Terry O. Brown P.E.

Central / Unser Commercial / Office Development

(NW Corner)

Traffic Impact Study

January 15, 2008

Presented to:

City of Albuquerque Transp. Development Section
& New Mexico Department of Transportation, Dist. 3

Prepared for:

Hartman + Majewski Design Group
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Contents

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STUDY PURPOSE

The purpose of this study is to identify the development's impact on the adjacent transportation system. The study is being conducted in conjunction with a request for approval of a proposed plan for a commercial / office development located at the northwest corner of Central Ave. / Unser Blvd. in Albuquerque, New Mexico. This study is presented to satisfy the requirements of the City of Albuquerque.

GENERAL

The proposed development is located along the west side of Unser Blvd. between Bluewater Rd. and Central Ave. (see Appendix Page A-1 - Vicinity Map). The existing intersections of Bluewater Rd. / Unser Blvd. and Central Ave. / Unser Blvd. are currently signalized intersections and will be analyzed in this study.

Currently, properties in the area are a mix of commercial and office in nature.

PROPOSED DEVELOPMENT

The proposed plan for this site consists of a shopping center, office buildings, and high turnover (sit-down) restaurants. This development will be constructed in one phase. This study will analyze only the full development of the project.

The anticipated implementation year for this site is the year 2012.

The existing site is currently being used and will continue to be used as a City of Albuquerque Park and Ride facility after the proposed development is constructed.

STUDY PROCEDURES

A Scoping meeting was held in October of 2007 with City of Albuquerque staff (Tony Loyd) to discuss scope and methodology to be utilized within the report. Specific items included format, intersections to be studied, intersection analysis procedures, existing traffic counts, trip distribution methodology, and implementation year definition.

The basic procedure followed for this traffic impact study is outlined as follows:

- Calculate the generated trips for this proposed commercial development as defined on Page A-2 of the Appendix of this report and more specifically defined in the Trip Generation Table on Page A-5 of the Appendix of this report. The trips generated for the implementation year analyses (2012) will assume that 100% of the development has occurred.
- Calculate trip distribution for the newly generated trips by this development. The new trips will be distributed based on a two-mile radius distribution of population, Appendix Pages A-9 thru A-12.
- Determine Trip Assignments for the newly generated trips based on the results of the Trip Distribution Analysis and logical routing to and from the new site, Appendix Pages A-13 thru A-14.
- Obtain AM Peak Hour and PM Peak Hour Turning Movement Volumes Traffic Counts for the intersections of Bluewater Rd. / Unser Blvd., Sarracino Pl. / Unser Blvd., Central Ave. / Unser Blvd., Volcano / Central Ave., and Bridge Blvd. / Unser Blvd., Appendix Pages A-59 thru A-63.
- Determine Historic Growth Rates for background traffic volumes based on an analysis of the growth trend of recent AWDT Volumes obtained from 2002 thru 2006 MRCOG Traffic Flow Maps, Appendix Pages A-15 thru A-25.
- Determine the 2012 NO BUILD Volumes for each intersection to be analyzed by growing the background traffic growth from the year of the counts to 2012, Appendix Pages A-26 thru A-38.
- Add data from Trip Assignments Maps and Tables to the 2012 NO BUILD Volumes to obtain the 2012 BUILD Volumes for this project, Appendix Pages A-26 thru A-38.
- Provide signalized and / or unsignalized intersection analyses for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD ANALYSIS	BUILD ANALYSIS
Bluewater Rd. / Unser Blvd.	Traffic Signal	2012	2012
Central Ave. / Unser Blvd.	Traffic Signal	2012	2012
Sarracino Pl. / Unser Blvd.	Stop Sign	2012	2012
Volcano / Central Ave.	Stop Sign	2012	2012
Bridge Blvd. / Unser Blvd.	Stop Sign	2012	2012

TRIP GENERATION WORKSHEET

Projected trips were calculated based on the ITE trip generation data for shopping center, high turnover (sit-down) restaurant, and general office building (less than 51,000 SF). Trips for the development were determined based on land use defined on the Conceptual Site Development Plan on Page A-2 in the Appendix of this report. The following table summarized the trip generation rate for the project:

Central / Unser (NW Corner) Commercial / Office Development

Trip Generation Data

	USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
	Summary Sheet	Units					
	Shopping Center (820)	70.00	5,386	77	49	238	258
	High Turnover (Sit-Down) Restaurant (932)	12.60	1,602	75	70	84	54
	General Office Building (710) - Less than 51,000 S.F.	18.00	265	33	4	7	35
	Subtotal		**7,253**	**185**	**123**	**329**	**347**

See Appendix Page A-5 thru A-8 for the Trip Generation Summary Table and Worksheets for this project.

BACKGROUND TRAFFIC GROWTH

Background traffic growth rates were considered for each individual approach to an intersection that was targeted for analysis based on data from the 2002, 2003, 2004, 2005 and 2006 Traffic Flow maps prepared by the Mid-Region Council of Governments. Most of the Traffic Flow Data for those years taken from the MRCOG Traffic Flow Maps were Standard Data. The data from those years for each approach was plotted on a graph and a linear "regression trend line" calculated using the equation format $y=mx+b$. The growth rate was determined by calculating the average volume increase per year during the time period considered and dividing that volume into the most recent AWDT used in the analysis from which future volumes will be calculated. The rate of growth of that trend line was utilized as the annual growth rate for each approach if that calculated rate appeared feasible. However, there were some instances where the rate indicated a negative growth trend or appeared to be unreasonably high or low. In those cases, an appropriate growth rate from an adjacent segment of the same roadway was used, a shorter time span was used to determine the growth rate, or the growth rate was considered to be 1% or a generic 3% if appropriate. Due to the limited potential for growth in the area, it was believed that a 3% growth rate was inappropriate for this study. Therefore, a growth rate similar to the adjacent streets was used if the linear regression analysis showed the growth rate to be negative. Additionally, if the R^2 value of the trend line was low, other means of establishing a probable growth rate from the data accumulated was considered. Historical Growth Rate Graphs with linear regression trendlines are shown in the Appendix on Pages A-15 thru A-25. Additionally, the growth rate utilized for each approach to an intersection is printed at the top of the Turning Movement sheets for each intersection (Appendix Pages A-27 thru A-36).

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2012 BUILDOUT

The calculated growth rates were applied to the most recent peak hour traffic counts to derive the 2012 AM and PM Peak Hour NO BUILD Volumes. To these volumes, the generated trips based on implementation of the proposed Site Development Plan (100% development) along with generated trips from two previous developments (Southwest Mesa Subdivision and Unser Town Center) were added to obtain BUILD volumes for the intersection analyses. See Appendix Pages A-26 thru A-36 for further information regarding the turning movement counts. Turning Movement Volumes Maps for the 2012 NO BUILD Conditions, Trips Generated, and 2012 BUILD Conditions are shown on Pages A-37 thru A-38 in the Appendix of this report.

TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Commercial Land Use

Primary and diverted linked trips for the commercial land use development were distributed proportionally to the 2012 projected population of Data Analysis Subzones within a two-mile radius of the proposed development. Population data for the years 2004 and 2030 were taken from the 2030 Socioeconomic Forecasts by Data Analysis Subzones for the MRCOG Region, S-07-01, 2007, Appendix B and Appendix C, supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2004 and 2030 was interpolated linearly to obtain 2009 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of subareas and data analysis subzones is shown on Appendix Pages A-9 thru A-11.

RESULTS OF SIGNALIZED INTERSECTION CAPACITY ANALYSES

#1 – Bluewater Rd. / Unser Blvd. - Pages A-39 thru A-42

The results of the implementation year analysis of the signalized intersection of Bluewater Rd. / Unser Blvd. are summarized in the following table:

Bluewater Rd. / Unser Blvd.	No Build		BUILD	
2012	A.M.	P.M.	A.M.	P.M.
Existing Geometry	C - 21.5	C – 30.3	C – 21.4	C – 32.2

The implementation year analysis of the intersection of Bluewater Rd. / Unser Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour NO BUILD and BUILD conditions. The implementation year analysis shows that the proposed development does not change the delay in the AM Peak Hour and increases the delay at the intersection by 1.9 seconds in the PM Peak Hour. Therefore, this study concludes that the development presents no significant impact to the calculated delays at the intersection of Bluewater Rd. / Unser Blvd.

Geometry used for this analysis of Bluewater Rd. / Unser Blvd. is demonstrated in the following table:

Existing Geometry (*Bluewater Rd. / Unser Blvd.*)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Bluewater Rd.	1	0	0	1	0
WB Bluewater Rd.	1	0	1	0	1
NB Unser Blvd.	1	0	2	0	1
SB Unser Blvd.	1	0	2	0	1

The following table summarizes the results of the queuing analysis for the auxiliary lanes at the intersection:

Queueing Analysis Summary Sheet

Project: Central / Unser Commercial / Office Development (NW Corner)
Intersection: **Bluewater Rd. / Unser Blvd.**

2012

Approach	Left Turns			Thru Movements				Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*102*	*125*	*1*	*57*	*Cont*		*0*	*29*	*Cont*
AM NO BUILD Queue	1	126	200	1	64	125		0	32	75
AM BUILD Queue	**1**	**126**	**200**	**1**	**64**	**125**		**0**	**40**	**75**
Existing Lane Length	*1*	*195*	*125*	*1*	*47*	*Cont*		*0*	*75*	*Cont*
PM NO BUILD Queue	1	241	350	1	53	100		0	84	**150**
PM BUILD Queue	**1**	**241**	**350**	**1**	**53**	**100**		**0**	**98**	**175**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*37*	*125*	*1*	*24*	*Cont*		*1*	*73*	*125*
AM NO BUILD Queue	1	41	100	1	27	75		1	82	150
AM BUILD Queue	**1**	**46**	**100**	**1**	**27**	**75**		**1**	**82**	**150**
Existing Lane Length	*1*	*68*	*125*	*1*	*40*	*Cont*		*1*	*181*	*125*
PM NO BUILD Queue	1	86	**150**	1	45	100		1	209	300
PM BUILD Queue	**1**	**94**	**175**	**1**	**45**	**100**		**1**	**209**	**300**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*31*	*100*	*2*	*1,175*	*Cont*		*1*	*105*	*175*
AM NO BUILD Queue	1	39	75	2	1,681	1,001	*	1	120	200
AM BUILD Queue	**1**	**44**	**100**	**2**	**1,695**	**1,001**	*	**1**	**123**	**200**
Existing Lane Length	*1*	*38*	*100*	*2*	*805*	*Cont*		*1*	*49*	*175*
PM NO BUILD Queue	1	46	**100**	2	1,527	1,001	*	1	58	125
PM BUILD Queue	**1**	**61**	**125**	**2**	**1,566**	**1,001**	*	**1**	**67**	**125**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*193*	*125*	*2*	*723*	*Cont*		*1*	*75*	*150*
AM NO BUILD Queue	1	244	325	2	1,185	750		1	104	175
AM BUILD Queue	**1**	**244**	**325**	**2**	**1,206**	**750**		**1**	**104**	**175**
Existing Lane Length	*1*	*119*	*125*	*2*	*1,137*	*Cont*		*1*	*81*	*150*
PM NO BUILD Queue	1	151	250	2	2,005	1,001	*	1	125	200
PM BUILD Queue	**1**	**151**	**250**	**2**	**2,042**	**1,001**	*	**1**	**125**	**200**

	AM	PM
Cycle Length:	120	130

NOTE: Queue lengths are in feet.

* - Queue Length of 1,001 indicates that the calculated queue > 1

The recommendations based on the queuing analysis for the auxiliary lanes at the intersection are summarized in the following table:

Lane Description	Existing Length (Ft)	NO BUILD Length (Ft)	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	125	350	350	**350' plus transition.**
Eastbound Right Turn:*	Cont	80	90	No Recommendation
Westbound Left Turn:	125	150	175	**175' plus transition.**
Westbound Right Turn:*	125	150	150	No Recommendation
Northbound Left Turn:	125	100	125	No Recommendation
Northbound Right Turn:*	175	100	100	No Recommendation
Southbound Left Turn:	125	325	325	**325' plus transition.**
Southbound Right Turn:*	150	100	100	No Recommendation

* - Calculated right turn queue lengths have been reduced by 50% to account for right-turns-on red and overlap phases.

A recent TIS for I-40 / Unser (Unser Town Center) recommends that the westbound left turn lane be lengthened to 175 feet plus transition and the southbound left turn lane be lengthened to 275 feet plus transition. This report also recommends that the westbound left turn lane be lengthened by the same amount and that the southbound left turn lane be lengthened by 325 feet plus transition. As is consistent with City policy, the developer of this project will be required to contribute a proportionate share of the cost of improvements recommended at this intersection. In addition, this analysis recommends that the eastbound left lane be lengthened to 350 feet plus transition.

#3 – Central Ave. / Unser Blvd. - Pages A-43 thru A-46a

The results of the implementation year analysis of the signalized intersection of Central Ave. / Unser Blvd. are summarized in the following table:

Central Ave. / Unser Blvd.	No Build		BUILD	
2012	A.M.	P.M.	A.M.	P.M.
Existing Geometry	E – 62.2	E – 77.6	E – 70.5	F – 109.6
Mitigated Geometry	-	-	D – 40.1	D – 48.7

The implementation year analysis of the intersection of Central Ave. / Unser Blvd. demonstrates that the level-of-service will be unacceptable for both the AM Peak Hour and PM Peak Hour NO BUILD and BUILD conditions. The mitigated geometry, which includes an additional eastbound left lane, a northbound right turn lane, an additional southbound left turn lane, and an additional southbound thru lane. It appears that there is adequate right-of-way to construct the mitigated geometry based on aerial photos. With this mitigated geometry, the implementation year analysis of the intersection of Central Ave. / Unser Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour BUILD conditions. Therefore, this study concludes

that the development presents no significant impact to the calculated delays at the intersection of Central Ave. / Unser Blvd.

Geometry used for this analysis of Central Ave. / Unser Blvd. is demonstrated in the following table:

Existing Geometry (*Central Ave. / Unser Blvd.*)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Central Ave.	1	0	2	0	1
WB Central Ave.	1	0	2	0	1
NB Unser Blvd.	1	0	1	1	0
SB Unser Blvd.	1	0	1	0	1

The following table summarizes the results of the queuing analysis for the auxiliary lanes at the intersection:

Queueing Analysis Summary Sheet

Project: Central / Unser Commercial / Office Development (NW Corner)
Intersection: **Central Ave. / Unser Blvd.**

2012

Approach	Left Turns			Thru Movements			Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*2*	*466*	*125*	*2*	*661*	*Cont*	*1*	*3*	*Cont*
AM NO BUILD Queue	2	570	400	2	781	525	1	6	25
AM BUILD Queue	**2**	**582**	**400**	**2**	**781**	**525**	**1**	**6**	**25**
Existing Lane Length	*2*	*244*	*125*	*2*	*483*	*Cont*	*1*	*12*	*Cont*
PM NO BUILD Queue	2	352	300	2	534	400	1	20	50
PM BUILD Queue	**2**	**373**	**300**	**2**	**534**	**400**	**1**	**20**	**50**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*20*	*125*	*2*	*234*	*Cont*	*1*	*129*	*100*
AM NO BUILD Queue	1	49	100	2	273	225	1	236	325
AM BUILD Queue	**1**	**49**	**100**	**2**	**279**	**225**	**1**	**268**	**350**
Existing Lane Length	*1*	*95*	*125*	*2*	*696*	*Cont*	*1*	*163*	*100*
PM NO BUILD Queue	1	141	225	2	849	600	1	349	**475**
PM BUILD Queue	**1**	**141**	**225**	**2**	**859**	**600**	**1**	**407**	**525**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*9*	*125*	*2*	*619*	*Cont*	*1*	*71*	*Cont*
AM NO BUILD Queue	1	24	50	2	873	575	1	194	275
AM BUILD Queue	**1**	**24**	**50**	**2**	**962**	**625**	**1**	**194**	**275**
Existing Lane Length	*1*	*17*	*125*	*2*	*358*	*Cont*	*1*	*71*	*Cont*
PM NO BUILD Queue	1	27	75	2	756	**550**	1	148	225
PM BUILD Queue	**1**	**27**	**75**	**2**	**915**	**625**	**1**	**148**	**225**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*2*	*226*	*125*	*2*	*317*	*Cont*	*1*	*207*	*Cont*
AM NO BUILD Queue	2	319	250	2	511	375	1	268	350
AM BUILD Queue	**2**	**341**	**275**	**2**	**570**	**400**	**1**	**276**	**350**
Existing Lane Length	*2*	*184*	*125*	*2*	*493*	*Cont*	*1*	*434*	*Cont*
PM NO BUILD Queue	2	368	**300**	2	882	**625**	1	565	**700**
PM BUILD Queue	**2**	**429**	**350**	**2**	**1,050**	**725**	**1**	**587**	**725**

	AM	PM
Cycle Length:	120	130

NOTE: Queue lengths are in feet.

* - Queue Length of 1,001 indicates that the calculated queue > 1

The recommendations based on the queuing analysis for the auxiliary lanes at the intersection are summarized in the following table:

Lane Description	Existing Length (Ft)	NO BUILD Length (Ft)	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	125	400	400	**400' plus transition.**
Eastbound Right Turn:*	Cont	30	30	No Recommendation
Westbound Left Turn:	125	225	225	**225' plus transition.**
Westbound Right Turn:*	100	240	260	**260' plus transition.**
Northbound Left Turn:	125	75	75	No Recommendation
Northbound Right Turn:*	Cont	140	140	No Recommendation
Southbound Left Turn:	125	300	350	**350' plus transition.**
Southbound Right Turn:*	Cont	350	360	No Recommendation

* - Calculated right turn queue lengths have been reduced by 50% to account for right-turns-on red and overlap phases.

A recent TIS for I-40 / Unser (Unser Town Center) recommends that the westbound left turn lane be lengthened to 225 feet plus transition and the dual eastbound left turn lanes be constructed to 375 feet plus transition. This report also recommends that the westbound left turn lane be lengthened by the same amount and that the southbound dual left turn lanes be constructed to 400 feet plus transition. As is consistent with City policy, the developer of this project will be required to contribute a proportionate share of the cost of improvements recommended at this intersection. In addition, this analysis recommends that the westbound right turn lane be lengthened to 260 feet plus transition and the southbound dual left turn lanes be constructed to 350 feet plus transition.

RESULTS OF UNSIGNALIZED INTERSECTION CAPACITY ANALYSES

#2 –Sarracino Pl. (Driveway 'A') / Unser Blvd. – Pages A-47 thru A-50

The results of the analysis of the unsignalized intersection of Sarracino Pl. / Unser Blvd. are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Sarracino Pl. / Unser Blvd.				
Minor Street (Sarracino Pl.)				
EB Left Turn	C – 20.6	E – 38.8	E – 37.4	F – 870.7
EB Thru/Right	B – 10.6	B – 11.1	B – 11.7	C – 17.4
WB Left/Thru/Right	A – 0.0	C – 17.6	A – 0.0	F – 635.3
Major Street (Unser Blvd.)				
NB Thru/Left	A – 1.2	A – 1.3	A – 7.0	F – 64.2
SB Thru/Left	A – 0.2	A – 0.1	A – 0.2	A – 0.1

The implementation year analysis of the intersection of Sarracino Pl. / Unser Blvd. demonstrates the intersection will experience failing levels-of-service for the PM Peak Hour BUILD condition for the eastbound left turn, westbound left/thru/right, and the northbound thru/left in addition to failing levels-of-service for the PM Peak Hour NO BUILD and the AM Peak Hour BUILD conditions for the eastbound left turn. According to the analysis, the eastbound left turn will experience excessive delays, 870.7 seconds. These delays on the side street (Sarracino Pl. (Driveway 'A')) are based on 2000 HCM methodology and do not take into account the fact that there is an existing traffic signal to the north (Bluewater Rd.) and to the south (Central Ave.). The presence of a signal to the north and to the south of Sarracino Pl. should create gaps in northbound and southbound traffic on Unser Blvd., thus allowing traffic to turn left from Sarracino Pl. onto northbound and southbound Unser Blvd. with greater ease than what is indicated in the table above. Thus, this analysis finds that the operation of Sarracino Pl. / Unser Blvd. is probably acceptable given the location of existing signals on either side of the intersection.

#4 – Central Ave. / Volcano – Pages A-51 thru A-54

The results of the analysis of the unsignalized intersection of Central Ave. / Volcano are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Central Ave. / Volcano				
Minor Street (Volcano)				
SB Left/Right	D – 30.1	E – 40.4	D – 32.9	E – 45.9
Major Street (Central Ave.)				
EB Left	A – 0.2	A – 0.4	A – 0.6	A – 2.3

This intersection is the access to the two-way frontage road along the north side of Central Ave. and is expected to be used as an access to the proposed development.

