Vista Vieja Subdivision

(Molten Rock Rd. / Unser Blvd.)

Access Justification Study

June 11, 2007

Terry O. Brown, P.E.

Presented to:

Transportation Development Division
City of Albuquerque

Prepared for:

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Vista Viejo Subdivision (Molen Rock Rd. / Unser Blvd.)
ACCESS STUDY

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Vista Vieja Subdivision (Molten Rock Rd. / Unser Blvd.)
ACCESS STUDY

STUDY PURPOSE

The study is being conducted in conjunction with a request for approval from the City of Albuquerque to install a right-turn-in, right-turn-out, left-turn-in only unsignalized access along the west side of Unser Blvd. approximately 1,250 feet north of Molten Rock Rd. (centerline to centerline). The purpose of this study is to provide sufficient analysis for evaluation by the City of Albuquerque so that determination can be made regarding whether or not it is feasible and beneficial to apply for approval of the new access point on Unser Blvd. as previously described and as shown graphically in this study. Since Unser Blvd. is a Limited Access Arterial Roadway in the City of Albuquerque on the Long Range Roadway System Map for the Albuquerque Metropolitan Planning Area, then approval of the new access point by the Transportation Coordinating Committee (T.C.C.) will be required.

STUDY PROCEDURES

The scope of this study is described as follows:

1) The following data from the Vista Vieja Subdivision Traffic Impact Study will be utilized in this Access Study:
   a) Trip Generation Rates for the proposed Vista Vieja Subdivision
   b) Trip Distribution Model for the proposed Vista Vieja Subdivision
   c) Projected 2008 BUILD Volumes as a basis for projecting 2011 volumes and 2025 volumes.
2) The Mid-Region Council of Governments' 2025 transportation model was used as a basis to forecast 2025 turning movements volumes at the intersections analyzed in this study using the Fratar method.
3) Analysis of two conditions are presented in this study to quantify the impact of implementation of a new right-turn-in, right-turn-out, left-turn-in only driveway on the west side of Unser Blvd. between Molten Rock Rd. and Universe Blvd. The impact is quantified by calculating the levels-of-service and delays at Molten Rock Rd. / Unser Blvd. and Rainbow Rd. / Unser Blvd. for both Case "A" (without the proposed right-turn-in, right-turn-out, left-turn-in driveway) and Case "B" (with the proposed right-turn-in, right-turn-out, left-turn-in driveway). The comparison of the two Cases will be the basis upon which the impact of the new right-turn-in, right-turn-out, left-turn-in driveway is determined.

GENERAL AREA CHARACTERISTICS

The proposed development plan is located along the west side of Unser Blvd. south of Scenic Dr. as shown on the Vicinity Map on Page A-1 of the Appendix of this report. The property in the vicinity of this site is primarily residential with some commercial near major intersections. This project is located in the midst of a relatively active development area.

The 2025 analysis not only takes into account the MRCOG data, but also considers that the land directly west of the proposed Vista Vieja will be developed as residential (approximately 5.5 DU's per acre). The trips generated from the property to the west were calculated and applied to the 2025 AM and PM Peak Hour NO BUILD Volumes established for this study.

AREA STREET NETWORK

The entire length of Unser Blvd. is classified as a Limited Access Principal Arterial Roadway on the Long Range Roadway System Plan for the Albuquerque Urban Area (See Page A-2 in the Appendix). There is an existing approved access on the west side of Unser Blvd. at the Molten Rock Rd. alignment. The next approved access break to the north is for the intersection of Rainbow Rd. The two access breaks are just short of 2,500 feet apart. Placing a new access approximately midway between the two existing access points will create a spacing of approximately 1,250 feet between access points under the new proposal.

Rainbow Rd. is classified as a Principal Arterial Roadway on the Long Range Roadway Plan for the Albuquerque Urban Area. Currently, Rainbow Rd. does not exist to connect Paseo del Norte with Unser Blvd. However, it is expected to be constructed by the year 2011.

PROPOSED DEVELOPMENT

The subject area of land targeted for this project totals approximately 167 acres total. The project consists of approximately 612 residential single-family detached home lots to be developed in four phases. This study will analyzed the 50% development level and the 100% development level. The proposed conceptual site plan associated with this project can be found on Page A-2 in Appendix "A".

BACKGROUND TRAFFIC GROWTH

Background traffic growth rates utilized in this study for the short term analysis (2011) were those from the Traffic Impact Study for the proposed Vista Vieja Subdivision prepared in May, 2005. It utilized an annual growth rate of 5%. However, the 2025 analysis utilized growth rates consistent with the MRCOG's 2025 data set forecast link volumes for the AM and PM Peak Hours. AM and PM Peak Hour Link Volumes were taken from the current MRCOG data set for the years 2005 and 2025 to determine the growth rate used to project the 2025 AM and PM Peak Hour NO BUILD Volume utilized in this access study.

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2011 and 2025 BUILDOUT

The calculated growth rates from the Traffic Impact Study were applied to the projected 2008 AM and PM Peak Hour Volumes in the Vista Vieja Subdivision Traffic Impact Study to establish the 2011 background traffic volumes. Additionally, adjustments were made to the background volumes to account for S.A.D. 227 trips. To these volumes, the generated trips based on implementation of the proposed Vista Vieja Subdivision were added to obtain 2011 BUILD volumes for the intersection analyses.

The calculated growth rates from the Mid-Region Council of Governments (MRCOG) model were applied to the projected 2008 AM and PM Peak Hour Volume in the Vista Vieja Subdivision TIS to establish the forecast 2025 background traffic volumes. Additionally, adjustments were made to the background volumes to account for the S.A.D. 227 trips plus the residential property to the west of Vista Vieja Subdivision. To these volumes, the generated trips based on implementation of the proposed Vista Vieja Subdivision were added to obtain 2025 BUILD volumes for the intersection analysis.

INTERSECTION CAPACITY ANALYSIS

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections in the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2000, using TEAPAC Signal 2000 Software for signalized intersections and HiCAP 2000, Version 2.0 for unsignalized intersections. This analysis not only determined the HCS levels-of-service for each intersection, but also calculated the queuing for each lane group at each intersection.

All analyses performed in this study utilized the 2011 and the 2025 BUILD Volumes.

The results of the 2011 and 2025 BUILD analyses are summarized in the following sections - *Results and Discussion of Analyses*.

RESULTS AND DISCUSSION OF ANALYSES

Level-of-Service Analysis

There were two Cases analyzed in this study to provide a comparison upon which to evaluate the impact of implementing a right-turn-in, right-turn-out, left-turn-in driveway on the west side of Unser Blvd. approximately midway between Molten Rock Rd. and Rainbow Rd. Case "A" is the evaluation of the conditions if no access was permitted on Unser Blvd. between Molten Rock Rd. and Rainbow Rd. Case "B" is the evaluation of the conditions if a new right-turn-in, right-turn-out, left-turn-in unsignalized driveway were implemented approximately midway between Molten Rock Rd. and Rainbow Rd. on the west side of Unser Blvd. only.

In both Cases, the analysis of the intersections of Molten Rock Rd. / Unser Blvd. and Rainbow Rd. / Unser Blvd. are provided and the results compared to measure the impact of the new access.

It is assumed in the analysis that both Molten Rock Rd. / Unser Blvd. and Rainbow Rd. / Unser Blvd. are signalized intersections. Molten Rock Rd. / Unser Blvd. is expected to be signalized upon full implementation of Vista Vieja Subdivision. Similarly, the intersection of Rainbow Rd. / Unser Blvd. is expected to be signalized shortly after full implementation of the Vista Vieja Subdivision. The projected volumes indicate that the intersection of Rainbow Rd. / Unser Blvd. will not be warranted until shortly after full implementation of the Vista Vieja Subdivision. This study considered that the intersection of Rainbow Rd. / Unser Blvd. would be signalized in the 2011 analysis since the unsignalized intersection fails and the signal warrant is immanent.

Following is a summary of the conditions associated with each of the two Cases analyzed in this study:

Molten Rock Rd. / Unser Blvd.	2011 Conditions		2025 Conditions	
	Case "A"	Case "B"	Case "A"	Case "B"
AM Peak Hour	C – 24.9	B – 15.2	F - 211	F - 174
PM Peak Hour	B – 14.9	A – 8.0	F – 80.2	F – 94.0

There are consistent benefits demonstrated by the delay reduction realized when analyzing the intersection of Molten Rock Rd. / Unser Blvd. when considering a new right-turn-in, right-turn-out, left-turn-in driveway on the west side of Unser Blvd. between Molten Rock Rd. and Rainbow Rd.

Rainbow Rd. / Unser Blvd.	2011 Conditions		2025 Conditions	
	Case "A"	Case "B"	Case "A"	Case "B"
AM Peak Hour	B – 12.1	B – 12.1	B – 16.6	B – 16.6
PM Peak Hour	B – 13.3	B – 13.3	B – 16.1	B – 16.1

The impact of the proposed unsignalized right-turn-in, right-turn-out, left-turn-in driveway to the intersection of Rainbow Rd. / Unser Blvd. is not measurable.

Overall, it has been demonstrated that the implementation of the proposed right-turn-in, right-turn-out, left-turn-in driveway provides some benefit to the transportation system on Unser Blvd. by reducing the overall intersection delays at Molten Rock Rd. / Unser Blvd. There is not measurable benefit to the intersection of Rainbow Rd. / Unser Blvd.

The operation of the proposed unsignailzed intersection being requested (Driveway "B") in this study is summarized in the following table:

	2011 BUILD		2025 BUILD	
	AM	PM	AM	PM
Driveway "B" / Unser Blvd.				
Minor Street (Driveway "B")				
EB Left	N/A	N/A	N/A	N/A
EB Right	A – 9	A – 9	B - 11	A – 10
Major Street (Unser Blvd.)				
NB Left	A - 7	A - 8	A-8	A-8

The operation of the unsignalized driveway is acceptable for all conditions analyzed.

Design Issues

Design of the new access onto Unser Blvd. should be as near to the midpoint between Molten Rock Rd. / Unser Blvd. and Rainbow Rd. / Unser as feasible. If approved, the new intersection should be constructed with a southbound right turn deceleration lane that will meet the requirements of the New Mexico Department of Transportation. Based on a posted speed limit of 45 MPH on Unser Blvd., the length of the southbound right turn deceleration lane should be 400 feet long plus a 12.5:1 transition taper.

A northbound left turn deceleration lane should be constructed to comply with the requirements of the New Mexico Department of Transportation. Based on a posted speed limit of 45 MPH on Unser Blvd., the length of the northbound left turn deceleration lane should be 550 feet plus a 12.5:1 transition taper. Since the distance between the proposed access and Molten Rock Rd. is about 1,200 feet, then the construction of the 550 feet long northbound left turn lane should leave room to construct a 500+ feet long southbound left turn lane on Unser Blvd. at Molten Rock Rd. The projected southbound left turn movement on Unser Blvd. at Molten Rock Rd. is very low. It should not require more than 500 feet for the length of the southbound left turn lane. Also, the northbound left turn lane should be constructed with a barrier on both sides to prevent traffic from leaving the left turn lane to enter into through traffic northbound or southbound except to negotiate the left turn at the intersection.

The New Mexico Department of Transportation District 3 Traffic Engineer will make the determination as to whether or not an acceleration lane will be required at the new access intersection.

CONCLUSIONS

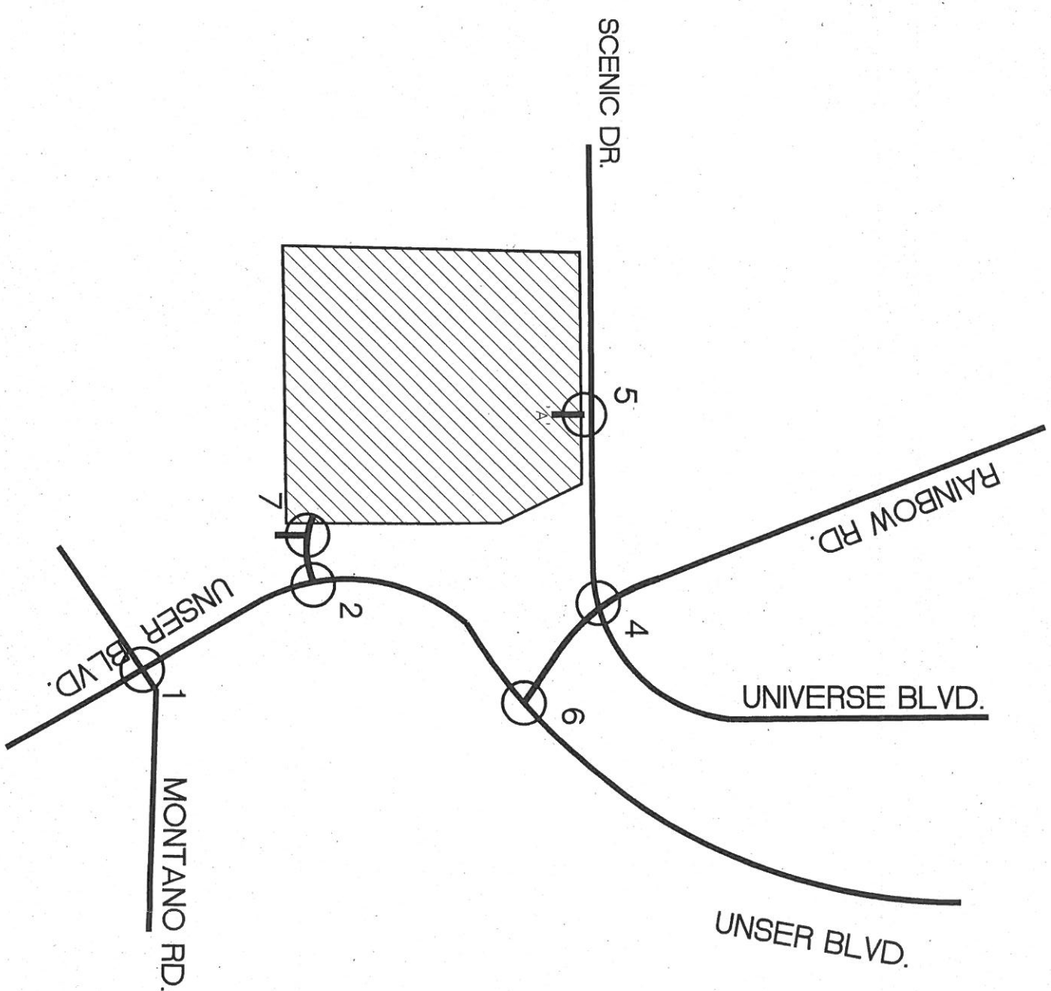
This analysis was conducted using the following methodology: Trip Generation was established using the Institute of Transportation Engineers' (ITE's) Trip Generation Manual (7th Edition). Generated Trips were distributed proportionately based on the Population Data Analysis Subzones within a two mile radius of the proposed development for commercial properties; Growth rate of background traffic volumes was established from a recent Traffic Impact Study; and the intersection analyses were performed in accordance with the 2000 Highway Capacity Manual, Special Report 209. The Access Study showed that a benefit can be gained by permitting an unsignalized right-turn-in, right-turn-out access along the south side of Paseo del Norte approximately 800 feet east of Wyoming Blvd. The benefits are

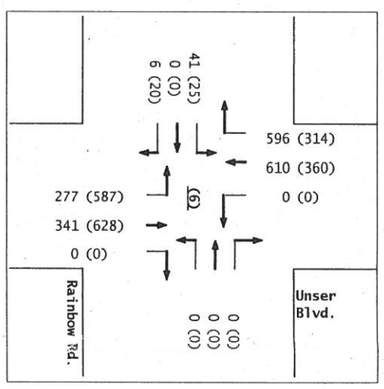
realized as reduction in queue length for the southbound left turn lane on Wyoming Blvd. at Palomas Ave., thus minimizing the probability that the southbound left turn queue will spill into the intersection of Paseo del Norte / Wyoming Blvd. during the projected 2006 PM Peak Hour conditions.

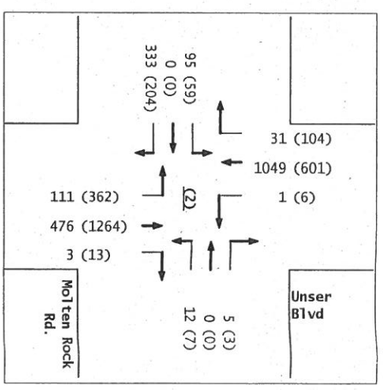
RECOMMENDATIONS

This study finds that the implementation of the new right-turn-in, right-turn-out, left-turn-in unsignalized access intersection located along the west side of Unser Blvd. approximately midway between Molten Rock Rd. and Rainbow Rd. will provide a benefit to the adjacent transportation system by reducing the projected average intersection delay at the intersection of Molten Rock Rd. / Unser Blvd. for the 2001 AM and PM Peak Hour BUILD Conditions associated with the development of Vista Vieja Subdivision as well as the forecast 2025 AM and PM Peak Hour BUILD Conditions analyzed in this study. Upon that basis, the following recommendations are made:

- This Access Study recommends that a new unsignalized right-turn-in, right-turn-out, left-turn-in unsignalized access be implemented along the west side of Unser Blvd. approximately 1,250 feet north of Molten Rock Rd for the purpose of providing accessto the currently proposed Vista Vieja Subdivision and surrounding area.
- A southbound right turn deceleration lane (370 feet long plus a 12.5:1 transition taper) should be constructed on Unser Blvd. at the proposed new intersection.
- A northbound left turn deceleration lane (550 feet long plus a 12.5:1 transition taper) should be constructed on Unser Blvd. at the proposed new intersection. The northbound left turn lane should be constructed with barrier curb on both sides of the lane shortly after the transition.
- The new access intersection should be constructed using 25 feet radius curb returns or greater.







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Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd) - Case A - without RI/RO/LI driveway

2011 BUILD Volumes - AM(PM)

Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd) - Case B - with RI/RO/LI driveway

2011 BUILD Volumes - AM(PM)

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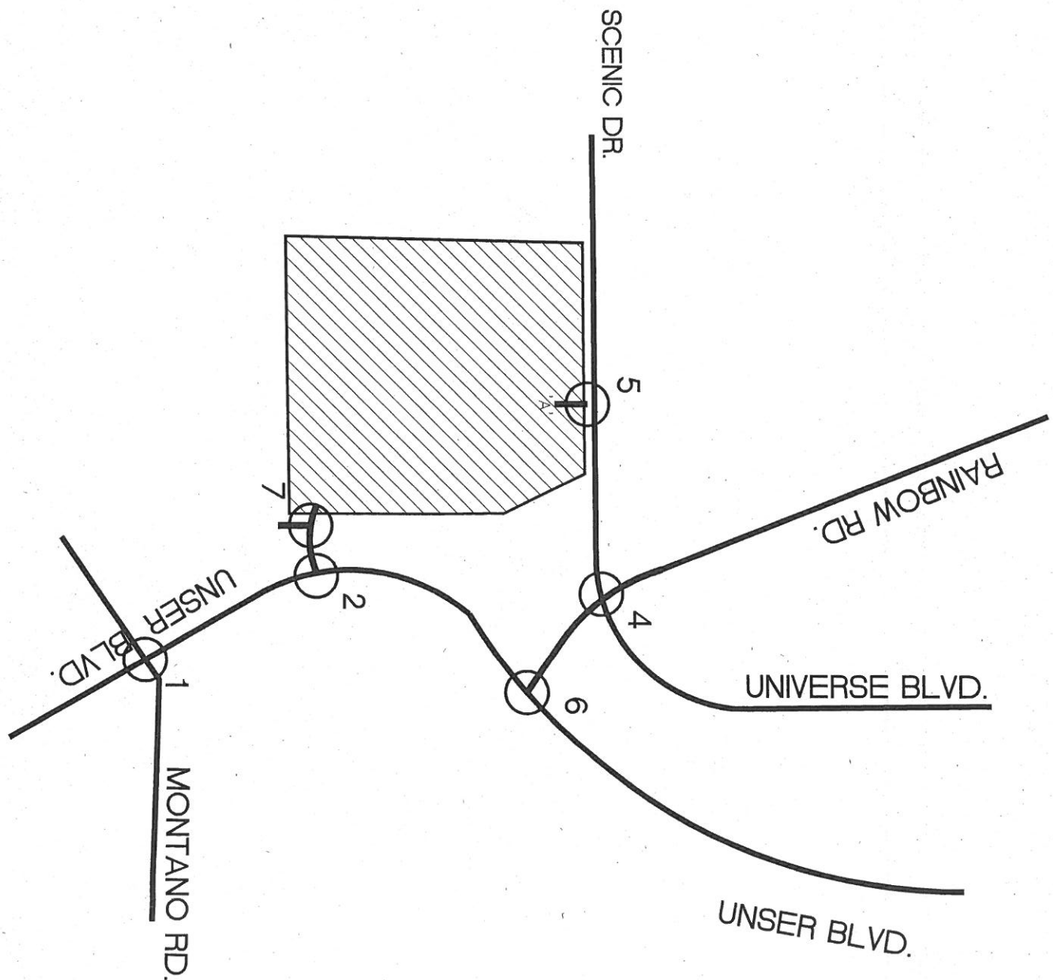

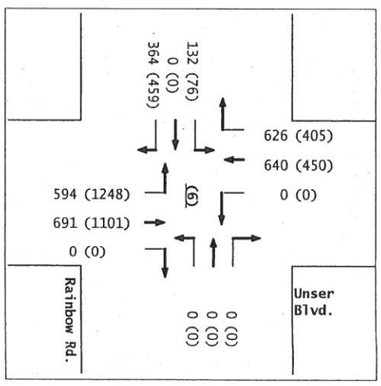

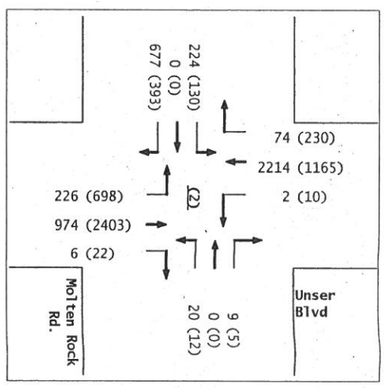

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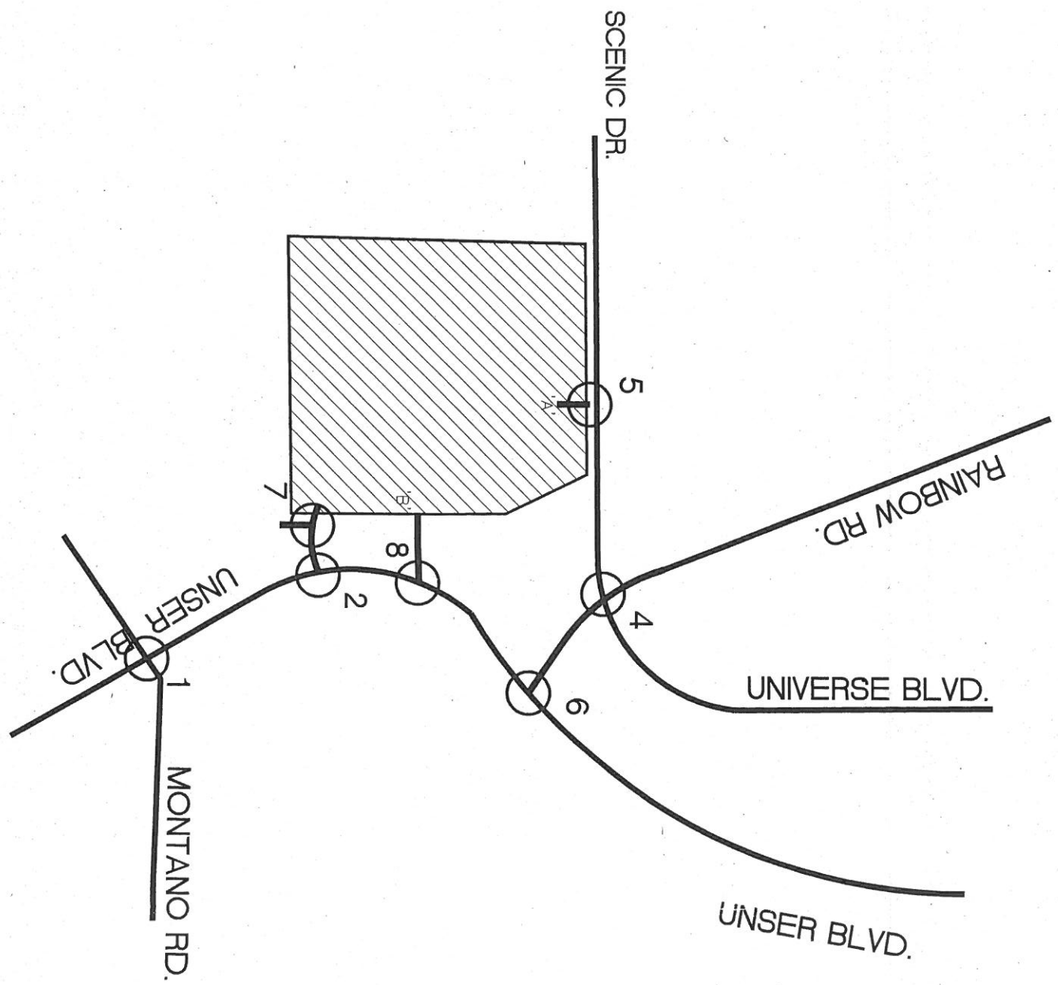
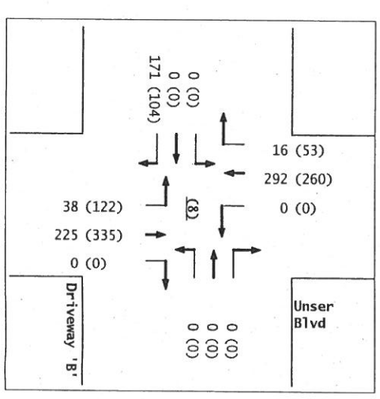
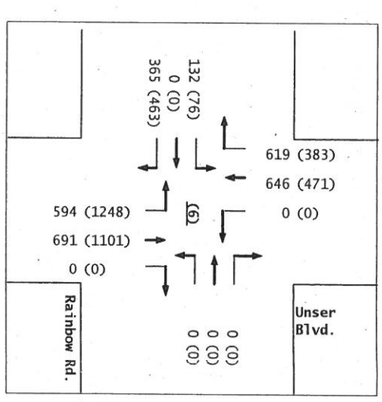
Vista Vieja Subdivision - Access Study

