rate was considered to be a generic 0.5%. Historical Growth Rate Graphs with linear regression trend lines are shown in the Appendix on Pages A-16 thru A-23 and the growth rate map is shown on Page A-24. The growth rate utilized for each approach to an intersection is printed at the top of the Turning Movement sheets for each intersection (Appendix Pages A-25 thru A-55).

The trip generation, trip distribution and trip assignments were utilized along with the existing 2018 background traffic volumes and the historical traffic growth rates to determine the Implementation year NO BUILD and BUILD volumes. See Appendix Pages A-25 thru A-55 for Turning Movements Summary and Worksheets. Implementation year AM Peak Hour and PM Peak Hour NO BUILD and BUILD volumes are displayed on the Lanes / Volumes Analysis Maps at the end of the front-end text of this report. Following are the maps of the Trip Assignments utilized for the trips generated by the proposed Maverik Store at Copper Ave. / Juan Tabo Blvd.:


Maverik Gas / Convenience Store
(Copper Av. / Juan Tabo Bd.)
Trip Assignments (% Entering)
NORTH
NTS
JUAN TABO BD.
LOMAS BLVD.
COPPER AV.
INTERSTATE 40
PAISANO ST.
4
3
2
1
10
10
8
28
1
40
10
10
30
DRIVEWAY DETAIL
29
21
20
6
5
2
7
2
50
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)


Maverik Gas / Convenience Store
(Copper Av. / Juan Tabo Bd.)
Trip Assignments (% Exiting)
NORTH
NTS
4
LOMAS BLVD.
JUAN TABO BD.
3
COPPER AV.
INTERSTATE 40
2
PAISANO ST.
1
6
5
7
DRIVEWAY
DETAIL
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Traffic Analysis

A capacity analysis using existing traffic signal timing (see Appendix Pages A-57 thru A-84) was conducted for the Implementation Year (2019) NO BUILD and BUILD Conditions and the results are summarized as follows:

#1 –I-40 S. Ramp / Juan Tabo Blvd. – Pages A-57 *thru* A-84

The results of the analysis of the signalized intersection of I-40 S. Ramp / Juan Tabo Blvd. are summarized in the following table:

I-40 S. Ramp / Juan Tabo	EB (I-40 W. Ramp)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	2	1>	1	0	3	1	2	3	0
AM Peak Hour									
2019 NO BUILD Conditions Volumes	516	2	250	0	1,162	71	93	1,346	0
V/C Ratio	0.82	0.00	0.45	0.00	0.42	0.08	0.63	0.42	0.00
Level-of-Service	D	A	D	A	B	A	D	A	A
Control Delay (Seconds)	45.8	0.0	39.1	0.0	11.4	8.8	52.0	0.3	0.0
Intersection LOS	**B - 15.3**								
2019 BUILD Conditions Volumes	531	2	250	0	1,206	71	107	1,388	0
V/C Ratio	0.82	0.00	0.44	0.00	0.44	0.08	0.66	0.44	0.00
Level-of-Service	D	A	D	A	B	A	D	A	A
Control Delay (Seconds)	45.9	0.0	38.6	0.0	12.1	9.2	51.6	0.3	0.0
Intersection LOS	**B - 15.6**								
PM Peak Hour									
2019 NO BUILD Conditions Volumes	1,056	2	564	0	1,620	260	236	911	0
V/C Ratio	0.92	0.00	0.55	0.00	0.77	0.40	0.82	0.33	0.00
Level-of-Service	D	A	C	A	C	C	E	A	A
Control Delay (Seconds)	48.3	0.0	32.3	0.0	31.1	24.5	59.5	0.3	0.0
Intersection LOS	**C - 30.2**								
2019 BUILD Conditions Volumes	1,070	2	564	0	1,663	260	250	952	0
V/C Ratio	0.93	0.00	0.55	0.00	0.80	0.41	0.83	0.35	0.00
Level-of-Service	D	A	C	A	C	C	E	A	A
Control Delay (Seconds)	49.0	0.0	32.1	0.0	32.8	25.1	60.5	0.3	0.0
Intersection LOS	**C - 30.9**								

The 2019 analysis of the intersection of I-40 S. Ramp / Juan Tabo Blvd. demonstrates that the delays will be acceptable for all conditions analyzed in this report. Therefore, no recommendations are made for the intersection of I-40 S. Ramp / Juan Tabo Blvd.

Note: The eastbound ramp approach consists of dual eastbound left turn lanes, one thru / right turn lane, and one eastbound right turn lane (a total of four lanes).

#2 – I-40 N. Ramp / Juan Tabo Blvd. - Pages A-57 *thru* A-84

The results of the 2019 analyses of the signalized intersection of I-40 N. Ramp / Juan Tabo Blvd. are summarized in the following tables:

I-40 N. Ramp / Juan Tabo	WB (I-40 N. Ramp)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	<1	1	2	3	0	0	3	1
AM Peak Hour									
2019 NO BUILD Conditions Volumes	355	3	327	503	1,175	0	0	1,084	961
V/C Ratio	0.48	0.00	0.99	0.92	0.39	0.00	0.00	0.54	1.53
Level-of-Service	D	A	F	D	A	A	A	D	F
Control Delay (Seconds)	36.6	0.0	85.0	49.4	0.3	0.0	0.0	36.4	288.0
Intersection LOS	**F - 86.7**								
2019 BUILD Conditions Volumes	355	3	342	503	1,233	0	0	1,140	975
V/C Ratio	0.48	0.00	1.03	0.92	0.41	0.00	0.00	0.56	1.56
Level-of-Service	D	A	F	D	A	A	A	D	F
Control Delay (Seconds)	36.6	0.0	97.5	49.1	0.3	0.0	0.0	37.9	304.0
Intersection LOS	**F - 90.5**								
Mitigated Lane Geometry	1	<1	1	2	3	0	0	3	1
019 BUILD Conditions [MITIGATED] Volume	355	3	342	503	1,233	0	0	1,140	975
V/C Ratio	0.48	0.00	1.03	0.92	0.41	0.00	0.00	0.56	1.56
Level-of-Service	D	A	F	D	A	A	A	D	F
Control Delay (Seconds)	36.6	0.0	97.5	49.1	0.3	0.0	0.0	37.9	304.0
Intersection LOS	**F - 90.5**								

PM Peak Hour									
2019 NO BUILD Conditions Volumes	66	5	102	440	2,236	0	0	1,081	652
V/C Ratio	0.24	0.00	0.78	0.87	0.57	0.00	0.00	0.36	0.70
Level-of-Service	D	A	E	D	A	A	A	C	D
Control Delay (Seconds)	51.3	0.0	62.8	41.7	0.2	0.0	0.0	27.1	39.9
Intersection LOS	**B - 18.4**								
2019 BUILD Conditions Volumes	66	5	116	440	2,293	0	0	1,136	666
V/C Ratio	0.21	0.00	0.80	0.87	0.59	0.00	0.00	0.39	0.73
Level-of-Service	D	A	E	D	A	A	A	C	D
Control Delay (Seconds)	50.2	0.0	62.4	41.5	0.2	0.0	0.0	28.3	43.0
Intersection LOS	**B - 19.1**								
95th Percentile Queue (veh)	1.9	0.0	7.3	7.9	0.1	0.0	0.0	16.8	30.4
Mitigated Lane Geometry	1	<1	1	2	3	0	0	3	1
019 BUILD Conditions [MITIGATED] Volume	66	5	116	440	2,293	0	0	1,136	666
V/C Ratio	0.21	0.00	0.79	0.88	0.59	0.00	0.00	0.39	0.74
Level-of-Service	D	A	E	D	A	A	A	C	D
Control Delay (Seconds)	45.9	0.0	56.8	41.0	0.2	0.0	0.0	26.6	40.9
Intersection LOS	**B - 18.2**								

The 2019 analysis of the intersection of I-40 N. Ramp / Juan Tabo Blvd. demonstrates that the delays will be unacceptable for the AM Peak Hour and marginally acceptable for the PM Peak Hour NO BUILD and BUILD conditions analyzed in this report. The problem turning movement appears to be the westbound and southbound right turn movements which are at level-of-service "F" during the 2019 AM NO BUILD and BUILD Peak Hour and level-of-service "E" during

the 2019 PM NO BUILD and BUILD Peak Hour periods. The implementation of the proposed development increases the delay at the intersection by 3.8 seconds during the AM Peak Hour and by 0.7 seconds during the PM Peak Hour. Therefore, no recommendations are made for the intersection of I-40 N. Ramp / Juan Tabo Blvd.

The Mitigated conditions are displayed in the above table to demonstrate the impact of the proposed mitigation at Copper Ave. / Juan Tabo on this intersection. The impact is negligible.

Note: The westbound ramp approach consists of a westbound left turn lane, one thru / left turn lane, and one westbound right turn lane (a total of three lanes).

#3 – Copper Ave. / Juan Tabo Blvd. - Pages A-57 *thru* A-84

The results of the 2019 analyses of the full access signalized intersection of Copper Ave. / Juan Tabo Blvd. are summarized in the following tables:

Copper Ave. / Juan Tabo	EB (Copper Ave.)			WB (Copper Ave.)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	1>	0	1	1	1	1	3>	0	1	3>	0
AM Peak Hour												
2019 NO BUILD Conditions Volumes	13	26	95	421	39	114	77	1,234	191	65	2,045	16
V/C Ratio	0.03	0.00	0.24	1.12	0.07	0.21	0.57	0.66	0.66	0.36	0.94	0.94
Level-of-Service	C	A	C	F	C	C	C	D	D	C	C	D
Control Delay (Seconds)	25.1	0.0	25.9	124.0	24.2	22.4	29.3	40.1	41.8	20.1	34.6	39.2
Intersection LOS	**D - 45.0**											
2019 BUILD Conditions Volumes	13	27	95	491	40	153	77	1,234	191	106	2,045	16
V/C Ratio	0.03	0.00	0.24	1.31	0.07	0.27	0.57	0.68	0.68	0.56	0.94	0.94
Level-of-Service	C	A	C	F	C	C	C	D	D	C	C	D
Control Delay (Seconds)	25.1	0.0	26.0	200.0	24.2	22.5	29.8	41.1	43.3	22.6	34.3	38.8
Intersection LOS	**D - 54.4**											
Mitigated Lane Geometry	1	1>	0	2	1>	0	1	3	1	1	3>	0
019 BUILD Conditions [MITIGATED] Volume	13	27	95	491	40	153	77	1,234	191	106	2,045	16
V/C Ratio	0.08	0.00	0.83	0.88	0.00	0.41	0.55	0.57	0.21	0.52	0.91	0.91
Level-of-Service	D	A	E	E	A	C	C	D	B	B	C	C
Control Delay (Seconds)	45.2	0.0	74.2	55.1	0.0	29.0	29.8	36.7	12.9	19.4	30.6	34.1
Intersection LOS	**D - 35.7**											

PM Peak Hour												
2019 NO BUILD Conditions Volumes	24	23	75	238	35	84	87	1,877	374	120	1,733	95
V/C Ratio	0.07	0.00	0.24	0.76	0.08	0.18	0.46	0.83	0.86	0.79	0.66	0.66
Level-of-Service	C	A	D	D	C	C	B	D	D	C	B	C
Control Delay (Seconds)	34.6	0.0	35.0	54.7	33.2	30.3	18.0	35.6	40.8	35.0	19.0	20.1
Intersection LOS	**C - 30.7**											
2019 BUILD Conditions Volumes	24	24	75	307	36	122	87	1,877	374	160	1,733	95
V/C Ratio	0.07	0.00	0.23	0.91	0.07	0.23	0.47	0.90	0.93	0.86	0.68	0.68
Level-of-Service	C	A	C	E	C	C	C	D	E	D	C	C
Control Delay (Seconds)	32.9	0.0	33.2	74.0	31.5	27.2	20.5	54.7	65.3	52.0	20.8	22.0
Intersection LOS	**D - 43.0**											
Mitigated Lane Geometry	1	1>	0	2	1>	0	1	3	1	1	3>	0
019 BUILD Conditions [MITIGATED] Volume	24	24	75	307	36	122	87	1,877	374	160	1,733	95
V/C Ratio	0.16	0.00	0.78	0.82	0.00	0.42	0.43	0.71	0.38	0.85	0.65	0.66
Level-of-Service	D	A	E	D	A	D	B	D	B	D	B	B
Control Delay (Seconds)	47.7	0.0	67.8	53.9	0.0	35.7	16.5	38.0	17.3	39.8	17.2	18.2
Intersection LOS	**C - 30.0**											

The 2019 analysis of the intersection of Copper Ave. / Juan Tabo Blvd. demonstrates that the delays will be unacceptable for the westbound left turn movement during the AM Peak Hour and acceptable for most other turning movements analyzed in this report. The northbound thru movement is on the verge of LOS "E" and the northbound right turn movement is at LOS "E" for the projected 2019 PM Peak Hour BUILD Condition. The recommendations made to mitigate the long delays at the intersection include:

a) Constructing a northbound right turn lane.
b) Re-striping the east leg of Copper Ave. to provide dual westbound left turn lanes plus a thru / right turn lane. (3 lanes total westbound).
c) Modify signal timing to effect protected only westbound left turn lanes, if necessary. Also modify signal timing generally to optimize intersection efficiency based on new geometry.

#4 – Lomas Blvd. / Juan Tabo Blvd. - Pages A-57 *thru* A-84

The results of the 2019 analyses of the full access signalized intersection of Lomas Blvd. / Juan Tabo Blvd. are summarized in the following tables:

Lomas Blvd. / Juan Tabo	EB (Lomas Blvd.)			WB (Lomas Blvd.)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	2	2>	0	2	3>	0	1	3>	0	1	3>	0
AM Peak Hour												
2019 NO BUILD Conditions Volumes	155	261	113	306	643	125	181	987	202	119	947	205
V/C Ratio	0.73	0.39	0.41	0.85	0.47	0.48	0.78	0.79	0.79	0.58	0.82	0.82
Level-of-Service	E	C	C	E	C	C	D	D	D	C	D	D
Control Delay (Seconds)	56.2	32.5	32.8	61.2	29.1	30.6	37.4	36.5	39.1	29.2	39.7	43.8
Intersection LOS	**D - 38.7**											
2019 BUILD Conditions Volumes	155	261	125	321	643	125	192	1,001	216	119	962	205
V/C Ratio	0.73	0.42	0.43	0.86	0.48	0.48	0.83	0.81	0.81	0.59	0.83	0.83
Level-of-Service	E	C	C	E	C	C	D	D	D	C	D	D
Control Delay (Seconds)	56.2	33.5	33.9	62.5	29.3	30.8	41.5	36.7	39.6	29.4	39.8	44.0
Intersection LOS	**D - 39.3**											
PM Peak Hour												
2019 NO BUILD Conditions Volumes	288	481	216	188	342	107	136	1,439	228	180	1,087	149
V/C Ratio	0.82	0.60	0.60	0.76	0.28	0.30	0.56	0.99	0.99	0.85	0.70	0.70
Level-of-Service	E	D	D	E	C	C	C	D	D	D	D	D
Control Delay (Seconds)	59.2	37.1	37.5	59.1	32.0	33.0	25.4	35.1	42.5	46.4	35.4	37.1
Intersection LOS	**D - 38.8**											
2019 BUILD Conditions Volumes	288	481	227	202	342	107	147	1,453	242	180	1,101	149
V/C Ratio	0.82	0.62	0.62	0.77	0.29	0.30	0.60	1.01	1.01	0.86	0.71	0.71
Level-of-Service	E	D	D	E	C	C	C	F	F	D	D	D
Control Delay (Seconds)	59.2	38.1	38.5	59.3	32.0	33.0	25.3	36.9	43.5	47.9	36.2	38.1
Intersection LOS	**D - 39.7**											

The 2019 analysis of the intersection of Lomas Blvd. / Juan Tabo Blvd. demonstrates that the overall intersection delays will be acceptable for all conditions analyzed in this report. The eastbound and westbound left turn movements are at level-of-service "E" for both the AM Peak

Hour NO BUILD and BUILD Conditions as well as the PM Peak Hour NO BUILD and BUILD Conditions. The proposed Maverik Store constitutes insignificant increase in these delays. Therefore, no recommendations are made for the intersection of Lomas Blvd. / Juan Tabo Blvd.

#5 – Copper Ave. / Paisano St. – Pages A-57 *thru* A-84

The results of the analysis of the full access unsignalized intersection of Copper Ave. / Paisano St. are summarized in the following table:

Copper Ave. / Paisano St.	EB (Copper Ave.)			WB (Copper Ave.)			NB (Paisano St.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		1>	0	1	1		1>		0
AM Peak Hour									
2019 NO BUILD Conditions Volumes		295	10	2	604		21		2
V/C Ratio				0.00			0.09		
Level-of-Service				A			C		
Control Delay (Seconds)				8.0			19.0		
Intersection LOS	**TWSC**								
2019 BUILD Conditions Volumes		323	11	2	633		22		2
V/C Ratio				0.00			0.10		
Level-of-Service				A			C		
Control Delay (Seconds)				8.0			20.3		
Intersection LOS	**TWSC**								
PM Peak Hour									
2019 NO BUILD Conditions Volumes		543	36	5	376		29		3
V/C Ratio				0.01			0.12		
Level-of-Service				A			C		
Control Delay (Seconds)				8.7			19.4		
Intersection LOS	**TWSC**								
2019 BUILD Conditions Volumes		570	37	5	405		30		3
V/C Ratio				0.01			0.13		
Level-of-Service				A			C		
Control Delay (Seconds)				8.8			20.7		
Intersection LOS	**TWSC**								

The 2019 analysis of the intersection of Copper Ave. / Paisano St. demonstrates that the delays will be acceptable for all conditions analyzed in this report. Therefore, no recommendations are made for the intersection of Copper Ave. / Paisano St.

#6 – Copper Ave. / Driveway "A" – Pages A-57 *thru* A-84

The results of the analysis of the full access unsignalized intersection of Copper Ave. / Driveway "A" are summarized in the following table:

Copper Ave. / Driveway "A"	EB (Copper Ave.)			WB (Copper Ave.)			NB (Driveway "A")			SB (Driveway "A")		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1			1>	0				1>		0
AM Peak Hour												
2019 NO BUILD Conditions Volumes	6	282			574	30				13		61
V/C Ratio	0.01									0.20		
Level-of-Service	A	A								C		
Control Delay (Seconds)	8.9	0.0								15.7		
Intersection LOS	**TWSC**											
2019 BUILD Conditions Volumes	6	282	42	30	574	30	110	1	29	13	1	61
V/C Ratio	0.01			0.03				0.83			0.23	
Level-of-Service	A	A		A	A			F			C	
Control Delay (Seconds)	8.9	0.0		8.1	0.0			78.8			17.9	
Intersection LOS	**TWSC**											
PM Peak Hour												
2019 NO BUILD Conditions Volumes	17	517			357	19				26		49
V/C Ratio	0.02									0.17		
Level-of-Service	A	A								B		
Control Delay (Seconds)	8.1	0.0								14.7		
Intersection LOS	**TWSC**											
2019 BUILD Conditions Volumes	17	517	41	30	357	19	108	1	29	26	1	49
V/C Ratio	0.02			0.03				0.71			0.23	
Level-of-Service	A	A		A	A			F			C	
Control Delay (Seconds)	8.1	0.0		8.8	0.0			56.9			18.7	
Intersection LOS	**TWSC**											

The 2019 analysis of the intersection of Copper Ave. / Driveway "A" demonstrates that the delays will be acceptable for all conditions analyzed in this report except that the northbound traffic will experience long delays. Therefore, Driveway "A" should be designed and constructed with two exiting lanes (one for exiting left turns and one exiting for right turns) and one entering lane. This will expedite exiting right turn traffic in that they will not be delayed by left turning vehicles.

NOTE: Driveway "A" was analyzed as being one intersection with the Hobby Lobby / Starbuck's driveway since they are somewhat closely aligned. They are not offset enough to be considered as two separate driveways.

#7 – Driveway "B" / Juan Tabo Blvd.

Driveway "B" on Juan Tabo Blvd. is proposed as a right-turn-in only access. Since there are no conflicting movements associated with a right-in only driveway, then no analysis can be performed using Highway Capacity Manual methodology.

Analysis of Horizon Year Conditions

Traffic Projections

The Horizon Year traffic projections were determined in the same manner as the implementation year traffic projections, except that the background traffic volumes were grown at the annual growth rate to the horizon year (2029) instead of to the implementation year (2019). Trip Distribution and trip assignments for the project generated new traffic were the same as for the Implementation Year.

Traffic Analysis

A capacity analysis using existing traffic signal timing (see Appendix Pages A-82 thru A-107) was conducted for the Horizon Year (2029) NO BUILD and BUILD Conditions and the results are summarized as follows:

#1 –I-40 S. Ramp / Juan Tabo Blvd. – Pages A-85 *thru* A-112

The results of the analysis of the signalized intersection of I-40 S. Ramp / Juan Tabo Blvd. are summarized in the following table:

I-40 S. Ramp / Juan Tabo Bd.	EB (I-40 S. Ramp)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	2	1>	1	0	3	1	2	3	0
AM Peak Hour									
2029 NO BUILD Conditions Volumes	627	2	304	0	1,467	89	98	1,413	0
V/C Ratio	0.85	0.00	0.47	0.00	0.56	0.11	0.64	0.46	0.00
Level-of-Service	D	A	D	A	B	B	D	A	A
Control Delay (Seconds)	46.4	0.0	36.6	0.0	15.2	10.6	51.7	0.4	0.0
Intersection LOS	**B - 17.3**								
95th Percentile Queue (veh)	14.8	0.0	7.2	0.0	13.1	2.0	2.7	0.2	0.0
2029 BUILD Conditions Volumes	642	2	304	0	1,511	89	112	1,455	0
V/C Ratio	0.86	0.00	0.46	0.00	0.59	0.11	0.67	0.48	0.00
Level-of-Service	D	A	D	A	B	B	D	A	A
Control Delay (Seconds)	46.6	0.0	36.2	0.0	16.1	11.1	51.3	0.4	0.0
Intersection LOS	**B - 17.7**								
95th Percentile Queue (veh)	15.2	0.0	7.1	0.0	13.9	2.1	3.0	0.2	0.0
PM Peak Hour									
2029 NO BUILD Conditions Volumes	1,283	2	686	0	2,045	328	248	956	0
V/C Ratio	1.08	0.00	0.65	0.00	1.01	0.52	0.83	0.36	0.00
Level-of-Service	F	A	C	A	F	C	E	A	A
Control Delay (Seconds)	87.6	0.0	33.5	0.0	57.1	28.5	60.1	0.3	0.0
Intersection LOS	**D - 49.9**								
95th Percentile Queue (veh)	37.2	0.0	13.9	0.0	33.2	12.4	7.2	0.2	0.0
2029 BUILD Conditions Volumes	1,297	2	686	0	2,088	328	262	997	0
V/C Ratio	1.09	0.00	0.65	0.00	1.04	0.53	0.84	0.38	0.00
Level-of-Service	F	A	C	A	F	C	E	A	A
Control Delay (Seconds)	91.9	0.0	33.5	0.0	66.8	28.9	61.1	0.3	0.0
Intersection LOS	**D - 54.3**								
95th Percentile Queue (veh)	38.4	0.0	13.9	0.0	36.0	12.5	7.5	0.2	0.0

The 2029 analysis of the intersection of I-40 S. Ramp / Juan Tabo Blvd. demonstrates that the delays will be acceptable for all conditions and turning movements analyzed in this report except the eastbound left turn, the northbound thru, and the southbound left turn movements. They are projected to operate at level-of-service "E" or, in the case of the eastbound left turn and northbound thru movement during the 2029 PM NO BUILD and BUILD Condition, level-of-service "F". The impact from the proposed Maverik Store is an increase of 0.4 seconds for the 2029 AM Peak Hour and 4.4 seconds for the 2029 PM Peak Hour period. Therefore, no recommendations are made for the intersection of I-40 S. Ramp / Juan Tabo Blvd. The impact to this intersection is considered to be minimal.

Note: The eastbound ramp approach consists of dual eastbound left turn lanes, one thru / right turn lane, and one eastbound right turn lane (a total of four lanes).

The 95th Percentile queuing calculations based on HCM6 queuing equations yields the following results:

Queuing Summary	EB (I-40 S. Ramp)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R
2029 NO BUILD Conditions (Max Queue)	37.2	0.0	13.9	0.0	33.2	12.4	7.2	0.2	0.0
2029 BUILD Conditions (Max Queue)	38.4	0.0	13.9	0.0	36.0	12.5	7.5	0.2	0.0
Percent Heavy Commercial Traffic	5%								
2029 NO BUILD Conditions (Max Queue) - Ft.	977	0	365	0	872	326	189	5	0
2029 BUILD Conditions (Max Queue) - Ft.	1,008	0	365	0	945	328	197	5	0
Length of Existing Lane	450+		450+	0	Cont	475		Cont	0

The existing eastbound dual left turn lanes are striped for 450 feet, but there is laneage for continued queuing for at least another 1,000 feet before traffic begins to spill into the eastbound I-40 thru lane. All other auxiliary lanes at this intersection are long enough to contain the 95th Percentile queuing to the year 2029 based on HCM 6 queuing methodology.

#2 – I-40 N. Ramp / Juan Tabo Blvd. - Pages A-85 thru A-112

The results of the 2029 analyses of the signalized intersection of I-40 N. Ramp / Juan Tabo Blvd. are summarized in the following tables:

I-40 N. Ramp / Juan Tabo Bd.	WB (I-40 N. Ramp)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	<1	1	2	3	0	0	3	1
AM Peak Hour									
2029 NO BUILD Conditions Volumes	397	3	366	636	1,458	0	0	1,114	1,009
V/C Ratio	0.54	0.00	1.11	1.09	0.48	0.00	0.00	0.57	1.65
Level-of-Service	D	A	F	F	A	A	A	D	F
Control Delay (Seconds)	37.4	0.0	120.0	91.6	0.3	0.0	0.0	37.5	341.0
Intersection LOS	**F - 101.2**								
95th Percentile Queue (veh)	9.1	0.0	26.4	17.7	0.2	0.0	0.0	13.1	109.2
2029 BUILD Conditions Volumes	397	3	381	636	1,516	0	0	1,170	1,023
V/C Ratio	0.54	0.00	1.15	1.09	0.50	0.00	0.00	0.59	1.67
Level-of-Service	D	A	F	F	A	A	A	D	F
Control Delay (Seconds)	37.4	0.0	137.0	91.2	0.3	0.0	0.0	39.2	357.0
Intersection LOS	**F - 104.7**								
95th Percentile Queue (veh)	9.1	0.0	29.2	17.6	0.2	0.0	0.0	18.1	124.0
Mitigated Lane Geometry	1	<1	1	2	3	0	0	3	1
2029 BUILD Conditions [MITIGTED] Volume	397	3	381	636	1,516	0	0	1,170	1,023
V/C Ratio	0.54	0.00	1.15	1.09	0.50	0.00	0.00	0.59	1.67
Level-of-Service	D	A	F	F	A	A	A	D	F
Control Delay (Seconds)	37.4	0.0	137.0	91.2	0.3	0.0	0.0	39.2	357.0
Intersection LOS	**F - 104.7**								
95th Percentile Queue (veh)	9.1	0.0	29.2	17.6	0.2	0.0	0.0	18.1	124.0
PM Peak Hour									
2029 NO BUILD Conditions Volumes	74	6	114	555	2,773	0	0	1,130	685
V/C Ratio	0.24	0.00	0.80	0.89	0.71	0.00	0.00	0.40	0.79
Level-of-Service	D	A	E	D	A	A	A	C	D
Control Delay (Seconds)	50.5	0.0	62.3	36.6	0.1	0.0	0.0	30.3	45.4
Intersection LOS	**B - 18.2**								
95th Percentile Queue (veh)	2.1	0.0	7.1	8.0	0.1	0.0	0.0	15.5	29.3
2029 BUILD Conditions Volumes	74	6	128	555	2,830	0	0	1,185	699
V/C Ratio	0.22	0.00	0.82	0.89	0.73	0.00	0.00	0.43	0.82
Level-of-Service	D	A	E	D	A	A	A	C	D
Control Delay (Seconds)	49.4	0.0	61.8	36.6	0.1	0.0	0.0	31.7	50.9
Intersection LOS	**B - 19.3**								
95th Percentile Queue (veh)	2.1	0.0	7.9	8.0	0.1	0.0	0.0	17.8	33.3
Mitigated Lane Geometry	1	<1	1	2	3	0	0	3	1
2029 BUILD Conditions [MITIGTED] Volume	74	6	128	555	2,830	0	0	1,185	699
V/C Ratio	0.22	0.00	0.80	0.93	0.74	0.00	0.00	0.44	0.83
Level-of-Service	D	A	E	D	A	A	A	C	D
Control Delay (Seconds)	45.1	0.0	56.3	36.5	0.1	0.0	0.0	29.5	48.3
Intersection LOS	**B - 18.3**								
95th Percentile Queue (veh)	1.9	0.0	7.2	7.5	0.1	0.0	0.0	16.5	31.1

The 2029 analysis of the intersection of I-40 N. Ramp / Juan Tabo Blvd. demonstrates that the delays will be excessive for the AM Peak Hour and marginally acceptable for the PM Peak Hour NO BUILD and BUILD conditions analyzed in this report. The problem turning movement appears to be the westbound right turn movement which is at level-of-service "F" during the 2029 AM NO BUILD and BUILD Peak Hour and level-of-service "E" during the 2029 PM NO BUILD and BUILD Peak Hour periods. The implementation of the proposed development increases the delay at the intersection by 3.5 seconds during the AM Peak Hour and by 1.1 seconds during the PM Peak Hour. Therefore, no recommendations are made for the intersection of I-40 N. Ramp / Juan Tabo Blvd.

The 95th Percentile queuing calculations based on HCM6 queuing equations yields the following results:

Queuing Summary	**WB (I-40 N. Ramp)**			**NB (Juan Tabo Bd.)**			**SB (Juan Tabo Bd.)**		
	L	T	R	L	T	R	L	T	R
2029 NO BUILD Conditions (Max Queue)	9.1	0.0	26.4	17.7	0.2	0.0	0.0	15.5	109.2
2029 BUILD Conditions (Max Queue)	9.1	0.0	29.2	17.6	0.2	0.0	0.0	18.1	124.0
Percent Heavy Commercial Traffic									
2029 NO BUILD Conditions (Max Queue) - Ft.	239	0	693	465	5	0	0	407	2,867
2029 BUILD Conditions (Max Queue) - Ft.	239	0	767	462	5	0	0	475	3,255
Length of Existing Lane				700	Cont	700		Cont	450

The southbound right turn movement backs up almost to Copper Ave. during the AM Peak Hour period. The 2029 forecast volumes project the backup to increase well beyond Copper Ave. for both the 2029 NO BUILD and the 2029 BUILD Conditions. The volumes for this movement are sufficient to warrant a free right turn lane with an add lane. Since this is an existing issue, no recommendation is made with regard to the Maverik project.

#3 – Copper Ave. / Juan Tabo Blvd. - Pages A-85 *thru* A-112

The results of the 2029 analyses of the full access signalized intersection of Copper Ave. / Juan Tabo Blvd. are summarized in the following tables:

Copper Ave. / Juan Tabo Bd.	EB (Copper Ave.)			WB (Copper Ave.)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	1	1>	0	1	1	1	1	3>	0	1	3>	0
AM Peak Hour												
2029 NO BUILD Conditions Volumes	14	27	100	512	47	139	81	1,543	200	69	2,123	17
V/C Ratio	0.03	0.00	0.25	1.33	0.08	0.25	0.57	0.78	0.78	0.43	0.94	0.94
Level-of-Service	C	A	C	F	C	C	C	D	D	C	C	C
Control Delay (Seconds)	25.3	0.0	26.0	206.0	24.3	22.8	29.3	44.0	46.9	23.7	31.2	33.8
Intersection LOS	**D - 54.3**											
95th Percentile Queue (veh)	0.5	0.0	4.7	46.8	1.6	4.8	2.3	24.5	26.2	1.7	22.1	24.8
2029 BUILD Conditions Volumes	14	28	100	582	48	178	81	1,543	200	110	2,123	17
V/C Ratio	0.04	0.00	0.25	1.58	0.08	0.32	0.61	0.82	0.83	0.67	0.97	0.97
Level-of-Service	C	A	C	F	C	C	C	D	D	C	C	D
Control Delay (Seconds)	25.4	0.0	26.1	314.0	24.3	22.9	32.0	47.4	52.1	25.6	34.0	37.5
Intersection LOS	**E - 71.2**											
95th Percentile Queue (veh)	0.5	0.0	4.9	67.4	1.7	6.4	2.6	26.7	28.9	2.6	23.7	26.7
Mitigated Lane Geometry	1	1>	0	2	1>	0	1	3	1	1	3>	0
2029 BUILD Conditions [MITIGTED] Vol.	14	28	100	582	48	178	81	1,543	200	110	2,123	17
V/C Ratio	0.09	0.00	0.84	0.92	0.00	0.44	0.62	0.76	0.22	0.65	1.00	1.00
Level-of-Service	D	A	E	E	A	C	C	D	B	C	D	D
Control Delay (Seconds)	44.9	0.0	76.0	60.4	0.0	27.5	34.7	43.5	12.8	24.9	39.2	43.3
Intersection LOS	**D - 42.6**											
95th Percentile Queue (veh)	0.7	0.0	8.9	15.6	0.0	8.8	2.8	23.6	6.3	2.6	25.1	28.4
PM Peak Hour												
2029 NO BUILD Conditions Volumes	25	24	79	289	42	102	92	2,403	392	126	1,815	100
V/C Ratio	0.07	0.00	0.24	0.87	0.09	0.20	0.53	1.06	1.14	0.82	0.71	0.72
Level-of-Service	C	A	C	E	C	C	C	F	F	D	C	C
Control Delay (Seconds)	33.2	0.0	33.3	66.1	31.7	28.1	22.5	87.0	122.0	39.6	21.0	21.9
Intersection LOS	**E - 64.3**											
95th Percentile Queue (veh)	1.1	0.0	4.5	16.6	1.8	4.1	2.4	49.1	64.0	6.4	17.2	18.7
2029 BUILD Conditions Volumes	25	25	79	358	43	140	92	2,403	392	166	1,815	100
V/C Ratio	0.07	0.00	0.24	1.08	0.09	0.26	0.52	1.11	1.19	0.87	0.71	0.72
Level-of-Service	C	A	C	F	C	C	C	F	F	D	C	C
Control Delay (Seconds)	33.2	0.0	33.3	118.0	31.7	27.0	23.1	110.0	148.0	48.5	21.0	21.8
Intersection LOS	**E - 79.4**											
95th Percentile Queue (veh)	1.1	0.0	4.6	25.6	1.8	5.5	2.5	57.4	73.5	8.3	17.1	18.5
Mitigated Lane Geometry	1	1>	0	2	1>	0	1	3	1	1	3>	0
2029 BUILD Conditions [MITIGTED] Vol.	25	25	79	358	43	140	92	2,403	392	166	1,815	100
V/C Ratio	0.16	0.00	0.79	0.84	0.00	0.45	0.49	0.97	0.41	0.86	0.71	0.71
Level-of-Service	D	A	E	E	A	C	C	E	B	D	B	B
Control Delay (Seconds)	47.5	0.0	69.5	56.1	0.0	34.7	20.4	55.8	18.4	43.1	18.7	19.4
Intersection LOS	**D - 39.3**											
95th Percentile Queue (veh)	1.3	0.0	6.8	9.6	0.0	7.9	2.2	36.3	13.0	7.6	15.1	16.4

The 2029 analysis of the intersection of Copper Ave. / Juan Tabo Blvd. demonstrates that the delays will be unacceptable for the westbound left turn movement during the AM Peak Hour and acceptable for most other turning movements analyzed in this report. The northbound thru movement is at LOS "F" and the northbound right turn movement is at LOS "F" for the projected 2029 PM Peak Hour BUILD Condition. The recommendations made to mitigate the long delays at the intersection include (same as recommendations for Implementation Year):

a) Constructing a northbound right turn lane.
b) Re-striping the east leg of Copper Ave. to provide dual westbound left turn lanes (150 feet long) plus a thru / right turn lane. (3 lanes total westbound).
c) Modify signal timing to effect protected only westbound left turn lanes, if necessary. Also modify signal timing generally to optimize intersection efficiency based on new geometry.

The 95th Percentile queuing calculations based on HCM6 queuing equations yields the following results:

Queuing Summary	EB (Copper Ave.)			WB (Copper Ave.)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
2029 NO BUILD Conditions (Max Queue)	1.1	0.0	4.7	46.8	1.8	4.8	2.4	49.1	64.0	6.4	22.1	24.8
2029 Mit. BUILD Conditions (Max Queue)	1.3	0.0	8.9	15.6	0.0	8.8	2.8	36.3	13.0	7.6	25.1	28.4
Percent Heavy Commercial Traffic	5%											
2029 NO BUILD Conditions (Max Queue) - Ft.	29	0	123	1,229	47	126	63	1,289	1,680	168	580	651
2029 Mit. BUILD Conditions (Max Queue) - Ft.	34	0	234	410	0	231	74	953	341	200	659	746
Length of Existing Lane	100		0	150		150	100	Cont	0	130	Cont	0

The 2029 BUILD queuing results in the table above assume that the recommended mitigation measures at the intersection of Copper Ave. / Juan Tabo Blvd. have been implemented (i.e., dual westbound left turn lanes, northbound right turn deceleration lane, and associated signal re-timing / phasing). It also assumes that the northbound right turn in ONLY driveway into the Maverik Store directly off of Juan Tabo has been approved and implemented.

In summary, as a result of implementing the northbound right turn lane and the northbound right turn ONLY driveway into the Maverik Store, the northbound approach of Juan Tabo Blvd. at Copper Ave. will experience reduced northbound thru movement and northbound right turn movement queuing overall.

The northbound right turn deceleration lane will be required to be designed and constructed to meet the requirements of the New Mexico Department of Transportation's *State Access Management Manual*. The length of the deceleration lane is required to be 300 feet long (for the deceleration component) plus 340 feet (for the queuing component). Therefore, the northbound right turn deceleration lane is required to be designed and constructed to a total length of 641 feet inclusive of the 125 feet long transition taper.

The recommendations resulting from the queuing analysis are the same as listed above subsequent to the operational analysis.

#4 – Lomas Blvd. / Juan Tabo Blvd. - Pages A-85 *thru* A-112

The results of the 2029 analyses of the full access signalized intersection of Lomas Blvd. / Juan Tabo Blvd. are summarized in the following tables:

Lomas Blvd. / Juan Tabo Bd.	EB (Lomas Blvd.)			WB (Lomas Blvd.)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	2	2>	0	2	3>	0	1	3>	0	1	3>	0
AM Peak Hour												
2029 NO BUILD Conditions Volumes	162	274	118	321	675	131	190	1,036	212	154	1,222	265
V/C Ratio	0.74	0.48	0.49	0.86	0.56	0.57	0.90	0.77	0.77	0.68	0.95	0.95
Level-of-Service	E	D	D	E	C	D	D	C	C	C	D	E
Control Delay (Seconds)	56.9	37.7	38.3	62.5	33.7	36.0	47.1	33.3	35.0	28.2	50.4	60.0
Intersection LOS	**D - 43.5**											
95th Percentile Queue (veh)	4.8	9.2	9.1	9.5	11.1	11.8	7.3	14.9	15.3	5.4	23.1	25.1
2029 BUILD Conditions Volumes	162	274	130	336	675	131	201	1,050	226	154	1,237	265
V/C Ratio	0.58	0.50	0.52	0.87	0.52	0.53	0.96	0.79	0.79	0.69	0.95	0.96
Level-of-Service	D	D	D	E	C	C	E	C	D	C	D	E
Control Delay (Seconds)	54.8	38.8	39.4	63.8	31.0	32.8	56.2	33.5	35.1	28.6	51.6	61.6
Intersection LOS	**D - 43.9**											
95th Percentile Queue (veh)	2.3	9.6	9.4	10.0	10.7	11.3	8.2	14.9	15.3	5.4	23.5	25.6
PM Peak Hour												
2029 NO BUILD Conditions Volumes	303	505	227	197	359	112	142	1,511	239	233	1,403	193
V/C Ratio	0.82	0.69	0.70	0.76	0.34	0.35	0.67	1.04	1.04	0.90	0.84	0.84
Level-of-Service	E	D	D	E	D	D	C	F	F	E	D	D
Control Delay (Seconds)	59.9	43.5	44.1	59.0	35.5	36.9	26.8	39.9	43.6	62.2	39.2	43.4
Intersection LOS	**D - 43.1**											
95th Percentile Queue (veh)	8.5	16.2	15.6	5.6	6.8	7.3	3.2	14.2	15.2	10.1	21.1	22.6
2029 BUILD Conditions Volumes	303	505	238	211	359	112	153	1,525	253	233	1,417	193
V/C Ratio	0.82	0.71	0.72	0.78	0.34	0.35	0.71	1.05	1.06	0.90	0.85	0.86
Level-of-Service	E	D	D	E	D	D	C	F	F	E	D	D
Control Delay (Seconds)	59.9	44.9	45.6	59.9	35.5	36.9	26.8	47.1	50.8	62.1	40.7	45.6
Intersection LOS	**D - 46.2**											
95th Percentile Queue (veh)	8.5	16.7	16.0	6.1	6.8	7.3	3.4	15.7	16.7	13.8	21.6	23.3

The 2029 analysis of the intersection of Lomas Blvd. / Juan Tabo Blvd. demonstrates that the overall intersection delays will be acceptable for all conditions analyzed in this report. The eastbound and westbound left turn movements are at level-of-service "E" for both the AM Peak Hour NO BUILD Conditions as well as the PM Peak Hour NO BUILD and BUILD Conditions. Similarly, the southbound left turn movement is projected to be at LOS "E" during the PM Peak Hour NO BUILD and BUILD conditions. Additionally, the northbound thru / right turn movements are at LOS "F" due to v/c ratio exceeding 1.0. The calculated delays for the northbound thru / right turn movements, though, are acceptable. It is important to point out that drivers perceived delays and not v/c ratios. The resulting increase in calculated delays at this intersection are 0.4 seconds during the AM Peak Hour and 3.1 seconds for the PM Peak Hour.

The proposed Maverik Store constitutes insignificant increase in these delays. Therefore, no recommendations are made for the intersection of Lomas Blvd. / Juan Tabo Blvd.

The 95th Percentile queuing calculations based on HCM6 queuing equations yields the following results:

Queuing Summary	EB (Lomas Blvd.)			WB (Lomas Blvd.)			NB (Juan Tabo Bd.)			SB (Juan Tabo Bd.)		
	L	T	R	L	T	R	L	T	R	L	T	R
2029 NO BUILD Conditions (Max Queue)	8.5	16.2	15.6	9.5	11.1	11.8	7.3	14.9	15.3	10.1	23.1	25.1
2029 BUILD Conditions (Max Queue)	8.5	16.7	16.0	10.0	10.7	11.3	8.2	15.7	16.7	13.8	23.5	25.6
Percent Heavy Commercial Traffic	5%											
2029 NO BUILD Conditions (Max Queue) - Ft.	223	425	410	249	291	310	192	391	402	265	606	659
2029 BUILD Conditions (Max Queue) - Ft.	223	438	420	263	281	297	215	412	438	362	617	672
Length of Existing Lane	120+		0	120		0	150		0	220		0

There are projected queuing shortfalls in the table above for the eastbound and westbound left turn movements as well as the northbound and southbound left turn movements in both the 2029 NO BUILD Conditions and BUILD Conditions. Due to physical field constraints, there are no opportunities to extend any of the existing left turn lanes at the intersection. Therefore, no recommendation is made.

#5 – Copper Ave. / Paisano St. – Pages A-85 *thru* A-112

The results of the analysis of the full access unsignalized intersection of Copper Ave. / Paisano St. are summarized in the following table:

Copper Ave. / Paisano St.	EB (Copper Ave.)			WB (Copper Ave.)			NB (Paisano St.)		
	L	T	R	L	T	R	L	T	R
Existing Lane Geometry		1>	0	1	1		1>		0
AM Peak Hour									
2029 NO BUILD Conditions Volumes		310	11	2	734		22		2
V/C Ratio				0.00			0.12		
Level-of-Service				A			C		
Control Delay (Seconds)				8.0			22.8		
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)				0.0			0.4		
2029 BUILD Conditions Volumes		338	12	2	763		23		2
V/C Ratio				0.00			0.13		
Level-of-Service				A			C		
Control Delay (Seconds)				8.1			24.7		
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)				0.0			0.4		
PM Peak Hour									
2029 NO BUILD Conditions Volumes		569	38	6	457		31		3
V/C Ratio				0.01			0.15		
Level-of-Service				A			C		
Control Delay (Seconds)				8.8			22.3		
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)				0.0			0.5		
2029 BUILD Conditions Volumes		596	39	6	486		32		3
V/C Ratio				0.01			0.16		
Level-of-Service				A			C		
Control Delay (Seconds)				8.9			24.2		
Intersection LOS	**TWSC**								
95th Percentile Queue (veh)				0.0			0.6		

The 2029 analysis of the intersection of Copper Ave. / Paisano St. demonstrates that the delays will be acceptable for all conditions analyzed in this report. Therefore, no recommendations are made for the intersection of Copper Ave. / Paisano St.

All of the 95th Percentile Queue lengths (in vehicles) reported in the table above are acceptable.

#6 – Copper Ave. / Driveway "A" – Pages A-85 *thru* A-112

The results of the analysis of the full access unsignalized intersection of Copper Ave. / Driveway "A" are summarized in the following table:

Copper Ave. / Driveway "A"	EB (Copper Ave.)			WB (Copper Ave.)			NB (Driveway "A")			SB (Driveway "A")		
	L	T	R	L	T	R	L	T	R	L	T	R
Existing Lane Geometry	0	<1			1>	0				1>		0
AM Peak Hour												
2029 NO BUILD Conditions Volumes	6	296			698	36				14		64
V/C Ratio	0.01									0.25		
Level-of-Service	A	A								C		
Control Delay (Seconds)	9.5	0.0								18.9		
Intersection LOS	**TWSC**											
95th Percentile Queue (veh)	0.0									1.0		
2029 BUILD Conditions Volumes	6	296	42	30	698	36	110	1	29	14	1	64
V/C Ratio	0.01			0.03				1.09			0.30	
Level-of-Service	A	A		A	A			F			C	
Control Delay (Seconds)	9.5	0.0		8.1	0.0			165.0			22.5	
Intersection LOS	**TWSC**											
95th Percentile Queue (veh)	0.0			0.1				8.4			1.2	
PM Peak Hour												
2029 NO BUILD Conditions Volumes	18	542			433	24				27		52
V/C Ratio	0.02									0.21		
Level-of-Service	A	A								C		
Control Delay (Seconds)	8.4	0.0								16.5		
Intersection LOS	**TWSC**											
95th Percentile Queue (veh)	0.1									0.8		
2029 BUILD Conditions Volumes	18	542	41	30	433	24	108	1	29	27	1	52
V/C Ratio	0.02			0.03				0.85			0.28	
Level-of-Service	A	A		A	A			F			C	
Control Delay (Seconds)	8.4	0.0		8.9	0.0			89.0			22.0	
Intersection LOS	**TWSC**											
95th Percentile Queue (veh)	0.1			0.1				5.9			1.1	

The 2029 analysis of the intersection of Copper Ave. / Driveway "A" demonstrates that the delays will be generally acceptable for all conditions analyzed in this report. As expected for a proposed unsignalized driveway on a major street, the exiting left turn movements will experience long delays during the peak hour periods. Therefore, it is recommended that Driveway "A" be designed and constructed to incorporate two exiting lanes (one for exiting left turn traffic and one for exiting right turn traffic).

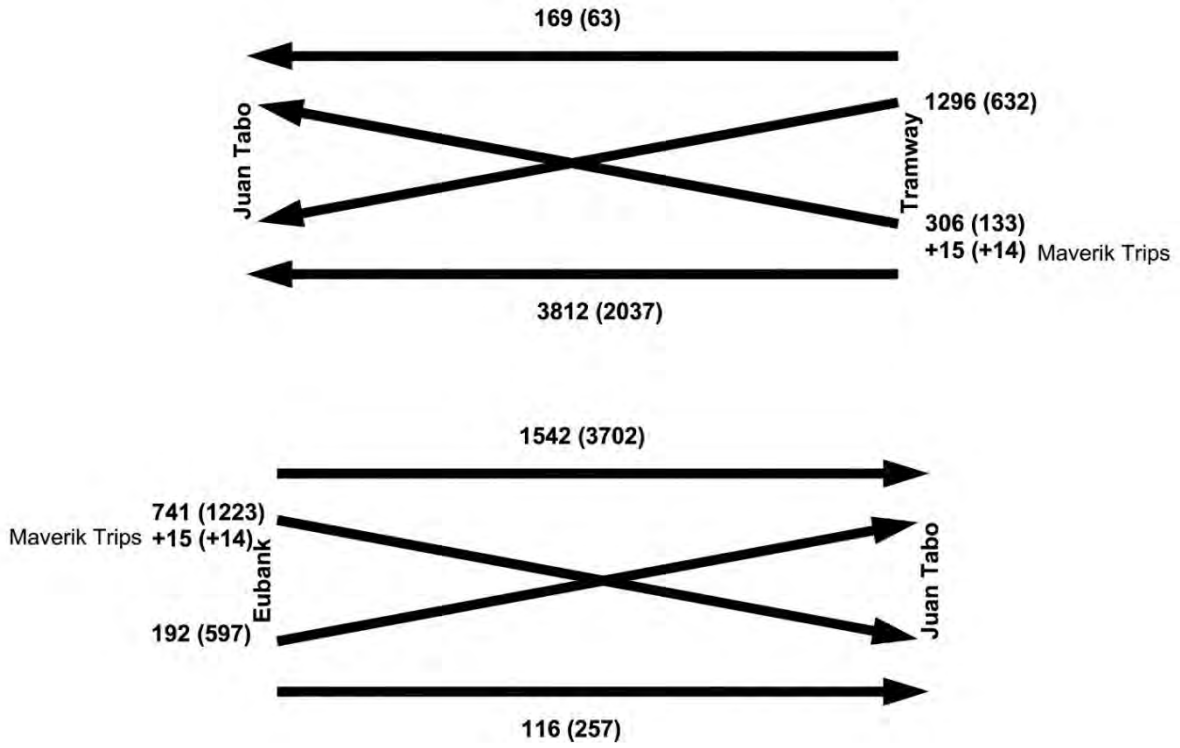
NOTE: Driveway "A" was analyzed as being one intersection with the Hobby Lobby / Starbuck's driveway since they are somewhat closely aligned. They are not offset enough to be considered as two separate driveways.

#7 – Driveway "B" / Juan Tabo Blvd.

Driveway "B" on Juan Tabo Blvd. is proposed as a right-turn-in only access. Since there are no conflicting movements associated with a right-in only driveway, then no analysis can be performed using Highway Capacity Manual methodology.

Special Analysis - Weaving

The New Mexico Department of Transportation requested at the Scoping Meeting for this project that a weaving analysis be performed on Interstate 40 for westbound traffic between the Tramway interchange and the Juan Tabo interchange and for eastbound traffic between the Eubank interchange and the Juan Tabo interchange. AM and PM Peak Hour traffic flow data for this analysis was collected from the Transportation Analysis Querying Application hosted by the Mid-Region Council of Governments. The resulting volumes utilized for the weaving analyses are demonstrated in the following diagram:



The following table summarizes the weaving analysis results based on the volumes in the diagram above:

Desciption	AM Peak Hour		PM Peak Hour	
	NO BUILD	BUILD	NO BUILD	BUILD
Eastbound from Eubank to Juan Tabo	B – 16.0	B – 16.1	F – N/R	F – N/R
Westbound from Tramway to Juan Tabo	F – N/R	F – N/R	B – 1.8	B – 18.0

NOTE: N/R signifies that the Density is not reported since the v/c ratio is 1.0 or greater.

For the eastbound weave between Eubank and Juan Tabo, the v/c ratio for the PM Peak Hour NO BUILD condition is 1.04 and the v/c ratio for the PM Peak Hour BUILD condition is also 1.04. For the westbound weave between Tramway and Juan Tabo, the v/c ratio for the AM Peak Hour NO BUILD condition is 1.00 and the v/c ratio for the AM Peak Hour BUILD condition is 1.01. (See Appendix Pages A-127 through A-135 for HCS Weaving Analysis reports).

The weaving analysis demonstrates that the impact of the proposed Maverik Store at Copper Ave. / Juan Tabo Blvd. is insignificant. Weaving issues analyzed above are present based on existing traffic volumes. Therefore, no recommendation is made.

Impact Assessment

The proposed development will have minimal adverse impact on the adjacent transportation system except at the intersection of Copper Ave. / Juan Tabo Blvd. All the levels-of-service were determined to be acceptable for the overall intersections or the long delays at certain locations were the result of background traffic and not the new traffic generated by the proposed Maverik Convenience Store.

The Horizon Year (2029) analysis yielded results similar to the Implementation Year analysis in that the results demonstrated a minor impact to the adjacent transportation system except at the signalized intersection of Copper Ave. / Juan Tabo Blvd. The impact to Copper Ave. / Juan Tabo Blvd. was significant but can be mitigated by implementing those items listed in the Recommendations of this report.

Access Design Specifications

Sight distance at Driveway “A” is adequate. There are no vertical or horizontal curves along this portion of Copper Ave. and there are no structures that are blocking sight distance into and out of the driveway. Sight distance is also adequate Driveways “C” and “D”. Sight distance is not an issue at Driveway “B” since it is right turn in only.

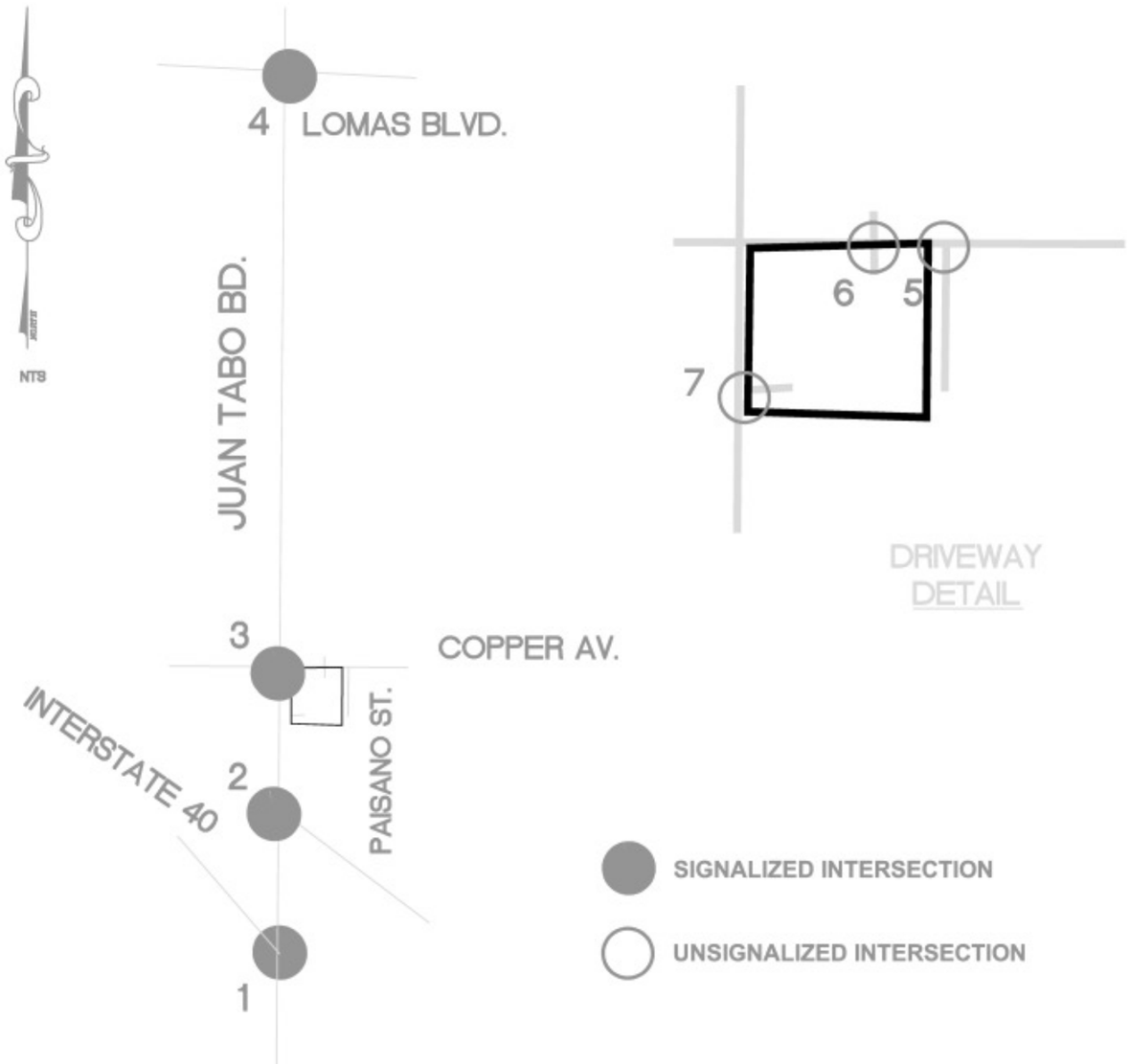
Driveway “A” is proposed as a full access unsignalized driveway at the north end of the Maverik Store site located approximately 215 feet east of Juan Tabo Blvd. (centerline to centerline). It does not align with the existing Hobby Lobby / Starbuck’s driveway along the north side of Copper Ave. but was analyzed as a four-legged intersection to be conservative. The two driveways are offset by approximately 50 feet (centerline to centerline).
Driveway “B” is proposed as a right-turn-in only access located at the extreme southwest corner of the Maverik Store property.
Driveway “C” is proposed as a full access unsignalized driveway onto Paisano St. approximately 80 feet south of Copper Ave. (centerline to centerline).
Driveway “D” is proposed as a full access unsignalized driveway onto Zia Rd.

Summary of Deficiencies, Anticipated Impacts, and Recommendations

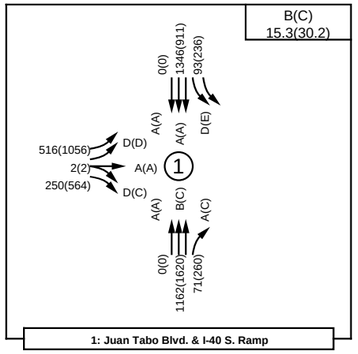
This Study did not find any significant deficiencies or significant impacts to the adjacent transportation system except at the signalized intersection of Copper Ave. / Juan Tabo Blvd. The impacts to Copper Ave. / Juan Tabo Blvd. can be mitigated by implementing the following:

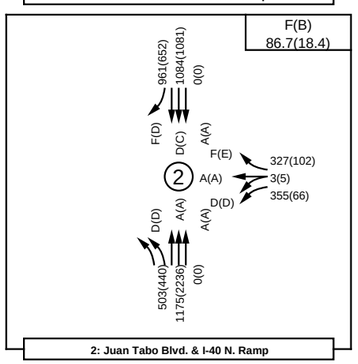
Recommendations:

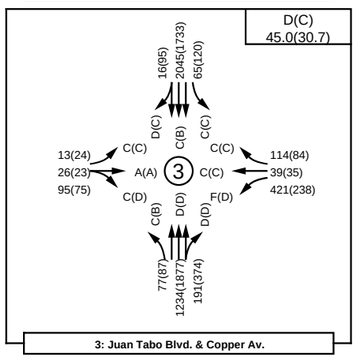
Recommendations are enumerated at the end of the Executive Summary of this document.