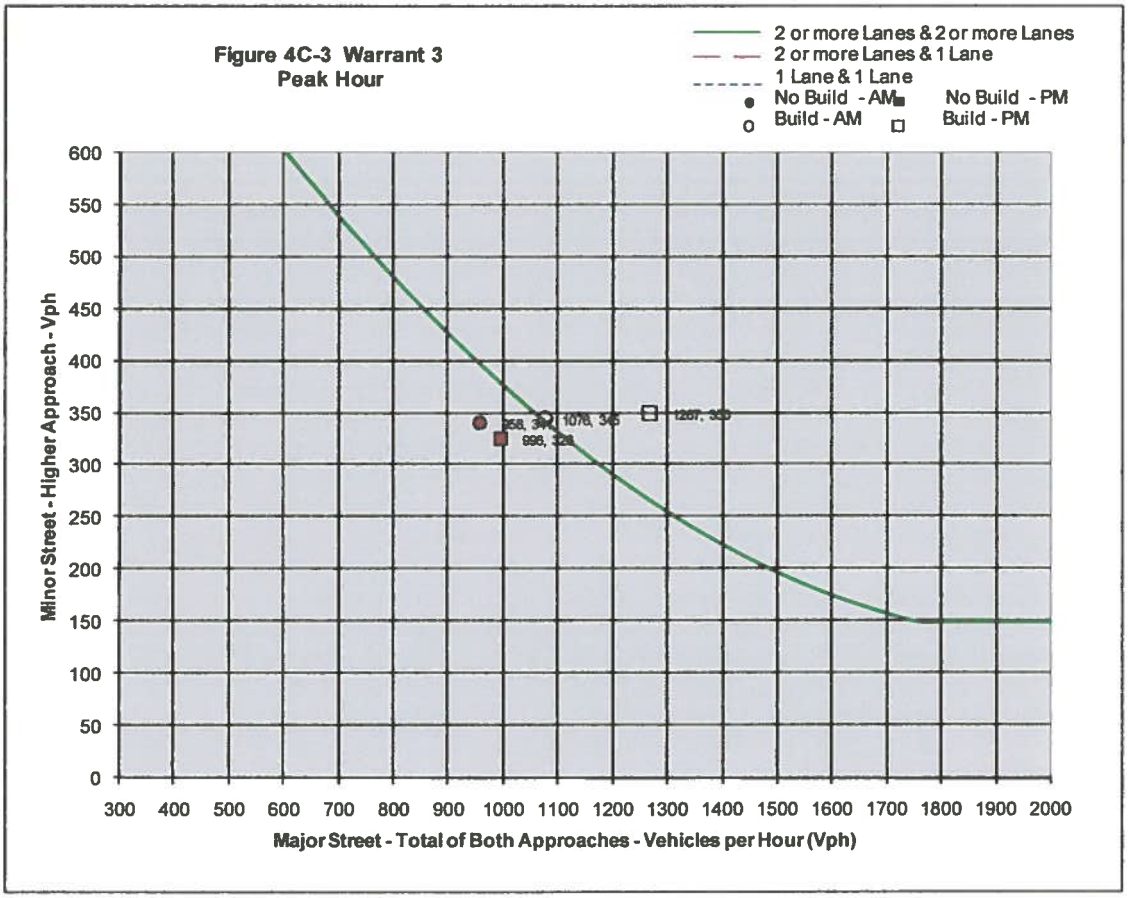
The implementation year analysis of the intersection of Central Ave. / Volcano demonstrates the intersection will experience failing levels-of-service for the PM Peak Hour NO BUILD and BUILD conditions for the southbound left/right turns. According to the analysis, the associated queue length will only be 63 feet or 3 car lengths. The delay, 45.9 seconds, on the side street (Volcano) is based on 2000 HCM methodology and does not take into account the fact that there is an existing traffic signal to the east (98th St.) and to the west (Unser Blvd.). The presence of a signal to the east and to the west of Volcano should create gaps in eastbound and westbound traffic on Central Ave., thus allowing traffic to turn left from Volcano onto eastbound and westbound Central Ave. with greater ease than what is indicated in the table above. Thus, this analysis finds that the operation of Central Ave. / Volcano is probably acceptable given the location of existing signals on either side of the intersection.

#5 – Bridge Blvd. / Unser Blvd. – Pages A-55 thru A-58

The results of the analysis of the unsignalized intersection of Bridge Blvd. / Unser Blvd. are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Bridge Blvd. / Unser Blvd.				
Minor Street (Bridge Blvd.)				
EB Left Turn	C – 16.3	B – 13.6	C – 17.2	C - 15.4
EB Thru/Right	C - 16.9	C - 15.6	C - 17.7	C - 17.9
WB Left Turn	B - 11.0	B - 11.7	B - 11.1	C - 12.5
WB Thru/Right	C - 19.2	D - 34.0	C - 22.8	F - 66.2
Major Street (Unser Blvd.)				
NB Left/Thru	F – 130.3	D - 28.1	F – 205.5	F - 78.8
NB Right Turn	B - 9.2	B - 9.5	B - 9.5	A - 10.0
SB Left Turn	C – 16.4	B - 14.5	C - 18.3	C - 20.2
SB Thru/Right	C - 20.7	F - 167.7	D - 27.5	F - 339.1

The implementation year analysis of the intersection of Bridge Blvd. / Unser Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour NO BUILD and BUILD conditions for the eastbound movements, westbound left turn, northbound right turn, and southbound left turn. The westbound thru/right level-of-service will be acceptable for the AM and PM Peak Hour NO BUILD and BUILD conditions and for the AM BUILD condition, but will be unacceptable for the PM Peak Hour Build condition. The NB left/thru level-of-service will be unacceptable for the AM Peak Hour NO BUILD and the AM and PM Peak Hour BUILD conditions. The southbound thru right level-of-service will be unacceptable for the AM and PM Peak Hour NO BUILD and the PM Peak Hour BUILD conditions. Since some of the delays are so high, Signal Warrant 3 was analyzed and summarized in the following graph:



This analysis, Appendix Page A-58a, indicates that the intersection of Bridge Blvd. / Unser Blvd. marginally meets the minimum requirements for the peak hour warrant (Warrant #3) established by the Manual on Uniform Traffic Control Devices (Millenium Edition w/2003 Update) for the AM BUILD condition and meets the requirements for the PM BUILD condition. It may be appropriate to construct a traffic signal at this location based on the results of the Peak Hour Warrant analysis. However, a traffic signal should not be permitted nor constructed until such time as a full Traffic Signal Warrant Study has been conducted as part of an engineering study to determine the feasibility of constructing a traffic signal at this location. A traffic signal should be constructed at this location only after such engineering study has been conducted based on actual traffic volumes present at the time of the study which demonstrate that a new traffic signal is warranted and will be beneficial to the transportation system. This study only demonstrates that the intersection of Bridge Blvd. / Unser Blvd. is possibly a candidate for a future traffic signal. It is not a recommendation to construct a signal.

It should be noted that Levels of Service (LOS) for unsignalized intersections cannot be compared directly with Levels of Service for signalized intersections. LOS for unsignalized intersections is based on reserve capacity, which is converted to generalized levels of delay; LOS for signalized intersections is based on actual delay in seconds.

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Average Delay (secs)	Level-of-Service
≤ 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Generally speaking, a Level-of-Service D or better is an acceptable parameter for design purposes.

CONCLUSIONS

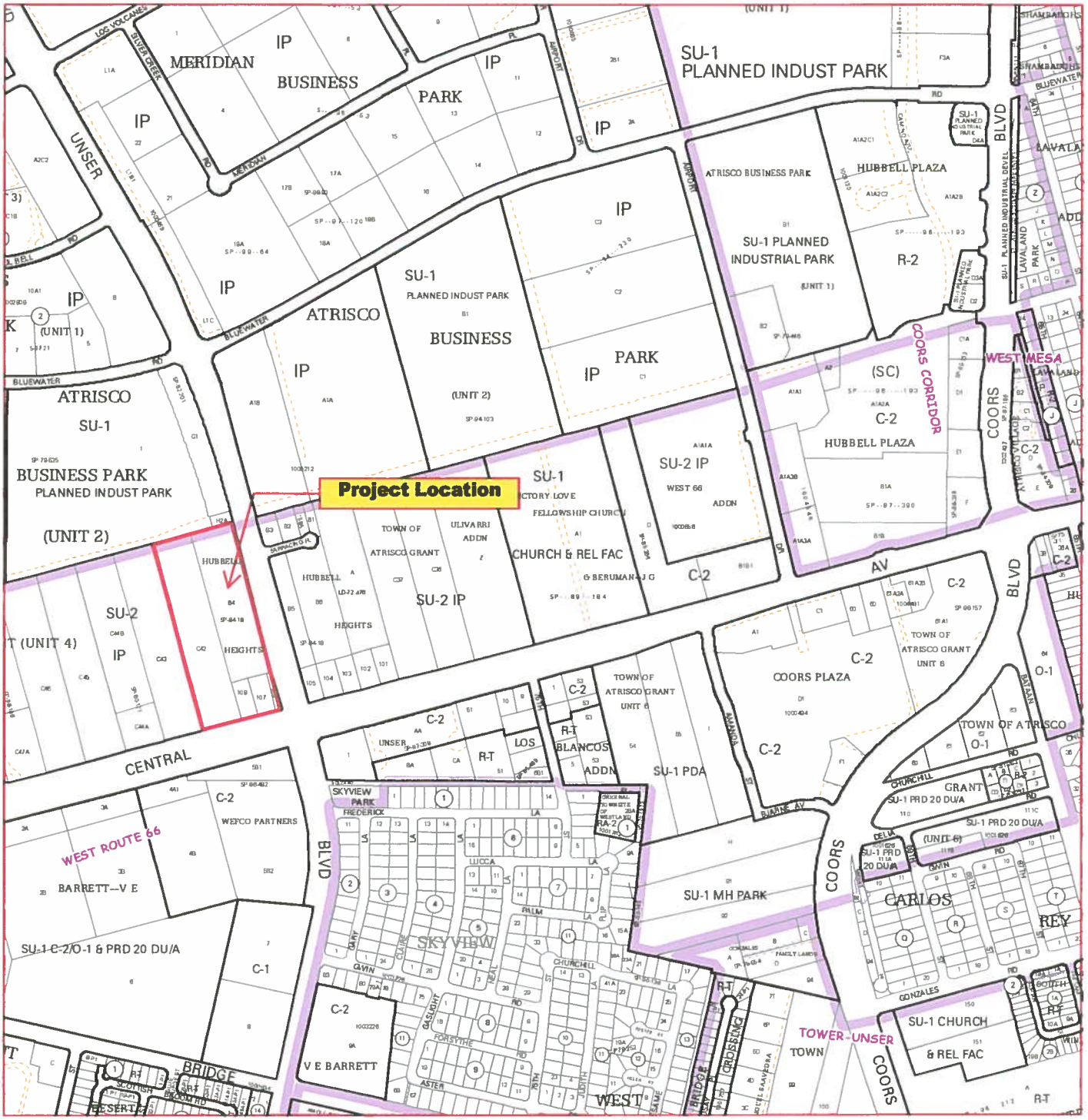
Utilizing projected traffic volumes resulting from the development of this site into a commercial facility such as the one shown on Page A-2 in the Appendix in conjunction with projected 2012 traffic volumes this report concludes that development of the subject site will have no significant adverse impact on the adjacent transportation system, provided that the following recommendations are followed:

RECOMMENDATIONS

- Design of the site should maintain adequate sight distances for traffic approaching, entering, and exiting the site from the proposed driveways.
- All driveways should be constructed utilizing 25 feet minimum radius curb returns or larger if needed to accommodate delivery trucks and buses. The new development should be implemented utilizing one full access driveway, Driveway 'A' (Sarracino Pl. - from Unser Blvd.). This driveway should be unsignalized and should be constructed with one entering lane and one left turn and one thru/right exiting lane.
- Bluewater Rd. / Unser Blvd. – Lengthen the eastbound left turn lane to 350 feet plus transition, westbound left turn lane to 175 feet plus transition and southbound left turn lane to 325 feet plus transition.
- Central Ave. / Unser Blvd. – Construct an additional eastbound left turn lane, a northbound right turn lane, an additional southbound left turn lane, and an additional southbound thru lane. Lengthen the westbound left turn lane to 225 plus transition, construct the southbound dual left turn lanes to 400 feet plus transition, lengthen the westbound right turn lane to 260 feet plus transition, and construct the southbound dual left turn lanes to 350 feet plus transition.

Appendix

APPENDIX



For more current information and more details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: 9/5/2006

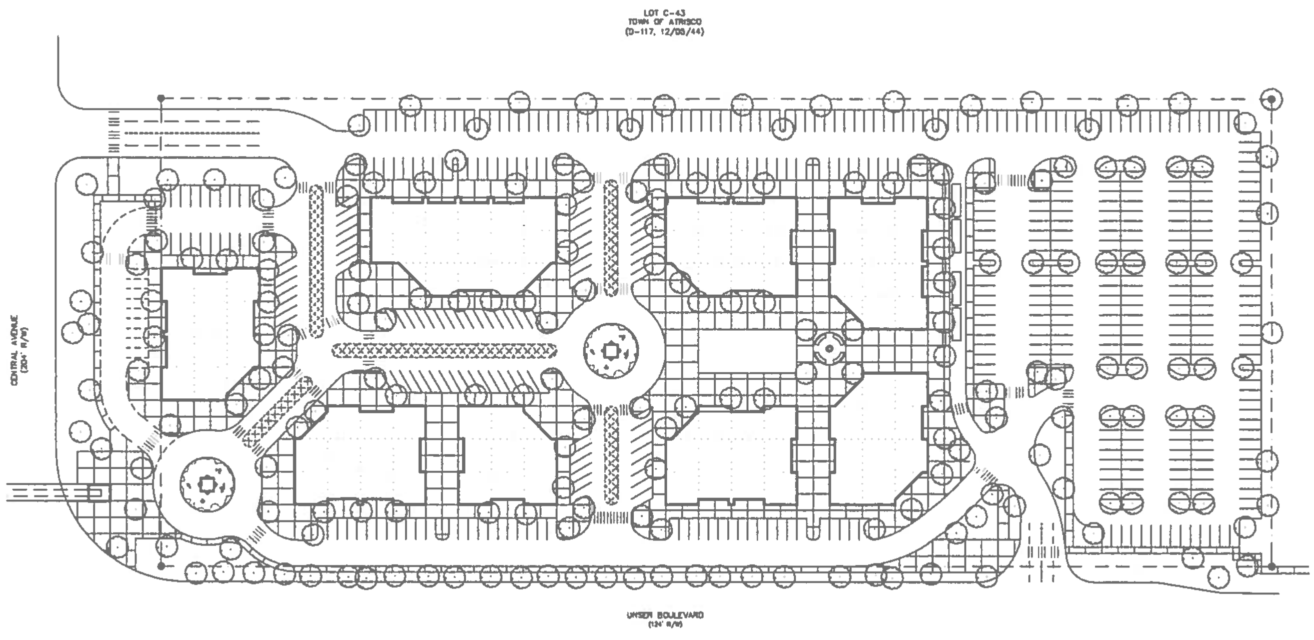
Zone Atlas Page:

K-10-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet



PROJECT DATA

ADDRESS:

LEGAL DESCRIPTION:

TOTAL ACREAGE: 9.9481 ACRES (828,905 S.F.)

PROPOSED ZONING:

PROPOSED USES:

BUILDING USE:

BUILDING AREA:

MAXIMUM BUILDING SETBACK:

MAXIMUM F.A.R.:

BUILDING CODE ANALYSIS

OCCUPANCY GROUP:

STORIES ALLOWED:
STORIES PROVIDED:

MAXIMUM BUILDING HEIGHT ALLOWED:
MAXIMUM BUILDING HEIGHT PROVIDED:

OCCUPANCY LOADS:

CITY PROJECT #:
EPC #:
AA #:

SEPTEMBER 6, 2007
IN PROGRESS

VICINITY MAP

SITE

A2 SITE DEVELOPMENT PLAN FOR SUBDIVISION
SCALE: 1" = 50'

0' 25' 50' 100'

PROJECT NUMBER: ____
APPLICATION NUMBER: ____
SITE DEVELOPMENT PLAN APPROVAL:

TRANSPORTATION DEVELOPMENT	DATE
UTILITY DEVELOPMENT	DATE
PARKS AND RECREATION	DATE
HYDROLOGY	DATE
SOLID WASTE MANAGEMENT	DATE
PLANNING DEPARTMENT	DATE

THE DESIGN GROUP

PROJECT NAME:
CENTRAL AND UNSER

EPC SUBMITTAL
REVISIONS

SHEET TITLE:
SITE PLAN
SUBDIVISION SHEET

SCALE: 1" = 50'
DATE: 08.31.07

SHEET 1 OF _

Traffic Impact Study
Central / Unser Commercial / Office Development – (NW Corner)

Contents

Traffic Impact Study
Central / Unser Commercial / Office Development – (NW Corner)

STUDY PURPOSE

The purpose of this study is to identify the development's impact on the adjacent transportation system. The study is being conducted in conjunction with a request for approval of a proposed plan for a commercial / office development located at the northwest corner of Central Ave. / Unser Blvd. in Albuquerque, New Mexico. This study is presented to satisfy the requirements of the City of Albuquerque.

GENERAL

The proposed development is located along the west side of Unser Blvd. between Bluewater Rd. and Central Ave. (see Appendix Page A-1 - Vicinity Map). The existing intersections of Bluewater Rd. / Unser Blvd. and Central Ave. / Unser Blvd. are currently signalized intersections and will be analyzed in this study.

Currently, properties in the area are a mix of commercial and office in nature.

PROPOSED DEVELOPMENT

The proposed plan for this site consists of a shopping center, office buildings, and high turnover (sit-down) restaurants. This development will be constructed in one phase. This study will analyze only the full development of the project.

The anticipated implementation year for this site is the year 2012.

The existing site is currently being used and will continue to be used as a City of Albuquerque Park and Ride facility after the proposed development is constructed.

STUDY PROCEDURES

A Scoping meeting was held in October of 2007 with City of Albuquerque staff (Tony Loyd) to discuss scope and methodology to be utilized within the report. Specific items included format, intersections to be studied, intersection analysis procedures, existing traffic counts, trip distribution methodology, and implementation year definition.

The basic procedure followed for this traffic impact study is outlined as follows:

- Calculate the generated trips for this proposed commercial development as defined on Page A-2 of the Appendix of this report and more specifically defined in the Trip Generation Table on Page A-5 of the Appendix of this report. The trips generated for the implementation year analyses (2012) will assume that 100% of the development has occurred.
- Calculate trip distribution for the newly generated trips by this development. The new trips will be distributed based on a two-mile radius distribution of population, Appendix Pages A-9 thru A-12.
- Determine Trip Assignments for the newly generated trips based on the results of the Trip Distribution Analysis and logical routing to and from the new site, Appendix Pages A-13 thru A-14.
- Obtain AM Peak Hour and PM Peak Hour Turning Movement Volumes Traffic Counts for the intersections of Bluewater Rd. / Unser Blvd., Sarracino Pl. / Unser Blvd., Central Ave. / Unser Blvd., Volcano / Central Ave., and Bridge Blvd. / Unser Blvd., Appendix Pages A-59 thru A-63.
- Determine Historic Growth Rates for background traffic volumes based on an analysis of the growth trend of recent AWDT Volumes obtained from 2002 thru 2006 MRCOG Traffic Flow Maps, Appendix Pages A-15 thru A-25.
- Determine the 2012 NO BUILD Volumes for each intersection to be analyzed by growing the background traffic growth from the year of the counts to 2012, Appendix Pages A-26 thru A-38.
- Add data from Trip Assignments Maps and Tables to the 2012 NO BUILD Volumes to obtain the 2012 BUILD Volumes for this project, Appendix Pages A-26 thru A-38.
- Provide signalized and / or unsignalized intersection analyses for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD ANALYSIS	BUILD ANALYSIS
Bluewater Rd. / Unser Blvd.	Traffic Signal	2012	2012
Central Ave. / Unser Blvd.	Traffic Signal	2012	2012
Sarracino Pl. / Unser Blvd.	Stop Sign	2012	2012
Volcano / Central Ave.	Stop Sign	2012	2012
Bridge Blvd. / Unser Blvd.	Stop Sign	2012	2012

TRIP GENERATION WORKSHEET

Projected trips were calculated based on the ITE trip generation data for shopping center, high turnover (sit-down) restaurant, and general office building (less than 51,000 SF). Trips for the development were determined based on land use defined on the Conceptual Site Development Plan on Page A-2 in the Appendix of this report. The following table summarized the trip generation rate for the project:

Central / Unser (NW Corner) Commercial / Office Development

Trip Generation Data

	USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
	Summary Sheet	Units					
	Shopping Center (820)	70.00	5,386	77	49	238	258
	High Turnover (Sit-Down) Restaurant (932)	12.60	1,602	75	70	84	54
	General Office Building (710) - Less than 51,000 S.F.	18.00	265	33	4	7	35
	Subtotal		**7,253**	**185**	**123**	**329**	**347**

See Appendix Page A-5 thru A-8 for the Trip Generation Summary Table and Worksheets for this project.