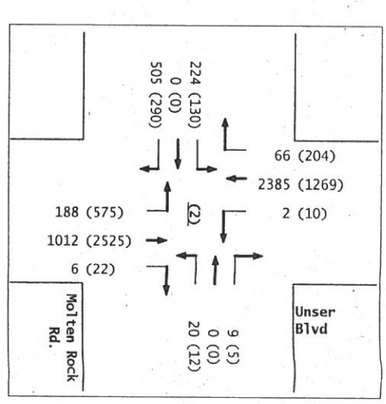
(Scenic Dr / Atrisco Rd) - Case A - without RI/RO/LI driveway

2025 BUILD Volumes - AM(PM)









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Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd) - Case B - with RI/RO/LI driveway

2025 BUILD Volumes - AM(PM)

Appendix

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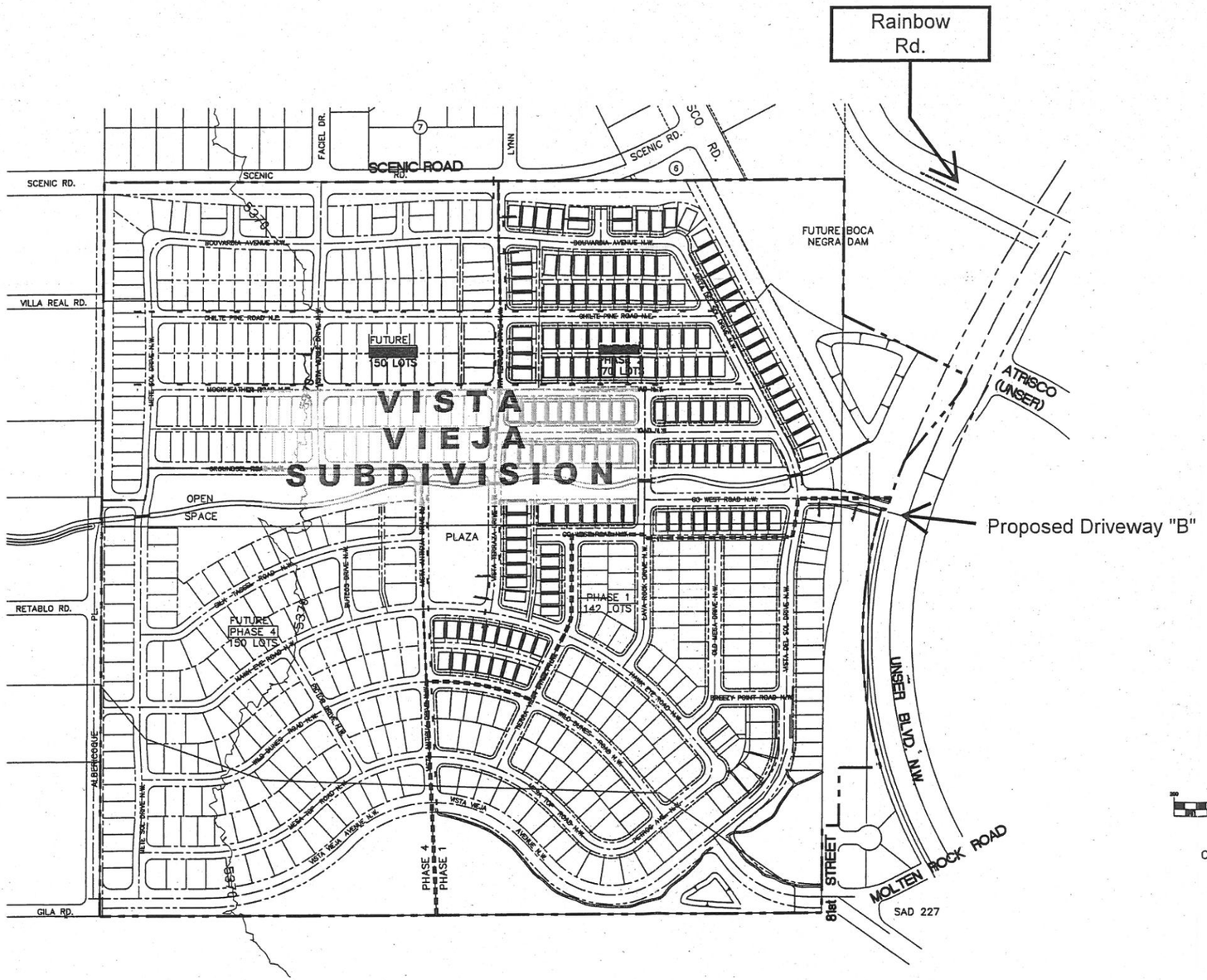

VISTA VIEJA OVERALL PLAN

VOLCANO CLIFFS
RESERVOIRS
& PUMP STATIONS

N

GRAPHIC SCALE

(IN FEET)
1 inch = 200 ft.

CONTOURS REPRESENT 5' INTERVALS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

BENCH MARKS

THE STATION IS A 3 1/2" ALUMINIUM CAP SET FLUSH IN THE LAVA OUTCROP, AND IS STAMPED "ACS 8-C10, 1986". (NAD 1927).
X 361860.83, Y 1521476.37
ELEVATION = 5390.130 FT. (SLD 1929)

AS-BUILT INFORMATION

CONTRACTOR
WORK DONE BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWING CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY

REVISIONS

WILSON & COMPANY, ENGINEERS & ARCHITECTS
DESIGNED BY RSM — DATE NOV. 2004
DRAWN BY STAFF — DATE NOV. 2004
CHECKED BY DSA — DATE NOV. 2004

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

VISTA VIEJA SUBDIVISION
OVERALL PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

WCEA #X321807
MARCH 2005

City Project No.	Zone Map No.	Sheet	Of
XXXX.XX	D-9	1	1

WILSON & COMPANY

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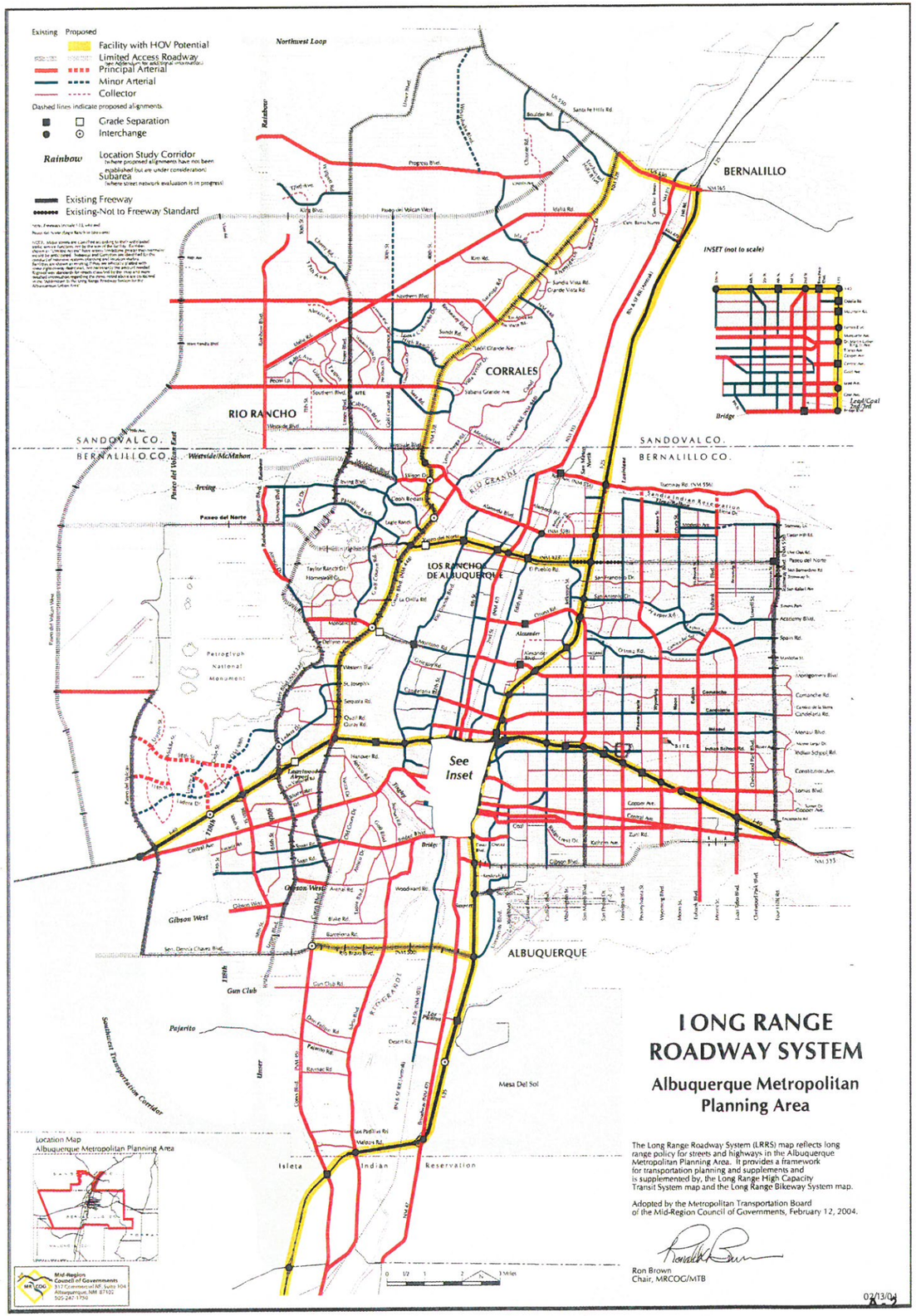


LONG RANGE ROADWAY SYSTEM

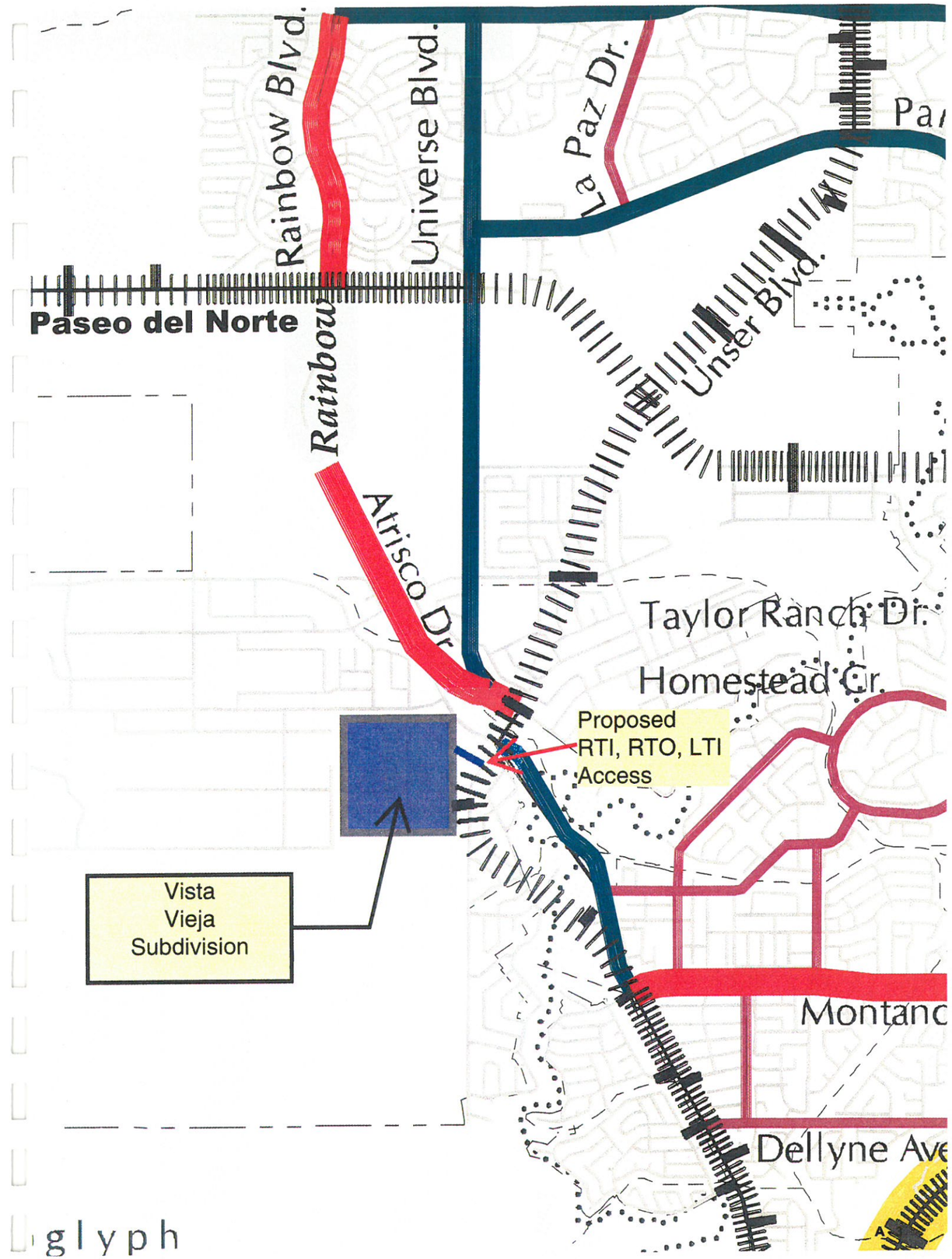
Albuquerque Metropolitan Planning Area

The Long Range Roadway System (LRRS) map reflects long range policy for streets and highways in the Albuquerque Metropolitan Planning Area. It provides a framework for transportation planning and supplements and is supplemented by, the Long Range High Capacity Transit System map and the Long Range Bikeway System map.

Adopted by the Metropolitan Transportation Board of the Mid-Region Council of Governments, February 12, 2004.

Ron Brown
Chair, MRCOG/MTB

03/13/04


Rainbow Blvd.
Universe Blvd.
La Paz Dr.
Paseo del Norte
Rainbow
Unser Blvd.
Atrisco Dr.
Taylor Ranch Dr.
Homestead Cr.
Proposed
RTI, RTO, LTI
Access
Vista
Vieja
Subdivision
Montanc
Dellyne Ave
glyph

Growth Rate Factors for Rainbow Rd & Unser Blvd

East-West Street

Segment: EW-6

Growth Factors

AM Peak I	Eastbound		Westbound	
Years	Factor	Annual Rate	Factor	Annual Rate
2011-2025	42.915	246.6%	1.000	0.0%

PM Peak I	Eastbound		Westbound	
Years	Factor	Annual Rate	Factor	Annual Rate
2011-2025	36.956	211.5%	1.000	0.0%

Rainbow Rd

North-South Street

Segment: NS-6

Growth Factors

AM Peak I	Northbound		Southbound	
Years	Factor	Annual Rate	Factor	Annual Rate
2011-2025	2.058	6.2%	0.032	-5.7%

PM Peak I	Northbound		Southbound	
Years	Factor	Annual Rate	Factor	Annual Rate
2011-2025	1.848	5.0%	0.089	-5.4%

Unser Blvd

Peak Hour Existing Conditions

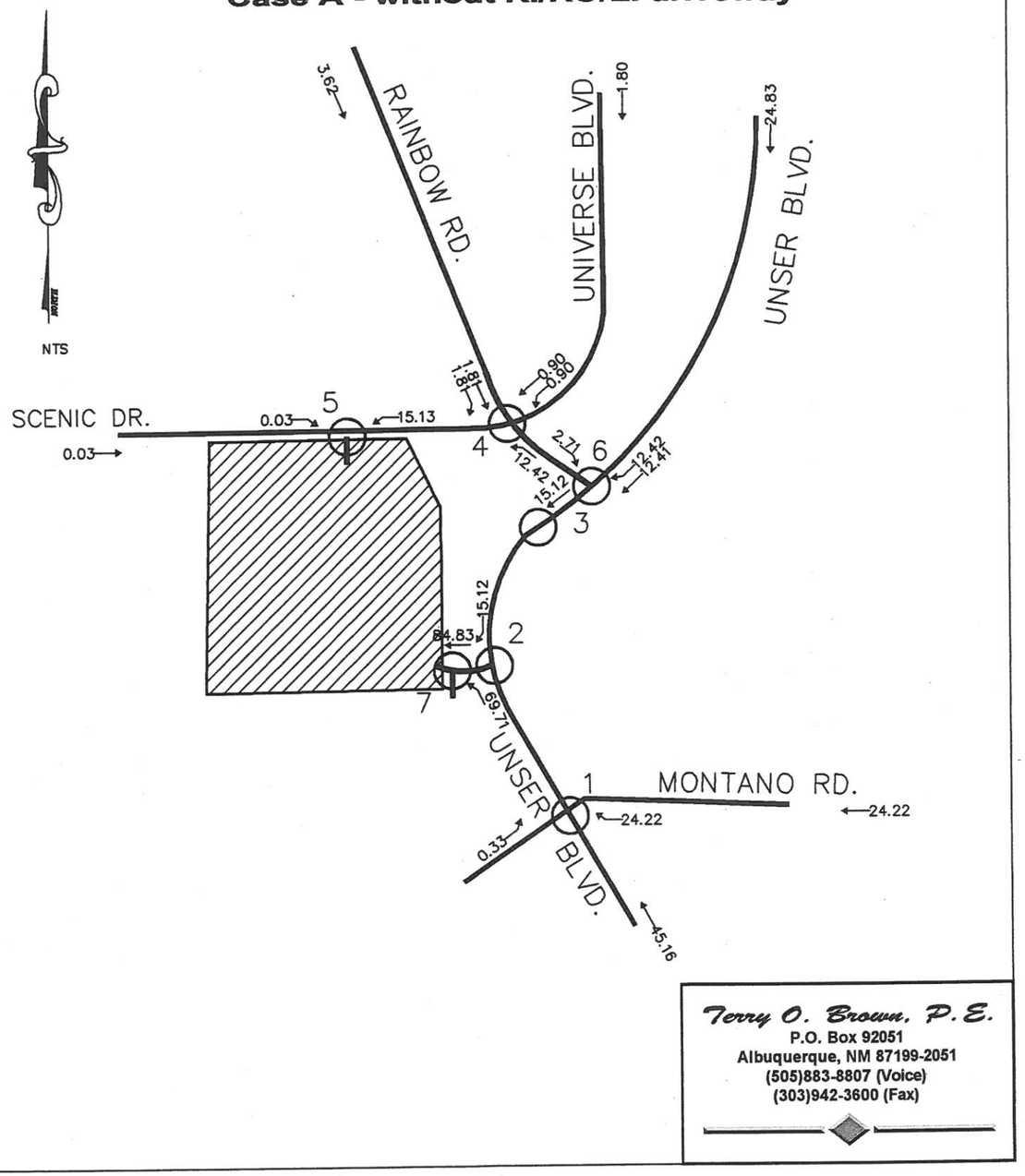
Case A – w/o RI-RO-LI driveway

Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd)

Trip Assignments (% Entering)

Case A - without RI/RO/LI driveway



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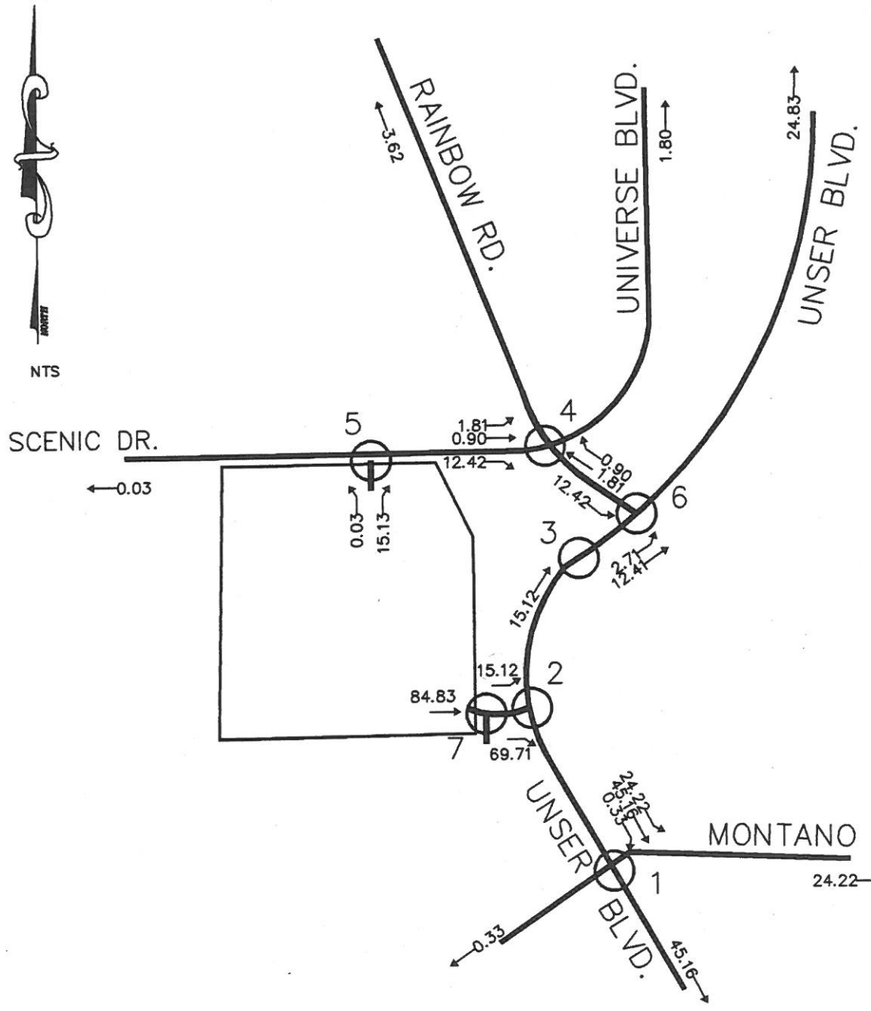
Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd)

Trip Assignments (% Exiting)

Case A - without RI/RO/LI driveway



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Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2011) - 100% Development

Case A - without RI/RO/LI driveway

INTERSECTION: **Summary**

Molten Rock Rd. / Unser Blvd

(2) 2.0% Truck	PHF	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0.85	33	0	76	8	0	3	25	352	3	1	775	11
2011 (NO BUILD - A.M.)	0.85	*45*	*0*	*104*	*12*	*0*	*5*	*35*	*476*	*3*	*1*	*1,049*	*15*
2011 (BUILD - A.M.)	0.85	***95***	***0***	***333***	***12***	***0***	***5***	***111***	***476***	***3***	***1***	***1,049***	***31***
	PHF	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0.85	21	0	48	5	0	3	87	934	9	4	445	37
2011 (NO BUILD - P.M.)	0.85	*29*	*0*	*66*	*7*	*0*	*3*	*117*	*1,264*	*13*	*6*	*601*	*51*
2011 (BUILD - P.M.)	0.85	***59***	***0***	***204***	***7***	***0***	***3***	***362***	***1,264***	***13***	***6***	***601***	***104***

Rainbow Rd. / Unser Blvd.