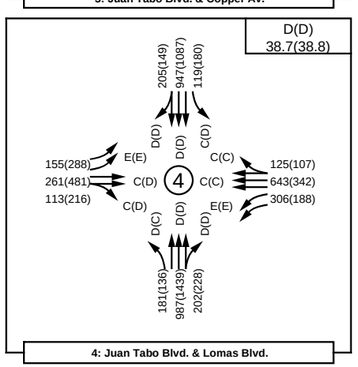


2019 NO BUILD Conditions

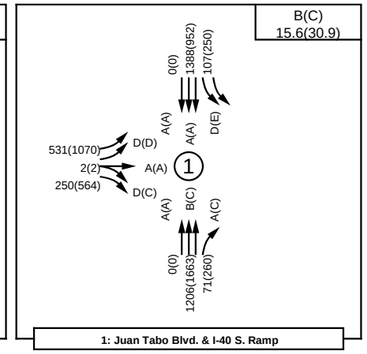


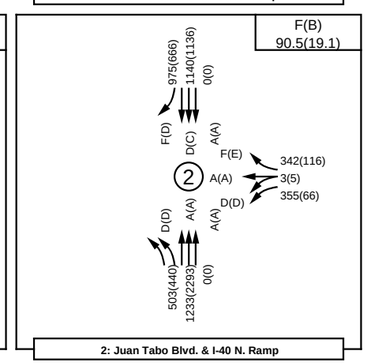


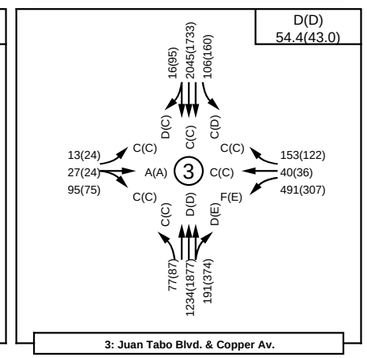


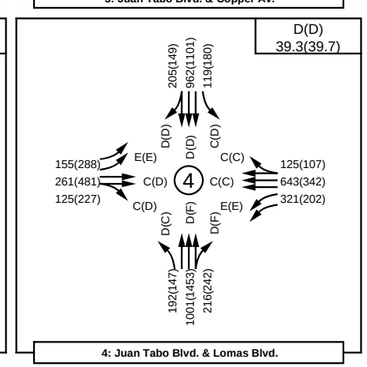


2019 BUILD Conditions





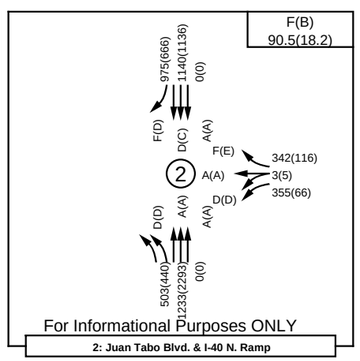




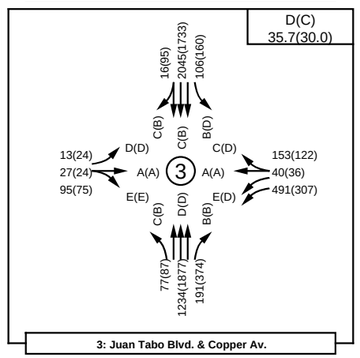
NO RECOMMENDATION

2019 BUILD Conditions [MITIGATED]

NO RECOMMENDATION



For Informational Purposes ONLY



NO RECOMMENDATION

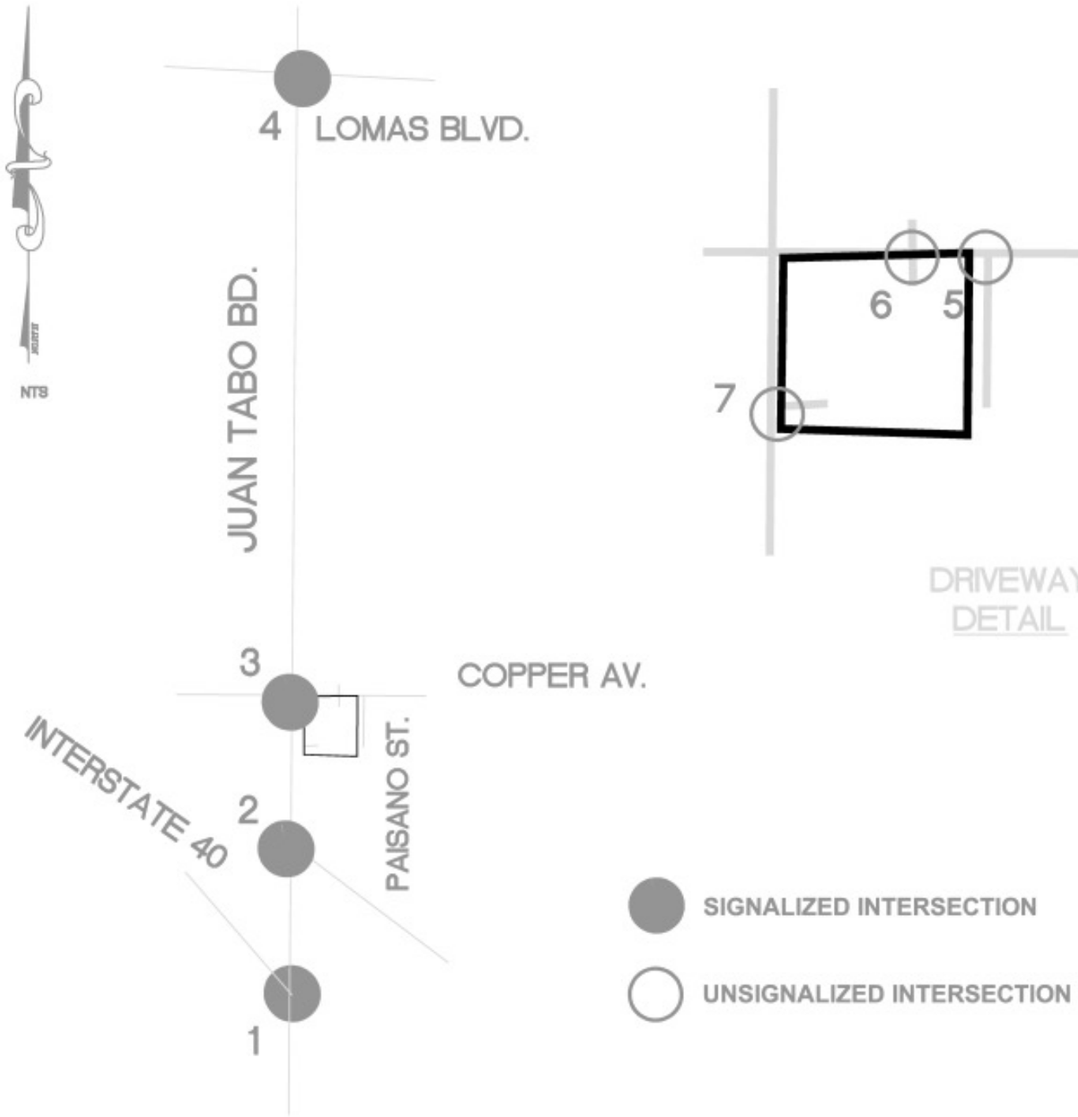
Maverik Convenience Store
(Copper Ave. / Juan Tabo Blvd.)
LOS / Volume Analysis Map

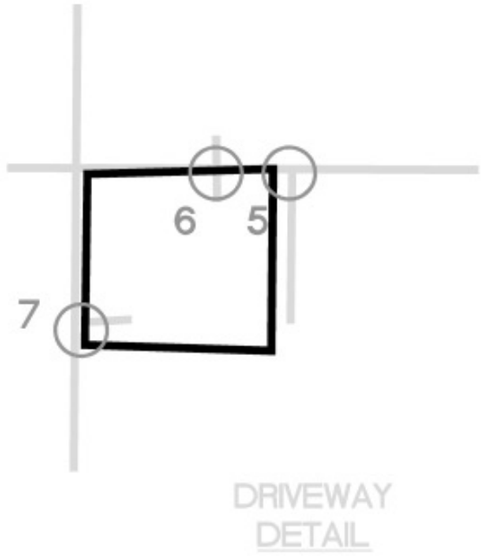
AM(PM)

Maverik Convenience Store

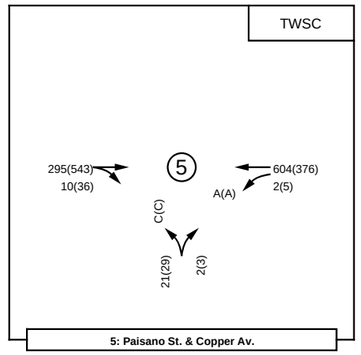
(Copper Ave. / Juan Tabo Blvd.)

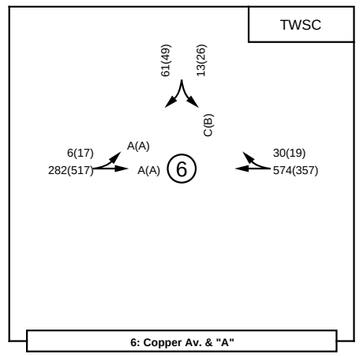
LOS / Volume Analysis Map



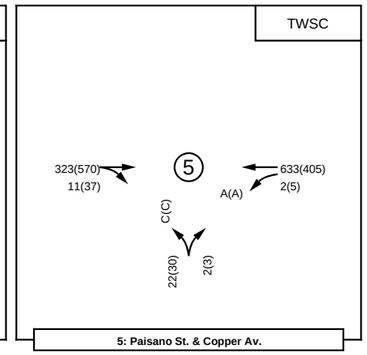


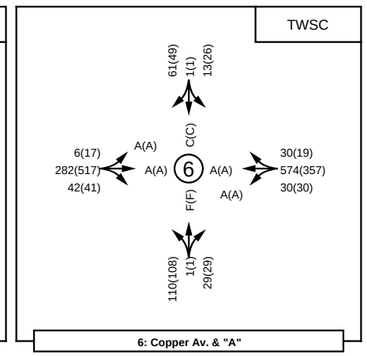
2019 NO BUILD Conditions





2019 BUILD Conditions



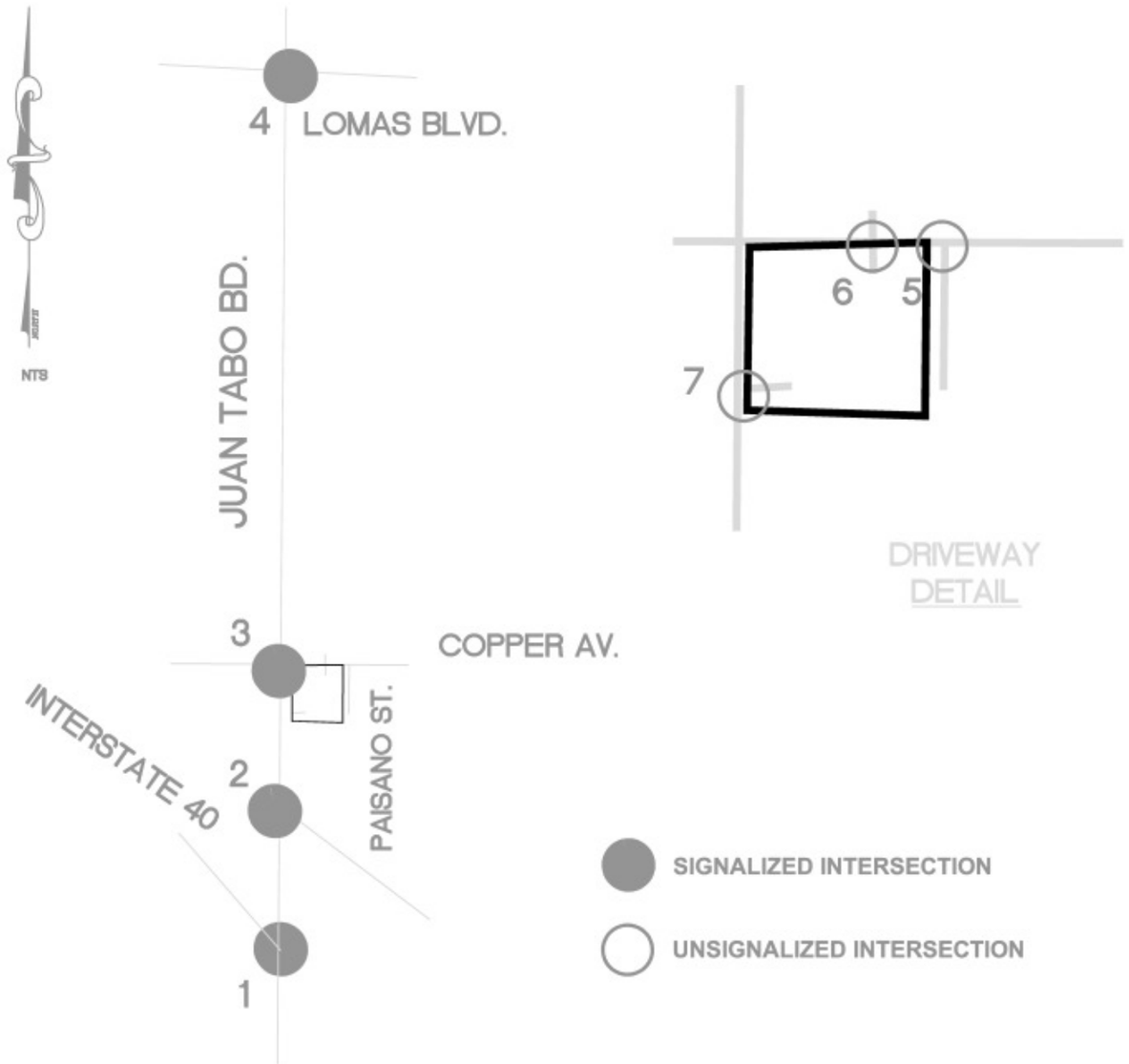


2019 BUILD Conditions [MITIGATED]

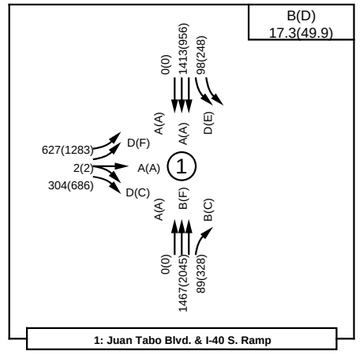
NO RECOMMENDATION

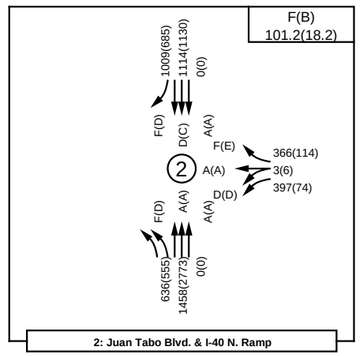
AM(PM)

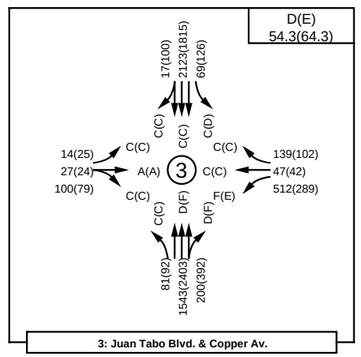
Maverik Convenience Store
(Copper Ave. / Juan Tabo Blvd.)
LOS / Volume Analysis Map

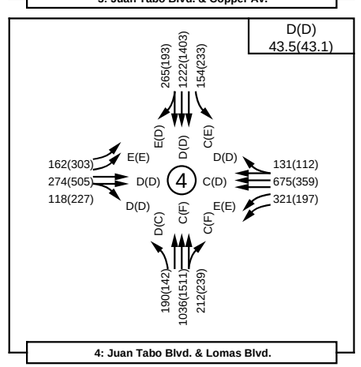


2029 NO BUILD Conditions

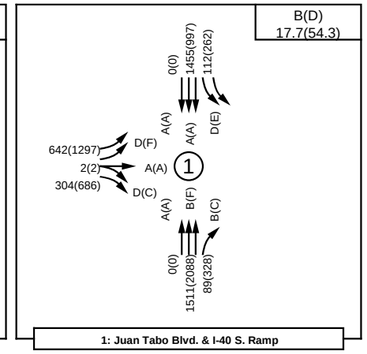


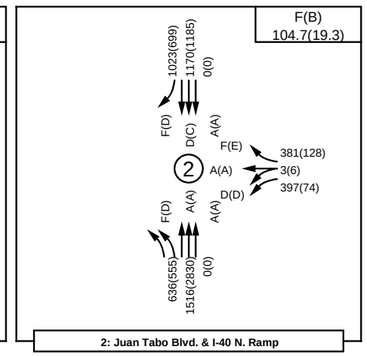


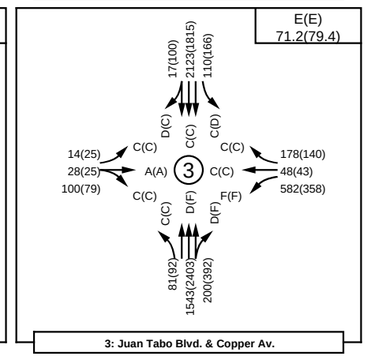


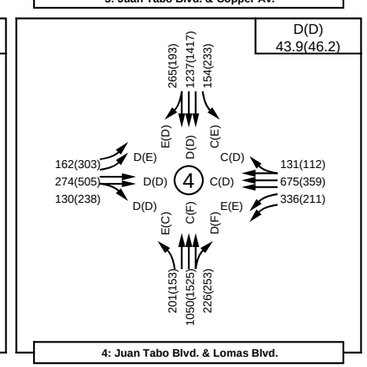


2029 BUILD Conditions

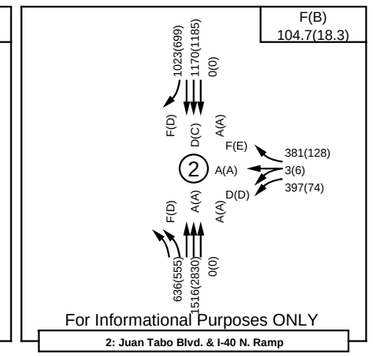




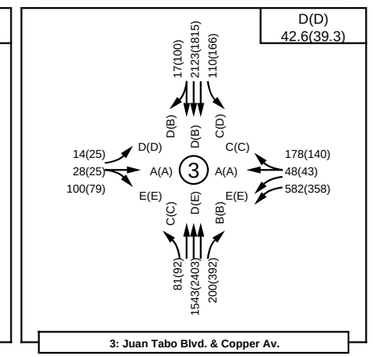




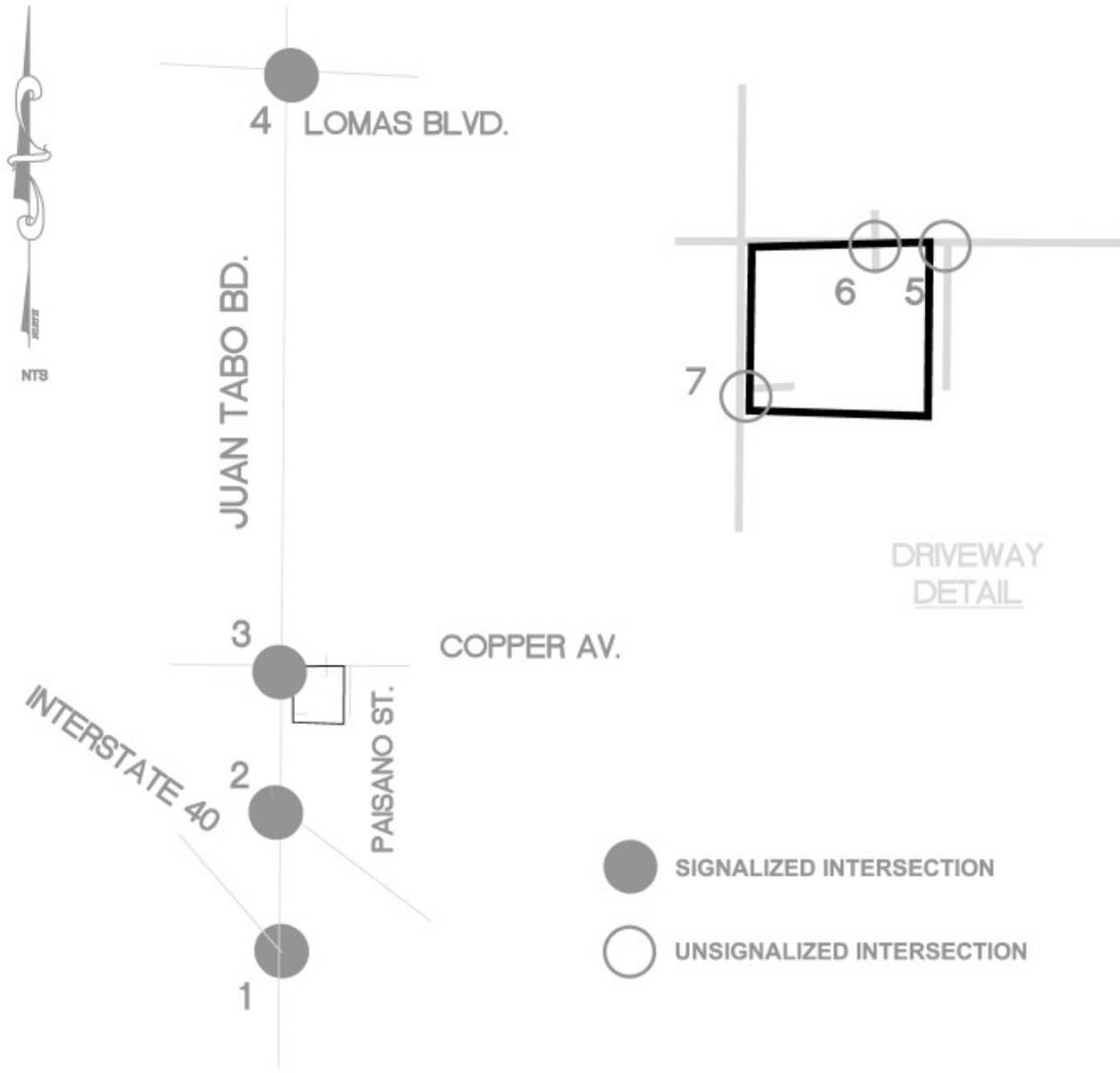
2029 BUILD Conditions [MITIGTED]



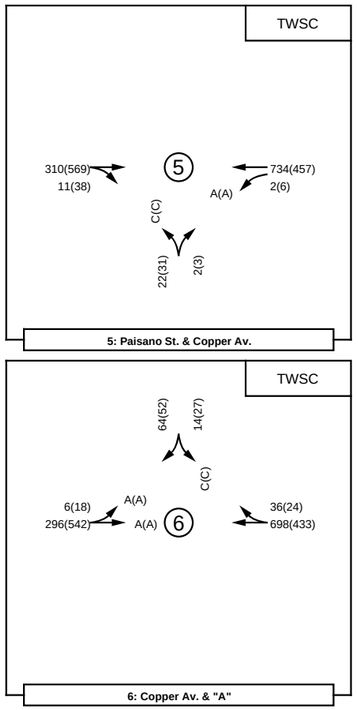
For Informational Purposes ONLY



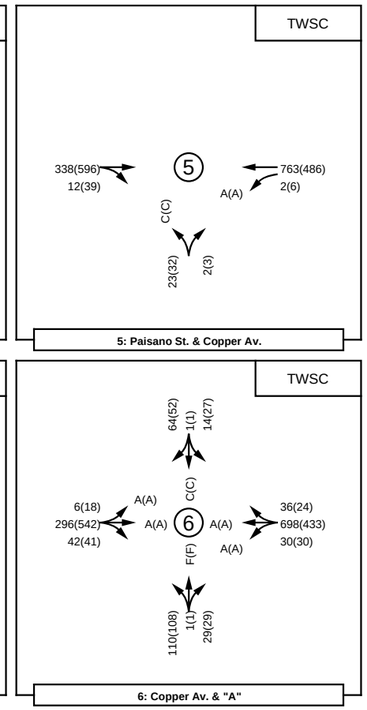
AM(PM)



2029 NO BUILD Conditions



2029 BUILD Conditions



2029 BUILD Conditions [MITIGTED]

NO RECOMMENDATION

Maverik Convenience Store
(Copper Ave. / Juan Tabo Blvd.)
LOS / Volume Analysis Map

AM(PM)

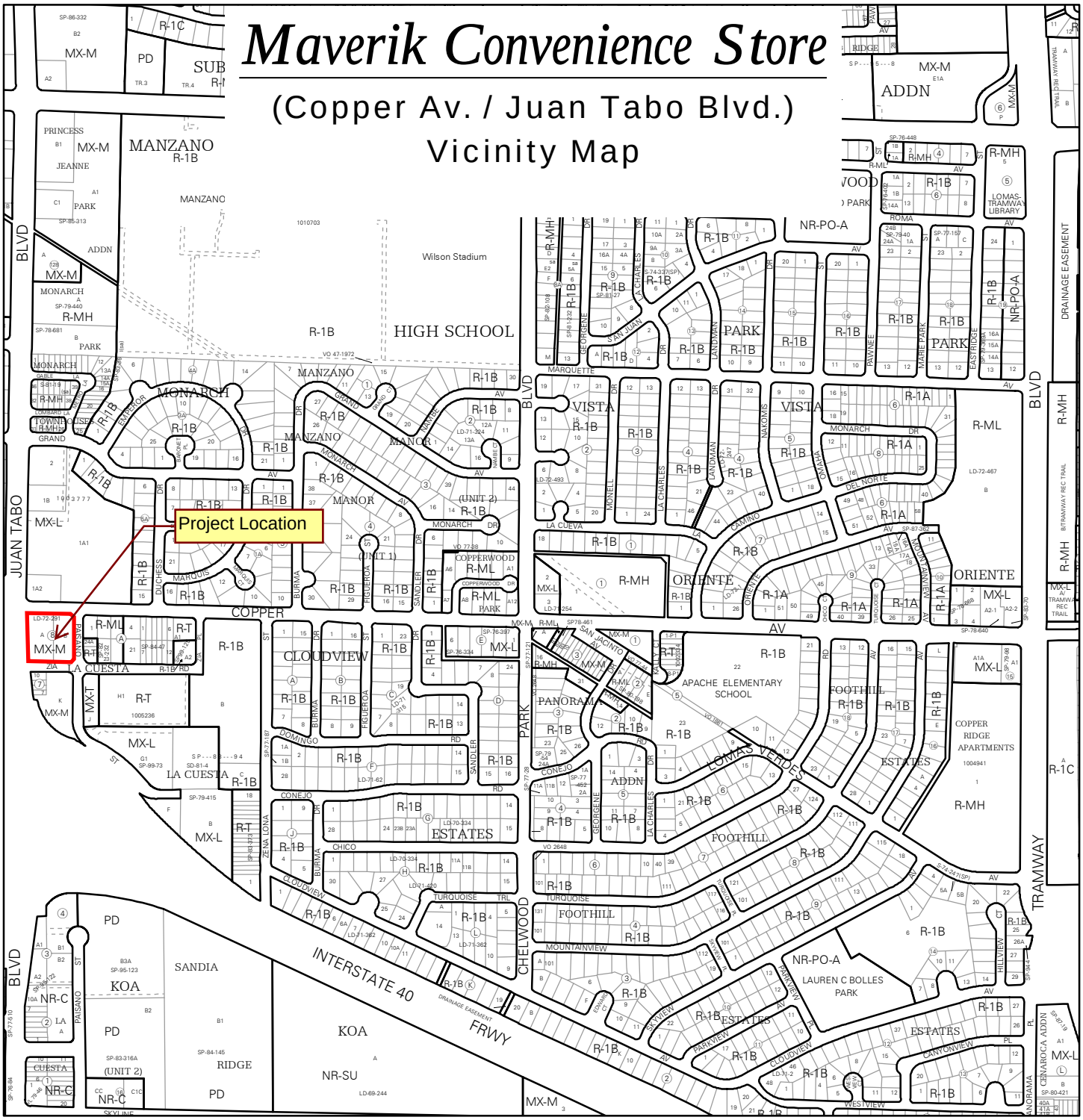
Appendix

SITE INFORMATION	
Vicinity Map	A-1
Aerial Map	A-2
Conceptual Site Development Plan	A-3
2040 Long Range Roadway System Map (from MRMPO) – Portion	A-4
2040 Long Range Bikeway System Map (from MRMPO) - Portion	A-5
2017 Traffic Flow Map - Portion	A-6
TRIP GENERATION	
Trip Generation Worksheet	A-7
TRIP DISTRIBUTION	
DASZ Map - Trip Distribution Area	A-8
Trip Distribution Worksheets	A-9 thru A-11
Trip Distribution Map	A-12
Trip Assignments Map (% Entering)	A-13
Trip Assignments Map (% Exiting)	A-14
HISTORIC GROWTH RATE	
Historic Growth Table	A-15
Historic Growth Trendline Charts	A-16 thru A-23
Growth Rate Map	A-24
TURNING MOVEMENT COUNTS	
2019 – Implementation Year	
Summary Table of Intersection Counts	A-25 thru A-26
Individual Intersection Turning Movement Counts Tables	A-27 thru A-40
2029 – Horizon Year	
Summary Table of Intersection Counts	A-41 thru A-42
Individual Intersection Turning Movement Counts Tables	A-43 thru A-56
IMPLEMENTATION YEAR (2019) INTERSECTION ANALYSES	
Intersection #1 - Signalized Intersection Analysis (I-40 S. Ramp / Juan Tabo Blvd.)	A-57 thru A-84
Intersection #2 - Signalized Intersection Analyses (I-40 N. Ramp / Juan Tabo Blvd.)	
Intersection #3 - Signalized Intersection Analysis (Copper Ave. / Juan Tabo Blvd.)	
Intersection #4 - Signalized Intersection Analyses (Lomas Blvd. / Juan Tabo Blvd.)	
Intersection #5 - Unsignalized Intersection Analysis (Copper Ave. / Paisano St.)	
Intersection #6 - Unsignalized Intersection Analyses (Copper Ave. / Driveway "A")	
Intersection #7 - Unsignalized Intersection Analysis (Driveway "B" / Juan Tabo Blvd.)	
HORIZON YEAR (2029) INTERSECTION ANALYSES	
Intersection #1 through #6	A-85 thru A-112
OMITTED PAGES	
Omitted Pages	A-113 thru A-126
WEAVING ANALYSES	
HCM Weaving Reports	A-127 thru A-135
Miscellaneous Data	
ABQ Ride Route Schedules	A-136
Traffic Count Data	A-137 thru A-148c
City of Albuquerque Scoping Letter	A-149 thru A-151

APPENDIX

Maverik Convenience Store

(Copper Av. / Juan Tabo Blvd.)
Vicinity Map



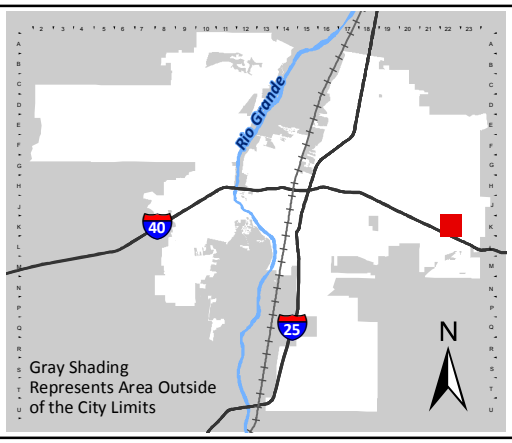
For more details about the Integrated Development Ordinance visit: http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance

IDO Zone Atlas
May 2018

Albuquerque Geographic Information System

IDO Zoning information as of May 17, 2018

The Zone Districts and Overlay Zones are established by the Integrated Development Ordinance (IDO).

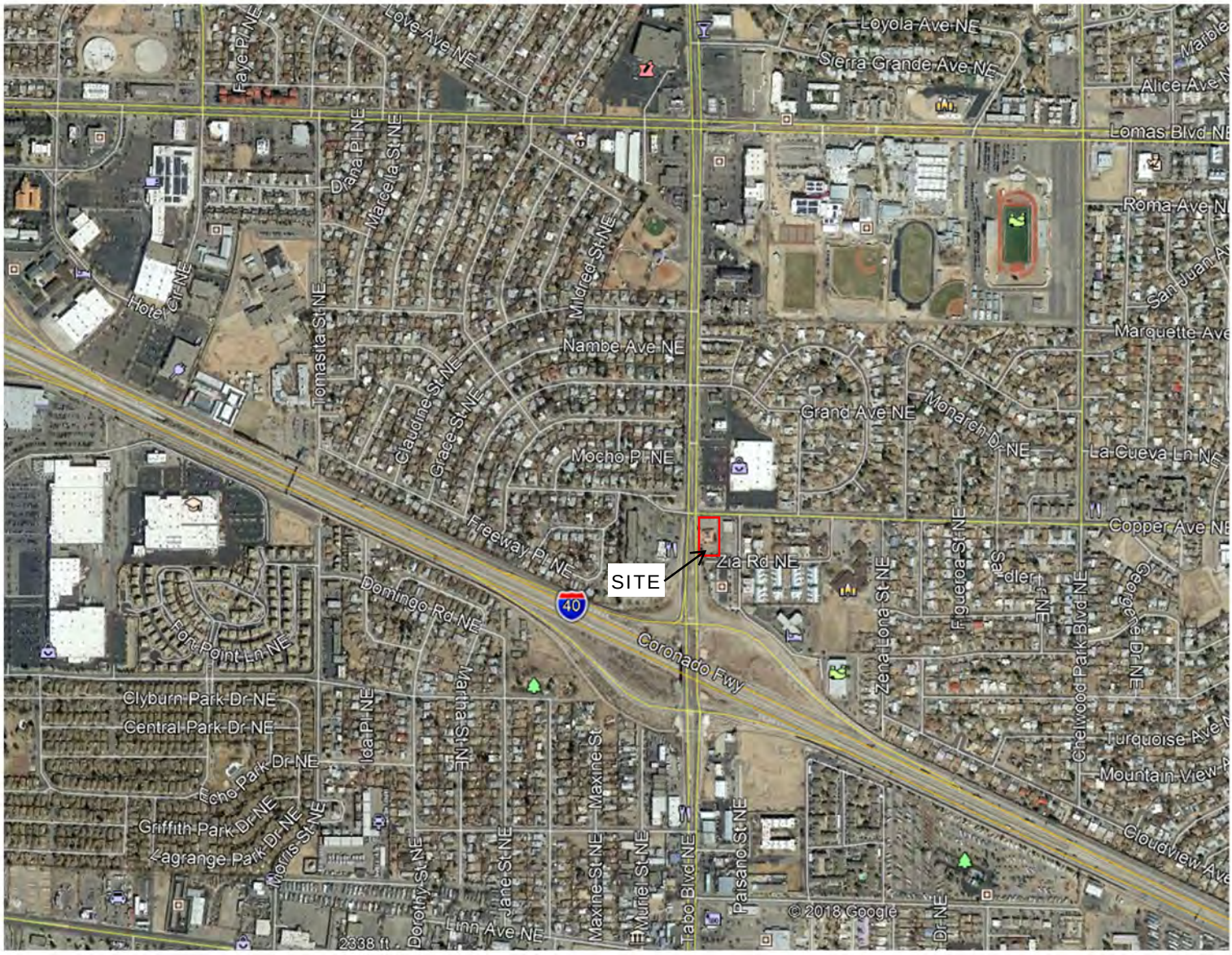


Zone Atlas Page:

K-22-Z

- Easement
- Escarpment
- Petroglyph National Monument
- Areas Outside of City Limits
- Airport Protection Overlay (APO) Zone
- Character Protection Overlay (CPO) Zone
- Historic Protection Overlay (HPO) Zone
- View Protection Overlay (VPO) Zone

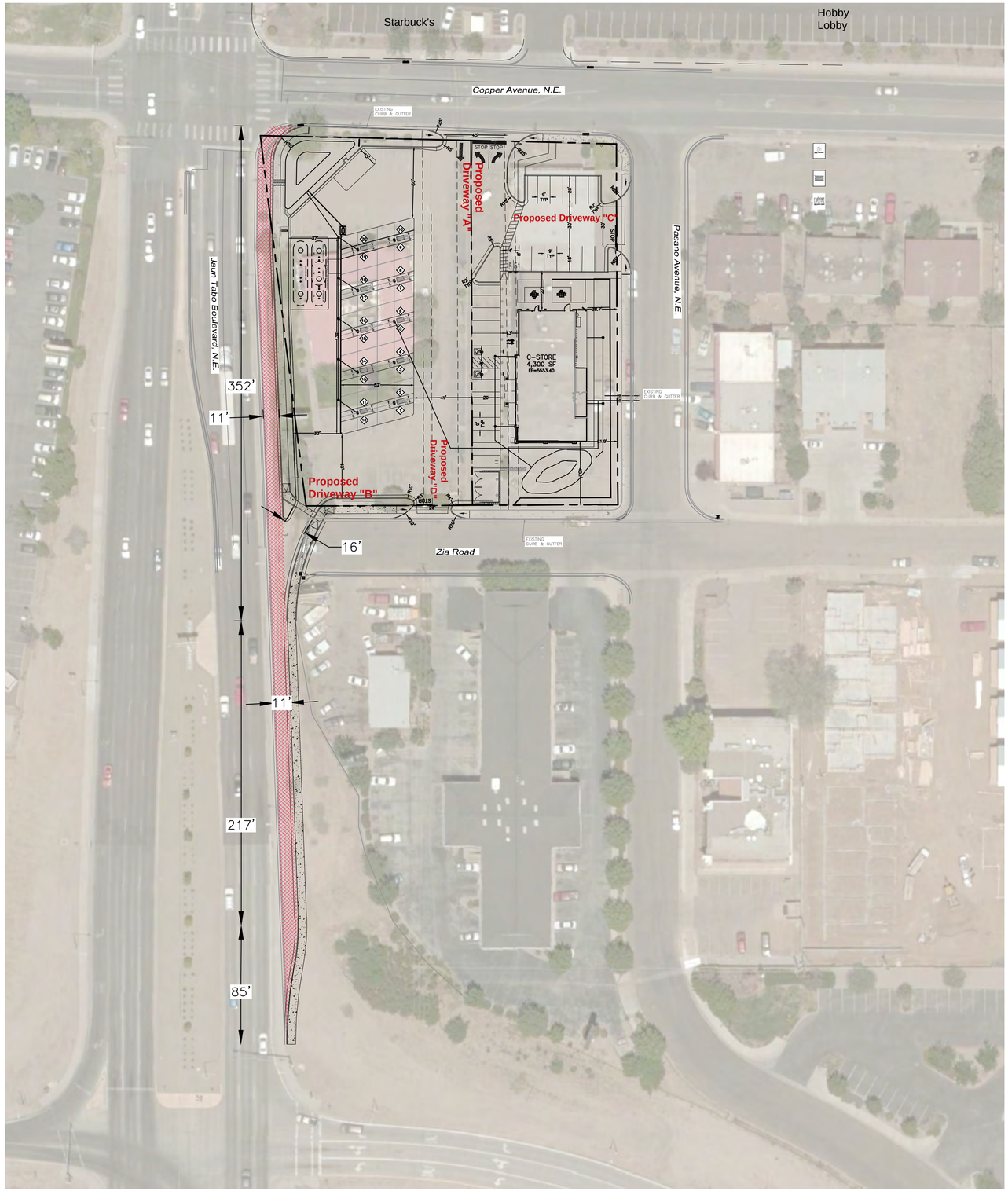
Feet: 0 250 500 1,000

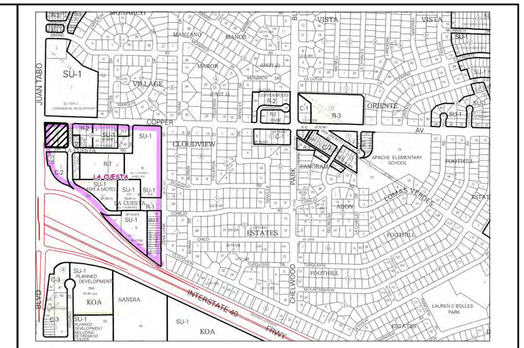


Maverik Convenience Store

(Copper Av. / Juan Tabo Blvd.)

Aerial Map





N

GRAPHIC SCALE

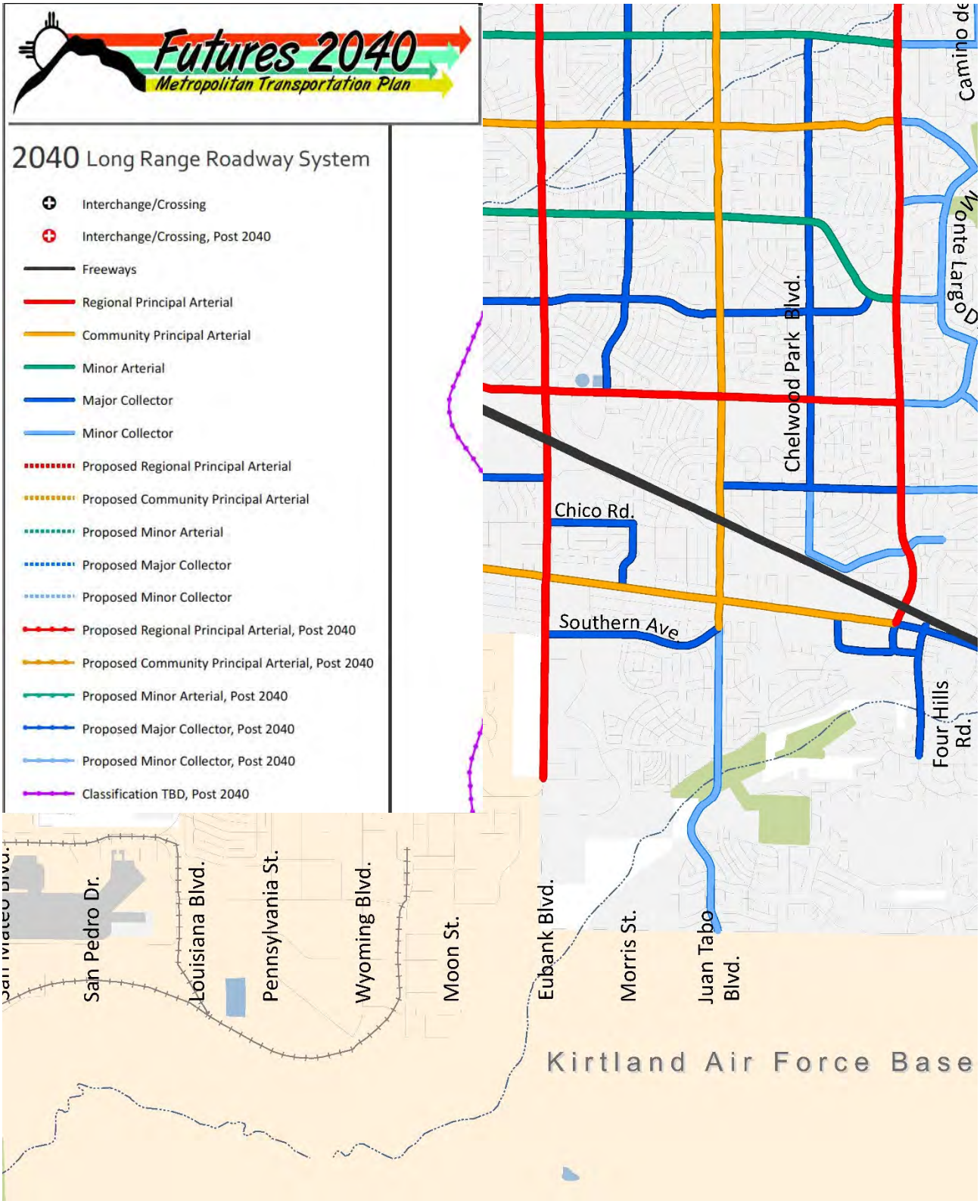
40 20 0 20 40

SCALE: 1"=40'

LEGEND

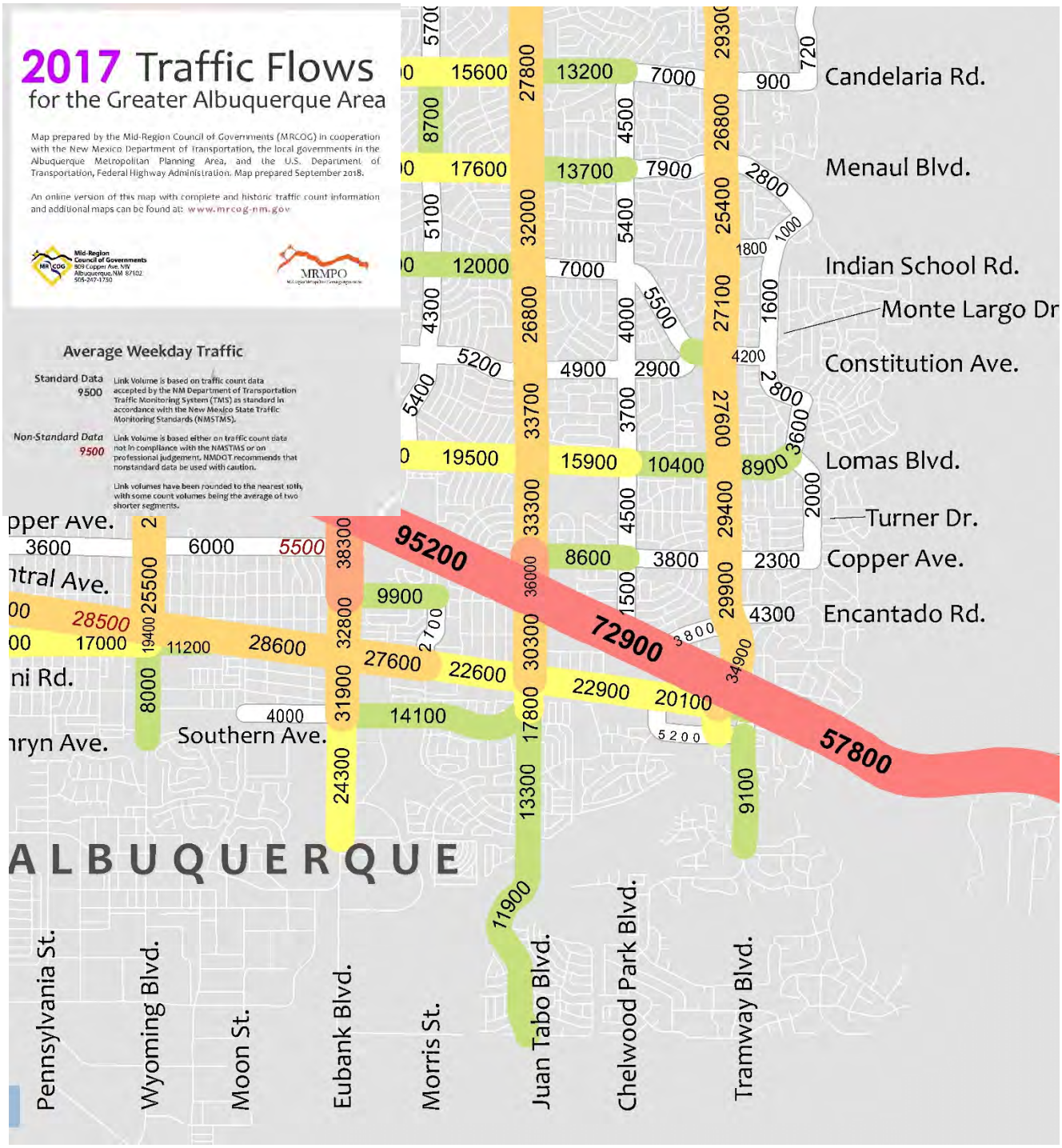
- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK/CONCRETE
- ASPHALT
- RETAINING WALL
- STREET LIGHTS
- EXISTING CURB & GUTTER

ENGINEER'S SEAL	MAVERIK 650 JUAN TABO BLVD. NE	DRAWN BY pm
	SITE PLAN FOR BUILDING PERMIT	DATE 2-27-19
		DRAWING 2018046-SP_TIS
	TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # C1
RONALD R. BOHANNAN P.E. #7868		JOB # 2018046



Portion of Futures 2040 Long Range Roadway System Map

Portion of Futures 2040 Long Range Bikeway System Map



Portion of 2017 Traffic Flow Map

from Mid-Region Council of Governments

Proposed Maverik C-Store (Copper Ave. / Juan Tabo Blvd.)
Trip Generation Data (ITE Trip Generation Manual - 10th Edition)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Gasoline / Service Station w/ Convenience Market (945)	*20*	4,208	145	139	143	137
	Fueling Positions					

ITE Trip Generation Equations:

Average Vehicle Trip Ends on a Weekday (24 HOUR TWO-WAY VOLUME)

T = ***268.46*** **(X) +** ***-1161***
50% Enter, ***50%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7am and 9am (A.M. PEAK HOUR)

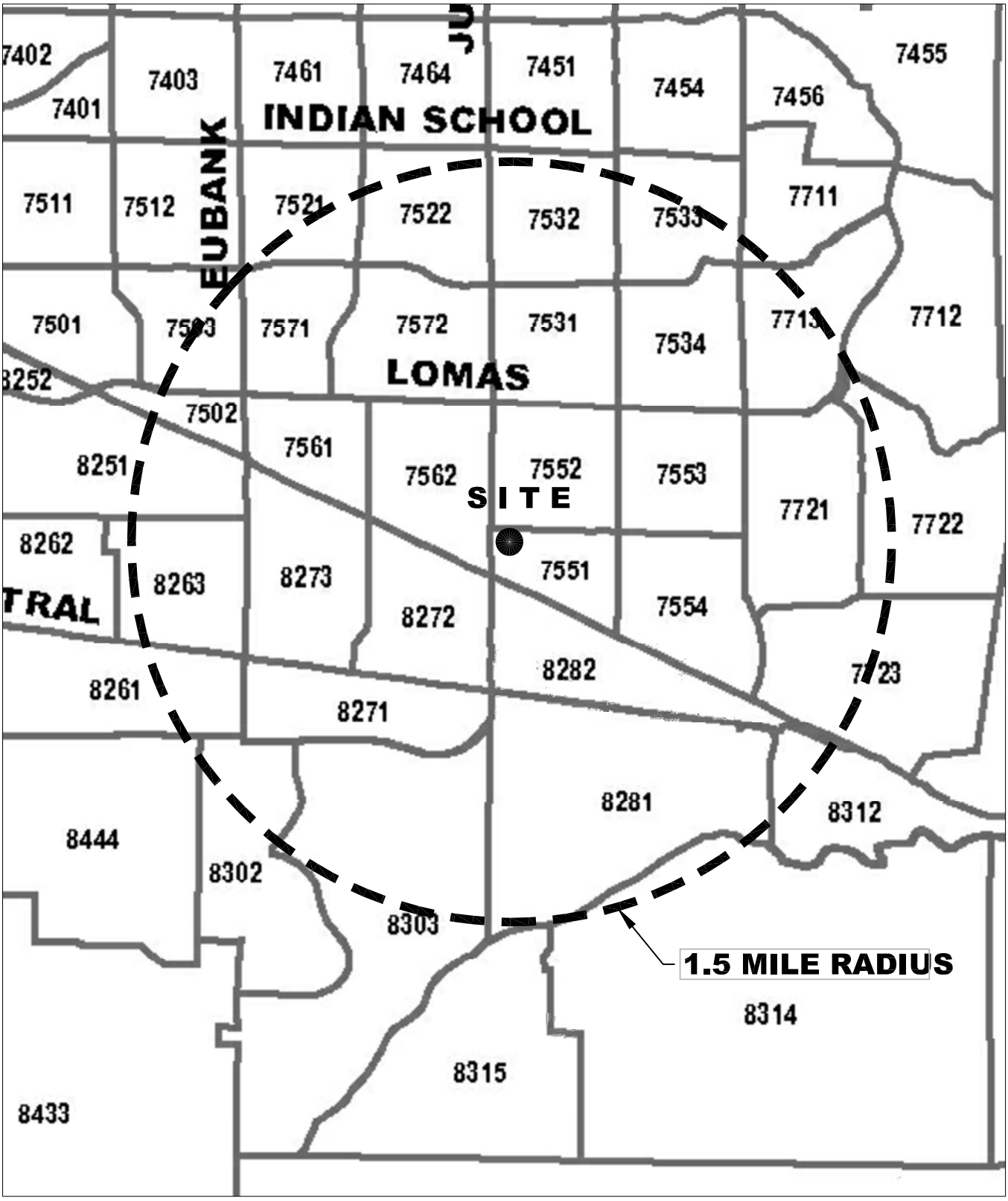
T = ***19*** **(X) +** ***-96.53***
51% Enter, ***49%*** Exit

Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

T = ***13.99*** **(X) +** ***0***
51% Enter, ***49%*** Exit

Comments:
Proposed

Based on ITE Trip Generation Manual - 10th Edition



DATA ANALYSIS SUBZONE (DASZ) MAP

Gas / Convenience Store (Copper Av. / Juan Tabo Bd.)

Trip Distribution Table

Maverik Gas Convenience Store (Copper Av. / Juan Tabo Bd.)

Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed **Retail Commercial Trips**

2012 and 2040 Data Taken from Mid-Region Council of Governments'
2040 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

							(JN) Juan Tabo Bd. North			(CE) Copper Av. East			(JS) Juan Tabo Bd. South		
DASZ #	% Sub Area in Study	2012 Population	2040 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2012	**2040**	**2019**											
Boundary Specified on DASZ Map															
7502	75%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7503	40%	1139	1142	1,140	456	**1.08%**	**50%**	0.54%	228	0%	0.00%	0	0%	0.00%	0
7521	30%	1207	1350	1,243	373	**0.89%**	**50%**	0.44%	187	0%	0.00%	0	0%	0.00%	0
7522	80%	1622	1520	1,597	1,278	**3.04%**	**50%**	1.52%	639	0%	0.00%	0	0%	0.00%	0
7531	100%	1882	2026	1,918	1,918	**4.56%**	**50%**	2.28%	959	0%	0.00%	0	0%	0.00%	0
7532	90%	1531	1554	1,537	1,383	**3.28%**	**50%**	1.64%	692	0%	0.00%	0	0%	0.00%	0
7533	60%	1365	1927	1,506	904	**2.15%**	0%	0.00%	0	**50%**	1.07%	452	0%	0.00%	0
7534	100%	2854	3207	2,942	2,942	**6.99%**	0%	0.00%	0	**50%**	3.49%	1,471	0%	0.00%	0
7551	100%	746	755	748	748	**1.78%**	0%	0.00%	0	**75%**	1.33%	561	0%	0.00%	0
7552	100%	934	1069	968	968	**2.30%**	0%	0.00%	0	**75%**	1.72%	726	0%	0.00%	0
7553	100%	2228	2153	2,209	2,209	**5.25%**	0%	0.00%	0	**50%**	2.62%	1,105	0%	0.00%	0
7554	100%	2016	2249	2,074	2,074	**4.93%**	0%	0.00%	0	**100%**	4.93%	2,074	0%	0.00%	0
7561	100%	152	210	167	167	**0.40%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7562	100%	1919	1767	1,881	1,881	**4.47%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7571	100%	1215	1209	1,214	1,214	**2.88%**	**50%**	1.44%	607	0%	0.00%	0	0%	0.00%	0
7572	100%	2045	2012	2,037	2,037	**4.84%**	**50%**	2.42%	1,019	0%	0.00%	0	0%	0.00%	0
7711	5%	1101	1162	1,116	56	**0.13%**	0%	0.00%	0	**75%**	0.10%	42	0%	0.00%	0
7713	55%	1724	1813	1,746	960	**2.28%**	0%	0.00%	0	**75%**	1.71%	720	0%	0.00%	0
7721	100%	2340	2529	2,387	2,387	**5.67%**	0%	0.00%	0	**100%**	5.67%	2,387	0%	0.00%	0
7722	15%	1003	1140	1,037	156	**0.37%**	0%	0.00%	0	**100%**	0.37%	156	0%	0.00%	0
7723	45%	1102	1352	1,165	524	**1.24%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8251	30%	378	499	408	122	**0.29%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8261	25%	1907	2103	1,956	489	**1.16%**	0%	0.00%	0	0%	0.00%	0	**100%**	1.16%	489
8263	90%	1843	1991	1,880	1,692	**4.02%**	0%	0.00%	0	0%	0.00%	0	**100%**	4.02%	1,692
8271	100%	1631	1998	1,723	1,723	**4.09%**	0%	0.00%	0	0%	0.00%	0	**100%**	4.09%	1,723
8272	100%	1717	1758	1,727	1,727	**4.10%**	0%	0.00%	0	0%	0.00%	0	**100%**	4.10%	1,727
8273	100%	1128	1732	1,279	1,279	**3.04%**	0%	0.00%	0	0%	0.00%	0	**100%**	3.04%	1,279
8281	95%	5988	6604	6,142	5,835	**13.86%**	0%	0.00%	0	0%	0.00%	0	**100%**	13.86%	5,835
8282	100%	1731	3465	2,165	2,165	**5.14%**	0%	0.00%	0	0%	0.00%	0	**75%**	3.86%	1,624
8302	30%	810	1435	966	290	**0.69%**	0%	0.00%	0	0%	0.00%	0	**100%**	0.69%	290
8303	45%	3904	4269	3,995	1,798	**4.27%**	0%	0.00%	0	0%	0.00%	0	**100%**	4.27%	1,798
8312	20%	675	926	738	148	**0.35%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.18%	74
8314	5%	3758	5083	4,089	204	**0.48%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.24%	102
				57,700	42,107	100.00%			**4,330**			**9,694**			**16,633**
									10.28%			23.02%			39.50%

Trip Distribution Table

Maverik Gas Convenience Store (Copper Av. / Juan Tabo Bd.)

Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed **Retail Commercial**

2012 and 2040 Data Taken from Mid-Region Council of Governments'
2040 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

							(CW) Copper Av. West			(LE) Lomas Blvd. East			(PS) Paisano St. South		
DASZ #	% Sub Area in Study	2012 Population	2040 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2012	**2040**	**2019**											
Boundary Specified on DASZ Map															
7502	75%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7503	40%	1139	1142	1,140	456	**1.08%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7521	30%	1207	1350	1,243	373	**0.89%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7522	80%	1622	1520	1,597	1,278	**3.04%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7531	100%	1882	2026	1,918	1,918	**4.56%**	0%	0.00%	0	**50%**	2.28%	959	0%	0.00%	0
7532	90%	1531	1554	1,537	1,383	**3.28%**	0%	0.00%	0	**50%**	1.64%	692	0%	0.00%	0
7533	60%	1365	1927	1,506	904	**2.15%**	0%	0.00%	0	**50%**	1.07%	452	0%	0.00%	0
7534	100%	2854	3207	2,942	2,942	**6.99%**	0%	0.00%	0	**50%**	3.49%	1,471	0%	0.00%	0
7551	100%	746	755	748	748	**1.78%**	0%	0.00%	0	0%	0.00%	0	**25%**	0.44%	187
7552	100%	934	1069	968	968	**2.30%**	0%	0.00%	0	**25%**	0.57%	242	0%	0.00%	0
7553	100%	2228	2153	2,209	2,209	**5.25%**	0%	0.00%	0	**50%**	2.62%	1,105	0%	0.00%	0
7554	100%	2016	2249	2,074	2,074	**4.93%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7561	100%	152	210	167	167	**0.40%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7562	100%	1919	1767	1,881	1,881	**4.47%**	**50%**	2.23%	941	0%	0.00%	0	0%	0.00%	0
7571	100%	1215	1209	1,214	1,214	**2.88%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7572	100%	2045	2012	2,037	2,037	**4.84%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7711	5%	1101	1162	1,116	56	**0.13%**	0%	0.00%	0	**25%**	0.03%	14	0%	0.00%	0
7713	55%	1724	1813	1,746	960	**2.28%**	0%	0.00%	0	**25%**	0.57%	240	0%	0.00%	0
7721	100%	2340	2529	2,387	2,387	**5.67%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7722	15%	1003	1140	1,037	156	**0.37%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7723	45%	1102	1352	1,165	524	**1.24%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8251	30%	378	499	408	122	**0.29%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8261	25%	1907	2103	1,956	489	**1.16%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8263	90%	1843	1991	1,880	1,692	**4.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8271	100%	1631	1998	1,723	1,723	**4.09%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8272	100%	1717	1758	1,727	1,727	**4.10%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8273	100%	1128	1732	1,279	1,279	**3.04%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8281	95%	5988	6604	6,142	5,835	**13.86%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8282	100%	1731	3465	2,165	2,165	**5.14%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8302	30%	810	1435	966	290	**0.69%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8303	45%	3904	4269	3,995	1,798	**4.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8312	20%	675	926	738	148	**0.35%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8314	5%	3758	5083	4,089	204	**0.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
				57,700	42,107	100.00%			**941**			**5,174**			**187**
									2.23%			12.29%			0.44%

Trip Distribution Table

Maverik Gas Convenience Store (Copper Av. / Juan Tabo Bd.)

Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed **Retail Commercial**

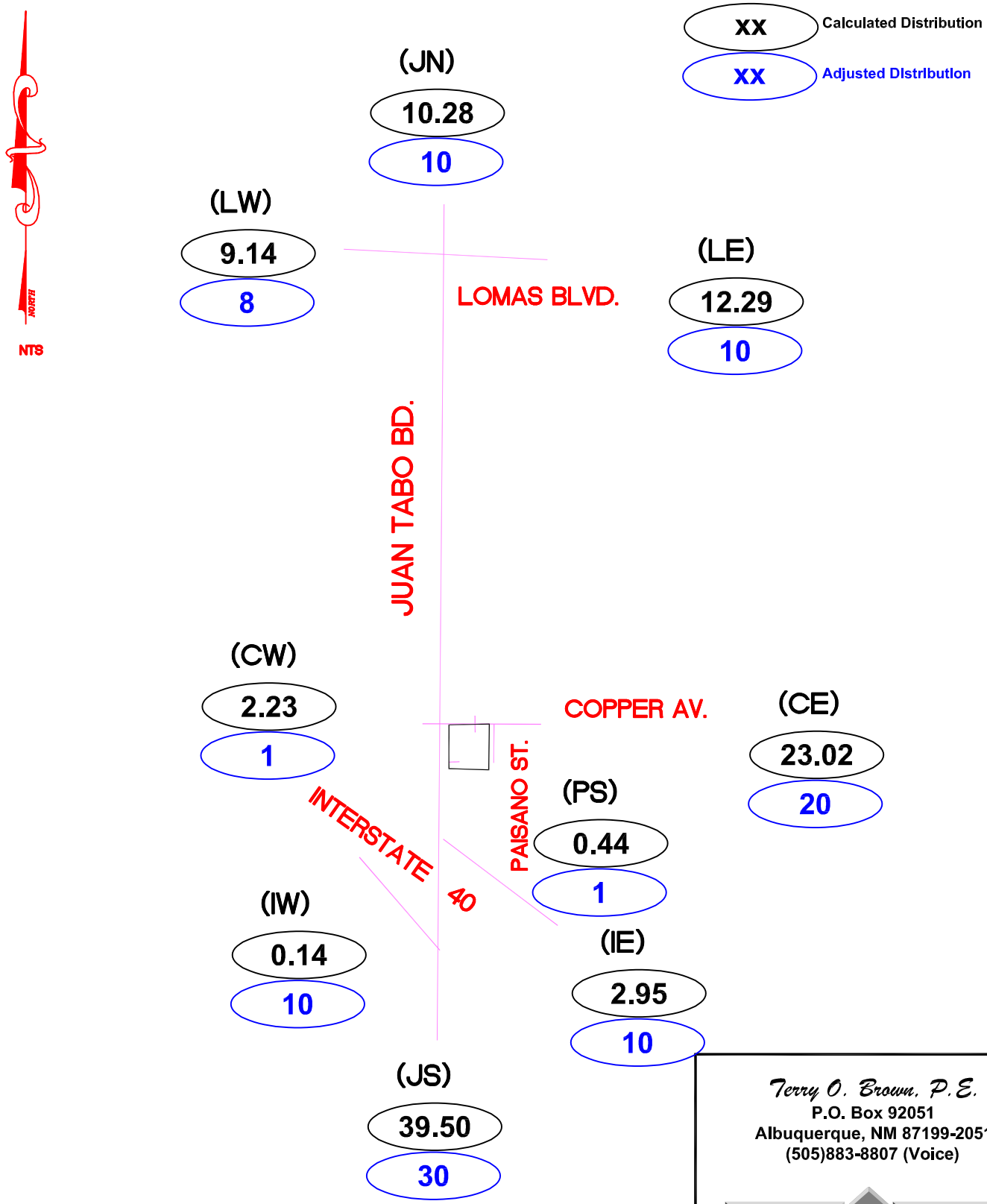
2012 and 2040 Data Taken from Mid-Region Council of Governments'
2040 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

							(IE) Interstate 40 East			(IW) Interstate 40 West			(LW) Lomas Blvd. West		
DASZ #	% Sub Area in Study	2012 Population	2040 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2012	**2040**	**2019**											
Boundary Specified on DASZ Map															
7502	75%	0	0	0	0	**0.00%**	0%	0.00%	0	**50%**	0.00%	0	**50%**	0.00%	0
7503	40%	1139	1142	1,140	456	**1.08%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.54%	228
7521	30%	1207	1350	1,243	373	**0.89%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.44%	187
7522	80%	1622	1520	1,597	1,278	**3.04%**	0%	0.00%	0	0%	0.00%	0	**50%**	1.52%	639
7531	100%	1882	2026	1,918	1,918	**4.56%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7532	90%	1531	1554	1,537	1,383	**3.28%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7533	60%	1365	1927	1,506	904	**2.15%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7534	100%	2854	3207	2,942	2,942	**6.99%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7551	100%	746	755	748	748	**1.78%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7552	100%	934	1069	968	968	**2.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7553	100%	2228	2153	2,209	2,209	**5.25%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7554	100%	2016	2249	2,074	2,074	**4.93%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7561	100%	152	210	167	167	**0.40%**	0%	0.00%	0	0%	0.00%	0	**100%**	0.40%	167
7562	100%	1919	1767	1,881	1,881	**4.47%**	0%	0.00%	0	0%	0.00%	0	**50%**	2.23%	941
7571	100%	1215	1209	1,214	1,214	**2.88%**	0%	0.00%	0	0%	0.00%	0	**50%**	1.44%	607
7572	100%	2045	2012	2,037	2,037	**4.84%**	0%	0.00%	0	0%	0.00%	0	**50%**	2.42%	1,019
7711	5%	1101	1162	1,116	56	**0.13%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7713	55%	1724	1813	1,746	960	**2.28%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7721	100%	2340	2529	2,387	2,387	**5.67%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7722	15%	1003	1140	1,037	156	**0.37%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7723	45%	1102	1352	1,165	524	**1.24%**	**100%**	1.24%	524	0%	0.00%	0	0%	0.00%	0
8251	30%	378	499	408	122	**0.29%**	0%	0.00%	0	**50%**	0.14%	61	**50%**	0.14%	61
8261	25%	1907	2103	1,956	489	**1.16%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8263	90%	1843	1991	1,880	1,692	**4.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8271	100%	1631	1998	1,723	1,723	**4.09%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8272	100%	1717	1758	1,727	1,727	**4.10%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8273	100%	1128	1732	1,279	1,279	**3.04%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8281	95%	5988	6604	6,142	5,835	**13.86%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8282	100%	1731	3465	2,165	2,165	**5.14%**	**25%**	1.29%	541	0%	0.00%	0	0%	0.00%	0
8302	30%	810	1435	966	290	**0.69%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8303	45%	3904	4269	3,995	1,798	**4.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
8312	20%	675	926	738	148	**0.35%**	**50%**	0.18%	74	0%	0.00%	0	0%	0.00%	0
8314	5%	3758	5083	4,089	204	**0.48%**	**50%**	0.24%	102	0%	0.00%	0	0%	0.00%	0
				57,700	42,107	100.00%			**1,241**			**61**			**3,848**
									2.95%			0.14%			9.14%

Maverik Gas / Convenience Store

(Copper Av. / Juan Tabo Bd.)

Trip Distribution Map (%)



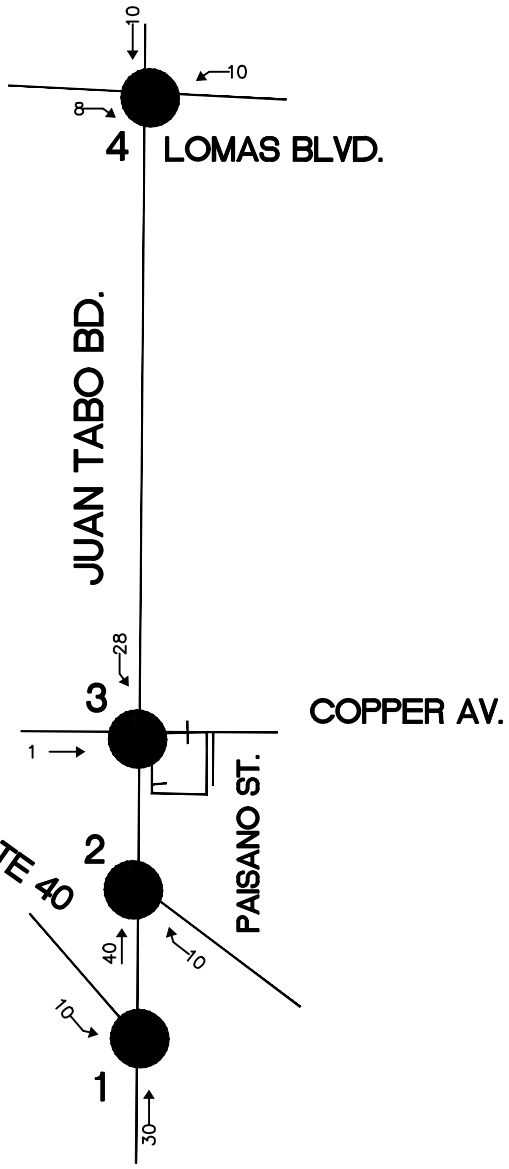
Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)

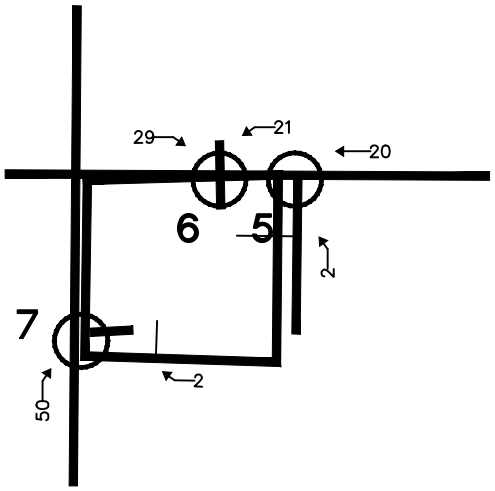
Maverik Gas / Convenience Store

(Copper Av. / Juan Tabo Bd.)

Trip Assignments (% Entering)

NTS





DRIVEWAY DETAIL

SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

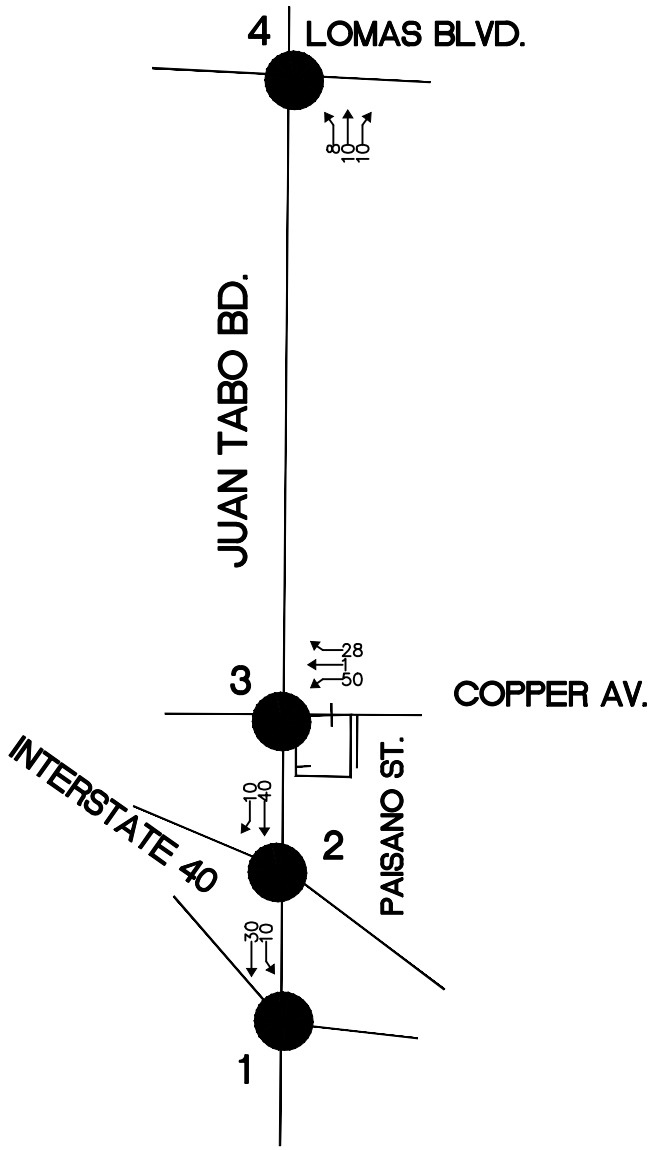
Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

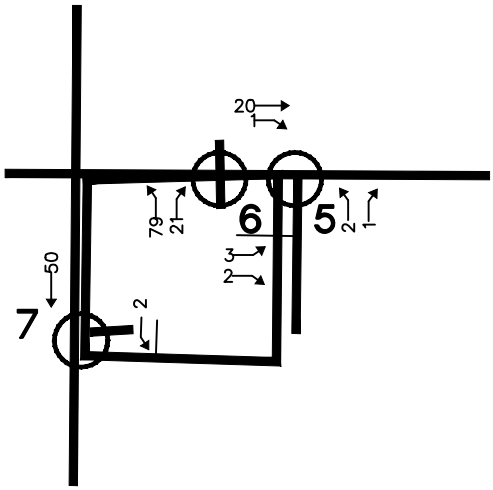
Maverik Gas / Convenience Store

(Copper Av. / Juan Tabo Bd.)

Trip Assignments (% Exiting)

NTS





DRIVEWAY DETAIL

SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

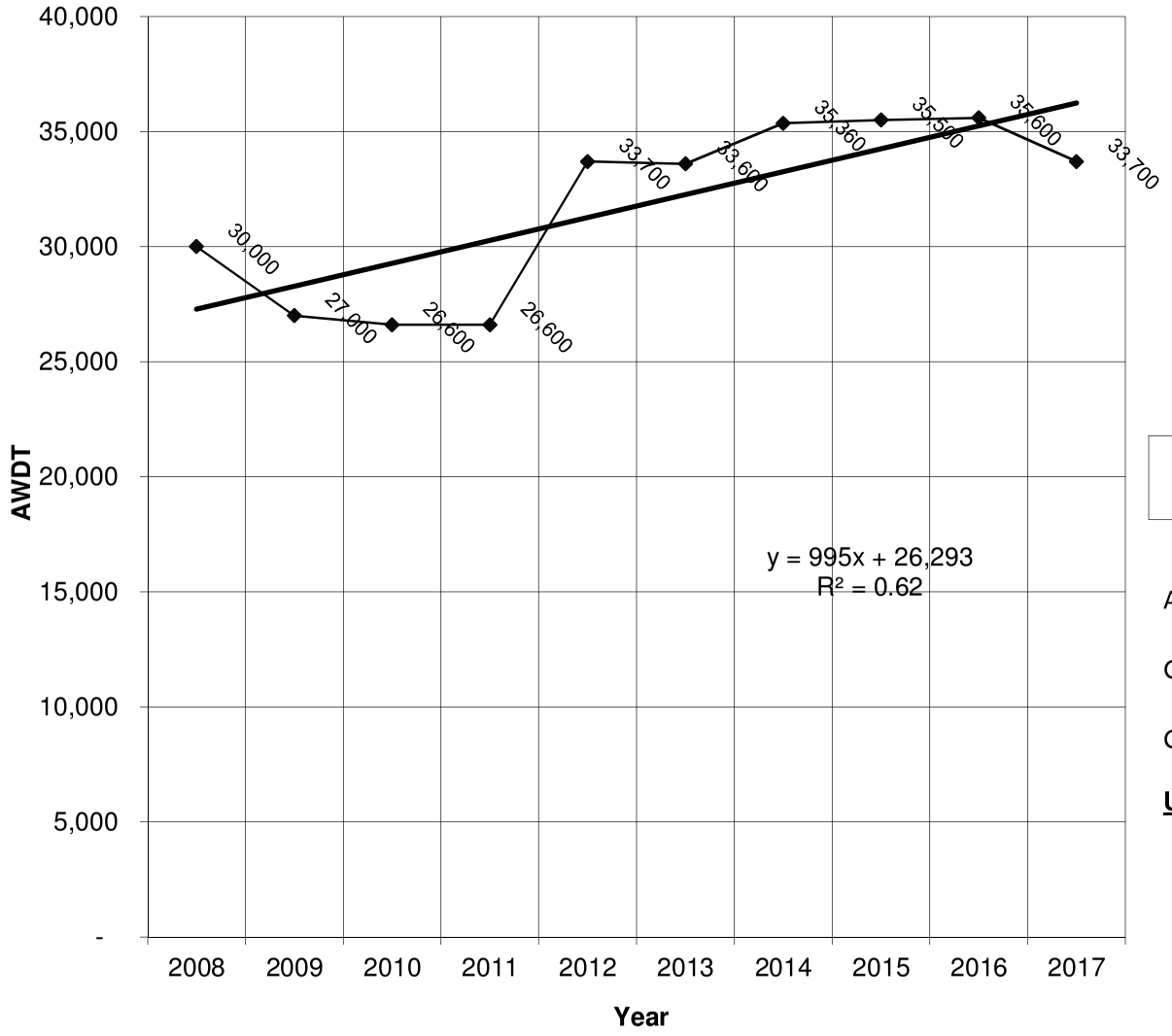
Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Historic Growth Rate Table

Traffic Flows from MRCOG Map

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Juan Tabo Blvd. North of Lomas Blvd.	30,000	27,000	26,600	26,600	33,700	33,600	35,360	35,500	35,600	33,700
Lomas Blvd. East of Juan Tabo Blvd.	16,800	16,400	16,400	16,400	16,300	15,900	15,810	15,900	15,800	15,900
Juan Tabo Blvd. btwn Lomas & Copper	34,100	33,500	33,000	33,100	33,000	32,900	33,190	33,300	33,400	33,300
Copper Av. East of Juan Tabo Blvd.	7,800	7,600	7,500	8,100	8,100	8,000	9,260	9,300	9,300	8,600
Interstate 40 East of Juan Tabo Blvd.	63,000	64,400	64,900	62,800	66,300	64,500	66,600	69,000	68,200	72,900
Juan Tabo Blvd. South of Interstate 40	23,000	22,500	22,200	27,400	27,300	27,200	28,010	28,100	28,200	30,300
Interstate 40 West of Juan Tabo Blvd.	80,500	82,100	83,200	84,300	94,800	85,100	101,100	105,200	90,000	95,200
Lomas Blvd. West of Juan Tabo Blvd.	22,100	21,700	21,400	20,700	20,700	20,600	18,630	18,700	18,800	19,500

Historic Growth Chart Juan Tabo Blvd. North of Lomas Blvd. (2008-2017)



Annual Increase (Trendline) = 995 veh./day

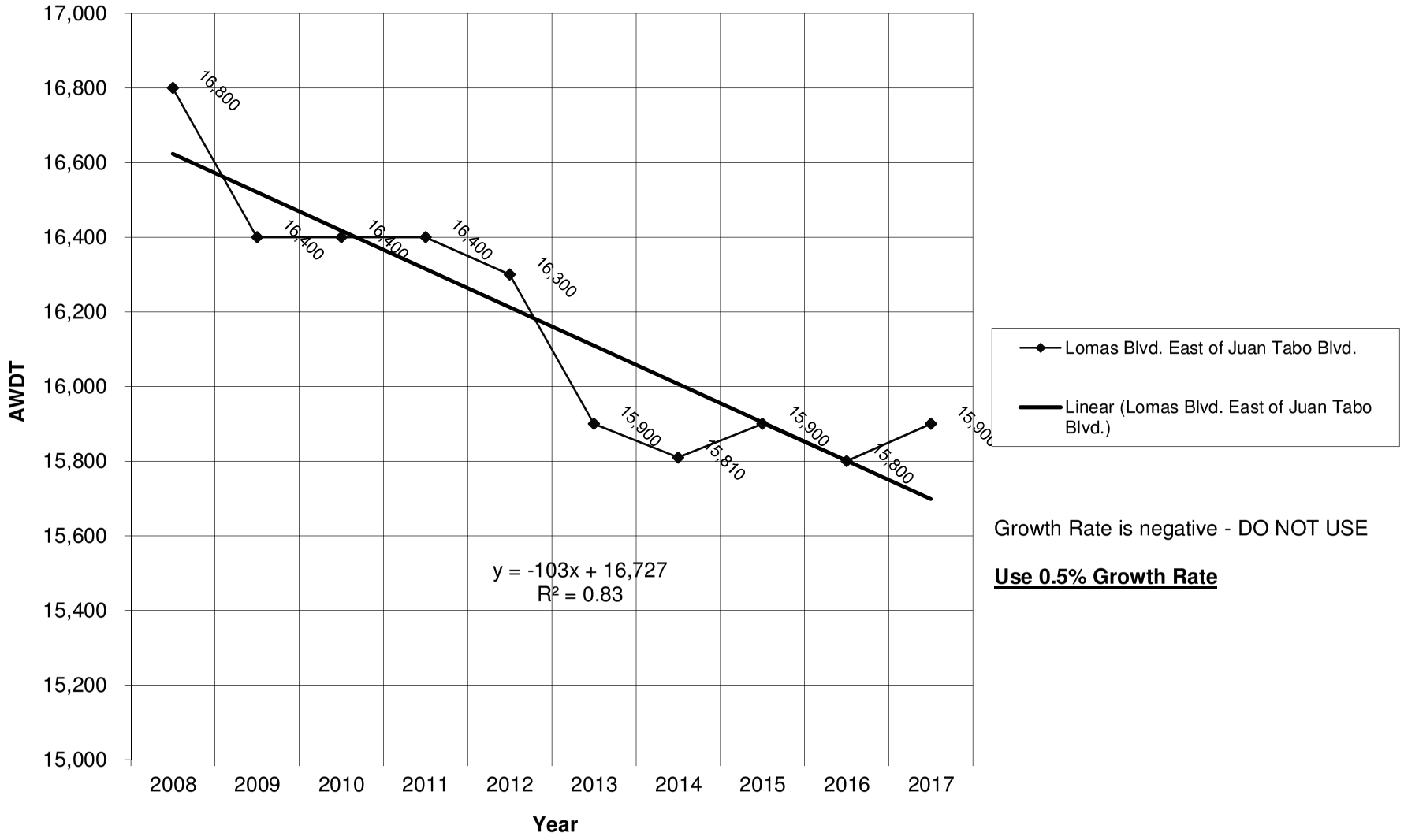
Growth Rate = 995 / 33700

Growth Rate = .0295

Use 3.0% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Chart Lomas Blvd. East of Juan Tabo Blvd. (2008-2017)

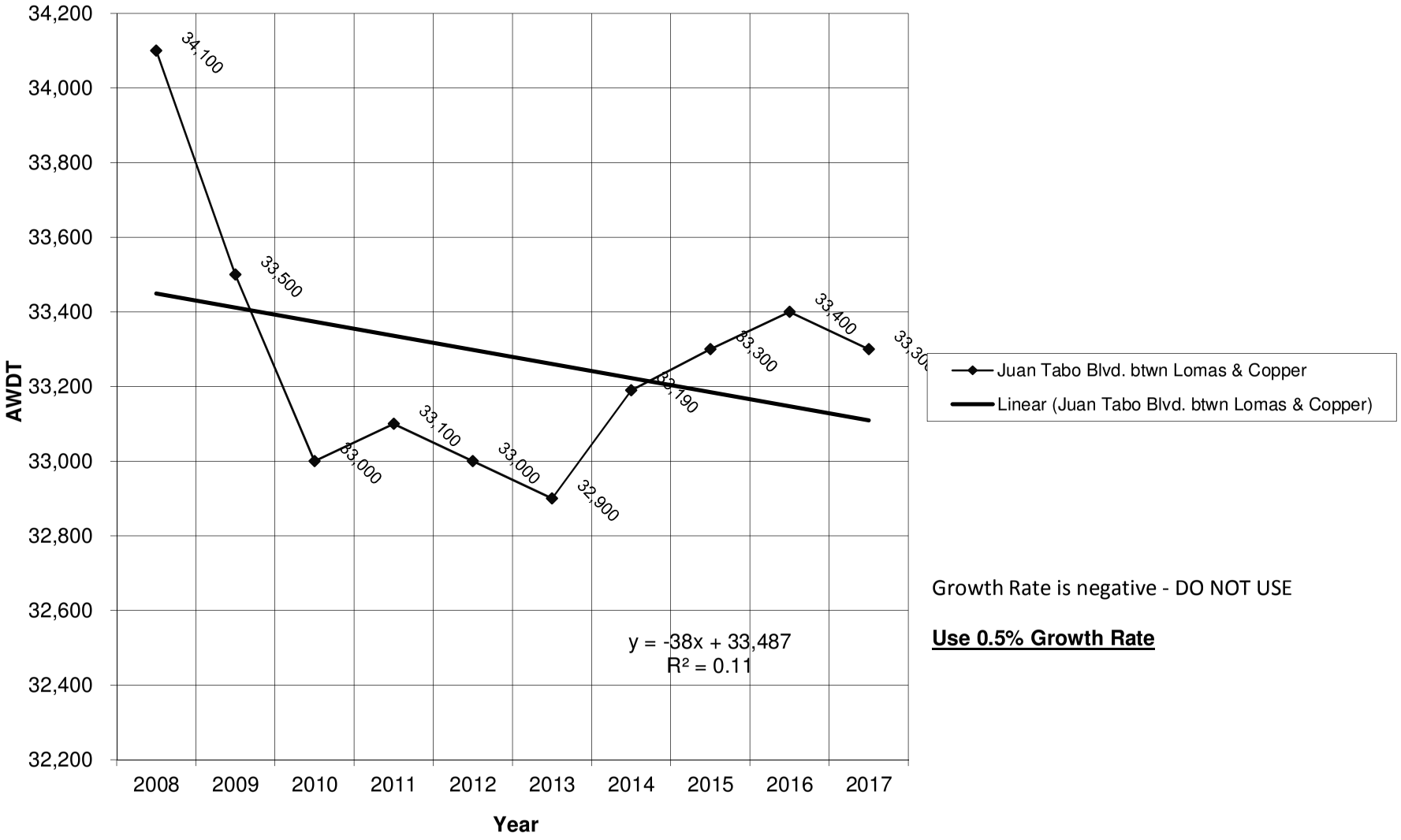


Growth Rate is negative - DO NOT USE

Use 0.5% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Chart Juan Tabo Blvd. btwn Lomas & Copper (2008-2017)

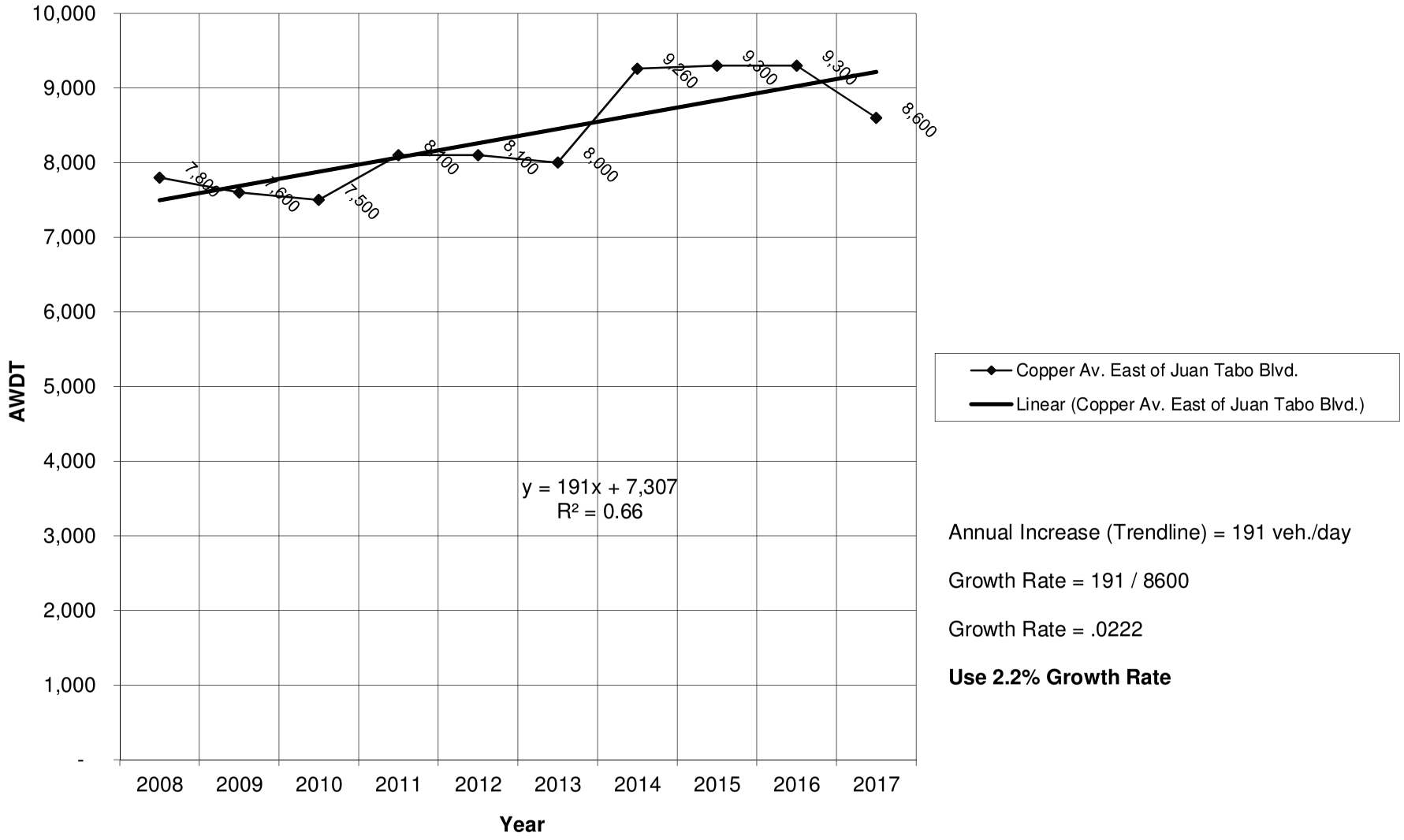


Growth Rate is negative - DO NOT USE

Use 0.5% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Chart Copper Av. East of Juan Tabo Blvd. (2008-2017)



Annual Increase (Trendline) = 191 veh./day

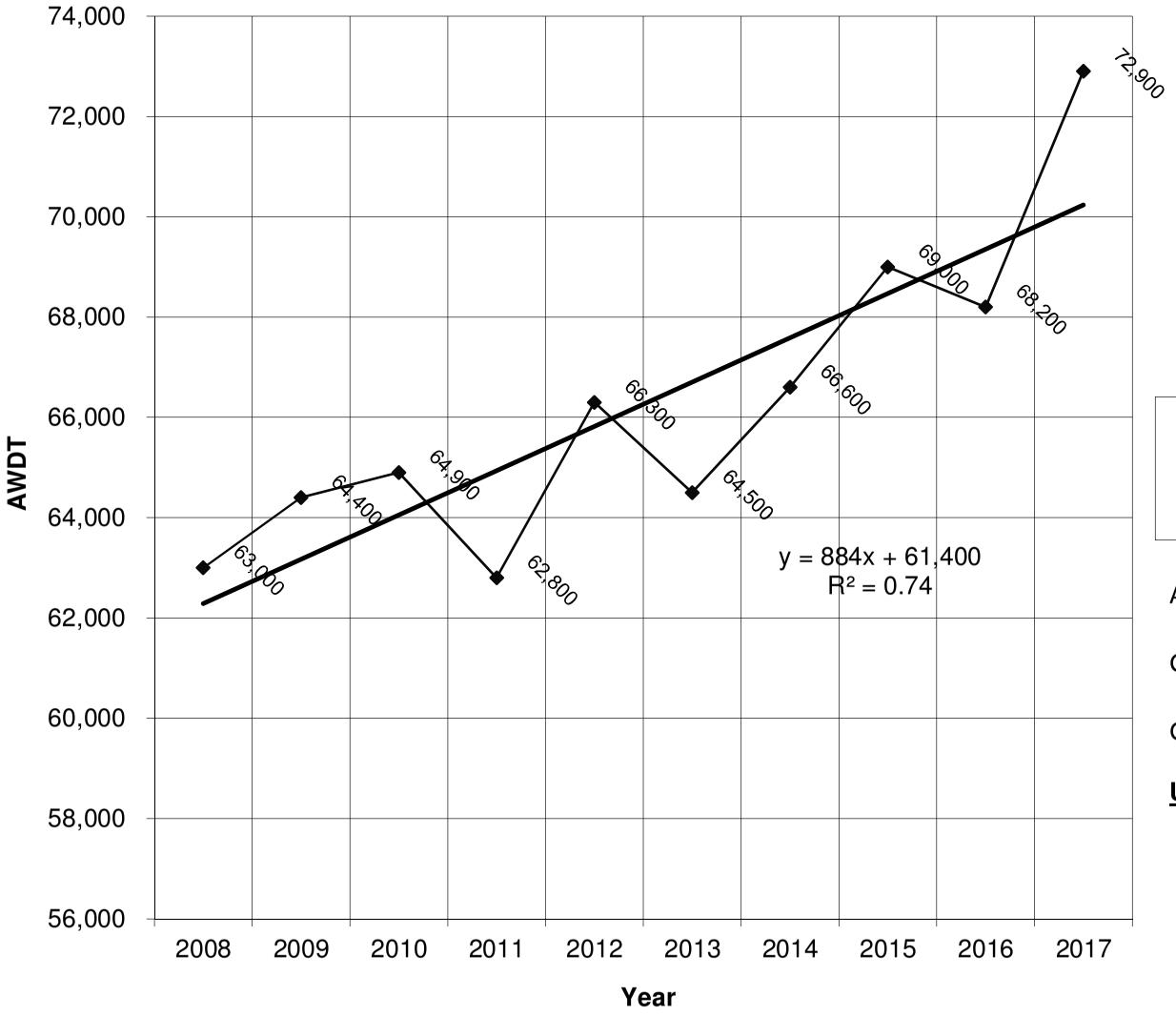
Growth Rate = 191 / 8600

Growth Rate = .0222

Use 2.2% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Interstate 40 East of Juan Tabo Blvd. (2008-2017)



Annual Increase (Trendline) = 884 veh./day

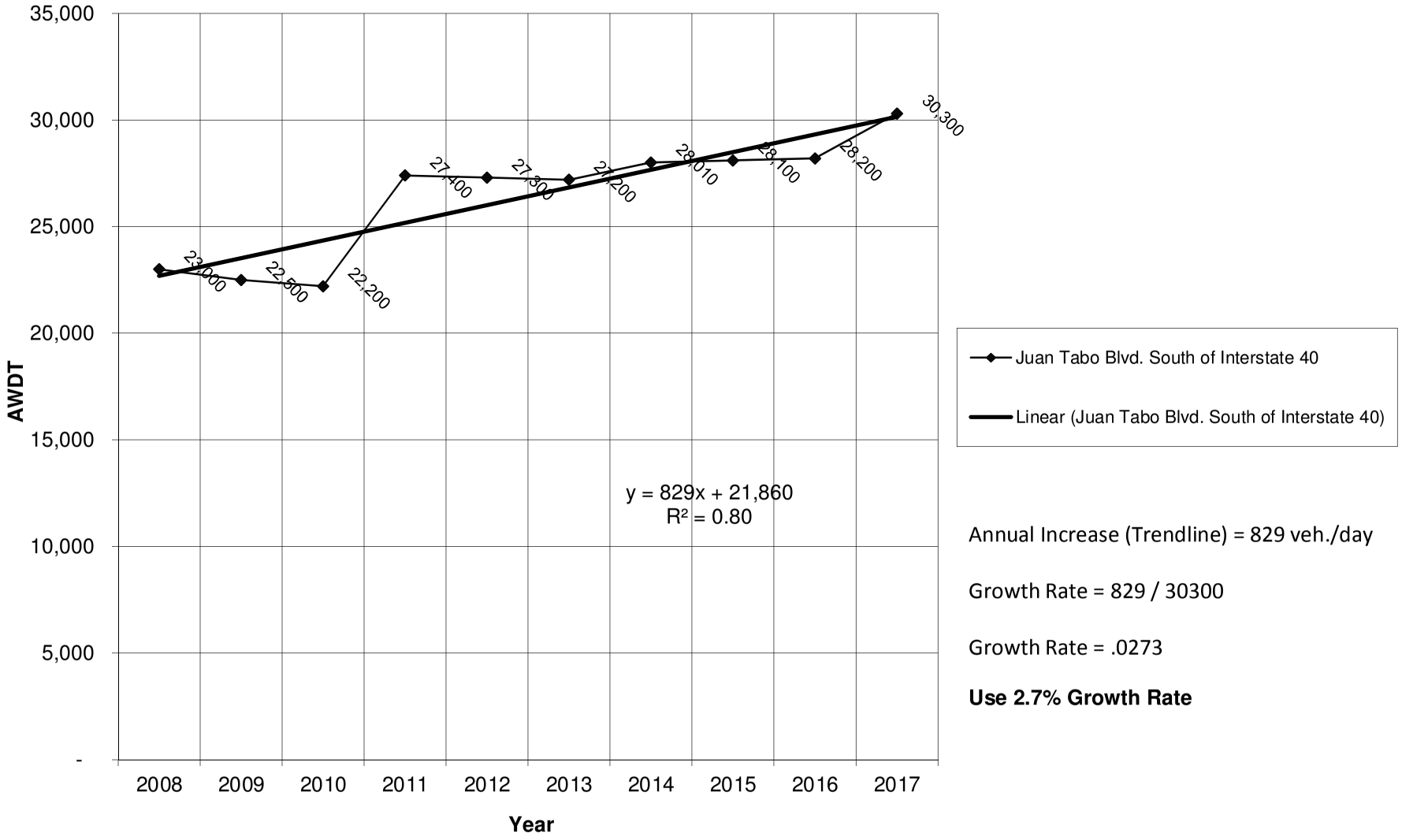
Growth Rate = 884 / 72900

Growth Rate = .0121

Use 1.2% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Chart Juan Tabo Blvd. South of Interstate 40 (2008-2017)



Annual Increase (Trendline) = 829 veh./day

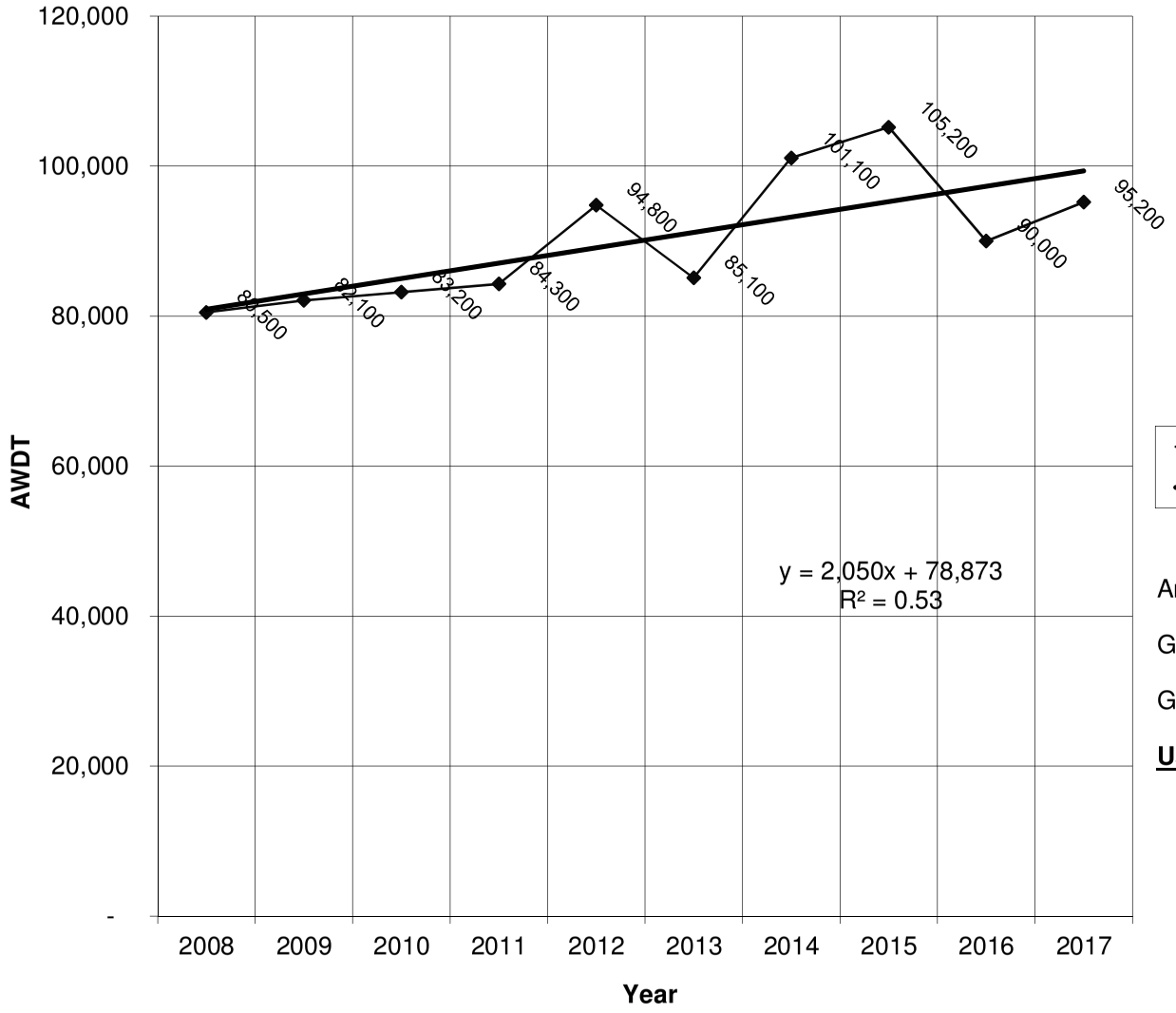
Growth Rate = 829 / 30300

Growth Rate = .0273

Use 2.7% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Chart Interstate 40 West of Juan Tabo Blvd. (2008-2017)



Annual Increase (Trendline) = 2050 veh./day

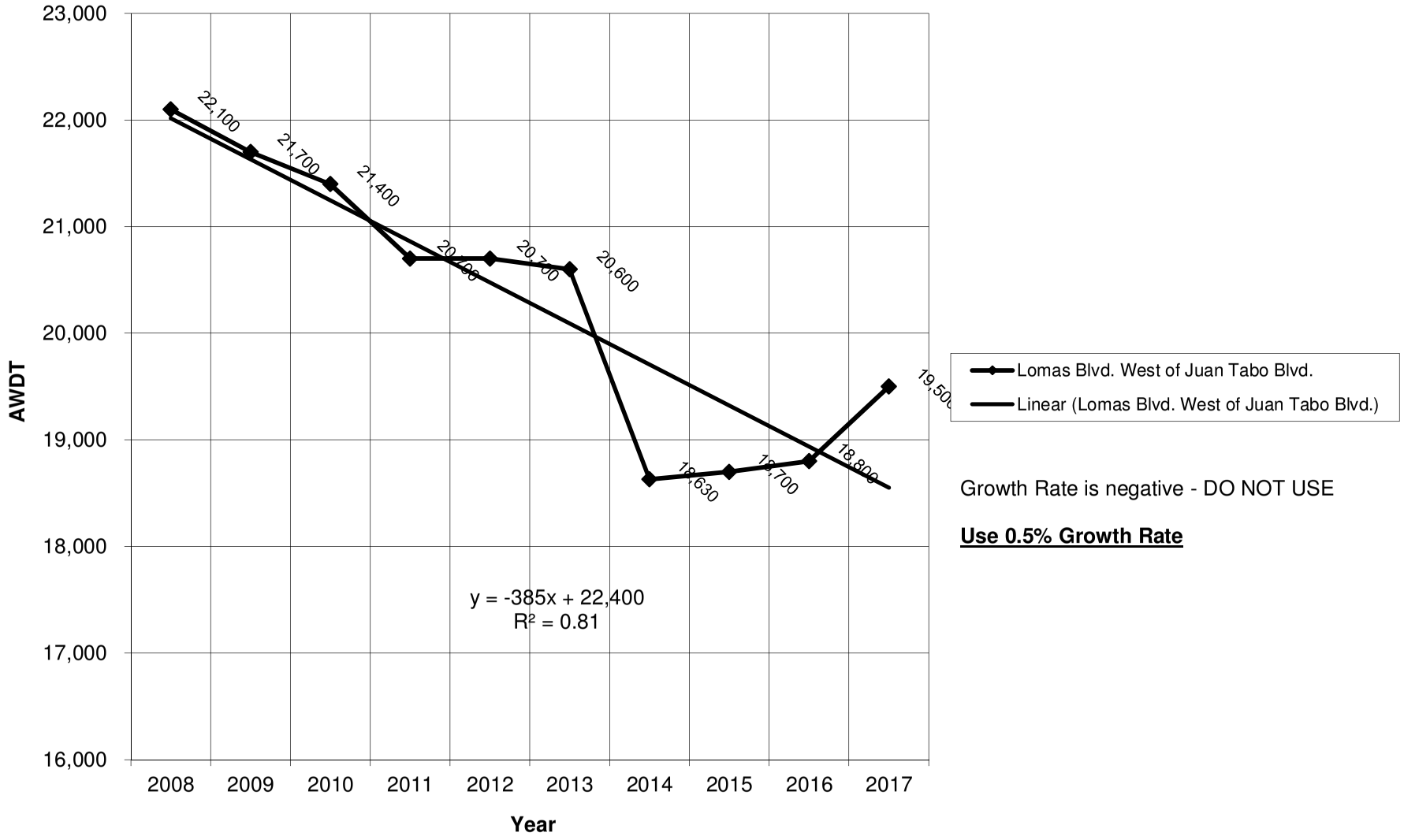
Growth Rate = 2050 / 95200

Growth Rate = .0215

Use 2.2% Growth Rate

Maverik-JTabo_Growth.xlsx

Historic Growth Chart Lomas Blvd. West of Juan Tabo Blvd. (2008-2017)



Growth Rate is negative - DO NOT USE

Use 0.5% Growth Rate

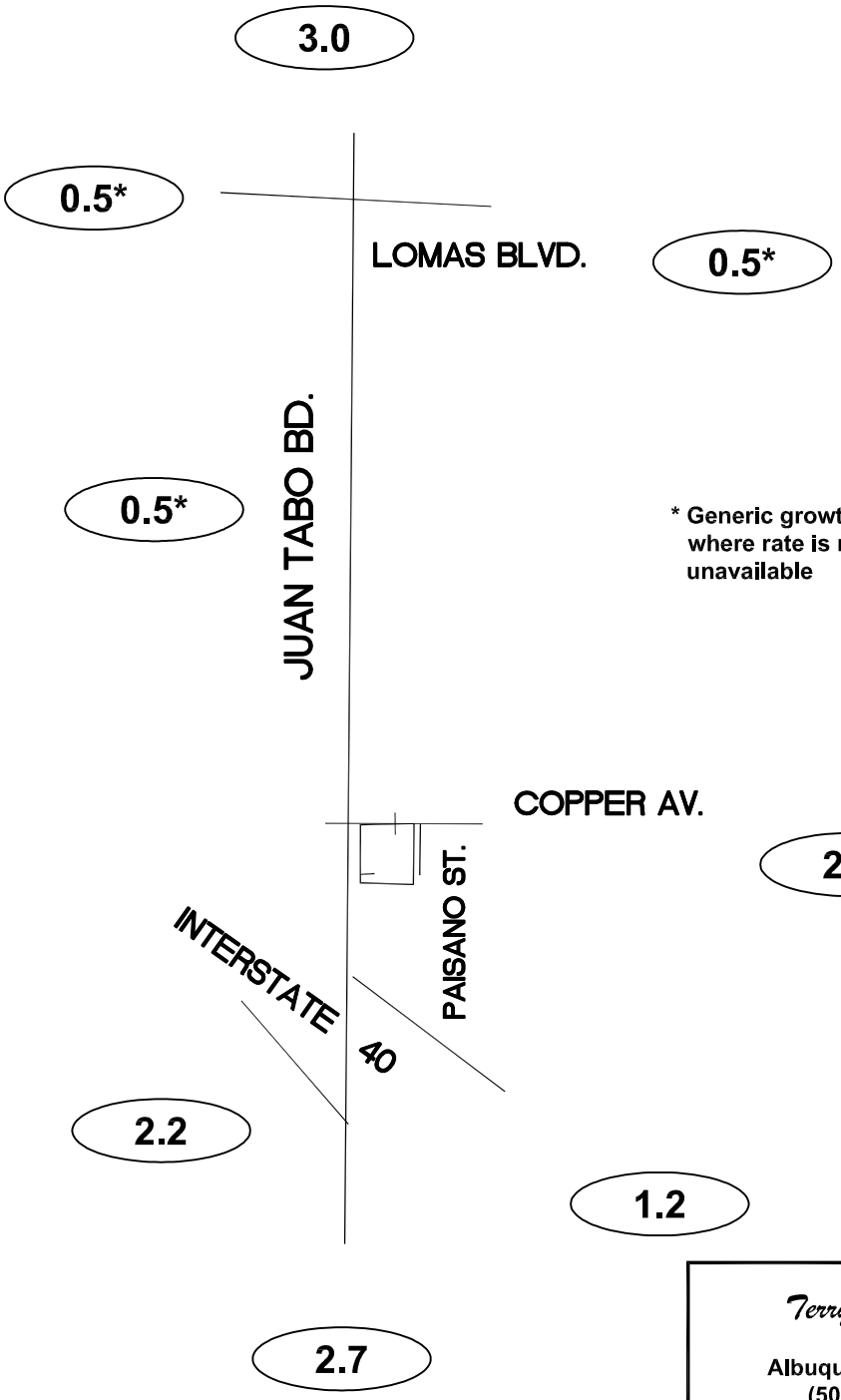
Maverik-JTabo_Growth.xlsx

Maverik Gas / Convenience Store

(Copper Av. / Juan Tabo Bd.)

Growth Rate Map (%)

NTS



* Generic growth rate of 0.5% used where rate is negative or unavailable

Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2019) - 100% Development

INTERSECTION: **Summary**

Interstate 40 S.Ramp / Juan Tabo Blvd. *0.89* *0.89* *0.89* *0.89* *PHF*

(1)

17.0% Truck	Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	516	2	250	0	0	0	0	1,162	71	93	1,346	0
2019 (NO BUILD - A.M.)	*516*	*2*	*250*	*0*	*0*	*0*	*0*	*1,162*	*71*	*93*	*1,346*	*0*
2019 (BUILD - A.M.)	***531***	***2***	***250***	***0***	***0***	***0***	***0***	***1,206***	***71***	***107***	***1,388***	***0***

0.94 *0.94* *0.94* *0.94* *PHF*

	Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	1,056	2	564	0	0	0	0	1,620	260	236	911	0
2019 (NO BUILD - P.M.)	*1,056*	*2*	*564*	*0*	*0*	*0*	*0*	*1,620*	*260*	*236*	*911*	*0*
2019 (BUILD - P.M.)	***1,070***	***2***	***564***	***0***	***0***	***0***	***0***	***1,663***	***260***	***250***	***952***	***0***

Interstate 40 N.Ramp / Juan Tabo Blvd. *0.89* *0.89* *0.89* *0.89* *PHF*

(2)

17.0% Truck	Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	0	355	3	327	503	0	0	0	0	961
2019 (NO BUILD - A.M.)	*0*	*0*	*0*	*355*	*3*	*327*	*503*	*1,175*	*0*	*0*	*1,084*	*961*
2019 (BUILD - A.M.)	***0***	***0***	***0***	***355***	***3***	***342***	***503***	***1,233***	***0***	***0***	***1,140***	***975***

0.94 *0.94* *0.94* *0.94* *PHF*

	Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	0	66	5	102	440	0	0	0	0	652
2019 (NO BUILD - P.M.)	*0*	*0*	*0*	*66*	*5*	*102*	*440*	*2,236*	*0*	*0*	*1,081*	*652*
2019 (BUILD - P.M.)	***0***	***0***	***0***	***66***	***5***	***116***	***440***	***2,293***	***0***	***0***	***1,136***	***666***

Copper Av. / Juan Tabo Blvd. *0.89* *0.89* *0.89* *0.89* *PHF*

(3)

17.0% Truck	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	13	26	95	421	39	114	77	0	191	65	0	16
2019 (NO BUILD - A.M.)	*13*	*26*	*95*	*421*	*39*	*114*	*77*	*1,234*	*191*	*65*	*2,045*	*16*
2019 (BUILD - A.M.)	***13***	***27***	***95***	***491***	***40***	***153***	***77***	***1,234***	***191***	***106***	***2,045***	***16***

0.94 *0.94* *0.94* *0.94* *PHF*

	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	24	23	75	238	35	84	87	0	374	120	0	95
2019 (NO BUILD - P.M.)	*24*	*23*	*75*	*238*	*35*	*84*	*87*	*1,877*	*374*	*120*	*1,733*	*95*
2019 (BUILD - P.M.)	***24***	***24***	***75***	***307***	***36***	***122***	***87***	***1,877***	***374***	***160***	***1,733***	***95***

Lomas Blvd. / Juan Tabo Blvd. *0.90* *0.90* *0.90* *0.90* *PHF*

(4)

17.0% Truck	Eastbound (Lomas Blvd.)			Westbound (Lomas Blvd.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	155	261	113	306	643	125	181	987	202	119	947	205
2019 (NO BUILD - A.M.)	*155*	*261*	*113*	*306*	*643*	*125*	*181*	*987*	*202*	*119*	*947*	*205*
2019 (BUILD - A.M.)	***155***	***261***	***125***	***321***	***643***	***125***	***192***	***1,001***	***216***	***119***	***962***	***205***

0.99 *0.99* *0.99* *0.99* *PHF*

	Eastbound (Lomas Blvd.)			Westbound (Lomas Blvd.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	288	481	216	188	342	107	136	1,439	228	180	1,087	149
2019 (NO BUILD - P.M.)	*288*	*481*	*216*	*188*	*342*	*107*	*136*	*1,439*	*228*	*180*	*1,087*	*149*
2019 (BUILD - P.M.)	***288***	***481***	***227***	***202***	***342***	***107***	***147***	***1,453***	***242***	***180***	***1,101***	***149***

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2019) - 100% Development

INTERSECTION: **Summary**

Copper Av. / Paisano St.

(5)

	0.91			0.91			0.91			0.91		PHF
17.0% Truck	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Paisano St.)			Southbound (Paisano St.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	10	2	0	0	21	0	2	0	0	0
2019 (NO BUILD - A.M.)	*0*	*295*	*10*	*2*	*604*	*0*	*21*	*0*	*2*	*0*	*0*	*0*
2019 (BUILD - A.M.)	***0***	***323***	***11***	***2***	***633***	***0***	***22***	***0***	***2***	***0***	***0***	***0***

	0.96			0.96			0.96			0.96		PHF
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Paisano St.)			Southbound (Paisano St.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	36	5	0	0	29	0	3	0	0	0
2019 (NO BUILD - P.M.)	*0*	*543*	*36*	*5*	*376*	*0*	*29*	*0*	*3*	*0*	*0*	*0*
2019 (BUILD - P.M.)	***0***	***570***	***37***	***5***	***405***	***0***	***30***	***0***	***3***	***0***	***0***	***0***

Copper Av. / Driveway "A"

(6)

	0.91			0.91			0.91			0.91		PHF
17.0% Truck	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Driveway "A")			Southbound (Driveway "A")		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	6	0	0	0	0	30	0	0	0	13	0	61
2019 (NO BUILD - A.M.)	*6*	*282*	*0*	*0*	*574*	*30*	*0*	*0*	*0*	*13*	*0*	*61*
2019 (BUILD - A.M.)	***6***	***282***	***42***	***30***	***574***	***30***	***110***	***0***	***29***	***13***	***0***	***61***

	0.96			0.96			0.96			0.96		PHF
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Driveway "A")			Southbound (Driveway "A")		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	17	0	0	0	0	19	0	0	0	26	0	49
2019 (NO BUILD - P.M.)	*17*	*517*	*0*	*0*	*357*	*19*	*0*	*0*	*0*	*26*	*0*	*49*
2019 (BUILD - P.M.)	***17***	***517***	***41***	***30***	***357***	***19***	***108***	***0***	***29***	***26***	***0***	***49***

Driveway "B" / Juan Tabo Blvd.

(7)

	0.91			0.91			0.91			0.91		PHF
17.0% Truck	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	0	0	0	0	0	0	0	0	0	0
2019 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,502*	*0*	*0*	*2,254*	*0*
2019 (BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,502***	***73***	***0***	***2,324***	***0***

	0.96			0.96			0.96			0.96		PHF
	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	0	0	0	0	0	0	0	0	0	0
2019 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2,338*	*0*	*0*	*1,892*	*0*
2019 (BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***2,338***	***72***	***0***	***1,961***	***0***

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Interstate 40 S.Ramp / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Interstate 40 S.Ramp** (1) Due to the close proximity of the first 3 intersections, the NOBUILD thru volumes were balanced & may not equal actual traffic count.