BACKGROUND TRAFFIC GROWTH

Background traffic growth rates were considered for each individual approach to an intersection that was targeted for analysis based on data from the 2002, 2003, 2004, 2005 and 2006 Traffic Flow maps prepared by the Mid-Region Council of Governments. Most of the Traffic Flow Data for those years taken from the MRCOG Traffic Flow Maps were Standard Data. The data from those years for each approach was plotted on a graph and a linear "regression trend line" calculated using the equation format $y=mx+b$. The growth rate was determined by calculating the average volume increase per year during the time period considered and dividing that volume into the most recent AWDT used in the analysis from which future volumes will be calculated. The rate of growth of that trend line was utilized as the annual growth rate for each approach if that calculated rate appeared feasible. However, there were some instances where the rate indicated a negative growth trend or appeared to be unreasonably high or low. In those cases, an appropriate growth rate from an adjacent segment of the same roadway was used, a shorter time span was used to determine the growth rate, or the growth rate was considered to be 1% or a generic 3% if appropriate. Due to the limited potential for growth in the area, it was believed that a 3% growth rate was inappropriate for this study. Therefore, a growth rate similar to the adjacent streets was used if the linear regression analysis showed the growth rate to be negative. Additionally, if the R^2 value of the trend line was low, other means of establishing a probable growth rate from the data accumulated was considered. Historical Growth Rate Graphs with linear regression trendlines are shown in the Appendix on Pages A-15 thru A-25. Additionally, the growth rate utilized for each approach to an intersection is printed at the top of the Turning Movement sheets for each intersection (Appendix Pages A-27 thru A-36).

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2012 BUILDOUT

The calculated growth rates were applied to the most recent peak hour traffic counts to derive the 2012 AM and PM Peak Hour NO BUILD Volumes. To these volumes, the generated trips based on implementation of the proposed Site Development Plan (100% development) along with generated trips from two previous developments (Southwest Mesa Subdivision and Unser Town Center) were added to obtain BUILD volumes for the intersection analyses. See Appendix Pages A-26 thru A-36 for further information regarding the turning movement counts. Turning Movement Volumes Maps for the 2012 NO BUILD Conditions, Trips Generated, and 2012 BUILD Conditions are shown on Pages A-37 thru A-38 in the Appendix of this report.

TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Commercial Land Use

Primary and diverted linked trips for the commercial land use development were distributed proportionally to the 2012 projected population of Data Analysis Subzones within a two-mile radius of the proposed development. Population data for the years 2004 and 2030 were taken from the 2030 Socioeconomic Forecasts by Data Analysis Subzones for the MRCOG Region, S-07-01, 2007, Appendix B and Appendix C, supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2004 and 2030 was interpolated linearly to obtain 2009 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of subareas and data analysis subzones is shown on Appendix Pages A-9 thru A-11.

RESULTS OF SIGNALIZED INTERSECTION CAPACITY ANALYSES

#1 – Bluewater Rd. / Unser Blvd. - Pages A-39 thru A-42

The results of the implementation year analysis of the signalized intersection of Bluewater Rd. / Unser Blvd. are summarized in the following table:

Bluewater Rd. / Unser Blvd.	No Build		BUILD	
2012	A.M.	P.M.	A.M.	P.M.
Existing Geometry	C - 21.5	C – 30.3	C – 21.4	C – 32.2

The implementation year analysis of the intersection of Bluewater Rd. / Unser Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour NO BUILD and BUILD conditions. The implementation year analysis shows that the proposed development does not change the delay in the AM Peak Hour and increases the delay at the intersection by 1.9 seconds in the PM Peak Hour. Therefore, this study concludes that the development presents no significant impact to the calculated delays at the intersection of Bluewater Rd. / Unser Blvd.

Geometry used for this analysis of Bluewater Rd. / Unser Blvd. is demonstrated in the following table:

Existing Geometry (*Bluewater Rd. / Unser Blvd.*)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Bluewater Rd.	1	0	0	1	0
WB Bluewater Rd.	1	0	1	0	1
NB Unser Blvd.	1	0	2	0	1
SB Unser Blvd.	1	0	2	0	1

The following table summarizes the results of the queuing analysis for the auxiliary lanes at the intersection:

Queueing Analysis Summary Sheet

Project: Central / Unser Commercial / Office Development (NW Corner)
Intersection: **Bluewater Rd. / Unser Blvd.**

2012

Approach	Left Turns			Thru Movements				Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*102*	*125*	*1*	*57*	*Cont*		*0*	*29*	*Cont*
AM NO BUILD Queue	1	126	200	1	64	125		0	32	75
AM BUILD Queue	**1**	**126**	**200**	**1**	**64**	**125**		**0**	**40**	**75**
Existing Lane Length	*1*	*195*	*125*	*1*	*47*	*Cont*		*0*	*75*	*Cont*
PM NO BUILD Queue	1	241	350	1	53	100		0	84	150
PM BUILD Queue	**1**	**241**	**350**	**1**	**53**	**100**		**0**	**98**	**175**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*37*	*125*	*1*	*24*	*Cont*		*1*	*73*	*125*
AM NO BUILD Queue	1	41	100	1	27	75		1	82	150
AM BUILD Queue	**1**	**46**	**100**	**1**	**27**	**75**		**1**	**82**	**150**
Existing Lane Length	*1*	*68*	*125*	*1*	*40*	*Cont*		*1*	*181*	*125*
PM NO BUILD Queue	1	86	150	1	45	100		1	209	300
PM BUILD Queue	**1**	**94**	**175**	**1**	**45**	**100**		**1**	**209**	**300**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*31*	*100*	*2*	*1,175*	*Cont*		*1*	*105*	*175*
AM NO BUILD Queue	1	39	75	2	1,681	1,001	*	1	120	200
AM BUILD Queue	**1**	**44**	**100**	**2**	**1,695**	**1,001**	*	**1**	**123**	**200**
Existing Lane Length	*1*	*38*	*100*	*2*	*805*	*Cont*		*1*	*49*	*175*
PM NO BUILD Queue	1	46	100	2	1,527	1,001	*	1	58	125
PM BUILD Queue	**1**	**61**	**125**	**2**	**1,566**	**1,001**	*	**1**	**67**	**125**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*193*	*125*	*2*	*723*	*Cont*		*1*	*75*	*150*
AM NO BUILD Queue	1	244	325	2	1,185	750		1	104	175
AM BUILD Queue	**1**	**244**	**325**	**2**	**1,206**	**750**		**1**	**104**	**175**
Existing Lane Length	*1*	*119*	*125*	*2*	*1,137*	*Cont*		*1*	*81*	*150*
PM NO BUILD Queue	1	151	250	2	2,005	1,001	*	1	125	200
PM BUILD Queue	**1**	**151**	**250**	**2**	**2,042**	**1,001**	*	**1**	**125**	**200**

	AM	PM
Cycle Length:	120	130

NOTE: Queue lengths are in feet.
* - Queue Length of 1,001 indicates that the calculated queue > 1

The recommendations based on the queuing analysis for the auxiliary lanes at the intersection are summarized in the following table:

Lane Description	Existing Length (Ft)	NO BUILD Length (Ft)	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	125	350	350	**350' plus transition.**
Eastbound Right Turn:*	Cont	80	90	No Recommendation
Westbound Left Turn:	125	150	175	**175' plus transition.**
Westbound Right Turn:*	125	150	150	No Recommendation
Northbound Left Turn:	125	100	125	No Recommendation
Northbound Right Turn:*	175	100	100	No Recommendation
Southbound Left Turn:	125	325	325	**325' plus transition.**
Southbound Right Turn:*	150	100	100	No Recommendation

* - Calculated right turn queue lengths have been reduced by 50% to account for right-turns-on red and overlap phases.

A recent TIS for I-40 / Unser (Unser Town Center) recommends that the westbound left turn lane be lengthened to 175 feet plus transition and the southbound left turn lane be lengthened to 275 feet plus transition. This report also recommends that the westbound left turn lane be lengthened by the same amount and that the southbound left turn lane be lengthened by 325 feet plus transition. As is consistent with City policy, the developer of this project will be required to contribute a proportionate share of the cost of improvements recommended at this intersection. In addition, this analysis recommends that the eastbound left lane be lengthened to 350 feet plus transition.

#3 – Central Ave. / Unser Blvd. - Pages A-43 thru A-46a

The results of the implementation year analysis of the signalized intersection of Central Ave. / Unser Blvd. are summarized in the following table:

Central Ave. / Unser Blvd.	No Build		BUILD	
2012	A.M.	P.M.	A.M.	P.M.
Existing Geometry	E – 62.2	E – 77.6	E – 70.5	F – 109.6
Mitigated Geometry	-	-	D – 40.1	D – 48.7

The implementation year analysis of the intersection of Central Ave. / Unser Blvd. demonstrates that the level-of-service will be unacceptable for both the AM Peak Hour and PM Peak Hour NO BUILD and BUILD conditions. The mitigated geometry, which includes an additional eastbound left lane, a northbound right turn lane, an additional southbound left turn lane, and an additional southbound thru lane. It appears that there is adequate right-of-way to construct the mitigated geometry based on aerial photos. With this mitigated geometry, the implementation year analysis of the intersection of Central Ave. / Unser Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour BUILD conditions. Therefore, this study concludes

that the development presents no significant impact to the calculated delays at the intersection of Central Ave. / Unser Blvd.

Geometry used for this analysis of Central Ave. / Unser Blvd. is demonstrated in the following table:

Existing Geometry (*Central Ave. / Unser Blvd.*)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Central Ave.	1	0	2	0	1
WB Central Ave.	1	0	2	0	1
NB Unser Blvd.	1	0	1	1	0
SB Unser Blvd.	1	0	1	0	1

The following table summarizes the results of the queuing analysis for the auxiliary lanes at the intersection:

Queueing Analysis Summary Sheet

Project: Central / Unser Commercial / Office Development (NW Corner)
Intersection: **Central Ave. / Unser Blvd.**

2012

Approach	Left Turns			Thru Movements			Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*2*	*466*	*125*	*2*	*661*	*Cont*	*1*	*3*	*Cont*
AM NO BUILD Queue	2	570	400	2	781	525	1	6	25
AM BUILD Queue	**2**	**582**	**400**	**2**	**781**	**525**	**1**	**6**	**25**
Existing Lane Length	*2*	*244*	*125*	*2*	*483*	*Cont*	*1*	*12*	*Cont*
PM NO BUILD Queue	2	352	300	2	534	400	1	20	50
PM BUILD Queue	**2**	**373**	**300**	**2**	**534**	**400**	**1**	**20**	**50**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*20*	*125*	*2*	*234*	*Cont*	*1*	*129*	*100*
AM NO BUILD Queue	1	49	100	2	273	225	1	236	325
AM BUILD Queue	**1**	**49**	**100**	**2**	**279**	**225**	**1**	**268**	**350**
Existing Lane Length	*1*	*95*	*125*	*2*	*696*	*Cont*	*1*	*163*	*100*
PM NO BUILD Queue	1	141	225	2	849	600	1	349	**475**
PM BUILD Queue	**1**	**141**	**225**	**2**	**859**	**600**	**1**	**407**	**525**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*9*	*125*	*2*	*619*	*Cont*	*1*	*71*	*Cont*
AM NO BUILD Queue	1	24	50	2	873	575	1	194	275
AM BUILD Queue	**1**	**24**	**50**	**2**	**962**	**625**	**1**	**194**	**275**
Existing Lane Length	*1*	*17*	*125*	*2*	*358*	*Cont*	*1*	*71*	*Cont*
PM NO BUILD Queue	1	27	75	2	756	**550**	1	148	225
PM BUILD Queue	**1**	**27**	**75**	**2**	**915**	**625**	**1**	**148**	**225**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*2*	*226*	*125*	*2*	*317*	*Cont*	*1*	*207*	*Cont*
AM NO BUILD Queue	2	319	250	2	511	375	1	268	350
AM BUILD Queue	**2**	**341**	**275**	**2**	**570**	**400**	**1**	**276**	**350**
Existing Lane Length	*2*	*184*	*125*	*2*	*493*	*Cont*	*1*	*434*	*Cont*
PM NO BUILD Queue	2	368	**300**	2	882	**625**	1	565	**700**
PM BUILD Queue	**2**	**429**	**350**	**2**	**1,050**	**725**	**1**	**587**	**725**

	AM	PM
Cycle Length:	120	130

NOTE: Queue lengths are in feet.
* - Queue Length of 1,001 indicates that the calculated queue > 1

The recommendations based on the queuing analysis for the auxiliary lanes at the intersection are summarized in the following table:

Lane Description	Existing Length (Ft)	NO BUILD Length (Ft)	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	125	400	400	**400' plus transition.**
Eastbound Right Turn:*	Cont	30	30	No Recommendation
Westbound Left Turn:	125	225	225	**225' plus transition.**
Westbound Right Turn:*	100	240	260	**260' plus transition.**
Northbound Left Turn:	125	75	75	No Recommendation
Northbound Right Turn:*	Cont	140	140	No Recommendation
Southbound Left Turn:	125	300	350	**350' plus transition.**
Southbound Right Turn:*	Cont	350	360	No Recommendation

* - Calculated right turn queue lengths have been reduced by 50% to account for right-turns-on red and overlap phases.

A recent TIS for I-40 / Unser (Unser Town Center) recommends that the westbound left turn lane be lengthened to 225 feet plus transition and the dual eastbound left turn lanes be constructed to 375 feet plus transition. This report also recommends that the westbound left turn lane be lengthened by the same amount and that the southbound dual left turn lanes be constructed to 400 feet plus transition. As is consistent with City policy, the developer of this project will be required to contribute a proportionate share of the cost of improvements recommended at this intersection. In addition, this analysis recommends that the westbound right turn lane be lengthened to 260 feet plus transition and the southbound dual left turn lanes be constructed to 350 feet plus transition.

RESULTS OF UNSIGNALIZED INTERSECTION CAPACITY ANALYSES

#2 –Sarracino Pl. (Driveway 'A') / Unser Blvd. – Pages A-47 thru A-50

The results of the analysis of the unsignalized intersection of Sarracino Pl. / Unser Blvd. are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Sarracino Pl. / Unser Blvd.				
Minor Street (Sarracino Pl.)				
EB Left Turn	C – 20.6	E – 38.8	E – 37.4	F – 870.7
EB Thru/Right	B – 10.6	B – 11.1	B – 11.7	C – 17.4
WB Left/Thru/Right	A – 0.0	C – 17.6	A – 0.0	F – 635.3
Major Street (Unser Blvd.)				
NB Thru/Left	A – 1.2	A – 1.3	A – 7.0	F – 64.2
SB Thru/Left	A – 0.2	A – 0.1	A – 0.2	A – 0.1

The implementation year analysis of the intersection of Sarracino Pl. / Unser Blvd. demonstrates the intersection will experience failing levels-of-service for the PM Peak Hour BUILD condition for the eastbound left turn, westbound left/thru/right, and the northbound thru/left in addition to failing levels-of-service for the PM Peak Hour NO BUILD and the AM Peak Hour BUILD conditions for the eastbound left turn. According to the analysis, the eastbound left turn will experience excessive delays, 870.7 seconds. These delays on the side street (Sarracino Pl. (Driveway 'A')) are based on 2000 HCM methodology and do not take into account the fact that there is an existing traffic signal to the north (Bluewater Rd.) and to the south (Central Ave.). The presence of a signal to the north and to the south of Sarracino Pl. should create gaps in northbound and southbound traffic on Unser Blvd., thus allowing traffic to turn left from Sarracino Pl. onto northbound and southbound Unser Blvd. with greater ease than what is indicated in the table above. Thus, this analysis finds that the operation of Sarracino Pl. / Unser Blvd. is probably acceptable given the location of existing signals on either side of the intersection.

#4 – Central Ave. / Volcano – Pages A-51 thru A-54

The results of the analysis of the unsignalized intersection of Central Ave. / Volcano are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Central Ave. / Volcano				
Minor Street (Volcano)				
SB Left/Right	D – 30.1	E – 40.4	D – 32.9	E – 45.9
Major Street (Central Ave.)				
EB Left	A – 0.2	A – 0.4	A – 0.6	A – 2.3

This intersection is the access to the two-way frontage road along the north side of Central Ave. and is expected to be used as an access to the proposed development.

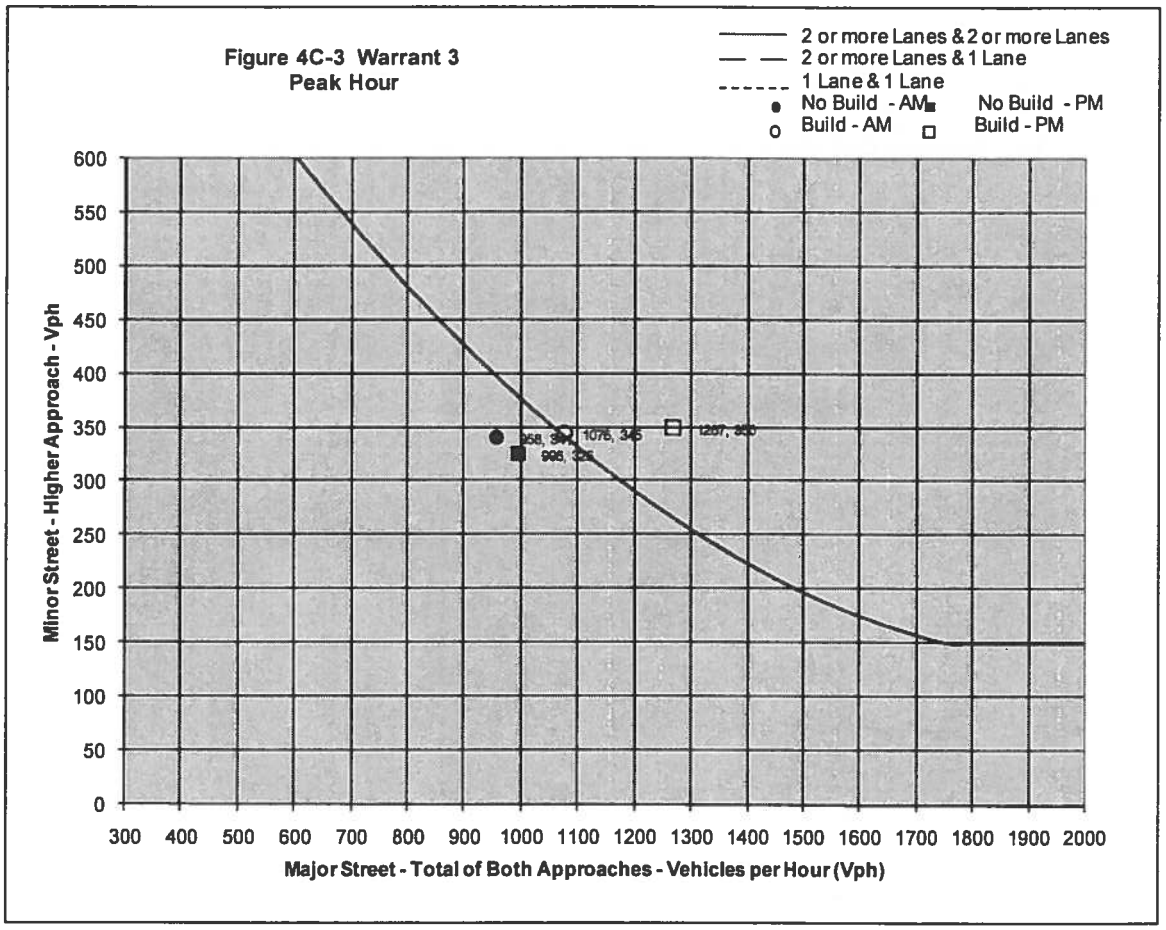
The implementation year analysis of the intersection of Central Ave. / Volcano demonstrates the intersection will experience failing levels-of-service for the PM Peak Hour NO BUILD and BUILD conditions for the southbound left/right turns. According to the analysis, the associated queue length will only be 63 feet or 3 car lengths. The delay, 45.9 seconds, on the side street (Volcano) is based on 2000 HCM methodology and does not take into account the fact that there is an existing traffic signal to the east (98th St.) and to the west (Unser Blvd.). The presence of a signal to the east and to the west of Volcano should create gaps in eastbound and westbound traffic on Central Ave., thus allowing traffic to turn left from Volcano onto eastbound and westbound Central Ave. with greater ease than what is indicated in the table above. Thus, this analysis finds that the operation of Central Ave. / Volcano is probably acceptable given the location of existing signals on either side of the intersection.