(6) 2.0% Truck	PHF	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0.85	0	0	3	0	0	0	198	222	0	0	440	430
2011 (NO BUILD - A.M.)	0.85	*0*	*0*	*3*	*0*	*0*	*0*	*268*	*300*	*0*	*0*	*596*	*582*
2011 (BUILD - A.M.)	0.85	***41***	***0***	***6***	***0***	***0***	***0***	***277***	***341***	***0***	***0***	***610***	***596***
	PHF	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0.85	0	0	8	0	0	0	430	445	0	0	234	200
2011 (NO BUILD - P.M.)	0.85	*0*	*0*	*10*	*0*	*0*	*0*	*582*	*603*	*0*	*0*	*316*	*270*
2011 (BUILD - P.M.)	0.85	***25***	***0***	***20***	***0***	***0***	***0***	***587***	***628***	***0***	***0***	***360***	***314***

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Molten Rock Rd. / Unser Blvd

INTERSECTION: E-W Street: **Molten Rock Rd.** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2008

Implementation Year **2011**

NOTE: SAD 227 volumes included in existing volumes for this analysis

Growth Rates

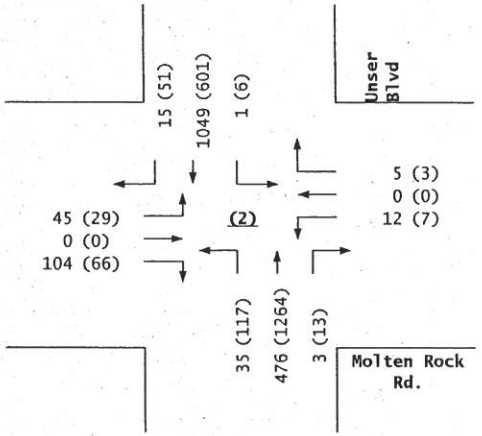
	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	39	0	90	10	0	4	30	414	3	1	912	13
Background Traffic Growth	6	0	14	2	0	1	5	62	0	0	137	2
Subtotal (NO BUILD - A.M.)	***45***	***0***	***104***	***12***	***0***	***5***	***35***	***476***	***3***	***1***	***1,049***	***15***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*15.12%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	50	0	229	0	0	0	76	0	0	0	0	16
Total AM Peak Hour BUILD Volumes	**95**	**0**	**333**	**12**	**0**	**5**	**111**	**476**	**3**	**1**	**1,049**	**31**

	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	25	0	57	6	0	3	102	1,099	11	5	523	44
Background Traffic Growth	4	0	9	1	0	0	15	165	2	1	78	7
Subtotal (NO BUILD - P.M.)	***29***	***0***	***66***	***7***	***0***	***3***	***117***	***1,264***	***13***	***6***	***601***	***51***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*15.12%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	30	0	138	0	0	0	245	0	0	0	0	53
Total PM Peak Hour BUILD Volumes	**59**	**0**	**204**	**7**	**0**	**3**	**362**	**1,264**	**13**	**6**	**601**	**104**

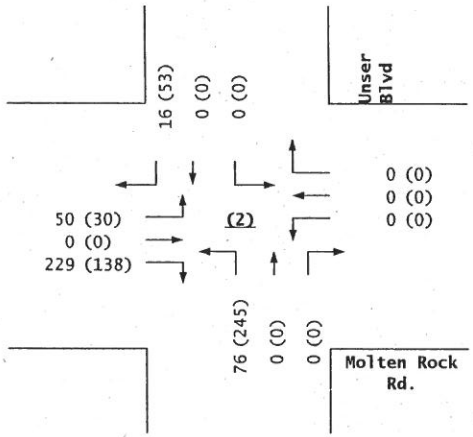
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
2005 AM Peak Hr. Volumes	33	0	76	8	0	3	25	352	3	1	775	11
2005 PM Peak Hr. Volumes	21	0	48	5	0	3	87	934	9	4	445	37

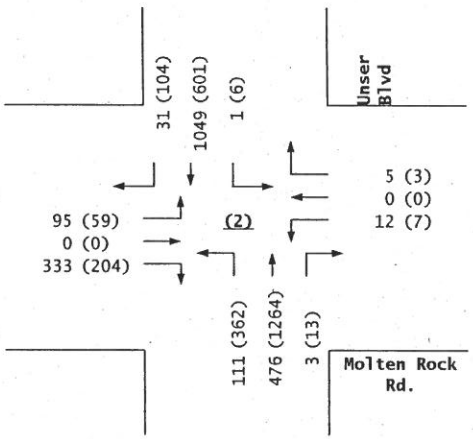
2011
NO BUILD



Trips



2011
BUILD



Molten Rock Rd. / Unser Blvd

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Rainbow Rd. / Unser Blvd.

INTERSECTION: E-W Street: **Rainbow Rd.** (6)

N-S Street: **Unser Blvd.**

Year of Existing Counts 2008

Implementation Year **2011**

NOTE: SAD 227 volumes included in existing volumes for this analysis

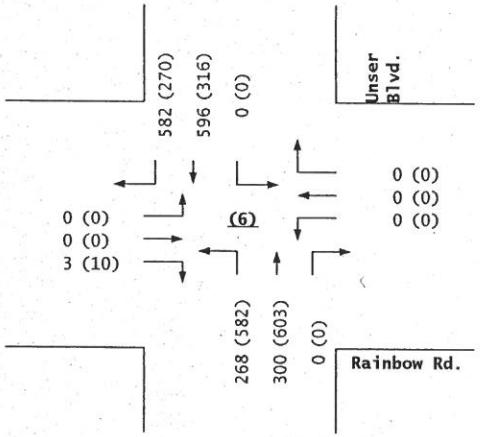
Growth Rates	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	3	0	0	0	233	261	0	0	518	506
Background Traffic Growth	0	0	0	0	0	0	35	39	0	0	78	76
Subtotal (NO BUILD - A.M.)	***0***	***0***	***3***	***0***	***0***	***0***	***268***	***300***	***0***	***0***	***596***	***582***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*2.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*12.41%*	*12.42%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	41	0	3	0	0	0	9	41	0	0	14	14
Total AM Peak Hour BUILD Volumes	**41**	**0**	**6**	**0**	**0**	**0**	**277**	**341**	**0**	**0**	**610**	**596**

	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	9	0	0	0	506	524	0	0	275	235
Background Traffic Growth	0	0	1	0	0	0	76	79	0	0	41	35
Subtotal (NO BUILD - P.M.)	***0***	***0***	***10***	***0***	***0***	***0***	***582***	***603***	***0***	***0***	***316***	***270***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*2.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*12.41%*	*12.42%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	25	0	10	0	0	0	5	25	0	0	44	44
Total PM Peak Hour BUILD Volumes	**25**	**0**	**20**	**0**	**0**	**0**	**587**	**628**	**0**	**0**	**360**	**314**

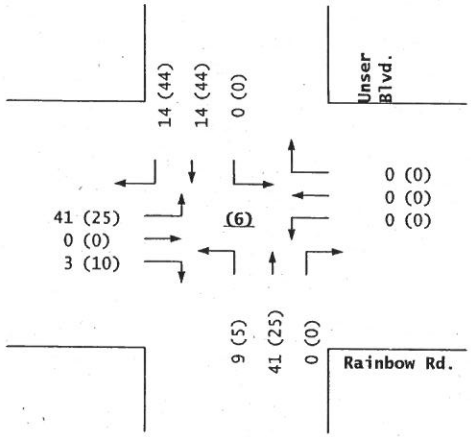
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2005 AM Peak Hr. Volumes	0	0	3	0	0	0	198	222	0	0	440	430
2005 PM Peak Hr. Volumes	0	0	8	0	0	0	430	445	0	0	234	200

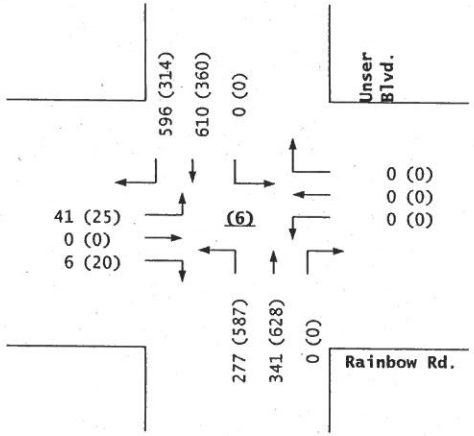
2011
NO BUILD



Trips



2011
BUILD



Rainbow Rd. / Unser Blvd.

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2025) - 100% Development

Case A - without RI/RO/LI driveway

INTERSECTION: **Summary**

Molten Rock Rd. / Unser Blvd

(2) 2.0% Truck	0.85 Eastbound (Molten Rock Rd.)			0.85 Westbound (Molten Rock Rd.)			0.85 Northbound (Unser Blvd)			0.85 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	28	0	65	8	0	3	22	299	2	1	659	9	
2025 (NO BUILD - A.M.)	*174*	*0*	*448*	*20*	*0*	*9*	*150*	*974*	*6*	*2*	*2,214*	*58*	
2025 (BUILD - A.M.)	***224***	***0***	***677***	***20***	***0***	***9***	***226***	***974***	***6***	***2***	***2,214***	***74***	

	0.85 Eastbound (Molten Rock Rd.)			0.85 Westbound (Molten Rock Rd.)			0.95 Northbound (Unser Blvd)			0.95 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	20	0	46	5	0	2	82	885	9	4	421	36	
2025 (NO BUILD - P.M.)	*100*	*0*	*255*	*12*	*0*	*5*	*453*	*2,403*	*22*	*10*	*1,165*	*177*	
2025 (BUILD - P.M.)	***130***	***0***	***393***	***12***	***0***	***5***	***698***	***2,403***	***22***	***10***	***1,165***	***230***	

Rainbow Rd. / Unser Blvd.

(6) 2.0% Truck	0.85 Eastbound (Rainbow Rd.)			0.85 Westbound (Rainbow Rd.)			0.86 Northbound (Unser Blvd.)			0.86 Southbound (Unser Blvd.)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	0	-41	0	0	0	168	189	0	0	596	582	
2025 (NO BUILD - A.M.)	*91*	*0*	*361*	*0*	*0*	*0*	*585*	*650*	*0*	*0*	*626*	*612*	
2025 (BUILD - A.M.)	***132***	***0***	***364***	***0***	***0***	***0***	***594***	***691***	***0***	***0***	***640***	***626***	

	0.85 Eastbound (Rainbow Rd.)			0.85 Westbound (Rainbow Rd.)			0.85 Northbound (Unser Blvd.)			0.85 Southbound (Unser Blvd.)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	0	-117	0	0	0	407	422	0	0	316	270	
2025 (NO BUILD - P.M.)	*51*	*0*	*449*	*0*	*0*	*0*	*1,243*	*1,076*	*0*	*0*	*406*	*361*	
2025 (BUILD - P.M.)	***76***	***0***	***459***	***0***	***0***	***0***	***1,248***	***1,101***	***0***	***0***	***450***	***405***	

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Molten Rock Rd. / Unser Blvd

INTERSECTION: E-W Street: **Molten Rock Rd.** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2011

Horizon Year **2025**

NOTE: SAD 227 volumes included in existing volumes for this analysis

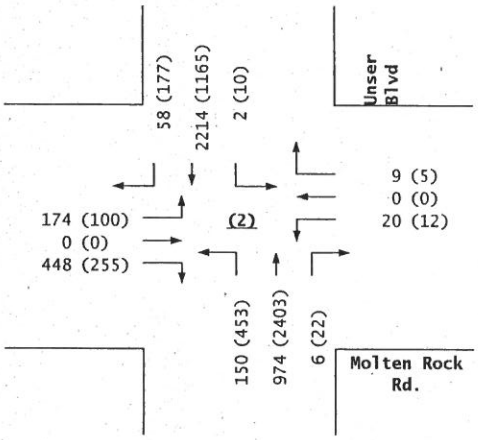
Growth Rates	6.20%			5.00%			6.20%			6.20%		
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	45	0	104	12	0	5	35	476	3	1	1,049	15
Background Traffic Growth	39	0	90	8	0	4	30	413	3	1	911	13
Subtotal	84	0	194	20	0	9	65	889	6	2	1,960	28
West of Vista Vieja Properties	90	0	254	0	0	0	85	85	0	0	254	30
Subtotal (NO BUILD - A.M.)	***174***	***0***	***448***	***20***	***0***	***9***	***150***	***974***	***6***	***2***	***2,214***	***58***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*15.12%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	50	0	229	0	0	0	76	0	0	0	0	16
Total AM Peak Hour BUILD Volumes	**224**	**0**	**677**	**20**	**0**	**9**	**226**	**974**	**6**	**2**	**2,214**	**74**

	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	29	0	66	7	0	3	117	1,264	13	6	601	51
Background Traffic Growth	20	0	46	5	0	2	82	885	9	4	421	36
Subtotal	49	0	112	12	0	5	199	2,149	22	10	1,022	87
West of Vista Vieja Properties	51	0	143	0	0	0	254	254	0	0	143	90
Subtotal (NO BUILD - P.M.)	***100***	***0***	***255***	***12***	***0***	***5***	***453***	***2,403***	***22***	***10***	***1,165***	***177***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*15.12%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*69.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	30	0	138	0	0	0	245	0	0	0	0	53
Total PM Peak Hour BUILD Volumes	**130**	**0**	**393**	**12**	**0**	**5**	**698**	**2,403**	**22**	**10**	**1,165**	**230**

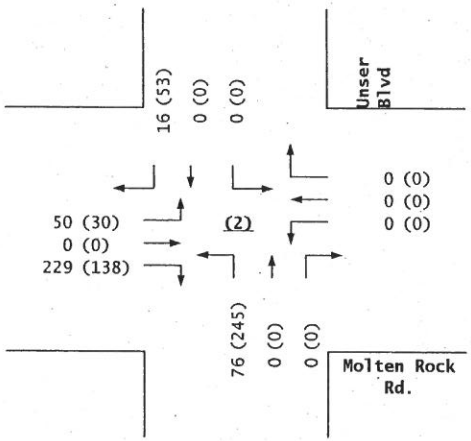
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
2005 AM Peak Hr. Volumes	28	0	65	8	0	3	22	299	2	1	659	9
2005 PM Peak Hr. Volumes	20	0	46	5	0	2	82	885	9	4	421	36

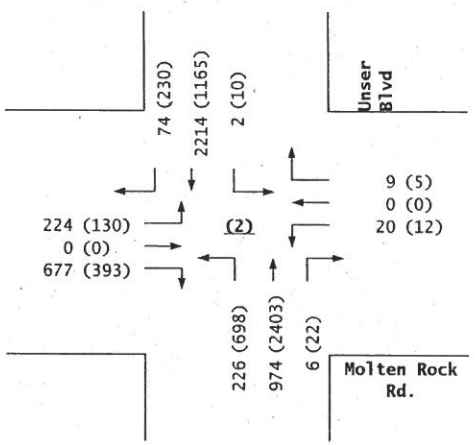
2025
NO BUILD



Trips



2025
BUILD



Molten Rock Rd. / Unser Blvd

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Rainbow Rd. / Unser Blvd.

INTERSECTION: E-W Street: **Rainbow Rd.** (6)

N-S Street: **Unser Blvd.**

Year of Existing Counts 2011 NOTE: SAD 227 volumes included in existing volumes for this analysis

Horizon Year **2025**

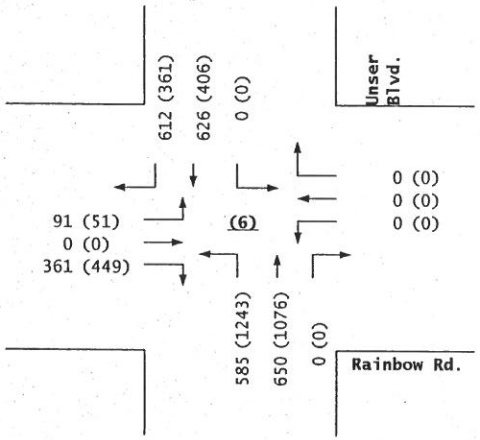
Growth Rates	246.60%			5.00%			6.20%			0.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	3	0	0	0	268	300	0	0	596	582
Background Traffic Growth	0	0	104	0	0	0	232	260	0	0	0	0
Subtotal	0	0	107	0	0	0	500	560	0	0	596	582
West of Vista Vieja Properties	91	0	254	0	0	0	85	90	0	0	30	30
Subtotal (NO BUILD - A.M.)	***91***	***0***	***361***	***0***	***0***	***0***	***585***	***650***	***0***	***0***	***626***	***612***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*2.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*12.41%*	*12.42%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	41	0	3	0	0	0	9	41	0	0	14	14
Total AM Peak Hour BUILD Volumes	**132**	**0**	**364**	**0**	**0**	**0**	**594**	**691**	**0**	**0**	**640**	**626**

	211.50%			5.00%			5.00%			0.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	10	0	0	0	582	603	0	0	316	270
Background Traffic Growth	0	0	296	0	0	0	407	422	0	0	0	0
Subtotal	0	0	306	0	0	0	989	1,025	0	0	316	270
West of Vista Vieja Properties	51	0	143	0	0	0	254	51	0	0	90	91
Subtotal (NO BUILD - P.M.)	***51***	***0***	***449***	***0***	***0***	***0***	***1,243***	***1,076***	***0***	***0***	***406***	***361***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*2.71%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*12.41%*	*12.42%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	25	0	10	0	0	0	5	25	0	0	44	44
Total PM Peak Hour BUILD Volumes	**76**	**0**	**459**	**0**	**0**	**0**	**1,248**	**1,101**	**0**	**0**	**450**	**405**

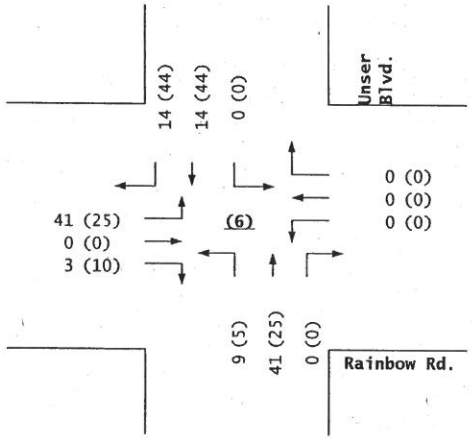
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2005 AM Peak Hr. Volumes	0	0	-41	0	0	0	168	189	0	0	596	582
2005 PM Peak Hr. Volumes	0	0	-117	0	0	0	407	422	0	0	316	270

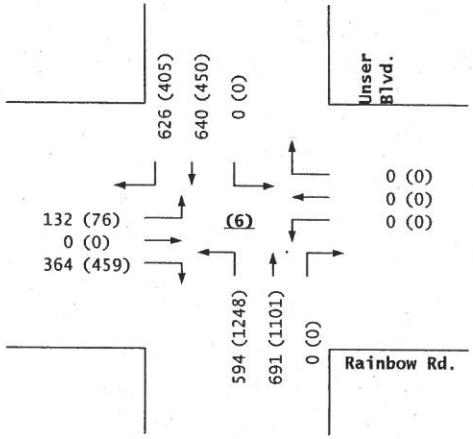
2025
NO BUILD



Trips



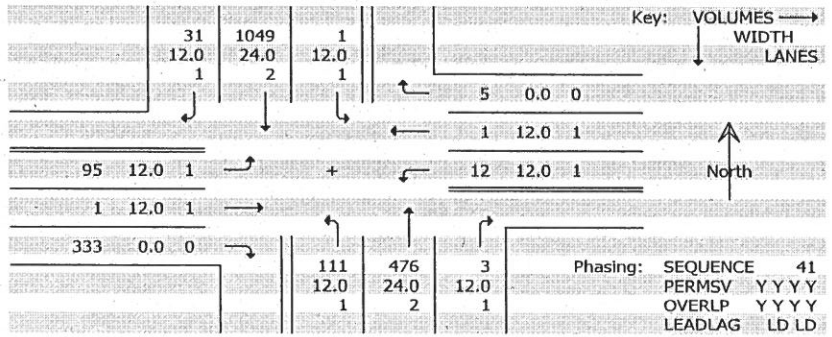
2025
BUILD



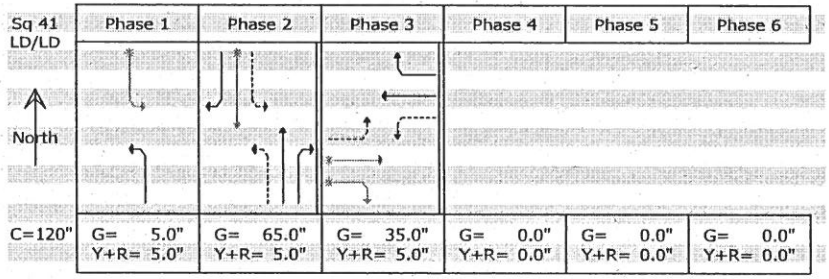
Rainbow Rd. / Unser Blvd.

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



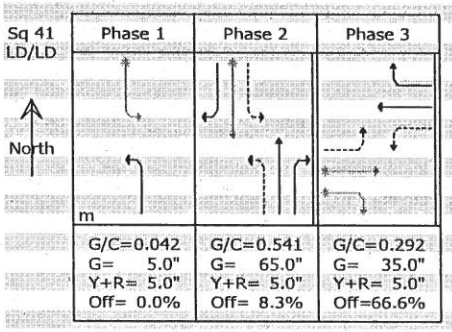
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/13/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2A_11ABX 09:39:07
2011 AM Peak Hour BUILD Conditions - without RI/RO driveway

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 0.56 Vehicle Delay 24.9 Level of Service C+

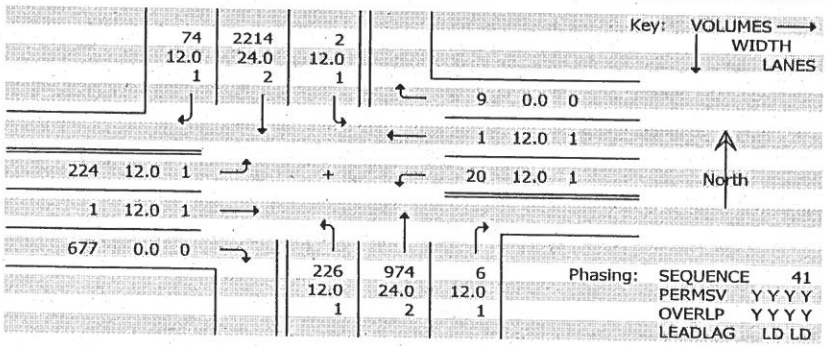


C=120 sec G=105.0 sec = 87.5% Y=15.0 sec = 12.5% Ped= 0.0 sec = 0.0%

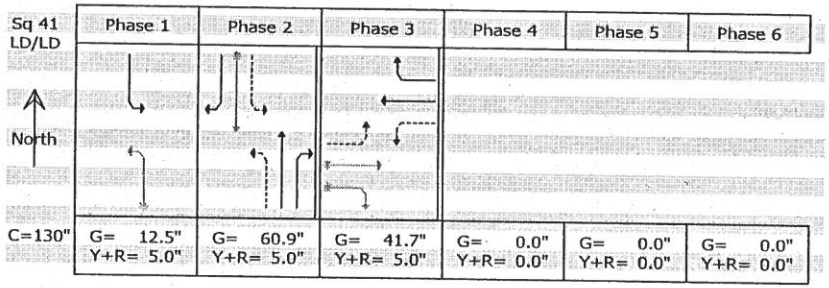
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								19.9	B	
RT	12/1	0.246	0.541	758	857	36	0.042	12.9	B+	27 ft
TH	24/2	0.420	0.541	1799	1920	1234	0.643	20.1	*C+	662 ft
LT	12/1	0.000	0.042	417	481	1	0.002	8.9	*A	1 ft
NB Approach								16.0	B	
RT	12/1	0.237	0.541	758	857	4	0.005	12.7	B+	3 ft
TH	24/2	0.304	0.541	1799	1920	560	0.292	15.1	B	244 ft
LT	12/1	0.023	0.042	170	210	131	0.618	20.3	C+	140 ft
WB Approach								31.0	C	
RT+TH	12/1	0.238	0.292	203	468	7	0.015	30.2	C	8 ft
LT	12/1	0.253	0.292	47	116	14	0.104	31.4	C	17 ft
EB Approach								49.2	D	
RT+TH	12/1	0.368	0.292	198	457	393	0.849	53.8	*D	589 ft
LT	12/1	0.272	0.292	173	401	112	0.273	33.0	C	135 ft

SIGNAL2000/TEAPAC Ver 2.70.071 - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



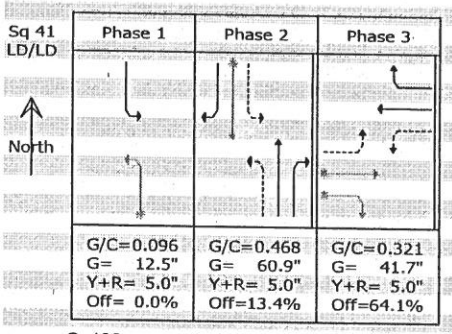
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.)
Analysis of Molten Rock Rd. / Unser Blvd. - 2A_25ABX
2025 AM Peak Hour BUILD Conditions - without RI/RO driveway
03/13/06
09:53:30

SIGNAL2000/TEAPAC Ver 2.70.071 - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 1.27 Vehicle Delay 211.1 Level of Service F



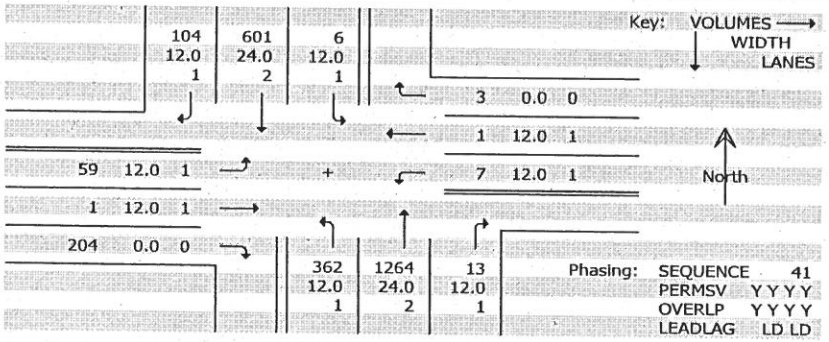
C=130 sec G=115.0 sec = 88.5% Y=15.0 sec = 11.5% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	L S	Queue Model 1
SB Approach								284.6	F	
RT	12/1	0.289	0.468	586	741	87	0.117	19.5	B	83 ft
TH	24/2	0.734	0.468	1413	1660	2605	1.569	293.7	*F	4026 ft
LT	12/1	0.000	0.096	222	278	2	0.007	15.0	B+	1 ft
NB Approach								52.6	D	
RT	12/1	0.268	0.468	586	741	7	0.009	18.5	B	6 ft
TH	24/2	0.419	0.468	1413	1660	1146	0.690	28.4	C	739 ft
LT	12/1	0.238	0.096	133	209	266	1.172	157.6	*F	649 ft
WB Approach								36.5	D+	
RT+TH	12/1	0.269	0.321	209	509	12	0.023	30.2	C	14 ft
LT	12/1	0.355	0.321	15	43	24	0.421	39.6	D+	36 ft
EB Approach								242.3	F	
RT+TH	12/1	0.568	0.321	206	501	797	1.569	309.6	*F	2377 ft
LT	12/1	0.351	0.321	180	438	264	0.589	39.0	D+	366 ft