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Implementation Year **2019**

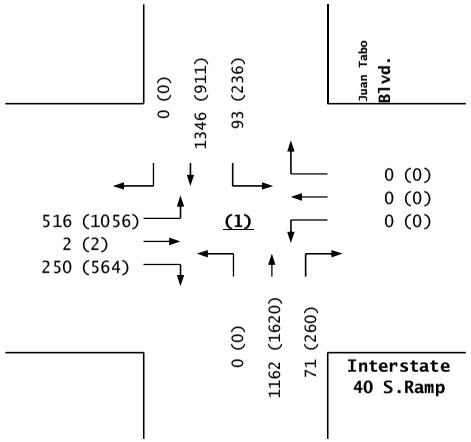
Growth Rates	**2.20%**			**0.50%**			**2.70%**			**0.50%**		
	Eastbound (Interstate 40 S.Ramp)			**Westbound (Interstate 40 S.Ramp)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	505	2	245	0	0	0	0	1,131	69	93	1,339	0
Background Traffic Growth	11	0	5	0	0	0	0	31	2	0	7	0
Subtotal (NO BUILD - A.M.)	***516***	***2***	***250***	***0***	***0***	***0***	***0***	***1,162***	***71***	***93***	***1,346***	***0***
Percent Commercial Trips Generated(Entering)	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***30.00%***	*0.00%*
Total Trips Generated	15	0	0	0	0	0	0	44	0	14	42	0
Total AM Peak Hour BUILD Volumes	**531**	**2**	**250**	**0**	**0**	**0**	**0**	**1,206**	**71**	**107**	**1,388**	**0**

	Eastbound (Interstate 40 S.Ramp)			**Westbound (Interstate 40 S.Ramp)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	1,033	2	552	0	0	0	0	1,577	253	235	906	0
Background Traffic Growth	23	0	12	0	0	0	0	43	7	1	5	0
Subtotal (NO BUILD - P.M.)	***1,056***	***2***	***564***	***0***	***0***	***0***	***0***	***1,620***	***260***	***236***	***911***	***0***
Percent Commercial Trips Generated(Entering)	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***30.00%***	*0.00%*
Total Trips Generated	14	0	0	0	0	0	0	43	0	14	41	0
Total PM Peak Hour BUILD Volumes	**1,070**	**2**	**564**	**0**	**0**	**0**	**0**	**1,663**	**260**	**250**	**952**	**0**

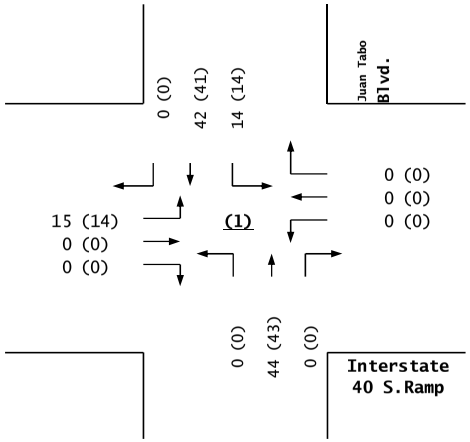
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Interstate 40 S.Ramp)			**Westbound (Interstate 40 S.Ramp)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
2019 AM Peak Hr. Volumes	516	2	250	0	0	0	0	1,162	71	93	1,346	0
2019 PM Peak Hr. Volumes	1,056	2	564	0	0	0	0	1,620	260	236	911	0

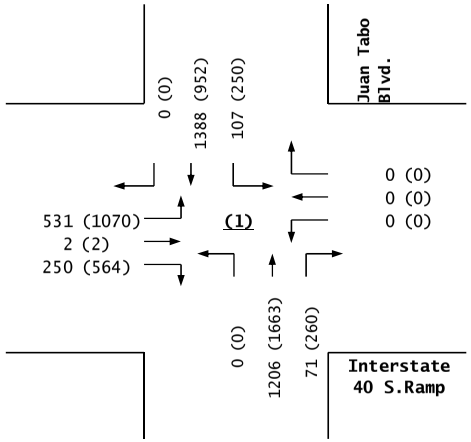
2019
NO BUILD



Trips



2019
BUILD



Interstate 40 S.Ramp / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Interstate 40 N.Ramp / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Interstate 40 N.Ramp** (2) Due to the close proximity of the first 3 intersections, the NOBUILD thru volumes were balanced & may not equal actual traffic count.

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Implementation Year **2019**

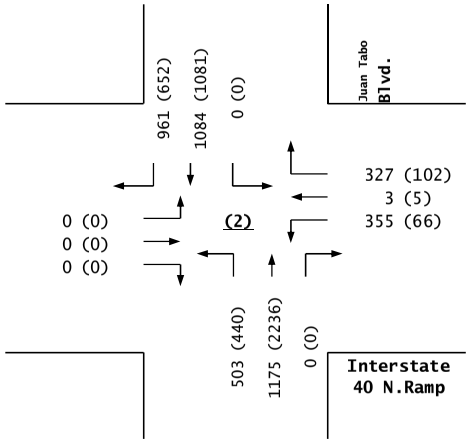
Growth Rates	**0.50%**			**1.20%**			**2.70%**			**0.50%**		
	Eastbound (Interstate 40 N.Ramp)			**Westbound (Interstate 40 N.Ramp)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	351	3	323	490	0	0	0	0	956
Background Traffic Growth	0	0	0	4	0	4	13	0	0	0	0	5
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***355***	***3***	***327***	***503***	***1,175***	***0***	***0***	***1,084***	***961***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*	***40.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***40.00%***	***10.00%***
Total Trips Generated	0	0	0	0	0	15	0	58	0	0	56	14
Total AM Peak Hour BUILD Volumes	**0**	**0**	**0**	**355**	**3**	**342**	**503**	**1,233**	**0**	**0**	**1,140**	**975**

	Eastbound (Interstate 40 N.Ramp)			**Westbound (Interstate 40 N.Ramp)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	65	5	101	428	0	0	0	0	649
Background Traffic Growth	0	0	0	1	0	1	12	0	0	0	0	3
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***66***	***5***	***102***	***440***	***2,236***	***0***	***0***	***1,081***	***652***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*	***40.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***40.00%***	***10.00%***
Total Trips Generated	0	0	0	0	0	14	0	57	0	0	55	14
Total PM Peak Hour BUILD Volumes	**0**	**0**	**0**	**66**	**5**	**116**	**440**	**2,293**	**0**	**0**	**1,136**	**666**

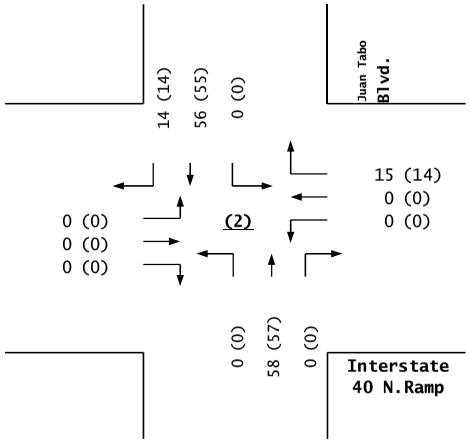
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Interstate 40 N.Ramp)			**Westbound (Interstate 40 N.Ramp)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
2019 AM Peak Hr. Volumes	0	0	0	355	3	327	503	0	0	0	0	961
2019 PM Peak Hr. Volumes	0	0	0	66	5	102	440	0	0	0	0	652

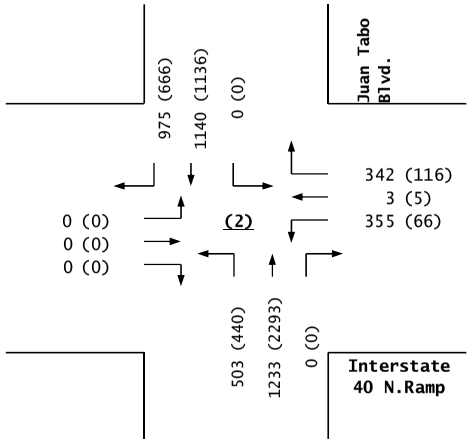
2019
NO BUILD



Trips



2019
BUILD



Interstate 40 N.Ramp / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Copper Av. / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Copper Av.** (3) Due to the close proximity of the first 3 intersections, the NOBUILD thru volumes were balanced & may not equal actual traffic count.

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Implementation Year **2019**

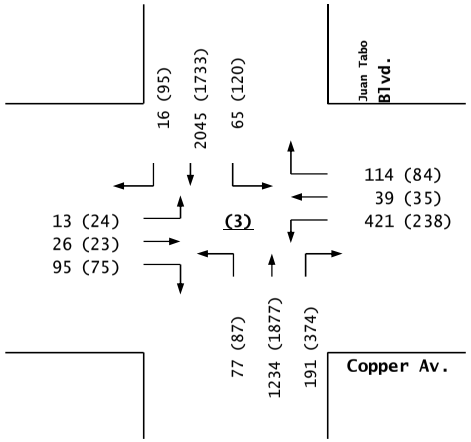
Growth Rates	**0.50%**			**2.20%**			**0.50%**			**0.50%**		
	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	13	26	95	412	38	112	77	0	190	65	0	16
Background Traffic Growth	0	0	0	9	1	2	0	0	1	0	0	0
Subtotal (NO BUILD - A.M.)	***13***	***26***	***95***	***421***	***39***	***114***	***77***	***1,234***	***191***	***65***	***2,045***	***16***
Percent Commercial Trips Generated(Entering)	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***28.00%***	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	***50.00%***	***1.00%***	***28.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	1	0	70	1	39	0	0	0	41	0	0
Total AM Peak Hour BUILD Volumes	**13**	**27**	**95**	**491**	**40**	**153**	**77**	**1,234**	**191**	**106**	**2,045**	**16**

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	24	23	75	233	34	82	87	0	372	119	0	95
Background Traffic Growth	0	0	0	5	1	2	0	0	2	1	0	0
Subtotal (NO BUILD - P.M.)	***24***	***23***	***75***	***238***	***35***	***84***	***87***	***1,877***	***374***	***120***	***1,733***	***95***
Percent Commercial Trips Generated(Entering)	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***28.00%***	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	***50.00%***	***1.00%***	***28.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	1	0	69	1	38	0	0	0	40	0	0
Total PM Peak Hour BUILD Volumes	**24**	**24**	**75**	**307**	**36**	**122**	**87**	**1,877**	**374**	**160**	**1,733**	**95**

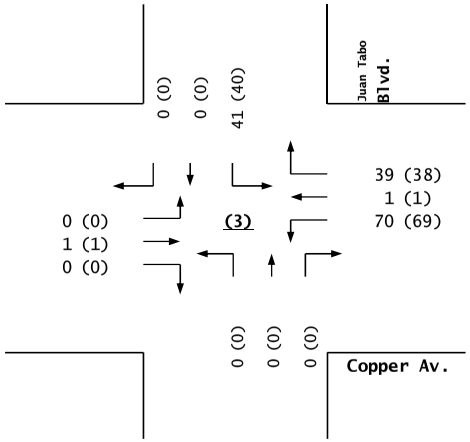
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
2019 AM Peak Hr. Volumes	13	26	95	421	39	114	77	0	191	65	0	16
2019 PM Peak Hr. Volumes	24	23	75	238	35	84	87	0	374	120	0	95

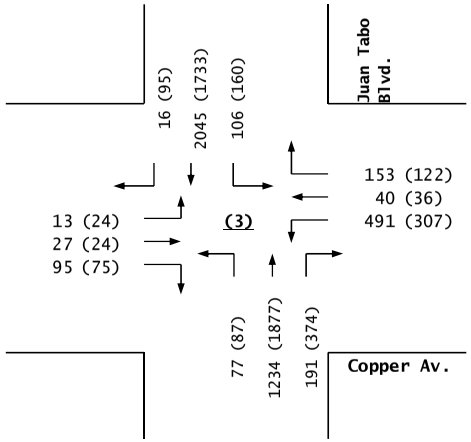
2019
NO BUILD



Trips



2019
BUILD



Copper Av. / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Lomas Blvd. / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Lomas Blvd.** (4)

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Implementation Year **2019**

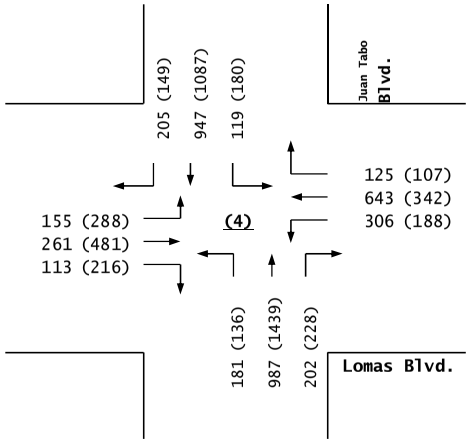
Growth Rates	**0.50%**			**0.50%**			**0.50%**			**3.00%**		
	Eastbound (Lomas Blvd.)			**Westbound (Lomas Blvd.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	154	260	112	304	640	124	180	982	201	116	919	199
Background Traffic Growth	1	1	1	2	3	1	1	5	1	3	28	6
Subtotal (NO BUILD - A.M.)	***155***	***261***	***113***	***306***	***643***	***125***	***181***	***987***	***202***	***119***	***947***	***205***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***8.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***8.00%***	***10.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	12	15	0	0	11	14	14	0	15	0
Total AM Peak Hour BUILD Volumes	**155**	**261**	**125**	**321**	**643**	**125**	**192**	**1,001**	**216**	**119**	**962**	**205**

	Eastbound (Lomas Blvd.)			**Westbound (Lomas Blvd.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	287	479	215	187	340	106	135	1,432	227	175	1,055	145
Background Traffic Growth	1	2	1	1	2	1	1	7	1	5	32	4
Subtotal (NO BUILD - P.M.)	***288***	***481***	***216***	***188***	***342***	***107***	***136***	***1,439***	***228***	***180***	***1,087***	***149***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***8.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***8.00%***	***10.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	11	14	0	0	11	14	14	0	14	0
Total PM Peak Hour BUILD Volumes	**288**	**481**	**227**	**202**	**342**	**107**	**147**	**1,453**	**242**	**180**	**1,101**	**149**

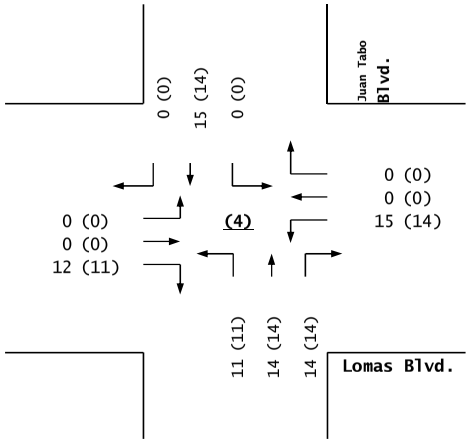
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Lomas Blvd.)			**Westbound (Lomas Blvd.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
2019 AM Peak Hr. Volumes	155	261	113	306	643	125	181	987	202	119	947	205
2019 PM Peak Hr. Volumes	288	481	216	188	342	107	136	1,439	228	180	1,087	149

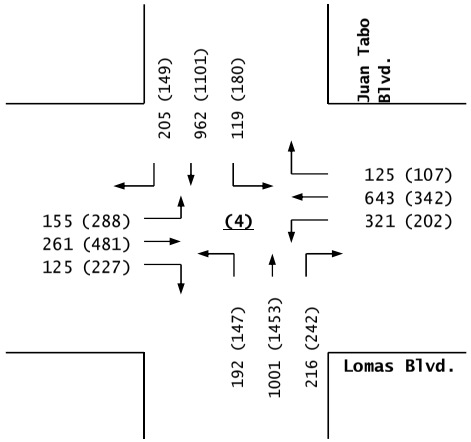
2019
NO BUILD



Trips



2019
BUILD



Lomas Blvd. / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Copper Av. / Paisano St.

INTERSECTION: E-W Street: **Copper Av.** (5)

N-S Street: **Paisano St.**

Year of Existing Counts 2018

Implementation Year **2019**

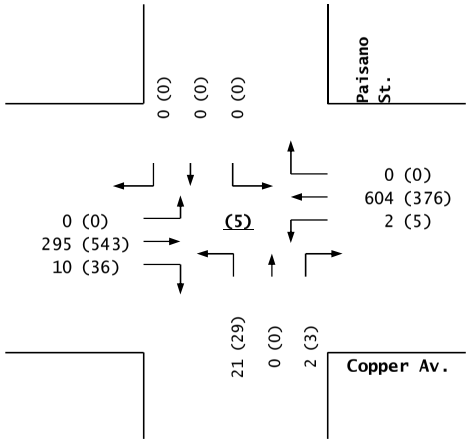
Growth Rates	**0.50%**			**2.20%**			**0.50%**			**0.50%**		
	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Paisano St.)**			**Southbound (Paisano St.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	10	2	0	0	21	0	2	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***295***	***10***	***2***	***604***	***0***	***21***	***0***	***2***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***20.00%***	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	***20.00%***	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	28	1	0	29	0	1	0	0	0	0	0
Total AM Peak Hour BUILD Volumes	**0**	**323**	**11**	**2**	**633**	**0**	**22**	**0**	**2**	**0**	**0**	**0**

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Paisano St.)**			**Southbound (Paisano St.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	36	5	0	0	29	0	3	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***543***	***36***	***5***	***376***	***0***	***29***	***0***	***3***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***20.00%***	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	***20.00%***	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	27	1	0	29	0	1	0	0	0	0	0
Total PM Peak Hour BUILD Volumes	**0**	**570**	**37**	**5**	**405**	**0**	**30**	**0**	**3**	**0**	**0**	**0**

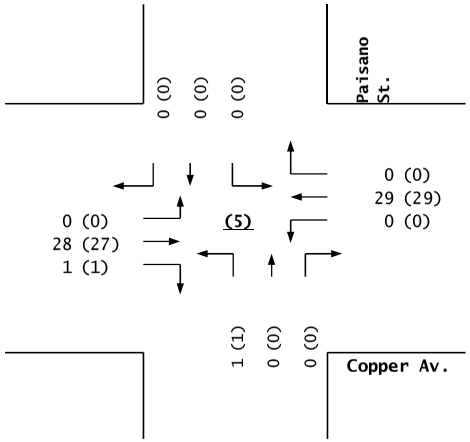
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Paisano St.)**			**Southbound (Paisano St.)**		
2019 AM Peak Hr. Volumes	0	0	10	2	0	0	21	0	2	0	0	0
2019 PM Peak Hr. Volumes	0	0	36	5	0	0	29	0	3	0	0	0

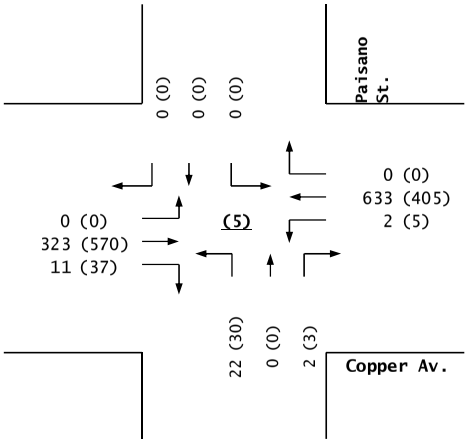
2019
NO BUILD



Trips



2019
BUILD



Copper Av. / Paisano St.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Copper Av. / Driveway "A"

INTERSECTION: E-W Street: **Copper Av.** (6)

N-S Street: **Driveway "A"**

Year of Existing Counts 2018

Implementation Year **2019**

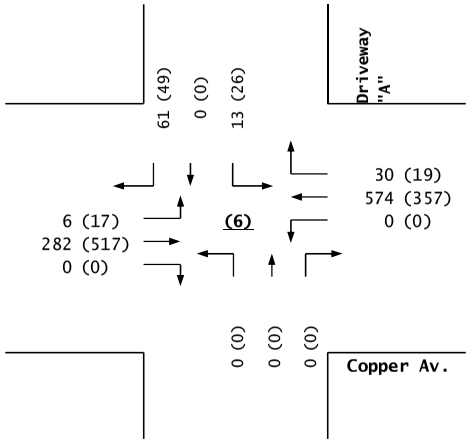
Growth Rates	**0.50%**			**2.20%**			**0.50%**			**0.50%**		
	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Driveway "A")**			**Southbound (Driveway "A")**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	6	0	0	0	0	29	0	0	0	13	0	61
Background Traffic Growth	0	0	0	0	0	1	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***6***	***282***	***0***	***0***	***574***	***30***	***0***	***0***	***0***	***13***	***0***	***61***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***29.00%***	***21.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***79.00%***	*0.00%*	***21.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	42	30	0	0	110	0	29	0	0	0
Total AM Peak Hour BUILD Volumes	**6**	**282**	**42**	**30**	**574**	**30**	**110**	**0**	**29**	**13**	**0**	**61**

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Driveway "A")**			**Southbound (Driveway "A")**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	17	0	0	0	0	19	0	0	0	26	0	49
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***17***	***517***	***0***	***0***	***357***	***19***	***0***	***0***	***0***	***26***	***0***	***49***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***29.00%***	***21.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***79.00%***	*0.00%*	***21.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	41	30	0	0	108	0	29	0	0	0
Total PM Peak Hour BUILD Volumes	**17**	**517**	**41**	**30**	**357**	**19**	**108**	**0**	**29**	**26**	**0**	**49**

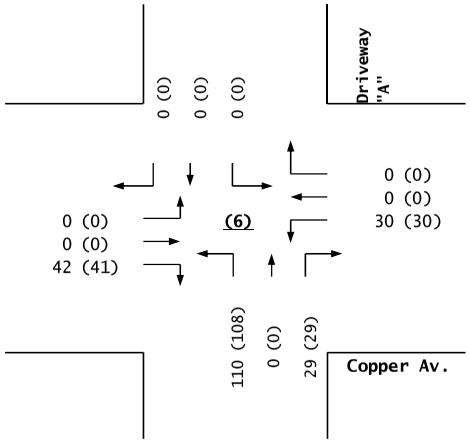
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Driveway "A")**			**Southbound (Driveway "A")**		
2019 AM Peak Hr. Volumes	6	0	0	0	0	30	0	0	0	13	0	61
2019 PM Peak Hr. Volumes	17	0	0	0	0	19	0	0	0	26	0	49

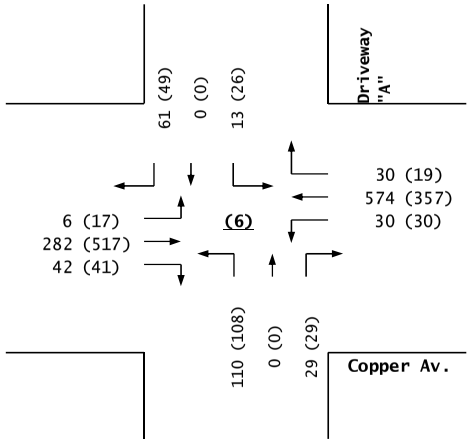
2019
NO BUILD



Trips



2019
BUILD



Copper Av. / Driveway "A"

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Driveway "B" / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Driveway "B"** (7) This driveway is right-in only

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Implementation Year **2019**

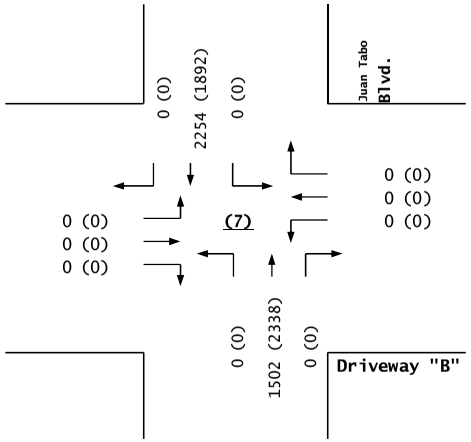
Growth Rates	0.50%			0.50%			0.50%			0.50%		
	Eastbound (Driveway "B")			**Westbound (Driveway "B")**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,502***	***0***	***0***	***2,254***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*
Total Trips Generated	0	0	0	0	0	0	0	0	73	0	70	0
Total AM Peak Hour BUILD Volumes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,502**	**73**	**0**	**2,324**	**0**

	Eastbound (Driveway "B")			**Westbound (Driveway "B")**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***2,338***	***0***	***0***	***1,892***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*
Total Trips Generated	0	0	0	0	0	0	0	0	72	0	69	0
Total PM Peak Hour BUILD Volumes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,338**	**72**	**0**	**1,961**	**0**

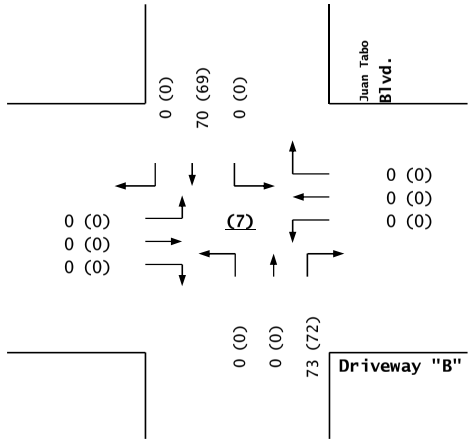
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Driveway "B")			**Westbound (Driveway "B")**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
2019 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2019 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

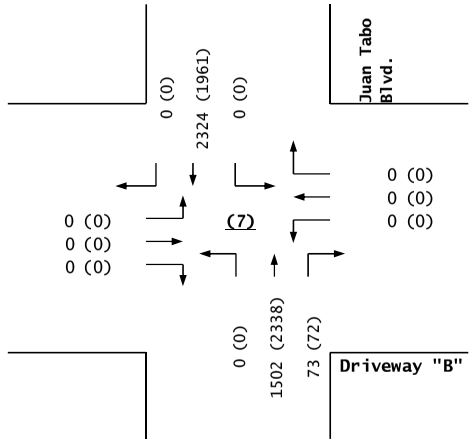
2019
NO BUILD



Trips



2019
BUILD



Driveway "B" / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2029) - 100% Development

INTERSECTION: **Summary**

Interstate 40 S.Ramp / Juan Tabo Blvd. *0.89* *0.89* *0.89* *0.89* *PHF*

(1)	Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
17.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	516	2	250	0	0	0	0	1,162	71	93	1,346	0
2029 (NO BUILD - A.M.)	*627*	*2*	*304*	*0*	*0*	*0*	*0*	*1,467*	*89*	*98*	*1,413*	*0*
2029 (BUILD - A.M.)	***642***	***2***	***304***	***0***	***0***	***0***	***0***	***1,511***	***89***	***112***	***1,455***	***0***

0.94 *0.94* *0.94* *0.94* *PHF*

	Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	1,056	2	564	0	0	0	0	1,620	260	236	911	0
2029 (NO BUILD - P.M.)	*1,283*	*2*	*686*	*0*	*0*	*0*	*0*	*2,045*	*328*	*248*	*956*	*0*
2029 (BUILD - P.M.)	***1,297***	***2***	***686***	***0***	***0***	***0***	***0***	***2,088***	***328***	***262***	***997***	***0***

Interstate 40 N.Ramp / Juan Tabo Blvd. *0.89* *0.89* *0.89* *0.89* *PHF*

(2)	Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
17.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	0	355	3	327	503	0	0	0	0	961
2029 (NO BUILD - A.M.)	*0*	*0*	*0*	*397*	*3*	*366*	*636*	*1,458*	*0*	*0*	*1,114*	*1,009*
2029 (BUILD - A.M.)	***0***	***0***	***0***	***397***	***3***	***381***	***636***	***1,516***	***0***	***0***	***1,170***	***1,023***

0.94 *0.94* *0.94* *0.94* *PHF*

	Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	0	0	0	66	5	102	440	0	0	0	0	652
2029 (NO BUILD - P.M.)	*0*	*0*	*0*	*74*	*6*	*114*	*555*	*2,773*	*0*	*0*	*1,130*	*685*
2029 (BUILD - P.M.)	***0***	***0***	***0***	***74***	***6***	***128***	***555***	***2,830***	***0***	***0***	***1,185***	***699***

Copper Av. / Juan Tabo Blvd. *0.89* *0.89* *0.89* *0.89* *PHF*

(3)	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
17.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	13	26	95	421	39	114	77	0	191	65	0	16
2029 (NO BUILD - A.M.)	*14*	*27*	*100*	*512*	*47*	*139*	*81*	*1,543*	*200*	*69*	*2,123*	*17*
2029 (BUILD - A.M.)	***14***	***28***	***100***	***582***	***48***	***178***	***81***	***1,543***	***200***	***110***	***2,123***	***17***

0.94 *0.94* *0.94* *0.94* *PHF*

	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	24	23	75	238	35	84	87	0	374	120	0	95
2029 (NO BUILD - P.M.)	*25*	*24*	*79*	*289*	*42*	*102*	*92*	*2,403*	*392*	*126*	*1,815*	*100*
2029 (BUILD - P.M.)	***25***	***25***	***79***	***358***	***43***	***140***	***92***	***2,403***	***392***	***166***	***1,815***	***100***

Lomas Blvd. / Juan Tabo Blvd. *0.90* *0.90* *0.90* *0.90* *PHF*

(4)	Eastbound (Lomas Blvd.)			Westbound (Lomas Blvd.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
17.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	155	261	113	306	643	125	181	987	202	119	947	205
2029 (NO BUILD - A.M.)	*162*	*274*	*118*	*321*	*675*	*131*	*190*	*1,036*	*212*	*154*	*1,222*	*265*
2029 (BUILD - A.M.)	***162***	***274***	***130***	***336***	***675***	***131***	***201***	***1,050***	***226***	***154***	***1,237***	***265***

0.99 *0.99* *0.99* *0.99* *PHF*

	Eastbound (Lomas Blvd.)			Westbound (Lomas Blvd.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2019)	288	481	216	188	342	107	136	1,439	228	180	1,087	149
2029 (NO BUILD - P.M.)	*303*	*505*	*227*	*197*	*359*	*112*	*142*	*1,511*	*239*	*233*	*1,403*	*193*
2029 (BUILD - P.M.)	***303***	***505***	***238***	***211***	***359***	***112***	***153***	***1,525***	***253***	***233***	***1,417***	***193***

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2029) - 100% Development

INTERSECTION: **Summary**

Copper Av. / Paisano St.

(5)

17.0% Truck

	0.91			0.91			0.91			0.91			PHF
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Paisano St.)			Southbound (Paisano St.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2019)	0	0	10	2	0	0	21	0	2	0	0	0	
2029 (NO BUILD - A.M.)	*0*	*310*	*11*	*2*	*734*	*0*	*22*	*0*	*2*	*0*	*0*	*0*	
2029 (BUILD - A.M.)	***0***	***338***	***12***	***2***	***763***	***0***	***23***	***0***	***2***	***0***	***0***	***0***	

	0.96			0.96			0.96			0.96			PHF
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Paisano St.)			Southbound (Paisano St.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2019)	0	0	36	5	0	0	29	0	3	0	0	0	
2029 (NO BUILD - P.M.)	*0*	*569*	*38*	*6*	*457*	*0*	*31*	*0*	*3*	*0*	*0*	*0*	
2029 (BUILD - P.M.)	***0***	***596***	***39***	***6***	***486***	***0***	***32***	***0***	***3***	***0***	***0***	***0***	

Copper Av. / Driveway "A"

(6)

17.0% Truck

	0.91			0.91			0.91			0.91			PHF
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Driveway "A")			Southbound (Driveway "A")			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2019)	6	0	0	0	0	30	0	0	0	13	0	61	
2029 (NO BUILD - A.M.)	*6*	*296*	*0*	*0*	*698*	*36*	*0*	*0*	*0*	*14*	*0*	*64*	
2029 (BUILD - A.M.)	***6***	***296***	***42***	***30***	***698***	***36***	***110***	***0***	***29***	***14***	***0***	***64***	

	0.96			0.96			0.96			0.96			PHF
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Driveway "A")			Southbound (Driveway "A")			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2019)	17	0	0	0	0	19	0	0	0	26	0	49	
2029 (NO BUILD - P.M.)	*18*	*542*	*0*	*0*	*433*	*24*	*0*	*0*	*0*	*27*	*0*	*52*	
2029 (BUILD - P.M.)	***18***	***542***	***41***	***30***	***433***	***24***	***108***	***0***	***29***	***27***	***0***	***52***	

Driveway "B" / Juan Tabo Blvd.

(7)

17.0% Truck

	0.91			0.91			0.91			0.91			PHF
	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2019)	0	0	0	0	0	0	0	0	0	0	0	0	
2029 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1,824*	*0*	*0*	*2,362*	*0*	
2029 (BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,824***	***73***	***0***	***2,432***	***0***	

	0.96			0.96			0.96			0.96			PHF
	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2019)	0	0	0	0	0	0	0	0	0	0	0	0	
2029 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*2,887*	*0*	*0*	*1,996*	*0*	
2029 (BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***2,887***	***72***	***0***	***2,065***	***0***	

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Interstate 40 S.Ramp / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Interstate 40 S.Ramp** (1) Due to the close proximity of the first 3 intersections, the NOBUILD thru volumes were balanced & may not equal actual traffic count.

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Horizon Year **2029**

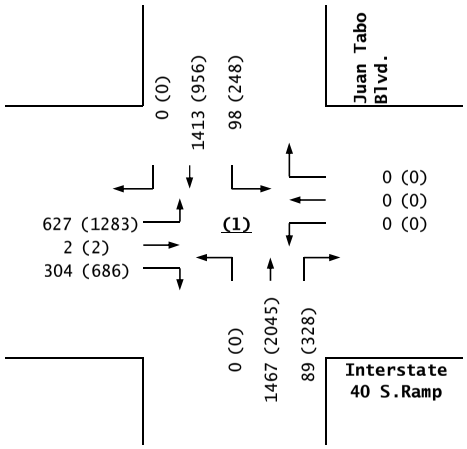
	Growth Rates	2.20%			0.50%			2.70%			0.50%		
		Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes		505	2	245	0	0	0	0	1,131	69	93	1,339	0
Background Traffic Growth		122	0	59	0	0	0	0	336	20	5	74	0
Subtotal (NO BUILD - A.M.)		***627***	***2***	***304***	***0***	***0***	***0***	***0***	***1,467***	***89***	***98***	***1,413***	***0***
Percent Commercial Trips Generated(Entering)		***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)		*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***30.00%***	*0.00%*
Total Trips Generated		15	0	0	0	0	0	0	44	0	14	42	0
Total AM Peak Hour BUILD Volumes		**642**	**2**	**304**	**0**	**0**	**0**	**0**	**1,511**	**89**	**112**	**1,455**	**0**

	Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	1,033	2	552	0	0	0	0	1,577	253	235	906	0
Background Traffic Growth	250	0	134	0	0	0	0	468	75	13	50	0
Subtotal (NO BUILD - P.M.)	***1,283***	***2***	***686***	***0***	***0***	***0***	***0***	***2,045***	***328***	***248***	***956***	***0***
Percent Commercial Trips Generated(Entering)	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***30.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	***30.00%***	*0.00%*
Total Trips Generated	14	0	0	0	0	0	0	43	0	14	41	0
Total PM Peak Hour BUILD Volumes	**1,297**	**2**	**686**	**0**	**0**	**0**	**0**	**2,088**	**328**	**262**	**997**	**0**

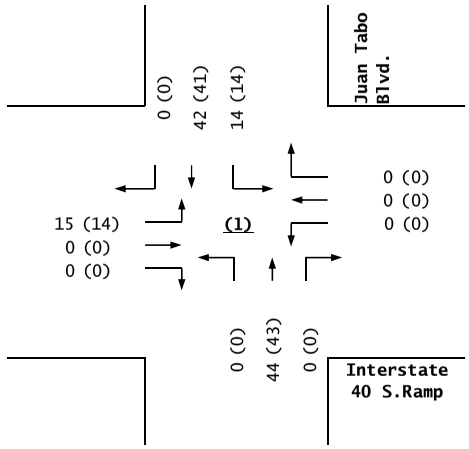
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Interstate 40 S.Ramp)			Westbound (Interstate 40 S.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
2019 AM Peak Hr. Volumes	516	2	250	0	0	0	0	1,162	71	93	1,346	0
2019 PM Peak Hr. Volumes	1,056	2	564	0	0	0	0	1,620	260	236	911	0

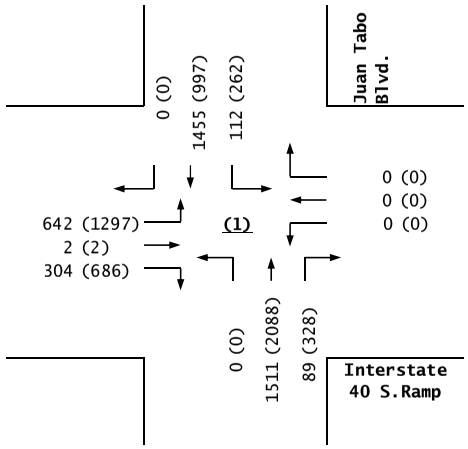
2029
NO BUILD



Trips



2029
BUILD



Interstate 40 S.Ramp / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Interstate 40 N.Ramp / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Interstate 40 N.Ramp** (2) Due to the close proximity of the first 3 intersections, the NOBUILD thru volumes were balanced & may not equal actual traffic count.

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Horizon Year **2029**

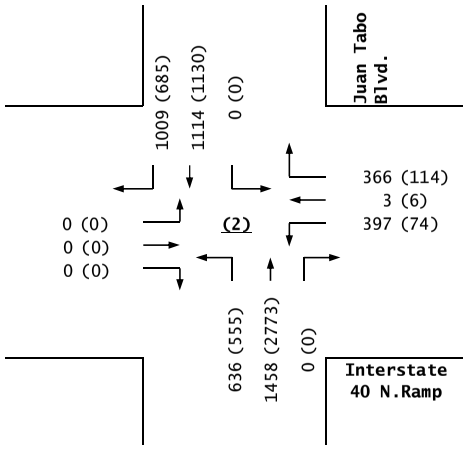
	Growth Rates	0.50%			1.20%			2.70%			0.50%		
		Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes		0	0	0	351	3	323	490	0	0	0	0	956
Background Traffic Growth		0	0	0	46	0	43	146	0	0	0	0	53
Subtotal (NO BUILD - A.M.)		***0***	***0***	***0***	***397***	***3***	***366***	***636***	***1,458***	***0***	***0***	***1,114***	***1,009***
Percent Commercial Trips Generated(Entering)		*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*	***40.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)		*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***40.00%***	***10.00%***
Total Trips Generated		0	0	0	0	0	15	0	58	0	0	56	14
Total AM Peak Hour BUILD Volumes		**0**	**0**	**0**	**397**	**3**	**381**	**636**	**1,516**	**0**	**0**	**1,170**	**1,023**

	Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	65	5	101	428	0	0	0	0	649
Background Traffic Growth	0	0	0	9	1	13	127	0	0	0	0	36
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***74***	***6***	***114***	***555***	***2,773***	***0***	***0***	***1,130***	***685***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*	***40.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***40.00%***	***10.00%***
Total Trips Generated	0	0	0	0	0	14	0	57	0	0	55	14
Total PM Peak Hour BUILD Volumes	**0**	**0**	**0**	**74**	**6**	**128**	**555**	**2,830**	**0**	**0**	**1,185**	**699**

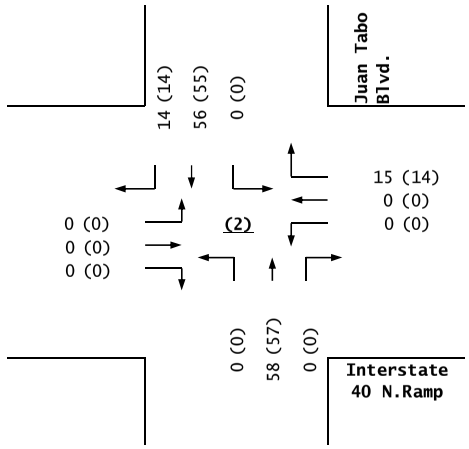
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Interstate 40 N.Ramp)			Westbound (Interstate 40 N.Ramp)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
2019 AM Peak Hr. Volumes	0	0	0	355	3	327	503	0	0	0	0	961
2019 PM Peak Hr. Volumes	0	0	0	66	5	102	440	0	0	0	0	652

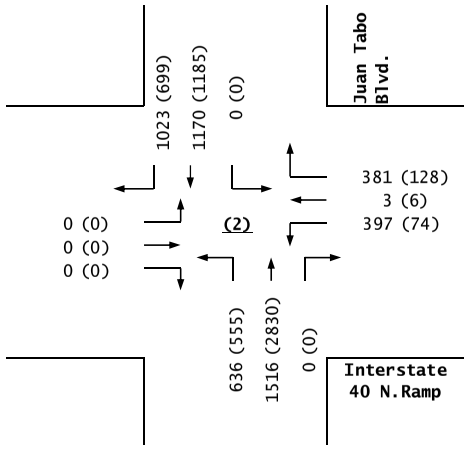
2029
NO BUILD



Trips



2029
BUILD



Interstate 40 N.Ramp / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Copper Av. / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Copper Av.** (3) Due to the close proximity of the first 3 intersections, the NOBUILD thru volumes were balanced & may not equal actual traffic count.

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Horizon Year **2029**

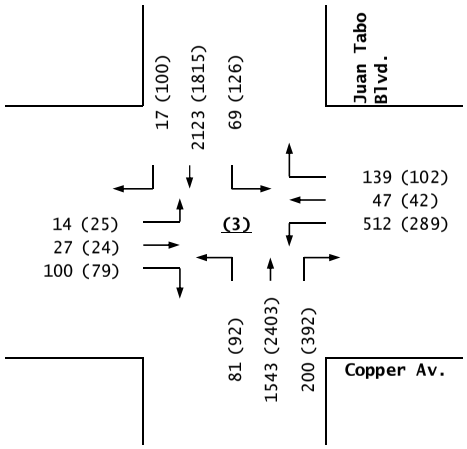
Growth Rates	0.50%			2.20%			0.50%			0.50%		
	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	13	26	95	412	38	112	77	0	190	65	0	16
Background Traffic Growth	1	1	5	100	9	27	4	0	10	4	0	1
Subtotal (NO BUILD - A.M.)	***14***	***27***	***100***	***512***	***47***	***139***	***81***	***1,543***	***200***	***69***	***2,123***	***17***
Percent Commercial Trips Generated(Entering)	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***28.00%***	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	***50.00%***	***1.00%***	***28.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	1	0	70	1	39	0	0	0	41	0	0
Total AM Peak Hour BUILD Volumes	**14**	**28**	**100**	**582**	**48**	**178**	**81**	**1,543**	**200**	**110**	**2,123**	**17**

	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	24	23	75	233	34	82	87	0	372	119	0	95
Background Traffic Growth	1	1	4	56	8	20	5	0	20	7	0	5
Subtotal (NO BUILD - P.M.)	***25***	***24***	***79***	***289***	***42***	***102***	***92***	***2,403***	***392***	***126***	***1,815***	***100***
Percent Commercial Trips Generated(Entering)	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***28.00%***	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	***50.00%***	***1.00%***	***28.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	1	0	69	1	38	0	0	0	40	0	0
Total PM Peak Hour BUILD Volumes	**25**	**25**	**79**	**358**	**43**	**140**	**92**	**2,403**	**392**	**166**	**1,815**	**100**

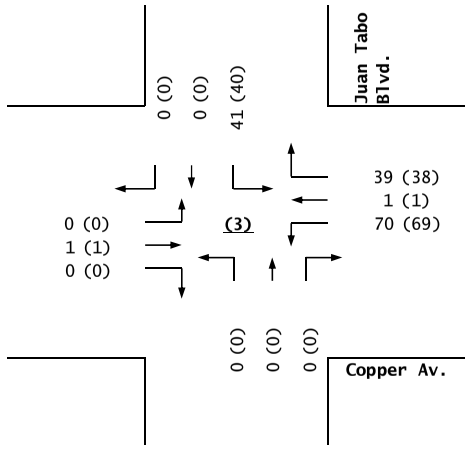
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Copper Av.)			Westbound (Copper Av.)			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
2019 AM Peak Hr. Volumes	13	26	95	421	39	114	77	0	191	65	0	16
2019 PM Peak Hr. Volumes	24	23	75	238	35	84	87	0	374	120	0	95

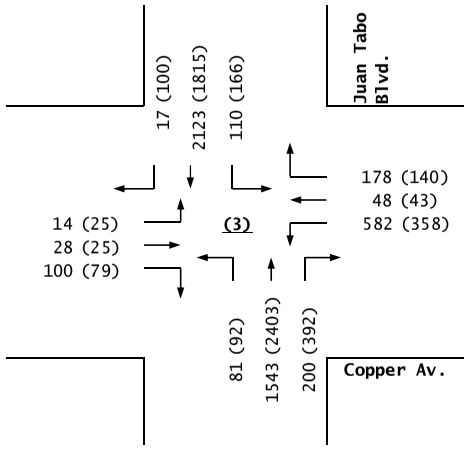
2029
NO BUILD



Trips



2029
BUILD



Copper Av. / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Lomas Blvd. / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Lomas Blvd.** (4)

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Horizon Year **2029**

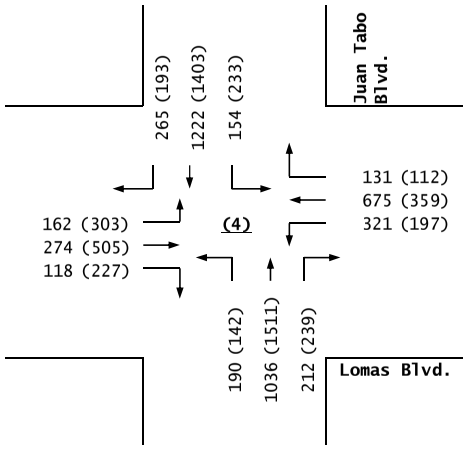
Growth Rates	**0.50%**			**0.50%**			**0.50%**			**3.00%**		
	Eastbound (Lomas Blvd.)			**Westbound (Lomas Blvd.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	154	260	112	304	640	124	180	982	201	116	919	199
Background Traffic Growth	8	14	6	17	35	7	10	54	11	38	303	66
Subtotal (NO BUILD - A.M.)	***162***	***274***	***118***	***321***	***675***	***131***	***190***	***1,036***	***212***	***154***	***1,222***	***265***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***8.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***8.00%***	***10.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	12	15	0	0	11	14	14	0	15	0
Total AM Peak Hour BUILD Volumes	**162**	**274**	**130**	**336**	**675**	**131**	**201**	**1,050**	**226**	**154**	**1,237**	**265**

	Eastbound (Lomas Blvd.)			**Westbound (Lomas Blvd.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	287	479	215	187	340	106	135	1,432	227	175	1,055	145
Background Traffic Growth	16	26	12	10	19	6	7	79	12	58	348	48
Subtotal (NO BUILD - P.M.)	***303***	***505***	***227***	***197***	***359***	***112***	***142***	***1,511***	***239***	***233***	***1,403***	***193***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***8.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***10.00%***	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***8.00%***	***10.00%***	***10.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	11	14	0	0	11	14	14	0	14	0
Total PM Peak Hour BUILD Volumes	**303**	**505**	**238**	**211**	**359**	**112**	**153**	**1,525**	**253**	**233**	**1,417**	**193**

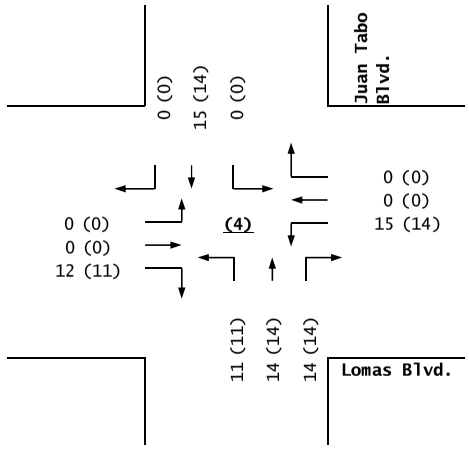
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Lomas Blvd.)			**Westbound (Lomas Blvd.)**			**Northbound (Juan Tabo Blvd.)**			**Southbound (Juan Tabo Blvd.)**		
2019 AM Peak Hr. Volumes	155	261	113	306	643	125	181	987	202	119	947	205
2019 PM Peak Hr. Volumes	288	481	216	188	342	107	136	1,439	228	180	1,087	149

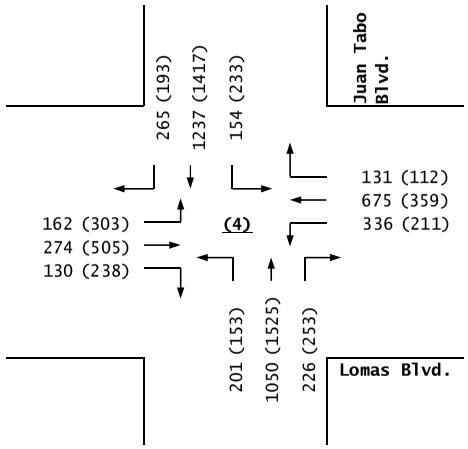
2029
NO BUILD



Trips



2029
BUILD



Lomas Blvd. / Juan Tabo Blvd.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Copper Av. / Paisano St.

INTERSECTION: E-W Street: **Copper Av.** (5)

N-S Street: **Paisano St.**

Year of Existing Counts 2018

Horizon Year **2029**

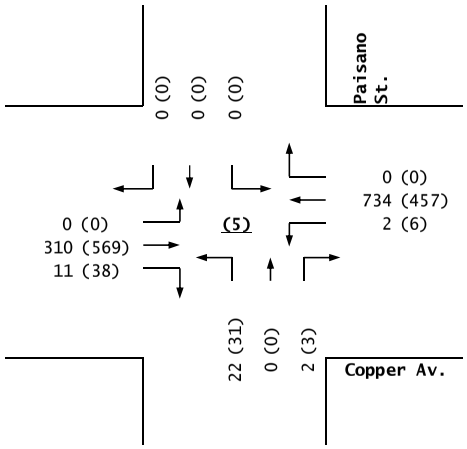
Growth Rates	**0.50%**			**2.20%**			**0.50%**			**0.50%**		
	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Paisano St.)**			**Southbound (Paisano St.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	10	2	0	0	21	0	2	0	0	0
Background Traffic Growth	0	0	1	0	0	0	1	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***310***	***11***	***2***	***734***	***0***	***22***	***0***	***2***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***20.00%***	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	***20.00%***	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	28	1	0	29	0	1	0	0	0	0	0
Total AM Peak Hour BUILD Volumes	**0**	**338**	**12**	**2**	**763**	**0**	**23**	**0**	**2**	**0**	**0**	**0**

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Paisano St.)**			**Southbound (Paisano St.)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	36	5	0	0	29	0	3	0	0	0
Background Traffic Growth	0	0	2	1	0	0	2	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***569***	***38***	***6***	***457***	***0***	***31***	***0***	***3***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***20.00%***	*0.00%*	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	***20.00%***	***1.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	27	1	0	29	0	1	0	0	0	0	0
Total PM Peak Hour BUILD Volumes	**0**	**596**	**39**	**6**	**486**	**0**	**32**	**0**	**3**	**0**	**0**	**0**

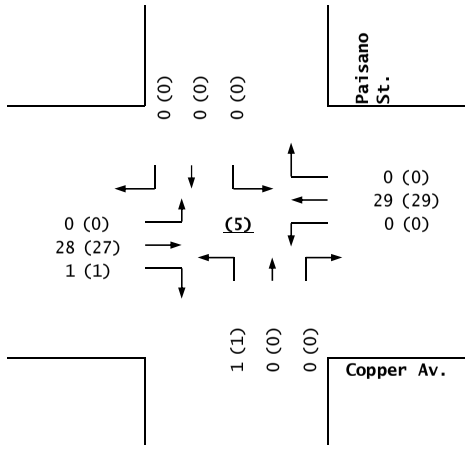
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Paisano St.)**			**Southbound (Paisano St.)**		
2019 AM Peak Hr. Volumes	0	0	10	2	0	0	21	0	2	0	0	0
2019 PM Peak Hr. Volumes	0	0	36	5	0	0	29	0	3	0	0	0

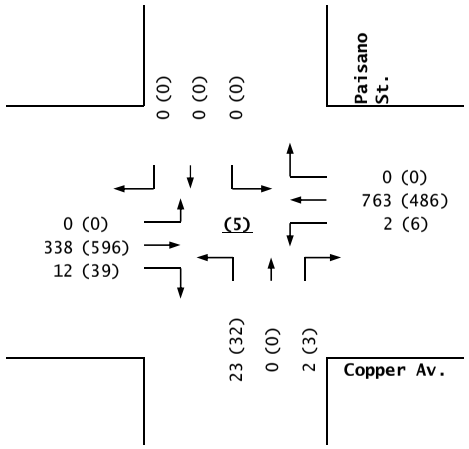
2029
NO BUILD



Trips



2029
BUILD



Copper Av. / Paisano St.

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Copper Av. / Driveway "A"

INTERSECTION: E-W Street: **Copper Av.** (6)

N-S Street: **Driveway "A"**

Year of Existing Counts 2018

Horizon Year **2029**

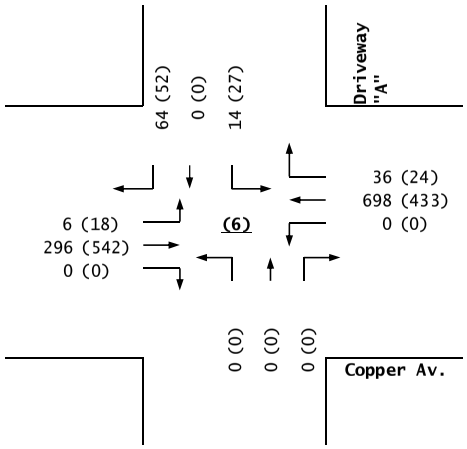
Growth Rates	**0.50%**			**2.20%**			**0.50%**			**0.50%**		
	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Driveway "A")**			**Southbound (Driveway "A")**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	6	0	0	0	0	29	0	0	0	13	0	61
Background Traffic Growth	0	0	0	0	0	7	0	0	0	1	0	3
Subtotal (NO BUILD - A.M.)	***6***	***296***	***0***	***0***	***698***	***36***	***0***	***0***	***0***	***14***	***0***	***64***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***29.00%***	***21.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***79.00%***	*0.00%*	***21.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	42	30	0	0	110	0	29	0	0	0
Total AM Peak Hour BUILD Volumes	**6**	**296**	**42**	**30**	**698**	**36**	**110**	**0**	**29**	**14**	**0**	**64**

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Driveway "A")**			**Southbound (Driveway "A")**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	17	0	0	0	0	19	0	0	0	26	0	49
Background Traffic Growth	1	0	0	0	0	5	0	0	0	1	0	3
Subtotal (NO BUILD - P.M.)	***18***	***542***	***0***	***0***	***433***	***24***	***0***	***0***	***0***	***27***	***0***	***52***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***29.00%***	***21.00%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***79.00%***	*0.00%*	***21.00%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	41	30	0	0	108	0	29	0	0	0
Total PM Peak Hour BUILD Volumes	**18**	**542**	**41**	**30**	**433**	**24**	**108**	**0**	**29**	**27**	**0**	**52**

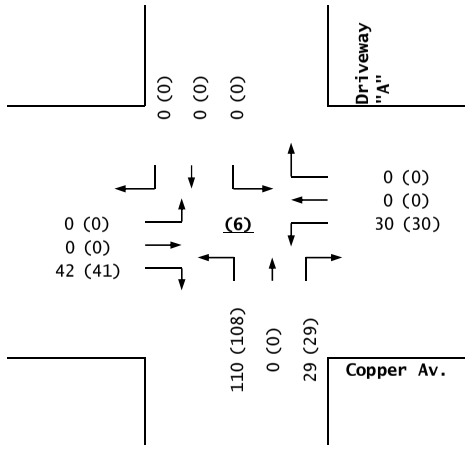
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Copper Av.)			**Westbound (Copper Av.)**			**Northbound (Driveway "A")**			**Southbound (Driveway "A")**		
2019 AM Peak Hr. Volumes	6	0	0	0	0	30	0	0	0	13	0	61
2019 PM Peak Hr. Volumes	17	0	0	0	0	19	0	0	0	26	0	49

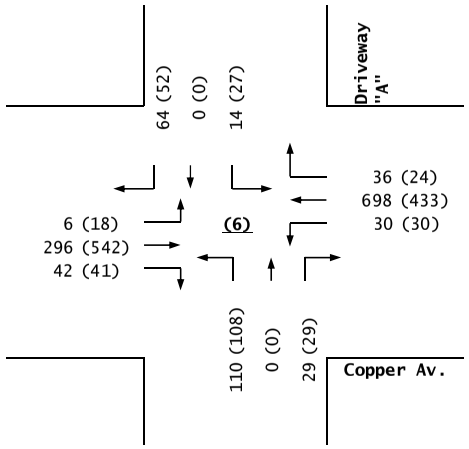
2029
NO BUILD



Trips



2029
BUILD



Copper Av. / Driveway "A"

Maverik Gas / Convenience Store (Copper Av. / Juan Tabo Blvd.)

Projected Turning Movements Worksheet

Driveway "B" / Juan Tabo Blvd.

INTERSECTION: E-W Street: **Driveway "B"** (7) This driveway is right-in only

N-S Street: **Juan Tabo Blvd.**

Year of Existing Counts 2018

Horizon Year **2029**

Growth Rates 0.50% 0.50% 0.50% 0.50%

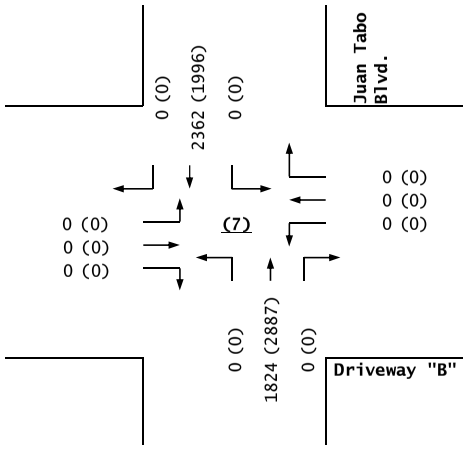
	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***1,824***	***0***	***0***	***2,362***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*
Total Trips Generated	0	0	0	0	0	0	0	0	73	0	70	0
Total AM Peak Hour BUILD Volumes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,824**	**73**	**0**	**2,432**	**0**

	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***2,887***	***0***	***0***	***1,996***	***0***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***50.00%***	*0.00%*
Total Trips Generated	0	0	0	0	0	0	0	0	72	0	69	0
Total PM Peak Hour BUILD Volumes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,887**	**72**	**0**	**2,065**	**0**

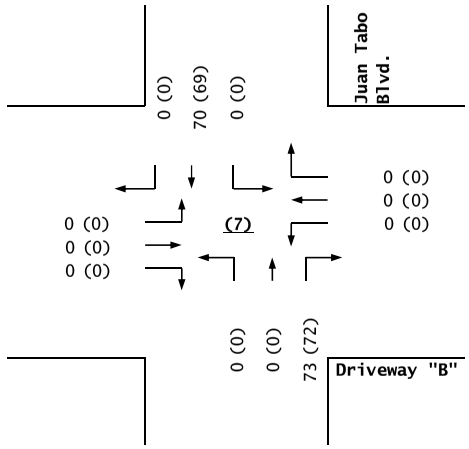
	Entering	Exiting		
Number of Commercial Trips Generated	**145**	**139**	A.M.	100% Commercial Development
	143	**137**	P.M.	