#5 – Bridge Blvd. / Unser Blvd. – Pages A-55 thru A-58

The results of the analysis of the unsignalized intersection of Bridge Blvd. / Unser Blvd. are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Bridge Blvd. / Unser Blvd.				
Minor Street (Bridge Blvd.)				
EB Left Turn	C – 16.3	B – 13.6	C – 17.2	C - 15.4
EB Thru/Right	C - 16.9	C - 15.6	C - 17.7	C - 17.9
WB Left Turn	B - 11.0	B - 11.7	B - 11.1	C - 12.5
WB Thru/Right	C - 19.2	D - 34.0	C - 22.8	F - 66.2
Major Street (Unser Blvd.)				
NB Left/Thru	F – 130.3	D - 28.1	F – 205.5	F - 78.8
NB Right Turn	B - 9.2	B - 9.5	B - 9.5	A - 10.0
SB Left Turn	C – 16.4	B - 14.5	C - 18.3	C - 20.2
SB Thru/Right	C - 20.7	F - 167.7	D - 27.5	F - 339.1

The implementation year analysis of the intersection of Bridge Blvd. / Unser Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour NO BUILD and BUILD conditions for the eastbound movements, westbound left turn, northbound right turn, and southbound left turn. The westbound thru/right level-of-service will be acceptable for the AM and PM Peak Hour NO BUILD and BUILD conditions and for the AM BUILD condition, but will be unacceptable for the PM Peak Hour Build condition. The NB left/thru level-of-service will be unacceptable for the AM Peak Hour NO BUILD and the AM and PM Peak Hour BUILD conditions. The southbound thru right level-of-service will be unacceptable for the AM and PM Peak Hour NO BUILD and the PM Peak Hour BUILD conditions. Since some of the delays are so high, Signal Warrant 3 was analyzed and summarized in the following graph:



This analysis, Appendix Page A-58a, indicates that the intersection of Bridge Blvd. / Unser Blvd. marginally meets the minimum requirements for the peak hour warrant (Warrant #3) established by the Manual on Uniform Traffic Control Devices (Millenium Edition w/2003 Update) for the AM BUILD condition and meets the requirements for the PM BUILD condition. It may be appropriate to construct a traffic signal at this location based on the results of the Peak Hour Warrant analysis. However, a traffic signal should not be permitted nor constructed until such time as a full Traffic Signal Warrant Study has been conducted as part of an engineering study to determine the feasibility of constructing a traffic signal at this location. A traffic signal should be constructed at this location only after such engineering study has been conducted based on actual traffic volumes present at the time of the study which demonstrate that a new traffic signal is warranted and will be beneficial to the transportation system. This study only demonstrates that the intersection of Bridge Blvd. / Unser Blvd. is possibly a candidate for a future traffic signal. It is not a recommendation to construct a signal.

It should be noted that Levels of Service (LOS) for unsignalized intersections cannot be compared directly with Levels of Service for signalized intersections. LOS for unsignalized intersections is based on reserve capacity, which is converted to generalized levels of delay; LOS for signalized intersections is based on actual delay in seconds.

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Average Delay (secs)	Level-of-Service
≤ 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Generally speaking, a Level-of-Service D or better is an acceptable parameter for design purposes.

CONCLUSIONS

Utilizing projected traffic volumes resulting from the development of this site into a commercial facility such as the one shown on Page A-2 in the Appendix in conjunction with projected 2012 traffic volumes this report concludes that development of the subject site will have no significant adverse impact on the adjacent transportation system, provided that the following recommendations are followed:

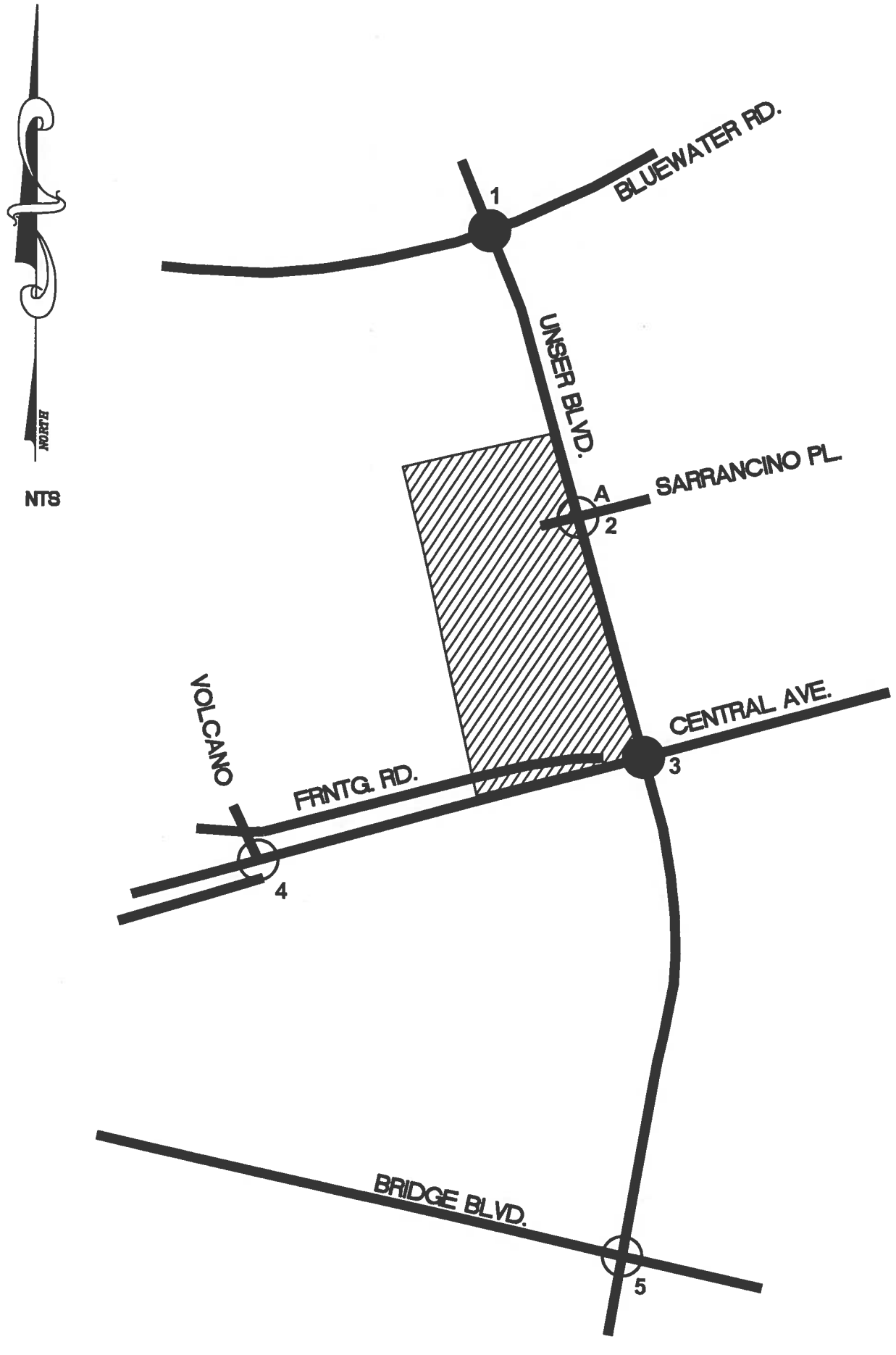
RECOMMENDATIONS

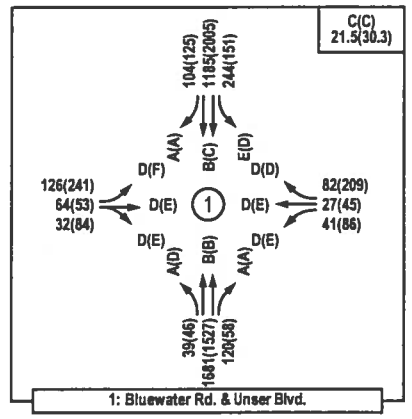
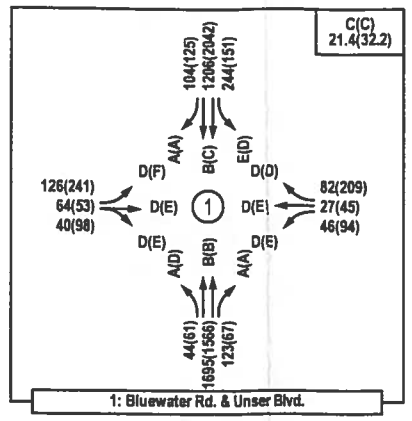
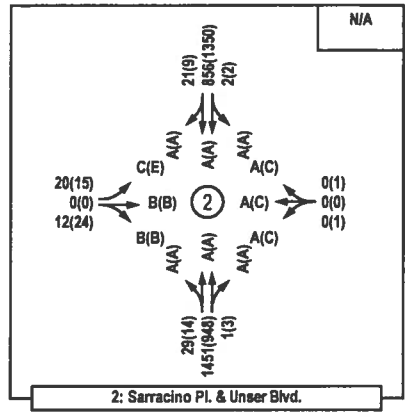
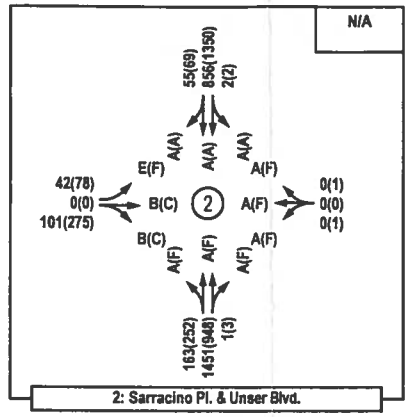
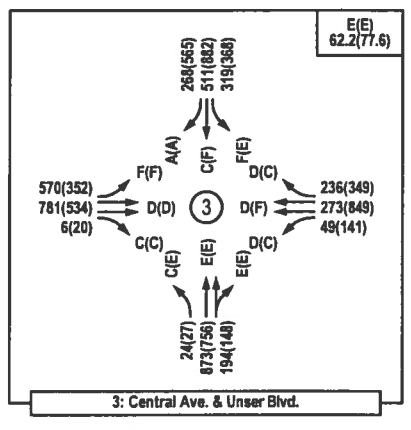
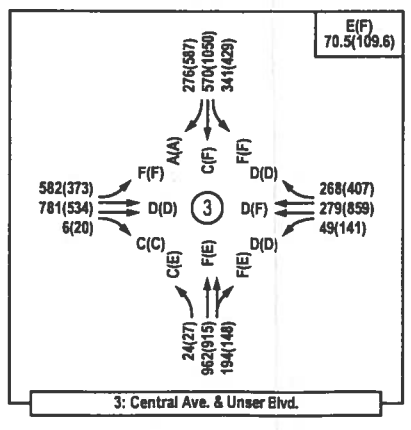
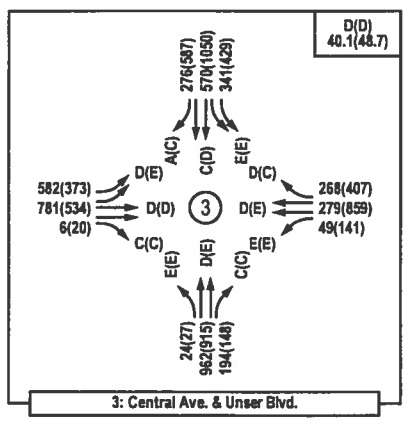
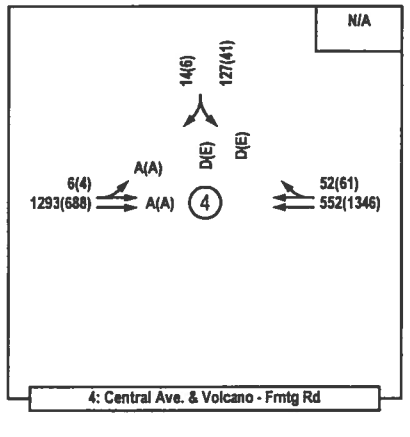
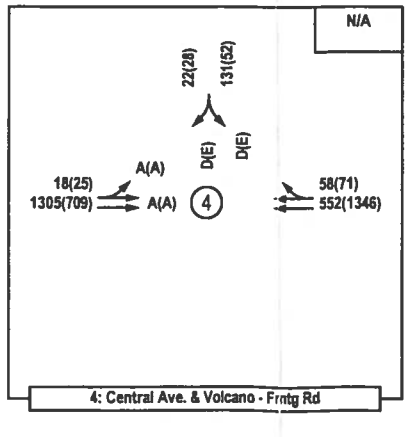
- Design of the site should maintain adequate sight distances for traffic approaching, entering, and exiting the site from the proposed driveways.
- All driveways should be constructed utilizing 25 feet minimum radius curb returns or larger if needed to accommodate delivery trucks and buses. The new development should be implemented utilizing one full access driveway, Driveway 'A' (Sarracino Pl. - from Unser Blvd.). This driveway should be unsignalized and should be constructed with one entering lane and one left turn and one thru/right exiting lane.
- Bluewater Rd. / Unser Blvd. – Lengthen the eastbound left turn lane to 350 feet plus transition, westbound left turn lane to 175 feet plus transition and southbound left turn lane to 325 feet plus transition.
- Central Ave. / Unser Blvd. – Construct an additional eastbound left turn lane, a northbound right turn lane, an additional southbound left turn lane, and an additional southbound thru lane. Lengthen the westbound left turn lane to 225 plus transition, construct the southbound dual left turn lanes to 400 feet plus transition, lengthen the westbound right turn lane to 260 feet plus transition, and construct the southbound dual left turn lanes to 350 feet plus transition.

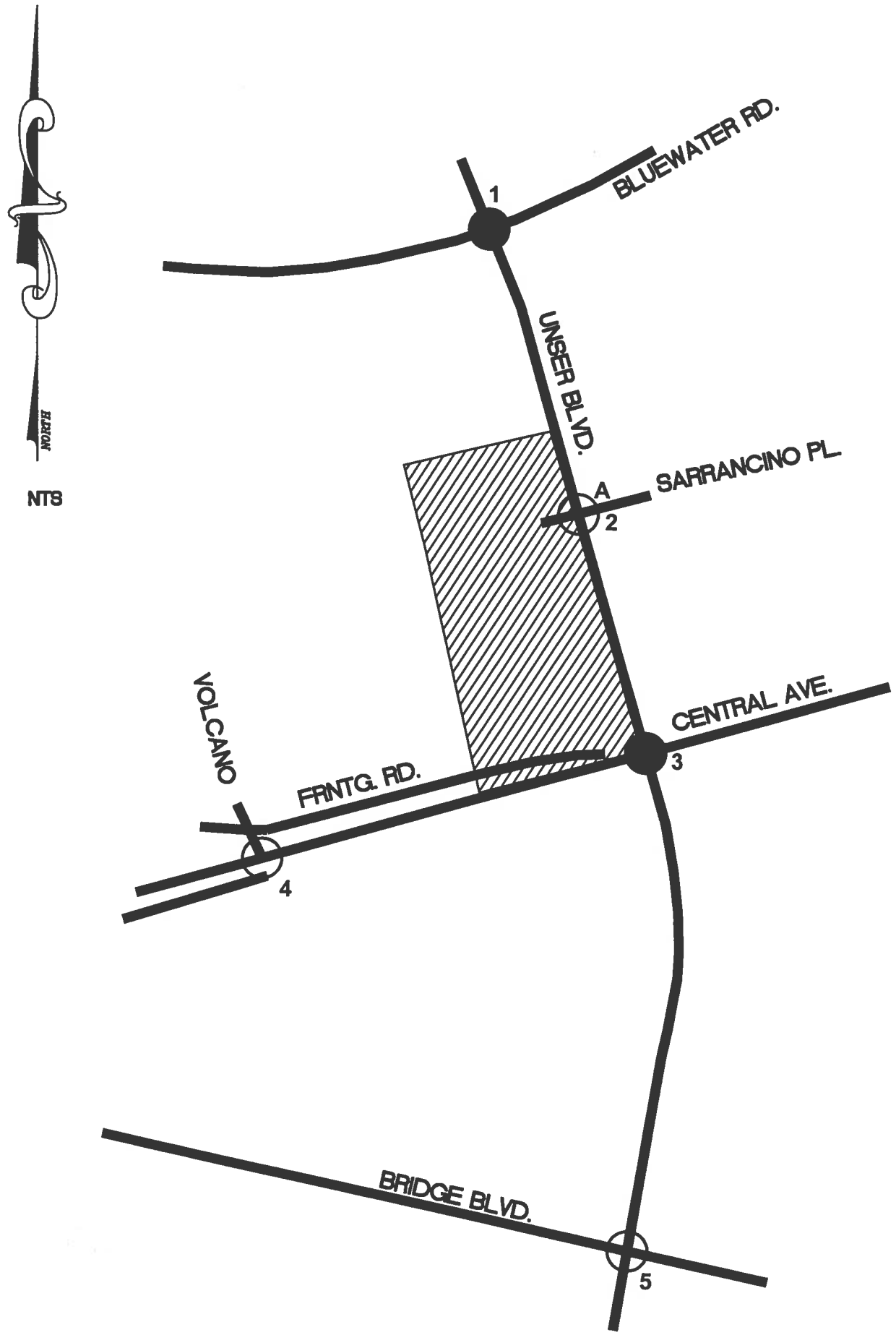
Appendix

Central / Unser Commercial / Office Development

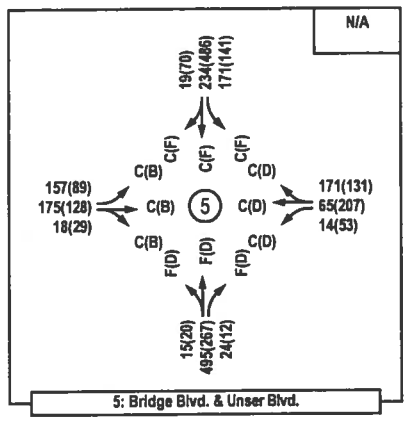
NW Corner



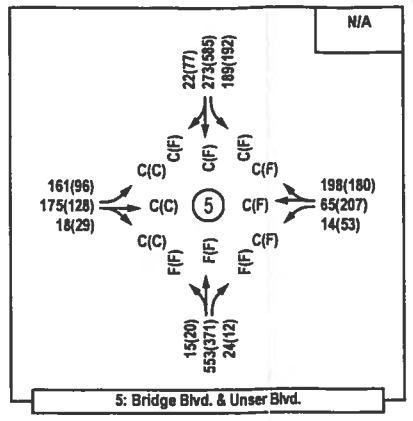
	NO BUILD Analysis	BUILD Analysis	BUILD Analysis (Mitigated)
1: Bluewater Rd. & Unser Blvd.			NO RECOMMENDATION
2: Sarracino Pl. & Unser Blvd.			NO RECOMMENDATION
3: Central Ave. & Unser Blvd.			
4: Central Ave. & Volcano - Frntg Rd			NO RECOMMENDATION



NO BUILD Analysis



BUILD Analysis



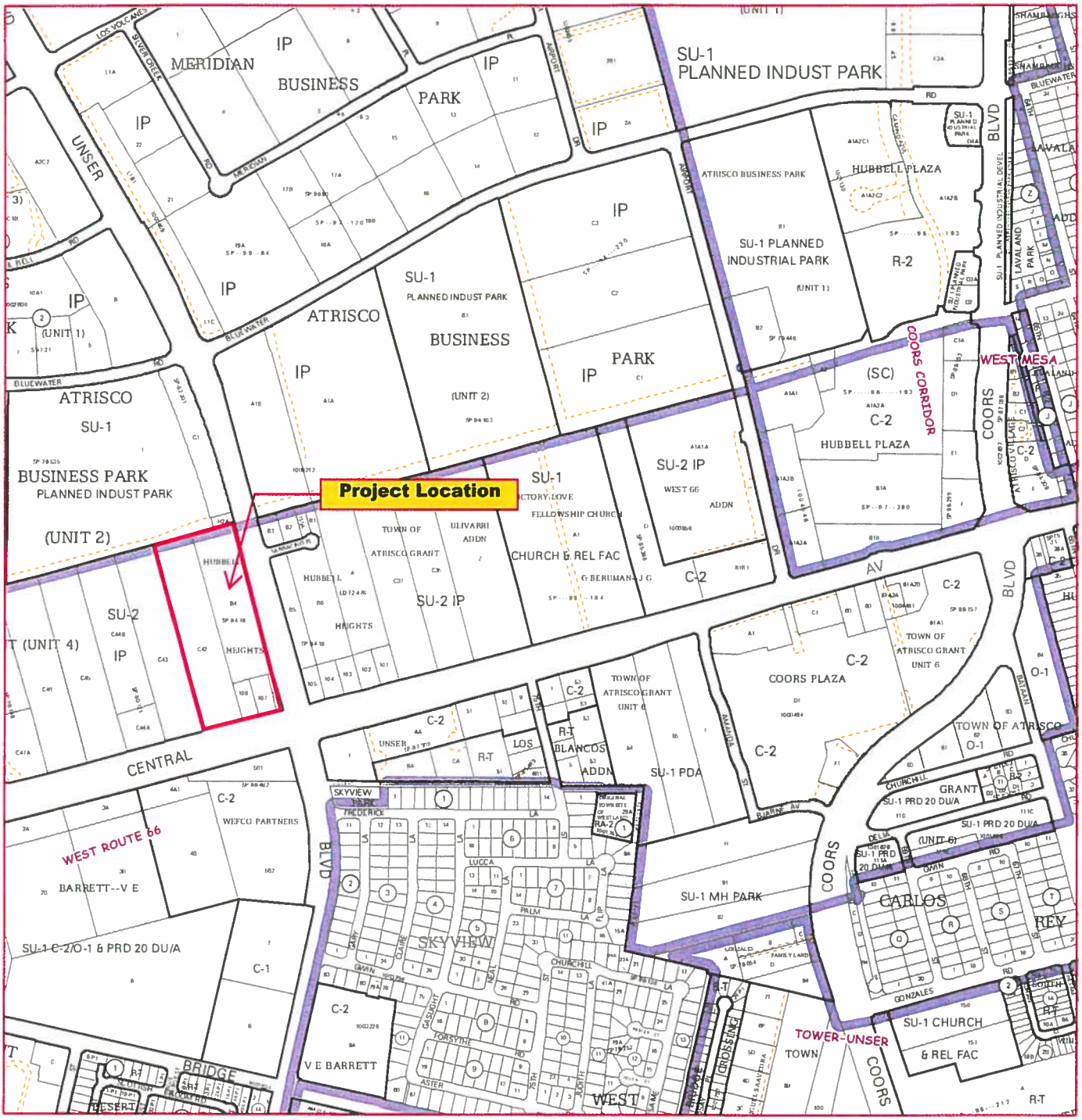
BUILD Analysis (Mitigated)