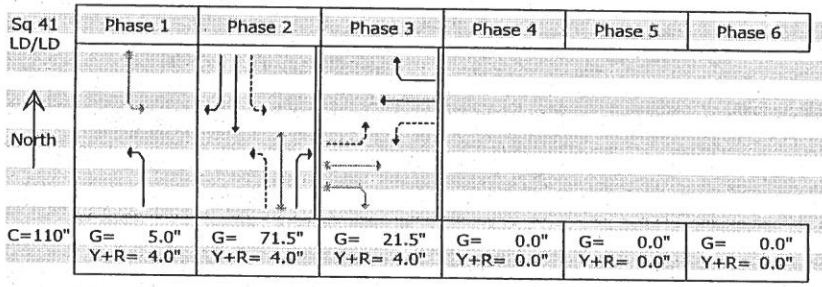
Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/13/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2A_11PBX 09:47:57
2011 PM Peak Hour BUILD Conditions - without RI/RO driveway

SIGNAL2000/TEAPAC Ver 2.70.07] - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



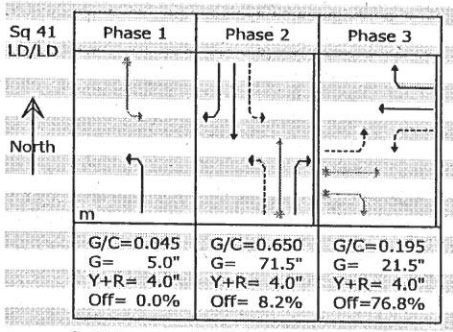
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.95	.95	.95	.85	.85	.85	.95	.95	.95	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/13/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2A_11PBX 09:47:57
2011 PM Peak Hour BUILD Conditions - without RI/RO driveway

SIGNAL2000/TEAPAC Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 0.51 Vehicle Delay 14.9 Level of Service B+

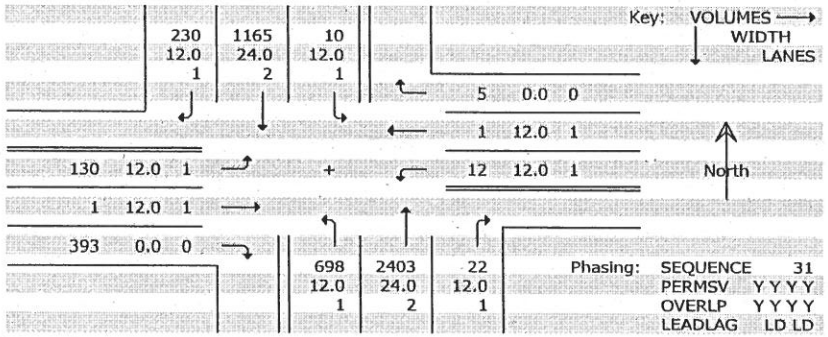


C=110 sec G= 98.0 sec = 89.1% Y=12.0 sec = 10.9% Ped= 0.0 sec = 0.0%

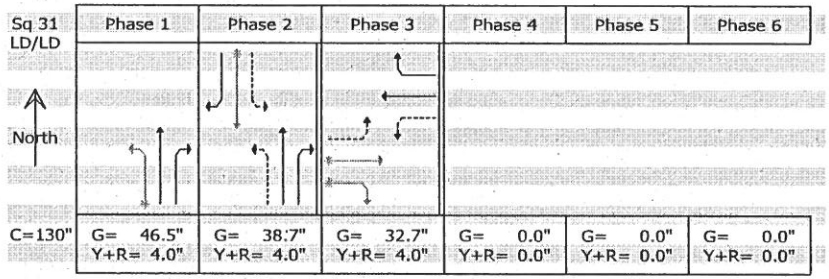
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	@E	Adj Volume	v/c	HCM Delay	LS	Queue Model 1
SB Approach								8.1	A	
RT	12/1	0.235	0.650	978	1029	109	0.106	7.3	A	60 ft
TH	24/2	0.289	0.650	2281	2306	633	0.275	8.3	A	202 ft
LT	12/1	0.000	0.045	222	258	6	0.023	6.8	*A	3 ft
NB Approach								11.3	B+	
RT	12/1	0.206	0.650	978	1029	14	0.014	6.8	A	7 ft
TH	24/2	0.428	0.650	2281	2306	1331	0.577	11.1	*B+	534 ft
LT	12/1	0.000	0.045	508	546	381	0.698	11.8	B+	320 ft
WB Approach								36.1	D+	
RT+TH	12/1	0.204	0.195	1	303	5	0.016	35.7	D+	6 ft
LT	12/1	0.210	0.195	1	103	8	0.066	36.3	D+	10 ft
EB Approach								50.3	D	
RT+TH	12/1	0.280	0.195	1	293	241	0.777	53.8	*D	344 ft
LT	12/1	0.226	0.195	1	257	69	0.251	37.9	D+	85 ft

SIGNAL2000/TEAPAC Ver 2.70.071 - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



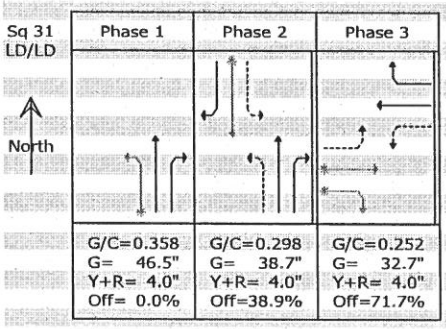
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.95	.95	.95	.85	.85	.85	.95	.95	.95	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/13/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2A_25PBX 10:00:06
2025 PM Peak Hour BUILD Conditions - without RI/RO driveway

SIGNAL2000/TEAPAC Ver 2.70.071 - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 1.03 Vehicle Delay 80.2 Level of Service F



C=130 sec G=118.0 sec = 90.8% Y=12.0 sec = 9.2% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								113.4	F	
RT	12/1	0.331	0.298	122	461	242	0.513	38.8	D+	330 ft
TH	24/2	0.433	0.298	287	1056	1226	1.161	128.8	*F	1395 ft
LT	12/1	0.304	0.298	10	42	11	0.193	35.7	D+	15 ft
NB Approach								58.1	E+	
RT	12/1	0.272	0.687	1033	1087	23	0.021	6.5	A	13 ft
TH	24/2	0.716	0.687	2403	2435	2529	1.039	49.6	D	2303 ft
LT	12/1	0.456	0.358	527	690	735	1.065	89.2	*F	1396 ft
WB Approach								39.5	D+	
RT+TH	12/1	0.268	0.252	1	390	7	0.017	36.6	D+	9 ft
LT	12/1	0.304	0.252	1	42	14	0.246	41.0	D+	21 ft
EB Approach								119.5	F	
RT+TH	12/1	0.414	0.252	1	379	463	1.160	145.2	*F	1041 ft
LT	12/1	0.312	0.252	1	332	153	0.433	41.7	D+	216 ft

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/14/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.
Analysis Period/Year	AM Peak Hour 2011	Minor Street	Rainbow Rd.
Comment	2011 AM Peak BUILD Cond.-Case A (w/o RI-RO-LI drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	277	341			610	596				41		6
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	326	401			718	701				48		7
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	7	638	0.011	0	10.7	B	68.2
	2	L	48	95	0.506	2	76.6	F	
	3								F
NB		(1)	326	476	0.685	5	27.4	D	
SB		(4)							

HiCAP™2.0.0.1
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6A - 6A_11ABX
1 of 1

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/14/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.
Analysis Period/Year	AM Peak Hour 2025	Minor Street	Rainbow Rd.
Comment	2025 AM Peak BUILD Cond.-Case A (w/o RI-RO-LI drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	594	691			640	626				132		364
PHF	0.86	0.86			0.86	0.86				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	691	803			744	728				155		428
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	428	625	0.685	5	22.3	C	22.3
	2	L	155						
	3								C
NB		(1)	691	454	1.521	37	268.8	F	
SB		(4)							

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/14/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.
Analysis Period/Year	PM Peak Hour 2011	Minor Street	Rainbow Rd.
Comment	2011 AM Peak BUILD Cond.-Case A (w/o RI-RO-LI drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	587	628			360	314				25		20
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	691	739			424	369				29		24
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	24	794	0.030	0	9.7	A	408.7
	2	L	29	18	1.598	4	738.9	F	
	3								F
NB		①	691	824	0.838	10	27.5	D	
SB		④							

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/14/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.
Analysis Period/Year	PM Peak Hour 2025	Minor Street	Rainbow Rd.
Comment	2025 PM Peak BUILD Cond.-Case A (w/o RI-RO-LI drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	1248	1101			450	405				76		459
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	1468	1295			529	476				89		540
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

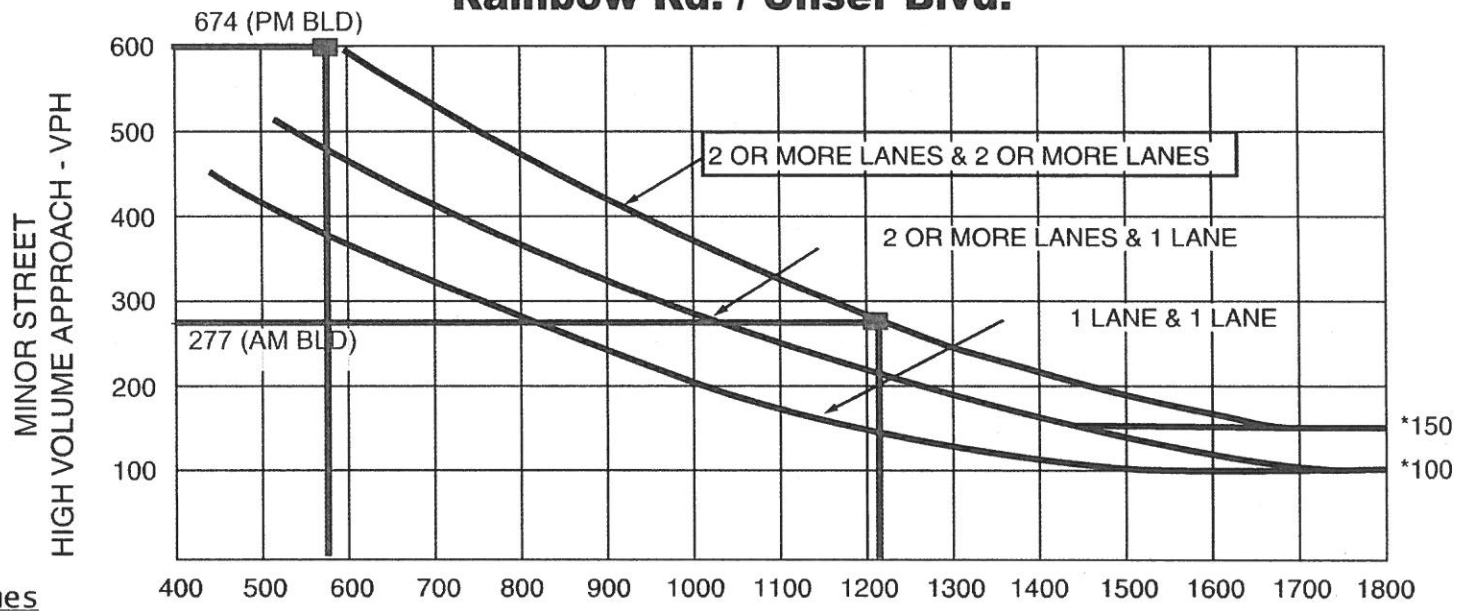
Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	540	734	0.736	7	22.3	C	22.3
	2	L	89						
	3								C
NB		(1)	1468	684	2.145	103	535.3	F	
SB		(4)							

Figure 4C-3. Warrant 3, Peak Hour

Rainbow Rd. / Unser Blvd.



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Projected Volumes
2011

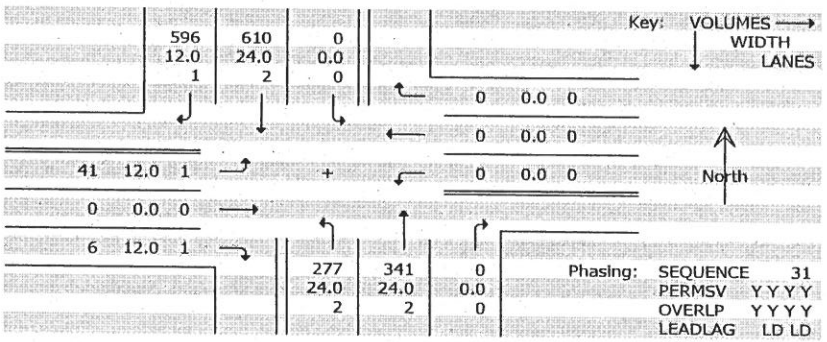
Peak	Minor	Major
AM BUILD	277	1,205
PM BUILD	587	674

Traffic Signal is Warranted based on Projected 2008 Volumes

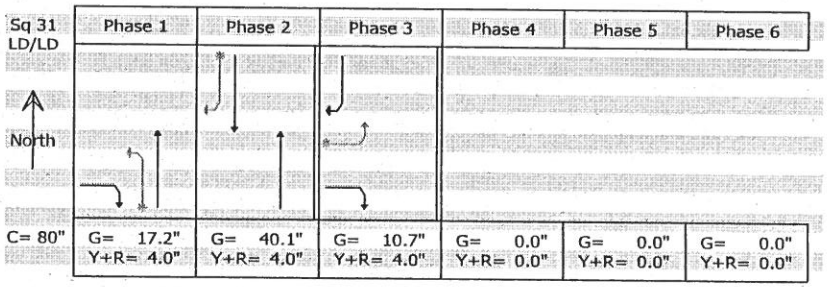
Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/14/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_11ABX 20:40:38
2011 AM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.071 - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



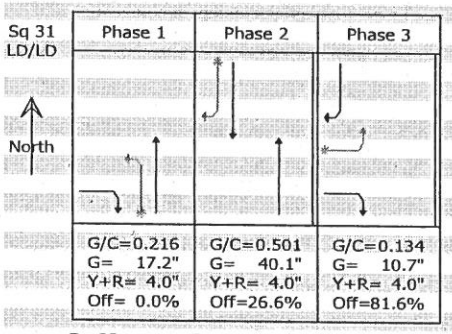
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/14/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_11ABX 20:40:38
2011 AM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.071 - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.43 Vehicle Delay 12.1 Level of Service B+



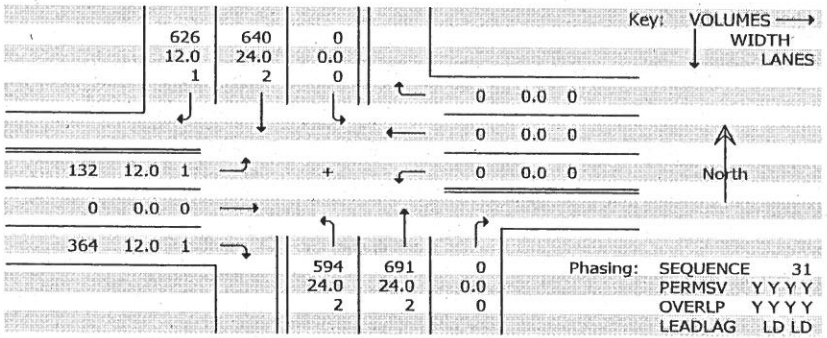
C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								10.6	B+	
RT	12/1	0.483	0.684	1065	1084	701	0.647	8.5	*A	417 ft
TH	24/2	0.246	0.501	1730	1776	718	0.404	12.7	B+	244 ft
NB Approach								13.8	B+	
TH	24/2	0.164	0.766	2718	2718	401	0.148	2.5	A	62 ft
LT	24/2	0.147	0.216	579	741	326	0.440	27.6	*C	154 ft
EB Approach								29.1	C	
RT	12/1	0.070	0.399	552	632	7	0.011	14.5	B+	5 ft
LT	12/1	0.091	0.134	130	227	48	0.203	31.3	*C	46 ft

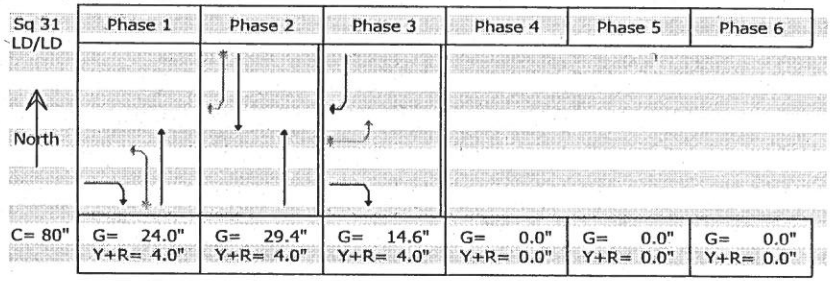
Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_25ABX 08:44:44
2025 AM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07] - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



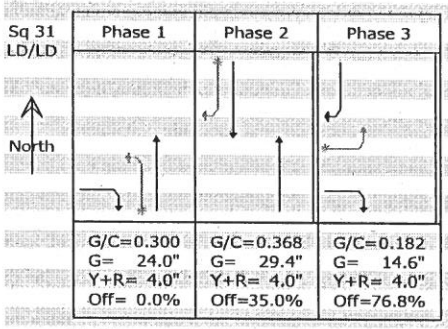
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_25ABX 08:44:44
2025 AM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.57 Vehicle Delay 16.6 Level of Service B



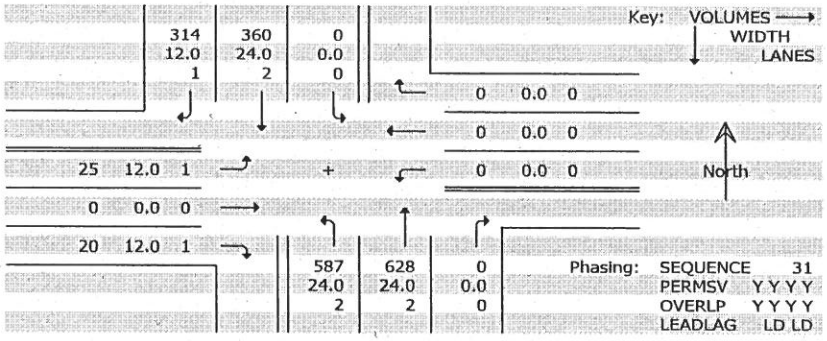
C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	L S	Queue Model 1
SB Approach								18.5	B	
RT	12/1	0.502	0.600	910	949	736	0.776	16.1	*B	575 ft
TH	24/2	0.255	0.368	1201	1304	753	0.577	21.0	C+	327 ft
NB Approach								14.5	B+	
TH	24/2	0.270	0.718	2546	2546	813	0.319	4.2	A	168 ft
LT	24/2	0.247	0.300	902	1032	699	0.677	26.4	*C+	334 ft
EB Approach								17.3	B	
RT	12/1	0.329	0.532	790	843	428	0.508	12.5	B+	285 ft
LT	12/1	0.150	0.182	210	319	155	0.481	30.5	*C	149 ft

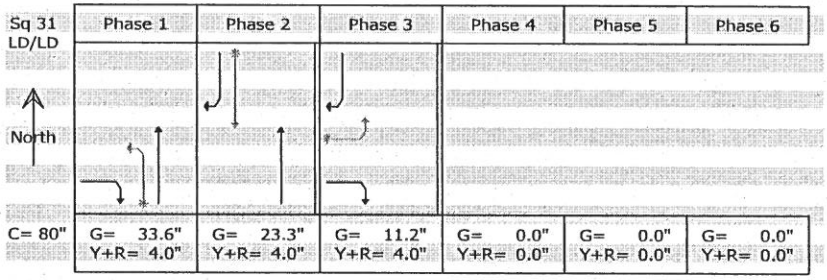
Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_11PBX 09:17:30
2011 PM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07i - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



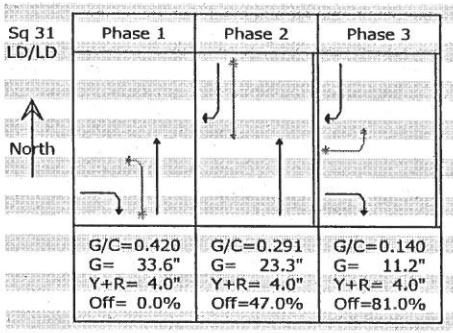
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_11PBX 09:17:30
2011 PM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07i - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.39 Vehicle Delay 13.3 Level of Service B+



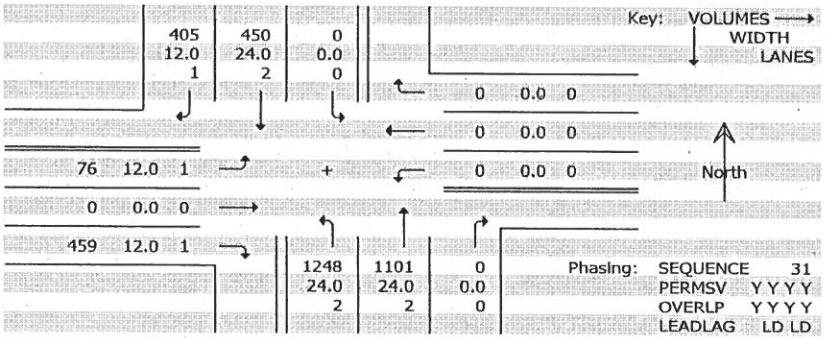
C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								19.1	B	
RT	12/1	0.295	0.480	697	761	369	0.485	14.6	B+	260 ft
TH	24/2	0.170	0.291	896	1031	424	0.411	23.1	*C+	187 ft
NB Approach								9.8	A	
TH	24/2	0.251	0.760	2697	2697	739	0.274	3.0	A	128 ft
LT	24/2	0.245	0.420	1361	1442	691	0.479	17.1	*B	267 ft
EB Approach								19.4	B	
RT	12/1	0.081	0.609	929	965	24	0.025	6.2	A	10 ft
LT	12/1	0.082	0.140	139	237	29	0.117	30.3	*C	27 ft

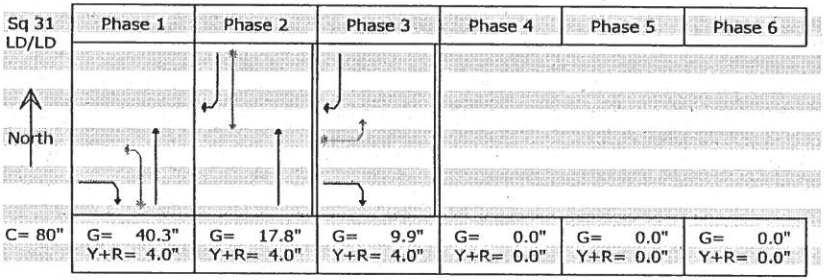
Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_25PBX 09:19:51
2025 PM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07i - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



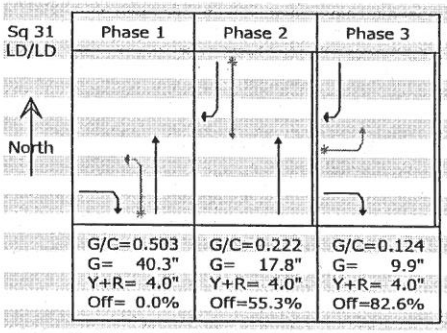
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6A_25PBX 09:19:51
2025 PM Peak Hour BUILD Conditions-without RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07i - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.65 Vehicle Delay 16.1 Level of Service B



C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								28.5	C	
RT	12/1	0.356	0.397	548	628	476	0.758	26.2	C+	436 ft
TH	24/2	0.198	0.222	626	788	529	0.671	30.7	*C	273 ft
NB Approach								12.9	B+	
TH	24/2	0.391	0.776	2751	2751	1295	0.471	3.3	A	259 ft
LT	24/2	0.447	0.503	1684	1730	1468	0.849	21.4	*C+	691 ft
EB Approach								10.5	B+	
RT	12/1	0.393	0.678	1052	1073	540	0.503	6.7	A	279 ft
LT	12/1	0.110	0.124	115	208	89	0.405	33.5	*C	89 ft