	Eastbound (Driveway "B")			Westbound (Driveway "B")			Northbound (Juan Tabo Blvd.)			Southbound (Juan Tabo Blvd.)		
2019 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2019 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

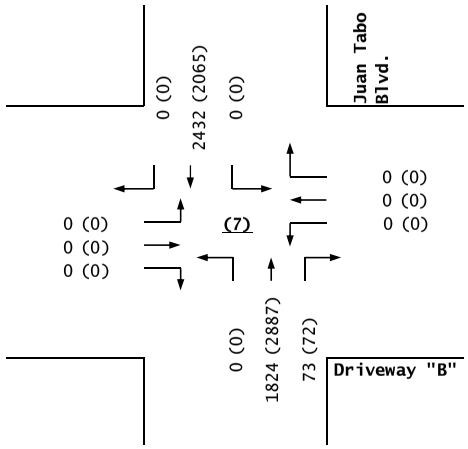
2029
NO BUILD



Trips



2029
BUILD



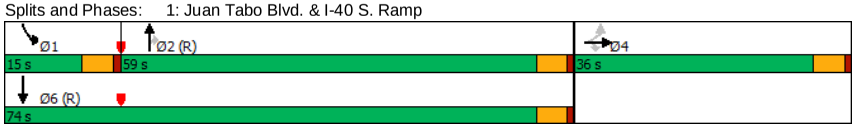
Driveway "B" / Juan Tabo Blvd.

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	516	2	250	1162	71	93	1346
Future Volume (vph)	516	2	250	1162	71	93	1346
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	36.0	36.0	36.0	59.0	59.0	15.0	74.0
Total Split (%)	32.7%	32.7%	32.7%	53.6%	53.6%	13.6%	67.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	26.0	26.0	26.0	60.5	60.5	8.5	74.0
Actuated g/C Ratio	0.24	0.24	0.24	0.55	0.55	0.08	0.67
v/c Ratio	0.72	0.37	0.35	0.47	0.09	0.40	0.45
Control Delay	43.7	26.0	19.5	16.6	3.6	57.7	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	26.0	19.5	16.6	3.6	57.7	6.4
LOS	D	C	B	B	A	E	A
Approach Delay		36.8		15.8			9.7
Approach LOS		D		B			A

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 18.0 Intersection LOS: B
Intersection Capacity Utilization 96.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	2	250	0	0	0	0	1162	71	93	1346	0
Future Volume (veh/h)	516	2	250	0	0	0	0	1162	71	93	1346	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	580	0	282				0	1306	80	104	1512	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	709	0	631				0	3115	967	166	3589	0
Arrive On Green	0.20	0.00	0.20				0.00	0.61	0.61	0.10	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	580	0	282				0	1306	80	104	1512	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	17.3	0.0	8.7				0.0	14.7	2.3	3.2	0.0	0.0
Cycle Q Clear(g_c), s	17.3	0.0	8.7				0.0	14.7	2.3	3.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	709	0	631				0	3115	967	166	3589	0
V/C Ratio(X)	0.82	0.00	0.45				0.00	0.42	0.08	0.63	0.42	0.00
Avail Cap(c_a), veh/h	996	0	886				0	3115	967	312	3589	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.83	0.83	0.00
Uniform Delay (d), s/veh	42.1	0.0	38.6				0.0	11.0	8.6	48.7	0.0	0.0
Incr Delay (d2), s/veh	3.8	0.0	0.5				0.0	0.4	0.2	3.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.4	0.0	6.1				0.0	9.1	1.4	2.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	0.0	39.1				0.0	11.4	8.8	52.0	0.3	0.0
LnGrp LOS	D	A	D				A	B	A	D	A	A
Approach Vol, veh/h		862						1386			1616	
Approach Delay, s/veh		43.6						11.3			3.6	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	10.3	72.6	27.1	82.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	54.0	31.0	69.0
Max Q Clear Time (g_c+I1), s	5.2	16.7	19.3	2.0
Green Ext Time (p_c), s	0.1	13.1	2.8	18.2

Intersection Summary

HCM 6th Ctrl Delay 15.3
HCM 6th LOS B

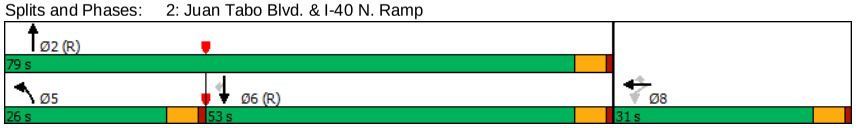
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	355	3	327	503	1175	1084	961
Future Volume (vph)	355	3	327	503	1175	1084	961
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Min	C-Min
Act Effct Green (s)	24.1	24.1	24.1	20.7	75.9	50.2	50.2
Actuated g/C Ratio	0.22	0.22	0.22	0.19	0.69	0.46	0.46
v/c Ratio	0.55	0.56	0.91	0.88	0.38	0.53	1.04
Control Delay	43.8	44.1	59.2	61.0	6.0	23.5	49.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	25.1
Total Delay	43.8	44.1	59.2	61.0	6.0	23.5	74.9
LOS	D	D	E	E	A	C	E
Approach Delay		51.2			22.5	47.7	
Approach LOS		D			C	D	

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 38.6		Intersection LOS: D	
Intersection Capacity Utilization 96.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	355	3	327	503	1175	0	0	1084	961
Future Volume (veh/h)	0	0	0	355	3	327	503	1175	0	0	1084	961
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				401	0	367	565	1320	0	0	1218	1080
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				835	0	372	616	3408	0	0	2268	704
Arrive On Green				0.24	0.00	0.24	0.36	1.00	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				401	0	367	565	1320	0	0	1218	1080
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				10.8	0.0	25.6	17.3	0.0	0.0	0.0	24.5	49.2
Cycle Q Clear(g_c), s				10.8	0.0	25.6	17.3	0.0	0.0	0.0	24.5	49.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				835	0	372	616	3408	0	0	2268	704
V/C Ratio(X)				0.48	0.00	0.99	0.92	0.39	0.00	0.00	0.54	1.53
Avail Cap(c_a), veh/h				835	0	372	654	3408	0	0	2268	704
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.82	0.82	0.00	0.00	0.09	0.09
Uniform Delay (d), s/veh				36.2	0.0	41.8	34.5	0.0	0.0	0.0	36.3	46.9
Incr Delay (d2), s/veh				0.4	0.0	43.2	14.9	0.3	0.0	0.0	0.1	241.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.2	0.0	20.4	11.1	0.2	0.0	0.0	12.7	95.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.6	0.0	85.0	49.4	0.3	0.0	0.0	36.4	287.9
LnGrp LOS				D	A	F	D	A	A	A	D	F
Approach Vol, veh/h					768			1885			2298	
Approach Delay, s/veh					59.7			15.0			154.6	
Approach LOS					E			B			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			24.8	54.2		31.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			19.3	51.2		27.6				
Green Ext Time (p_c), s		14.5			0.4	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	86.7	
HCM 6th LOS	F	

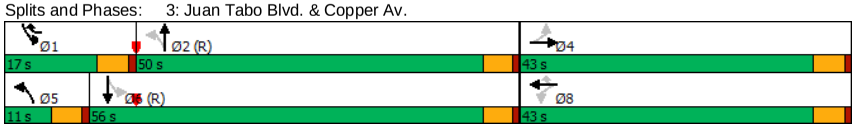
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	13	26	421	39	114	77	1234	65	2045
Future Volume (vph)	13	26	421	39	114	77	1234	65	2045
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	43.0	43.0	43.0	43.0	17.0	11.0	50.0	17.0	56.0
Total Split (%)	39.1%	39.1%	39.1%	39.1%	15.5%	10.0%	45.5%	15.5%	50.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Max	Min	C-Max
Act Effct Green (s)	38.0	38.0	38.0	38.0	50.6	55.4	49.4	58.6	51.0
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.46	0.50	0.45	0.53	0.46
v/c Ratio	0.03	0.22	1.14	0.07	0.18	0.54	0.72	0.39	0.99
Control Delay	24.2	8.4	121.7	24.7	15.1	27.9	27.0	22.9	40.3
Queue Delay	0.0	0.2	2.9	0.0	0.0	0.0	0.0	0.0	2.8
Total Delay	24.2	8.6	124.6	24.7	15.1	27.9	27.0	22.9	43.1
LOS	C	A	F	C	B	C	C	C	D
Approach Delay		10.2		96.0			27.1		42.5
Approach LOS		B		F			C		D

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay: 43.2		Intersection LOS: D	
Intersection Capacity Utilization 91.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	26	95	421	39	114	77	1234	191	65	2045	16
Future Volume (veh/h)	13	26	95	421	39	114	77	1234	191	65	2045	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	29	107	473	44	128	87	1387	215	73	2298	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	462	120	442	421	641	615	154	2091	324	202	2451	19
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.16	0.16	0.05	0.47	0.47
Sat Flow, veh/h	1203	347	1279	1243	1856	1572	1767	4424	685	1767	5185	41
Grp Volume(v), veh/h	15	0	136	473	44	128	87	1059	543	73	1496	820
Grp Sat Flow(s),veh/h/ln	1203	0	1625	1243	1856	1572	1767	1689	1732	1767	1689	1848
Q Serve(g_s), s	0.9	0.0	6.6	31.4	1.7	5.9	2.7	32.5	32.5	2.3	46.1	46.2
Cycle Q Clear(g_c), s	2.7	0.0	6.6	38.0	1.7	5.9	2.7	32.5	32.5	2.3	46.1	46.2
Prop In Lane	1.00		0.79	1.00		1.00	1.00		0.40	1.00		0.02
Lane Grp Cap(c), veh/h	462	0	561	421	641	615	154	1596	819	202	1596	874
V/C Ratio(X)	0.03	0.00	0.24	1.12	0.07	0.21	0.57	0.66	0.66	0.36	0.94	0.94
Avail Cap(c_a), veh/h	462	0	561	421	641	615	170	1596	819	314	1596	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	0.53	0.53	0.53
Uniform Delay (d), s/veh	25.0	0.0	25.7	41.7	24.1	22.2	26.3	38.2	38.2	19.6	27.5	27.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	82.3	0.0	0.2	3.0	1.9	3.6	0.6	7.1	11.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	4.6	31.0	1.4	4.0	2.2	21.0	21.9	1.7	24.6	28.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	25.9	124.0	24.2	22.4	29.3	40.1	41.8	20.1	34.6	39.2
LnGrp LOS	C	A	C	F	C	C	C	D	D	C	C	D
Approach Vol, veh/h		151			645			1689			2389	
Approach Delay, s/veh		25.8			97.0			40.1			35.7	
Approach LOS		C			F			D			D	

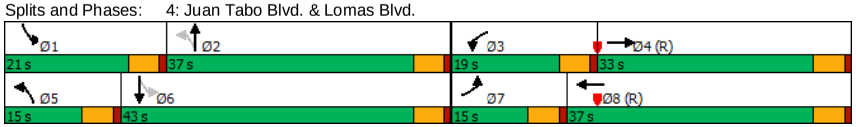
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	57.0		43.0	10.0	57.0		43.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	12.0	45.0		38.0	6.0	51.0		38.0				
Max Q Clear Time (g_c+I1), s	4.3	34.5		8.6	4.7	48.2		40.0				
Green Ext Time (p_c), s	0.1	7.3		0.9	0.0	2.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	45.0	
HCM 6th LOS	D	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	155	261	306	643	181	987	119	947
Future Volume (vph)	155	261	306	643	181	987	119	947
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	15.0	33.0	19.0	37.0	15.0	37.0	21.0	43.0
Total Split (%)	13.6%	30.0%	17.3%	33.6%	13.6%	33.6%	19.1%	39.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	9.5	30.0	13.8	34.4	45.7	35.7	46.6	36.2
Actuated g/C Ratio	0.09	0.27	0.13	0.31	0.42	0.32	0.42	0.33
v/c Ratio	0.59	0.44	0.80	0.55	0.89	0.81	0.57	0.78
Control Delay	56.9	30.4	61.4	32.0	74.7	22.0	27.4	35.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	30.4	61.4	32.0	74.7	22.0	27.4	35.7
LOS	E	C	E	C	E	C	C	D
Approach Delay		38.1		40.4		29.0		34.9
Approach LOS		D		D		C		C

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 4.4 (4%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 34.8		Intersection LOS: C	
Intersection Capacity Utilization 69.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	261	113	306	643	125	181	987	202	119	947	205
Future Volume (veh/h)	155	261	113	306	643	125	181	987	202	119	947	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	172	290	126	340	714	139	201	1097	224	132	1052	228
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	235	732	310	401	1500	289	257	1381	282	227	1279	277
Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.09	0.33	0.33	0.07	0.31	0.31
Sat Flow, veh/h	3428	2411	1023	3428	4264	821	1767	4217	861	1767	4168	902
Grp Volume(v), veh/h	172	210	206	340	564	289	201	878	443	132	852	428
Grp Sat Flow(s),veh/h/ln	1714	1763	1671	1714	1689	1708	1767	1689	1701	1767	1689	1693
Q Serve(g_s), s	5.4	10.4	10.8	10.7	14.3	14.5	8.5	26.0	26.0	5.5	25.7	25.8
Cycle Q Clear(g_c), s	5.4	10.4	10.8	10.7	14.3	14.5	8.5	26.0	26.0	5.5	25.7	25.8
Prop In Lane	1.00		0.61	1.00		0.48	1.00		0.51	1.00		0.53
Lane Grp Cap(c), veh/h	235	535	507	401	1188	601	257	1106	557	227	1036	520
V/C Ratio(X)	0.73	0.39	0.41	0.85	0.47	0.48	0.78	0.79	0.79	0.58	0.82	0.82
Avail Cap(c_a), veh/h	312	535	507	436	1188	601	257	1106	557	360	1167	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.69	0.69	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	30.3	30.4	47.6	27.7	27.8	27.1	33.6	33.6	26.8	35.3	35.4
Incr Delay (d2), s/veh	5.9	2.2	2.4	13.6	1.4	2.7	10.3	2.8	5.5	2.4	4.4	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	8.3	8.2	9.1	9.9	10.5	7.0	15.4	16.0	4.4	16.5	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	32.5	32.8	61.2	29.1	30.6	37.4	36.5	39.1	29.2	39.7	43.8
LnGrp LOS	E	C	C	E	C	C	D	D	D	C	D	D
Approach Vol, veh/h		588			1193			1522			1412	
Approach Delay, s/veh		39.5			38.6			37.4			40.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	41.0	17.9	38.4	15.0	38.8	12.5	43.7
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	32.0	14.0	28.0	10.0	38.0	10.0	32.0
Max Q Clear Time (g_c+I1), s	7.5	28.0	12.7	12.8	10.5	27.8	7.4	16.5
Green Ext Time (p_c), s	0.2	2.8	0.2	2.2	0.0	6.0	0.1	5.1

Intersection Summary		
HCM 6th Ctrl Delay		38.7
HCM 6th LOS		D

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	295	10	2	604	21	2
Future Vol, veh/h	295	10	2	604	21	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	324	11	2	664	23	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	335	0	998	330
Stage 1	-	-	-	-	330	-
Stage 2	-	-	-	-	668	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1219	-	269	709
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1219	-	268	709
Mov Cap-2 Maneuver	-	-	-	-	268	-
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	507	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	283	-	-	1219	-
HCM Lane V/C Ratio	0.089	-	-	0.002	-
HCM Control Delay (s)	19	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	282	574	30	13	61
Future Vol, veh/h	6	282	574	30	13	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,-#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	7	310	631	33	14	67

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	664	0	-	0	972	648
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	324	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	920	-	-	-	279	469
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	920	-	-	-	276	469
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	731	-

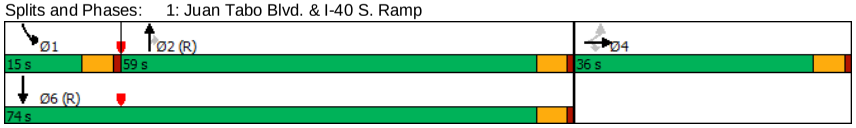
Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	418
HCM Lane V/C Ratio	0.007	-	-	-	0.195
HCM Control Delay (s)	8.9	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	531	2	250	1206	71	107	1388
Future Volume (vph)	531	2	250	1206	71	107	1388
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	36.0	36.0	36.0	59.0	59.0	15.0	74.0
Total Split (%)	32.7%	32.7%	32.7%	53.6%	53.6%	13.6%	67.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	26.4	26.4	26.4	59.7	59.7	8.9	73.6
Actuated g/C Ratio	0.24	0.24	0.24	0.54	0.54	0.08	0.67
v/c Ratio	0.73	0.37	0.34	0.50	0.09	0.44	0.46
Control Delay	43.8	27.0	19.3	17.3	3.6	58.5	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	27.0	19.3	17.3	3.6	58.5	6.6
LOS	D	C	B	B	A	E	A
Approach Delay		37.2		16.6			10.3
Approach LOS		D		B			B

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 97.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	531	2	250	0	0	0	0	1206	71	107	1388	0
Future Volume (veh/h)	531	2	250	0	0	0	0	1206	71	107	1388	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	597	0	282				0	1355	80	120	1560	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	725	0	645				0	3068	952	181	3566	0
Arrive On Green	0.21	0.00	0.21				0.00	0.61	0.61	0.11	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	597	0	282				0	1355	80	120	1560	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	17.8	0.0	8.6				0.0	15.8	2.3	3.7	0.0	0.0
Cycle Q Clear(g_c), s	17.8	0.0	8.6				0.0	15.8	2.3	3.7	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	725	0	645				0	3068	952	181	3566	0
V/C Ratio(X)	0.82	0.00	0.44				0.00	0.44	0.08	0.66	0.44	0.00
Avail Cap(c_a), veh/h	996	0	886				0	3068	952	312	3566	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.81	0.81	0.00
Uniform Delay (d), s/veh	41.8	0.0	38.2				0.0	11.7	9.0	48.2	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.0	0.5				0.0	0.5	0.2	3.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.8	0.0	6.0				0.0	9.7	1.5	2.9	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.9	0.0	38.6				0.0	12.1	9.2	51.6	0.3	0.0
LnGrp LOS	D	A	D				A	B	A	D	A	A
Approach Vol, veh/h		879						1435			1680	
Approach Delay, s/veh		43.6						12.0			4.0	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	10.8	71.6	27.6	82.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	54.0	31.0	69.0
Max Q Clear Time (g_c+I1), s	5.7	17.8	19.8	2.0
Green Ext Time (p_c), s	0.1	13.6	2.8	19.3

Intersection Summary		
HCM 6th Ctrl Delay		15.6
HCM 6th LOS		B

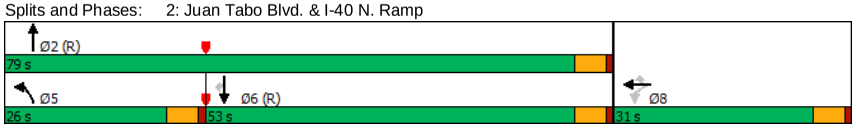
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	355	3	342	503	1233	1140	975
Future Volume (vph)	355	3	342	503	1233	1140	975
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	24.9	24.9	24.9	20.5	75.1	49.5	49.5
Actuated g/C Ratio	0.23	0.23	0.23	0.19	0.68	0.45	0.45
v/c Ratio	0.53	0.54	0.94	0.89	0.40	0.56	1.06
Control Delay	42.8	43.0	66.0	61.7	6.4	23.7	53.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	17.5
Total Delay	42.8	43.0	66.0	61.7	6.4	23.7	70.6
LOS	D	D	E	E	A	C	E
Approach Delay		54.2			22.4	45.3	
Approach LOS		D			C	D	

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 37.9		Intersection LOS: D	
Intersection Capacity Utilization 97.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	355	3	342	503	1233	0	0	1140	975
Future Volume (veh/h)	0	0	0	355	3	342	503	1233	0	0	1140	975
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				401	0	384	565	1385	0	0	1281	1096
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				835	0	372	616	3408	0	0	2268	704
Arrive On Green				0.24	0.00	0.24	0.36	1.00	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				401	0	384	565	1385	0	0	1281	1096
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				10.8	0.0	26.0	17.3	0.0	0.0	0.0	25.9	49.2
Cycle Q Clear(g_c), s				10.8	0.0	26.0	17.3	0.0	0.0	0.0	25.9	49.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				835	0	372	616	3408	0	0	2268	704
V/C Ratio(X)				0.48	0.00	1.03	0.92	0.41	0.00	0.00	0.56	1.56
Avail Cap(c_a), veh/h				835	0	372	654	3408	0	0	2268	704
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.80	0.80	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.2	0.0	42.0	34.5	0.0	0.0	0.0	36.9	46.9
Incr Delay (d2), s/veh				0.4	0.0	55.5	14.7	0.3	0.0	0.0	1.0	257.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.2	0.0	22.6	11.0	0.2	0.0	0.0	17.6	109.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.6	0.0	97.5	49.1	0.3	0.0	0.0	37.9	304.4
LnGrp LOS				D	A	F	D	A	A	A	D	F
Approach Vol, veh/h					785			1950			2377	
Approach Delay, s/veh					66.4			14.4			160.8	
Approach LOS					E			B			F	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			24.8	54.2		31.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			19.3	51.2		28.0				
Green Ext Time (p_c), s		15.7			0.4	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	90.5	
HCM 6th LOS	F	

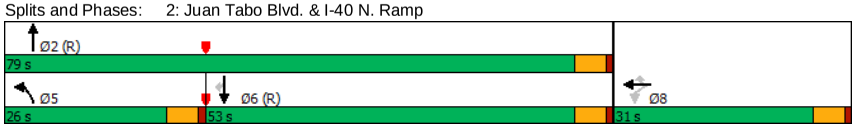
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	355	3	342	503	1233	1140	975
Future Volume (vph)	355	3	342	503	1233	1140	975
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	24.9	24.9	24.9	20.5	75.1	49.5	49.5
Actuated g/C Ratio	0.23	0.23	0.23	0.19	0.68	0.45	0.45
v/c Ratio	0.53	0.54	0.94	0.89	0.40	0.56	1.06
Control Delay	42.8	43.0	66.0	61.7	6.4	23.7	61.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	17.5
Total Delay	42.8	43.0	66.0	61.7	6.4	23.7	78.8
LOS	D	D	E	E	A	C	E
Approach Delay		54.2			22.4	49.1	
Approach LOS		D			C	D	

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green		
Natural Cycle: 75		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.06		
Intersection Signal Delay: 39.7	Intersection LOS: D	
Intersection Capacity Utilization 97.1%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	355	3	342	503	1233	0	0	1140	975
Future Volume (veh/h)	0	0	0	355	3	342	503	1233	0	0	1140	975
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				401	0	384	565	1385	0	0	1281	1096
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				835	0	372	616	3408	0	0	2268	704
Arrive On Green				0.24	0.00	0.24	0.36	1.00	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				401	0	384	565	1385	0	0	1281	1096
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				10.8	0.0	26.0	17.3	0.0	0.0	0.0	25.9	49.2
Cycle Q Clear(g_c), s				10.8	0.0	26.0	17.3	0.0	0.0	0.0	25.9	49.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				835	0	372	616	3408	0	0	2268	704
V/C Ratio(X)				0.48	0.00	1.03	0.92	0.41	0.00	0.00	0.56	1.56
Avail Cap(c_a), veh/h				835	0	372	654	3408	0	0	2268	704
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.80	0.80	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.2	0.0	42.0	34.5	0.0	0.0	0.0	36.9	46.9
Incr Delay (d2), s/veh				0.4	0.0	55.5	14.7	0.3	0.0	0.0	1.0	257.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				8.2	0.0	22.6	11.0	0.2	0.0	0.0	17.6	109.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.6	0.0	97.5	49.1	0.3	0.0	0.0	37.9	304.4
LnGrp LOS				D	A	F	D	A	A	A	D	F
Approach Vol, veh/h					785			1950			2377	
Approach Delay, s/veh					66.4			14.4			160.8	
Approach LOS					E			B			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			24.8	54.2		31.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			19.3	51.2		28.0				
Green Ext Time (p_c), s		15.7			0.4	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	90.5	
HCM 6th LOS	F	

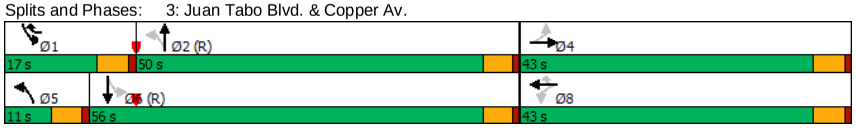
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	13	27	491	40	153	77	1234	106	2045
Future Volume (vph)	13	27	491	40	153	77	1234	106	2045
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	43.0	43.0	43.0	43.0	17.0	11.0	50.0	17.0	56.0
Total Split (%)	39.1%	39.1%	39.1%	39.1%	15.5%	10.0%	45.5%	15.5%	50.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Max	Min	C-Max
Act Effct Green (s)	38.0	38.0	38.0	38.0	52.1	53.9	47.9	59.9	51.0
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.47	0.49	0.44	0.54	0.46
v/c Ratio	0.03	0.22	1.33	0.07	0.23	0.54	0.74	0.56	0.99
Control Delay	24.2	8.5	194.6	24.7	15.5	27.6	29.1	35.4	40.7
Queue Delay	0.0	0.2	2.9	0.0	0.0	0.0	0.0	0.0	2.4
Total Delay	24.2	8.7	197.5	24.7	15.5	27.6	29.1	35.4	43.2
LOS	C	A	F	C	B	C	C	D	D
Approach Delay		10.2		146.7			29.1		42.8
Approach LOS		B		F			C		D

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay: 53.0		Intersection LOS: D	
Intersection Capacity Utilization 95.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	27	95	491	40	153	77	1234	191	106	2045	16
Future Volume (veh/h)	13	27	95	491	40	153	77	1234	191	106	2045	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	30	107	552	45	172	87	1387	215	119	2298	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	446	123	439	420	641	628	154	2053	318	214	2451	19
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.15	0.15	0.05	0.47	0.47
Sat Flow, veh/h	1155	356	1271	1242	1856	1572	1767	4424	685	1767	5185	41
Grp Volume(v), veh/h	15	0	137	552	45	172	87	1059	543	119	1496	820
Grp Sat Flow(s),veh/h/ln	1155	0	1627	1242	1856	1572	1767	1689	1732	1767	1689	1848
Q Serve(g_s), s	1.0	0.0	6.6	31.4	1.8	8.1	2.8	32.6	32.6	3.8	46.1	46.2
Cycle Q Clear(g_c), s	2.8	0.0	6.6	38.0	1.8	8.1	2.8	32.6	32.6	3.8	46.1	46.2
Prop In Lane	1.00		0.78	1.00		1.00	1.00		0.40	1.00		0.02
Lane Grp Cap(c), veh/h	446	0	562	420	641	628	154	1567	804	214	1596	874
V/C Ratio(X)	0.03	0.00	0.24	1.31	0.07	0.27	0.57	0.68	0.68	0.56	0.94	0.94
Avail Cap(c_a), veh/h	446	0	562	420	641	628	170	1567	804	311	1596	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	25.1	0.0	25.7	41.8	24.1	22.3	26.3	38.8	38.8	21.4	27.5	27.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	157.8	0.0	0.2	3.5	2.4	4.5	1.2	6.9	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	4.7	45.7	1.4	5.4	2.3	21.6	22.7	2.8	24.4	27.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	26.0	199.5	24.2	22.5	29.8	41.1	43.3	22.6	34.3	38.8
LnGrp LOS	C	A	C	F	C	C	C	D	D	C	C	D
Approach Vol, veh/h		152			769			1689			2435	
Approach Delay, s/veh		25.9			149.7			41.2			35.3	
Approach LOS		C			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	56.0		43.0	10.0	57.0		43.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	45.0		38.0	6.0	51.0		38.0				
Max Q Clear Time (g_c+I1), s	5.8	34.6		8.6	4.8	48.2		40.0				
Green Ext Time (p_c), s	0.1	7.3		0.9	0.0	2.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	54.4	
HCM 6th LOS	D	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	13	27	491	40	77	1234	191	106	2045
Future Volume (vph)	13	27	491	40	77	1234	191	106	2045
Turn Type	Perm	NA	Prot	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases		4	3	8	5	2	3	1	6
Permitted Phases	4				2		2	6	
Detector Phase	4	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	10.0	21.0	10.0	21.0	10.0	10.0	21.0
Total Split (s)	17.0	17.0	28.0	45.0	10.0	50.0	28.0	15.0	55.0
Total Split (%)	15.5%	15.5%	25.5%	40.9%	9.1%	45.5%	25.5%	13.6%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	C-Max	Min	Min	C-Max
Act Effct Green (s)	8.9	8.9	21.5	35.4	57.3	51.0	77.5	61.9	53.3
Actuated g/C Ratio	0.08	0.08	0.20	0.32	0.52	0.46	0.70	0.56	0.48
v/c Ratio	0.16	0.65	0.83	0.36	0.52	0.59	0.18	0.50	0.95
Control Delay	49.4	35.1	54.2	13.7	28.6	25.7	4.1	24.6	32.8
Queue Delay	0.0	2.5	37.5	0.0	0.0	0.0	0.0	0.0	0.7
Total Delay	49.4	37.6	91.7	13.7	28.6	25.7	4.1	24.6	33.5
LOS	D	D	F	B	C	C	A	C	C
Approach Delay		38.8		69.7		23.1			33.0
Approach LOS		D		E		C			C

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 35.5 Intersection LOS: D
Intersection Capacity Utilization 82.1% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	27	95	491	40	153	77	1234	191	106	2045	16
Future Volume (veh/h)	13	27	95	491	40	153	77	1234	191	106	2045	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	30	107	552	45	172	87	1387	215	119	2298	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	183	36	129	626	111	424	158	2439	1044	230	2534	20
Arrive On Green	0.10	0.10	0.10	0.18	0.33	0.33	0.02	0.16	0.16	0.05	0.49	0.49
Sat Flow, veh/h	1155	356	1271	3428	337	1287	1767	5066	1572	1767	5185	41
Grp Volume(v), veh/h	15	0	137	552	0	217	87	1387	215	119	1496	820
Grp Sat Flow(s),veh/h/ln	1155	0	1627	1714	0	1624	1767	1689	1572	1767	1689	1848
Q Serve(g_s), s	1.3	0.0	9.1	17.3	0.0	11.4	2.7	27.8	8.6	3.7	44.7	44.8
Cycle Q Clear(g_c), s	1.3	0.0	9.1	17.3	0.0	11.4	2.7	27.8	8.6	3.7	44.7	44.8
Prop In Lane	1.00		0.78	1.00		0.79	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	183	0	165	626	0	535	158	2439	1044	230	1651	903
V/C Ratio(X)	0.08	0.00	0.83	0.88	0.00	0.41	0.55	0.57	0.21	0.52	0.91	0.91
Avail Cap(c_a), veh/h	191	0	177	717	0	590	158	2439	1044	298	1651	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51
Uniform Delay (d), s/veh	45.0	0.0	48.5	43.8	0.0	28.5	25.9	35.7	12.4	18.5	25.8	25.8
Incr Delay (d2), s/veh	0.2	0.0	25.7	11.3	0.0	0.5	4.0	1.0	0.4	0.9	4.8	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	8.5	13.0	0.0	8.0	2.3	18.7	6.2	2.7	23.2	26.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	0.0	74.2	55.1	0.0	29.0	29.8	36.7	12.9	19.4	30.6	34.1
LnGrp LOS	D	A	E	E	A	C	C	D	B	B	C	C
Approach Vol, veh/h		152			769			1689			2435	
Approach Delay, s/veh		71.3			47.8			33.3			31.3	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	58.0	25.1	16.2	10.0	58.8		41.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	5.0	45.0	23.0	12.0	5.0	50.0		40.0
Max Q Clear Time (g_c+I1), s	5.7	29.8	19.3	11.1	4.7	46.8		13.4
Green Ext Time (p_c), s	0.1	9.3	0.8	0.1	0.0	3.0		1.4

Intersection Summary	
HCM 6th Ctrl Delay	35.7
HCM 6th LOS	D

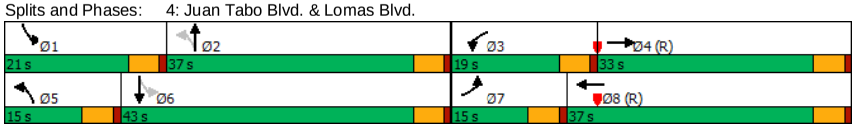
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	155	261	321	643	192	1001	119	962
Future Volume (vph)	155	261	321	643	192	1001	119	962
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	15.0	33.0	19.0	37.0	15.0	37.0	21.0	43.0
Total Split (%)	13.6%	30.0%	17.3%	33.6%	13.6%	33.6%	19.1%	39.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	9.5	29.6	14.0	34.1	46.0	36.0	46.9	36.4
Actuated g/C Ratio	0.09	0.27	0.13	0.31	0.42	0.33	0.43	0.33
v/c Ratio	0.59	0.45	0.83	0.55	0.94	0.83	0.57	0.78
Control Delay	56.9	30.0	64.0	32.2	84.1	22.9	27.2	35.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	30.0	64.0	32.2	84.1	22.9	27.2	35.7
LOS	E	C	E	C	F	C	C	D
Approach Delay		37.7		41.6		31.2		34.9
Approach LOS		D		D		C		C

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 4.4 (4%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 35.8		Intersection LOS: D	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	261	125	321	643	125	192	1001	216	119	962	205
Future Volume (veh/h)	155	261	125	321	643	125	192	1001	216	119	962	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	172	290	139	357	714	139	213	1112	240	132	1069	228
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	235	692	323	416	1490	287	256	1377	297	224	1293	276
Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.09	0.33	0.33	0.07	0.31	0.31
Sat Flow, veh/h	3428	2332	1090	3428	4264	821	1767	4171	900	1767	4181	891
Grp Volume(v), veh/h	172	217	212	357	564	289	213	900	452	132	863	434
Grp Sat Flow(s),veh/h/ln	1714	1763	1659	1714	1689	1708	1767	1689	1694	1767	1689	1695
Q Serve(g_s), s	5.4	10.9	11.3	11.2	14.3	14.6	9.0	26.8	26.8	5.5	26.1	26.1
Cycle Q Clear(g_c), s	5.4	10.9	11.3	11.2	14.3	14.6	9.0	26.8	26.8	5.5	26.1	26.1
Prop In Lane	1.00		0.66	1.00		0.48	1.00		0.53	1.00		0.53
Lane Grp Cap(c), veh/h	235	523	492	416	1180	597	256	1115	559	224	1044	524
V/C Ratio(X)	0.73	0.42	0.43	0.86	0.48	0.48	0.83	0.81	0.81	0.59	0.83	0.83
Avail Cap(c_a), veh/h	312	523	492	436	1180	597	256	1115	559	357	1167	586
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	31.0	31.2	47.4	27.9	28.0	27.2	33.7	33.7	26.9	35.3	35.3
Incr Delay (d2), s/veh	5.9	2.4	2.7	15.1	1.4	2.8	14.3	3.1	5.9	2.5	4.6	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	8.6	8.5	9.5	10.0	10.5	7.7	15.8	16.4	4.4	16.7	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	33.5	33.9	62.5	29.3	30.8	41.5	36.7	39.6	29.4	39.8	44.0
LnGrp LOS	E	C	C	E	C	C	D	D	D	C	D	D
Approach Vol, veh/h		601			1210			1565			1429	
Approach Delay, s/veh		40.1			39.5			38.2			40.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	41.3	18.3	37.6	15.0	39.0	12.5	43.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	32.0	14.0	28.0	10.0	38.0	10.0	32.0
Max Q Clear Time (g_c+I1), s	7.5	28.8	13.2	13.3	11.0	28.1	7.4	16.6
Green Ext Time (p_c), s	0.2	2.4	0.1	2.2	0.0	5.9	0.1	5.1

Intersection Summary		
HCM 6th Ctrl Delay		39.3
HCM 6th LOS		D

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	323	11	2	633	22	2
Future Vol, veh/h	323	11	2	633	22	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	355	12	2	696	24	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	367	0	1061	361
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	700	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1186	-	247	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	491	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1186	-	247	681
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	261	-	-	1186	-
HCM Lane V/C Ratio	0.101	-	-	0.002	-
HCM Control Delay (s)	20.3	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	10.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	282	42	30	574	30	110	1	29	13	1	61
Future Vol, veh/h	6	282	42	30	574	30	110	1	29	13	1	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,-#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	310	46	33	631	33	121	1	32	14	1	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	664	0	0	356	0	0	1095	1077	333	1078	1084	648
Stage 1	-	-	-	-	-	-	347	347	-	714	714	-
Stage 2	-	-	-	-	-	-	748	730	-	364	370	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	920	-	-	1197	-	-	190	218	706	195	216	469
Stage 1	-	-	-	-	-	-	667	633	-	421	433	-
Stage 2	-	-	-	-	-	-	403	426	-	653	618	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	920	-	-	1197	-	-	156	206	706	178	204	469
Mov Cap-2 Maneuver	-	-	-	-	-	-	156	206	-	178	204	-
Stage 1	-	-	-	-	-	-	660	627	-	417	414	-
Stage 2	-	-	-	-	-	-	329	407	-	616	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	78.8	17.9
HCM LOS			F	C

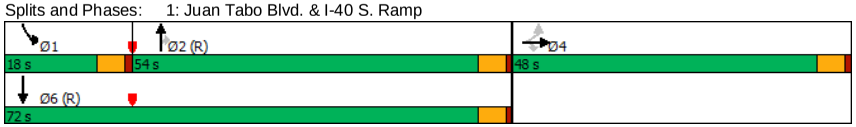
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	186	920	-	-	1197	-	-	361
HCM Lane V/C Ratio	0.827	0.007	-	-	0.028	-	-	0.228
HCM Control Delay (s)	78.8	8.9	0	-	8.1	0	-	17.9
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	5.8	0	-	-	0.1	-	-	0.9

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1056	2	564	1620	260	236	911
Future Volume (vph)	1056	2	564	1620	260	236	911
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	48.0	48.0	48.0	54.0	54.0	18.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	43.0	43.0	43.0	49.6	49.6	12.4	67.0
Actuated g/C Ratio	0.36	0.36	0.36	0.41	0.41	0.10	0.56
v/c Ratio	0.92	0.50	0.50	0.83	0.35	0.72	0.34
Control Delay	50.1	21.8	21.7	35.8	6.6	81.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	21.8	21.7	35.8	6.6	81.6	4.8
LOS	D	C	C	D	A	F	A
Approach Delay		40.2		31.7			20.6
Approach LOS		D		C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 31.9 Intersection LOS: C
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1056	2	564	0	0	0	0	1620	260	236	911	0
Future Volume (veh/h)	1056	2	564	0	0	0	0	1620	260	236	911	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	1123	0	601				0	1723	277	251	969	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1222	0	1087				0	2231	693	305	2893	0
Arrive On Green	0.35	0.00	0.35				0.00	0.44	0.44	0.18	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	1123	0	601				0	1723	277	251	969	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	36.6	0.0	18.6				0.0	34.6	14.4	8.5	0.0	0.0
Cycle Q Clear(g_c), s	36.6	0.0	18.6				0.0	34.6	14.4	8.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1222	0	1087				0	2231	693	305	2893	0
V/C Ratio(X)	0.92	0.00	0.55				0.00	0.77	0.40	0.82	0.33	0.00
Avail Cap(c_a), veh/h	1266	0	1127				0	2231	693	371	2893	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	37.7	0.0	31.8				0.0	28.5	22.8	48.4	0.0	0.0
Incr Delay (d2), s/veh	10.7	0.0	0.5				0.0	2.7	1.7	11.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.2	0.0	11.5				0.0	20.5	9.5	6.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	0.0	32.3				0.0	31.1	24.5	59.5	0.3	0.0
LnGrp LOS	D	A	C				A	C	C	E	A	A
Approach Vol, veh/h		1724						2000			1220	
Approach Delay, s/veh		42.7						30.2			12.5	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	15.7	57.9	46.5	73.5
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	49.0	43.0	67.0
Max Q Clear Time (g_c+I1), s	10.5	36.6	38.6	2.0
Green Ext Time (p_c), s	0.2	9.5	2.9	8.9

Intersection Summary

HCM 6th Ctrl Delay 30.2
HCM 6th LOS C

Notes

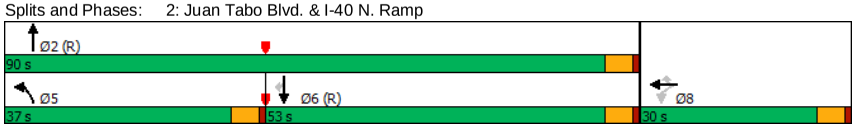
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	66	5	102	440	2236	1081	652
Future Volume (vph)	66	5	102	440	2236	1081	652
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	30.0	30.0	30.0	37.0	90.0	53.0	53.0
Total Split (%)	25.0%	25.0%	25.0%	30.8%	75.0%	44.2%	44.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	9.5	9.5	9.5	21.8	100.5	73.7	73.7
Actuated g/C Ratio	0.08	0.08	0.08	0.18	0.84	0.61	0.61
v/c Ratio	0.28	0.29	0.60	0.76	0.56	0.37	0.60
Control Delay	55.9	56.0	37.5	45.9	3.3	12.5	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	1.1
Total Delay	55.9	56.0	37.5	45.9	3.7	12.5	14.1
LOS	E	E	D	D	A	B	B
Approach Delay		45.0			10.6	13.1	
Approach LOS		D			B	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	66	5	102	440	2236	0	0	1081	652
Future Volume (veh/h)	0	0	0	66	5	102	440	2236	0	0	1081	652
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				74	0	109	468	2379	0	0	1150	694
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				313	0	139	541	4195	0	0	3185	989
Arrive On Green				0.09	0.00	0.09	0.32	1.00	0.00	0.00	0.21	0.21
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				74	0	109	468	2379	0	0	1150	694
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				2.3	0.0	8.1	15.4	0.0	0.0	0.0	23.3	49.1
Cycle Q Clear(g_c), s				2.3	0.0	8.1	15.4	0.0	0.0	0.0	23.3	49.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				313	0	139	541	4195	0	0	3185	989
V/C Ratio(X)				0.24	0.00	0.78	0.87	0.57	0.00	0.00	0.36	0.70
Avail Cap(c_a), veh/h				736	0	328	914	4195	0	0	3185	989
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.38	0.38	0.00	0.00	0.66	0.66
Uniform Delay (d), s/veh				50.9	0.0	53.6	39.9	0.0	0.0	0.0	26.9	37.1
Incr Delay (d2), s/veh				0.4	0.0	9.2	1.9	0.2	0.0	0.0	0.2	2.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.9	0.0	6.4	8.0	0.1	0.0	0.0	15.0	27.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				51.3	0.0	62.8	41.7	0.2	0.0	0.0	27.1	39.9
LnGrp LOS				D	A	E	D	A	A	A	C	D
Approach Vol, veh/h					183			2847			1844	
Approach Delay, s/veh					58.1			7.0			31.9	
Approach LOS					E			A			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		104.4			23.9	80.4		15.6				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		85.0			32.0	48.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0			17.4	51.1		10.1				
Green Ext Time (p_c), s		47.4			1.5	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay 18.4
HCM 6th LOS B

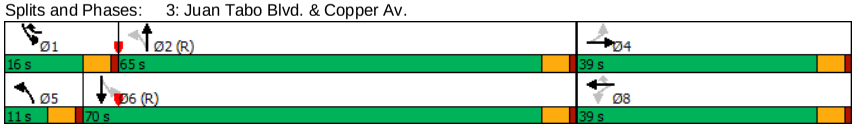
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	23	238	35	84	87	1877	120	1733
Future Volume (vph)	24	23	238	35	84	87	1877	120	1733
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	16.0	11.0	65.0	16.0	70.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	13.3%	9.2%	54.2%	13.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min
Act Effct Green (s)	28.2	28.2	28.2	28.2	42.5	74.3	67.5	79.3	70.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.35	0.62	0.56	0.66	0.58
v/c Ratio	0.08	0.23	0.87	0.09	0.16	0.57	0.86	0.65	0.67
Control Delay	33.7	12.2	71.2	33.7	19.5	28.6	19.0	52.4	13.4
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	12.2	71.3	33.7	19.5	28.6	19.0	52.4	13.4
LOS	C	B	E	C	B	C	B	D	B
Approach Delay		16.5		55.5			19.4		15.8
Approach LOS		B		E			B		B

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	23	75	238	35	84	87	1877	374	120	1733	95
Future Volume (veh/h)	24	23	75	238	35	84	87	1877	374	120	1733	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	24	80	253	37	89	93	1997	398	128	1844	101
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	372	99	331	334	490	491	204	2397	465	162	2799	153
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.03	0.38	0.38	0.05	0.57	0.57
Sat Flow, veh/h	1255	376	1254	1280	1856	1572	1767	4258	826	1767	4916	269
Grp Volume(v), veh/h	26	0	104	253	37	89	93	1573	822	128	1266	679
Grp Sat Flow(s),veh/h/ln	1255	0	1630	1280	1856	1572	1767	1689	1707	1767	1689	1807
Q Serve(g_s), s	1.9	0.0	6.0	23.2	1.8	5.0	2.6	50.6	53.1	3.6	31.0	31.1
Cycle Q Clear(g_c), s	3.7	0.0	6.0	29.3	1.8	5.0	2.6	50.6	53.1	3.6	31.0	31.1
Prop In Lane	1.00		0.77	1.00		1.00	1.00		0.48	1.00		0.15
Lane Grp Cap(c), veh/h	372	0	430	334	490	491	204	1901	961	162	1923	1029
V/C Ratio(X)	0.07	0.00	0.24	0.76	0.08	0.18	0.46	0.83	0.86	0.79	0.66	0.66
Avail Cap(c_a), veh/h	397	0	462	358	526	521	218	1901	961	239	1923	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.69	0.69	0.69
Uniform Delay (d), s/veh	34.6	0.0	34.7	46.2	33.2	30.1	16.7	32.1	32.9	27.8	17.8	17.8
Incr Delay (d2), s/veh	0.1	0.0	0.3	8.5	0.1	0.2	1.3	3.5	7.9	7.2	1.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	4.4	12.8	1.5	3.4	2.0	29.4	32.3	4.2	16.6	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.0	35.0	54.7	33.2	30.3	18.0	35.6	40.8	35.0	19.0	20.1
LnGrp LOS	C	A	D	D	C	C	B	D	D	C	B	C
Approach Vol, veh/h		130			379			2488			2073	
Approach Delay, s/veh		34.9			46.9			36.6			20.4	
Approach LOS		C			D			D			C	

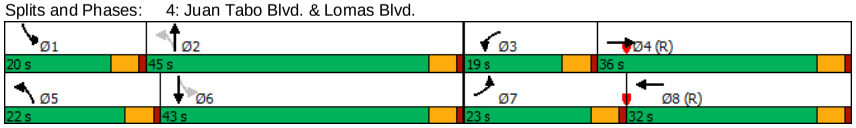
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	72.6		36.7	10.0	73.3		36.7				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	11.0	60.0		34.0	6.0	65.0		34.0				
Max Q Clear Time (g_c+I1), s	5.6	55.1		8.0	4.6	33.1		31.3				
Green Ext Time (p_c), s	0.1	4.5		0.7	0.0	19.2		0.4				

Intersection Summary		
HCM 6th Ctrl Delay	30.7	
HCM 6th LOS	C	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	288	481	188	342	136	1439	180	1087
Future Volume (vph)	288	481	188	342	136	1439	180	1087
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	23.0	36.0	19.0	32.0	22.0	45.0	20.0	43.0
Total Split (%)	19.2%	30.0%	15.8%	26.7%	18.3%	37.5%	16.7%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	15.2	33.3	11.7	29.8	53.7	42.6	56.3	43.9
Actuated g/C Ratio	0.13	0.28	0.10	0.25	0.45	0.36	0.47	0.37
v/c Ratio	0.68	0.73	0.57	0.36	0.58	0.95	0.75	0.69
Control Delay	58.1	41.4	58.4	33.4	37.5	39.7	45.2	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	41.4	58.4	33.4	37.5	39.7	45.2	34.5
LOS	E	D	E	C	D	D	D	C
Approach Delay		46.3		40.8		39.5		35.8
Approach LOS		D		D		D		D

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green		
Natural Cycle: 75		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.95		
Intersection Signal Delay: 40.0	Intersection LOS: D	
Intersection Capacity Utilization 85.1%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	481	216	188	342	107	136	1439	228	180	1087	149
Future Volume (veh/h)	288	481	216	188	342	107	136	1439	228	180	1087	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	291	486	218	190	345	108	137	1454	230	182	1098	151
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	357	810	361	251	1202	359	244	1470	232	213	1573	216
Arrive On Green	0.10	0.34	0.34	0.07	0.31	0.31	0.14	0.67	0.67	0.09	0.35	0.35
Sat Flow, veh/h	3428	2371	1057	3428	3870	1155	1767	4410	697	1767	4503	619
Grp Volume(v), veh/h	291	361	343	190	299	154	137	1113	571	182	823	426
Grp Sat Flow(s),veh/h/ln	1714	1763	1665	1714	1689	1648	1767	1689	1730	1767	1689	1744
Q Serve(g_s), s	10.0	20.3	20.5	6.5	8.0	8.5	6.1	38.7	38.9	8.0	25.2	25.2
Cycle Q Clear(g_c), s	10.0	20.3	20.5	6.5	8.0	8.5	6.1	38.7	38.9	8.0	25.2	25.2
Prop In Lane	1.00		0.63	1.00		0.70	1.00		0.40	1.00		0.35
Lane Grp Cap(c), veh/h	357	602	569	251	1049	512	244	1126	577	213	1180	609
V/C Ratio(X)	0.82	0.60	0.60	0.76	0.28	0.30	0.56	0.99	0.99	0.85	0.70	0.70
Avail Cap(c_a), veh/h	514	602	569	400	1049	512	372	1126	577	284	1180	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.45	0.45	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	32.7	32.8	54.5	31.3	31.4	24.4	19.8	19.8	29.3	33.6	33.6
Incr Delay (d2), s/veh	6.6	4.4	4.7	4.6	0.7	1.5	0.9	15.4	22.7	17.1	1.8	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	14.4	13.9	5.4	6.1	6.5	4.1	14.8	16.5	7.8	15.9	16.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	37.1	37.5	59.1	32.0	33.0	25.4	35.1	42.5	46.4	35.4	37.1
LnGrp LOS	E	D	D	E	C	C	C	D	D	D	D	D
Approach Vol, veh/h		995			643			1821			1431	
Approach Delay, s/veh		43.7			40.2			36.7			37.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	45.0	13.8	46.0	13.3	46.9	17.5	42.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	40.0	14.0	31.0	17.0	38.0	18.0	27.0
Max Q Clear Time (g_c+I1), s	10.0	40.9	8.5	22.5	8.1	27.2	12.0	10.5
Green Ext Time (p_c), s	0.2	0.0	0.3	2.9	0.2	6.0	0.5	2.6

Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	543	36	5	376	29	3
Future Vol, veh/h	543	36	5	376	29	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	566	38	5	392	30	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	604	0	987	585
Stage 1	-	-	-	-	585	-
Stage 2	-	-	-	-	402	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	969	-	273	509
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	969	-	272	509
Mov Cap-2 Maneuver	-	-	-	-	272	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	670	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	284	-	-	969	-
HCM Lane V/C Ratio	0.117	-	-	0.005	-
HCM Control Delay (s)	19.4	-	-	8.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	517	357	19	26	49
Future Vol, veh/h	17	517	357	19	26	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,-#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	18	539	372	20	27	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	392	0	-	0	957	382
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	575	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1161	-	-	-	285	663
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	561	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1161	-	-	-	279	663
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	561	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	14.7
HCM LOS			B

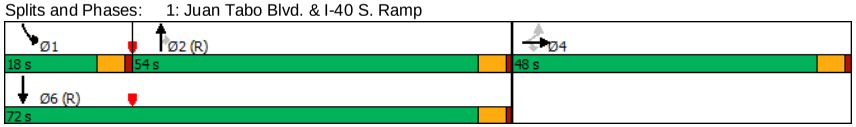
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1161	-	-	-	449
HCM Lane V/C Ratio	0.015	-	-	-	0.174
HCM Control Delay (s)	8.1	0	-	-	14.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1070	2	564	1663	260	250	952
Future Volume (vph)	1070	2	564	1663	260	250	952
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	48.0	48.0	48.0	54.0	54.0	18.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	43.0	43.0	43.0	49.4	49.4	12.6	67.0
Actuated g/C Ratio	0.36	0.36	0.36	0.41	0.41	0.10	0.56
v/c Ratio	0.93	0.51	0.50	0.85	0.36	0.75	0.36
Control Delay	51.8	23.2	23.1	37.1	7.0	84.3	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	23.2	23.1	37.1	7.0	84.3	5.3
LOS	D	C	C	D	A	F	A
Approach Delay		41.9		33.0			21.7
Approach LOS		D		C			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 82.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1070	2	564	0	0	0	0	1663	260	250	952	0
Future Volume (veh/h)	1070	2	564	0	0	0	0	1663	260	250	952	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	1138	0	601				0	1769	277	266	1013	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1230	0	1094				0	2199	683	319	2881	0
Arrive On Green	0.35	0.00	0.35				0.00	0.43	0.43	0.19	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	1138	0	601				0	1769	277	266	1013	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	37.2	0.0	18.5				0.0	36.4	14.5	9.0	0.0	0.0
Cycle Q Clear(g_c), s	37.2	0.0	18.5				0.0	36.4	14.5	9.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1230	0	1094				0	2199	683	319	2881	0
V/C Ratio(X)	0.93	0.00	0.55				0.00	0.80	0.41	0.83	0.35	0.00
Avail Cap(c_a), veh/h	1266	0	1127				0	2199	683	371	2881	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	37.6	0.0	31.5				0.0	29.5	23.3	47.9	0.0	0.0
Incr Delay (d2), s/veh	11.4	0.0	0.5				0.0	3.2	1.8	12.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.7	0.0	11.5				0.0	21.5	9.6	7.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	0.0	32.1				0.0	32.8	25.1	60.5	0.3	0.0
LnGrp LOS	D	A	C				A	C	C	E	A	A
Approach Vol, veh/h		1739						2046			1279	
Approach Delay, s/veh		43.2						31.7			12.8	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	16.2	57.1	46.7	73.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	13.0	49.0	43.0	67.0
Max Q Clear Time (g_c+I1), s	11.0	38.4	39.2	2.0
Green Ext Time (p_c), s	0.2	8.4	2.6	9.5

Intersection Summary

HCM 6th Ctrl Delay 30.9
HCM 6th LOS C

Notes

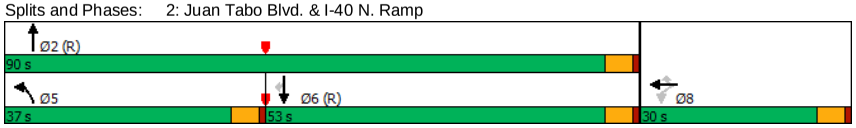
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	66	5	116	440	2293	1136	666
Future Volume (vph)	66	5	116	440	2293	1136	666
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	30.0	30.0	30.0	37.0	90.0	53.0	53.0
Total Split (%)	25.0%	25.0%	25.0%	30.8%	75.0%	44.2%	44.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	10.4	10.4	10.4	21.8	99.6	72.8	72.8
Actuated g/C Ratio	0.09	0.09	0.09	0.18	0.83	0.61	0.61
v/c Ratio	0.26	0.26	0.63	0.76	0.58	0.40	0.61
Control Delay	53.6	53.7	40.8	45.2	4.1	12.0	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	1.1
Total Delay	53.6	53.7	40.8	45.2	4.5	12.0	13.0
LOS	D	D	D	D	A	B	B
Approach Delay		45.6			11.0	12.4	
Approach LOS		D			B	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 82.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	66	5	116	440	2293	0	0	1136	666
Future Volume (veh/h)	0	0	0	66	5	116	440	2293	0	0	1136	666
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				74	0	123	468	2439	0	0	1209	709
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				344	0	153	541	4150	0	0	3140	975
Arrive On Green				0.10	0.00	0.10	0.32	1.00	0.00	0.00	0.20	0.20
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				74	0	123	468	2439	0	0	1209	709
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				2.3	0.0	9.2	15.4	0.0	0.0	0.0	24.7	50.6
Cycle Q Clear(g_c), s				2.3	0.0	9.2	15.4	0.0	0.0	0.0	24.7	50.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				344	0	153	541	4150	0	0	3140	975
V/C Ratio(X)				0.21	0.00	0.80	0.87	0.59	0.00	0.00	0.39	0.73
Avail Cap(c_a), veh/h				736	0	328	914	4150	0	0	3140	975
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.34	0.34	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				49.9	0.0	53.0	39.9	0.0	0.0	0.0	28.0	38.3
Incr Delay (d2), s/veh				0.3	0.0	9.3	1.7	0.2	0.0	0.0	0.4	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.9	0.0	7.3	7.9	0.1	0.0	0.0	16.8	30.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				50.2	0.0	62.4	41.5	0.2	0.0	0.0	28.3	43.0
LnGrp LOS				D	A	E	D	A	A	A	C	D
Approach Vol, veh/h					197			2907			1918	
Approach Delay, s/veh					57.8			6.9			33.8	
Approach LOS					E			A			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		103.3			23.9	79.4		16.7				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		85.0			32.0	48.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0			17.4	52.6		11.2				
Green Ext Time (p_c), s		49.7			1.5	0.0		0.5				

Intersection Summary

HCM 6th Ctrl Delay 19.1
HCM 6th LOS B

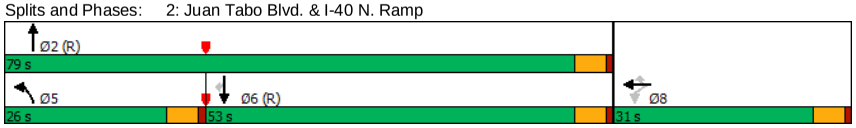
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	66	5	116	440	2293	1136	666
Future Volume (vph)	66	5	116	440	2293	1136	666
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Min	C-Min
Act Effct Green (s)	9.7	9.7	9.7	20.2	90.3	65.1	65.1
Actuated g/C Ratio	0.09	0.09	0.09	0.18	0.82	0.59	0.59
v/c Ratio	0.25	0.26	0.61	0.75	0.59	0.41	0.60
Control Delay	49.1	49.2	35.4	44.2	2.6	12.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.9
Total Delay	49.1	49.2	35.4	44.2	2.8	12.3	12.3
LOS	D	D	D	D	A	B	B
Approach Delay		40.6			9.5	12.3	
Approach LOS		D			A	B	