NO RECOMMENDATION

Central / Unser Commercial / Office Development

NW Corner

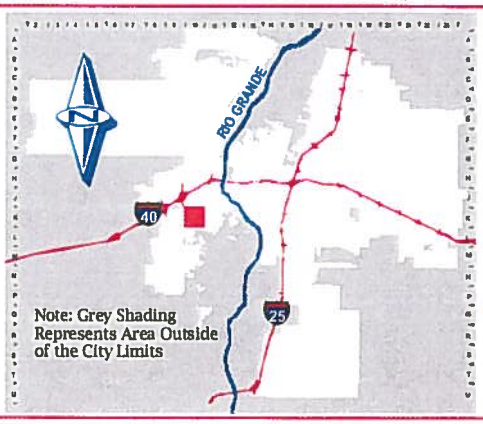
APPENDIX



For more current information and more details visit: http://www.cabq.gov/gis

AGIS
Albuquerque Geographic Information System

Map amended through: 9/5/2006



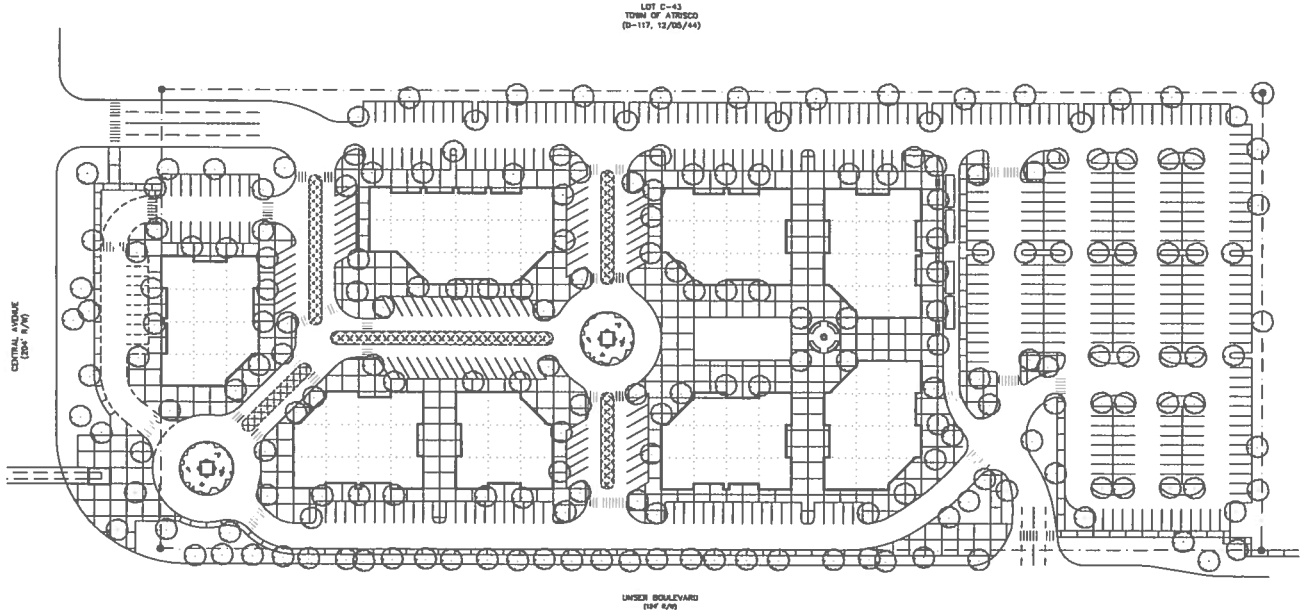
Zone Atlas Page:

K-10-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet



A2 SITE DEVELOPMENT PLAN FOR SUBDIVISION
SCALE: 1" = 50'

0' 25' 50' 100'

PROJECT DATA

ADDRESS:

LEGAL DESCRIPTION:

TOTAL ACREAGE: 9.9481 ACRES (828,905 S.F.)

PROPOSED ZONING:

PROPOSED USES:

BUILDING USE:

BUILDING AREA:

MAXIMUM BUILDING SETBACK:

MAXIMUM F.A.R.:

BUILDING CODE ANALYSIS

OCCUPANCY GROUP:

STORIES ALLOWED:
STORIES PROVIDED:

MAXIMUM BUILDING HEIGHT ALLOWED:
MAXIMUM BUILDING HEIGHT PROVIDED:

OCCUPANCY LOADS:

CITY PROJECT #:
EPC #:
AA #:

SEPTEMBER 6, 2007
IN PROCESS

VICINITY MAP

SITE

PROJECT NUMBER: _____

APPLICATION NUMBER: _____

SITE DEVELOPMENT PLAN APPROVAL

TRANSPORTATION DEVELOPMENT	DATE
UTILITY DEVELOPMENT	DATE
PARKS AND RECREATION	DATE
HYDROLOGY	DATE
SOLID WASTE MANAGEMENT	DATE
PLANNING DEPARTMENT	DATE

THE DESIGN GROUP

PROJECT NAME:
CENTRAL AND UNSER

EPC SUBMITTAL

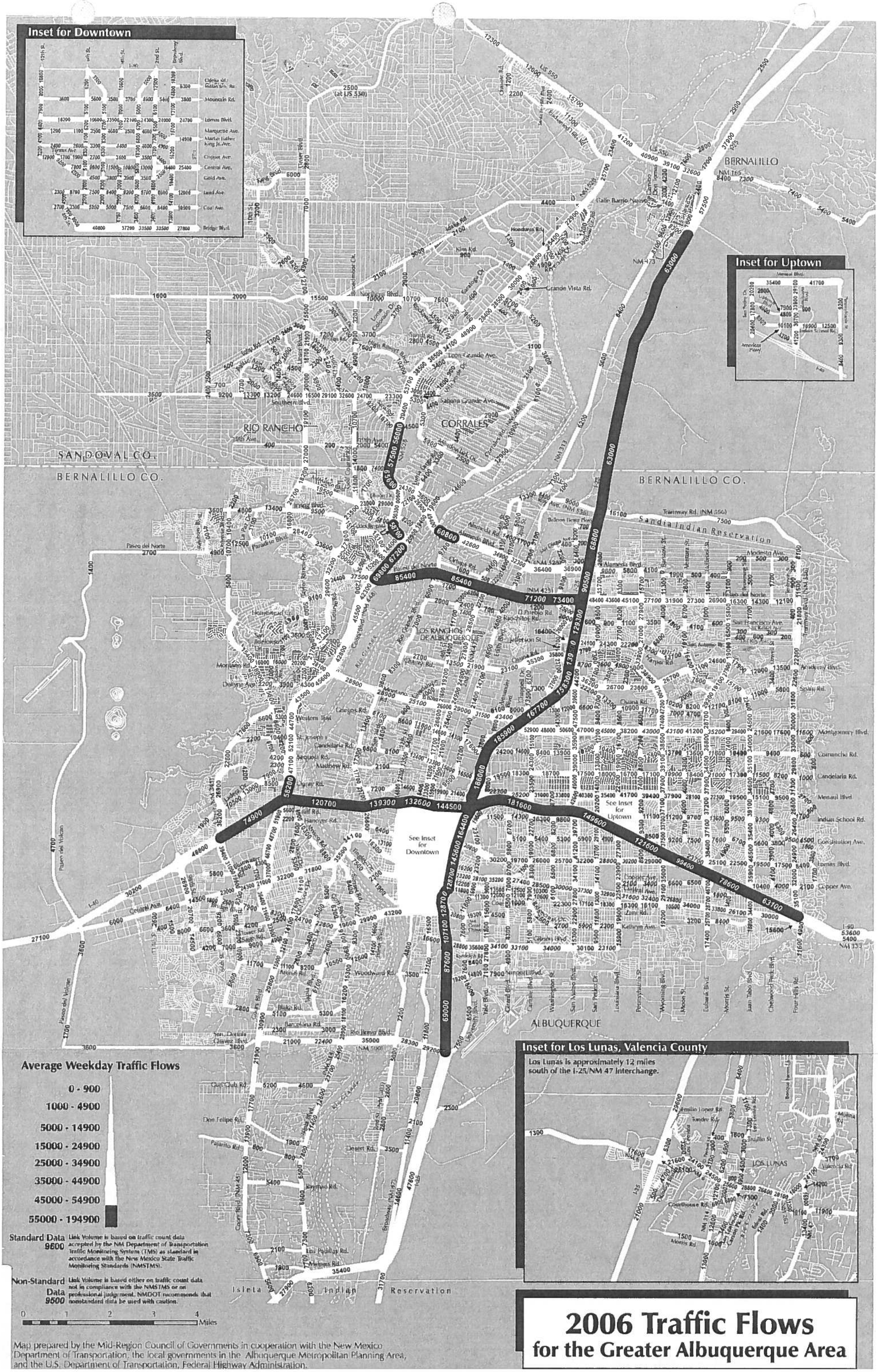
REVISIONS

NO.	DATE	DESCRIPTION

SHEET TITLE:
SITE PLAN
SUBDIVISION SHEET

DRAWN BY:	---	SCALE:	1" = 50'
CHECKED:	---	JOB NO:	2336
DATE:	08.31.07	CAD FILE:	2336_SITE

SHEET 1 OF _


Inset for Downtown
Inset for Uptown
Inset for Los Lunas, Valencia County
Los Lunas is approximately 12 miles south of the I-25/NM 47 Interchange.
See Inset for Downtown
See Inset for Uptown
RIO RANCHO
CORRALES
BERNALILLO
ALBUQUERQUE
SANDOVAL CO.
BERNALILLO CO.
Sandia Indian Reservation
Isleta Indian Reservation
LOS RANCHOS DE ALBUQUERQUE
LOS LUNAS
Average Weekday Traffic Flows
0 - 900
1000 - 4900
5000 - 14900
15000 - 24900
25000 - 34900
35000 - 44900
45000 - 54900
55000 - 194900
Standard Data 9600 Link Volume is based on traffic count data accepted by the NM Department of Transportation Traffic Monitoring System (TMS) as standard in accordance with the New Mexico State Traffic Monitoring Standards (NMSTMS).
Non-Standard Data 9500 Link Volume is based either on traffic count data not in compliance with the NMSTMS or on professional judgement. NMDOT recommends that nonstandard data be used with caution.
0 1 2 3 4 Miles
Map prepared by the Mid-Region Council of Governments in cooperation with the New Mexico Department of Transportation, the local governments in the Albuquerque Metropolitan Planning Area, and the U.S. Department of Transportation, Federal Highway Administration.
2006 Traffic Flows
for the Greater Albuquerque Area

Central / Unser (NW Corner) Commercial / Office Development

Trip Generation Data

	USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
	Summary Sheet	Units					
	Shopping Center (820)	70.00	5,386	77	49	238	258
	High Turnover (Sit-Down) Restaurant (932)	12.60	1,602	75	70	84	54
	General Office Building (710) - Less than 51,000 S.F.	18.00	265	33	4	7	35
	Subtotal		**7,253**	**185**	**123**	**329**	**347**

Central / Unser (NW Corner) Commercial / Office Development
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					
Shopping Center (820)	*70.00*	5,386	77	49	238	258
	1,000 S.F.					

ITE Trip Generation Equations:

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

Ln(T) = ***0.65*** **Ln(X) +** ***5.83***
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)

Ln(T) = ***0.6*** **Ln(X) +** ***2.29***
61% Enter, ***39%*** 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) = ***0.66*** **Ln(X) +** ***3.403***
48% Enter, ***52%*** Exit

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition

Central / Unser (NW Corner) Commercial / Office Development
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					
High Turnover (Sit-Down) Restaurant (932)	*12.60*	1,602	75	70	84	54
	1,000 S.F.					

ITE Trip Generation Equations:

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

T = *127.15* (X) + *0*
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 = *11.52* (X) + *0*
52% Enter, *48%* Exit

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

T = *10.92* (X) + *0*
61% Enter, *39%* Exit

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition

Central / Unser (NW Corner) Commercial / Office Development
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					
General Office Building (710) - Less than 51,000 S.F.	***18.00***	265	33	4	7	35
	1,000 S.F.					

ITE Trip Generation Equations:

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

T = ***14.729*** **(X) +** ***0***
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)

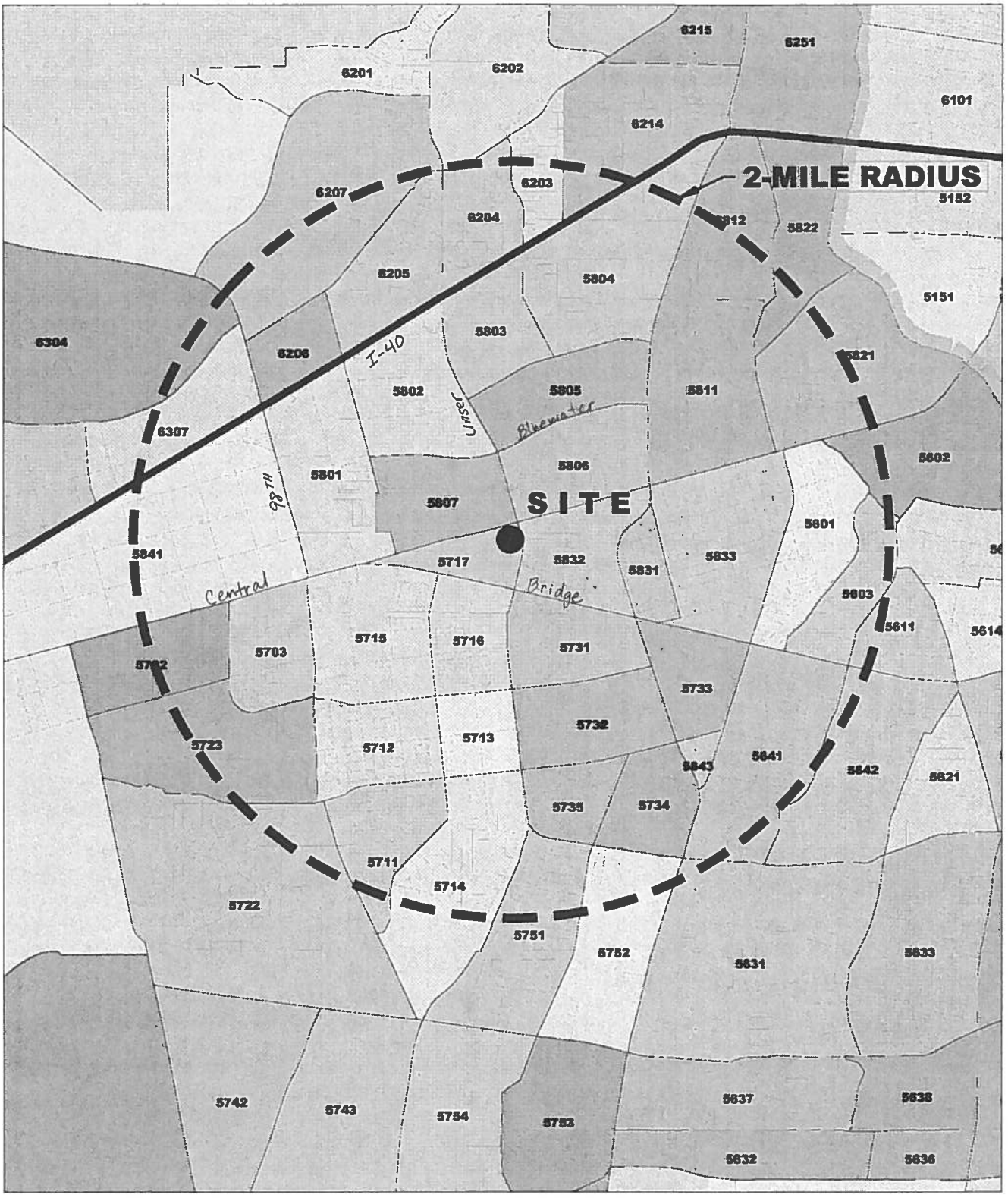
T = ***2.055*** **(X) +** ***0***
88% Enter, ***12%*** Exit

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

T = ***2.369*** **(X) +** ***0***
17% Enter, ***83%*** Exit

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition



DATA ANALYSIS SUBZONE (DASZ) MAP

Central / Unser Commercial / Office Development (NW Corner)

Trip Distribution Table

Central / Unser Commercial / Office Development (NW Corner)

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

2004 and 2030 Data Taken from Mid-Region Council of Governments' 2030 Socioeconomic
2030 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

							(UN) Unser Blvd. North			(BE) Bluewater Rd. East			(SE) Sarracino Pl. East			(CE) Central Ave. East			(BrE) Bridge Blvd. East		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	**2012**																	
Boundary Specified on DASZ Map																					
6203	60%	870	835	**859**	515	**1.09%**	100%	1.09%	515	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6204	90%	1209	1357	**1,255**	1,130	**2.39%**	100%	2.39%	1,130	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6205	100%	1331	1312	**1,325**	1,325	**2.80%**	50%	1.40%	663	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6206	100%	0	854	**263**	263	**0.56%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6207	40%	1998	4709	**2,832**	1,133	**2.39%**	0%	0.00%	0	50%	1.20%	567	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6214	10%	3411	3331	**3,386**	339	**0.72%**	100%	0.72%	339	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6304	10%	0	4261	**1,311**	131	**0.28%**	50%	0.14%	66	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6307	70%	0	1460	**449**	314	**0.66%**	50%	0.33%	157	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5801	100%	542	926	**660**	660	**1.39%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5802	100%	467	432	**456**	456	**0.96%**	50%	0.48%	228	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5803	100%	0	0	**0**	0	**0.00%**	100%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5804	90%	1983	2412	**2,115**	1,904	**4.02%**	70%	2.82%	1,333	30%	1.21%	571	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5805	100%	79	97	**85**	85	**0.18%**	20%	0.04%	17	80%	0.14%	68	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5806	100%	609	635	**617**	617	**1.30%**	50%	0.65%	309	0%	0.00%	0	0%	0.00%	0	50%	0.65%	309	0%	0.00%	0
5807	100%	737	1424	**948**	948	**2.00%**	50%	1.00%	474	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5811	100%	3959	3816	**3,915**	3,915	**8.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	8.27%	3,915	0%	0.00%	0
5812	50%	2322	2177	**2,277**	1,139	**2.41%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	2.41%	1,139	0%	0.00%	0
5821	50%	1901	1916	**1,906**	953	**2.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	2.01%	953	0%	0.00%	0
5822	15%	998	1006	**1,000**	150	**0.32%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.32%	150	0%	0.00%	0
5841	50%	479	438	**466**	233	**0.49%**	50%	0.25%	117	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5601	100%	1335	1608	**1,419**	1,419	**3.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	1.50%	710	50%	1.50%	710
5602	10%	2253	2201	**2,237**	224	**0.47%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.47%	224	0%	0.00%	0
5603	100%	810	822	**814**	814	**1.72%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	1.72%	814
5611	10%	739	689	**724**	72	**0.15%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.15%	72
5641	95%	1554	1592	**1,566**	1,488	**3.14%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	3.14%	1,488
5642	5%	1736	1694	**1,723**	86	**0.18%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.18%	86
5643	100%	133	123	130	130	**0.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.14%	65
5631	5%	2224	2115	2,190	110	**0.23%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.12%	55
5702	50%	49	58	52	26	**0.05%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5703	100%	1890	1762	1,851	1,851	**3.91%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5711	90%	1703	1658	1,689	1,520	**3.21%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5712	100%	1881	1992	1,915	1,915	**4.05%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5713	100%	409	733	509	509	**1.08%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5714	70%	3963	4264	4,056	2,839	**6.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5715	100%	2515	2774	2,595	2,595	**5.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5716	100%	1795	2263	1,939	1,939	**4.10%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5717	100%	3	350	110	110	**0.23%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5722	10%	4878	9670	6,352	635	**1.34%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5723	50%	3993	4116	4,031	2,016	**4.26%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5731	100%	1010	1063	1,026	1,026	**2.17%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	1.08%	513
5732	100%	127	758	321	321	**0.68%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.34%	161
5733	100%	110	220	144	144	**0.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.30%	144
5734	100%	384	918	548	548	**1.16%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.58%	274
5735	100%	1608	1491	1,572	1,572	**3.32%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5751	40%	3362	3151	3,297	1,319	**2.79%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5752	30%	1313	2482	1,673	502	**1.06%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5831	100%	609	635	617	617	**1.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	30%	0.39%	185	70%	0.91%	432
5832	100%	1214	1283	1,235	1,235	**2.61%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	33%	0.86%	408	33%	0.86%	408
5833	100%	3608	3385	3,539	3,539	**7.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	3.74%	1,770	50%	3.74%	1,770
				75,999	47,331	100.00%			**5,346**			**1,206**			-			**9,761**			**6,990**
									11.29%			2.55%			0.00%			20.62%			14.77%