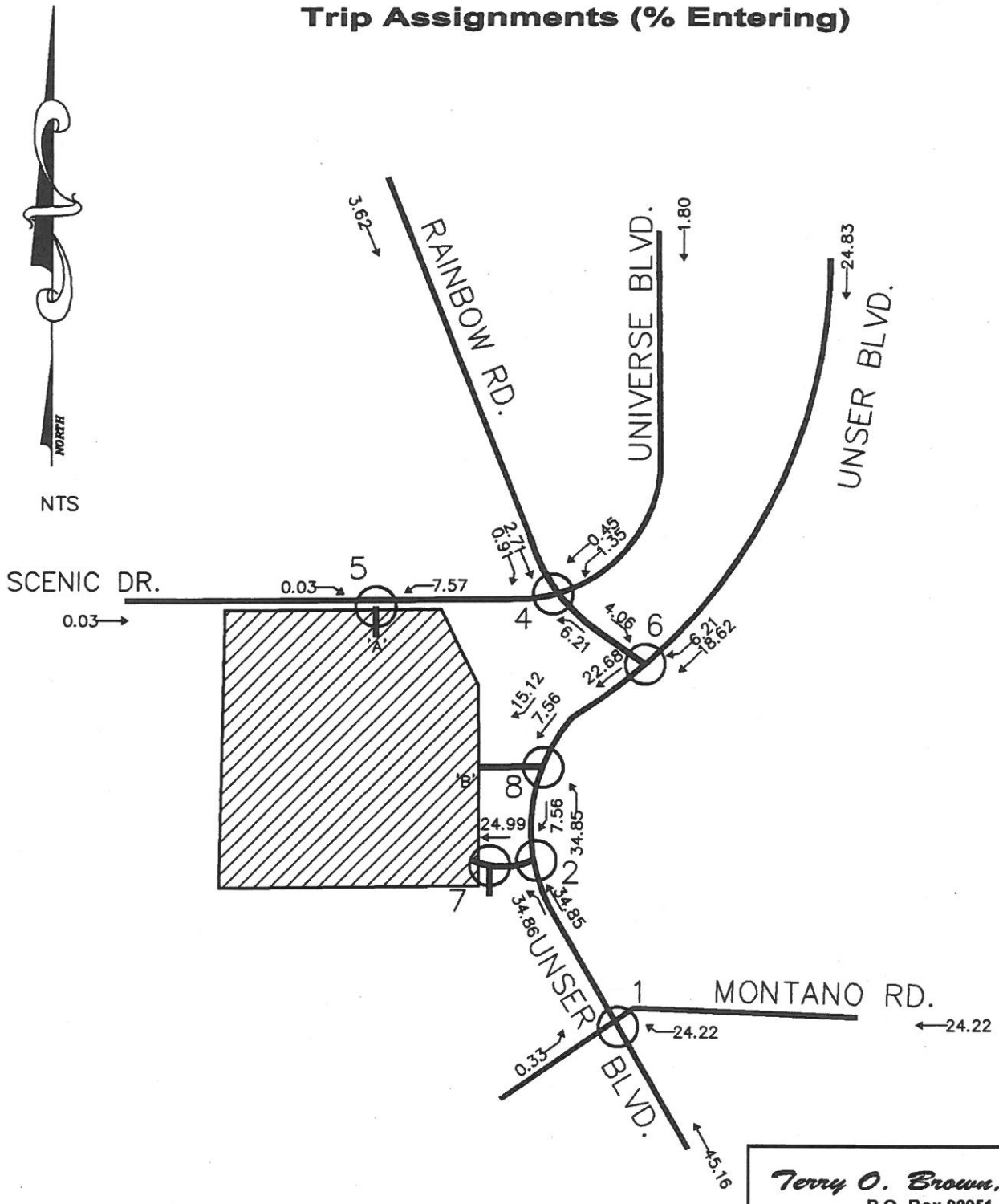
Peak Hour Existing Conditions

Case B – with RI-RO-LI driveway

Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd) - Case B - with RI/RO/LI driveway

Trip Assignments (% Entering)



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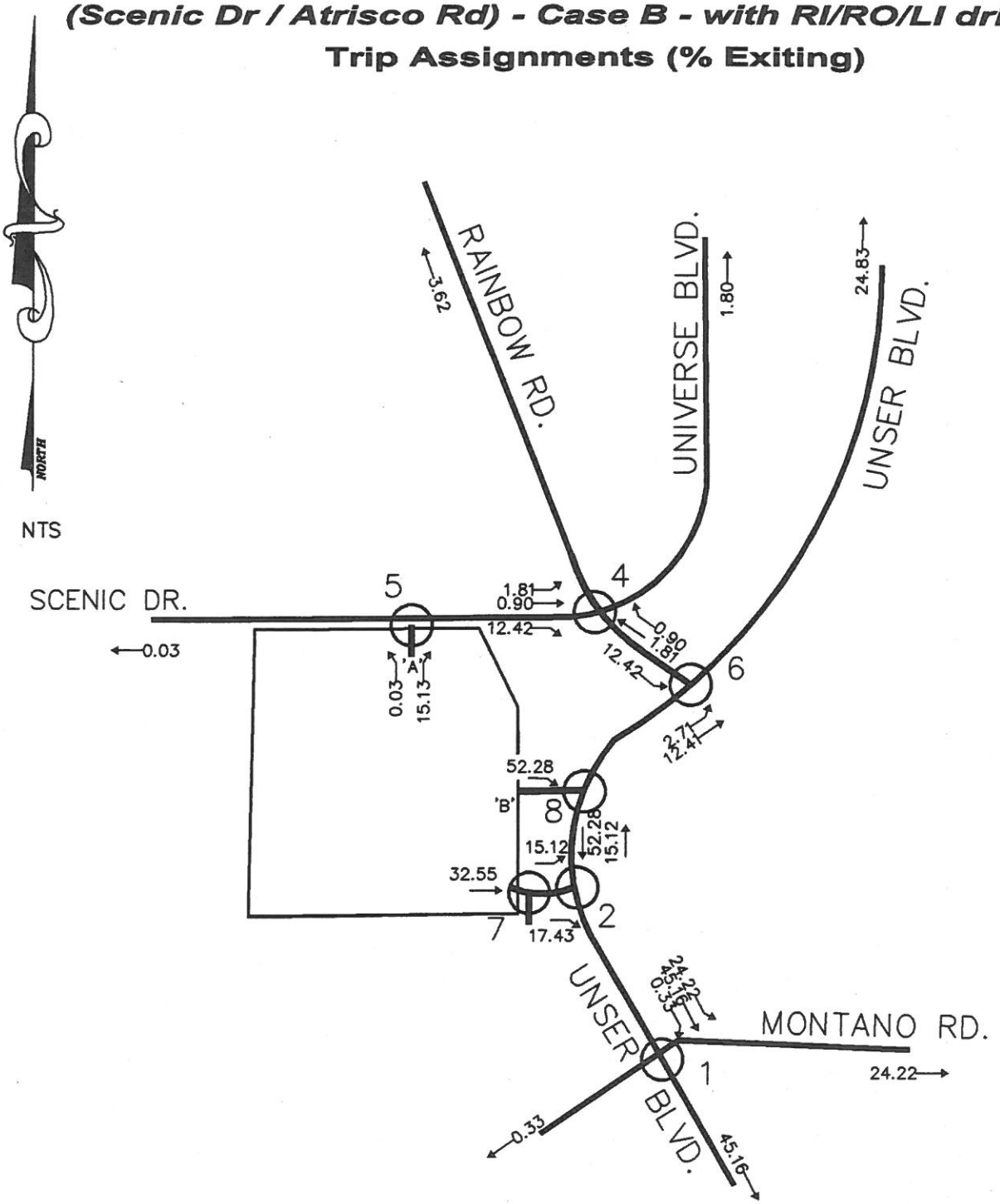
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Vista Vieja Subdivision - Access Study

(Scenic Dr / Atrisco Rd) - Case B - with RI/RO/LI driveway

Trip Assignments (% Exiting)



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

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2011) - 100% Development

Case B - with RI/RO/LI driveway

INTERSECTION: **Summary**

Molten Rock Rd. / Unser Blvd

(2) 2.0% Truck	0.85 Eastbound (Molten Rock Rd.)			0.85 Westbound (Molten Rock Rd.)			0.85 Northbound (Unser Blvd)			0.85 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	33	0	76	8	0	3	25	352	3	1	775	11	
2011 (NO BUILD - A.M.)	*45*	*0*	*104*	*12*	*0*	*5*	*35*	*476*	*3*	*1*	*1,049*	*15*	
2011 (BUILD - A.M.)	***95***	***0***	***161***	***12***	***0***	***5***	***73***	***514***	***3***	***1***	***1,220***	***23***	

	0.85 Eastbound (Molten Rock Rd.)			0.85 Westbound (Molten Rock Rd.)			0.95 Northbound (Unser Blvd)			0.95 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	21	0	48	5	0	3	87	934	9	4	445	37	
2011 (NO BUILD - P.M.)	*29*	*0*	*66*	*7*	*0*	*3*	*117*	*1,264*	*13*	*6*	*601*	*51*	
2011 (BUILD - P.M.)	***59***	***0***	***101***	***7***	***0***	***3***	***239***	***1,386***	***13***	***6***	***705***	***78***	

Rainbow Rd. / Unser Blvd.

(6) 2.0% Truck	0.85 Eastbound (Rainbow Rd.)			0.85 Westbound (Rainbow Rd.)			0.86 Northbound (Unser Blvd.)			0.86 Southbound (Unser Blvd.)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	0	3	0	0	0	198	222	0	0	440	430	
2011 (NO BUILD - A.M.)	*0*	*0*	*3*	*0*	*0*	*0*	*268*	*300*	*0*	*0*	*596*	*582*	
2011 (BUILD - A.M.)	***41***	***0***	***7***	***0***	***0***	***0***	***277***	***341***	***0***	***0***	***616***	***589***	

	0.85 Eastbound (Rainbow Rd.)			0.85 Westbound (Rainbow Rd.)			0.85 Northbound (Unser Blvd.)			0.85 Southbound (Unser Blvd.)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	0	8	0	0	0	430	445	0	0	234	200	
2011 (NO BUILD - P.M.)	*0*	*0*	*10*	*0*	*0*	*0*	*582*	*603*	*0*	*0*	*316*	*270*	
2011 (BUILD - P.M.)	***25***	***0***	***24***	***0***	***0***	***0***	***587***	***628***	***0***	***0***	***381***	***292***	

Driveway 'B' / Unser Blvd

(8) 2.0% Truck	0.85 Eastbound (Driveway 'B')			0.85 Westbound (Driveway 'B')			0.85 Northbound (Unser Blvd)			0.78 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	0	0	0	0	0	0	0	0	0	0	0	
2011 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2011 (BUILD - A.M.)	***0***	***0***	***171***	***0***	***0***	***0***	***38***	***50***	***0***	***0***	***8***	***16***	

	0.85 Eastbound (Driveway 'B')			0.85 Westbound (Driveway 'B')			0.95 Northbound (Unser Blvd)			0.94 Southbound (Unser Blvd)			PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	0	0	0	0	0	0	0	0	0	0	0	
2011 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2011 (BUILD - P.M.)	***0***	***0***	***104***	***0***	***0***	***0***	***122***	***30***	***0***	***0***	***27***	***53***	

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Molten Rock Rd. / Unser Blvd

INTERSECTION: E-W Street: **Molten Rock Rd.** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2008 NOTE: SAD 227 volumes included in existing volumes for this analysis

Implementation Year **2011**

Growth Rates	**5.00%**			**5.00%**			**5.00%**			**5.00%**		
	Eastbound (Molten Rock Rd.)			**Westbound (Molten Rock Rd.)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	39	0	90	10	0	4	30	414	3	1	912	13
Background Traffic Growth	6	0	14	2	0	1	5	62	0	0	137	2
Subtotal (NO BUILD - A.M.)	***45***	***0***	***104***	***12***	***0***	***5***	***35***	***476***	***3***	***1***	***1,049***	***15***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.86%*	*34.85%*	*0.00%*	*0.00%*	*0.00%*	*7.56%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*17.43%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*52.28%*	*0.00%*
Total Trips Generated	50	0	57	0	0	0	38	38	0	0	171	8
Total AM Peak Hour BUILD Volumes	**95**	**0**	**161**	**12**	**0**	**5**	**73**	**514**	**3**	**1**	**1,220**	**23**

	Eastbound (Molten Rock Rd.)			**Westbound (Molten Rock Rd.)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	25	0	57	6	0	3	102	1,099	11	5	523	44
Background Traffic Growth	4	0	9	1	0	0	15	165	2	1	78	7
Subtotal (NO BUILD - P.M.)	***29***	***0***	***66***	***7***	***0***	***3***	***117***	***1,264***	***13***	***6***	***601***	***51***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.86%*	*34.85%*	*0.00%*	*0.00%*	*0.00%*	*7.56%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*17.43%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*52.28%*	*0.00%*
Total Trips Generated	30	0	35	0	0	0	122	122	0	0	104	27
Total PM Peak Hour BUILD Volumes	**59**	**0**	**101**	**7**	**0**	**3**	**239**	**1,386**	**13**	**6**	**705**	**78**

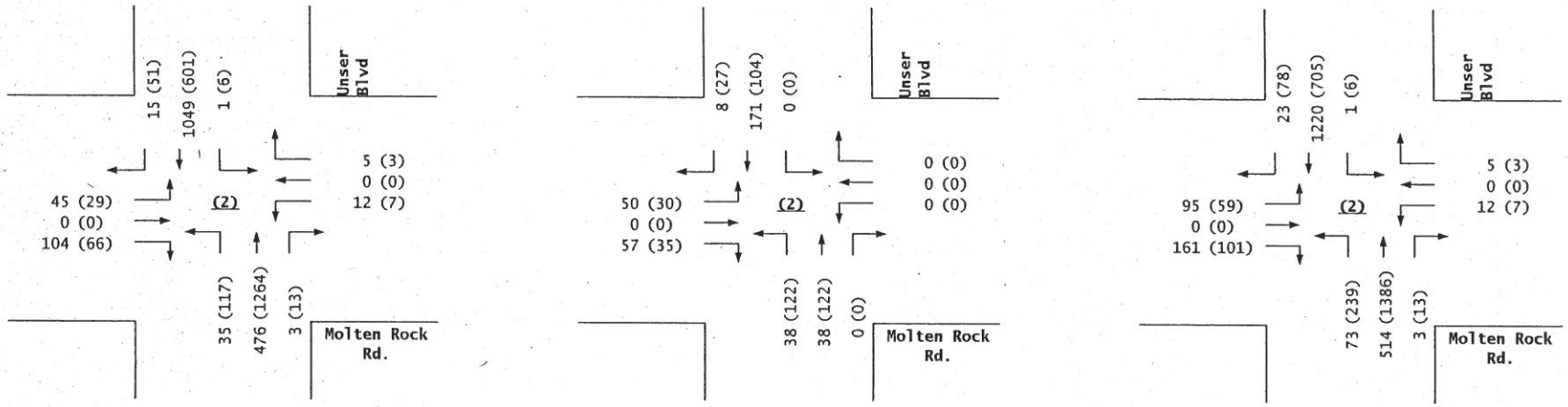
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Molten Rock Rd.)			**Westbound (Molten Rock Rd.)**			**Northbound (Unser Blvd)**			**Southbound (Unser Blvd)**		
2005 AM Peak Hr. Volumes	33	0	76	8	0	3	25	352	3	1	775	11
2005 PM Peak Hr. Volumes	21	0	48	5	0	3	87	934	9	4	445	37

2011
NO BUILD

Trips

2011
BUILD



Molten Rock Rd. / Unser Blvd

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Rainbow Rd. / Unser Blvd.

INTERSECTION: E-W Street: **Rainbow Rd.** (6)

N-S Street: **Unser Blvd.**

Year of Existing Counts 2008

Implementation Year **2011**

NOTE: SAD 227 volumes included in existing volumes for this analysis

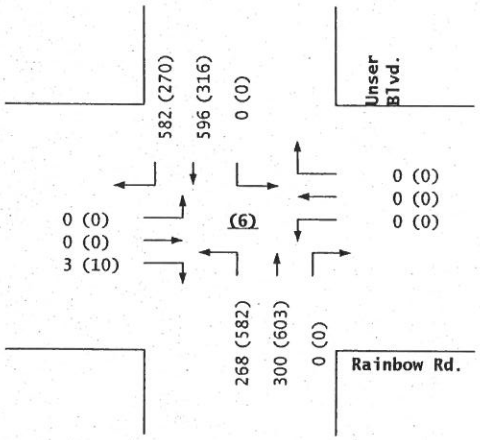
Growth Rates	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	3	0	0	0	233	261	0	0	518	506
Background Traffic Growth	0	0	0	0	0	0	35	39	0	0	78	76
Subtotal (NO BUILD - A.M.)	***0***	***0***	***3***	***0***	***0***	***0***	***268***	***300***	***0***	***0***	***596***	***582***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*4.06%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*18.62%*	*6.21%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	41	0	4	0	0	0	9	41	0	0	20	7
Total AM Peak Hour BUILD Volumes	**41**	**0**	**7**	**0**	**0**	**0**	**277**	**341**	**0**	**0**	**616**	**589**

	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	9	0	0	0	506	524	0	0	275	235
Background Traffic Growth	0	0	1	0	0	0	76	79	0	0	41	35
Subtotal (NO BUILD - P.M.)	***0***	***0***	***10***	***0***	***0***	***0***	***582***	***603***	***0***	***0***	***316***	***270***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*4.06%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*18.62%*	*6.21%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	25	0	14	0	0	0	5	25	0	0	65	22
Total PM Peak Hour BUILD Volumes	**25**	**0**	**24**	**0**	**0**	**0**	**587**	**628**	**0**	**0**	**381**	**292**

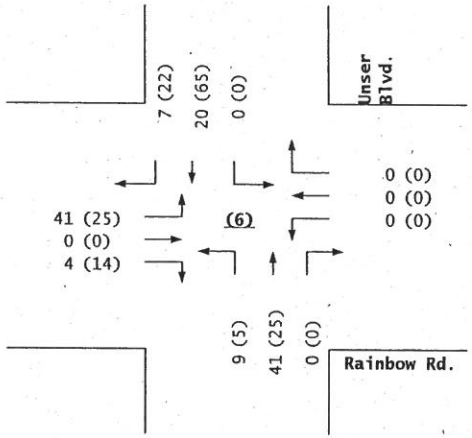
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2005 AM Peak Hr. Volumes	0	0	3	0	0	0	198	222	0	0	440	430
2005 PM Peak Hr. Volumes	0	0	8	0	0	0	430	445	0	0	234	200

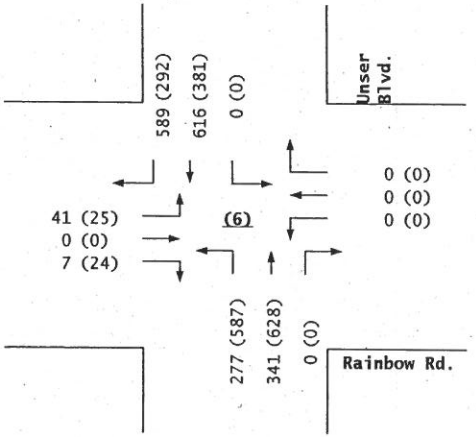
2011
NO BUILD



Trips



2011
BUILD



Rainbow Rd. / Unser Blvd.

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Driveway 'B' / Unser Blvd

INTERSECTION: E-W Street: **Driveway 'B'** (8)

N-S Street: **Unser Blvd**

Year of Existing Counts 2008

Implementation Year **2011**

Growth Rates 5.00% 5.00% 5.00% 5.00%

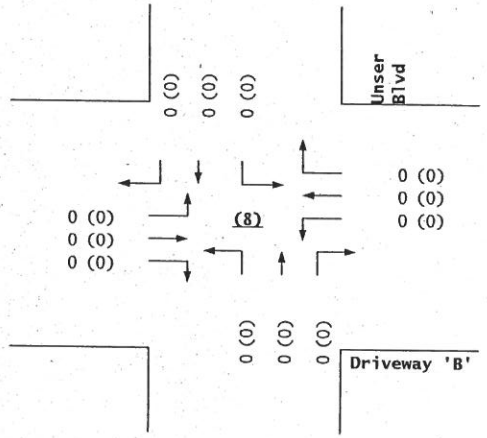
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***34.85%***	*0.00%*	*0.00%*	*0.00%*	***7.56%***	***15.12%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***52.28%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***15.12%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	171	0	0	0	38	50	0	0	8	16
Total AM Peak Hour BUILD Volumes	**0**	**0**	**171**	**0**	**0**	**0**	**38**	**50**	**0**	**0**	**8**	**16**

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser 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***	***0***	***0***	***0***	***0***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***34.85%***	*0.00%*	*0.00%*	*0.00%*	***7.56%***	***15.12%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***52.28%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***15.12%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	104	0	0	0	122	30	0	0	27	53
Total PM Peak Hour BUILD Volumes	**0**	**0**	**104**	**0**	**0**	**0**	**122**	**30**	**0**	**0**	**27**	**53**

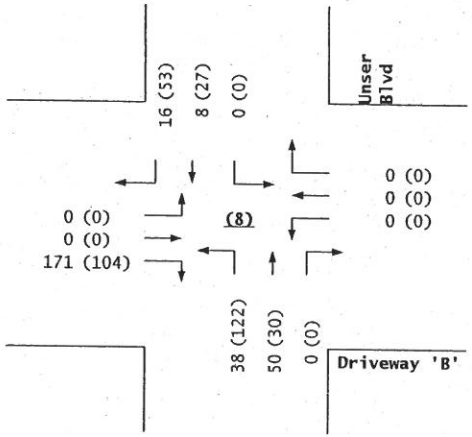
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
2005 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2005 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

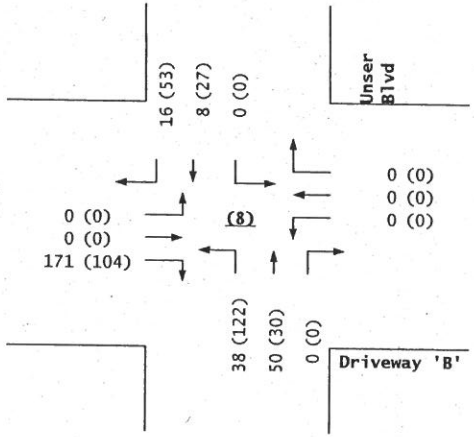
2011
NO BUILD



Trips



2011
BUILD



Driveway 'B' / Unser Blvd

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2025) - 100% Development

Case B - with RI/RO/LI driveway

INTERSECTION: Summary

Molten Rock Rd. / Unser Blvd

(2)

2.0% Truck

	0.85			0.85			0.85			0.85		PHF
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	28	0	65	8	0	3	22	299	2	1	659	9
2025 (NO BUILD - A.M.)	*174*	*0*	*448*	*20*	*0*	*9*	*150*	*974*	*6*	*2*	*2,214*	*58*
2025 (BUILD - A.M.)	***224***	***0***	***505***	***20***	***0***	***9***	***188***	***1,012***	***6***	***2***	***2,385***	***66***

	0.85			0.85			0.95			0.95		PHF
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	20	0	46	5	0	2	82	885	9	4	421	36
2025 (NO BUILD - P.M.)	*100*	*0*	*255*	*12*	*0*	*5*	*453*	*2,403*	*22*	*10*	*1,165*	*177*
2025 (BUILD - P.M.)	***130***	***0***	***290***	***12***	***0***	***5***	***575***	***2,525***	***22***	***10***	***1,269***	***204***

Rainbow Rd. / Unser Blvd.