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	66	5	116	440	2293	0	0	1136	666
Future Volume (veh/h)	0	0	0	66	5	116	440	2293	0	0	1136	666
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				74	0	123	468	2439	0	0	1209	709
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				351	0	156	532	4101	0	0	3086	958
Arrive On Green				0.10	0.00	0.10	0.31	1.00	0.00	0.00	0.20	0.20
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				74	0	123	468	2439	0	0	1209	709
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				2.1	0.0	8.4	14.2	0.0	0.0	0.0	22.8	46.6
Cycle Q Clear(g_c), s				2.1	0.0	8.4	14.2	0.0	0.0	0.0	22.8	46.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				351	0	156	532	4101	0	0	3086	958
V/C Ratio(X)				0.21	0.00	0.79	0.88	0.59	0.00	0.00	0.39	0.74
Avail Cap(c_a), veh/h				835	0	372	654	4101	0	0	3086	958
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.31	0.31	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				45.6	0.0	48.4	37.0	0.0	0.0	0.0	26.3	35.8
Incr Delay (d2), s/veh				0.3	0.0	8.4	4.0	0.2	0.0	0.0	0.4	5.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.7	0.0	6.6	7.3	0.1	0.0	0.0	15.6	28.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.9	0.0	56.8	41.0	0.2	0.0	0.0	26.6	40.9
LnGrp LOS				D	A	E	D	A	A	A	C	D
Approach Vol, veh/h					197			2907			1918	
Approach Delay, s/veh					52.7			6.8			31.9	
Approach LOS					D			A			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		94.1			22.1	72.0		15.9				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			16.2	48.6		10.4				
Green Ext Time (p_c), s		45.7			0.8	0.0		0.5				

Intersection Summary		
HCM 6th Ctrl Delay	18.2	
HCM 6th LOS	B	

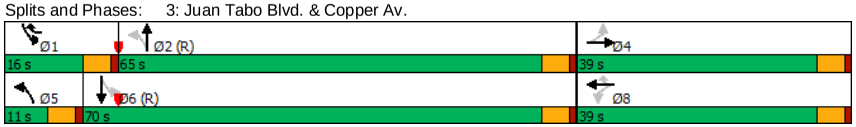
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	24	307	36	122	87	1877	160	1733
Future Volume (vph)	24	24	307	36	122	87	1877	160	1733
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	16.0	11.0	65.0	16.0	70.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	13.3%	9.2%	54.2%	13.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min
Act Effct Green (s)	33.0	33.0	33.0	33.0	48.3	67.7	61.7	76.4	66.0
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.40	0.56	0.51	0.64	0.55
v/c Ratio	0.07	0.21	0.95	0.08	0.20	0.62	0.94	0.80	0.71
Control Delay	32.2	11.9	80.7	32.1	20.3	32.6	27.2	64.2	15.9
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	32.2	11.9	81.0	32.1	20.3	32.6	27.6	64.2	15.9
LOS	C	B	F	C	C	C	C	E	B
Approach Delay		15.9		61.3			27.7		19.8
Approach LOS		B		E			C		B

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 90		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.95		
Intersection Signal Delay: 27.4	Intersection LOS: C	
Intersection Capacity Utilization 89.6%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	24	75	307	36	122	87	1877	374	160	1733	95
Future Volume (veh/h)	24	24	75	307	36	122	87	1877	374	160	1733	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	26	80	327	38	130	93	1997	398	170	1844	101
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	384	114	349	358	526	563	197	2202	427	198	2704	148
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.01	0.17	0.17	0.07	0.55	0.55
Sat Flow, veh/h	1208	401	1233	1278	1856	1572	1767	4258	826	1767	4916	269
Grp Volume(v), veh/h	26	0	106	327	38	130	93	1573	822	170	1266	679
Grp Sat Flow(s),veh/h/ln	1208	0	1634	1278	1856	1572	1767	1689	1707	1767	1689	1807
Q Serve(g_s), s	1.9	0.0	6.0	28.0	1.8	6.9	2.9	54.8	57.0	6.9	32.4	32.5
Cycle Q Clear(g_c), s	3.7	0.0	6.0	34.0	1.8	6.9	2.9	54.8	57.0	6.9	32.4	32.5
Prop In Lane	1.00		0.75	1.00		1.00	1.00		0.48	1.00		0.15
Lane Grp Cap(c), veh/h	384	0	463	358	526	563	197	1746	883	198	1857	994
V/C Ratio(X)	0.07	0.00	0.23	0.91	0.07	0.23	0.47	0.90	0.93	0.86	0.68	0.68
Avail Cap(c_a), veh/h	384	0	463	358	526	563	211	1746	883	228	1857	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	32.8	0.0	33.0	47.2	31.5	27.0	18.8	46.7	47.7	34.5	19.4	19.5
Incr Delay (d2), s/veh	0.1	0.0	0.2	26.8	0.1	0.2	1.8	7.9	17.6	17.5	1.4	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	4.3	18.4	1.5	4.8	2.3	35.2	39.5	9.3	17.4	18.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	33.2	74.0	31.5	27.2	20.5	54.7	65.3	52.0	20.8	22.0
LnGrp LOS	C	A	C	E	C	C	C	D	E	D	C	C
Approach Vol, veh/h		132			495			2488			2115	
Approach Delay, s/veh		33.1			58.4			56.9			23.7	
Approach LOS		C			E			E			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.9	67.1		39.0	10.0	71.0		39.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	11.0	60.0		34.0	6.0	65.0		34.0				
Max Q Clear Time (g_c+I1), s	8.9	59.0		8.0	4.9	34.5		36.0				
Green Ext Time (p_c), s	0.1	1.0		0.7	0.0	18.7		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	24	307	36	87	1877	374	160	1733
Future Volume (vph)	24	24	307	36	87	1877	374	160	1733
Turn Type	Perm	NA	Prot	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases		4	3	8	5	2	3	1	6
Permitted Phases	4				2		2	6	
Detector Phase	4	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	10.0	21.0	10.0	21.0	10.0	10.0	21.0
Total Split (s)	16.0	16.0	23.0	39.0	11.0	57.0	23.0	14.0	60.0
Total Split (%)	14.5%	14.5%	20.9%	35.5%	10.0%	51.8%	20.9%	12.7%	54.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	C-Max	Min	Min	C-Max
Act Effct Green (s)	8.0	8.0	15.7	28.7	62.9	56.1	76.8	69.7	59.5
Actuated g/C Ratio	0.07	0.07	0.14	0.26	0.57	0.51	0.70	0.63	0.54
v/c Ratio	0.30	0.55	0.68	0.33	0.53	0.78	0.33	0.75	0.72
Control Delay	56.2	27.5	51.8	12.3	24.8	20.9	3.5	54.0	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	56.2	27.5	51.8	12.3	24.8	21.0	3.5	54.0	11.9
LOS	E	C	D	B	C	C	A	D	B
Approach Delay		33.1		38.4		18.3			15.2
Approach LOS		C		D		B			B

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 19.4		Intersection LOS: B	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	24	75	307	36	122	87	1877	374	160	1733	95
Future Volume (veh/h)	24	24	75	307	36	122	87	1877	374	160	1733	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	26	26	80	327	38	130	93	1997	398	170	1844	101
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	165	33	102	400	90	309	217	2825	1060	200	2818	154
Arrive On Green	0.08	0.08	0.08	0.12	0.24	0.24	0.02	0.18	0.18	0.06	0.57	0.57
Sat Flow, veh/h	1208	401	1233	3428	368	1260	1767	5066	1572	1767	4916	269
Grp Volume(v), veh/h	26	0	106	327	0	168	93	1997	398	170	1266	679
Grp Sat Flow(s),veh/h/ln	1208	0	1634	1714	0	1629	1767	1689	1572	1767	1689	1807
Q Serve(g_s), s	2.2	0.0	7.0	10.2	0.0	9.6	2.4	40.7	18.2	4.6	28.1	28.3
Cycle Q Clear(g_c), s	2.2	0.0	7.0	10.2	0.0	9.6	2.4	40.7	18.2	4.6	28.1	28.3
Prop In Lane	1.00		0.75	1.00		0.77	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	165	0	135	400	0	399	217	2825	1060	200	1936	1036
V/C Ratio(X)	0.16	0.00	0.78	0.82	0.00	0.42	0.43	0.71	0.38	0.85	0.65	0.66
Avail Cap(c_a), veh/h	186	0	163	561	0	503	233	2825	1060	237	1936	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	47.3	0.0	49.5	47.4	0.0	35.0	15.2	36.4	16.2	24.9	16.0	16.0
Incr Delay (d2), s/veh	0.4	0.0	18.3	6.5	0.0	0.7	1.3	1.5	1.0	14.9	1.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.0	6.4	8.3	0.0	6.9	1.8	25.9	12.5	5.6	14.9	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	0.0	67.8	53.9	0.0	35.7	16.5	38.0	17.3	39.8	17.2	18.2
LnGrp LOS	D	A	E	D	A	D	B	D	B	D	B	B
Approach Vol, veh/h		132			495			2488			2115	
Approach Delay, s/veh		63.8			47.7			33.8			19.3	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	8
Phs Duration (G+Y+Rc), s	11.7	66.3	17.8	14.1	10.0	68.1	31.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	6.0	52.0	18.0	11.0	6.0	55.0	34.0
Max Q Clear Time (g_c+I1), s	6.6	42.7	12.2	9.0	4.4	30.3	11.6
Green Ext Time (p_c), s	0.1	8.2	0.6	0.1	0.0	16.3	1.0

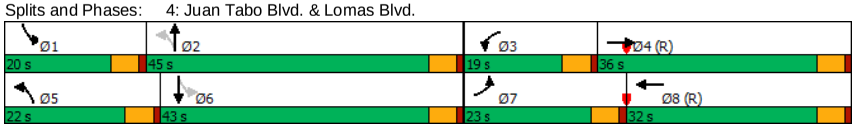
Intersection Summary		
HCM 6th Ctrl Delay	30.0	
HCM 6th LOS	C	

Notes
User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	288	481	202	342	147	1453	180	1101
Future Volume (vph)	288	481	202	342	147	1453	180	1101
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	23.0	36.0	19.0	32.0	22.0	45.0	20.0	43.0
Total Split (%)	19.2%	30.0%	15.8%	26.7%	18.3%	37.5%	16.7%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	15.2	32.9	12.1	29.8	54.3	42.6	55.7	43.3
Actuated g/C Ratio	0.13	0.27	0.10	0.25	0.45	0.36	0.46	0.36
v/c Ratio	0.68	0.74	0.60	0.36	0.62	0.97	0.75	0.70
Control Delay	58.1	42.0	58.8	33.4	41.6	43.3	45.4	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	42.0	58.8	33.4	41.6	43.3	45.4	35.4
LOS	E	D	E	C	D	D	D	D
Approach Delay		46.7		41.3		43.2		36.6
Approach LOS		D		D		D		D

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green		
Natural Cycle: 75		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.97		
Intersection Signal Delay: 41.7	Intersection LOS: D	
Intersection Capacity Utilization 86.4%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	288	481	227	202	342	107	147	1453	242	180	1101	149
Future Volume (veh/h)	288	481	227	202	342	107	147	1453	242	180	1101	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	291	486	229	204	345	108	148	1468	244	182	1112	151
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	357	785	368	265	1201	358	247	1459	242	211	1558	211
Arrive On Green	0.10	0.34	0.34	0.08	0.31	0.31	0.15	0.67	0.67	0.09	0.35	0.35
Sat Flow, veh/h	3428	2330	1092	3428	3870	1155	1767	4376	726	1767	4510	612
Grp Volume(v), veh/h	291	367	348	204	299	154	148	1132	580	182	832	431
Grp Sat Flow(s),veh/h/ln	1714	1763	1659	1714	1689	1648	1767	1689	1725	1767	1689	1745
Q Serve(g_s), s	10.0	20.9	21.1	7.0	8.0	8.5	6.6	40.0	40.0	8.1	25.7	25.7
Cycle Q Clear(g_c), s	10.0	20.9	21.1	7.0	8.0	8.5	6.6	40.0	40.0	8.1	25.7	25.7
Prop In Lane	1.00		0.66	1.00		0.70	1.00		0.42	1.00		0.35
Lane Grp Cap(c), veh/h	357	594	559	265	1048	511	247	1126	575	211	1166	603
V/C Ratio(X)	0.82	0.62	0.62	0.77	0.29	0.30	0.60	1.01	1.01	0.86	0.71	0.71
Avail Cap(c_a), veh/h	514	594	559	400	1048	511	367	1126	575	281	1166	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	33.3	33.4	54.3	31.3	31.5	24.5	20.0	20.0	29.5	34.1	34.1
Incr Delay (d2), s/veh	6.6	4.8	5.1	5.0	0.7	1.5	0.8	16.9	23.5	18.4	2.1	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	14.8	14.2	5.8	6.1	6.5	4.0	14.9	16.4	7.9	16.2	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	38.1	38.5	59.3	32.0	33.0	25.3	36.9	43.5	47.9	36.2	38.1
LnGrp LOS	E	D	D	E	C	C	C	F	F	D	D	D
Approach Vol, veh/h		1006			657			1860			1445	
Approach Delay, s/veh		44.3			40.7			38.0			38.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	45.0	14.3	45.5	13.8	46.4	17.5	42.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	40.0	14.0	31.0	17.0	38.0	18.0	27.0
Max Q Clear Time (g_c+I1), s	10.1	42.0	9.0	23.1	8.6	27.7	12.0	10.5
Green Ext Time (p_c), s	0.2	0.0	0.3	2.8	0.2	5.9	0.5	2.6

Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	570	37	5	405	30	3
Future Vol, veh/h	570	37	5	405	30	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	594	39	5	422	31	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	633	0	1046	614
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	432	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	945	-	252	490
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	945	-	251	490
Mov Cap-2 Maneuver	-	-	-	-	251	-
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	649	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	263	-	-	945	-
HCM Lane V/C Ratio	0.131	-	-	0.006	-
HCM Control Delay (s)	20.7	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	17	517	41	30	357	19	108	1	29	26	1	49
Future Vol, veh/h	17	517	41	30	357	19	108	1	29	26	1	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,-#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	18	539	43	31	372	20	113	1	30	27	1	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	392	0	0	582	0	0	1067	1051	561	1056	1062	382
Stage 1	-	-	-	-	-	-	597	597	-	444	444	-
Stage 2	-	-	-	-	-	-	470	454	-	612	618	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1161	-	-	987	-	-	199	226	525	202	223	663
Stage 1	-	-	-	-	-	-	488	490	-	591	573	-
Stage 2	-	-	-	-	-	-	572	568	-	479	479	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1161	-	-	987	-	-	174	212	525	181	209	663
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	212	-	181	209	-
Stage 1	-	-	-	-	-	-	477	479	-	577	550	-
Stage 2	-	-	-	-	-	-	506	545	-	440	468	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	56.9	18.7
HCM LOS			F	C

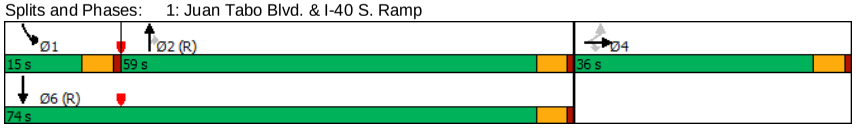
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	1161	-	-	987	-	-	342
HCM Lane V/C Ratio	0.708	0.015	-	-	0.032	-	-	0.231
HCM Control Delay (s)	56.9	8.1	0	-	8.8	0	-	18.7
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	4.5	0	-	-	0.1	-	-	0.9

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	627	2	304	1467	89	98	1413
Future Volume (vph)	627	2	304	1467	89	98	1413
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	36.0	36.0	36.0	59.0	59.0	15.0	74.0
Total Split (%)	32.7%	32.7%	32.7%	53.6%	53.6%	13.6%	67.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	28.8	28.8	28.8	57.5	57.5	8.6	71.2
Actuated g/C Ratio	0.26	0.26	0.26	0.52	0.52	0.08	0.65
v/c Ratio	0.79	0.41	0.39	0.63	0.12	0.41	0.49
Control Delay	44.8	29.0	21.6	20.5	3.3	58.4	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	29.0	21.6	20.5	3.3	58.4	7.7
LOS	D	C	C	C	A	E	A
Approach Delay		38.4		19.5			11.0
Approach LOS		D		B			B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 20.7 Intersection LOS: C
Intersection Capacity Utilization 104.2% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	627	2	304	0	0	0	0	1467	89	98	1413	0
Future Volume (veh/h)	627	2	304	0	0	0	0	1467	89	98	1413	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	704	0	343				0	1648	100	110	1588	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	828	0	737				0	2934	911	171	3418	0
Arrive On Green	0.23	0.00	0.23				0.00	0.58	0.58	0.10	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	704	0	343				0	1648	100	110	1588	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	20.9	0.0	10.3				0.0	22.3	3.1	3.4	0.0	0.0
Cycle Q Clear(g_c), s	20.9	0.0	10.3				0.0	22.3	3.1	3.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	828	0	737				0	2934	911	171	3418	0
V/C Ratio(X)	0.85	0.00	0.47				0.00	0.56	0.11	0.64	0.46	0.00
Avail Cap(c_a), veh/h	996	0	886				0	2934	911	312	3418	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.80	0.80	0.00
Uniform Delay (d), s/veh	40.3	0.0	36.2				0.0	14.4	10.4	48.6	0.0	0.0
Incr Delay (d2), s/veh	6.1	0.0	0.5				0.0	0.8	0.2	3.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.8	0.0	7.2				0.0	13.1	2.0	2.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	0.0	36.6				0.0	15.2	10.6	51.7	0.4	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		1047						1748			1698	
Approach Delay, s/veh		43.2						15.0			3.7	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	10.5	68.7	30.8	79.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	54.0	31.0	69.0
Max Q Clear Time (g_c+I1), s	5.4	24.3	22.9	2.0
Green Ext Time (p_c), s	0.1	16.2	2.8	20.0

Intersection Summary

HCM 6th Ctrl Delay 17.3
HCM 6th LOS B

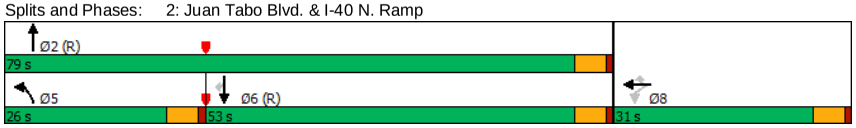
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	397	3	366	636	1458	1114	1009
Future Volume (vph)	397	3	366	636	1458	1114	1009
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	26.0	26.0	26.0	21.0	74.0	48.0	48.0
Actuated g/C Ratio	0.24	0.24	0.24	0.19	0.67	0.44	0.44
v/c Ratio	0.57	0.57	0.97	1.10	0.48	0.57	1.11
Control Delay	43.6	43.8	72.9	105.8	6.9	24.6	77.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	43.6	43.8	72.9	105.8	6.9	24.6	77.4
LOS	D	D	E	F	A	C	E
Approach Delay		57.6			37.0	49.7	
Approach LOS		E			D	D	

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 45.6		Intersection LOS: D	
Intersection Capacity Utilization 104.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	397	3	366	636	1458	0	0	1114	1009
Future Volume (veh/h)	0	0	0	397	3	366	636	1458	0	0	1114	1009
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				448	0	411	715	1638	0	0	1252	1134
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				835	0	372	654	3408	0	0	2210	686
Arrive On Green				0.24	0.00	0.24	0.38	1.00	0.00	0.00	0.14	0.14
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				448	0	411	715	1638	0	0	1252	1134
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				12.2	0.0	26.0	21.0	0.0	0.0	0.0	25.3	48.0
Cycle Q Clear(g_c), s				12.2	0.0	26.0	21.0	0.0	0.0	0.0	25.3	48.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				835	0	372	654	3408	0	0	2210	686
V/C Ratio(X)				0.54	0.00	1.11	1.09	0.48	0.00	0.00	0.57	1.65
Avail Cap(c_a), veh/h				835	0	372	654	3408	0	0	2210	686
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.68	0.68	0.00	0.00	0.09	0.09
Uniform Delay (d), s/veh				36.7	0.0	42.0	34.0	0.0	0.0	0.0	37.4	47.1
Incr Delay (d2), s/veh				0.7	0.0	78.4	57.6	0.3	0.0	0.0	0.1	294.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	26.4	17.7	0.2	0.0	0.0	13.1	109.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.4	0.0	120.4	91.6	0.3	0.0	0.0	37.5	341.4
LnGrp LOS				D	A	F	F	A	A	A	D	F
Approach Vol, veh/h					859			2353			2386	
Approach Delay, s/veh					77.1			28.1			181.9	
Approach LOS					E			C			F	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			26.0	53.0		31.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			23.0	50.0		28.0				
Green Ext Time (p_c), s		21.4			0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	101.2	
HCM 6th LOS	F	

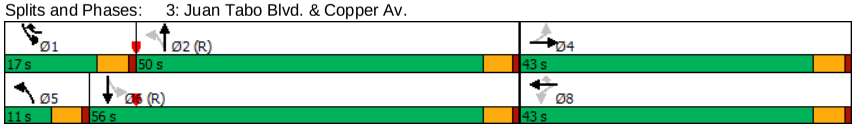
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	27	512	47	139	81	1543	69	2123
Future Volume (vph)	14	27	512	47	139	81	1543	69	2123
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	43.0	43.0	43.0	43.0	17.0	11.0	50.0	17.0	56.0
Total Split (%)	39.1%	39.1%	39.1%	39.1%	15.5%	10.0%	45.5%	15.5%	50.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Max	Min	C-Max
Act Effct Green (s)	38.0	38.0	38.0	38.0	50.6	55.4	49.4	58.6	51.0
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.46	0.50	0.45	0.53	0.46
v/c Ratio	0.03	0.22	1.34	0.08	0.21	0.54	0.85	0.40	1.00
Control Delay	24.3	8.3	200.9	24.8	15.8	27.8	34.2	24.0	36.7
Queue Delay	0.0	0.2	3.4	0.0	0.0	0.0	0.0	0.0	3.7
Total Delay	24.3	8.6	204.3	24.8	15.8	27.8	34.2	24.0	40.3
LOS	C	A	F	C	B	C	C	C	D
Approach Delay		10.1		154.7			33.9		39.8
Approach LOS		B		F			C		D

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 53.2		Intersection LOS: D	
Intersection Capacity Utilization 98.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	27	100	512	47	139	81	1543	200	69	2123	17
Future Volume (veh/h)	14	27	100	512	47	139	81	1543	200	69	2123	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	29	109	557	51	151	88	1677	217	75	2308	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	448	118	443	419	641	615	153	2147	277	173	2451	19
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.16	0.16	0.05	0.47	0.47
Sat Flow, veh/h	1171	341	1283	1241	1856	1572	1767	4542	585	1767	5185	40
Grp Volume(v), veh/h	15	0	138	557	51	151	88	1245	649	75	1503	823
Grp Sat Flow(s),veh/h/ln	1171	0	1625	1241	1856	1572	1767	1689	1750	1767	1689	1848
Q Serve(g_s), s	1.0	0.0	6.7	31.3	2.0	7.1	2.8	39.0	39.2	2.3	46.5	46.6
Cycle Q Clear(g_c), s	3.0	0.0	6.7	38.0	2.0	7.1	2.8	39.0	39.2	2.3	46.5	46.6
Prop In Lane	1.00		0.79	1.00		1.00	1.00		0.33	1.00		0.02
Lane Grp Cap(c), veh/h	448	0	561	419	641	615	153	1596	827	173	1596	874
V/C Ratio(X)	0.03	0.00	0.25	1.33	0.08	0.25	0.57	0.78	0.78	0.43	0.94	0.94
Avail Cap(c_a), veh/h	448	0	561	419	641	615	169	1596	827	286	1596	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	0.23	0.23	0.23
Uniform Delay (d), s/veh	25.2	0.0	25.8	41.8	24.2	22.6	26.3	40.9	41.0	23.3	27.5	27.6
Incr Delay (d2), s/veh	0.0	0.0	0.2	164.2	0.1	0.2	3.0	3.1	5.9	0.4	3.6	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	4.7	46.8	1.6	4.8	2.3	24.5	26.2	1.7	22.1	24.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.0	26.0	206.0	24.3	22.8	29.3	44.0	46.9	23.7	31.2	33.8
LnGrp LOS	C	A	C	F	C	C	C	D	D	C	C	C
Approach Vol, veh/h		153			759			1982			2401	
Approach Delay, s/veh		25.9			157.3			44.3			31.9	
Approach LOS		C			F			D			C	

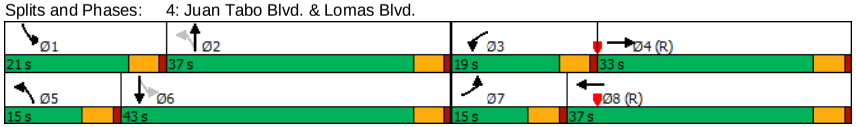
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	57.0		43.0	10.0	57.0		43.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	12.0	45.0		38.0	6.0	51.0		38.0				
Max Q Clear Time (g_c+I1), s	4.8	41.2		8.7	4.8	48.6		40.0				
Green Ext Time (p_c), s	0.1	3.3		0.9	0.0	2.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	54.3	
HCM 6th LOS	D	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	162	274	321	675	190	1036	154	1222
Future Volume (vph)	162	274	321	675	190	1036	154	1222
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	15.0	33.0	19.0	37.0	15.0	37.0	21.0	43.0
Total Split (%)	13.6%	30.0%	17.3%	33.6%	13.6%	33.6%	19.1%	39.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	9.6	28.2	13.8	32.4	46.1	36.1	49.7	38.0
Actuated g/C Ratio	0.09	0.26	0.13	0.29	0.42	0.33	0.45	0.35
v/c Ratio	0.61	0.48	0.84	0.61	0.93	0.85	0.67	0.96
Control Delay	57.5	31.9	65.4	34.0	76.5	23.6	33.0	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	31.9	65.4	34.0	76.5	23.6	33.0	48.5
LOS	E	C	E	C	E	C	C	D
Approach Delay		39.4		43.0		30.6		47.1
Approach LOS		D		D		C		D

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 4.4 (4%), Referenced to phase 4:EBT and 8:WBT, Start of Green		
Natural Cycle: 90		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.96		
Intersection Signal Delay: 40.2	Intersection LOS: D	
Intersection Capacity Utilization 77.3%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	274	118	321	675	131	190	1036	212	154	1222	265
Future Volume (veh/h)	162	274	118	321	675	131	190	1036	212	154	1222	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	180	304	131	357	750	146	211	1151	236	171	1358	294
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	243	633	267	416	1332	257	234	1487	305	253	1434	310
Arrive On Green	0.07	0.26	0.26	0.12	0.31	0.31	0.09	0.35	0.35	0.08	0.34	0.34
Sat Flow, veh/h	3428	2417	1018	3428	4263	822	1767	4213	864	1767	4169	901
Grp Volume(v), veh/h	180	220	215	357	593	303	211	923	464	171	1100	552
Grp Sat Flow(s),veh/h/ln	1714	1763	1672	1714	1689	1708	1767	1689	1700	1767	1689	1693
Q Serve(g_s), s	5.7	11.6	12.0	11.2	16.1	16.3	8.4	26.7	26.8	6.8	34.8	34.9
Cycle Q Clear(g_c), s	5.7	11.6	12.0	11.2	16.1	16.3	8.4	26.7	26.8	6.8	34.8	34.9
Prop In Lane	1.00		0.61	1.00		0.48	1.00		0.51	1.00		0.53
Lane Grp Cap(c), veh/h	243	462	438	416	1055	533	234	1192	600	253	1162	583
V/C Ratio(X)	0.74	0.48	0.49	0.86	0.56	0.57	0.90	0.77	0.77	0.68	0.95	0.95
Avail Cap(c_a), veh/h	312	462	438	436	1055	533	234	1192	600	365	1167	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.51	0.51	0.51	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	34.2	34.4	47.4	31.5	31.6	26.4	31.7	31.7	25.1	35.1	35.1
Incr Delay (d2), s/veh	6.8	3.5	3.9	15.1	2.2	4.3	20.7	1.7	3.3	3.2	15.3	24.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	9.2	9.1	9.5	11.1	11.8	7.3	14.9	15.3	5.4	23.1	25.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	37.7	38.3	62.5	33.7	36.0	47.1	33.3	35.0	28.2	50.4	60.0
LnGrp LOS	E	D	D	E	C	D	D	C	C	C	D	E
Approach Vol, veh/h		615			1253			1598			1823	
Approach Delay, s/veh		43.5			42.5			35.6			51.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	43.8	18.3	33.8	15.0	42.8	12.8	39.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	32.0	14.0	28.0	10.0	38.0	10.0	32.0
Max Q Clear Time (g_c+I1), s	8.4	28.8	13.2	14.0	10.4	36.9	7.7	18.3
Green Ext Time (p_c), s	0.2	2.4	0.1	2.2	0.0	0.9	0.1	5.1

Intersection Summary		
HCM 6th Ctrl Delay	43.5	
HCM 6th LOS	D	

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	310	11	2	734	22	2
Future Vol, veh/h	310	11	2	734	22	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	341	12	2	807	24	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	353	0	1158	347
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	811	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1200	-	216	694
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	216	694
Mov Cap-2 Maneuver	-	-	-	-	216	-
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	434	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	229	-	-	1200	-
HCM Lane V/C Ratio	0.115	-	-	0.002	-
HCM Control Delay (s)	22.8	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	296	698	36	14	64
Future Vol, veh/h	6	296	698	36	14	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,-#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	7	325	767	40	15	70

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	807	0	-	0	1126	787
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	814	-	-	-	226	390
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	814	-	-	-	224	390
Mov Cap-2 Maneuver	-	-	-	-	224	-
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18.9
HCM LOS			C

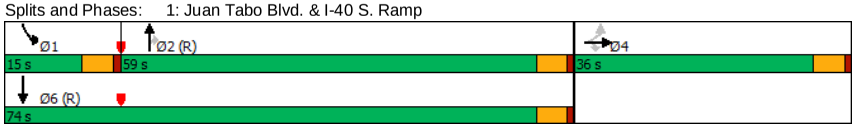
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	814	-	-	-	344
HCM Lane V/C Ratio	0.008	-	-	-	0.249
HCM Control Delay (s)	9.5	0	-	-	18.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	642	2	304	1511	89	112	1455
Future Volume (vph)	642	2	304	1511	89	112	1455
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	36.0	36.0	36.0	59.0	59.0	15.0	74.0
Total Split (%)	32.7%	32.7%	32.7%	53.6%	53.6%	13.6%	67.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	29.2	29.2	29.2	56.9	56.9	8.9	70.8
Actuated g/C Ratio	0.27	0.27	0.27	0.52	0.52	0.08	0.64
v/c Ratio	0.80	0.41	0.38	0.65	0.12	0.46	0.50
Control Delay	45.0	29.7	21.5	21.4	3.3	59.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	29.7	21.5	21.4	3.3	59.2	7.8
LOS	D	C	C	C	A	E	A
Approach Delay		38.7		20.3			11.4
Approach LOS		D		C			B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 21.2 Intersection LOS: C
Intersection Capacity Utilization 105.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	642	2	304	0	0	0	0	1511	89	112	1455	0
Future Volume (veh/h)	642	2	304	0	0	0	0	1511	89	112	1455	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	721	0	343				0	1698	100	126	1635	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	843	0	750				0	2890	897	187	3397	0
Arrive On Green	0.24	0.00	0.24				0.00	0.57	0.57	0.11	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	721	0	343				0	1698	100	126	1635	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	21.5	0.0	10.3				0.0	23.8	3.2	3.9	0.0	0.0
Cycle Q Clear(g_c), s	21.5	0.0	10.3				0.0	23.8	3.2	3.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	843	0	750				0	2890	897	187	3397	0
V/C Ratio(X)	0.86	0.00	0.46				0.00	0.59	0.11	0.67	0.48	0.00
Avail Cap(c_a), veh/h	996	0	886				0	2890	897	312	3397	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.77	0.77	0.00
Uniform Delay (d), s/veh	40.1	0.0	35.8				0.0	15.3	10.8	48.0	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	0.4				0.0	0.9	0.3	3.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.2	0.0	7.1				0.0	13.9	2.1	3.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	0.0	36.2				0.0	16.1	11.1	51.3	0.4	0.0
LnGrp LOS	D	A	D				A	B	B	D	A	A
Approach Vol, veh/h		1064						1798			1761	
Approach Delay, s/veh		43.3						15.9			4.0	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	11.0	67.8	31.2	78.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	54.0	31.0	69.0
Max Q Clear Time (g_c+I1), s	5.9	25.8	23.5	2.0
Green Ext Time (p_c), s	0.1	16.3	2.8	21.1

Intersection Summary

HCM 6th Ctrl Delay 17.7
HCM 6th LOS B

Notes

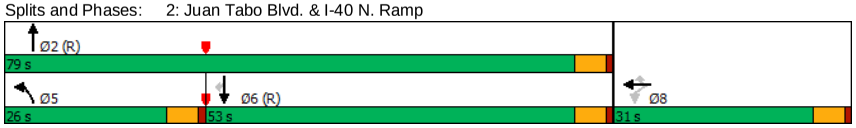
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	397	3	381	636	1516	1170	1023
Future Volume (vph)	397	3	381	636	1516	1170	1023
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	26.0	26.0	26.0	21.0	74.0	48.0	48.0
Actuated g/C Ratio	0.24	0.24	0.24	0.19	0.67	0.44	0.44
v/c Ratio	0.57	0.57	1.01	1.10	0.50	0.60	1.13
Control Delay	43.6	43.8	82.7	104.9	7.2	24.4	82.5
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.4
Total Delay	43.6	43.8	82.7	104.9	7.2	24.4	82.9
LOS	D	D	F	F	A	C	F
Approach Delay		62.7			36.1	51.7	
Approach LOS		E			D	D	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 46.8 Intersection LOS: D
Intersection Capacity Utilization 105.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	397	3	381	636	1516	0	0	1170	1023
Future Volume (veh/h)	0	0	0	397	3	381	636	1516	0	0	1170	1023
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				448	0	428	715	1703	0	0	1315	1149
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				835	0	372	654	3408	0	0	2210	686
Arrive On Green				0.24	0.00	0.24	0.38	1.00	0.00	0.00	0.14	0.14
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				448	0	428	715	1703	0	0	1315	1149
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				12.2	0.0	26.0	21.0	0.0	0.0	0.0	26.7	48.0
Cycle Q Clear(g_c), s				12.2	0.0	26.0	21.0	0.0	0.0	0.0	26.7	48.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				835	0	372	654	3408	0	0	2210	686
V/C Ratio(X)				0.54	0.00	1.15	1.09	0.50	0.00	0.00	0.59	1.67
Avail Cap(c_a), veh/h				835	0	372	654	3408	0	0	2210	686
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.66	0.66	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	42.0	34.0	0.0	0.0	0.0	38.0	47.1
Incr Delay (d2), s/veh				0.7	0.0	94.7	57.2	0.3	0.0	0.0	1.2	309.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	29.2	17.6	0.2	0.0	0.0	18.1	124.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.4	0.0	136.7	91.2	0.3	0.0	0.0	39.2	357.0
LnGrp LOS				D	A	F	F	A	A	A	D	F
Approach Vol, veh/h					876			2418			2464	
Approach Delay, s/veh					85.9			27.2			187.4	
Approach LOS					F			C			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			26.0	53.0		31.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			23.0	50.0		28.0				
Green Ext Time (p_c), s		23.1			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay 104.7
HCM 6th LOS F

Notes

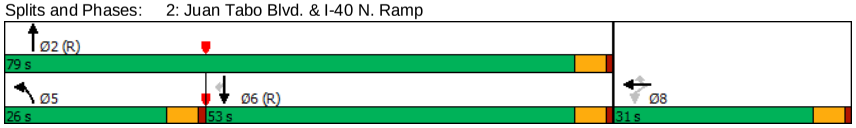
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	397	3	381	636	1516	1170	1023
Future Volume (vph)	397	3	381	636	1516	1170	1023
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	26.0	26.0	26.0	21.0	74.0	48.0	48.0
Actuated g/C Ratio	0.24	0.24	0.24	0.19	0.67	0.44	0.44
v/c Ratio	0.57	0.57	1.01	1.10	0.50	0.60	1.13
Control Delay	43.6	43.8	82.7	104.9	7.2	23.5	86.4
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.5
Total Delay	43.6	43.8	82.7	104.9	7.2	23.5	86.8
LOS	D	D	F	F	A	C	F
Approach Delay		62.7			36.1	53.0	
Approach LOS		E			D	D	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 47.4 Intersection LOS: D
Intersection Capacity Utilization 105.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	397	3	381	636	1516	0	0	1170	1023
Future Volume (veh/h)	0	0	0	397	3	381	636	1516	0	0	1170	1023
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				448	0	428	715	1703	0	0	1315	1149
Peak Hour Factor				0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				835	0	372	654	3408	0	0	2210	686
Arrive On Green				0.24	0.00	0.24	0.38	1.00	0.00	0.00	0.14	0.14
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				448	0	428	715	1703	0	0	1315	1149
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				12.2	0.0	26.0	21.0	0.0	0.0	0.0	26.7	48.0
Cycle Q Clear(g_c), s				12.2	0.0	26.0	21.0	0.0	0.0	0.0	26.7	48.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				835	0	372	654	3408	0	0	2210	686
V/C Ratio(X)				0.54	0.00	1.15	1.09	0.50	0.00	0.00	0.59	1.67
Avail Cap(c_a), veh/h				835	0	372	654	3408	0	0	2210	686
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.66	0.66	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	42.0	34.0	0.0	0.0	0.0	38.0	47.1
Incr Delay (d2), s/veh				0.7	0.0	94.7	57.2	0.3	0.0	0.0	1.2	309.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				9.1	0.0	29.2	17.6	0.2	0.0	0.0	18.1	124.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.4	0.0	136.7	91.2	0.3	0.0	0.0	39.2	357.0
LnGrp LOS				D	A	F	F	A	A	A	D	F
Approach Vol, veh/h					876			2418			2464	
Approach Delay, s/veh					85.9			27.2			187.4	
Approach LOS					F			C			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			26.0	53.0		31.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			23.0	50.0		28.0				
Green Ext Time (p_c), s		23.1			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay 104.7
HCM 6th LOS F

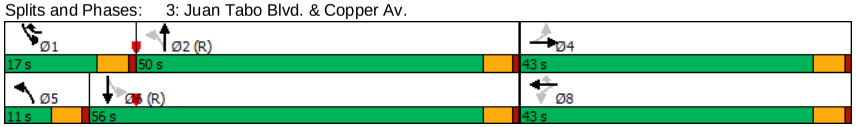
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	28	582	48	178	81	1543	110	2123
Future Volume (vph)	14	28	582	48	178	81	1543	110	2123
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	43.0	43.0	43.0	43.0	17.0	11.0	50.0	17.0	56.0
Total Split (%)	39.1%	39.1%	39.1%	39.1%	15.5%	10.0%	45.5%	15.5%	50.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Max	Min	C-Max
Act Effct Green (s)	38.0	38.0	38.0	38.0	52.3	53.7	47.7	60.1	51.0
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.48	0.49	0.43	0.55	0.46
v/c Ratio	0.03	0.22	1.59	0.08	0.26	0.56	0.91	0.58	1.03
Control Delay	24.3	8.4	305.6	24.9	16.2	28.8	38.7	37.2	46.8
Queue Delay	0.0	0.2	3.3	0.0	0.0	0.0	0.0	0.0	4.8
Total Delay	24.3	8.6	308.9	24.9	16.2	28.8	38.7	37.2	51.6
LOS	C	A	F	C	B	C	D	D	D
Approach Delay		10.2		227.5			38.3		50.9
Approach LOS		B		F			D		D

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 130		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.59		
Intersection Signal Delay: 73.6	Intersection LOS: E	
Intersection Capacity Utilization 102.4%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	28	100	582	48	178	81	1543	200	110	2123	17
Future Volume (veh/h)	14	28	100	582	48	178	81	1543	200	110	2123	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	16	31	112	654	54	200	91	1734	225	124	2385	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	429	122	440	414	641	631	149	2100	271	184	2451	20
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.15	0.15	0.06	0.47	0.47
Sat Flow, veh/h	1117	353	1274	1235	1856	1572	1767	4541	586	1767	5184	41
Grp Volume(v), veh/h	16	0	143	654	54	200	91	1287	672	124	1553	851
Grp Sat Flow(s),veh/h/ln	1117	0	1626	1235	1856	1572	1767	1689	1750	1767	1689	1848
Q Serve(g_s), s	1.1	0.0	6.9	31.1	2.2	9.6	2.9	40.6	41.0	4.0	49.4	49.5
Cycle Q Clear(g_c), s	3.2	0.0	6.9	38.0	2.2	9.6	2.9	40.6	41.0	4.0	49.4	49.5
Prop In Lane	1.00		0.78	1.00		1.00	1.00		0.34	1.00		0.02
Lane Grp Cap(c), veh/h	429	0	562	414	641	631	149	1562	809	184	1596	874
V/C Ratio(X)	0.04	0.00	0.25	1.58	0.08	0.32	0.61	0.82	0.83	0.67	0.97	0.97
Avail Cap(c_a), veh/h	429	0	562	414	641	631	165	1562	809	278	1596	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.21	0.21	0.21
Uniform Delay (d), s/veh	25.4	0.0	25.8	41.9	24.3	22.6	26.6	42.3	42.4	24.7	28.3	28.3
Incr Delay (d2), s/veh	0.0	0.0	0.2	271.7	0.1	0.3	5.4	5.1	9.6	0.9	5.7	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	4.9	67.4	1.7	6.4	2.6	26.7	28.9	2.6	23.7	26.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	0.0	26.1	313.7	24.3	22.9	32.0	47.4	52.1	25.6	34.0	37.5
LnGrp LOS	C	A	C	F	C	C	C	D	D	C	C	D
Approach Vol, veh/h		159			908			2050			2528	
Approach Delay, s/veh		26.0			232.4			48.2			34.8	
Approach LOS		C			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	55.9		43.0	10.0	57.0		43.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	12.0	45.0		38.0	6.0	51.0		38.0				
Max Q Clear Time (g_c+I1), s	6.0	43.0		8.9	4.9	51.5		40.0				
Green Ext Time (p_c), s	0.1	1.8		0.9	0.0	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	71.2	
HCM 6th LOS	E	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	14	28	582	48	81	1543	200	110	2123
Future Volume (vph)	14	28	582	48	81	1543	200	110	2123
Turn Type	Perm	NA	Prot	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases		4	3	8	5	2	3	1	6
Permitted Phases	4				2		2	6	
Detector Phase	4	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	10.0	21.0	10.0	21.0	10.0	10.0	21.0
Total Split (s)	17.0	17.0	28.0	45.0	10.0	50.0	28.0	15.0	55.0
Total Split (%)	15.5%	15.5%	25.5%	40.9%	9.1%	45.5%	25.5%	13.6%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	C-Max	Min	Min	C-Max
Act Effct Green (s)	9.3	9.3	22.8	37.1	55.4	49.2	77.0	60.5	51.8
Actuated g/C Ratio	0.08	0.08	0.21	0.34	0.50	0.45	0.70	0.55	0.47
v/c Ratio	0.17	0.68	0.93	0.41	0.55	0.77	0.19	0.60	1.02
Control Delay	49.4	38.9	64.0	16.7	29.8	32.4	3.2	39.3	42.1
Queue Delay	0.0	3.4	47.2	0.0	0.0	0.0	0.0	0.0	4.3
Total Delay	49.4	42.3	111.3	16.7	29.8	32.4	3.2	39.3	46.4
LOS	D	D	F	B	C	C	A	D	D
Approach Delay		43.1		84.8		29.0			46.1
Approach LOS		D		F		C			D

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 46.1 Intersection LOS: D
Intersection Capacity Utilization 86.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	28	100	582	48	178	81	1543	200	110	2123	17
Future Volume (veh/h)	14	28	100	582	48	178	81	1543	200	110	2123	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	16	31	112	654	54	200	91	1734	225	124	2385	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	183	37	134	708	123	457	146	2282	1033	192	2392	19
Arrive On Green	0.10	0.10	0.10	0.21	0.36	0.36	0.02	0.15	0.15	0.06	0.46	0.46
Sat Flow, veh/h	1117	353	1274	3428	346	1280	1767	5066	1572	1767	5184	41
Grp Volume(v), veh/h	16	0	143	654	0	254	91	1734	225	124	1553	851
Grp Sat Flow(s),veh/h/ln	1117	0	1626	1714	0	1625	1767	1689	1572	1767	1689	1848
Q Serve(g_s), s	1.4	0.0	9.5	20.6	0.0	13.1	3.0	36.1	8.8	4.1	50.4	50.6
Cycle Q Clear(g_c), s	1.4	0.0	9.5	20.6	0.0	13.1	3.0	36.1	8.8	4.1	50.4	50.6
Prop In Lane	1.00		0.78	1.00		0.79	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	183	0	170	708	0	580	146	2282	1033	192	1558	853
V/C Ratio(X)	0.09	0.00	0.84	0.92	0.00	0.44	0.62	0.76	0.22	0.65	1.00	1.00
Avail Cap(c_a), veh/h	187	0	177	717	0	591	146	2282	1033	253	1558	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.21	0.21	0.21
Uniform Delay (d), s/veh	44.7	0.0	48.3	42.8	0.0	27.0	26.7	41.1	12.4	24.1	29.5	29.6
Incr Delay (d2), s/veh	0.2	0.0	27.7	17.6	0.0	0.5	8.0	2.4	0.5	0.8	9.7	13.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	8.9	15.6	0.0	8.8	2.8	23.6	6.3	2.6	25.1	28.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	0.0	76.0	60.4	0.0	27.5	34.7	43.5	12.8	24.9	39.2	43.3
LnGrp LOS	D	A	E	E	A	C	C	D	B	C	D	D
Approach Vol, veh/h		159			908			2050			2528	
Approach Delay, s/veh		72.9			51.2			39.8			39.9	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	8
Phs Duration (G+Y+Rc), s	11.2	54.6	27.7	16.5	10.0	55.8	44.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	45.0	23.0	12.0	5.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	6.1	38.1	22.6	11.5	5.0	52.6	15.1
Green Ext Time (p_c), s	0.1	5.7	0.1	0.0	0.0	0.0	1.6

Intersection Summary

HCM 6th Ctrl Delay 42.6
HCM 6th LOS D

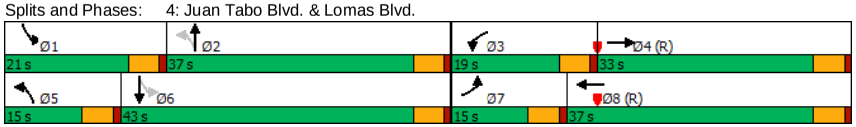
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	162	274	336	675	201	1050	154	1237
Future Volume (vph)	162	274	336	675	201	1050	154	1237
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	15.0	33.0	19.0	37.0	15.0	37.0	21.0	43.0
Total Split (%)	13.6%	30.0%	17.3%	33.6%	13.6%	33.6%	19.1%	39.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	8.2	28.1	13.9	33.8	46.1	36.1	49.7	38.0
Actuated g/C Ratio	0.07	0.26	0.13	0.31	0.42	0.33	0.45	0.35
v/c Ratio	0.36	0.50	0.87	0.58	0.99	0.87	0.67	0.97
Control Delay	51.9	31.5	68.2	32.8	85.1	26.6	33.0	50.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	31.5	68.2	32.8	85.1	26.6	33.0	50.1
LOS	D	C	E	C	F	C	C	D
Approach Delay		34.9		43.2		34.6		48.5
Approach LOS		C		D		C		D

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 4.4 (4%), Referenced to phase 4:EBT and 8:WBT, Start of Green		
Natural Cycle: 80		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.99		
Intersection Signal Delay: 41.5	Intersection LOS: D	
Intersection Capacity Utilization 78.9%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	274	130	336	675	131	201	1050	226	154	1237	265
Future Volume (veh/h)	162	274	130	336	675	131	201	1050	226	154	1237	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	90	304	144	373	750	146	223	1167	251	171	1374	294
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	156	602	279	430	1437	277	233	1476	318	249	1441	308
Arrive On Green	0.05	0.26	0.26	0.13	0.34	0.34	0.09	0.35	0.35	0.08	0.34	0.34
Sat Flow, veh/h	3428	2340	1083	3428	4263	822	1767	4173	898	1767	4179	893
Grp Volume(v), veh/h	90	227	221	373	593	303	223	944	474	171	1110	558
Grp Sat Flow(s),veh/h/ln	1714	1763	1661	1714	1689	1708	1767	1689	1694	1767	1689	1695
Q Serve(g_s), s	2.8	12.1	12.5	11.7	15.5	15.7	9.3	27.6	27.6	6.8	35.3	35.4
Cycle Q Clear(g_c), s	2.8	12.1	12.5	11.7	15.5	15.7	9.3	27.6	27.6	6.8	35.3	35.4
Prop In Lane	1.00		0.65	1.00		0.48	1.00		0.53	1.00		0.53
Lane Grp Cap(c), veh/h	156	453	427	430	1138	576	233	1195	599	249	1164	584
V/C Ratio(X)	0.58	0.50	0.52	0.87	0.52	0.53	0.96	0.79	0.79	0.69	0.95	0.96
Avail Cap(c_a), veh/h	312	453	427	436	1138	576	233	1195	599	361	1167	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.43	0.43	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	34.8	35.0	47.2	29.3	29.4	28.0	31.9	31.9	25.3	35.2	35.2
Incr Delay (d2), s/veh	3.4	3.9	4.4	16.6	1.7	3.4	28.2	1.6	3.2	3.4	16.4	26.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	9.6	9.4	10.0	10.7	11.3	8.2	14.9	15.3	5.4	23.5	25.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	38.8	39.4	63.8	31.0	32.8	56.2	33.5	35.1	28.6	51.6	61.6
LnGrp LOS	D	D	D	E	C	C	E	C	D	C	D	E
Approach Vol, veh/h		538			1269			1641			1839	
Approach Delay, s/veh		41.7			41.1			37.0			52.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	43.9	18.8	33.3	15.0	42.9	10.0	42.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	10.0	32.0	14.0	28.0	10.0	38.0	10.0	32.0
Max Q Clear Time (g_c+I1), s	8.8	29.6	13.7	14.5	11.3	37.4	4.8	17.7
Green Ext Time (p_c), s	0.2	1.9	0.0	2.3	0.0	0.5	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	338	12	2	763	23	2
Future Vol, veh/h	338	12	2	763	23	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	371	13	2	838	25	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	384	0	1220	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	842	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	1169	-	198	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1169	-	198	667
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	420	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	24.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	-	-	1169	-
HCM Lane V/C Ratio	0.131	-	-	0.002	-
HCM Control Delay (s)	24.7	-	-	8.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	19

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	296	42	30	698	36	110	1	29	14	1	64
Future Vol, veh/h	6	296	42	30	698	36	110	1	29	14	1	64
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,-#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	325	46	33	767	40	121	1	32	15	1	70

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	807	0	0	371	0	0	1251	1235	348	1232	1238	787
Stage 1	-	-	-	-	-	-	362	362	-	853	853	-
Stage 2	-	-	-	-	-	-	889	873	-	379	385	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	814	-	-	1182	-	-	149	176	693	153	175	390
Stage 1	-	-	-	-	-	-	655	623	-	352	374	-
Stage 2	-	-	-	-	-	-	336	366	-	641	609	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	814	-	-	1182	-	-	~ 116	165	693	138	164	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 116	165	-	138	164	-
Stage 1	-	-	-	-	-	-	648	616	-	348	355	-
Stage 2	-	-	-	-	-	-	261	347	-	604	602	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	164.9	22.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	141	814	-	-	1182	-	-	291
HCM Lane V/C Ratio	1.091	0.008	-	-	0.028	-	-	0.298
HCM Control Delay (s)	164.9	9.5	0	-	8.1	0	-	22.5
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	8.4	0	-	-	0.1	-	-	1.2

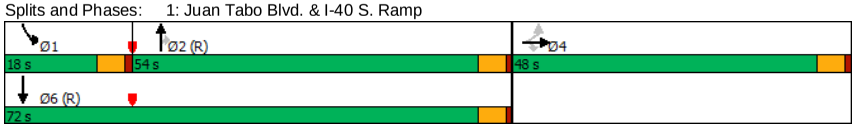
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1283	2	686	2045	328	248	956
Future Volume (vph)	1283	2	686	2045	328	248	956
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	48.0	48.0	48.0	54.0	54.0	18.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	43.0	43.0	43.0	49.5	49.5	12.5	67.0
Actuated g/C Ratio	0.36	0.36	0.36	0.41	0.41	0.10	0.56
v/c Ratio	1.12	0.62	0.61	1.05	0.45	0.74	0.36
Control Delay	102.1	28.0	27.9	68.8	10.6	89.7	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.1	28.0	27.9	68.8	10.6	89.7	5.0
LOS	F	C	C	E	B	F	A
Approach Delay		76.2		60.7			22.5
Approach LOS		E		E			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 57.9 Intersection LOS: E
Intersection Capacity Utilization 95.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1283	2	686	0	0	0	0	2045	328	248	956	0
Future Volume (veh/h)	1283	2	686	0	0	0	0	2045	328	248	956	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	1365	0	731				0	2176	349	264	1017	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1266	0	1127				0	2149	667	317	2828	0
Arrive On Green	0.36	0.00	0.36				0.00	0.42	0.42	0.18	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	1365	0	731				0	2176	349	264	1017	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	43.0	0.0	23.3				0.0	50.9	19.7	8.9	0.0	0.0
Cycle Q Clear(g_c), s	43.0	0.0	23.3				0.0	50.9	19.7	8.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1266	0	1127				0	2149	667	317	2828	0
V/C Ratio(X)	1.08	0.00	0.65				0.00	1.01	0.52	0.83	0.36	0.00
Avail Cap(c_a), veh/h	1266	0	1127				0	2149	667	371	2828	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	38.5	0.0	32.2				0.0	34.5	25.6	48.0	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	1.3				0.0	22.6	2.9	12.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	87.2	0.0	13.9				0.0	33.2	12.4	7.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.6	0.0	33.5				0.0	57.1	28.5	60.1	0.3	0.0
LnGrp LOS	F	A	C				A	F	C	E	A	A
Approach Vol, veh/h		2096						2525			1281	
Approach Delay, s/veh		68.7						53.2			12.6	
Approach LOS		E						D			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.1	55.9		48.0		72.0						
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	13.0	49.0		43.0		67.0						
Max Q Clear Time (g_c+I1), s	11.9	52.9		45.0		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.0		9.6						

Intersection Summary

HCM 6th Ctrl Delay 49.9
HCM 6th LOS D

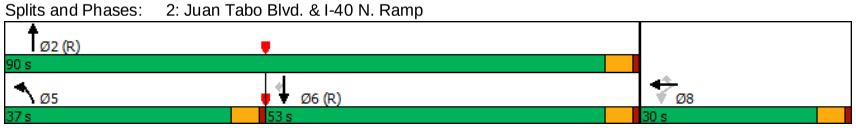
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	74	6	114	555	2773	1130	685
Future Volume (vph)	74	6	114	555	2773	1130	685
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	30.0	30.0	30.0	37.0	90.0	53.0	53.0
Total Split (%)	25.0%	25.0%	25.0%	30.8%	75.0%	44.2%	44.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	10.2	10.2	10.2	26.1	99.8	68.7	68.7
Actuated g/C Ratio	0.08	0.08	0.08	0.22	0.83	0.57	0.57
v/c Ratio	0.30	0.29	0.63	0.80	0.70	0.42	0.66
Control Delay	55.2	54.9	40.4	39.2	6.3	15.0	15.4
Queue Delay	0.0	0.0	0.1	0.0	2.2	0.0	1.3
Total Delay	55.2	54.9	40.4	39.2	8.4	15.0	16.7
LOS	E	D	D	D	A	B	B
Approach Delay		46.5			13.6	15.6	
Approach LOS		D			B	B	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	74	6	114	555	2773	0	0	1130	685
Future Volume (veh/h)	0	0	0	74	6	114	555	2773	0	0	1130	685
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				83	0	121	590	2950	0	0	1202	729
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				341	0	152	660	4155	0	0	2969	922
Arrive On Green				0.10	0.00	0.10	0.39	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				83	0	121	590	2950	0	0	1202	729
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				2.6	0.0	9.0	19.4	0.0	0.0	0.0	24.9	53.0
Cycle Q Clear(g_c), s				2.6	0.0	9.0	19.4	0.0	0.0	0.0	24.9	53.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				341	0	152	660	4155	0	0	2969	922
V/C Ratio(X)				0.24	0.00	0.80	0.89	0.71	0.00	0.00	0.40	0.79
Avail Cap(c_a), veh/h				736	0	328	914	4155	0	0	2969	922
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	0.56	0.56
Uniform Delay (d), s/veh				50.2	0.0	53.1	35.7	0.0	0.0	0.0	30.1	41.4
Incr Delay (d2), s/veh				0.4	0.0	9.2	0.9	0.1	0.0	0.0	0.2	4.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				2.1	0.0	7.1	8.0	0.1	0.0	0.0	15.5	29.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				50.5	0.0	62.3	36.6	0.1	0.0	0.0	30.3	45.4
LnGrp LOS				D	A	E	D	A	A	A	C	D
Approach Vol, veh/h					204			3540			1931	
Approach Delay, s/veh					57.5			6.2			36.0	
Approach LOS					E			A			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		103.4			28.1	75.3		16.6				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		85.0			32.0	48.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0			21.4	55.0		11.0				
Green Ext Time (p_c), s		66.9			1.7	0.0		0.5				

Intersection Summary		
HCM 6th Ctrl Delay	18.2	
HCM 6th LOS	B	

Notes

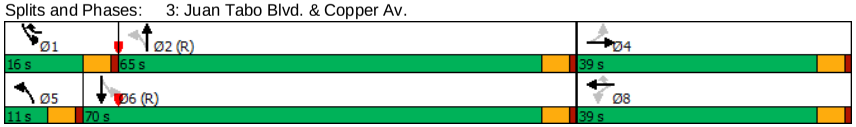
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	25	24	289	42	102	92	2403	126	1815
Future Volume (vph)	25	24	289	42	102	92	2403	126	1815
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	16.0	11.0	65.0	16.0	70.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	13.3%	9.2%	54.2%	13.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min
Act Effct Green (s)	32.0	32.0	32.0	32.0	46.4	70.0	63.6	75.9	66.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.39	0.58	0.53	0.63	0.56
v/c Ratio	0.08	0.22	0.93	0.09	0.18	0.64	1.13	0.68	0.73
Control Delay	32.4	11.7	78.1	32.5	19.8	32.0	83.8	53.2	13.7
Queue Delay	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	11.8	80.9	32.5	19.8	32.0	83.8	53.2	13.7
LOS	C	B	F	C	B	C	F	D	B
Approach Delay		15.8		61.7			82.1		16.1
Approach LOS		B		E			F		B