Trip Distribution Table

Central / Unser Commercial / Office Development (NW Corner)

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

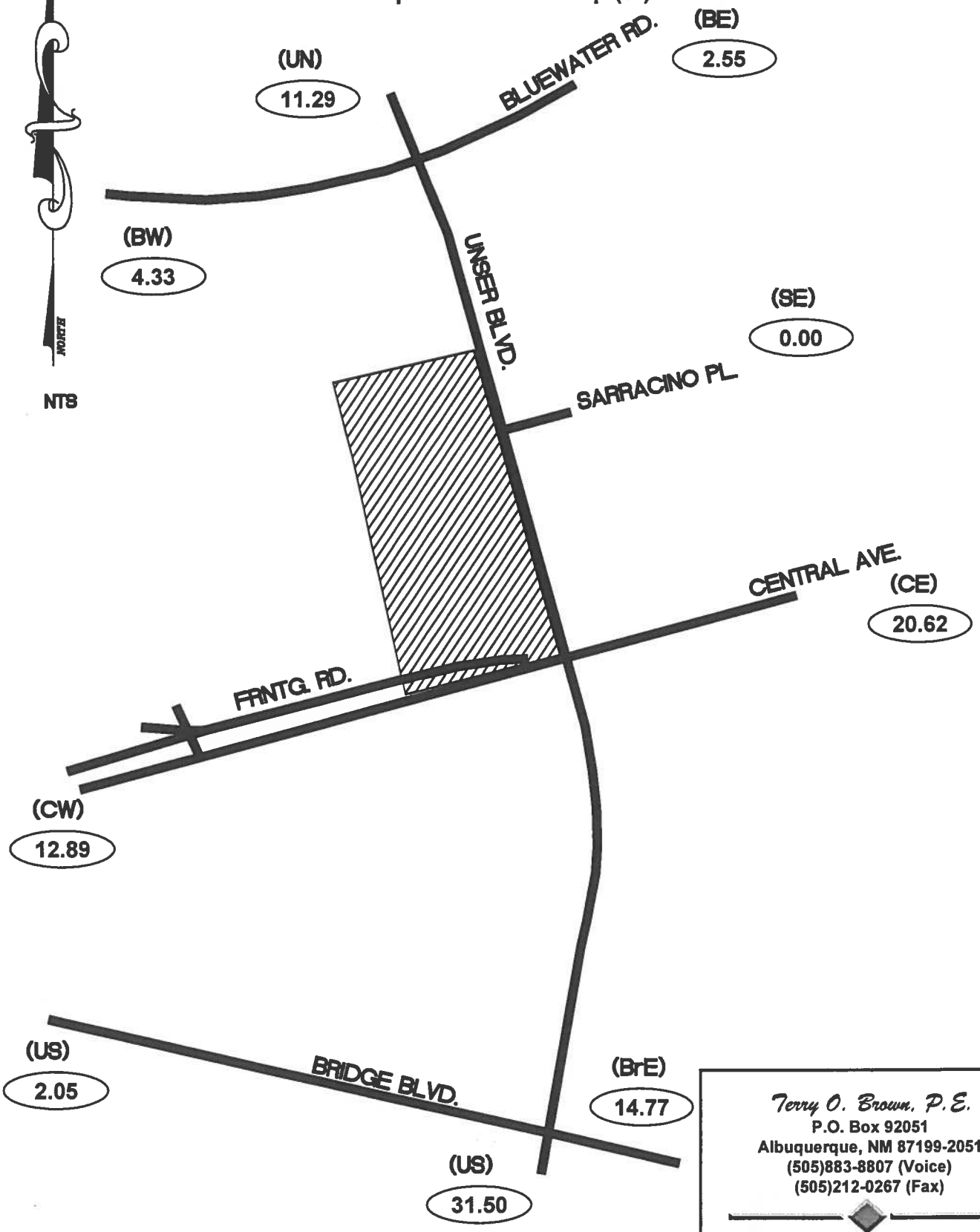
2004 and 2030 Data Taken from Mid-Region Council of Governments' 2030 Socioeconomic
2030 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

							(US) Unser Blvd. South			(BrW) Bridge Blvd. West			(CW) Central Blvd. West			(BW) Bluewater Rd. West		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	Population in Study	Percent Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	2012														
Boundary Specified on DASZ Map																		
6203	60%	870	835	859	515	**1.09%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6204	90%	1209	1357	1,255	1,130	**2.39%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6205	100%	1331	1312	1,325	1,325	**2.80%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	**50%**	1.40%	663
6206	100%	0	854	263	263	**0.56%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	**100%**	0.56%	263
6207	40%	1998	4709	2,832	1,133	**2.39%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	**50%**	1.20%	567
6214	10%	3411	3331	3,386	339	**0.72%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
6304	10%	0	4261	1,311	131	**0.28%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.14%	66	0%	0.00%	0
6307	70%	0	1460	449	314	**0.66%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.33%	157	0%	0.00%	0
5801	100%	542	926	660	660	**1.39%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.70%	330	**50%**	0.70%	330
5802	100%	467	432	456	456	**0.96%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	**50%**	0.48%	228
5803	100%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5804	90%	1983	2412	2,115	1,904	**4.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5805	100%	79	97	85	85	**0.18%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5806	100%	609	635	617	617	**1.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5807	100%	737	1424	948	948	**2.00%**	0%	0.00%	0	0%	0.00%	0	**50%**	1.00%	474	0%	0.00%	0
5811	100%	3959	3816	3,915	3,915	**8.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5812	50%	2322	2177	2,277	1,139	**2.41%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5821	50%	1901	1916	1,906	953	**2.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5822	15%	998	1006	1,000	150	**0.32%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5841	50%	479	438	466	233	**0.49%**	0%	0.00%	0	0%	0.00%	0	**50%**	0.25%	117	0%	0.00%	0
5601	100%	1335	1608	1,419	1,419	**3.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5602	10%	2253	2201	2,237	224	**0.47%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5603	100%	810	822	814	814	**1.72%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5611	10%	739	689	724	72	**0.15%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5641	95%	1554	1592	1,566	1,488	**3.14%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5642	5%	1736	1694	1,723	86	**0.18%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5643	100%	133	123	130	130	**0.27%**	50%	0.14%	65	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5631	5%	2224	2115	2,190	110	**0.23%**	50%	0.12%	55	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5702	50%	49	58	52	26	**0.05%**	0%	0.00%	0	0%	0.00%	0	**100%**	0.05%	26	0%	0.00%	0
5703	100%	1890	1762	1,851	1,851	**3.91%**	0%	0.00%	0	0%	0.00%	0	**100%**	3.91%	1,851	0%	0.00%	0
5711	90%	1703	1658	1,689	1,520	**3.21%**	100%	3.21%	1,520	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5712	100%	1881	1992	1,915	1,915	**4.05%**	100%	4.05%	1,915	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5713	100%	409	733	509	509	**1.08%**	100%	1.08%	509	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5714	70%	3963	4264	4,056	2,839	**6.00%**	100%	6.00%	2,839	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5715	100%	2515	2774	2,595	2,595	**5.48%**	50%	2.74%	1,298	0%	0.00%	0	**50%**	2.74%	1,298	0%	0.00%	0
5716	100%	1795	2263	1,939	1,939	**4.10%**	50%	2.05%	970	**50%**	2.05%	970	0%	0.00%	0	0%	0.00%	0
5717	100%	3	350	110	110	**0.23%**	50%	0.12%	55	0%	0.00%	0	**50%**	0.12%	55	0%	0.00%	0
5722	10%	4878	9670	6,352	635	**1.34%**	50%	0.67%	318	0%	0.00%	0	**50%**	0.67%	318	0%	0.00%	0
5723	50%	3993	4116	4,031	2,016	**4.26%**	30%	1.28%	605	0%	0.00%	0	**70%**	2.98%	1,411	0%	0.00%	0
5731	100%	1010	1063	1,026	1,026	**2.17%**	50%	1.08%	513	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5732	100%	127	758	321	321	**0.68%**	50%	0.34%	161	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5733	100%	110	220	144	144	**0.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5734	100%	384	918	548	548	**1.16%**	50%	0.58%	274	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5735	100%	1608	1491	1,572	1,572	**3.32%**	100%	3.32%	1,572	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5751	40%	3362	3151	3,297	1,319	**2.79%**	100%	2.79%	1,319	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5752	30%	1313	2482	1,673	502	**1.06%**	100%	1.06%	502	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5831	100%	609	635	617	617	**1.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5832	100%	1214	1283	1,235	1,235	**2.61%**	34%	0.89%	420	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5833	100%	3608	3385	3,539	3,539	**7.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
				75,999	47,331	100.00%			**14,908**			**970**			**6,101**			**2,050**
									31.50%			2.05%			12.89%			4.33%

Central / Unser Commercial / Office Development

(NW Corner)

Trip Distribution Map (%)



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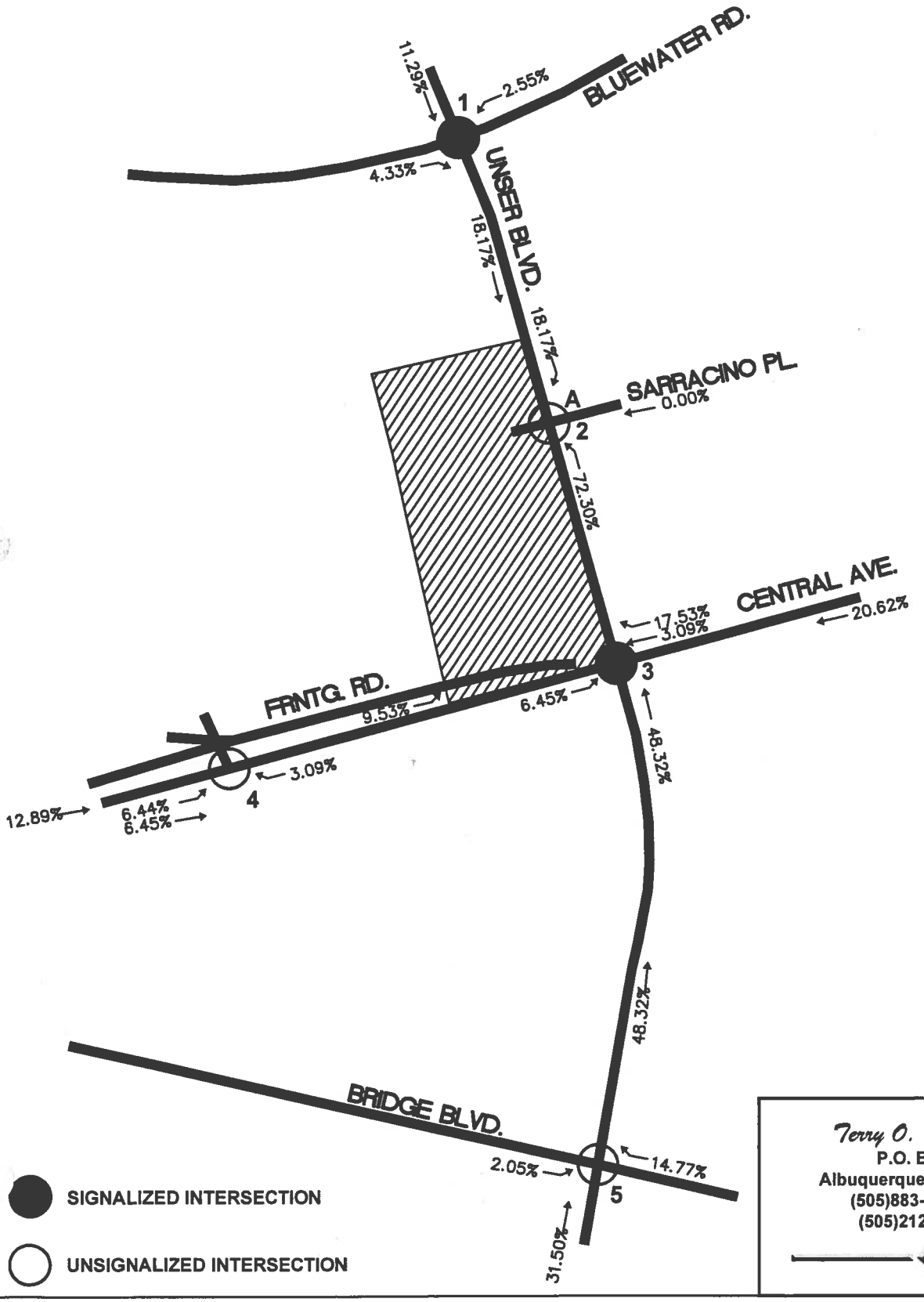
Central / Unser Commercial / Office Development

(NW Corner)

Trip Assignments (% Entering)



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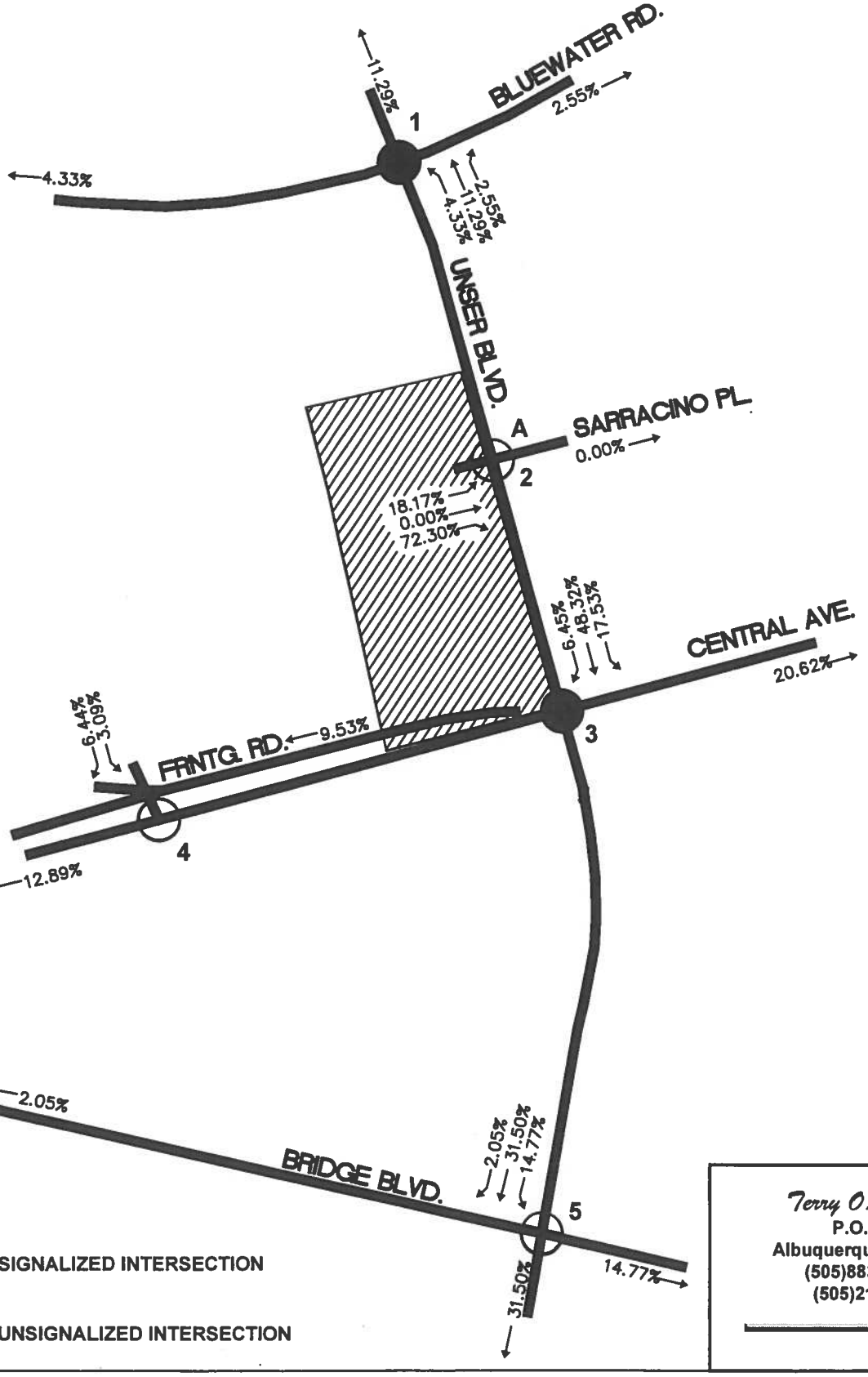
Central / Unser Commercial / Office Development

(NW Corner)

Trip Assignments (% Exiting)



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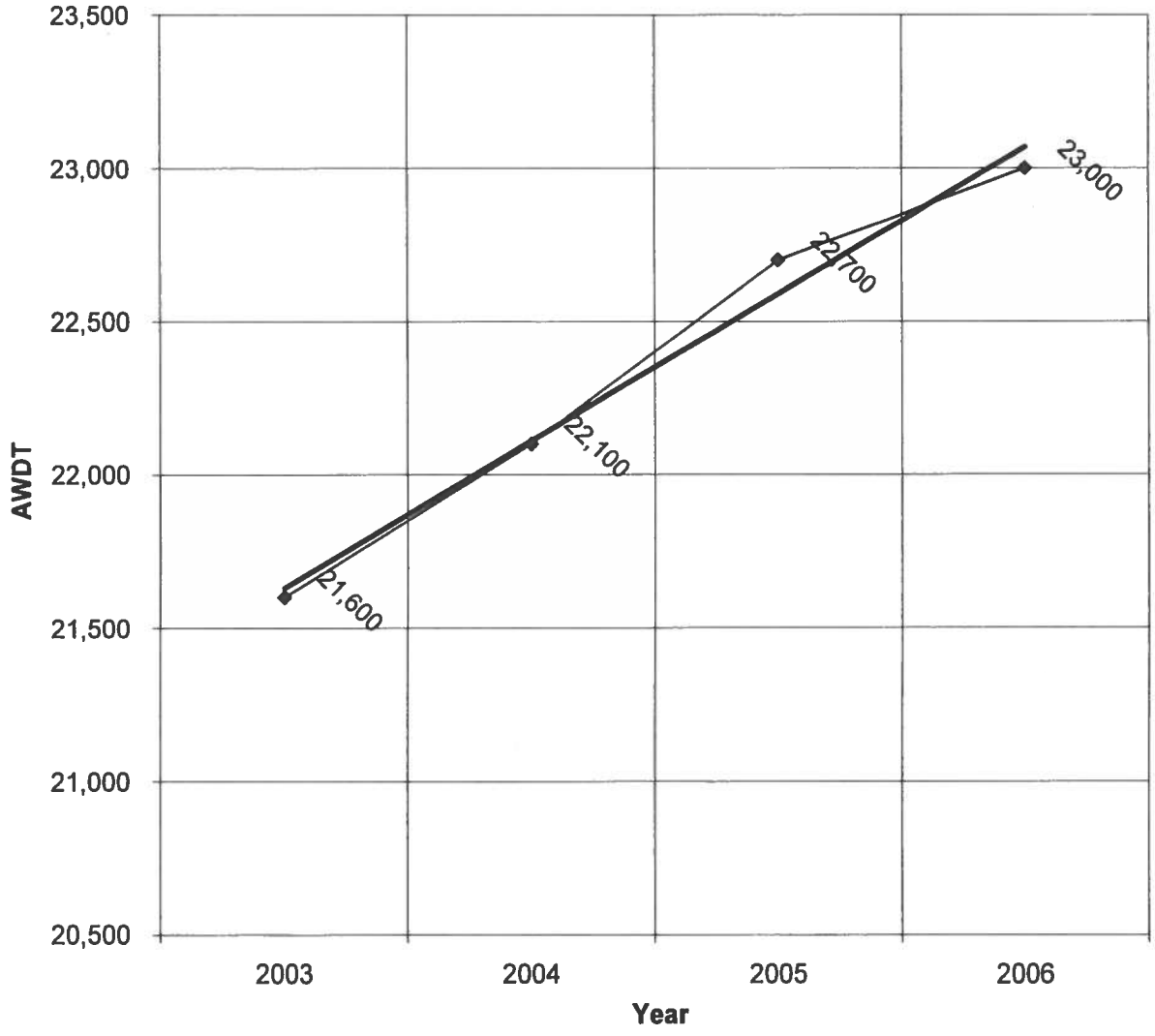
Traffic Flow Table for Central / Unser Commercial / Office Development (NW Corner)

	2002	2003	2004	2005	2006
Central Ave. West of Unser Blvd.	17,700	21,600	22,100	22,700	23,000
Central Ave. East of Unser Blvd.	21,200	17,300	17,700	18,200	24,300
Unser Blvd. North of Central Ave.	12,900	18,700	19,100	19,600	19,900
Unser Blvd. South of Central Ave.	10,500	10,700	8,900	9,100	9,300
Unser Blvd. North of Bluewater Rd.	17,200	18,200	18,600	33,800	31,000
Unser Blvd. South of Bluewater Rd.	12,900	18,700	19,100	19,600	19,900
Bluewater Rd. East of Unser Blvd.	3,600	3,700	5,600	5,700	5,800
Bridge Blvd. West of Unser Blvd.	1,700	5,100	5,200	5,300	2,600
Bridge Blvd. East of Unser Blvd.	7,100	7,300	7,600	7,800	7,900
Unser Blvd. North of Bridge Blvd.	10,500	10,700	8,900	9,100	9,300

Growth Chart for Central Ave. West of Unser Blvd.