(6)

2.0% Truck

	0.85			0.85			0.86			0.86		PHF
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0	0	-41	0	0	0	168	189	0	0	596	582
2025 (NO BUILD - A.M.)	*91*	*0*	*361*	*0*	*0*	*0*	*585*	*650*	*0*	*0*	*626*	*612*
2025 (BUILD - A.M.)	***132***	***0***	***365***	***0***	***0***	***0***	***594***	***691***	***0***	***0***	***646***	***619***

	0.85			0.85			0.85			0.85		PHF
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0	0	-117	0	0	0	407	422	0	0	316	270
2025 (NO BUILD - P.M.)	*51*	*0*	*449*	*0*	*0*	*0*	*1,243*	*1,076*	*0*	*0*	*406*	*361*
2025 (BUILD - P.M.)	***76***	***0***	***463***	***0***	***0***	***0***	***1,248***	***1,101***	***0***	***0***	***471***	***383***

Driveway 'B' / Unser Blvd

(8)

2.0% Truck

	0.85			0.85			0.85			0.78		PHF
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0	0	0	0	0	0	0	0	0	0	0	0
2025 (NO BUILD - A.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*175*	*0*	*0*	*284*	*0*
2025 (BUILD - A.M.)	***0***	***0***	***171***	***0***	***0***	***0***	***38***	***225***	***0***	***0***	***292***	***16***

	0.85			0.85			0.95			0.94		PHF
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2005)	0	0	0	0	0	0	0	0	0	0	0	0
2025 (NO BUILD - P.M.)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*305*	*0*	*0*	*233*	*0*
2025 (BUILD - P.M.)	***0***	***0***	***104***	***0***	***0***	***0***	***122***	***335***	***0***	***0***	***260***	***53***

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Molten Rock Rd. / Unser Blvd

INTERSECTION: E-W Street: **Molten Rock Rd.** (2)

N-S Street: **Unser Blvd**

Year of Existing Counts 2011

Horizon Year **2025**

NOTE: SAD 227 volumes included in existing volumes for this analysis

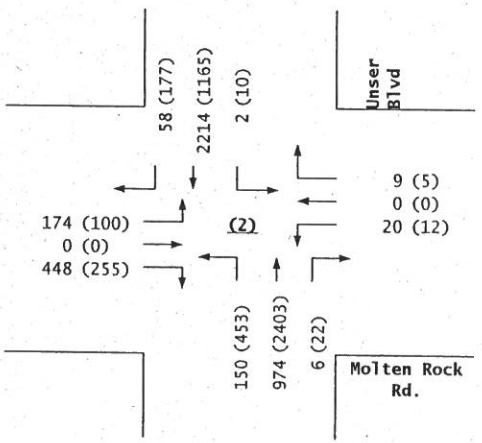
Growth Rates	6.20%			5.00%			6.20%			6.20%		
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	45	0	104	12	0	5	35	476	3	1	1,049	15
Background Traffic Growth	39	0	90	8	0	4	30	413	3	1	911	13
Subtotal	84	0	194	20	0	9	65	889	6	2	1,960	28
West of Vista Vieja Properties	90	0	254	0	0	0	85	85	0	0	254	30
Subtotal (NO BUILD - A.M.)	***174***	***0***	***448***	***20***	***0***	***9***	***150***	***974***	***6***	***2***	***2,214***	***58***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.86%*	*34.85%*	*0.00%*	*0.00%*	*0.00%*	*7.56%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*17.43%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*52.28%*	*0.00%*
Total Trips Generated	50	0	57	0	0	0	38	38	0	0	171	8
Total AM Peak Hour BUILD Volumes	**224**	**0**	**505**	**20**	**0**	**9**	**188**	**1,012**	**6**	**2**	**2,385**	**66**

	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	29	0	66	7	0	3	117	1,264	13	6	601	51
Background Traffic Growth	20	0	46	5	0	2	82	885	9	4	421	36
Subtotal	49	0	112	12	0	5	199	2,149	22	10	1,022	87
West of Vista Vieja Properties	51	0	143	0	0	0	254	254	0	0	143	90
Subtotal (NO BUILD - P.M.)	***100***	***0***	***255***	***12***	***0***	***5***	***453***	***2,403***	***22***	***10***	***1,165***	***177***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*34.86%*	*34.85%*	*0.00%*	*0.00%*	*0.00%*	*7.56%*
Percent Residential Trips Generated(Exiting)	*15.12%*	*0.00%*	*17.43%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*52.28%*	*0.00%*
Total Trips Generated	30	0	35	0	0	0	122	122	0	0	104	27
Total PM Peak Hour BUILD Volumes	**130**	**0**	**290**	**12**	**0**	**5**	**575**	**2,525**	**22**	**10**	**1,269**	**204**

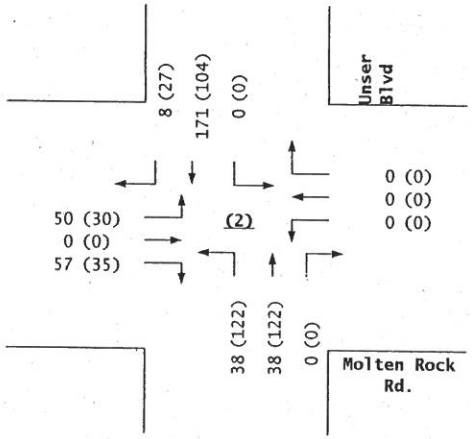
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Molten Rock Rd.)			Westbound (Molten Rock Rd.)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
2005 AM Peak Hr. Volumes	28	0	65	8	0	3	22	299	2	1	659	9
2005 PM Peak Hr. Volumes	20	0	46	5	0	2	82	885	9	4	421	36

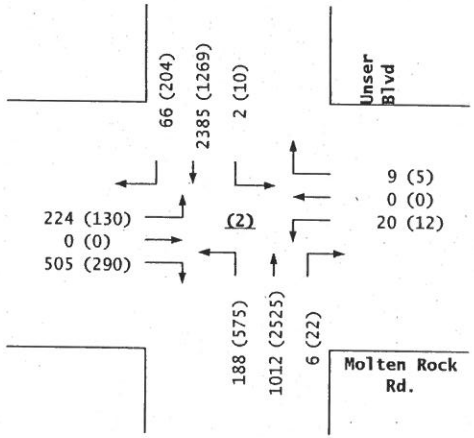
2025
NO BUILD



Trips



2025
BUILD



Molten Rock Rd. / Unser Blvd

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Rainbow Rd. / Unser Blvd.

INTERSECTION: E-W Street: **Rainbow Rd.** (6)

N-S Street: **Unser Blvd.**

Year of Existing Counts 2011

Horizon Year **2025**

NOTE: SAD 227 volumes included in existing volumes for this analysis

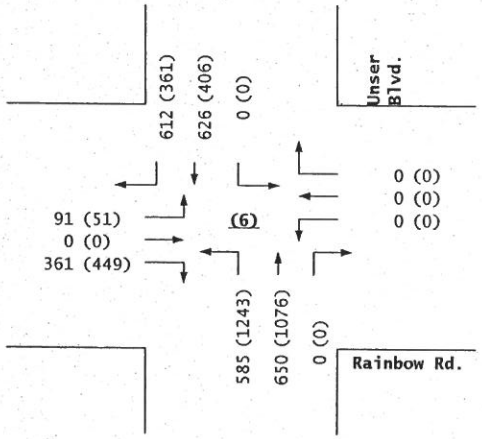
Growth Rates	246.60%			5.00%			6.20%			0.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	3	0	0	0	268	300	0	0	596	582
Background Traffic Growth	0	0	104	0	0	0	232	260	0	0	0	0
Subtotal	0	0	107	0	0	0	500	560	0	0	596	582
West of Vista Vieja Properties	91	0	254	0	0	0	85	90	0	0	30	30
Subtotal (NO BUILD - A.M.)	***91***	***0***	***361***	***0***	***0***	***0***	***585***	***650***	***0***	***0***	***626***	***612***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*4.06%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*18.62%*	*6.21%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	41	0	4	0	0	0	9	41	0	0	20	7
Total AM Peak Hour BUILD Volumes	**132**	**0**	**365**	**0**	**0**	**0**	**594**	**691**	**0**	**0**	**646**	**619**

	211.50%			5.00%			5.00%			0.00%		
	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	10	0	0	0	582	603	0	0	316	270
Background Traffic Growth	0	0	296	0	0	0	407	422	0	0	0	0
Subtotal	0	0	306	0	0	0	989	1,025	0	0	316	270
West of Vista Vieja Properties	51	0	143	0	0	0	254	51	0	0	90	91
Subtotal (NO BUILD - P.M.)	***51***	***0***	***449***	***0***	***0***	***0***	***1,243***	***1,076***	***0***	***0***	***406***	***361***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*4.06%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*18.62%*	*6.21%*
Percent Residential Trips Generated(Exiting)	*12.42%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*2.71%*	*12.41%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	25	0	14	0	0	0	5	25	0	0	65	22
Total PM Peak Hour BUILD Volumes	**76**	**0**	**463**	**0**	**0**	**0**	**1,248**	**1,101**	**0**	**0**	**471**	**383**

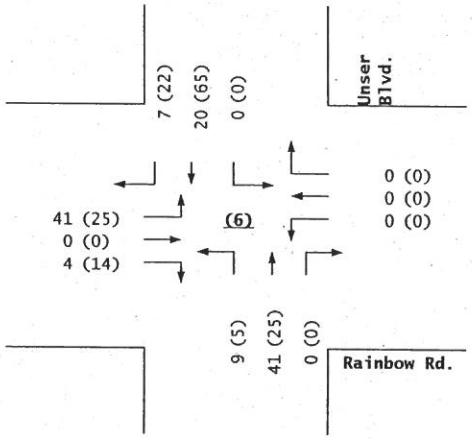
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Rainbow Rd.)			Westbound (Rainbow Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2005 AM Peak Hr. Volumes	0	0	-41	0	0	0	168	189	0	0	596	582
2005 PM Peak Hr. Volumes	0	0	-117	0	0	0	407	422	0	0	316	270

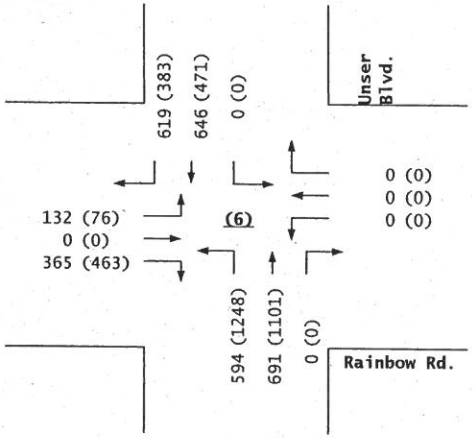
2025
NO BUILD



Trips



2025
BUILD



Rainbow Rd. / Unser Blvd.

Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study

Projected Turning Movements Worksheet

Driveway 'B' / Unser Blvd

INTERSECTION: E-W Street: **Driveway 'B'** (8)

N-S Street: **Unser Blvd**

Year of Existing Counts 2011

Horizon Year **2025**

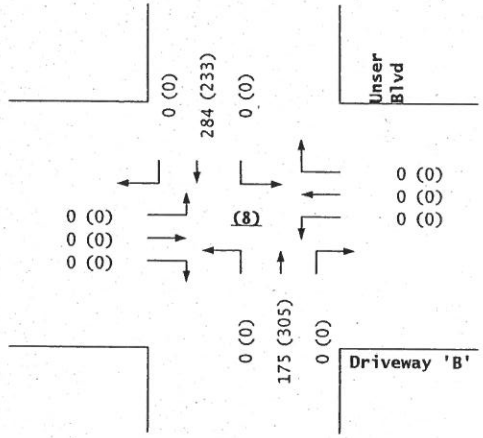
Growth Rates	6.20%			5.00%			6.20%			6.20%		
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	0	0	0	0	0	0	0	0	0	0	0
Background Traffic Growth	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	0	0	0	0	0	0	0	0	0	0
West of Vista Vieja Properties	0	0	0	0	0	0	0	175	0	0	284	0
Subtotal (NO BUILD - A.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***175***	***0***	***0***	***284***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***34.85%***	*0.00%*	*0.00%*	*0.00%*	***7.56%***	***15.12%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***52.28%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***15.12%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	171	0	0	0	38	50	0	0	8	16
Total AM Peak Hour BUILD Volumes	**0**	**0**	**171**	**0**	**0**	**0**	**38**	**225**	**0**	**0**	**292**	**16**

	5.00%			5.00%			5.00%			5.00%		
	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser 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	0	0	0	0	0	0	0	0	0	0	0	0
West of Vista Vieja Properties	0	0	0	0	0	0	0	305	0	0	233	0
Subtotal (NO BUILD - P.M.)	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***305***	***0***	***0***	***233***	***0***
Percent Residential Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***34.85%***	*0.00%*	*0.00%*	*0.00%*	***7.56%***	***15.12%***
Percent Residential Trips Generated(Exiting)	*0.00%*	*0.00%*	***52.28%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***15.12%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	104	0	0	0	122	30	0	0	27	53
Total PM Peak Hour BUILD Volumes	**0**	**0**	**104**	**0**	**0**	**0**	**122**	**335**	**0**	**0**	**260**	**53**

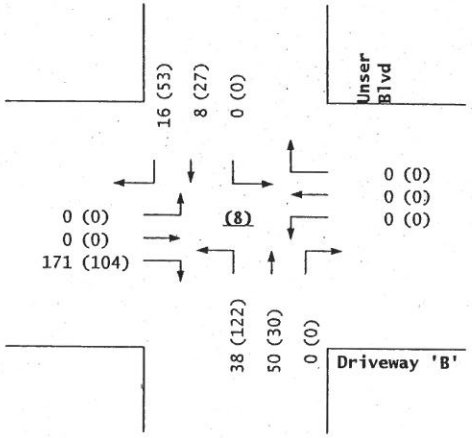
	Entering	Exiting		
Number of Residential Trips Generated	**109**	**328**	A.M.	100% Residential Development
	351	**198**	P.M.	

	Eastbound (Driveway 'B')			Westbound (Driveway 'B')			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
2005 AM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0
2005 PM Peak Hr. Volumes	0	0	0	0	0	0	0	0	0	0	0	0

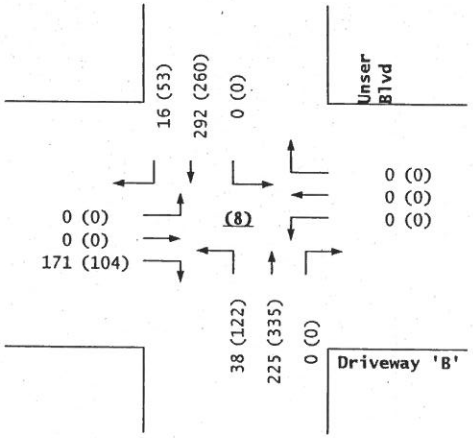
2025
NO BUILD



Trips



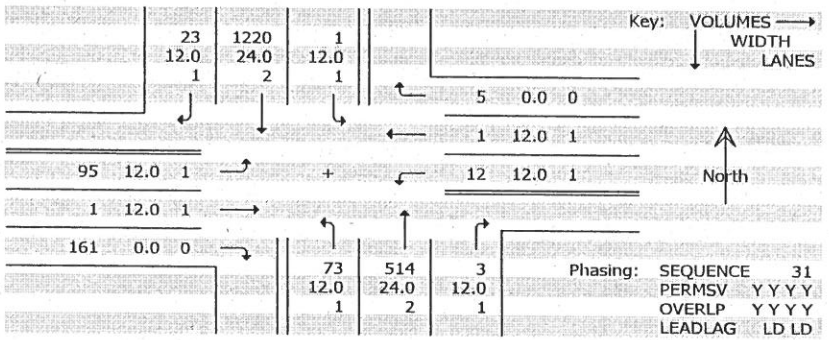
2025
BUILD



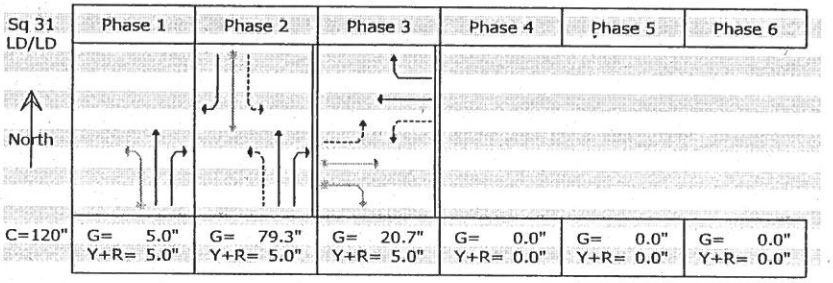
Driveway 'B' / Unser Blvd

SIGNAL2000/TEAPAC Ver 2.70.07 - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



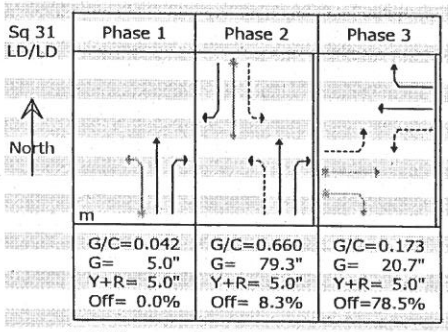
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/15/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2B_11ABX 21:25:30
2011 AM Peak Hour BUILD Conditions - w/ RI-RO-LI driveway

SIGNAL2000/TEAPAC Ver 2.70.07 - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 0.50 Vehicle Delay 15.2 Level of Service B

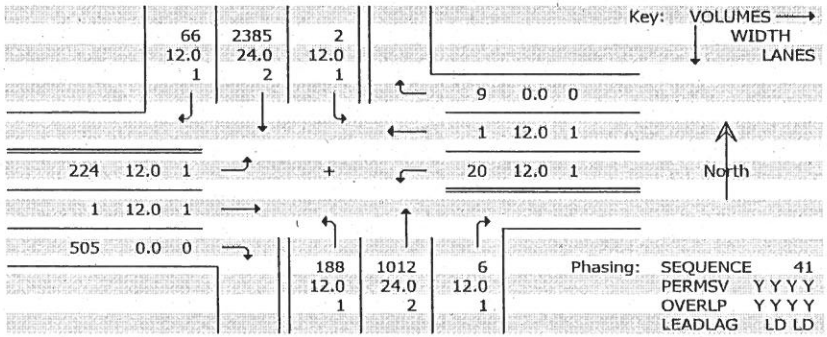


C=120 sec G=105.0 sec = 87.5% Y=15.0 sec = 12.5% Ped= 0.0 sec = 0.0%

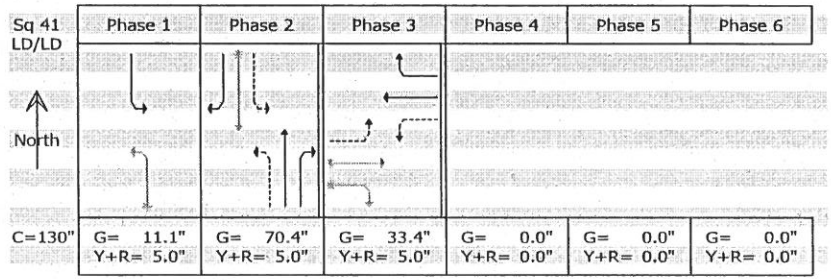
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LS	Queue Model 1
SB Approach								12.0	B+	
RT	12/1	0.244	0.660	991	1046	27	0.026	7.0	A	15 ft
TH	24/2	0.461	0.660	2308	2342	1435	0.613	12.1	*B+	631 ft
LT	12/1	0.237	0.660	467	521	1	0.002	6.9	A	1 ft
NB Approach								5.4	A	
RT	12/1	0.237	0.744	1150	1178	4	0.003	3.9	A	2 ft
TH	24/2	0.310	0.744	2638	2638	605	0.229	4.8	A	157 ft
LT	12/1	0.000	0.042	194	232	86	0.371	9.9	*A	55 ft
WB Approach								41.8	D+	
RT+TH	12/1	0.238	0.173	1	256	7	0.025	41.3	D+	9 ft
LT	12/1	0.245	0.173	1	116	14	0.101	42.1	D+	19 ft
EB Approach								51.0	D	
RT+TH	12/1	0.290	0.173	1	249	190	0.693	54.0	*D	288 ft
LT	12/1	0.272	0.173	1	218	112	0.461	46.0	D	160 ft

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



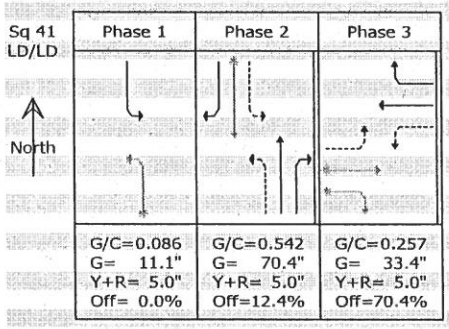
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/15/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2B_25ABX 21:35:57
2025 AM Peak Hour BUILD Conditions - w/ RI-RO-LI driveway

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 1.18 Vehicle Delay 173.5 Level of Service F

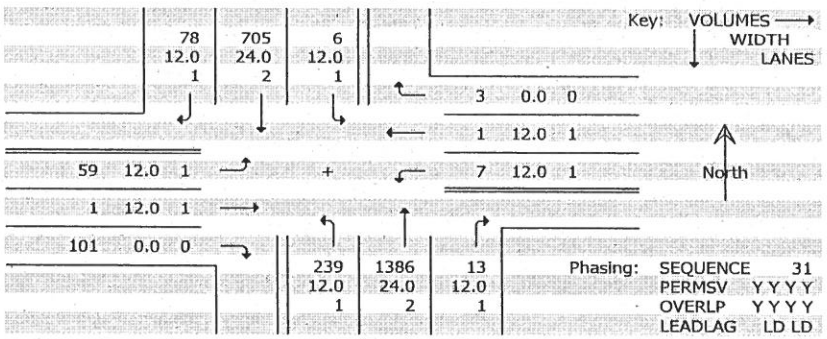


C=130 sec G=115.0 sec = 88.5% Y=15.0 sec = 11.5% Ped= 0.0 sec = 0.0%

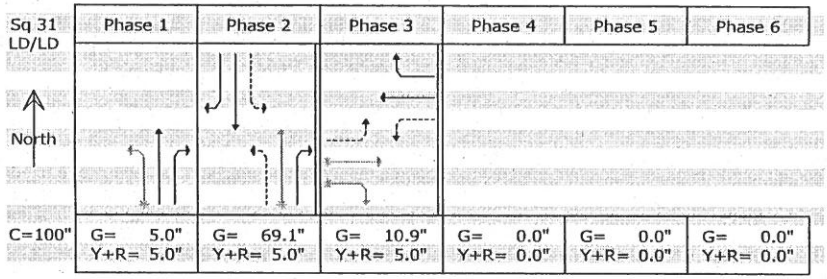
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								233.4	F	
RT	12/1	0.286	0.542	744	858	78	0.091	14.4	B+	64 ft
TH	24/2	0.780	0.542	1769	1922	2806	1.460	239.7	*F	4038 ft
LT	12/1	0.000	0.086	250	300	2	0.007	11.2	B+	1 ft
NB Approach								37.3	D+	
RT	12/1	0.268	0.542	744	858	7	0.008	13.7	B+	6 ft
TH	24/2	0.427	0.542	1769	1922	1191	0.620	21.2	C+	674 ft
LT	12/1	0.228	0.086	114	188	221	1.063	125.3	*F	490 ft
WB Approach								42.2	D+	
RT+TH	12/1	0.269	0.257	1	394	12	0.029	36.2	D+	15 ft
LT	12/1	0.333	0.257	1	42	24	0.421	45.2	D	38 ft
EB Approach								202.5	F	
RT+TH	12/1	0.472	0.257	1	388	595	1.462	269.3	*F	1692 ft
LT	12/1	0.351	0.257	1	338	264	0.735	51.9	D	412 ft

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



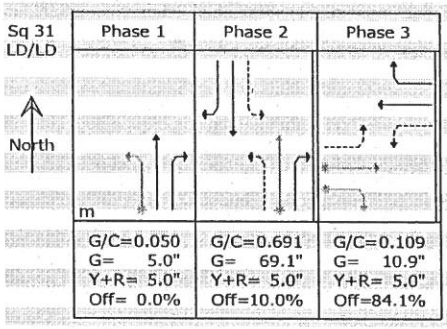
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/15/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2B_11PBX 21:39:50
2011 PM Peak Hour BUILD Conditions - w/ RI-RO-LI driveway

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 0.49 Vehicle Delay 8.0 Level of Service A

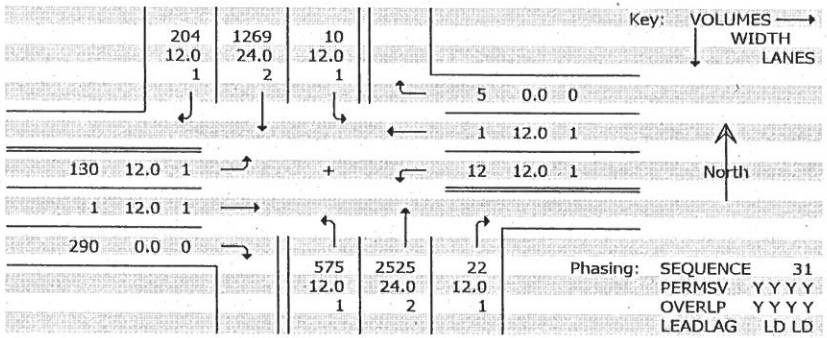


C=100 sec G= 85.0 sec = 85.0% Y=15.0 sec = 15.0% Ped= 0.0 sec = 0.0%

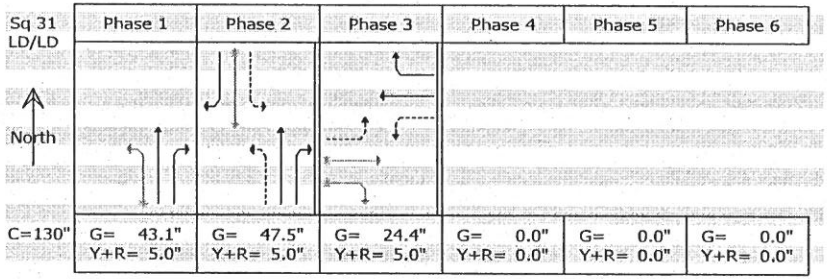
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								6.2	A	
RT	12/1	0.194	0.691	1062	1093	92	0.084	5.1	A	41 ft
TH	24/2	0.304	0.691	2449	2449	829	0.339	6.3	A	230 ft
LT	12/1	0.178	0.691	151	184	7	0.038	5.0	A	3 ft
NB Approach								4.4	A	
RT	12/1	0.168	0.791	1249	1252	15	0.012	2.2	A	4 ft
TH	24/2	0.488	0.791	2804	2804	1631	0.582	4.4	*A	435 ft
LT	12/1	0.000	0.050	468	495	281	0.568	5.0	*A	157 ft
WB Approach								40.0	D+	
RT+TH	12/1	0.165	0.109	1	158	5	0.028	39.8	D+	6 ft
LT	12/1	0.168	0.109	1	101	8	0.066	40.2	D+	10 ft
EB Approach								50.2	D	
RT+TH	12/1	0.204	0.109	1	153	120	0.690	53.9	*D	164 ft
LT	12/1	0.190	0.109	1	133	69	0.448	43.8	D+	89 ft

SIGNAL2000/TEAPAC(Ver 2.70.07) - HCM Input Worksheet

Intersection # 2 - Area Location Type: NONCBD



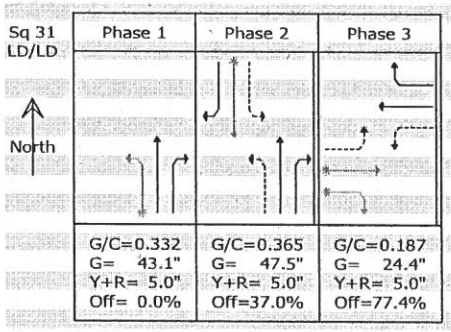
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd.) 03/15/06
Analysis of Molten Rock Rd. / Unser Blvd. - 2B_25PBX 21:41:59
2025 PM Peak Hour BUILD Conditions - w/ RI-RO-LI driveway