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 54.4 Intersection LOS: D
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	24	79	289	42	102	92	2403	392	126	1815	100
Future Volume (veh/h)	25	24	79	289	42	102	92	2403	392	126	1815	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	26	84	307	45	109	98	2556	417	134	1931	106
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	385	109	353	355	526	537	187	2360	366	163	2703	148
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.01	0.18	0.18	0.06	0.55	0.55
Sat Flow, veh/h	1223	386	1246	1273	1856	1572	1767	4424	685	1767	4915	269
Grp Volume(v), veh/h	27	0	110	307	45	109	98	1919	1054	134	1325	712
Grp Sat Flow(s),veh/h/ln	1223	0	1631	1273	1856	1572	1767	1689	1732	1767	1689	1807
Q Serve(g_s), s	2.0	0.0	6.2	27.8	2.1	5.9	3.0	64.0	64.0	4.9	34.9	35.1
Cycle Q Clear(g_c), s	4.1	0.0	6.2	34.0	2.1	5.9	3.0	64.0	64.0	4.9	34.9	35.1
Prop In Lane	1.00		0.76	1.00		1.00	1.00		0.40	1.00		0.15
Lane Grp Cap(c), veh/h	385	0	462	355	526	537	187	1802	924	163	1857	994
V/C Ratio(X)	0.07	0.00	0.24	0.87	0.09	0.20	0.53	1.06	1.14	0.82	0.71	0.72
Avail Cap(c_a), veh/h	385	0	462	355	526	537	201	1802	924	222	1857	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65	0.40	0.40	0.40
Uniform Delay (d), s/veh	33.1	0.0	33.0	46.7	31.6	28.0	21.0	49.4	49.4	32.5	20.0	20.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	19.5	0.1	0.2	1.5	37.5	72.3	7.2	1.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	4.5	16.6	1.8	4.1	2.4	49.1	64.0	6.4	17.2	18.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	0.0	33.3	66.1	31.7	28.1	22.5	87.0	121.8	39.6	21.0	21.9
LnGrp LOS	C	A	C	E	C	C	C	F	F	D	C	C
Approach Vol, veh/h		137			461			3071			2171	
Approach Delay, s/veh		33.3			53.8			96.8			22.4	
Approach LOS		C			D			F			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	69.0		39.0	10.0	71.0		39.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	11.0	60.0		34.0	6.0	65.0		34.0				
Max Q Clear Time (g_c+I1), s	6.9	66.0		8.2	5.0	37.1		36.0				
Green Ext Time (p_c), s	0.1	0.0		0.7	0.0	18.6		0.0				

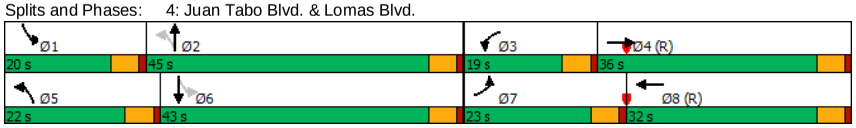
Intersection Summary

HCM 6th Ctrl Delay 64.3
HCM 6th LOS E

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	303	505	197	359	142	1511	233	1403
Future Volume (vph)	303	505	197	359	142	1511	233	1403
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	23.0	36.0	19.0	32.0	22.0	45.0	20.0	43.0
Total Split (%)	19.2%	30.0%	15.8%	26.7%	18.3%	37.5%	16.7%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	15.6	33.0	12.0	29.4	52.2	40.8	57.8	43.6
Actuated g/C Ratio	0.13	0.28	0.10	0.24	0.44	0.34	0.48	0.36
v/c Ratio	0.69	0.77	0.59	0.38	0.63	1.04	0.87	0.89
Control Delay	58.4	43.3	58.7	34.2	38.9	57.5	60.4	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	43.3	58.7	34.2	38.9	57.5	60.4	43.3
LOS	E	D	E	C	D	E	E	D
Approach Delay		47.7		41.4		56.1		45.5
Approach LOS		D		D		E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 49.1	Intersection LOS: D
Intersection Capacity Utilization 90.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	505	227	197	359	112	142	1511	239	233	1403	193
Future Volume (veh/h)	303	505	227	197	359	112	142	1511	239	233	1403	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	306	510	229	199	363	113	143	1526	241	235	1417	195
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	372	734	328	260	1074	320	214	1471	232	262	1693	233
Arrive On Green	0.11	0.31	0.31	0.08	0.28	0.28	0.14	0.67	0.67	0.11	0.38	0.38
Sat Flow, veh/h	3428	2369	1059	3428	3873	1152	1767	4412	695	1767	4502	619
Grp Volume(v), veh/h	306	379	360	199	314	162	143	1167	600	235	1063	549
Grp Sat Flow(s),veh/h/ln	1714	1763	1665	1714	1689	1648	1767	1689	1730	1767	1689	1744
Q Serve(g_s), s	10.5	22.7	22.9	6.8	8.9	9.4	6.4	40.0	40.0	11.6	34.4	34.4
Cycle Q Clear(g_c), s	10.5	22.7	22.9	6.8	8.9	9.4	6.4	40.0	40.0	11.6	34.4	34.4
Prop In Lane	1.00		0.64	1.00		0.70	1.00		0.40	1.00		0.36
Lane Grp Cap(c), veh/h	372	546	516	260	937	457	214	1126	577	262	1270	656
V/C Ratio(X)	0.82	0.69	0.70	0.76	0.34	0.35	0.67	1.04	1.04	0.90	0.84	0.84
Avail Cap(c_a), veh/h	514	546	516	400	937	457	338	1126	577	281	1270	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	36.4	36.5	54.4	34.5	34.7	26.5	20.0	20.0	34.3	34.1	34.1
Incr Delay (d2), s/veh	7.5	7.1	7.6	4.6	1.0	2.1	0.3	19.9	23.6	27.9	5.1	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	16.2	15.6	5.6	6.8	7.3	3.2	14.2	15.2	10.1	21.1	22.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	43.5	44.1	59.0	35.5	36.9	26.8	39.9	43.6	62.2	39.2	43.4
LnGrp LOS	E	D	D	E	D	D	C	F	F	E	D	D
Approach Vol, veh/h		1045			675			1910			1847	
Approach Delay, s/veh		48.5			42.8			40.1			43.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	45.0	14.1	42.2	13.6	50.1	18.0	38.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	40.0	14.0	31.0	17.0	38.0	18.0	27.0
Max Q Clear Time (g_c+I1), s	13.6	42.0	8.8	24.9	8.4	36.4	12.5	11.4
Green Ext Time (p_c), s	0.1	0.0	0.3	2.4	0.2	1.3	0.5	2.7

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	569	38	6	457	31	3
Future Vol, veh/h	569	38	6	457	31	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	593	40	6	476	32	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	633	0	1101	613
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	945	-	233	491
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	615	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	945	-	232	491
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	611	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	22.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	243	-	-	945	-
HCM Lane V/C Ratio	0.146	-	-	0.007	-
HCM Control Delay (s)	22.3	-	-	8.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	542	433	24	27	52
Future Vol, veh/h	18	542	433	24	27	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,-#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	19	565	451	25	28	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	476	0	-	0	1067	464
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	603	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1081	-	-	-	245	596
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	544	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1081	-	-	-	239	596
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	544	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	16.5
HCM LOS			C

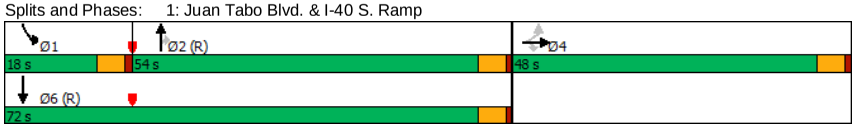
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1081	-	-	-	395
HCM Lane V/C Ratio	0.017	-	-	-	0.208
HCM Control Delay (s)	8.4	0	-	-	16.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	1297	2	686	2088	328	262	997
Future Volume (vph)	1297	2	686	2088	328	262	997
Turn Type	Perm	NA	Perm	NA	Perm	Prot	NA
Protected Phases		4		2		1	6
Permitted Phases	4		4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	10.0	21.0
Total Split (s)	48.0	48.0	48.0	54.0	54.0	18.0	72.0
Total Split (%)	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	C-Max
Act Effct Green (s)	43.0	43.0	43.0	49.3	49.3	12.7	67.0
Actuated g/C Ratio	0.36	0.36	0.36	0.41	0.41	0.11	0.56
v/c Ratio	1.13	0.62	0.62	1.07	0.45	0.78	0.38
Control Delay	106.8	29.2	29.1	77.2	10.9	91.7	5.3
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.8	29.2	29.1	77.2	10.9	91.7	5.3
LOS	F	C	C	E	B	F	A
Approach Delay		79.9		68.2			23.3
Approach LOS		E		E			C

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 62.3 Intersection LOS: E
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Juan Tabo Blvd. & I-40 S. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1297	2	686	0	0	0	0	2088	328	262	997	0
Future Volume (veh/h)	1297	2	686	0	0	0	0	2088	328	262	997	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856				0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	1380	0	731				0	2221	349	279	1061	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3				0	3	3	3	3	0
Cap, veh/h	1266	0	1127				0	2129	661	331	2828	0
Arrive On Green	0.36	0.00	0.36				0.00	0.42	0.42	0.19	1.00	0.00
Sat Flow, veh/h	3534	0	3145				0	5233	1572	3428	5233	0
Grp Volume(v), veh/h	1380	0	731				0	2221	349	279	1061	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1689	1572	1714	1689	0
Q Serve(g_s), s	43.0	0.0	23.3				0.0	50.4	19.8	9.4	0.0	0.0
Cycle Q Clear(g_c), s	43.0	0.0	23.3				0.0	50.4	19.8	9.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1266	0	1127				0	2129	661	331	2828	0
V/C Ratio(X)	1.09	0.00	0.65				0.00	1.04	0.53	0.84	0.38	0.00
Avail Cap(c_a), veh/h	1266	0	1127				0	2129	661	371	2828	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	38.5	0.0	32.2				0.0	34.8	25.9	47.6	0.0	0.0
Incr Delay (d2), s/veh	53.4	0.0	1.3				0.0	32.0	3.0	13.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	38.4	0.0	13.9				0.0	36.0	12.5	7.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	0.0	33.5				0.0	66.8	28.9	61.1	0.3	0.0
LnGrp LOS	F	A	C				A	F	C	E	A	A
Approach Vol, veh/h		2111						2570			1340	
Approach Delay, s/veh		71.7						61.6			13.0	
Approach LOS		E						E			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.6	55.4		48.0		72.0						
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0						
Max Green Setting (Gmax), s	13.0	49.0		43.0		67.0						
Max Q Clear Time (g_c+I1), s	11.4	52.4		45.0		2.0						
Green Ext Time (p_c), s	0.2	0.0		0.0		10.2						

Intersection Summary

HCM 6th Ctrl Delay 54.3
HCM 6th LOS D

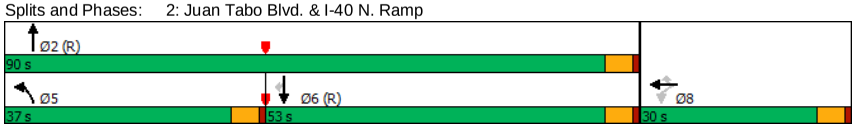
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	74	6	128	555	2830	1185	699
Future Volume (vph)	74	6	128	555	2830	1185	699
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	30.0	30.0	30.0	37.0	90.0	53.0	53.0
Total Split (%)	25.0%	25.0%	25.0%	30.8%	75.0%	44.2%	44.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	11.3	11.3	11.3	26.1	98.7	67.6	67.6
Actuated g/C Ratio	0.09	0.09	0.09	0.22	0.82	0.56	0.56
v/c Ratio	0.28	0.27	0.66	0.80	0.73	0.44	0.68
Control Delay	52.9	52.6	43.2	39.0	7.3	15.9	14.9
Queue Delay	0.0	0.0	0.1	0.0	2.8	0.0	1.4
Total Delay	52.9	52.6	43.3	39.0	10.1	15.9	16.3
LOS	D	D	D	D	B	B	B
Approach Delay		46.9			14.8	16.0	
Approach LOS		D			B	B	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 55.2 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 97.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	74	6	128	555	2830	0	0	1185	699
Future Volume (veh/h)	0	0	0	74	6	128	555	2830	0	0	1185	699
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				83	0	136	590	3011	0	0	1261	744
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				374	0	167	660	4107	0	0	2921	907
Arrive On Green				0.11	0.00	0.11	0.39	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				83	0	136	590	3011	0	0	1261	744
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				2.6	0.0	10.2	19.4	0.0	0.0	0.0	26.4	54.5
Cycle Q Clear(g_c), s				2.6	0.0	10.2	19.4	0.0	0.0	0.0	26.4	54.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				374	0	167	660	4107	0	0	2921	907
V/C Ratio(X)				0.22	0.00	0.82	0.89	0.73	0.00	0.00	0.43	0.82
Avail Cap(c_a), veh/h				736	0	328	914	4107	0	0	2921	907
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				49.1	0.0	52.5	35.7	0.0	0.0	0.0	31.2	42.6
Incr Delay (d2), s/veh				0.3	0.0	9.3	0.9	0.1	0.0	0.0	0.5	8.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				2.1	0.0	7.9	8.0	0.1	0.0	0.0	17.8	33.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				49.4	0.0	61.8	36.6	0.1	0.0	0.0	31.7	50.9
LnGrp LOS				D	A	E	D	A	A	A	C	D
Approach Vol, veh/h					219			3601			2005	
Approach Delay, s/veh					57.1			6.1			38.8	
Approach LOS					E			A			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		102.3			28.1	74.2		17.7				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		85.0			32.0	48.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0			21.4	56.5		12.2				
Green Ext Time (p_c), s		68.5			1.7	0.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		19.3	
HCM 6th LOS		B	

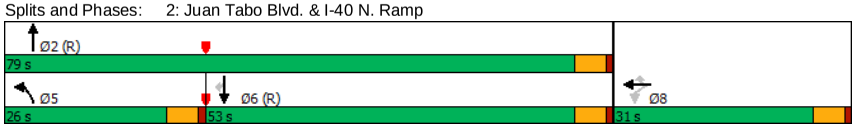
Notes
User approved volume balancing among the lanes for turning movement.

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	74	6	128	555	2830	1185	699
Future Volume (vph)	74	6	128	555	2830	1185	699
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		8		5	2	6	
Permitted Phases	8		8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	10.0	21.0	21.0	21.0
Total Split (s)	31.0	31.0	31.0	26.0	79.0	53.0	53.0
Total Split (%)	28.2%	28.2%	28.2%	23.6%	71.8%	48.2%	48.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	C-Max
Act Effct Green (s)	10.6	10.6	10.6	25.0	89.4	59.4	59.4
Actuated g/C Ratio	0.10	0.10	0.10	0.23	0.81	0.54	0.54
v/c Ratio	0.27	0.26	0.64	0.76	0.74	0.46	0.66
Control Delay	48.4	48.1	37.7	34.6	6.3	15.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	1.1
Total Delay	48.4	48.1	37.8	34.6	7.1	15.2	14.9
LOS	D	D	D	C	A	B	B
Approach Delay		41.8			11.6	15.1	
Approach LOS		D			B	B	

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 50.6 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 13.9 Intersection LOS: B
Intersection Capacity Utilization 97.3% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Juan Tabo Blvd. & I-40 N. Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	74	6	128	555	2830	0	0	1185	699
Future Volume (veh/h)	0	0	0	74	6	128	555	2830	0	0	1185	699
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	1856	1856	1856	1856	0	0	1856	1856
Adj Flow Rate, veh/h				83	0	136	590	3011	0	0	1261	744
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				3	3	3	3	3	0	0	3	3
Cap, veh/h				382	0	170	636	4058	0	0	2888	897
Arrive On Green				0.11	0.00	0.11	0.37	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				3534	0	1572	3428	5233	0	0	5233	1572
Grp Volume(v), veh/h				83	0	136	590	3011	0	0	1261	744
Grp Sat Flow(s),veh/h/ln				1767	0	1572	1714	1689	0	0	1689	1572
Q Serve(g_s), s				2.4	0.0	9.3	18.2	0.0	0.0	0.0	24.2	50.1
Cycle Q Clear(g_c), s				2.4	0.0	9.3	18.2	0.0	0.0	0.0	24.2	50.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				382	0	170	636	4058	0	0	2888	897
V/C Ratio(X)				0.22	0.00	0.80	0.93	0.74	0.00	0.00	0.44	0.83
Avail Cap(c_a), veh/h				835	0	372	654	4058	0	0	2888	897
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	0.33	0.33
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				44.8	0.0	47.9	33.9	0.0	0.0	0.0	29.0	39.5
Incr Delay (d2), s/veh				0.3	0.0	8.4	2.6	0.1	0.0	0.0	0.5	8.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.9	0.0	7.2	7.5	0.1	0.0	0.0	16.5	31.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.1	0.0	56.3	36.5	0.1	0.0	0.0	29.5	48.3
LnGrp LOS				D	A	E	D	A	A	A	C	D
Approach Vol, veh/h					219			3601			2005	
Approach Delay, s/veh					52.1			6.1			36.5	
Approach LOS					D			A			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		93.1			25.4	67.7		16.9				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		74.0			21.0	48.0		26.0				
Max Q Clear Time (g_c+I1), s		2.0			20.2	52.1		11.3				
Green Ext Time (p_c), s		60.9			0.2	0.0		0.6				

Intersection Summary

HCM 6th Ctrl Delay 18.3
HCM 6th LOS B

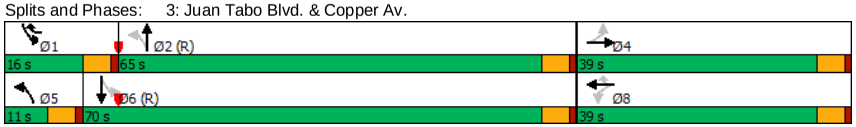
Notes

User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	25	25	358	43	140	92	2403	166	1815
Future Volume (vph)	25	25	358	43	140	92	2403	166	1815
Turn Type	Perm	NA	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	1	5	2	1	6
Permitted Phases	4		8		8	2		6	
Detector Phase	4	4	8	8	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	39.0	39.0	39.0	39.0	16.0	11.0	65.0	16.0	70.0
Total Split (%)	32.5%	32.5%	32.5%	32.5%	13.3%	9.2%	54.2%	13.3%	58.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min
Act Effct Green (s)	34.0	34.0	34.0	34.0	49.5	66.5	60.5	75.5	65.0
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.41	0.55	0.50	0.63	0.54
v/c Ratio	0.07	0.21	1.09	0.09	0.23	0.66	1.19	0.82	0.75
Control Delay	32.2	11.7	114.0	32.3	20.9	32.8	110.7	65.9	14.5
Queue Delay	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	11.8	119.8	32.3	20.9	32.8	110.7	65.9	14.5
LOS	C	B	F	C	C	C	F	E	B
Approach Delay		15.8		87.2			108.2		18.6
Approach LOS		B		F			F		B

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 71.0		Intersection LOS: E	
Intersection Capacity Utilization 103.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	25	79	358	43	140	92	2403	392	166	1815	100
Future Volume (veh/h)	25	25	79	358	43	140	92	2403	392	166	1815	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	27	84	381	46	149	98	2556	417	177	1931	106
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	372	113	350	354	526	574	188	2256	349	204	2698	148
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.01	0.17	0.17	0.08	0.55	0.55
Sat Flow, veh/h	1178	397	1236	1272	1856	1572	1767	4424	685	1767	4915	269
Grp Volume(v), veh/h	27	0	111	381	46	149	98	1919	1054	177	1325	712
Grp Sat Flow(s),veh/h/ln	1178	0	1633	1272	1856	1572	1767	1689	1732	1767	1689	1807
Q Serve(g_s), s	2.1	0.0	6.3	27.7	2.2	8.0	3.1	61.2	61.2	7.7	35.0	35.2
Cycle Q Clear(g_c), s	4.3	0.0	6.3	34.0	2.2	8.0	3.1	61.2	61.2	7.7	35.0	35.2
Prop In Lane	1.00		0.76	1.00		1.00	1.00		0.40	1.00		0.15
Lane Grp Cap(c), veh/h	372	0	463	354	526	574	188	1722	883	204	1853	992
V/C Ratio(X)	0.07	0.00	0.24	1.08	0.09	0.26	0.52	1.11	1.19	0.87	0.71	0.72
Avail Cap(c_a), veh/h	372	0	463	354	526	574	201	1722	883	222	1853	992
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.36	0.36	0.36
Uniform Delay (d), s/veh	33.2	0.0	33.1	48.5	31.6	26.7	20.9	49.9	49.9	36.8	20.1	20.2
Incr Delay (d2), s/veh	0.1	0.0	0.3	69.8	0.1	0.2	2.2	60.0	98.1	11.7	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	4.6	25.6	1.8	5.5	2.5	57.4	73.5	8.3	17.1	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	0.0	33.3	118.3	31.7	27.0	23.1	109.9	148.0	48.5	21.0	21.8
LnGrp LOS	C	A	C	F	C	C	C	F	F	D	C	C
Approach Vol, veh/h		138			576			3071			2214	
Approach Delay, s/veh		33.3			87.7			120.2			23.4	
Approach LOS		C			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.8	66.2		39.0	10.1	70.9		39.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	11.0	60.0		34.0	6.0	65.0		34.0				
Max Q Clear Time (g_c+I1), s	9.7	63.2		8.3	5.1	37.2		36.0				
Green Ext Time (p_c), s	0.1	0.0		0.7	0.0	18.6		0.0				

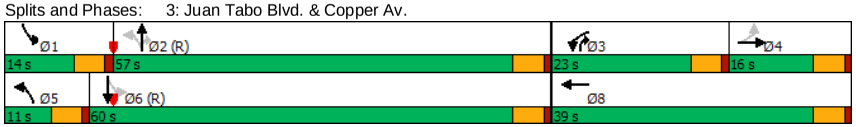
Intersection Summary		
HCM 6th Ctrl Delay	79.4	
HCM 6th LOS	E	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	25	25	358	43	92	2403	392	166	1815
Future Volume (vph)	25	25	358	43	92	2403	392	166	1815
Turn Type	Perm	NA	Prot	NA	pm+pt	NA	pm+ov	pm+pt	NA
Protected Phases		4	3	8	5	2	3	1	6
Permitted Phases	4				2		2	6	
Detector Phase	4	4	3	8	5	2	3	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	10.0	21.0	10.0	21.0	10.0	10.0	21.0
Total Split (s)	16.0	16.0	23.0	39.0	11.0	57.0	23.0	14.0	60.0
Total Split (%)	14.5%	14.5%	20.9%	35.5%	10.0%	51.8%	20.9%	12.7%	54.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	C-Max	Min	Min	C-Max
Act Effct Green (s)	8.1	8.1	16.5	29.6	62.1	55.1	76.7	68.7	58.5
Actuated g/C Ratio	0.07	0.07	0.15	0.27	0.56	0.50	0.70	0.62	0.53
v/c Ratio	0.31	0.56	0.75	0.37	0.55	1.01	0.34	0.77	0.77
Control Delay	57.0	27.5	54.3	15.3	25.1	44.2	2.2	55.3	9.4
Queue Delay	0.0	0.2	0.0	0.0	0.0	5.2	0.0	0.0	0.0
Total Delay	57.0	27.6	54.3	15.3	25.1	49.4	2.2	55.3	9.4
LOS	E	C	D	B	C	D	A	E	A
Approach Delay		33.4		41.1		42.2			13.1
Approach LOS		C		D		D			B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 31.2 Intersection LOS: C
Intersection Capacity Utilization 88.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Juan Tabo Blvd. & Copper Av.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	25	79	358	43	140	92	2403	392	166	1815	100
Future Volume (veh/h)	25	25	79	358	43	140	92	2403	392	166	1815	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	27	84	381	46	149	98	2556	417	177	1931	106
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	166	34	106	452	101	328	201	2644	1028	206	2729	149
Arrive On Green	0.09	0.09	0.09	0.13	0.26	0.26	0.02	0.17	0.17	0.08	0.56	0.56
Sat Flow, veh/h	1178	397	1236	3428	385	1246	1767	5066	1572	1767	4915	269
Grp Volume(v), veh/h	27	0	111	381	0	195	98	2556	417	177	1325	712
Grp Sat Flow(s),veh/h/ln	1178	0	1633	1714	0	1631	1767	1689	1572	1767	1689	1807
Q Serve(g_s), s	2.4	0.0	7.3	11.9	0.0	11.0	2.8	55.1	19.2	6.6	31.6	31.8
Cycle Q Clear(g_c), s	2.4	0.0	7.3	11.9	0.0	11.0	2.8	55.1	19.2	6.6	31.6	31.8
Prop In Lane	1.00		0.76	1.00		0.76	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	166	0	140	452	0	429	201	2644	1028	206	1875	1003
V/C Ratio(X)	0.16	0.00	0.79	0.84	0.00	0.45	0.49	0.97	0.41	0.86	0.71	0.71
Avail Cap(c_a), veh/h	183	0	163	561	0	504	217	2644	1028	212	1875	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Uniform Delay (d), s/veh	47.1	0.0	49.3	46.6	0.0	33.9	18.5	44.6	17.2	32.1	17.9	18.0
Incr Delay (d2), s/veh	0.5	0.0	20.2	9.4	0.0	0.8	1.8	11.3	1.2	11.1	0.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	0.0	6.8	9.6	0.0	7.9	2.2	36.3	13.0	7.6	15.1	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	0.0	69.5	56.1	0.0	34.7	20.4	55.8	18.4	43.1	18.7	19.4
LnGrp LOS	D	A	E	E	A	C	C	E	B	D	B	B
Approach Vol, veh/h		138			576			3071			2214	
Approach Delay, s/veh		65.2			48.8			49.6			20.8	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	62.4	19.5	14.4	10.0	66.1		33.9				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	52.0	18.0	11.0	6.0	55.0		34.0				
Max Q Clear Time (g_c+I1), s	8.6	57.1	13.9	9.3	4.8	33.8		13.0				
Green Ext Time (p_c), s	0.0	0.0	0.6	0.1	0.0	15.3		1.1				

Intersection Summary

HCM 6th Ctrl Delay 39.3
HCM 6th LOS D

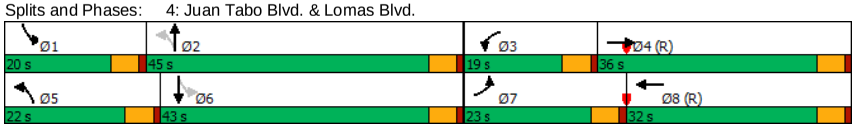
Notes

User approved pedestrian interval to be less than phase max green.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	303	505	211	359	153	1525	233	1417
Future Volume (vph)	303	505	211	359	153	1525	233	1417
Turn Type	Prot	NA	Prot	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	23.0	36.0	19.0	32.0	22.0	45.0	20.0	43.0
Total Split (%)	19.2%	30.0%	15.8%	26.7%	18.3%	37.5%	16.7%	35.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	C-Max	Min	C-Max	Min	Min	Min	Min
Act Effct Green (s)	15.6	32.7	12.3	29.4	52.8	40.7	57.2	42.9
Actuated g/C Ratio	0.13	0.27	0.10	0.24	0.44	0.34	0.48	0.36
v/c Ratio	0.69	0.79	0.61	0.38	0.65	1.06	0.87	0.91
Control Delay	58.4	44.0	59.3	34.2	41.2	66.7	60.5	45.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	44.0	59.3	34.2	41.2	66.7	60.5	45.6
LOS	E	D	E	C	D	E	E	D
Approach Delay		48.2		41.9		64.6		47.5
Approach LOS		D		D		E		D

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green		
Natural Cycle: 80		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.06		
Intersection Signal Delay: 53.0	Intersection LOS: D	
Intersection Capacity Utilization 92.3%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 4: Juan Tabo Blvd. & Lomas Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	505	238	211	359	112	153	1525	253	233	1417	193
Future Volume (veh/h)	303	505	238	211	359	112	153	1525	253	233	1417	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	306	510	240	213	363	113	155	1540	256	235	1431	195
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	372	713	334	274	1074	320	219	1459	242	262	1674	228
Arrive On Green	0.11	0.31	0.31	0.08	0.28	0.28	0.15	0.67	0.67	0.11	0.37	0.37
Sat Flow, veh/h	3428	2330	1092	3428	3873	1152	1767	4377	725	1767	4508	614
Grp Volume(v), veh/h	306	385	365	213	314	162	155	1187	609	235	1072	554
Grp Sat Flow(s),veh/h/ln	1714	1763	1659	1714	1689	1648	1767	1689	1725	1767	1689	1745
Q Serve(g_s), s	10.5	23.3	23.5	7.3	8.9	9.4	6.9	40.0	40.0	11.6	35.1	35.1
Cycle Q Clear(g_c), s	10.5	23.3	23.5	7.3	8.9	9.4	6.9	40.0	40.0	11.6	35.1	35.1
Prop In Lane	1.00		0.66	1.00		0.70	1.00		0.42	1.00		0.35
Lane Grp Cap(c), veh/h	372	539	507	274	937	457	219	1126	575	262	1254	648
V/C Ratio(X)	0.82	0.71	0.72	0.78	0.34	0.35	0.71	1.05	1.06	0.90	0.85	0.86
Avail Cap(c_a), veh/h	514	539	507	400	937	457	335	1126	575	281	1254	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	37.0	37.1	54.2	34.5	34.7	26.4	20.0	20.0	34.2	34.7	34.8
Incr Delay (d2), s/veh	7.5	7.9	8.5	5.8	1.0	2.1	0.4	27.1	30.8	27.9	6.0	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	16.7	16.0	6.1	6.8	7.3	3.4	15.7	16.7	13.8	21.6	23.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	44.9	45.6	59.9	35.5	36.9	26.8	47.1	50.8	62.1	40.7	45.6
LnGrp LOS	E	D	D	E	D	D	C	F	F	E	D	D
Approach Vol, veh/h		1056			689			1951			1861	
Approach Delay, s/veh		49.5			43.4			46.7			44.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	45.0	14.6	41.7	14.1	49.6	18.0	38.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	40.0	14.0	31.0	17.0	38.0	18.0	27.0
Max Q Clear Time (g_c+I1), s	13.6	42.0	9.3	25.5	8.9	37.1	12.5	11.4
Green Ext Time (p_c), s	0.1	0.0	0.3	2.3	0.2	0.8	0.5	2.7

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	596	39	6	486	32	3
Future Vol, veh/h	596	39	6	486	32	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	160	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	621	41	6	506	33	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	662	0	1160	642
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	518	-
Critical Hdwy	-	-	4.13	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.327
Pot Cap-1 Maneuver	-	-	922	-	215	472
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	596	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	922	-	213	472
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	592	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	224	-	-	922	-
HCM Lane V/C Ratio	0.163	-	-	0.007	-
HCM Control Delay (s)	24.2	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	542	41	30	433	24	108	1	29	27	1	52
Future Vol, veh/h	18	542	41	30	433	24	108	1	29	27	1	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,-#		0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	19	565	43	31	451	25	113	1	30	28	1	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	476	0	0	608	0	0	1178	1163	587	1166	1172	464
Stage 1	-	-	-	-	-	-	625	625	-	526	526	-
Stage 2	-	-	-	-	-	-	553	538	-	640	646	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1081	-	-	966	-	-	167	194	508	170	191	596
Stage 1	-	-	-	-	-	-	471	476	-	533	527	-
Stage 2	-	-	-	-	-	-	516	521	-	462	465	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1081	-	-	966	-	-	143	180	508	151	178	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	180	-	151	178	-
Stage 1	-	-	-	-	-	-	458	463	-	519	504	-
Stage 2	-	-	-	-	-	-	448	498	-	422	452	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.5	89	22
HCM LOS			F	C

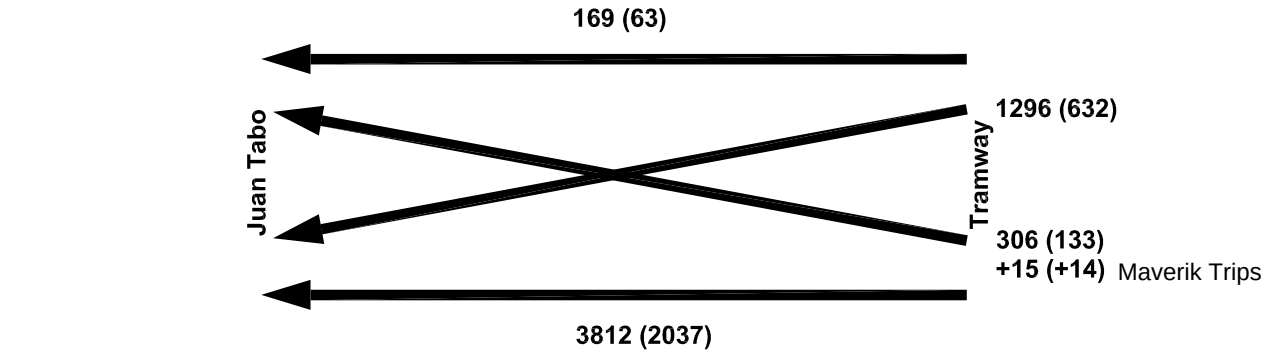
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	169	1081	-	-	966	-	-	294
HCM Lane V/C Ratio	0.851	0.017	-	-	0.032	-	-	0.283
HCM Control Delay (s)	89	8.4	0	-	8.9	0	-	22
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	5.9	0.1	-	-	0.1	-	-	1.1

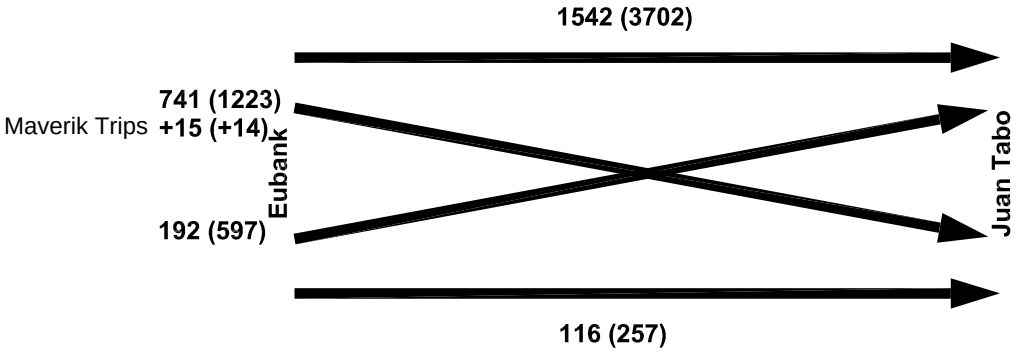
Pages A-113 through A-126 Intentially Omitted.

Maverik Gas | Convenience Store

(Copper Av. / Juan Tabo Bd.)

I-40 Weave Volumes Data





HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 AM Peak Hour NO BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Eastbound Weave (Eubank to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1542	192	116	741
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	1866	206	125	780
Weaving Flow Rate (v_w), pc/h	986	Freeway Max Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	1991	Density-Based Capacity (c_{IWL}), pc/h/ln		2177
Total Flow Rate (v), pc/h	2977	Demand Flow-Based Capacity (c_{IW}), pc/h		7251
Volume Ratio (VR)	0.331	Weaving Segment Capacity (c_W), veh/h		5984
Minimum Lane Change Rate (LC_{MIN}), lc/h	986	Adjusted Weaving Area Capacity, pc/h		6322
Maximum Weaving Length (L_{MAX}), ft	5919	Volume-to-Capacity Ratio (v/c)		0.47

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	1195	Average Weaving Speed (S_W),mi/h	63.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1458	Average Non-Weaving Speed (S_{NW}), mi/h	61.6
Weaving Lane Change Rate (LC_W), lc/h	1425	Average Speed (S), mi/h	62.1
Weaving Lane Change Rate (LC_{All}), lc/h	2883	Density (D), pc/mi/ln	16.0
Weaving Intensity Factor (W)	0.219	Level of Service (LOS)	B

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 AM Peak Hour BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Eastbound Weave (Eubank to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	1542	192	116	756
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	1866	206	125	796
Weaving Flow Rate (v_w), pc/h	1002	Freeway Max Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	1991	Density-Based Capacity (c_{IWL}), pc/h/ln		2173
Total Flow Rate (v), pc/h	2993	Demand Flow-Based Capacity (c_{IW}), pc/h		7164
Volume Ratio (VR)	0.335	Weaving Segment Capacity (c_W), veh/h		5976
Minimum Lane Change Rate (LC_{MIN}), lc/h	1002	Adjusted Weaving Area Capacity, pc/h		6310
Maximum Weaving Length (L_{MAX}), ft	5962	Volume-to-Capacity Ratio (v/c)		0.47

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	1195	Average Weaving Speed (S_W),mi/h	63.0
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1458	Average Non-Weaving Speed (S_{NW}), mi/h	61.5
Weaving Lane Change Rate (LC_W), lc/h	1441	Average Speed (S), mi/h	62.0
Weaving Lane Change Rate (LC_{All}), lc/h	2899	Density (D), pc/mi/ln	16.1
Weaving Intensity Factor (W)	0.220	Level of Service (LOS)	B

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 PM Peak Hour NO BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Eastbound Weave (Eubank to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3702	597	257	1223
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	4479	641	276	1287

Weaving Flow Rate (v_w), pc/h	1928	Freeway Max Capacity (c_{IFL}), pc/h/ln	2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4755	Density-Based Capacity (c_{IWL}), pc/h/ln	2212
Total Flow Rate (v), pc/h	6683	Demand Flow-Based Capacity (c_{IW}), pc/h	8333
Volume Ratio (VR)	0.288	Weaving Segment Capacity (c_W), veh/h	6040
Minimum Lane Change Rate (LC_{MIN}), lc/h	1437	Adjusted Weaving Area Capacity, pc/h	6424
Maximum Weaving Length (L_{MAX}), ft	5456	Volume-to-Capacity Ratio (v/c)	1.04

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W),mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 PM Peak Hour BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Eastbound Weave (Eubank to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3702	597	257	1237
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	4479	641	276	1302
Weaving Flow Rate (v_w), pc/h	1943	Freeway Max Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4755	Density-Based Capacity (c_{IWL}), pc/h/ln		2211
Total Flow Rate (v), pc/h	6698	Demand Flow-Based Capacity (c_{IW}), pc/h		8276
Volume Ratio (VR)	0.290	Weaving Segment Capacity (c_W), veh/h		6038
Minimum Lane Change Rate (LC_{MIN}), lc/h	1437	Adjusted Weaving Area Capacity, pc/h		6421
Maximum Weaving Length (L_{MAX}), ft	5477	Volume-to-Capacity Ratio (v/c)		1.04

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W),mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 AM Peak Hour NO BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Westbound Weave (Tramway to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3812	1296	169	306
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	4612	1392	182	322

Weaving Flow Rate (v_w), pc/h	1714	Freeway Max Capacity (c_{IFL}), pc/h/ln	2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4794	Density-Based Capacity (c_{IWL}), pc/h/ln	2232
Total Flow Rate (v), pc/h	6508	Demand Flow-Based Capacity (c_{IW}), pc/h	9125
Volume Ratio (VR)	0.263	Weaving Segment Capacity (c_W), veh/h	6047
Minimum Lane Change Rate (LC_{MIN}), lc/h	1919	Adjusted Weaving Area Capacity, pc/h	6481
Maximum Weaving Length (L_{MAX}), ft	5190	Volume-to-Capacity Ratio (v/c)	1.00

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W),mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 AM Peak Hour BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Westbound Weave (Tramway to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	3812	1296	169	321
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	4612	1392	182	338
Weaving Flow Rate (v_w), pc/h	1730	Freeway Max Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	4794	Density-Based Capacity (c_{IWL}), pc/h/ln		2231
Total Flow Rate (v), pc/h	6524	Demand Flow-Based Capacity (c_{IW}), pc/h		9057
Volume Ratio (VR)	0.265	Weaving Segment Capacity (c_W), veh/h		6046
Minimum Lane Change Rate (LC_{MIN}), lc/h	1685	Adjusted Weaving Area Capacity, pc/h		6480
Maximum Weaving Length (L_{MAX}), ft	5211	Volume-to-Capacity Ratio (v/c)		1.01

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	-	Average Weaving Speed (S_W),mi/h	-
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	-	Average Non-Weaving Speed (S_{NW}), mi/h	-
Weaving Lane Change Rate (LC_W), lc/h	-	Average Speed (S), mi/h	-
Weaving Lane Change Rate (LC_{All}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 PM Peak Hour NO BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Westbound Weave (Tramway to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2037	632	63	133
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	2465	679	68	140
Weaving Flow Rate (v_w), pc/h	819	Freeway Max Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	2533	Density-Based Capacity (c_{IWL}), pc/h/ln		2248
Total Flow Rate (v), pc/h	3352	Demand Flow-Based Capacity (c_{IW}), pc/h		9836
Volume Ratio (VR)	0.244	Weaving Segment Capacity (c_W), veh/h		6069
Minimum Lane Change Rate (LC_{MIN}), lc/h	819	Adjusted Weaving Area Capacity, pc/h		6528
Maximum Weaving Length (L_{MAX}), ft	4991	Volume-to-Capacity Ratio (v/c)		0.51

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	1520	Average Weaving Speed (S_W),mi/h	63.7
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1339	Average Non-Weaving Speed (S_{NW}), mi/h	62.2
Weaving Lane Change Rate (LC_W), lc/h	1258	Average Speed (S), mi/h	62.6
Weaving Lane Change Rate (LC_{All}), lc/h	2597	Density (D), pc/mi/ln	17.8
Weaving Intensity Factor (W)	0.202	Level of Service (LOS)	B

Copyright © 2018 University of Florida. All Rights Reserved.

HCS7 Freeway Weaving Report

Project Information

Analyst	tob	Date	11/21/2018
Agency	Terry O. Brown, P.E.	Analysis Year	2018
Jurisdiction	New Mexico Department of Transportation	Time Period Analyzed	2018 PM Peak Hour BUILD Conditions
Project Description	Maverik Store (I-40 / Juan Tabo Blvd.) - Westbound Weave (Tramway to Juan Tabo)		

Geometric Data

Number of Lanes (N), ln	3	Segment Type	Freeway
Segment Length (L_S), ft	3000	Number of Maneuver Lanes (N_{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC_{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC_{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC_{RR}), lc	0
Interchange Density (ID), int/mi	2.00	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	Mostly Familiar	Final Speed Adjustment Factor (SAF)	0.975
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.968
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V_i), veh/h	2037	632	63	147
Peak Hour Factor (PHF)	0.95	0.95	0.95	0.95
Total Trucks, %	15.00	2.00	2.00	0.00
Heavy Vehicle Adjustment Factor (f_{HV})	0.870	0.980	0.980	1.000
Flow Rate (v_i), pc/h	2465	679	68	155
Weaving Flow Rate (v_w), pc/h	834	Freeway Max Capacity (c_{IFL}), pc/h/ln		2400
Non-Weaving Flow Rate (v_{NW}), pc/h	2533	Density-Based Capacity (c_{IWL}), pc/h/ln		2244
Total Flow Rate (v), pc/h	3367	Demand Flow-Based Capacity (c_{IW}), pc/h		9677
Volume Ratio (VR)	0.248	Weaving Segment Capacity (c_W), veh/h		6061
Minimum Lane Change Rate (LC_{MIN}), lc/h	834	Adjusted Weaving Area Capacity, pc/h		6516
Maximum Weaving Length (L_{MAX}), ft	5033	Volume-to-Capacity Ratio (v/c)		0.52

Speed and Density

Non-Weaving Vehicle Index (I_{NW})	1520	Average Weaving Speed (S_W),mi/h	63.6
Non-Weaving Lane Change Rate (LC_{NW}), lc/h	1339	Average Non-Weaving Speed (S_{NW}), mi/h	62.1
Weaving Lane Change Rate (LC_W), lc/h	1273	Average Speed (S), mi/h	62.5
Weaving Lane Change Rate (LC_{All}), lc/h	2612	Density (D), pc/mi/ln	18.0
Weaving Intensity Factor (W)	0.203	Level of Service (LOS)	B

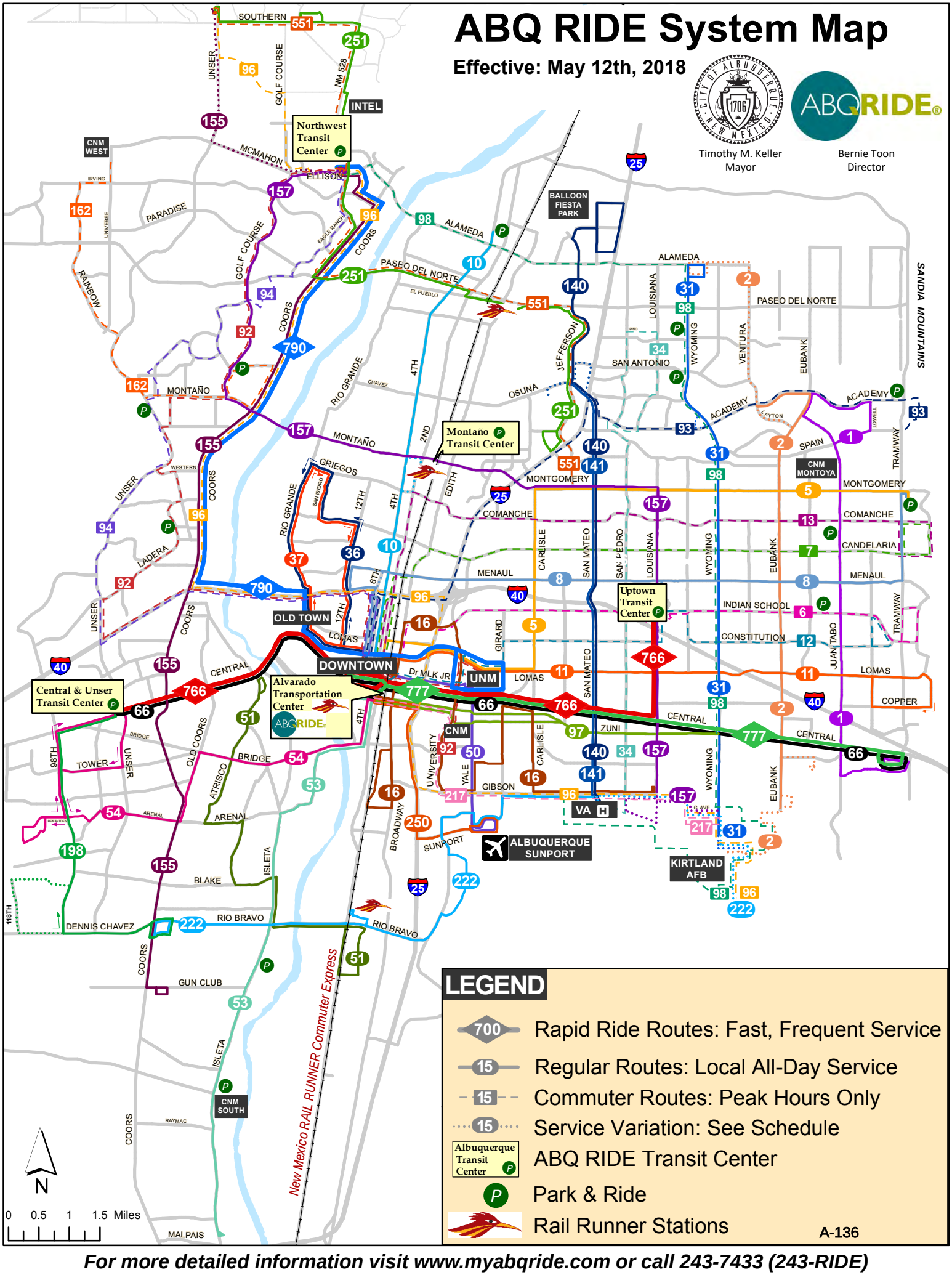
Copyright © 2018 University of Florida. All Rights Reserved.

ABQ RIDE System Map

Effective: May 12th, 2018

Timothy M. Keller
Mayor

Bernie Toon
Director



LEGEND

- 700 — Rapid Ride Routes: Fast, Frequent Service
- 15 — Regular Routes: Local All-Day Service
- 15 — Commuter Routes: Peak Hours Only
- 15 — Service Variation: See Schedule
- Albuquerque Transit Center — ABQ RIDE Transit Center
- P — Park & Ride
- Rail Runner Stations

A-136

For more detailed information visit www.myabqride.com or call 243-7433 (243-RIDE)

Traffic Count Data Sheet

Year Counts Taken: **2018**

E-W Street: **I-40 S.Ramp**

N-S Street: **Juan Tabo Blvd.**

Speed Limit (I-40 S.Ramp)= **30** MPH

Speed Limit (Juan Tabo Blvd.)= **30** MPH

Signalized

9/18/18

Begin Time	End Time	Eastbound (I-40 S.Ramp)				Westbound (I-40 S.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	**141**	**0**	**53**	**0**	**0**	**0**	**0**	**0**	**0**	**304**	**11**	**1**	**22**	**296**	**0**	**0**
7:15 AM	7:30 AM	**155**	**2**	**65**	**0**	**0**	**0**	**0**	**0**	**0**	**324**	**19**	**1**	**30**	**298**	**0**	**1**
7:30 AM	7:45 AM	**123**	**0**	**71**	**0**	**0**	**0**	**0**	**0**	**0**	**296**	**9**	**1**	**17**	**433**	**0**	**1**
7:45 AM	8:00 AM	**86**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**0**	**207**	**30**	**1**	**24**	**312**	**0**	**0**
8:00 AM	8:15 AM	~~99~~	~~0~~	~~71~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~188~~	~~7~~	~~0~~	~~19~~	~~262~~	~~0~~	~~0~~
8:15 AM	8:30 AM	~~118~~	~~1~~	~~56~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~236~~	~~16~~	~~2~~	~~11~~	~~210~~	~~0~~	~~0~~
8:30 AM	8:45 AM	~~114~~	~~1~~	~~56~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~243~~	~~7~~	~~2~~	~~12~~	~~199~~	~~0~~	~~1~~
8:45 AM	9:00 AM	~~94~~	~~1~~	~~63~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~200~~	~~14~~	~~0~~	~~10~~	~~161~~	~~0~~	~~1~~
AM Peak Hour Volumes		**505**	**2**	**245**	**0**	**0**	**0**	**0**	**0**	**0**	**1131**	**69**	**4**	**93**	**1339**	**0**	**2**
Percent Approach		67.2%	0.3%	32.6%		0.0%	0.0%	0.0%		0.0%	94.3%	5.8%		6.5%	93.5%	0.0%	

			Intersection		
AM Peak Hour Factor	*0.85*	*#DIV/0!*	**0.89**	*0.87*	*0.80*

Begin Time	End Time	Eastbound (I-40 S.Ramp)				Westbound (I-40 S.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~199~~	~~1~~	~~88~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~388~~	~~58~~	~~2~~	~~62~~	~~235~~	~~0~~	~~0~~
4:15 PM	4:30 PM	~~205~~	~~2~~	~~98~~	~~8~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~408~~	~~57~~	~~1~~	~~45~~	~~233~~	~~0~~	~~3~~
4:30 PM	4:45 PM	**207**	**0**	**131**	**0**	**0**	**0**	**0**	**0**	**0**	**380**	**53**	**0**	**71**	**229**	**0**	**0**
4:45 PM	5:00 PM	**258**	**0**	**128**	**0**	**0**	**0**	**0**	**0**	**0**	**388**	**55**	**0**	**64**	**224**	**0**	**1**
5:00 PM	5:15 PM	**273**	**1**	**125**	**0**	**0**	**0**	**0**	**0**	**0**	**391**	**85**	**0**	**71**	**201**	**0**	**2**
5:15 PM	5:30 PM	**272**	**1**	**168**	**0**	**0**	**0**	**0**	**0**	**0**	**436**	**53**	**3**	**42**	**248**	**0**	**0**
5:30 PM	5:45 PM	~~231~~	~~0~~	~~131~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~362~~	~~60~~	~~0~~	~~56~~	~~224~~	~~0~~	~~0~~
5:45 PM	6:00 PM	~~154~~	~~0~~	~~77~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~305~~	~~54~~	~~1~~	~~41~~	~~189~~	~~0~~	~~1~~
PM Peak Hour Volumes		**1010**	**2**	**552**	**0**	**0**	**0**	**0**	**0**	**0**	**1595**	**246**	**3**	**248**	**902**	**0**	**3**
Percent Approach		64.6%	0.1%	35.3%		0.0%	0.0%	0.0%		0.0%	86.6%	13.4%		21.6%	78.4%	0.0%	

			Intersection		
PM Peak Hour Factor	*0.89*	*#DIV/0!*	**0.93**	*0.94*	*0.96*

Turning Movement Demand Worksheet:

Laneage:	2	1	1		0	0	0		0	3	1		1	1	0			
Lane Length (Ft.):	315	999	325		150	999	150		100	999	230		290	999	0			
Lane Capacity (veh.)	24	39	13		0	0	0		0	117	9		11	39	0			
% Turns	67.2%	0.3%	32.6%		0.0%	0.0%	0.0%		0.0%	94.3%	5.8%		6.5%	93.5%	0.0%			Video Time
Begin Time / End Time	Eastbound (I-40 S.Ramp)				Westbound (I-40 S.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)					
	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians		
7:00 AM 7:15 AM	~~141~~	~~0~~	~~53~~		~~0~~	~~0~~	~~0~~		~~0~~	~~304~~	~~11~~		~~22~~	~~296~~	~~0~~			
End of Period Queue		4				0				0				0				44:26:00
Distributed Queue	3	0	1		0	0	0		0	0	0		0	0	0			
15-Minute Demand	**144**	**0**	**54**		**0**	**0**	**0**		**0**	**304**	**11**		**22**	**296**	**0**			
7:15 AM 7:30 AM	~~155~~	~~2~~	~~65~~		~~0~~	~~0~~	~~0~~		~~0~~	~~324~~	~~19~~		~~30~~	~~298~~	~~0~~			
End of Period Queue		18				0				3				0				48:46:00
Distributed Queue	12	0	6		0	0	0		0	3	0		0	0	0			
Prev. Queue Credit	-3	0	-1		0	0	0		0	0	0		0	0	0			
15-Minute Demand	**164**	**2**	**70**	**0**	**0**	**0**	**0**	**0**	**0**	**327**	**19**	**0**	**30**	**298**	**0**			
7:30 AM 7:45 AM	~~123~~	~~0~~	~~71~~		~~0~~	~~0~~	~~0~~		~~0~~	~~296~~	~~9~~		~~17~~	~~433~~	~~0~~			
End of Period Queue		0				0				15				0				53:06:00
Distributed Queue	0	0	0		0	0	0		0	14	1		0	0	0			
Prev. Queue Credit	-12	0	-6		0	0	0		0	-3	0		0	0	0			
15-Minute Demand	**111**	**0**	**65**	**0**	**0**	**0**	**0**	**0**	**0**	**307**	**10**	**0**	**17**	**433**	**0**			
7:45 AM 8:00 AM	~~86~~	~~0~~	~~56~~		~~0~~	~~0~~	~~0~~		~~0~~	~~207~~	~~30~~		~~24~~	~~312~~	~~0~~			
End of Period Queue		0				0				0				0				57:26:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	0	0			
Prev. Queue Credit	0	0	0		0	0	0		0	-14	-1		0	0	0			
15-Minute Demand	**86**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**0**	**193**	**29**	**0**	**24**	**312**	**0**			
8:00 AM 8:15 AM	~~99~~	~~0~~	~~71~~		~~0~~	~~0~~	~~0~~		~~0~~	~~188~~	~~7~~		~~19~~	~~262~~	~~0~~			
End of Period Queue		5				0				0				2				61:46:00
Distributed Queue	3	0	2		0	0	0		0	0	0		0	2	0			
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		0	0	0			
15-Minute Demand	**102**	**0**	**73**	**0**	**0**	**0**	**0**	**0**	**0**	**188**	**7**	**0**	**19**	**264**	**0**			
8:15 AM 8:30 AM	~~118~~	~~1~~	~~56~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~236~~	~~16~~	~~2~~	~~11~~	~~210~~	~~0~~	~~0~~		
End of Period Queue		6				0				0				4				66:06:00
Distributed Queue	4	0	2		0	0	0		0	0	0		0	4	0			
Prev. Queue Credit	-3	0	-2		0	0	0		0	0	0		0	-2	0			
15-Minute Demand	**119**	**1**	**56**	**0**	**0**	**0**	**0**	**0**	**0**	**236**	**16**	**2**	**11**	**212**	**0**			
8:30 AM 8:45 AM	~~114~~	~~1~~	~~56~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~243~~	~~7~~	~~2~~	~~12~~	~~199~~	~~0~~	~~1~~		
End of Period Queue		14				0				1				0				70;25
Distributed Queue	9	0	5		0	0	0		0	1	0		0	0	0			
Prev. Queue Credit	-4	0	-2		0	0	0		0	0	0		0	-4	0			
15-Minute Demand	**119**	**1**	**59**	**0**	**0**	**0**	**0**	**0**	**0**	**244**	**7**	**2**	**12**	**195**	**0**			
8:45 AM 9:00 AM	~~94~~	~~1~~	~~63~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~200~~	~~14~~	~~0~~	~~10~~	~~161~~	~~0~~	~~1~~		
End of Period Queue		0				0				0				0				
Distributed Queue	0	0	0		0	0	0		0	0	0		0	0	0			
Prev. Queue Credit	-9	0	-5		0	0	0		0	-1	0		0	0	0			
15-Minute Demand	**85**	**1**	**58**	**0**	**0**	**0**	**0**	**0**	**0**	**199**	**14**	**0**	**10**	**161**	**0**			

Turning Movement Demand Worksheet:

Laneage:	2	1	1		0	0	0		0	3	1		1	1	0		
Lane Length (Ft.):	315	999	325		150	999	150		100	999	230		290	999	0		
Lane Capacity (veh.)	24	39	13		0	0	0		0	117	9		11	39	0		
% Turns	64.6%	0.1%	35.3%		0.0%	0.0%	0.0%		0.0%	86.6%	13.4%		21.6%	78.4%	0.0%		Video Time
Begin Time / End Time	Eastbound (I-40 S.Ramp)				Westbound (I-40 S.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)				
	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	
4:00 PM 4:15 PM	~~199~~	~~1~~	~~88~~		~~0~~	~~0~~	~~0~~		~~0~~	~~388~~	~~58~~		~~62~~	~~235~~	~~0~~		
End of Period Queue		0				0				0				6			6:22:00
Distributed Queue	0	0	0		0	0	0		0	0	0		1	5	0		
15-Minute Demand	**199**	**1**	**88**		**0**	**0**	**0**		**0**	**388**	**58**		**63**	**240**	**0**		
4:15 PM 4:30 PM	~~205~~	~~2~~	~~98~~		~~0~~	~~0~~	~~0~~		~~0~~	~~408~~	~~57~~		~~45~~	~~233~~	~~0~~		
End of Period Queue		0				0				15				0			10:40:00
Distributed Queue	0	0	0		0	0	0		0	13	2		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		-1	-5	0		
15-Minute Demand	**205**	**2**	**98**	**0**	**0**	**0**	**0**	**0**	**0**	**421**	**59**	**0**	**44**	**228**	**0**		
4:30 PM 4:45 PM	~~207~~	~~0~~	~~131~~		~~0~~	~~0~~	~~0~~		~~0~~	~~380~~	~~53~~		~~71~~	~~229~~	~~0~~		
End of Period Queue		18				0				0				0			15:08:00
Distributed Queue	12	0	6		0	0	0		0	0	0		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		0	-13	-2		0	0	0		
15-Minute Demand	**219**	**0**	**137**	**0**	**0**	**0**	**0**	**0**	**0**	**367**	**51**	**0**	**71**	**229**	**0**		
4:45 PM 5:00 PM	~~258~~	~~0~~	~~128~~		~~0~~	~~0~~	~~0~~		~~0~~	~~388~~	~~55~~		~~64~~	~~224~~	~~0~~		
End of Period Queue		13				0				0				9			19:28:00
Distributed Queue	8	0	5		0	0	0		0	0	0		2	7	0		
Prev. Queue Credit	-12	0	-6		0	0	0		0	0	0		0	0	0		
15-Minute Demand	**254**	**0**	**127**	**0**	**0**	**0**	**0**	**0**	**0**	**388**	**55**	**0**	**66**	**231**	**0**		
5:00 PM 5:15 PM	~~273~~	~~1~~	~~125~~		~~0~~	~~0~~	~~0~~		~~0~~	~~391~~	~~85~~		~~71~~	~~201~~	~~0~~		
End of Period Queue		22				0				0				0			22:52:00
Distributed Queue	14	0	8		0	0	0		0	0	0		0	0	0		
Prev. Queue Credit	-8	0	-5		0	0	0		0	0	0		-2	-7	0		
15-Minute Demand	**279**	**1**	**128**	**0**	**0**	**0**	**0**	**0**	**0**	**391**	**85**	**0**	**69**	**194**	**0**		
5:15 PM 5:30 PM	~~272~~	~~1~~	~~168~~		~~0~~	~~0~~	~~0~~		~~0~~	~~436~~	~~53~~		~~42~~	~~248~~	~~0~~		
End of Period Queue		0				0				12				2			27:13:00
Distributed Queue	0	0	0		0	0	0		0	10	2		0	2	0		
Prev. Queue Credit	-14	0	-8		0	0	0		0	0	0		0	0	0		
15-Minute Demand	**258**	**1**	**160**	**0**	**0**	**0**	**0**	**0**	**0**	**446**	**55**	**0**	**42**	**250**	**0**		
5:30 PM 5:45 PM	~~231~~	~~0~~	~~131~~		~~0~~	~~0~~	~~0~~		~~0~~	~~362~~	~~60~~		~~56~~	~~224~~	~~0~~		
End of Period Queue		17				0				0				11			31:32:00
Distributed Queue	11	0	6		0	0	0		0	0	0		2	9	0		
Prev. Queue Credit	0	0	0		0	0	0		0	-10	-2		0	-2	0		
15-Minute Demand	**242**	**0**	**137**	**0**	**0**	**0**	**0**	**0**	**0**	**352**	**58**	**0**	**58**	**231**	**0**		
5:45 PM 6:00 PM	~~154~~	~~0~~	~~77~~		~~0~~	~~0~~	~~0~~		~~0~~	~~305~~	~~54~~		~~41~~	~~189~~	~~0~~		
End of Period Queue		2				0				0				0			35:53:00
Distributed Queue	1	0	1		0	0	0		0	0	0		0	0	0		
Prev. Queue Credit	-11	0	-6		0	0	0		0	0	0		-2	-9	0		
15-Minute Demand	**144**	**0**	**72**	**0**	**0**	**0**	**0**	**0**	**0**	**305**	**54**	**0**	**39**	**180**	**0**		

Traffic Count Data Sheet (Demand Adjusted)

Year Counts Taken: **2018** E-W Street: **I-40 S.Ramp** Speed Limit (I-40 S.Ramp)= **30** MPH

N-S Street: **Juan Tabo Blvd.** Speed Limit (Juan Tabo Blvd.)= **30** MPH

Signalized **9/18/18**

Begin	End	Eastbound (I-40 S.Ramp)				Westbound (I-40 S.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
Time	Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	144	0	54	0	0	0	0	0	0	304	11	1	22	296	0	0
7:15 AM	7:30 AM	164	2	70	0	0	0	0	0	0	327	19	1	30	298	0	1
7:30 AM	7:45 AM	111	0	65	0	0	0	0	0	0	307	10	1	17	433	0	1
7:45 AM	8:00 AM	86	0	56	0	0	0	0	0	0	193	29	1	24	312	0	0
8:00 AM	8:15 AM	~~102~~	~~0~~	~~73~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~188~~	~~7~~	~~0~~	~~19~~	~~264~~	~~0~~	~~0~~
8:15 AM	8:30 AM	~~119~~	~~1~~	~~56~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~236~~	~~16~~	~~2~~	~~11~~	~~212~~	~~0~~	~~0~~
8:30 AM	8:45 AM	~~119~~	~~1~~	~~59~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~244~~	~~7~~	~~2~~	~~12~~	~~195~~	~~0~~	~~1~~
8:45 AM	9:00 AM	~~85~~	~~1~~	~~58~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~199~~	~~14~~	~~0~~	~~10~~	~~161~~	~~0~~	~~1~~
AM Peak Hour Volumes		**505**	**2**	**245**	**0**	**0**	**0**	**0**	**0**	**0**	**1131**	**69**	**4**	**93**	**1339**	**0**	**2**
Percent Approach		67.2%	0.3%	32.6%		#DIV/0!	#DIV/0!	#DIV/0!		0.0%	94.3%	5.8%		6.5%	93.5%	0.0%	

			Intersection	
AM Peak Hour Factor	*0.80*	*#DIV/0!*	**0.90**	*0.87*	*0.80*

Begin	End	Eastbound (I-40 S.Ramp)				Westbound (I-40 S.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
Time	Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~199~~	~~1~~	~~88~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~388~~	~~58~~	~~2~~	~~63~~	~~240~~	~~0~~	~~0~~
4:15 PM	4:30 PM	~~205~~	~~2~~	~~98~~	~~8~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~421~~	~~59~~	~~1~~	~~44~~	~~228~~	~~0~~	~~3~~
4:30 PM	4:45 PM	~~219~~	~~0~~	~~137~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~367~~	~~51~~	~~0~~	~~71~~	~~229~~	~~0~~	~~0~~
4:45 PM	5:00 PM	254	0	127	0	0	0	0	0	0	388	55	0	66	231	0	1
5:00 PM	5:15 PM	279	1	128	0	0	0	0	0	0	391	85	0	69	194	0	2
5:15 PM	5:30 PM	258	1	160	0	0	0	0	0	0	446	55	3	42	250	0	0
5:30 PM	5:45 PM	242	0	137	0	0	0	0	0	0	352	58	0	58	231	0	0
5:45 PM	6:00 PM	~~144~~	~~0~~	~~72~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~305~~	~~54~~	~~1~~	~~39~~	~~180~~	~~0~~	~~1~~
PM Peak Hour Volumes		**1033**	**2**	**552**	**0**	**0**	**0**	**0**	**0**	**0**	**1577**	**253**	**3**	**235**	**906**	**0**	**3**
Percent Approach		65.1%	0.1%	34.8%		#DIV/0!	#DIV/0!	#DIV/0!		0.0%	86.2%	13.8%		20.6%	79.4%	0.0%	

			Intersection	
PM Peak Hour Factor	*0.95*	*#DIV/0!*	**0.94**	*0.91*	*0.96*

Traffic Count Data Sheet

Year Counts Taken: **2018**
E-W Street: **I-40 N.Ramp**
N-S Street: **Juan Tabo Blvd.**
Signalized

Speed Limit (I-40 N.Ramp)= **30** MPH
Speed Limit (Juan Tabo Blvd.)= **30** MPH
9/18/18

Begin Time	End Time	Eastbound (I-40 N.Ramp)				Westbound (I-40 N.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	0	0	0	0	72	0	61	0	142	324	0	0	0	163	239	0
7:15 AM	7:30 AM	0	0	0	0	80	1	60	0	138	390	0	1	0	242	283	15
7:30 AM	7:45 AM	0	0	0	0	74	0	85	0	104	369	0	0	0	245	235	0
7:45 AM	8:00 AM	0	0	0	0	125	2	117	0	104	442	0	0	0	298	192	0
8:00 AM	8:15 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~63~~	~~0~~	~~57~~	~~0~~	~~102~~	~~256~~	~~0~~	~~1~~	~~0~~	~~284~~	~~188~~	~~0~~
8:15 AM	8:30 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~67~~	~~0~~	~~44~~	~~0~~	~~108~~	~~224~~	~~0~~	~~0~~	~~0~~	~~217~~	~~210~~	~~0~~
8:30 AM	8:45 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~51~~	~~0~~	~~46~~	~~0~~	~~89~~	~~281~~	~~1~~	~~1~~	~~0~~	~~181~~	~~224~~	~~0~~
8:45 AM	9:00 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~26~~	~~0~~	~~26~~	~~0~~	~~90~~	~~219~~	~~0~~	~~0~~	~~0~~	~~131~~	~~169~~	~~0~~
AM Peak Hour Volumes		**0**	**0**	**0**	**0**	**351**	**3**	**323**	**0**	**488**	**1525**	**0**	**1**	**0**	**948**	**949**	**15**
Percent Approach		0.0%	0.0%	0.0%		51.8%	0.4%	47.7%		24.2%	75.8%	0.0%		0.0%	50.0%	50.0%	

				Intersection			
AM Peak Hour Factor	*#DIV/0!*		*0.69*	**0.90**	*0.92*		*0.90*

Begin Time	End Time	Eastbound (I-40 N.Ramp)				Westbound (I-40 N.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~17~~	~~0~~	~~32~~	~~0~~	~~122~~	~~458~~	~~0~~	~~0~~	~~0~~	~~229~~	~~163~~	~~0~~
4:15 PM	4:30 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~12~~	~~0~~	~~32~~	~~0~~	~~118~~	~~537~~	~~0~~	~~0~~	~~0~~	~~305~~	~~189~~	~~0~~
4:30 PM	4:45 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~9~~	~~0~~	~~22~~	~~0~~	~~122~~	~~474~~	~~0~~	~~1~~	~~0~~	~~246~~	~~191~~	~~0~~
4:45 PM	5:00 PM	0	0	0	0	19	3	25	0	99	569	0	2	0	257	163	2
5:00 PM	5:15 PM	0	0	0	0	16	1	20	0	116	501	0	0	0	278	162	0
5:15 PM	5:30 PM	0	0	0	0	15	1	33	0	96	601	0	1	0	257	165	0
5:30 PM	5:45 PM	0	0	0	0	14	0	22	0	116	609	0	0	0	243	166	0
5:45 PM	6:00 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~16~~	~~0~~	~~27~~	~~0~~	~~71~~	~~480~~	~~0~~	~~0~~	~~0~~	~~273~~	~~161~~	~~0~~
PM Peak Hour Volumes		**0**	**0**	**0**	**0**	**64**	**5**	**100**	**0**	**427**	**2280**	**0**	**3**	**0**	**1035**	**656**	**2**
Percent Approach		0.0%	0.0%	0.0%		37.9%	3.0%	59.2%		15.8%	84.2%	0.0%		0.0%	61.2%	38.8%	

				Intersection			
PM Peak Hour Factor	*#DIV/0!*		*0.86*	**0.98**	*0.93*		*0.96*

Turning Movement Demand Worksheet:

	Eastbound (I-40 N.Ramp)				Westbound (I-40 N.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)				
Laneage:	0	0	0		1	1	1		2	3	0		0	3	1		
Lane Length (Ft.):	0	0	0		520	999	520		295	570	0		0	750	525		
Lane Capacity (veh.)	0	0	0		20	39	20		22	66	0		0	90	21		
% Turns	0.0%	0.0%	0.0%		51.8%	0.4%	47.7%		24.2%	75.8%	0.0%		0.0%	50.0%	50.0%		Video Time
Begin Time – End Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	
7:00 AM – 7:15 AM	~~0~~	~~0~~	~~0~~		~~72~~	~~0~~	~~61~~		~~142~~	~~324~~	~~0~~		~~0~~	~~163~~	~~239~~		
End of Period Queue		0				9				25				0			44:26:00
Distributed Queue	0	0	0		5	0	4		6	19	0		0	0	0		
15-Minute Demand	**0**	**0**	**0**		**77**	**0**	**65**		**148**	**343**	**0**		**0**	**163**	**239**		
7:15 AM – 7:30 AM	~~0~~	~~0~~	~~0~~		~~80~~	~~1~~	~~60~~		~~138~~	~~390~~	~~0~~		~~0~~	~~242~~	~~283~~		
End of Period Queue		0				6				0				18			48:46:00
Distributed Queue	0	0	0		3	0	3		0	0	0		0	9	9		
Prev. Queue Credit	0	0	0		-5	0	-4		-6	-19	0		0	0	0		
15-Minute Demand	**0**	**0**	**0**	**0**	**78**	**1**	**59**	**0**	**132**	**371**	**0**	**0**	**0**	**251**	**292**		
7:30 AM – 7:45 AM	~~0~~	~~0~~	~~0~~		~~74~~	~~0~~	~~85~~		~~104~~	~~369~~	~~0~~		~~0~~	~~245~~	~~235~~		
End of Period Queue		0				1				16				22			53:06:00
Distributed Queue	0	0	0		1	0	0		4	12	0		0	11	11		
Prev. Queue Credit	0	0	0		-3	0	-3		0	0	0		0	-9	-9		
15-Minute Demand	**0**	**0**	**0**	**0**	**72**	**0**	**82**	**0**	**108**	**381**	**0**	**0**	**0**	**247**	**237**		
7:45 AM – 8:00 AM	~~0~~	~~0~~	~~0~~		~~125~~	~~2~~	~~117~~		~~104~~	~~442~~	~~0~~		~~0~~	~~298~~	~~192~~		
End of Period Queue		0				0				10				14			57:26:00
Distributed Queue	0	0	0		0	0	0		2	8	0		0	7	7		
Prev. Queue Credit	0	0	0		-1	0	0		-4	-12	0		0	-11	-11		
15-Minute Demand	**0**	**0**	**0**	**0**	**124**	**2**	**117**	**0**	**102**	**438**	**0**	**0**	**0**	**294**	**188**		
8:00 AM – 8:15 AM	~~0~~	~~0~~	~~0~~		~~63~~	~~0~~	~~57~~		~~102~~	~~256~~	~~0~~		~~0~~	~~284~~	~~188~~		
End of Period Queue		0				4				6				1			61:46:00
Distributed Queue	0	0	0		2	0	2		1	5	0		0	0	1		
Prev. Queue Credit	0	0	0		0	0	0		-2	-8	0		0	-7	-7		
15-Minute Demand	**0**	**0**	**0**	**0**	**65**	**0**	**59**	**0**	**101**	**253**	**0**	**0**	**0**	**277**	**182**		
8:15 AM – 8:30 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~67~~	~~0~~	~~44~~	~~0~~	~~108~~	~~224~~	~~0~~	~~0~~	~~0~~	~~217~~	~~210~~	~~0~~	
End of Period Queue		0				7				6				0			66:06:00
Distributed Queue	0	0	0		4	0	3		1	5	0		0	0	0		
Prev. Queue Credit	0	0	0		-2	0	-2		-1	-5	0		0	0	-1		
15-Minute Demand	**0**	**0**	**0**	**0**	**69**	**0**	**45**	**0**	**108**	**224**	**0**	**0**	**0**	**217**	**209**		
8:30 AM – 8:45 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~51~~	~~0~~	~~46~~	~~0~~	~~89~~	~~281~~	~~1~~	~~1~~	~~0~~	~~181~~	~~224~~	~~0~~	
End of Period Queue		0				3				3				9			70:25:00
Distributed Queue	0	0	0		2	0	1		1	2	0		0	4	5		
Prev. Queue Credit	0	0	0		-4	0	-3		-1	-5	0		0	0	0		
15-Minute Demand	**0**	**0**	**0**	**0**	**49**	**0**	**44**	**0**	**89**	**278**	**1**	**1**	**0**	**185**	**229**		
8:45 AM – 9:00 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~26~~	~~0~~	~~26~~	~~0~~	~~90~~	~~219~~	~~0~~	~~0~~	~~0~~	~~131~~	~~169~~	~~0~~	
End of Period Queue		0				0				0				0			
Distributed Queue	0	0	0		0	0	0		0	0	0		0	0	0		
Prev. Queue Credit	0	0	0		-2	0	-1		-1	-2	0		0	-4	-5		
15-Minute Demand	**0**	**0**	**0**	**0**	**24**	**0**	**25**	**0**	**89**	**217**	**0**	**0**	**0**	**127**	**164**		

Turning Movement Demand Worksheet:

Laneage:	0	0	0		1	1	1		2	3	0		0	3	1		
Lane Length (Ft.):	0	0	0		520	999	520		295	570	0		0	750	525		
Lane Capacity (veh.)	0	0	0		20	39	20		22	66	0		0	90	21		
% Turns	0.0%	0.0%	0.0%		37.9%	3.0%	59.2%		15.8%	84.2%	0.0%		0.0%	61.2%	38.8%		Video Time
Begin Time / End Time	Eastbound (I-40 N.Ramp)				Westbound (I-40 N.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)				
	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	
4:00 PM 4:15 PM	~~0~~	~~0~~	~~0~~		~~17~~	~~0~~	~~32~~		~~122~~	~~458~~	~~0~~		~~0~~	~~229~~	~~163~~		
End of Period Queue		0				0				18				14			6:22:00
Distributed Queue	0	0	0		0	0	0		3	15	0		0	9	5		
15-Minute Demand	**0**	**0**	**0**		**17**	**0**	**32**		**125**	**473**	**0**		**0**	**238**	**168**		
4:15 PM 4:30 PM	~~0~~	~~0~~	~~0~~		~~12~~	~~0~~	~~32~~		~~118~~	~~537~~	~~0~~		~~0~~	~~305~~	~~189~~		
End of Period Queue		0				0				10				2			10:40:00
Distributed Queue	0	0	0		0	0	0		2	8	0		0	1	1		
Prev. Queue Credit	0	0	0		0	0	0		-3	-15	0		0	-9	-5		
15-Minute Demand	**0**	**0**	**0**	**0**	**12**	**0**	**32**	**0**	**117**	**530**	**0**	**0**	**0**	**297**	**185**		
4:30 PM 4:45 PM	~~0~~	~~0~~	~~0~~		~~9~~	~~0~~	~~22~~		~~122~~	~~474~~	~~0~~		~~0~~	~~246~~	~~191~~		
End of Period Queue		0				0				0				19			15:08:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	12	7		
Prev. Queue Credit	0	0	0		0	0	0		-2	-8	0		0	-1	-1		
15-Minute Demand	**0**	**0**	**0**	**0**	**9**	**0**	**22**	**0**	**120**	**466**	**0**	**0**	**0**	**257**	**197**		
4:45 PM 5:00 PM	~~0~~	~~0~~	~~0~~		~~19~~	~~3~~	~~25~~		~~99~~	~~569~~	~~0~~		~~0~~	~~257~~	~~163~~		
End of Period Queue		0				0				20				2			19:28:00
Distributed Queue	0	0	0		0	0	0		3	17	0		0	1	1		
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		0	-12	-7		
15-Minute Demand	**0**	**0**	**0**	**0**	**19**	**3**	**25**	**0**	**102**	**586**	**0**	**0**	**0**	**246**	**157**		
5:00 PM 5:15 PM	~~0~~	~~0~~	~~0~~		~~16~~	~~1~~	~~20~~		~~116~~	~~501~~	~~0~~		~~0~~	~~278~~	~~162~~		
End of Period Queue		0				4				8				0			22:52:00
Distributed Queue	0	0	0		2	0	2		1	7	0		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		-3	-17	0		0	-1	-1		
15-Minute Demand	**0**	**0**	**0**	**0**	**18**	**1**	**22**	**0**	**114**	**491**	**0**	**0**	**0**	**277**	**161**		
5:15 PM 5:30 PM	~~0~~	~~0~~	~~0~~		~~15~~	~~1~~	~~33~~		~~96~~	~~601~~	~~0~~		~~0~~	~~257~~	~~165~~		
End of Period Queue		0				0				14				15			27:13:00
Distributed Queue	0	0	0		0	0	0		2	12	0		0	9	6		
Prev. Queue Credit	0	0	0		-2	0	-2		-1	-7	0		0	0	0		
15-Minute Demand	**0**	**0**	**0**	**0**	**13**	**1**	**31**	**0**	**97**	**606**	**0**	**0**	**0**	**266**	**171**		
5:30 PM 5:45 PM	~~0~~	~~0~~	~~0~~		~~14~~	~~0~~	~~22~~		~~116~~	~~609~~	~~0~~		~~0~~	~~243~~	~~166~~		
End of Period Queue		0				2				8				0			31:32:00
Distributed Queue	0	0	0		1	0	1		1	7	0		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		-2	-12	0		0	-9	-6		
15-Minute Demand	**0**	**0**	**0**	**0**	**15**	**0**	**23**	**0**	**115**	**604**	**0**	**0**	**0**	**234**	**160**		
5:45 PM 6:00 PM	~~0~~	~~0~~	~~0~~		~~16~~	~~0~~	~~27~~		~~71~~	~~480~~	~~0~~		~~0~~	~~273~~	~~161~~		
End of Period Queue		0				0				10				19			35:53:00
Distributed Queue	0	0	0		0	0	0		2	8	0		0	12	7		
Prev. Queue Credit	0	0	0		-1	0	-1		-1	-7	0		0	0	0		
15-Minute Demand	**0**	**0**	**0**	**0**	**15**	**0**	**26**	**0**	**72**	**481**	**0**	**0**	**0**	**285**	**168**		

Traffic Count Data Sheet (Demand Adjusted)

Year Counts Taken: **2018**
E-W Street: **I-40 N.Ramp**
N-S Street: **Juan Tabo Blvd.**
Speed Limit (I-40 N.Ramp)= **30** MPH
Speed Limit (Juan Tabo Blvd.)= **30** MPH
Signalized
9/18/18

Begin	End	Eastbound (I-40 N.Ramp)				Westbound (I-40 N.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
Time	Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	0	0	0	0	77	0	65	0	148	343	0	0	0	163	239	0
7:15 AM	7:30 AM	0	0	0	0	78	1	59	0	132	371	0	1	0	251	292	15
7:30 AM	7:45 AM	0	0	0	0	72	0	82	0	108	381	0	0	0	247	237	0
7:45 AM	8:00 AM	0	0	0	0	124	2	117	0	102	438	0	0	0	294	188	0
8:00 AM	8:15 AM	0	0	0	0	65	0	59	0	101	253	0	1	0	277	182	0
8:15 AM	8:30 AM	0	0	0	0	69	0	45	0	108	224	0	0	0	217	209	0
8:30 AM	8:45 AM	0	0	0	0	49	0	44	0	89	278	1	1	0	185	229	0
8:45 AM	9:00 AM	0	0	0	0	24	0	25	0	89	217	0	0	0	127	164	0
AM Peak Hour Volumes		0	0	0	0	351	3	323	0	490	1533	0	1	0	955	956	15
Percent Approach		#DIV/0!	#DIV/0!	#DIV/0!		51.8%	0.4%	47.7%		24.2%	75.8%	0.0%		0.0%	50.0%	50.0%	
								Intersection									
AM Peak Hour Factor			#DIV/0!				0.70	0.91			0.94				0.88		

Begin	End	Eastbound (I-40 N.Ramp)				Westbound (I-40 N.Ramp)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
Time	Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	0	0	0	0	17	0	32	0	125	473	0	0	0	238	168	0
4:15 PM	4:30 PM	0	0	0	0	12	0	32	0	117	530	0	0	0	297	185	0
4:30 PM	4:45 PM	0	0	0	0	9	0	22	0	120	466	0	1	0	257	197	0
4:45 PM	5:00 PM	0	0	0	0	19	3	25	0	102	586	0	2	0	246	157	2
5:00 PM	5:15 PM	0	0	0	0	18	1	22	0	114	491	0	0	0	277	161	0
5:15 PM	5:30 PM	0	0	0	0	13	1	31	0	97	606	0	1	0	266	171	0
5:30 PM	5:45 PM	0	0	0	0	15	0	23	0	115	604	0	0	0	234	160	0
5:45 PM	6:00 PM	0	0	0	0	15	0	26	0	72	481	0	0	0	285	168	0
PM Peak Hour Volumes		0	0	0	0	65	5	101	0	428	2287	0	3	0	1023	649	2
Percent Approach		#DIV/0!	#DIV/0!	#DIV/0!		38.0%	2.9%	59.1%		15.8%	84.2%	0.0%		0.0%	61.2%	38.8%	
								Intersection									
PM Peak Hour Factor			#DIV/0!				0.91	0.96			0.94				0.95		

AM Peak Hour Raw Count	0	0	0	0	351	3	323	0	488	1525	0	1	0	948	949	15
% Change	N/A	N/A	N/A	N/A	0%	0%	0%	N/A	0%	1%	N/A	0%	N/A	1%	1%	0%
AM Peak Hour Raw Count	0	0	0	0	64	5	100	0	427	2280	0	3	0	1035	656	2
% Change	N/A	N/A	N/A	N/A	2%	0%	1%	N/A	0%	0%	N/A	0%	N/A	-1%	-1%	0%

Traffic Count Data Sheet

Year Counts Taken: **2018**
E-W Street: **Copper Ave.**
N-S Street: **Juan Tabo Blvd.**
Speed Limit (Copper Ave.)= **30** MPH
Speed Limit (Juan Tabo Blvd.)= **40** MPH
Signalized
10/25/18

Begin Time	End Time	Eastbound (Copper Ave.)				Westbound (Copper Ave.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	~~3~~	~~3~~	~~12~~	~~0~~	~~78~~	~~3~~	~~16~~	~~0~~	~~3~~	~~191~~	~~42~~	~~0~~	~~8~~	~~239~~	~~4~~	~~0~~
7:15 AM	7:30 AM	2	5	10	0	99	3	21	0	6	319	66	1	9	307	3	0
7:30 AM	7:45 AM	2	5	21	1	120	11	30	1	13	304	57	0	19	385	4	1
7:45 AM	8:00 AM	4	3	18	1	99	16	32	0	21	306	35	1	20	292	5	1
8:00 AM	8:15 AM	5	13	46	0	89	8	28	0	36	380	30	0	17	341	4	0
8:15 AM	8:30 AM	~~5~~	~~2~~	~~31~~	~~2~~	~~99~~	~~4~~	~~20~~	~~1~~	~~13~~	~~261~~	~~33~~	~~2~~	~~11~~	~~322~~	~~3~~	~~1~~
8:30 AM	8:45 AM	~~5~~	~~5~~	~~15~~	~~1~~	~~78~~	~~2~~	~~17~~	~~0~~	~~10~~	~~210~~	~~30~~	~~1~~	~~15~~	~~308~~	~~12~~	~~0~~
8:45 AM	9:00 AM	~~5~~	~~5~~	~~20~~	~~1~~	~~80~~	~~5~~	~~15~~	~~0~~	~~10~~	~~200~~	~~30~~	~~0~~	~~15~~	~~300~~	~~10~~	~~0~~
AM Peak Hour Volumes		**13**	**26**	**95**	**2**	**407**	**38**	**111**	**1**	**76**	**1309**	**188**	**2**	**65**	**1325**	**16**	**2**
Percent Approach		9.7%	19.4%	70.9%		73.2%	6.8%	20.0%		4.8%	83.2%	12.0%		4.6%	94.2%	1.1%	

	Eastbound	Westbound	Intersection	Northbound	Southbound
AM Peak Hour Factor	*0.52*	*0.86*	0.92	*0.88*	*0.86*

Begin Time	End Time	Eastbound (Copper Ave.)				Westbound (Copper Ave.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~6~~	~~5~~	~~13~~	~~1~~	~~54~~	~~4~~	~~18~~	~~0~~	~~12~~	~~399~~	~~84~~	~~1~~	~~32~~	~~361~~	~~8~~	~~0~~
4:15 PM	4:30 PM	~~5~~	~~4~~	~~17~~	~~2~~	~~64~~	~~9~~	~~21~~	~~1~~	~~19~~	~~278~~	~~70~~	~~3~~	~~27~~	~~328~~	~~8~~	~~2~~
4:30 PM	4:45 PM	~~5~~	~~4~~	~~24~~	~~1~~	~~63~~	~~4~~	~~20~~	~~1~~	~~26~~	~~426~~	~~93~~	~~1~~	~~16~~	~~337~~	~~13~~	~~2~~
4:45 PM	5:00 PM	~~11~~	~~2~~	~~26~~	~~3~~	~~58~~	~~11~~	~~33~~	~~0~~	~~28~~	~~406~~	~~71~~	~~0~~	~~25~~	~~298~~	~~14~~	~~3~~
5:00 PM	5:15 PM	8	7	22	2	52	5	15	1	15	472	92	1	35	348	15	2
5:15 PM	5:30 PM	3	5	13	1	62	10	18	2	27	457	93	1	26	299	12	4
5:30 PM	5:45 PM	8	6	20	2	57	8	21	1	25	430	98	0	31	314	33	2
5:45 PM	6:00 PM	5	5	20	3	54	10	25	0	20	420	90	2	27	299	35	0
PM Peak Hour Volumes		**24**	**23**	**75**	**8**	**225**	**33**	**79**	**4**	**87**	**1779**	**373**	**4**	**119**	**1260**	**95**	**8**
Percent Approach		19.7%	18.9%	61.5%		66.8%	9.8%	23.4%		3.9%	79.5%	16.7%		8.1%	85.5%	6.4%	

	Eastbound	Westbound	Intersection	Northbound	Southbound
PM Peak Hour Factor	*0.82*	*0.94*	0.96	*0.97*	*0.93*

Turning Movement Demand Worksheet:

	Eastbound (Copper Ave.)				Westbound (Copper Ave.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)				
Laneage:	1	1	0		1	1	1		1	3	0		1	3	0		
Lane Length (Ft.):	90	999	0		150	999	150		100	680	0		125	999	0		
Lane Capacity (veh.)	3	39	0		6	39	6		4	81	0		5	117	0		
% Turns	9.7%	19.4%	70.9%		73.2%	6.8%	20.0%		4.8%	83.2%	12.0%		4.6%	94.2%	1.1%		Video Time
Begin Time – End Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	
7:00 AM – 7:15 AM	~~3~~	~~3~~	~~12~~		~~78~~	~~3~~	~~16~~		~~3~~	~~191~~	~~42~~		~~8~~	~~239~~	~~4~~		
End of Period Queue		0				0				0				0			44:25:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	0	0		
15-Minute Demand	**3**	**3**	**12**		**78**	**3**	**16**		**3**	**191**	**42**		**8**	**239**	**4**		
7:15 AM – 7:30 AM	~~2~~	~~5~~	~~10~~		~~99~~	~~3~~	~~21~~		~~6~~	~~319~~	~~66~~		~~9~~	~~307~~	~~3~~		
End of Period Queue		3				12				5				6			48:46:00
Distributed Queue	0	1	2		9	1	2		0	4	1		0	6	0		
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		0	0	0		
15-Minute Demand	**2**	**6**	**12**	**0**	**108**	**4**	**23**	**0**	**6**	**323**	**67**	**0**	**9**	**313**	**3**		
7:30 AM – 7:45 AM	~~2~~	~~5~~	~~21~~		~~120~~	~~11~~	~~30~~		~~13~~	~~304~~	~~57~~		~~19~~	~~385~~	~~4~~		
End of Period Queue		0				4				0				0			53:06:00
Distributed Queue	0	0	0		3	0	1		0	0	0		0	0	0		
Prev. Queue Credit	0	-1	-2		-9	-1	-2		0	-4	-1		0	-6	0		
15-Minute Demand	**2**	**4**	**19**	**0**	**114**	**10**	**29**	**0**	**13**	**300**	**56**	**0**	**19**	**379**	**4**		
7:45 AM – 8:00 AM	~~4~~	~~3~~	~~18~~		~~99~~	~~16~~	~~32~~		~~21~~	~~306~~	~~35~~		~~20~~	~~292~~	~~5~~		
End of Period Queue		0				7				0				3			57:26:00
Distributed Queue	0	0	0		5	0	1		0	0	0		0	3	0		
Prev. Queue Credit	0	0	0		-3	0	-1		0	0	0		0	0	0		
15-Minute Demand	**4**	**3**	**18**	**0**	**101**	**16**	**32**	**0**	**21**	**306**	**35**	**0**	**20**	**295**	**5**		
8:00 AM – 8:15 AM	~~5~~	~~13~~	~~46~~		~~89~~	~~8~~	~~28~~		~~36~~	~~380~~	~~30~~		~~17~~	~~341~~	~~4~~		
End of Period Queue		0				7				16				7			61:46:00
Distributed Queue	0	0	0		5	0	1		1	13	2		0	7	0		
Prev. Queue Credit	0	0	0		-5	0	-1		0	0	0		0	-3	0		
15-Minute Demand	**5**	**13**	**46**	**0**	**89**	**8**	**28**	**0**	**37**	**393**	**32**	**0**	**17**	**345**	**4**		
8:15 AM – 8:30 AM	~~5~~	~~2~~	~~31~~	~~2~~	~~99~~	~~4~~	~~20~~	~~1~~	~~13~~	~~261~~	~~33~~	~~2~~	~~11~~	~~322~~	~~3~~	~~1~~	
End of Period Queue		1				6				0				0			66:06:00
Distributed Queue	0	0	1		4	0	1		0	0	0		0	0	0		
Prev. Queue Credit	0	0	0		-5	0	-1		-1	-13	-2		0	-7	0		
15-Minute Demand	**5**	**2**	**32**	**2**	**98**	**4**	**20**	**1**	**12**	**248**	**31**	**2**	**11**	**315**	**3**		
8:30 AM – 8:45 AM	~~5~~	~~5~~	~~15~~	~~1~~	~~78~~	~~2~~	~~17~~	~~0~~	~~10~~	~~210~~	~~30~~	~~1~~	~~15~~	~~308~~	~~12~~	~~0~~	
End of Period Queue		0				6				3				3			70:25:00
Distributed Queue	0	0	0		4	0	1		0	2	0		0	3	0		
Prev. Queue Credit	0	0	-1		-4	0	-1		0	0	0		0	0	0		
15-Minute Demand	**5**	**5**	**14**	**1**	**78**	**2**	**17**	**0**	**10**	**212**	**30**	**1**	**15**	**311**	**12**		
8:45 AM – 9:00 AM	~~5~~	~~5~~	~~20~~	~~1~~	~~80~~	~~5~~	~~15~~	~~0~~	~~10~~	~~200~~	~~30~~	~~0~~	~~15~~	~~300~~	~~10~~	~~0~~	
End of Period Queue		0				0				0				0			75:11:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	0	0		
Prev. Queue Credit	0	0	0		-4	0	-1		0	-2	0		0	-3	0		
15-Minute Demand	**5**	**5**	**20**	**1**	**76**	**5**	**14**	**0**	**10**	**198**	**30**	**0**	**15**	**297**	**10**		

Turning Movement Demand Worksheet:

Laneage:	1	1	0		1	1	1		1	3	0		1	3	0		
Lane Length (Ft.):	90	999	0		150	999	150		100	680	0		125	999	0		
Lane Capacity (veh.)	3	39	0		6	39	6		4	81	0		5	117	0		
	19.7%	18.9%	61.5%		66.8%	9.8%	23.4%		3.9%	79.5%	16.7%		8.1%	85.5%	6.4%		Video Time
Begin Time / End Time	Eastbound (Copper Ave.)				Westbound (Copper Ave.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)				
	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	
4:00 PM 4:15 PM	~~6~~	~~5~~	~~13~~		~~54~~	~~4~~	~~18~~		~~12~~	~~399~~	~~84~~		~~32~~	~~361~~	~~8~~		
End of Period Queue		0				0				0				0			6:22:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	0	0		
15-Minute Demand	**6**	**5**	**13**		**54**	**4**	**18**		**12**	**399**	**84**		**32**	**361**	**8**		
4:15 PM 4:30 PM	~~5~~	~~4~~	~~17~~		~~64~~	~~9~~	~~21~~		~~19~~	~~278~~	~~70~~		~~27~~	~~328~~	~~8~~		
End of Period Queue		0				0				33				12			10:40:00
Distributed Queue	0	0	0		0	0	0		1	26	5		1	10	1		
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		0	0	0		
15-Minute Demand	**5**	**4**	**17**	**0**	**64**	**9**	**21**	**0**	**20**	**304**	**75**	**0**	**28**	**338**	**9**		
4:30 PM 4:45 PM	~~5~~	~~4~~	~~24~~		~~63~~	~~4~~	~~20~~		~~26~~	~~426~~	~~93~~		~~16~~	~~337~~	~~13~~		
End of Period Queue		0				0				0				3			15:08:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	3	0		
Prev. Queue Credit	0	0	0		0	0	0		-1	-26	-5		-1	-10	-1		
15-Minute Demand	**5**	**4**	**24**	**0**	**63**	**4**	**20**	**0**	**25**	**400**	**88**	**0**	**15**	**330**	**12**		
4:45 PM 5:00 PM	~~11~~	~~2~~	~~26~~		~~58~~	~~11~~	~~33~~		~~28~~	~~406~~	~~71~~		~~25~~	~~298~~	~~14~~		
End of Period Queue		0				0				5				3			19:28:00
Distributed Queue	0	0	0		0	0	0		0	4	1		0	3	0		
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		0	-3	0		
15-Minute Demand	**11**	**2**	**26**	**0**	**58**	**11**	**33**	**0**	**28**	**410**	**72**	**0**	**25**	**298**	**14**		
5:00 PM 5:15 PM	~~8~~	~~7~~	~~22~~		~~52~~	~~5~~	~~15~~		~~15~~	~~472~~	~~92~~		~~35~~	~~348~~	~~15~~		
End of Period Queue		0				4				0				0			22:52:00
Distributed Queue	0	0	0		3	0	1		0	0	0		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		0	-4	-1		0	-3	0		
15-Minute Demand	**8**	**7**	**22**	**0**	**55**	**5**	**16**	**0**	**15**	**468**	**91**	**0**	**35**	**345**	**15**		
5:15 PM 5:30 PM	~~3~~	~~5~~	~~13~~		~~62~~	~~10~~	~~18~~		~~27~~	~~457~~	~~93~~		~~26~~	~~299~~	~~12~~		
End of Period Queue		0				0				0				3			27:13:00
Distributed Queue	0	0	0		0	0	0		0	0	0		0	3	0		
Prev. Queue Credit	0	0	0		-3	0	-1		0	0	0		0	0	0		
15-Minute Demand	**3**	**5**	**13**	**0**	**59**	**10**	**17**	**0**	**27**	**457**	**93**	**0**	**26**	**302**	**12**		
5:30 PM 5:45 PM	~~8~~	~~6~~	~~20~~		~~57~~	~~8~~	~~21~~		~~25~~	~~430~~	~~98~~		~~31~~	~~314~~	~~33~~		
End of Period Queue		0				0				8				0			31:32:00
Distributed Queue	0	0	0		0	0	0		0	6	1		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		0	0	0		0	-3	0		
15-Minute Demand	**8**	**6**	**20**	**0**	**57**	**8**	**21**	**0**	**25**	**436**	**99**	**0**	**31**	**311**	**33**		
5:45 PM 6:00 PM	~~5~~	~~5~~	~~20~~		~~54~~	~~10~~	~~25~~		~~20~~	~~420~~	~~90~~		~~27~~	~~299~~	~~35~~		
End of Period Queue		0				12				0				0			35:53:00
Distributed Queue	0	0	0		8	1	3		0	0	0		0	0	0		
Prev. Queue Credit	0	0	0		0	0	0		0	-6	-1		0	0	0		
15-Minute Demand	**5**	**5**	**20**	**0**	**62**	**11**	**28**	**0**	**20**	**414**	**89**	**0**	**27**	**299**	**35**		

Traffic Count Data Sheet (Demand Adjusted)

Year Counts Taken: **2018**
E-W Street: **Copper Ave.**
N-S Street: **Juan Tabo Blvd.**
Signalized
Speed Limit (Copper Ave.)= **30** MPH
Speed Limit (Juan Tabo Blvd.)= **40** MPH
10/25/18

Begin	End	Eastbound (Copper Ave.)				Westbound (Copper Ave.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
Time	Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	~~3~~	~~3~~	~~12~~	~~0~~	~~78~~	~~3~~	~~16~~	~~0~~	~~3~~	~~191~~	~~42~~	~~0~~	~~8~~	~~239~~	~~4~~	~~0~~
7:15 AM	7:30 AM	2	6	12	0	108	4	23	0	6	323	67	1	9	313	3	0
7:30 AM	7:45 AM	2	4	19	1	114	10	29	1	13	300	56	0	19	379	4	1
7:45 AM	8:00 AM	4	3	18	1	101	16	32	0	21	306	35	1	20	295	5	1
8:00 AM	8:15 AM	5	13	46	0	89	8	28	0	37	393	32	0	17	345	4	0
8:15 AM	8:30 AM	~~5~~	~~2~~	~~32~~	~~2~~	~~98~~	~~4~~	~~20~~	~~1~~	~~12~~	~~248~~	~~31~~	~~2~~	~~11~~	~~315~~	~~3~~	~~1~~
8:30 AM	8:45 AM	~~5~~	~~5~~	~~14~~	~~1~~	~~78~~	~~2~~	~~17~~	~~0~~	~~10~~	~~212~~	~~30~~	~~1~~	~~15~~	~~311~~	~~12~~	~~0~~
8:45 AM	9:00 AM	~~5~~	~~5~~	~~20~~	~~1~~	~~76~~	~~5~~	~~14~~	~~0~~	~~10~~	~~198~~	~~30~~	~~0~~	~~15~~	~~297~~	~~10~~	~~0~~
AM Peak Hour Volumes		**13**	**26**	**95**	**2**	**412**	**38**	**112**	**1**	**77**	**1322**	**190**	**2**	**65**	**1332**	**16**	**2**
Percent Approach		9.7%	19.4%	70.9%		73.3%	6.8%	19.9%		4.8%	83.2%	12.0%		4.6%	94.3%	1.1%	
								Intersection									
AM Peak Hour Factor			*0.52*				*0.92*	**0.91**		*0.86*					*0.88*		

Begin	End	Eastbound (Copper Ave.)				Westbound (Copper Ave.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
Time	Time	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~6~~	~~5~~	~~13~~	~~1~~	~~54~~	~~4~~	~~18~~	~~0~~	~~12~~	~~399~~	~~84~~	~~1~~	~~32~~	~~361~~	~~8~~	~~0~~
4:15 PM	4:30 PM	~~5~~	~~4~~	~~17~~	~~2~~	~~64~~	~~9~~	~~21~~	~~1~~	~~20~~	~~304~~	~~75~~	~~3~~	~~28~~	~~338~~	~~9~~	~~2~~
4:30 PM	4:45 PM	~~5~~	~~4~~	~~24~~	~~1~~	~~63~~	~~4~~	~~20~~	~~1~~	~~25~~	~~400~~	~~88~~	~~1~~	~~15~~	~~330~~	~~12~~	~~2~~
4:45 PM	5:00 PM	~~11~~	~~2~~	~~26~~	~~3~~	~~58~~	~~11~~	~~33~~	~~0~~	~~28~~	~~410~~	~~72~~	~~0~~	~~25~~	~~298~~	~~14~~	~~3~~
5:00 PM	5:15 PM	8	7	22	2	55	5	16	1	15	468	91	1	35	345	15	2
5:15 PM	5:30 PM	3	5	13	1	59	10	17	2	27	457	93	1	26	302	12	4
5:30 PM	5:45 PM	8	6	20	2	57	8	21	1	25	436	99	0	31	311	33	2
5:45 PM	6:00 PM	5	5	20	3	62	11	28	0	20	414	89	2	27	299	35	0
PM Peak Hour Volumes		**24**	**23**	**75**	**8**	**233**	**34**	**82**	**4**	**87**	**1775**	**372**	**4**	**119**	**1257**	**95**	**8**
Percent Approach		19.7%	18.9%	61.5%		66.8%	9.7%	23.5%		3.9%	79.5%	16.7%		8.1%	85.5%	6.5%	
								Intersection									
PM Peak Hour Factor			*0.82*				*0.86*	**0.96**		*0.97*					*0.93*		

AM Peak Hour Raw Count	13	26	95	2	407	38	111	1	76	1309	188	2	65	1325	16	2
% Change	0%	0%	0%	0%	1%	0%	1%	0%	1%	1%	1%	0%	0%	1%	0%	0%
AM Peak Hour Raw Count	24	23	75	8	225	33	79	4	87	1779	373	4	119	1260	95	8
% Change	0%	0%	0%	0%	4%	3%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Traffic Count Data Sheet

Year Counts Taken: **2018**

E-W Street: **Lomas Blvd.**

N-S Street: **Juan Tabo Blvd.**

Speed Limit (Lomas Blvd.)= **40** MPH

Speed Limit (Juan Tabo Blvd.)= **40** MPH

Signalized

10/25/18

Begin Time	End Time	Eastbound (Lomas Blvd.)				Westbound (Lomas Blvd.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	~~26~~	~~64~~	~~21~~	~~12~~	~~65~~	~~99~~	~~25~~	~~0~~	~~26~~	~~162~~	~~88~~	~~2~~	~~39~~	~~195~~	~~34~~	~~2~~
7:15 AM	7:30 AM	22	86	22	3	98	148	34	0	31	221	96	3	48	229	47	0
7:30 AM	7:45 AM	30	55	33	1	73	168	36	0	51	249	32	2	19	226	61	0
7:45 AM	8:00 AM	49	59	34	1	69	201	31	0	67	318	37	0	24	226	45	0
8:00 AM	8:15 AM	53	60	23	1	64	123	23	3	31	194	36	0	25	238	46	1
8:15 AM	8:30 AM	~~37~~	~~49~~	~~28~~	~~3~~	~~59~~	~~101~~	~~18~~	~~0~~	~~36~~	~~177~~	~~28~~	~~3~~	~~14~~	~~226~~	~~44~~	~~0~~
8:30 AM	8:45 AM	~~36~~	~~42~~	~~30~~	~~1~~	~~45~~	~~93~~	~~19~~	~~1~~	~~35~~	~~228~~	~~13~~	~~3~~	~~15~~	~~209~~	~~26~~	~~1~~
8:45 AM	9:00 AM	~~34~~	~~41~~	~~31~~	~~1~~	~~35~~	~~95~~	~~17~~	~~1~~	~~29~~	~~216~~	~~14~~	~~0~~	~~20~~	~~188~~	~~28~~	~~0~~
AM Peak Hour Volumes		154	260	112	6	304	640	124	3	180	982	201	5	116	919	199	1
% of Total Traffic		3.7%	6.2%	2.7%		7.2%	15.2%	3.0%		4.3%	23.4%	4.8%		2.8%	21.9%	4.7%	
% Directional			12.5%				25.4%	**Intersection**			32.5%				29.4%		
AM Peak Hour Factor			*0.93*				*0.89*	0.90			*0.81*				*0.95*		

Begin Time	End Time	Eastbound (Lomas Blvd.)				Westbound (Lomas Blvd.)				Northbound (Juan Tabo Blvd.)				Southbound (Juan Tabo Blvd.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~78~~	~~118~~	~~63~~	~~13~~	~~70~~	~~85~~	~~25~~	~~1~~	~~40~~	~~298~~	~~41~~	~~3~~	~~27~~	~~253~~	~~28~~	~~1~~
4:15 PM	4:30 PM	~~65~~	~~96~~	~~59~~	~~12~~	~~47~~	~~61~~	~~35~~	~~7~~	~~32~~	~~349~~	~~49~~	~~6~~	~~39~~	~~275~~	~~35~~	~~0~~
4:30 PM	4:45 PM	~~64~~	~~125~~	~~56~~	~~5~~	~~51~~	~~103~~	~~32~~	~~5~~	~~38~~	~~307~~	~~46~~	~~0~~	~~35~~	~~217~~	~~32~~	~~2~~
4:45 PM	5:00 PM	60	104	53	3	53	93	32	3	27	366	73	4	37	269	31	0
5:00 PM	5:15 PM	91	138	64	1	52	83	24	1	34	344	44	2	30	268	34	2
5:15 PM	5:30 PM	72	113	48	5	47	72	22	0	34	377	66	1	51	271	39	1
5:30 PM	5:45 PM	64	124	50	3	35	92	28	2	40	345	44	0	57	247	41	1
5:45 PM	6:00 PM	~~73~~	~~115~~	~~43~~	~~8~~	~~29~~	~~66~~	~~19~~	~~1~~	~~39~~	~~278~~	~~48~~	~~0~~	~~70~~	~~243~~	~~46~~	~~4~~
PM Peak Hour Volumes		287	479	215	12	187	340	106	6	135	1432	227	7	175	1055	145	4
% of Total Traffic		6.0%	10.0%	4.5%		3.9%	7.1%	2.2%		2.8%	29.8%	4.7%		3.6%	22.0%	3.0%	
% Directional			20.4%				13.2%	**Intersection**			37.4%				28.7%		
PM Peak Hour Factor			*0.84*				*0.89*	0.99			*0.94*				*0.95*		

Traffic Count Data Sheet

Year Counts Taken: **2018**

E-W Street: **Copper Av.**

N-S Street: **Paisano St.**

Speed Limit (Copper Av.)= **30** MPH

Speed Limit (Paisano St.)= **25** MPH

Unsignalized

10/25/18

Begin Time	End Time	Eastbound (Copper Av.)				Westbound (Copper Av.)				Northbound (Paisano St.)				Southbound (Paisano St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	~~0~~	~~0~~	~~2~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~6~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
7:15 AM	7:30 AM	0	82	0	0	0	0	0	1	8	0	0	0	0	0	0	0
7:30 AM	7:45 AM	0	81	3	0	0	0	0	0	5	0	0	0	0	0	0	0
7:45 AM	8:00 AM	0	58	8	0	0	0	0	0	6	0	3	1	0	0	0	0
8:00 AM	8:15 AM	0	62	2	0	0	0	0	0	4	0	2	0	0	0	0	0
8:15 AM	8:30 AM	~~0~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~1~~
8:30 AM	8:45 AM	~~0~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~12~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
8:45 AM	9:00 AM	~~0~~	~~0~~	~~9~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~4~~	~~0~~	~~0~~	~~1~~	~~0~~	~~0~~	~~0~~	~~0~~
AM Peak Hour Volumes		0	283	13	0	0	0	0	1	23	0	5	1	0	0	0	0
% of Total Traffic		0.0%	87.1%	4.0%		0.0%	0.0%	0.0%		7.1%	0.0%	1.5%		0.0%	0.0%	0.0%	
% Directional			91.1%				0.0%	Intersection			8.6%				0.0%		
AM Peak Hour Factor			*0.88*				*#DIV/0!*	0.90			*0.78*				*#DIV/0!*		

Begin Time	End Time	Eastbound (Copper Av.)				Westbound (Copper Av.)				Northbound (Paisano St.)				Southbound (Paisano St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~0~~	~~0~~	~~9~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~7~~	~~0~~	~~1~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
4:15 PM	4:30 PM	~~0~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~6~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
4:30 PM	4:45 PM	~~0~~	~~0~~	~~5~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~3~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
4:45 PM	5:00 PM	~~0~~	~~0~~	~~17~~	~~0~~	~~4~~	~~0~~	~~0~~	~~0~~	~~13~~	~~0~~	~~3~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
5:00 PM	5:15 PM	0	134	17	0	2	0	0	0	16	0	2	0	0	0	0	0
5:15 PM	5:30 PM	0	124	4	0	0	0	0	0	3	0	0	0	0	0	0	0
5:30 PM	5:45 PM	0	136	6	0	2	0	0	0	6	0	0	2	0	0	0	0
5:45 PM	6:00 PM	0	122	13	1	4	0	0	1	6	0	0	0	0	0	0	0
PM Peak Hour Volumes		0	516	40	1	8	0	0	1	31	0	2	2	0	0	0	0
% of Total Traffic		0.0%	85.9%	6.7%		1.3%	0.0%	0.0%		5.2%	0.0%	0.3%		0.0%	0.0%	0.0%	
% Directional			92.5%				1.3%	Intersection			5.5%				0.0%		
PM Peak Hour Factor			*0.92*				*0.50*	0.87			*0.46*				*#DIV/0!*		

Traffic Count Data Sheet

Year Counts Taken: **2018**

E-W Street: **Copper Av.**

N-S Street: **Hobby Lobby Dr.**

Unsignalized

Speed Limit (Copper Av.)= **30** MPH

Speed Limit (Hobby Lobby Dr.)= **25** MPH

10/25/18

Begin Time	End Time	Eastbound (Copper Av.)				Westbound (Copper Av.)				Northbound (Hobby Lobby Dr.)				Southbound (Hobby Lobby Dr.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	~~2~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~13~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~3~~	~~0~~	~~13~~	~~1~~
7:15 AM	7:30 AM	5	77	0	0	0	0	5	0	0	0	0	0	3	0	20	0
7:30 AM	7:45 AM	0	81	0	0	0	0	4	0	0	0	0	0	0	0	9	0
7:45 AM	8:00 AM	3	55	0	0	0	0	9	0	0	0	0	0	5	0	18	0
8:00 AM	8:15 AM	3	59	0	0	0	0	12	0	0	0	0	0	4	0	24	0
8:15 AM	8:30 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~8~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~4~~	~~0~~	~~24~~	~~0~~
8:30 AM	8:45 AM	~~3~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~9~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~5~~	~~0~~	~~15~~	~~0~~
8:45 AM	9:00 AM	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~6~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~2~~	~~0~~	~~12~~	~~0~~
AM Peak Hour Volumes		11	272	0	0	0	0	30	0	0	0	0	0	12	0	71	0
% of Total Traffic		2.8%	68.7%	0.0%		0.0%	0.0%	7.6%		0.0%	0.0%	0.0%		3.0%	0.0%	17.9%	
% Directional			71.5%				7.6%	**Intersection**			0.0%				21.0%		
AM Peak Hour Factor			*0.86*				*0.63*	0.90			*#DIV/0!*				*0.74*		

Begin Time	End Time	Eastbound (Copper Av.)				Westbound (Copper Av.)				Northbound (Hobby Lobby Dr.)				Southbound (Hobby Lobby Dr.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	~~5~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~8~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~6~~	~~0~~	~~17~~	~~0~~
4:15 PM	4:30 PM	~~3~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~5~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~7~~	~~0~~	~~12~~	~~0~~
4:30 PM	4:45 PM	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~7~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~8~~	~~0~~	~~17~~	~~0~~
4:45 PM	5:00 PM	~~9~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~3~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~12~~	~~0~~	~~13~~	~~0~~
5:00 PM	5:15 PM	5	134	0	0	0	0	4	0	0	0	0	0	13	0	15	0
5:15 PM	5:30 PM	9	124	0	0	0	0	5	0	0	0	0	0	2	0	17	0
5:30 PM	5:45 PM	7	136	0	0	0	0	3	0	0	0	0	0	4	0	9	0
5:45 PM	6:00 PM	0	122	0	0	0	0	7	0	0	0	0	0	5	0	8	0
PM Peak Hour Volumes		21	516	0	0	0	0	19	0	0	0	0	0	24	0	49	0
% of Total Traffic		3.3%	82.0%	0.0%		0.0%	0.0%	3.0%		0.0%	0.0%	0.0%		3.8%	0.0%	7.8%	
% Directional			85.4%				3.0%	**Intersection**			0.0%				11.6%		
PM Peak Hour Factor			*0.94*				*0.68*	0.92			*#DIV/0!*				*0.65*		

SCOPE OF TRAFFIC IMPACT STUDY (TIS)

TO: Terry Brown

MEETING DATE: September 10, 2018

ATTENDEES: Consultant Team; COA Transportation Development Review; NMDOT

PROJECT: C-Store Copper Ave. and Juan Tabo Blvd., Zone Atlas # K-22

REQUESTED CITY ACTION: ___ Zone Change ___ Site Development Plan

___ Subdivision _X_ Building Permit ___ Sector Plan ___ Sector Plan Amendment

___ Curb Cut Permit ___ Conditional Use ___ Annexation ___ Site Plan Amendment

ASSOCIATED APPLICATION: New 20 pump gas convenience market at SE corner of Copper Ave. and Juan Tabo Blvd.

SCOPE OF REPORT:
The Traffic Impact Study should follow the standard report format, which is outlined in the DPM. The following supplemental information is provided for the preparation of this specific study.

1. Trip Generation - Use Trip Generation Manual, 10th Edition.
   Local data may be used for certain land use types as determined by staff.
   Consultant to provide.

2. Appropriate study area:
   Signalized Intersections;
   a. I-40 and Juan Tabo ramps (all)
   b. Juan Tabo and Copper
   c. Juan Tabo and Lomas

   Unsignalized Intersections;
   a. Copper and Paisano

   Driveway Intersections: all site drives and drive to shopping center north side of Copper.

3. Intersection turning movement counts
   Study Time – 7-9 a.m. peak hour, 4-6 p.m. peak hour
   Consultant to provide for all intersections listed above.

4. Type of intersection progression and factors to be used.
Type III arrival type (see “2016 Highway Capacity Manual” or equivalent as approved by staff). Unless otherwise justified, peak hour factors and % heavy commercial should be taken directly from the MRCOG turning movement data provided or as calculated from current count data by consultant.

5. Boundaries of area to be used for trip distribution.

1.5 mile radius – commercial;

6. Basis for trip distribution.

Residential – Use inverse relationship based upon distance and employment. Use employment data from 2040 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

Office/Industrial - Use inverse relationship based upon distance and population. Use population data from 2040 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

Commercial - Use relationship based upon population. Use population data from 2040 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data. Take into account pass-by trip, but include strong explanation of reasoning.

Residential - Ts = (Tt) (Se / D) / (Se / D)
Ts = Development to Individual Subarea Trips
Tt = Total Trips
Se = Subarea Employment
D = Distance from Development to Subarea

Office/Industrial - Ts = (Tt) (Sp / D) / (Sp / D)
Ts = Development to Individual Subarea Trips
Tt = Total Trips
Sp = Subarea Population
D = Distance from Development to Subarea

Commercial -
Ts = (Tt) (Sp) / (Sp)
Ts = Development to Individual Subarea Trips
Tt = Total Trips
Sp = Subarea Population

7. Traffic Assignment. Logical routing on the major street system.

8. Method of intersection capacity analysis - planning or operational (see "2016 Highway Capacity Manual" or equivalent [i.e. HCS, Synchro, Teapac, etc.] as approved by staff). Must use latest version of design software and/or current edition of design manual.
   Implementation Year:

9. Traffic conditions for analysis:
   a. Existing analysis __ yes _X_ no - year ();
   b. Phase implementation year(s) without proposed development – 2019
   c. Phase implementation year(s) with proposed development – 2019
   d. Project completion year without proposed development – 2029
   e. Project completion year with proposed development – 2029
   f. Other –

10. Background traffic growth.
    Method: use 10-year historical growth based on standard data from the MRCOG Traffic Flow Maps. Minimum growth rate to be used is 1/2%.

11. Items to be included in the study:
    a. Intersection analysis.
    b. Signal progression - An analysis is required if the driveway analysis indicates a traffic signal is possibly warranted. Analysis Method:
    c. Arterial LOS analysis;
    d. Recommended street, intersection and signal improvements.
    e. Site design features such as turning lanes, median cuts, queuing requirements and site circulation, including driveway signalization and visibility.
    f. Transportation system impacts.
    g. Other mitigating measures.
    h. Accident analyses __ yes _X_ no; Location(s):
    i. Weaving analyses _X_ yes __ no; Location(s): I-40 WB from Tramway to Juan Tabo and I-40 EB from Eubank to Juan Tabo

12. Other:

SUBMITTAL REQUIREMENTS:

1. Number of copies of report required
   a. 1 paper copy
   b. 1 digital copy
2. Submittal Fee – $1300 for up to 3 reviews

The Traffic Impact Study for this development proposal, project name, shall be performed in accordance with the above criteria. If there are any questions regarding the above items, please contact me at 924-3633.

_____ **8/31/18**

Ernest Armijo, P.E. Date
Senior Engineer for
Transportation Development Section

via: email

C: TIS Task Force Attendees, file