Annual Increase in Volume - 480 vehicles/day

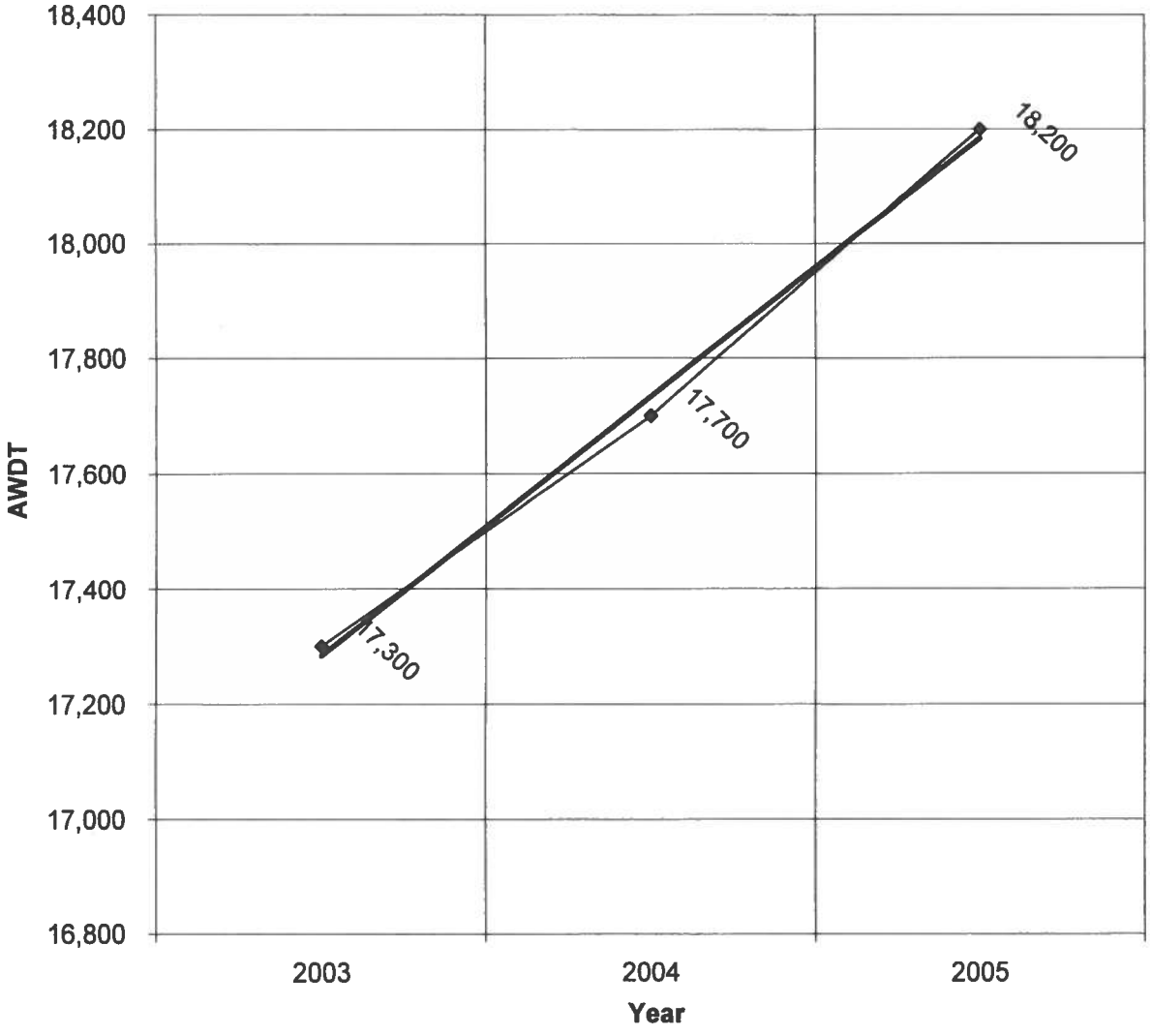
Rate of Increase - 480 / 23,000

Growth Rate = 2.09%

Use 2.1% Growth Rate

$y = 480x + 21150$
$R^2 = 0.9846$

Growth Chart for Central Ave. East of Unser Blvd.



Annual Increase in Volume - 450 vehicles/day

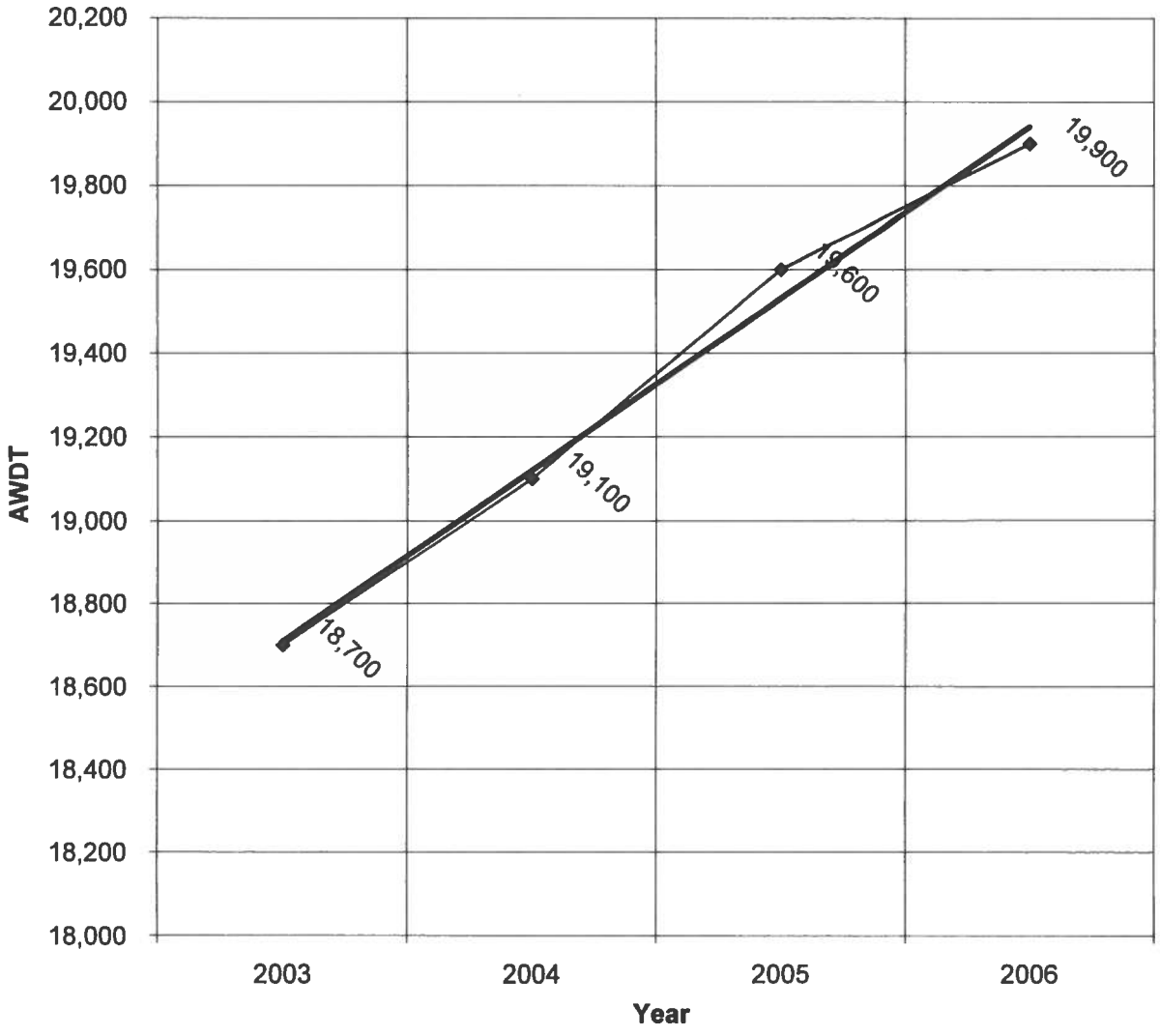
Rate of Increase - 450 / 18,200

Growth Rate = 2.47%

Use 2.5% Growth Rate

$y = 450x + 16833$
$R^2 = 0.9959$

Growth Chart for Unser Blvd. North of Central Ave.



Annual Increase in Volume - 410 vehicles/day

Rate of Increase - 410 / 19,900

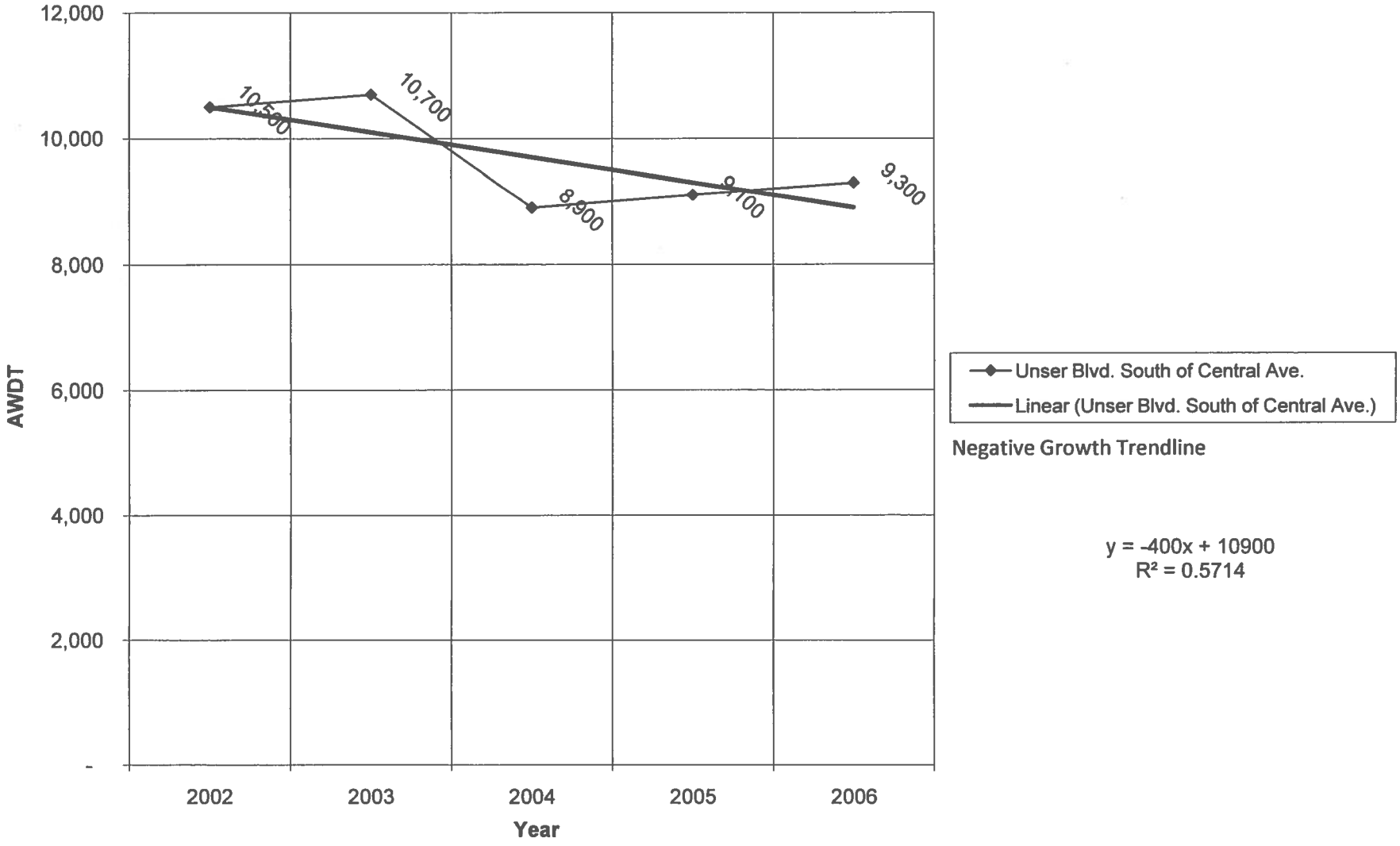
Growth Rate = 2.06%

Use 2.1% Growth Rate

$y = 410x + 18300$

$R^2 = 0.9917$

Growth Chart for Unser Blvd. South of Central Ave.

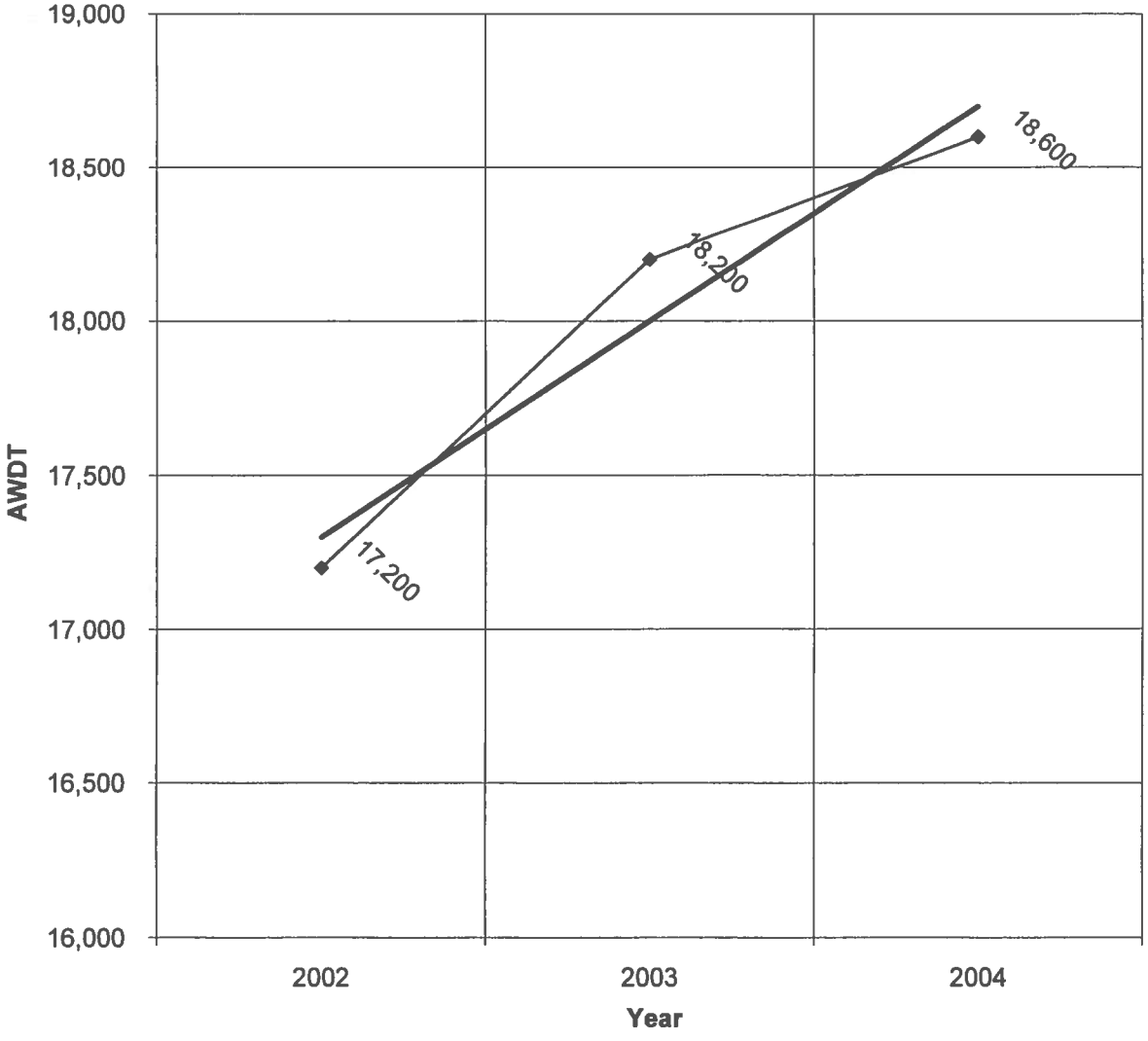


Negative Growth Trendline

$y = -400x + 10900$

$R^2 = 0.5714$

Growth Chart for Unser Blvd. North of Bluewater Rd.



Annual Increase in Volume - 700 vehicles/day

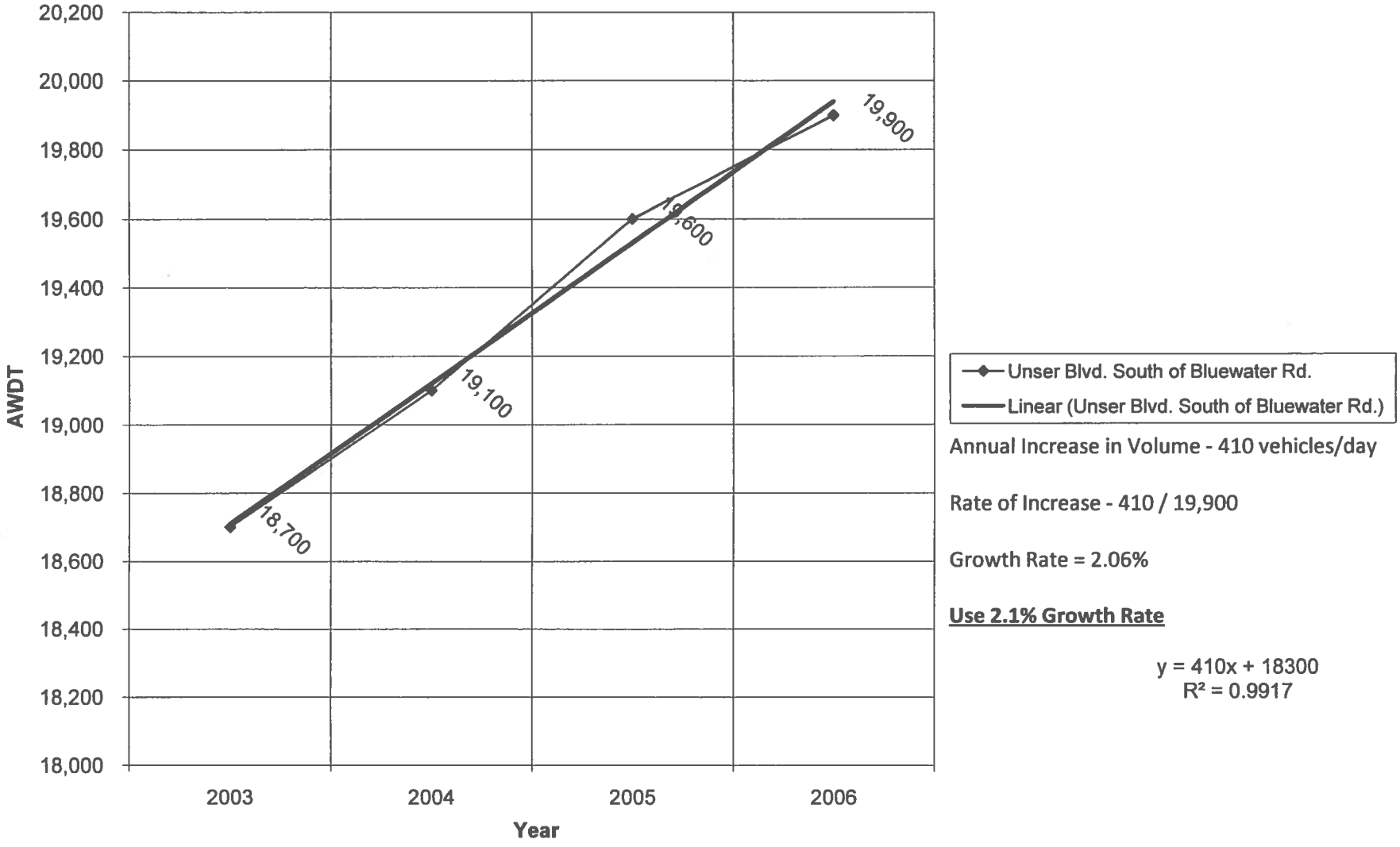
Rate of Increase - 700 / 18,600

Growth Rate = 3.76%

Use 3.8% Growth Rate

$y = 700x + 16600$
$R^2 = 0.9423$

Growth Chart for Unser Blvd. South of Bluewater Rd.