SIGNAL2000/TEAPAC(Ver 2.70.07) - Capacity Analysis Summary

Intersection Averages for Int # 2 -
Degree of Saturation (v/c) 1.08 Vehicle Delay 94.0 Level of Service F



C=130 sec G=115.0 sec = 88.5% Y=15.0 sec = 11.5% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LS	Queue Model 1
SB Approach								106.3	F	
RT	12/1	0.330	0.365	343	579	240	0.415	31.3	C	294 ft
TH	24/2	0.484	0.365	817	1296	1493	1.152	118.9	*F	1649 ft
LT	12/1	0.312	0.365	23	44	12	0.211	30.2	C	15 ft
NB Approach								84.8	F	
RT	12/1	0.273	0.736	1129	1165	26	0.022	4.6	A	12 ft
TH	24/2	0.818	0.736	2609	2609	2971	1.139	84.8	F	3085 ft
LT	12/1	0.433	0.332	460	644	676	1.050	87.5	*F	1272 ft
WB Approach								45.9	D	
RT+TH	12/1	0.268	0.187	1	275	7	0.023	43.1	D+	10 ft
LT	12/1	0.292	0.187	1	40	14	0.246	47.2	D	22 ft
EB Approach								121.3	F	
RT+TH	12/1	0.365	0.187	1	268	342	1.152	152.5	*F	791 ft
LT	12/1	0.312	0.187	1	234	153	0.582	51.4	D	239 ft

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information		***Site Information***	
Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/15/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.
Analysis Period/Year	AM Peak Hour 2011	Minor Street	Rainbow Rd.
Comment	2011 AM Peak BUILD Cond.-Case B (with RI-RO-LI drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	277	341			616	589				41		7
PHF	0.86	0.86			0.86	0.86				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	322	397			716	685				48		8
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	8	638	0.013	0	10.7	B	61.2
	2	L	48	101	0.476	2	69.6	F	
	3								F
NB		(1)	322	483	0.666	5	26.1	D	
SB		(4)							

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information		***Site Information***		
Analyst	Nancy	Jurisdiction/Date	City of ABQ	3/15/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.	
Analysis Period/Year	AM Peak Hour 2025	Minor Street	Rainbow Rd.	
Comment	2025 AM Peak BUILD Cond.-Case B (with RI-RO-LI drive)			

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	594	691			1063	1026				132		365
PHF	0.86	0.86			0.86	0.86				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	691	803			1236	1193				155		429
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	429	432	0.993	12	72.7	F	72.7
	2	L	155						
	3								F
NB		①	691	192	3.607	66	1222.3	F	
SB		④							

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information		***Site Information***		
Analyst	Nancy	Jurisdiction/Date	City of ABQ	3/15/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.	
Analysis Period/Year	PM Peak Hour 2011	Minor Street	Rainbow Rd.	
Comment	2011 PM Peak BUILD Cond.-Case B (with RI-RO-LI drive)			

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	587	628			381	292				25		24
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	691	739			448	344				29		28
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	28	776	0.036	0	9.8	A	406.5
	2	L	29	17	1.676	4	789.4	F	
	3								F
NB		①	691	818	0.844	10	28.2	D	
SB		④							

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information		***Site Information***		
Analyst	Nancy	Jurisdiction/Date	City of ABQ	3/15/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.	
Analysis Period/Year	PM Peak Hour 2025	Minor Street	Rainbow Rd.	
Comment	2025 PM Peak BUILD Cond.-Case B (with RI-RO-LI drive)			

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		L
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	1248	1101			692	572				76		463
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	2	2			2	2				2		2
Flow rate	1468	1295			814	673				89		545
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

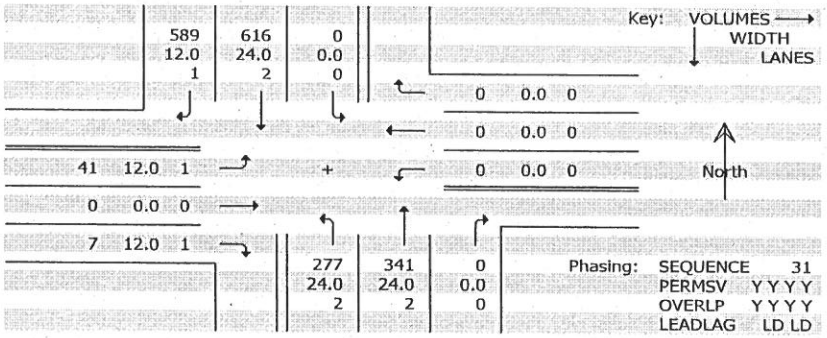
Length of study period (h) 0.25

Output Data

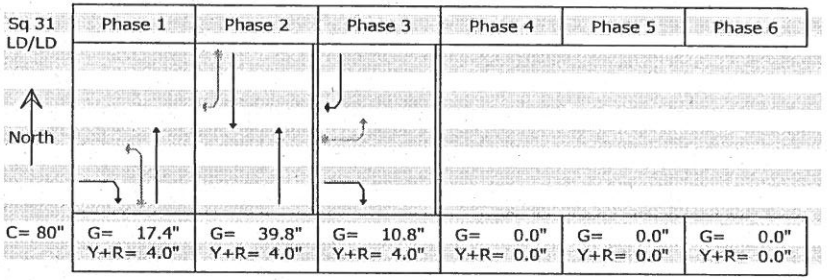
	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	545	593	0.918	12	46.1	E	46.1
	2	L	89						
	3								E
NB		(1)	1468	448	3.277	132	1049.3	F	
SB		(4)							

SIGNAL2000/TEAPAC Ver 2.70.071 - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



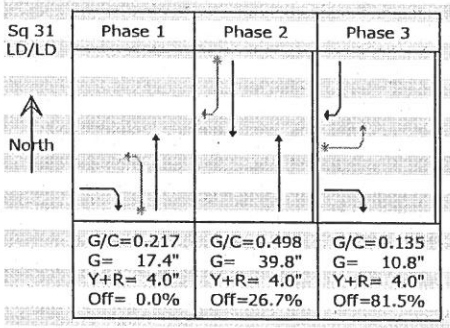
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6B_11ABX 21:53:14
2011 AM Peak Hour BUILD Conditions-w/ RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.071 - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.43 Vehicle Delay 12.1 Level of Service B+



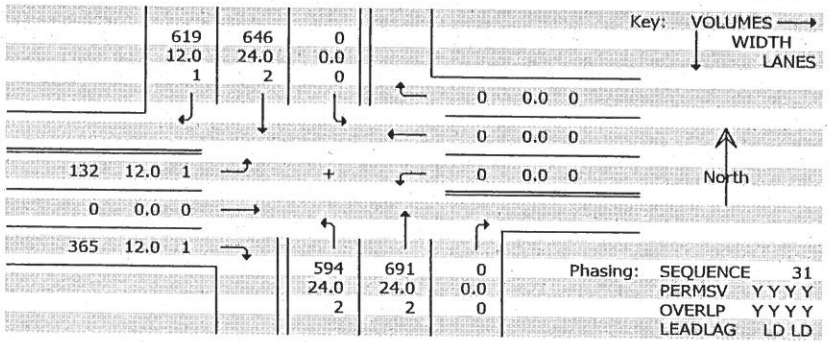
C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								10.7	B+	
RT	12/1	0.478	0.683	1061	1081	693	0.641	8.5	*A	410 ft
TH	24/2	0.247	0.498	1719	1766	725	0.411	12.8	B+	248 ft
NB Approach								13.7	B+	
TH	24/2	0.164	0.765	2714	2714	401	0.148	2.5	A	62 ft
LT	24/2	0.147	0.217	586	747	326	0.436	27.5	*C+	154 ft
EB Approach								28.8	C	
RT	12/1	0.071	0.402	557	636	8	0.013	14.4	B+	5 ft
LT	12/1	0.091	0.135	131	228	48	0.202	31.2	*C	46 ft

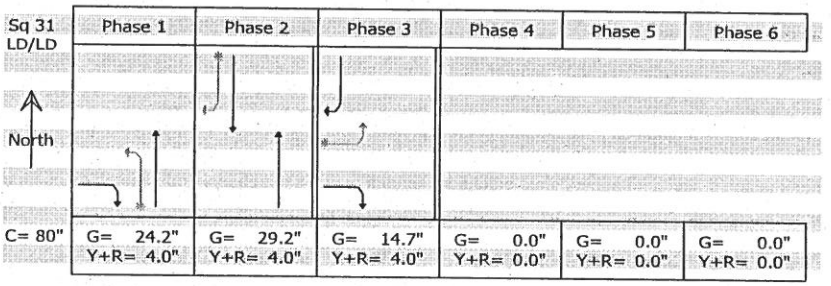
Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/18/06
Analysis of Rainbow Rd. / Unser Blvd. - 6B_25ABX 16:17:03
2025 AM Peak Hour BUILD Conditions-w/ RI/RO/LI Driveway

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection #. 1 - Area Location Type: NONCBD



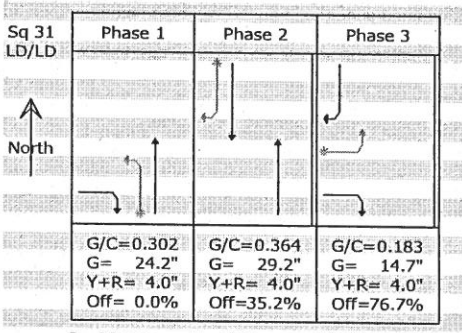
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/18/06
Analysis of Rainbow Rd. / Unser Blvd. - 6B_25ABX 16:17:03
2025 AM Peak Hour BUILD Conditions-w/ RI/RO/LI Driveway

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.57 Vehicle Delay 16.6 Level of Service B

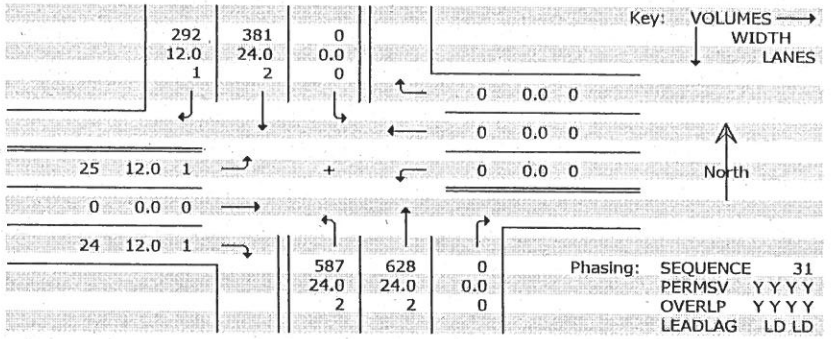


C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

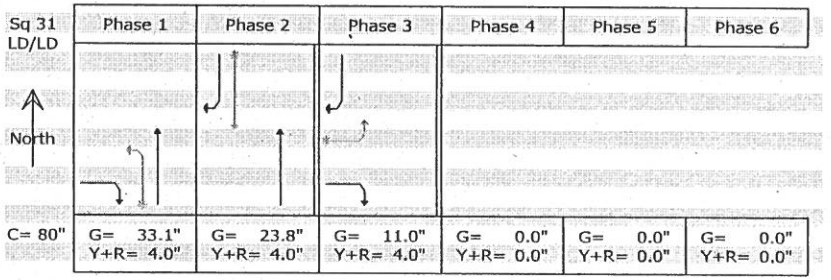
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								18.6	B	
RT	12/1	0.498	0.598	907	946	728	0.770	15.9	*B	566 ft
TH	24/2	0.256	0.364	1189	1293	760	0.588	21.3	C+	333 ft
NB Approach								14.4	B+	
TH	24/2	0.270	0.717	2542	2542	813	0.320	4.2	A	168 ft
LT	24/2	0.247	0.302	910	1039	699	0.673	26.2	*C+	333 ft
EB Approach								17.1	B	
RT	12/1	0.329	0.536	796	848	429	0.506	12.3	B+	284 ft
LT	12/1	0.150	0.183	212	322	155	0.478	30.4	*C	149 ft

SIGNAL2000/TEAPAC Ver 2.70.07 - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



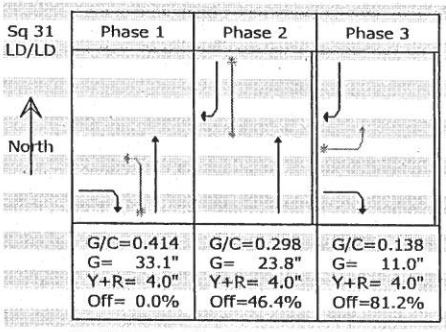
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/15/06
Analysis of Rainbow Rd. / Unser Blvd. - 6B_11PBX 21:57:52
2011 PM Peak Hour BUILD Conditions-w/ RI/RO/LI Driveway

SIGNAL2000/TEAPAC Ver 2.70.07 - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.39 Vehicle Delay 13.3 Level of Service B+

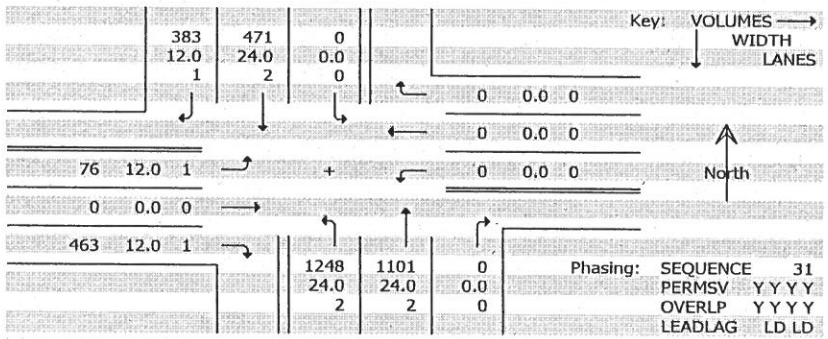


C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

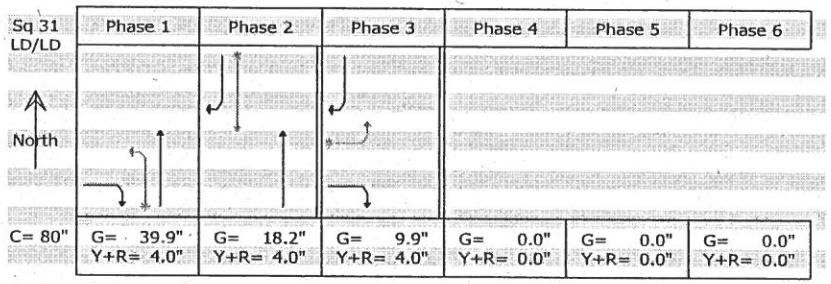
Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								19.0	B	
RT	12/1	0.280	0.486	706	769	344	0.447	13.9	B+	236 ft
TH	24/2	0.176	0.298	925	1057	448	0.424	22.8	*C+	197 ft
NB Approach								9.9	A	
TH	24/2	0.251	0.762	2703	2703	739	0.273	2.9	A	128 ft
LT	24/2	0.245	0.414	1341	1424	691	0.485	17.4	*B	269 ft
EB Approach								18.7	B	
RT	12/1	0.084	0.602	915	953	28	0.029	6.5	A	12 ft
LT	12/1	0.082	0.138	136	234	29	0.119	30.5	*C	27 ft

SIGNAL2000/TEAPAC[Ver 2.70.07] - HCM Input Worksheet

Intersection # 1 - Area Location Type: NONCBD



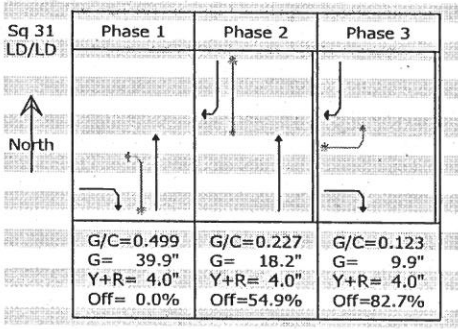
	SB RT	SB TH	SB LT	WB RT	WB TH	WB LT	NB RT	NB TH	NB LT	EB RT	EB TH	EB LT
Heavy veh, %HV	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Pk-hr fact, PHF	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85	.85
Pretimed or Act	A	A	A	A	A	A	A	A	A	A	A	A
Strtup lost, l1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext eff grn, e	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival typ, AT	3	3	3	3	3	3	3	3	3	3	3	3
Ped vol, vped		0			0			0			0	
Bike vol, vbic		0			0			0			0	
Parking locatns		NO			NO			NO			NO	
Park mnvrs, Nm		0			0			0			0	
Bus stops, NB		0			0			0			0	
Grade, %G		.0			.0			.0			.0	



Vista Vieja Access Study (Molten Rock Rd. / Unser Blvd) 03/18/06
Analysis of Rainbow Rd. / Unser Blvd. - 6B_25PBX 16:21:11
2025 PM Peak Hour BUILD Conditions-w/ RI/RO/LI Driveway

SIGNAL2000/TEAPAC[Ver 2.70.07] - Capacity Analysis Summary

Intersection Averages for Int # 1 -
Degree of Saturation (v/c) 0.65 Vehicle Delay 16.1 Level of Service B



C= 80 sec G= 68.0 sec = 85.0% Y=12.0 sec = 15.0% Ped= 0.0 sec = 0.0%

Lane Group	Width/ Lanes	g/C Reqd	g/C Used	Service Rate @C (vph)	Service Rate @E	Adj Volume	v/c	HCM Delay	LOS	Queue Model 1
SB Approach								27.6	C	
RT	12/1	0.342	0.401	556	635	451	0.710	23.8	C+	398 ft
TH	24/2	0.204	0.227	647	807	554	0.686	30.7	*C	287 ft
NB Approach								13.2	B+	
TH	24/2	0.391	0.777	2755	2755	1295	0.470	3.3	A	258 ft
LT	24/2	0.447	0.499	1668	1716	1468	0.855	22.0	*C+	699 ft
EB Approach								10.7	B+	
RT	12/1	0.395	0.673	1043	1065	545	0.512	7.0	A	287 ft
LT	12/1	0.110	0.123	113	206	89	0.408	33.6	*C	89 ft

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information		***Site Information***	
Analyst	Nancy	Jurisdiction/Date	City of ABQ 3/15/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.
Analysis Period/Year	AM Peak Hour 2011	Minor Street	Driveway "B"
Comment	2011 AM Peak BUILD Cond.-Case B (with RI/RO/LI drive)		

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	38	50			8	16						171
PHF	0.85	0.85			0.78	0.78						0.85
Percent of heavy vehicles, HV	2	2			2	2						2
Flow rate	45	59			10	21						201
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	201	1076	0.187	1	9.1	A	9.1
	2								
	3								A
NB		①	45	1580	0.028	0	7.3	A	
SB		④							

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1 of 1

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information		***Site Information***		
Analyst	Nancy	Jurisdiction/Date	City of ABQ	3/14/2006
Agency or Company	Terry Brown, P.E.	Major Street	Unser Blvd.	
Analysis Period/Year	AM Peak Hour 2025	Minor Street	Driveway "B"	
Comment	2025 AM Peak BUILD Cond.-Case B (with RI/RO/LI drive)			

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	38	225			292	16						171
PHF	0.85	0.85			0.78	0.78						0.85
Percent of heavy vehicles, HV	2	2			2	2						2
Flow rate	45	265			374	21						201
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	201	823	0.244	1	10.8	B	10.8
	2								
	3								B
NB		(1)	45	1160	0.039	0	8.2	A	
SB		(4)							

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1 of 1

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	Nancy
Agency or Company	Terry Brown, P.E.
Analysis Period/Year	PM Peak Hour 2011
Comment	2011 PM Peak BUILD Cond.-Case B (with RI/RO/LI drive)

Site Information

Jurisdiction/Date	City of ABQ 3/15/2006
Major Street	Unser Blvd.
Minor Street	Driveway "B"

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	122	30			27	53						104
PHF	0.95	0.95			0.94	0.94						0.85
Percent of heavy vehicles, HV	2	2			2	2						2
Flow rate	128	32			29	56						122
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	122	1062	0.115	0	8.8	A	8.8
	2								
	3								A
NB		①	128	1509	0.085	0	7.6	A	
SB		④							

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1 of 1

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	Nancy
Agency or Company	Terry Brown, P.E.
Analysis Period/Year	PM Peak Hour 2025
Comment	2025 PM Peak BUILD Cond.-Case B (with RI/RO/LI drive)

Site Information

Jurisdiction/Date	City of ABQ 3/15/2006
Major Street	Unser Blvd.
Minor Street	Driveway "B"

Input Data

Lane Configuration	NB	SB	WB	EB
Lane 1 (curb)	T	R		R
Lane 2	T	T		
Lane 3	L	T		
Lane 4				
Lane 5				

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	122	335			260	53						104
PHF	0.95	0.95			0.94	0.94						0.85
Percent of heavy vehicles, HV	2	2			2	2						2
Flow rate	128	353			277	56						122
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	122	885	0.138	0	9.7	A	9.7
	2								A
	3								
NB		①	128	1223	0.105	0	8.3	A	
SB		④							

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1 of 1

Data Entry Sheet

Determination of Warrants for Deceleration Lanes

NM DOT State Access Management Manual Criteria

New Access / Unser Blvd.

Project Information:

Project Name:	**Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study**
Project Location:	**NMSR 6 / Edeal Rd**
Implemenation Year:	**2011**
Project Environment:	**Urban** **Multi-Lane**

Street Information:

Major Street Name:	**Unser Blvd.**
Minor Street Name:	**New Access**

Intersection Information:

	Orientation	Prevailing Speed	No. Lanes Each Direction
New Access	**Eastbound**	**25**	**N/A**
Unser Blvd.	**North-South**	**45**	**2**

Determine Case:

Case
1 Urban Two-Lane Highway - Use Table 17.B.1
2 Urban Multi-Lane Highway - Use Table 17.B-2
3 Rural Two Lane Highway - Use Table 17.B-3 and 17.B-5
4 Rural Multi-Lane Highway - Use Table 17.B-4 and 17.B-6

Unser Blvd. is Case	**2**
Speed Category	**35 to 40**

SB Right Turn Volumes		**SB Thru Volumes**
2011 AM Pk. Hr. NO BUILD	0	0
2011 AM Pk. Hr. BUILD	16	8
2011 PM Pk. Hr. NO BUILD	0	0
2011 PM Pk. Hr. BUILD	53	27

NB Left Turn Volumes		**NB Thru Volumes**
2011 AM Pk. Hr. NO BUILD	0	0
2011 AM Pk. Hr. BUILD	38	50
2011 PM Pk. Hr. NO BUILD	0	0
2011 PM Pk. Hr. BUILD	122	30

Worksheet Developed by Terry O. Brown, P.E.

Determination of Warrants for Auxiliary Lanes

Project Name: **Vista Vieja Subdivision (Scenic Dr / Atrisco Dr) - Access Study**
Name of Highway: **Unser Blvd.**
Name of Cross Street: **New Access**

Determination of Warrants for: Eastbound Driveway

Implementation Year Volumes - **2011** **Posted Speed Limit:** **45**

Right Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Right Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	**2011**	-	-	-		N/A		-	**N/A**	**N/A**
AM Peak Hour BUILD	**2011**	16	332	4		N/A		-	**N/A**	**N/A**
PM Peak Hour NO BUILD	**2011**	-	-	-		N/A		-	**N/A**	**N/A**
PM Peak Hour BUILD	**2011**	53	1	14	✓	400	1.00	-	**400**	**12.5:1**

Based on Table 17.B-2 (Criteria for Deceleration Lanes on Urban Multi-Lane Highways)

Left Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Left Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	**2011**	-	-	-		N/A		N/A	**N/A**	**N/A**
AM Peak Hour BUILD	**2011**	38	124	25		N/A		N/A	**N/A**	**N/A**
PM Peak Hour NO BUILD	**2011**	-	-	-		N/A		N/A	**N/A**	**N/A**
PM Peak Hour BUILD	**2011**	122	1	15	✓	400	1.00	150	**550**	**12.5:1**

Based on Table 17.B-2 (Criteria for Deceleration Lanes on Urban Multi-Lane Highways)

* **Lane Length Requirements based on Table 18.K-1 (Deceleration and Acceleraion Lengths)**

** **Enter Grade Adjustment Factor from Table 18.K-2 or other criteria.**

*** **Lane Storage Length is Based on a calculated 3-minute queue based on average arrival rate per minute.**

= Volume/Hr. divided by 60 times three (rounded) times 25 feet per vehicle.

Lane Storage Length for right turn decel lanes is zero unless there is a stop condition.

Notes and Comments:

1. This warrant sheet is for the northbound Edeal Rd at 100% Development of the Project

Table 17.B-2
Criteria For Deceleration Lanes On
URBAN MULTI-LANE HIGHWAYS

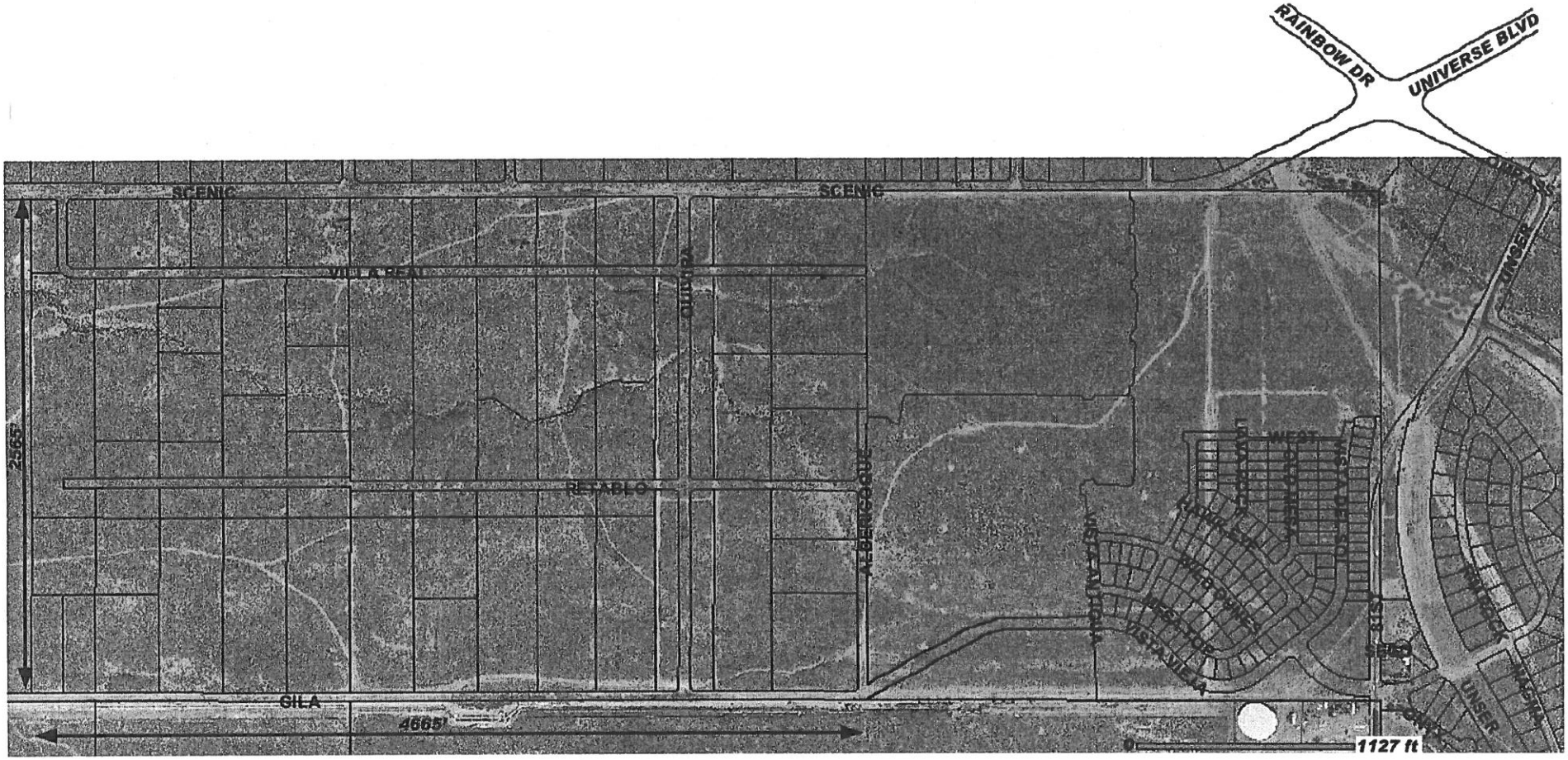
Turning Volume[1] (vph)	LEFT-TURN DECELERATION LANE Minimum Directional Volume in the Through Lane (vphpl)[2]			RIGHT-TURN DECELERATION LANE Minimum Directional Volume in the Through Lane (vphpl)[2]		
	≤30 mph	35 to 40 mph	45 to 55 mph	≤30 mph	35 to 40 mph	45 to 55 mph
<5	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
5	Not Required	490	420	1,200	730	450
10	420	370	300	820	490	320
15	360	290	220	600	350	240
20	310	230	160	460	260	180
25	270	190	130	360	230	150
30	240	160	110	290	200	130
35	210	130	100	260	180	120
40	180	120	Required	240	170	110
45	160	110	Required	220	160	Required
50	140	Required	Required	200	Required	Required
55	120	Required	Required	190	Required	Required
≥56	Required	Required	Required	Required	Required	Required
	Left-turn Deceleratаion Lanes are Required on Urban Multi-lane Highways for the following Left-turn Volumes: • ≤30 mph : 56 vph or more • 35 to 40 mph : 46 vph or more • 45 to 55 mph : 36 vph or more			***Right-turn Deceleratаion Lanes are Required on Urban Multi-lane Highways for the following Right-turn Volumes:*** • ≤30 mph : 56 vph or more • 35 to 40 mph : 46 vph or more • 45 to 55 mph : 41 vph or more		

Notes:

1. *Use linear interpolation for turning volumes between 5 and 55 vph.*
2. *The volume in the adjacent through lane includes through vehicles and turning vehicles.*

Table 18.K-1
Deceleration and Acceleration Lengths (feet)

Speed Change Lane Condition	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
Deceleration Distance										
Stop Condition	150	200	250	325	400	475	550	650	725	850
Slow to 15 MPH	130	175	230	300	370	450	525	620	700	820
Deceleration Taper										
Length for 12-foot Lane	50	75	100	125	150	175	200	225	250	250
Straight Line Ratios (L:W)	4:1	6:1	8:1	10.5:1	12.5:1	14.5:1	16.5:1	18.5:1	21:1	21:1
Acceleration Lane Length	N/A	190	270	380	550	760	960	1,170	1,380	1,590
Acceleration Taper										
Length of 12-foot Lane	N/A	100	120	150	170	180	230	270	300	300
Straight Line Ratios (L:W)	N/A	8:1	10:1	12.5:1	14:1	15:1	19:1	22.5:1	25:1	25:1



West of Vista Vieja Properties

(Approximately 275 acres)

Aerial Photo - 2004

West of Vista Vieja Properties
Trip Generation Data

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A.M. PEAK HOUR		P.M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Single-Family Detached Housing (210)	***1,375.00***	11,558	243	729	729	410
	Dwelling Units					

ITE Trip Generation Equations:

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

Ln(T) = ***0.92*** **Ln(X) +** ***2.707***
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 = ***0.7*** **(X) +** ***9.477***
25% Enter, ***75%*** Exit

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

Ln(T) = ***0.901*** **Ln(X) +** ***0.527***
64% Enter, ***36%*** Exit

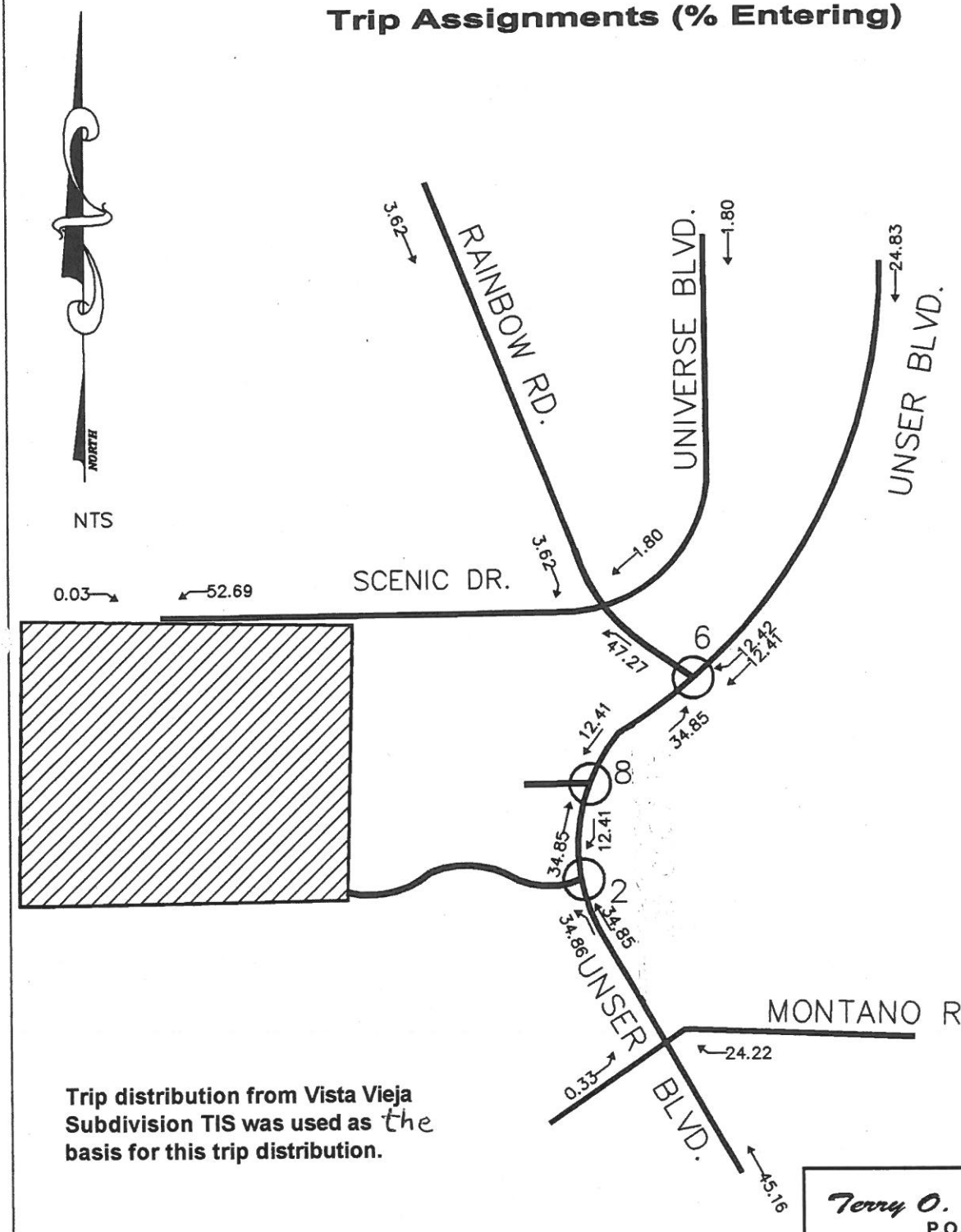
Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition

West of Vista Vieja Properties

(Scenic Dr / Atrisco Rd)

Trip Assignments (% Entering)



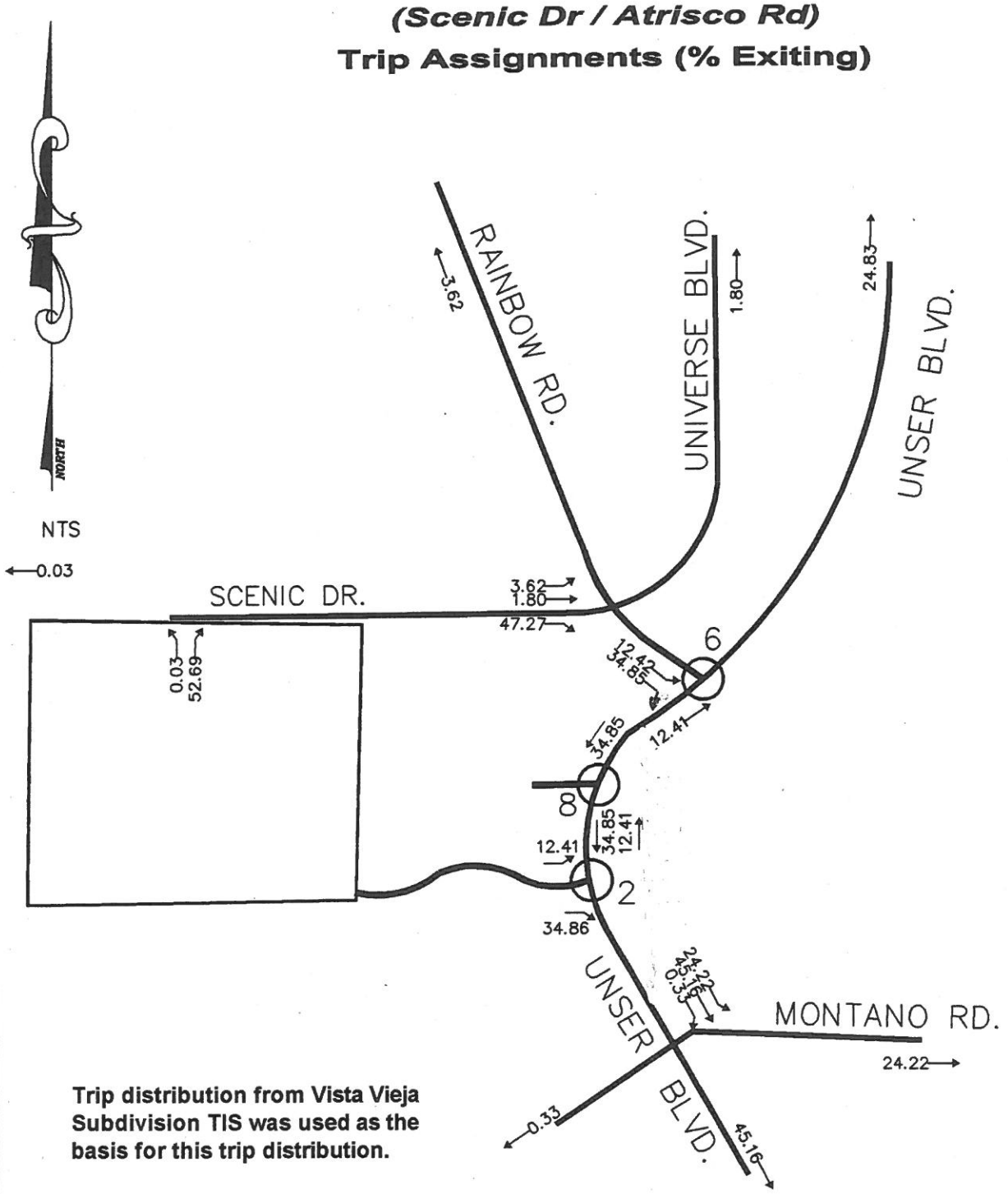
Trip distribution from Vista Vieja Subdivision TIS was used as the basis for this trip distribution.

Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(303)942-3600 (Fax)

West of Vista Vieja Properties

(Scenic Dr / Atrisco Rd)

Trip Assignments (% Exiting)



Trip distribution from Vista Vieja Subdivision TIS was used as the basis for this trip distribution.

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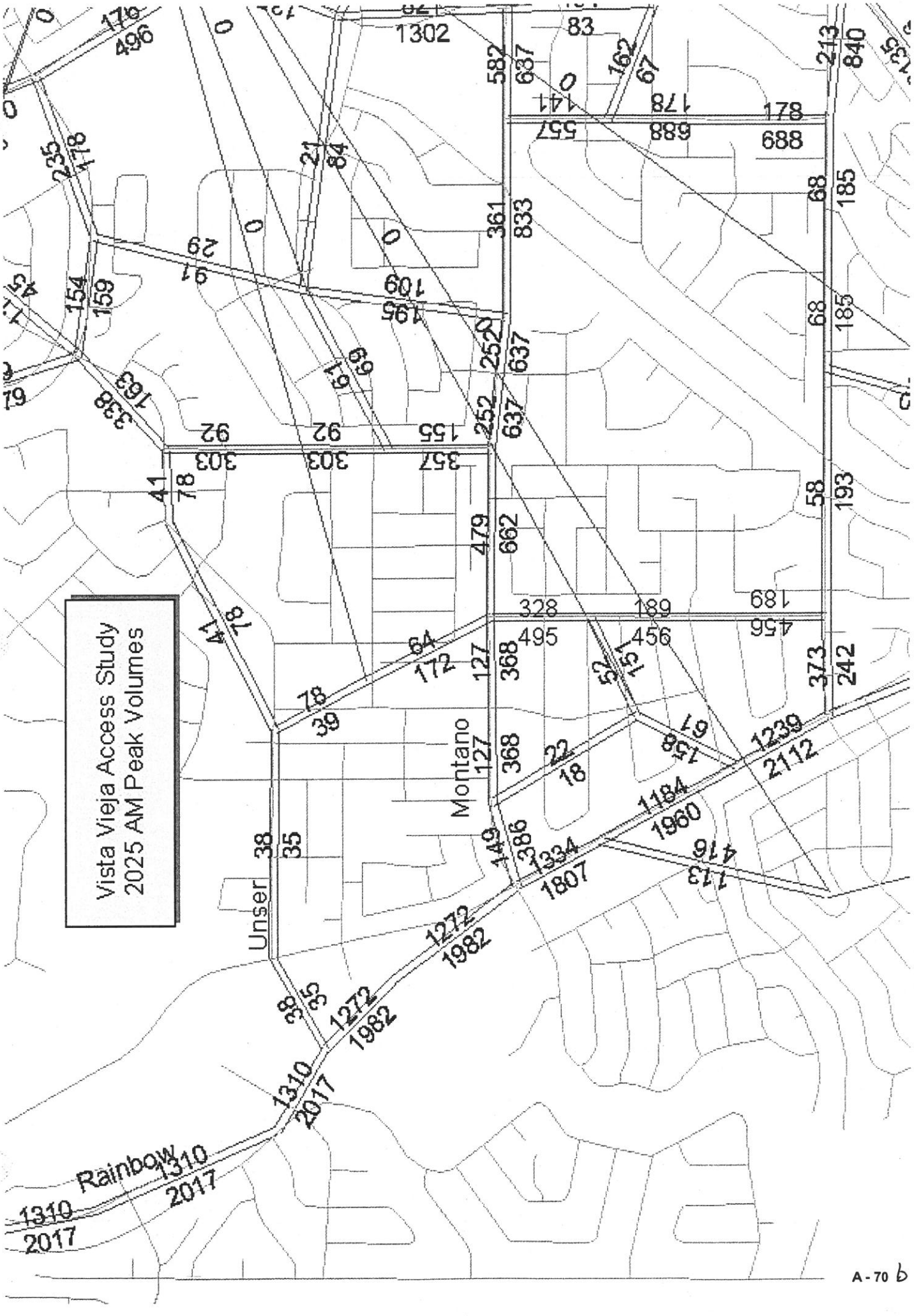
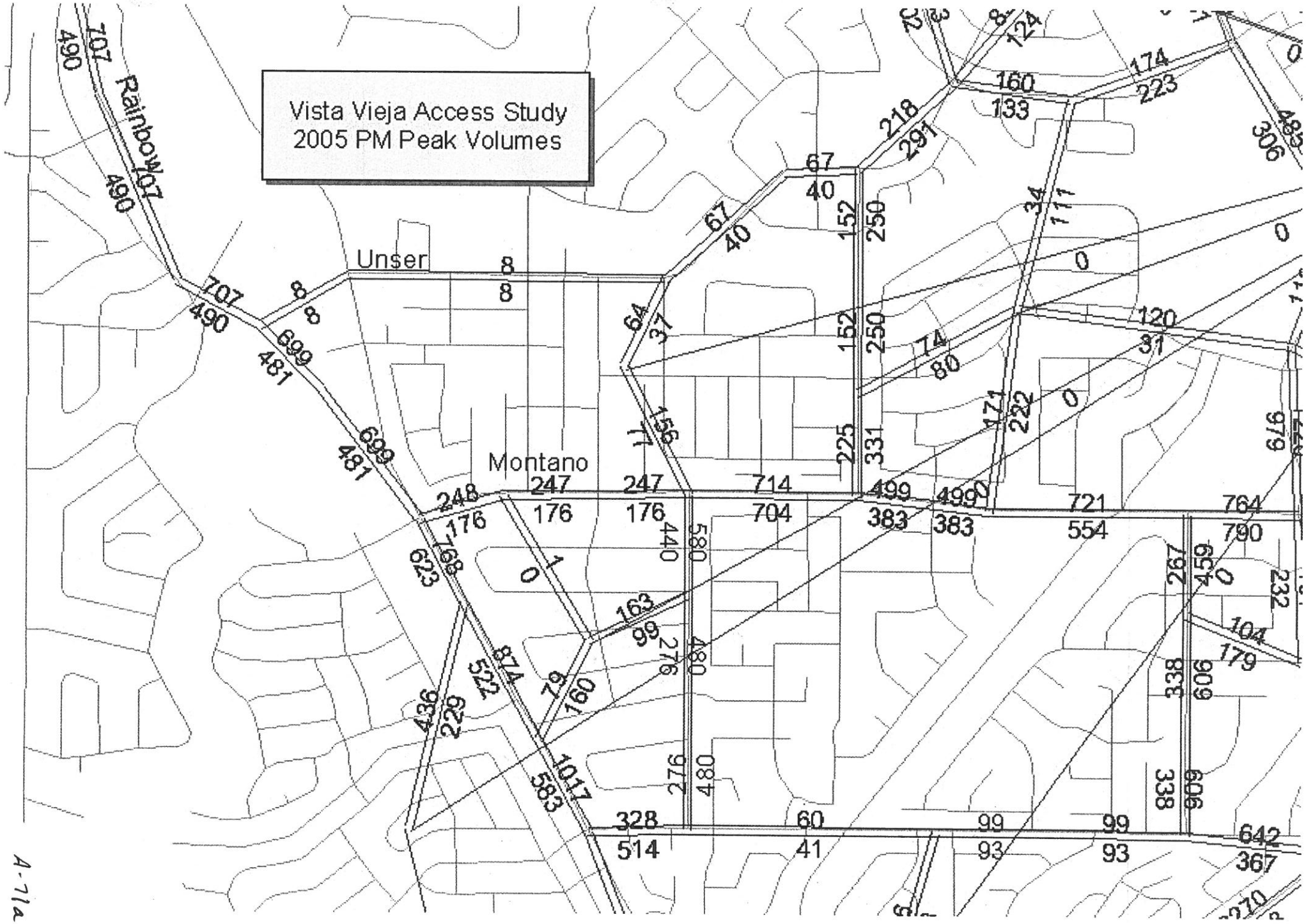
Vista Vieja Access Study
2005 AM Peak Volumes
Montano
Unser
Rainbow


Vista Vieja Access Study
2025 AM Peak Volumes
Montano
Unser
Rainbow


Vista Vieja Access Study
2005 PM Peak Volumes
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Montano

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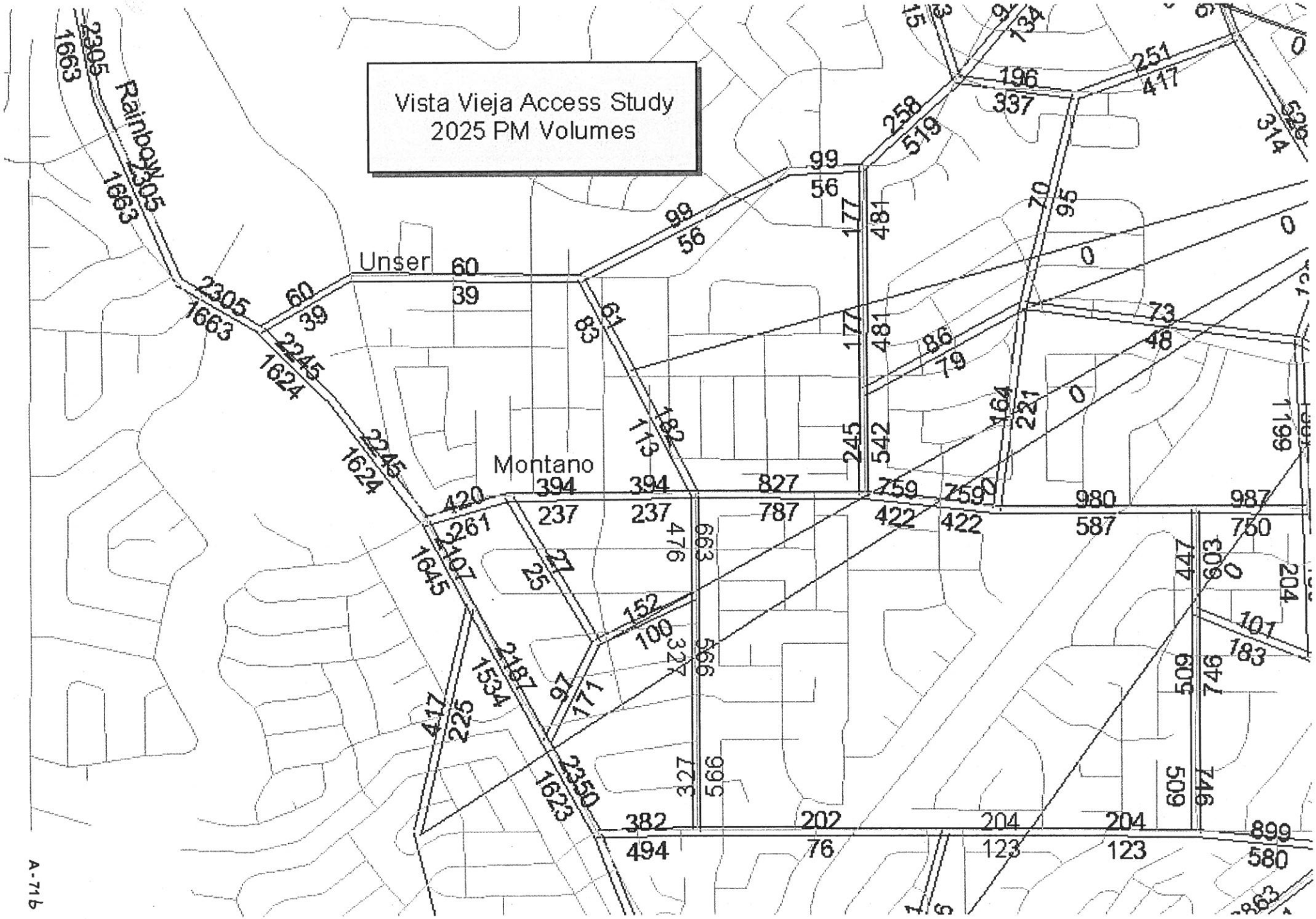
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