Annual Increase in Volume - 410 vehicles/day

Rate of Increase - 410 / 19,900

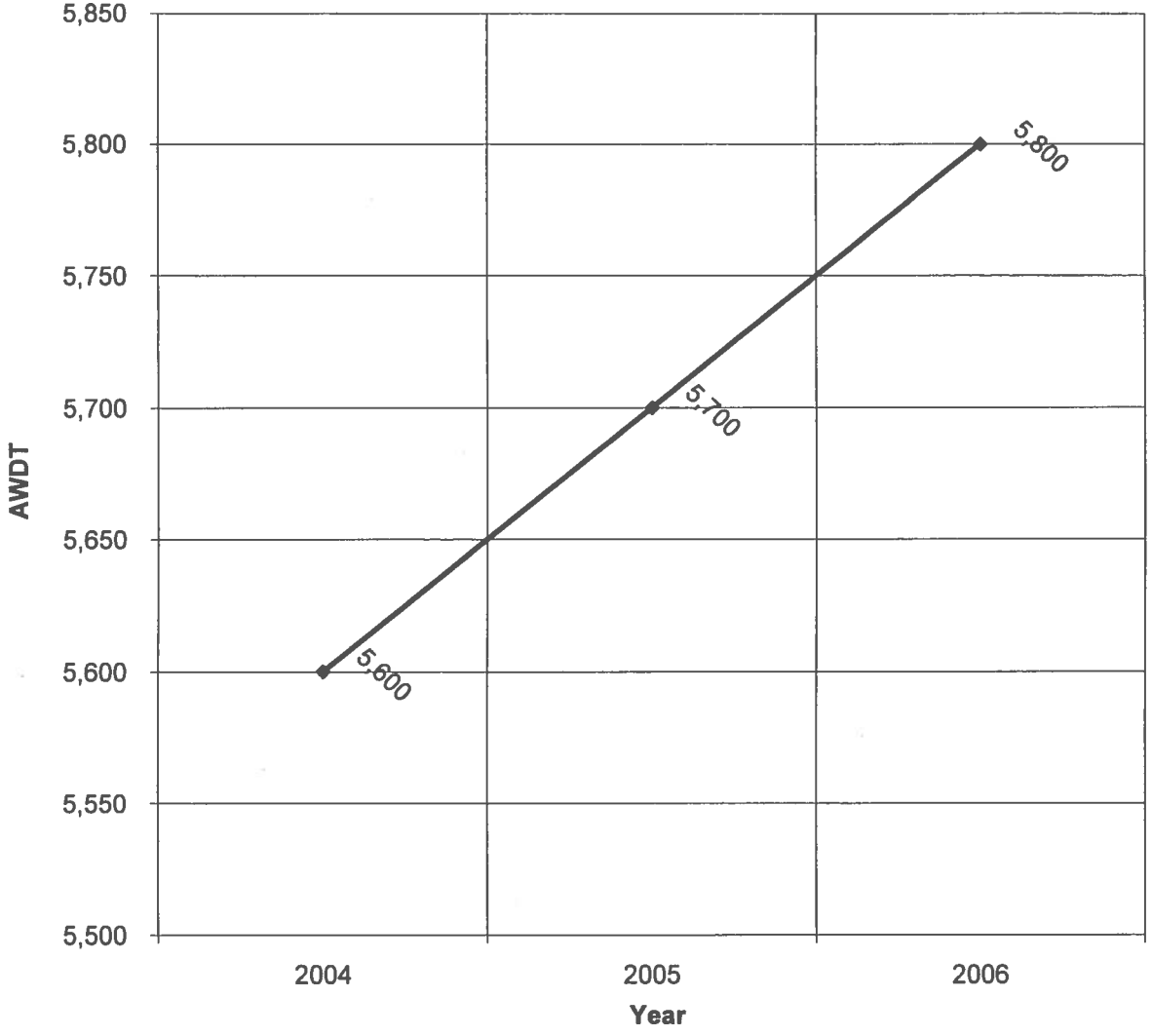
Growth Rate = 2.06%

Use 2.1% Growth Rate

$y = 410x + 18300$

$R^2 = 0.9917$

Growth Chart for Bluewater Rd. East of Unser Blvd.



Annual Increase in Volume - 100 vehicles/day

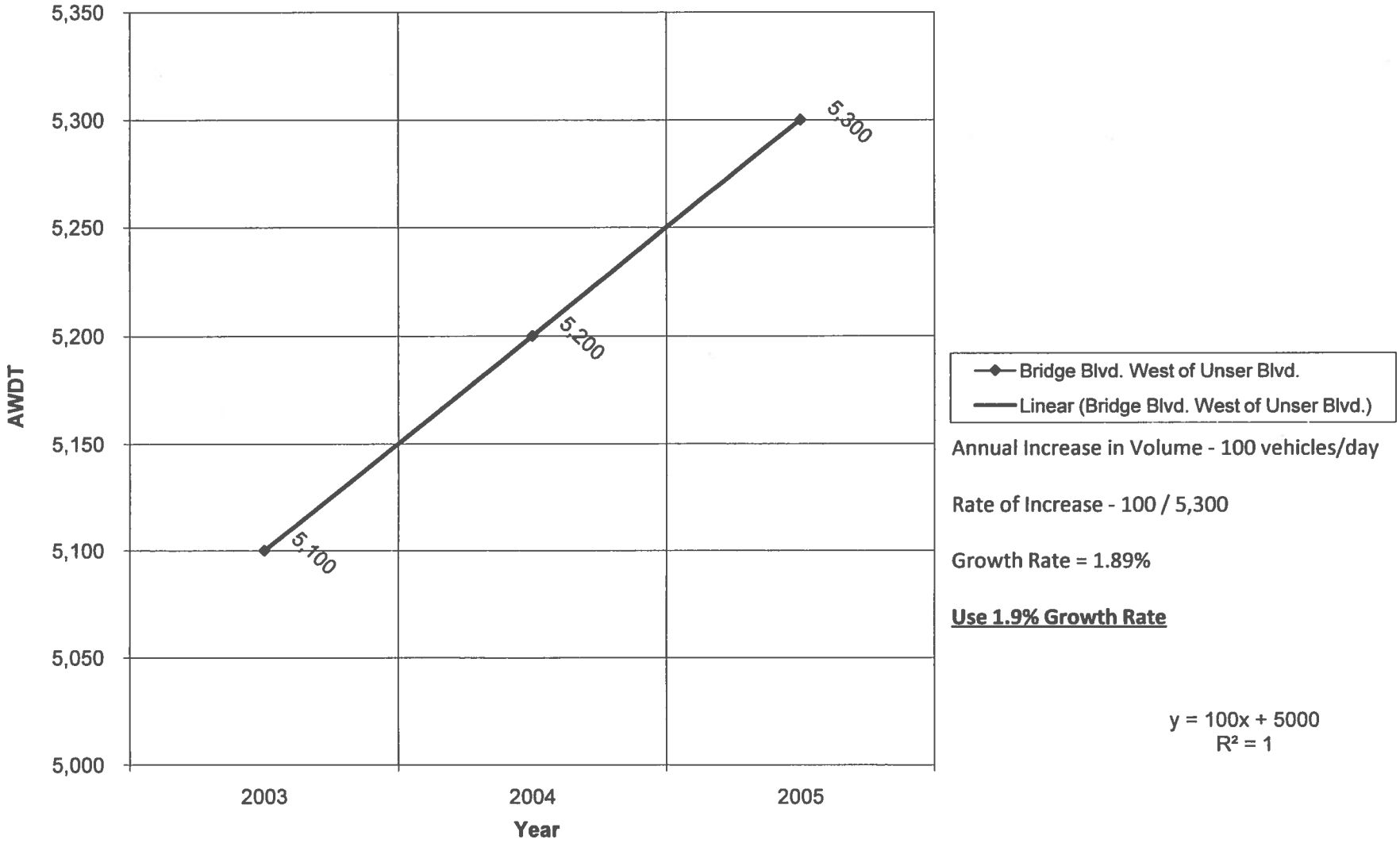
Rate of Increase - 100 / 5,800

Growth Rate = 1.72%

Use 1.7% Growth Rate

$y = 100x + 5500$
$R^2 = 1$

Growth Chart for Bridge Blvd. West of Unser Blvd.



Annual Increase in Volume - 100 vehicles/day

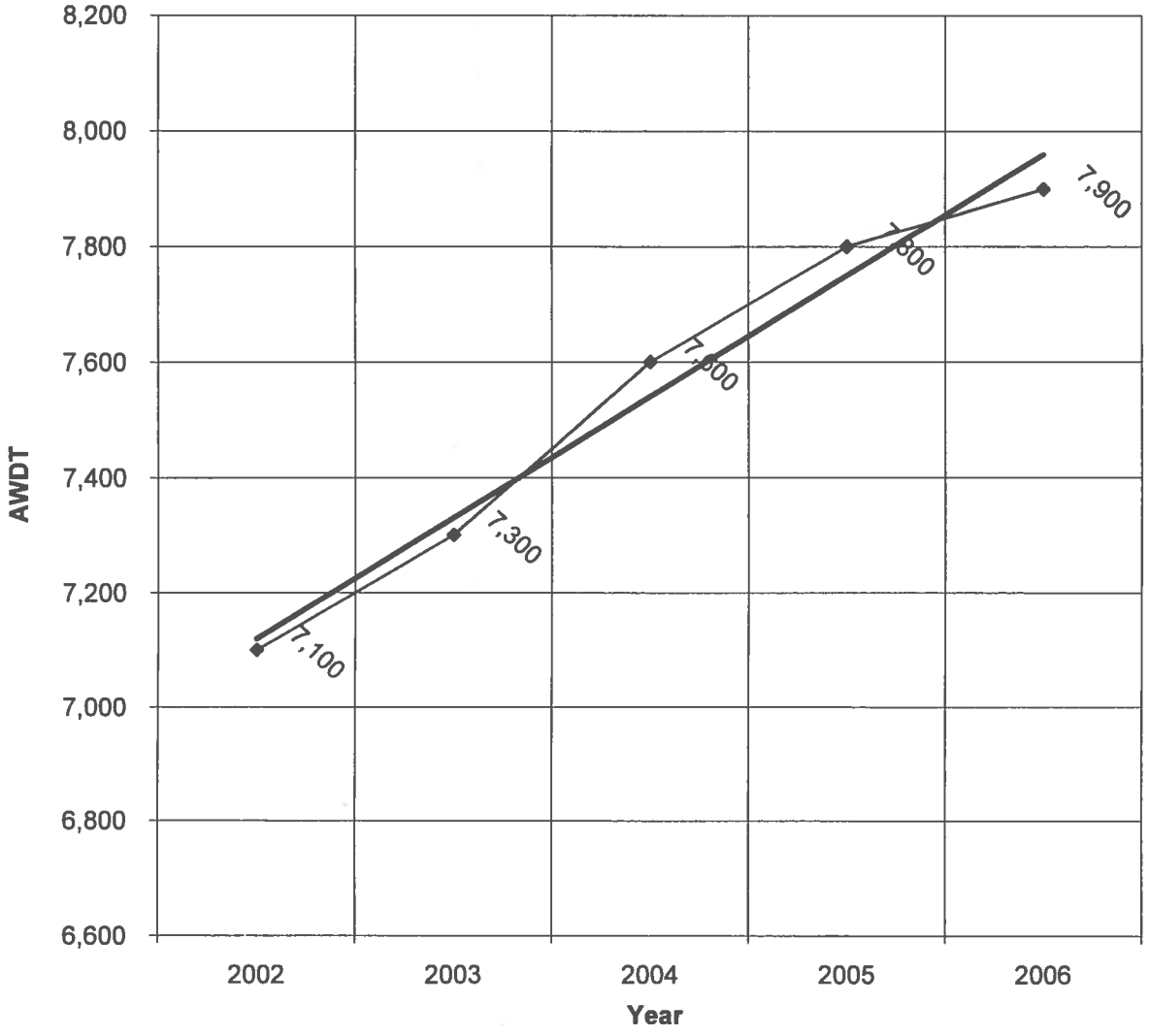
Rate of Increase - 100 / 5,300

Growth Rate = 1.89%

Use 1.9% Growth Rate

$y = 100x + 5000$
$R^2 = 1$

Growth Chart for Bridge Blvd. East of Unser Blvd.



Annual Increase in Volume - 210 vehicles/day

Rate of Increase - 210 / 7,900

Growth Rate = 2.65%

Use 2.6% Growth Rate

$y = 210x + 6910$
$R^2 = 0.9757$

Central / Unser Commercial / Office Development (NW Corner)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2012) - 100% Development

INTERSECTION: **Summary**

Bluewater Rd. / Unser Blvd. (1) 3.0% Truck

	0.10			0.10			0.10			0.10			PHF
	Eastbound (Bluewater Rd.)			Westbound (Bluewater Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	107	60	30	39	25	77	33	1,249	112	215	805	84	
2012 (NO BUILD - A.M.)	*126*	*64*	*32*	*41*	*27*	*82*	*39*	*1,681*	*120*	*244*	*1,185*	*104*	
2012 (BUILD - A.M.)	***126***	***64***	***40***	***46***	***27***	***82***	***44***	***1,695***	***123***	***244***	***1,206***	***104***	

	0.10			0.10			0.10			0.10			PHF
	Eastbound (Bluewater Rd.)			Westbound (Bluewater Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	205	49	79	71	42	190	40	856	52	133	1,267	90	
2012 (NO BUILD - P.M.)	*241*	*53*	*84*	*86*	*45*	*209*	*46*	*1,527*	*58*	*151*	*2,005*	*125*	
2012 (BUILD - P.M.)	***241***	***53***	***98***	***94***	***45***	***209***	***61***	***1,566***	***67***	***151***	***2,042***	***125***	

Sarracino Pl. / Unser Blvd. (2) 3.0% Truck

	0.75			0.75			0.91			0.86			PHF
	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	18	0	10	0	0	0	27	1,341	1	2	791	19	
2012 (NO BUILD - A.M.)	*20*	*0*	*12*	*0*	*0*	*0*	*29*	*1,451*	*1*	*2*	*856*	*21*	
2012 (BUILD - A.M.)	***42***	***0***	***101***	***0***	***0***	***0***	***163***	***1,451***	***1***	***2***	***856***	***55***	

	0.75			0.75			0.92			0.89			PHF
	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	13	0	22	1	0	1	13	876	3	2	1,248	8	
2012 (NO BUILD - P.M.)	*15*	*0*	*24*	*1*	*0*	*1*	*14*	*948*	*3*	*2*	*1,350*	*9*	
2012 (BUILD - P.M.)	***78***	***0***	***275***	***1***	***0***	***1***	***252***	***948***	***3***	***2***	***1,350***	***69***	

Central Ave. / Unser Blvd. (3) 3.0% Truck

	0.88			0.91			0.87			0.90			PHF
	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	476	675	3	21	240	132	9	632	72	231	324	211	
2012 (NO BUILD - A.M.)	*570*	*781*	*6*	*49*	*273*	*236*	*24*	*873*	*194*	*319*	*511*	*268*	
2012 (BUILD - A.M.)	***582***	***781***	***6***	***49***	***279***	***268***	***24***	***962***	***194***	***341***	***570***	***276***	

	0.92			0.95			0.94			0.98			PHF
	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	249	493	12	97	713	167	17	366	72	188	503	443	
2012 (NO BUILD - P.M.)	*352*	*534*	*20*	*141*	*849*	*349*	*27*	*756*	*148*	*368*	*882*	*565*	
2012 (BUILD - P.M.)	***373***	***534***	***20***	***141***	***859***	***407***	***27***	***915***	***148***	***429***	***1,050***	***587***	

Central Ave. / Volcano/Frntg Rd (4) 3.0% Truck

	0.94			0.83			0.75			0.75			PHF
	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Volcano/Frntg Rd)			Southbound (Volcano/Frntg Rd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	5	1,195	0	0	503	47	0	0	0	113	0	12	
2012 (NO BUILD - A.M.)	*6*	*1,293*	*0*	*0*	*552*	*52*	*0*	*0*	*0*	*127*	*0*	*14*	
2012 (BUILD - A.M.)	***18***	***1,305***	***0***	***0***	***552***	***58***	***0***	***0***	***0***	***131***	***0***	***22***	

	0.88			0.95			0.75			0.75			PHF
	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Volcano/Frntg Rd)			Southbound (Volcano/Frntg Rd)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	4	636	0	2	1,226	55	0	0	0	37	0	5	
2012 (NO BUILD - P.M.)	*4*	*688*	*0*	*2*	*1,346*	*61*	*0*	*0*	*0*	*41*	*0*	*6*	
2012 (BUILD - P.M.)	***25***	***709***	***0***	***2***	***1,346***	***71***	***0***	***0***	***0***	***52***	***0***	***28***	

Bridge Blvd. / Unser Blvd. (5) 3.0% Truck

	0.81			0.95			0.91			0.89			PHF
	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	146	163	17	13	59	156	14	458	22	158	217	18	
2012 (NO BUILD - A.M.)	*157*	*175*	*18*	*14*	*65*	*171*	*15*	*495*	*24*	*171*	*234*	*19*	
2012 (BUILD - A.M.)	***161***	***175***	***18***	***14***	***65***	***198***	***15***	***553***	***24***	***189***	***273***	***22***	

	0.94			0.93			0.90			0.96			PHF
	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2008)	83	119	27	48	188	119	19	247	11	130	450	65	
2012 (NO BUILD - P.M.)	*89*	*128*	*29*	*53*	*207*	*131*	*20*	*267*	*12*	*141*	*486*	*70*	
2012 (BUILD - P.M.)	***96***	***128***	***29***	***53***	***207***	***180***	***20***	***371***	***12***	***192***	***595***	***77***	

Central / Unser Commercial / Office Development (NW Corner)

Projected Turning Movements Worksheet

Bluewater Rd. / Unser Blvd.

INTERSECTION: E-W Street: **Bluewater Rd.** (1)

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

Year of Existing Counts **2005**

Implementation Year **2012**

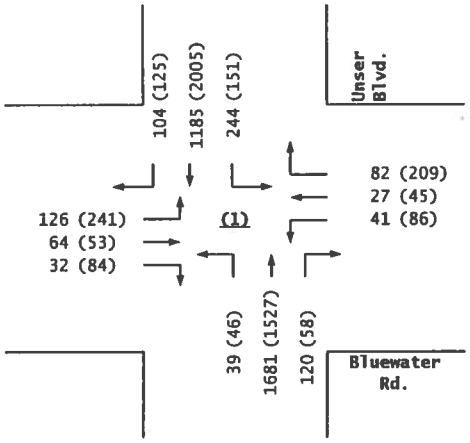
Growth Rates	1.70%			1.70%			2.10%			3.80%		
	Eastbound (Bluewater Rd.)			Westbound (Bluewater Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	102	57	29	37	24	73	31	1,175	105	193	723	75
Background Traffic Growth	12	7	3	4	3	9	5	173	15	51	192	20
Subtotal	114	64	32	41	27	82	36	1,348	120	244	915	95
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	3	78	0	0	77	0
Unser Town Center Trips	12	0	0	0	0	0	0	255	0	0	193	9
Subtotal (NO BUILD - A.M.)	***126***	***64***	***32***	***41***	***27***	***82***	***39***	***1,681***	***120***	***244***	***1,185***	***104***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*4.33%*	*2.55%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*11.29%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*4.33%*	*11.29%*	*2.55%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	8	5	0	0	5	14	3	0	21	0
Subtotal AM Pk Hr. BUILD Volumes	**126**	**64**	**40**	**46**	**27**	**82**	**44**	**1,695**	**123**	**244**	**1,206**	**104**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**126**	**64**	**40**	**46**	**27**	**82**	**44**	**1,695**	**123**	**244**	**1,206**	**104**

	Eastbound (Bluewater Rd.)			Westbound (Bluewater Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	195	47	75	68	40	181	38	805	49	119	1,137	81
Background Traffic Growth	23	6	9	8	5	22	6	118	7	32	302	22
Subtotal	218	53	84	76	45	203	44	923	56	151	1,439	103
Southwest Mesa Subdivision Trips	0	0	0	10	0	6	2	140	2	0	104	0
Unser Town Center Trips	23	0	0	0	0	0	0	464	0	0	462	22
Subtotal (NO BUILD - P.M.)	***241***	***53***	***84***	***86***	***45***	***209***	***46***	***1,527***	***58***	***151***	***2,005***	***125***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*4.33%*	*2.55%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*11.29%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*4.33%*	*11.29%*	*2.55%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	14	8	0	0	15	39	9	0	37	0
Subtotal PM Pk Hr. BUILD Volumes	**241**	**53**	**98**	**94**	**45**	**209**	**61**	**1,566**	**67**	**151**	**2,042**	**125**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**241**	**53**	**98**	**94**	**45**	**209**	**61**	**1,566**	**67**	**151**	**2,042**	**125**

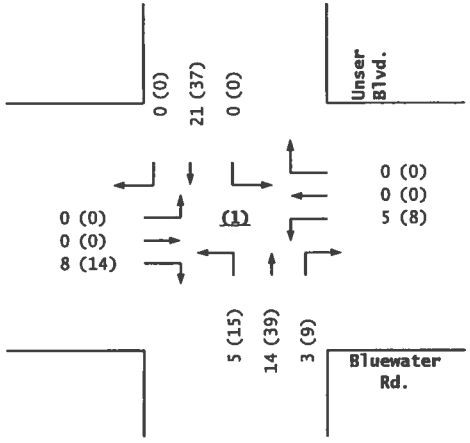
	Entering	Exiting		
Number of Commercial Trips Generated	**185**	**123**	A.M.	100% Commercial Development
	329	**347**	P.M.	

	Eastbound (Bluewater Rd.)			Westbound (Bluewater Rd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2008 AM Peak Hr. Volumes	107	60	30	39	25	77	33	1,249	112	215	805	84
2008 PM Peak Hr. Volumes	205	49	79	71	42	190	40	856	52	133	1,267	90

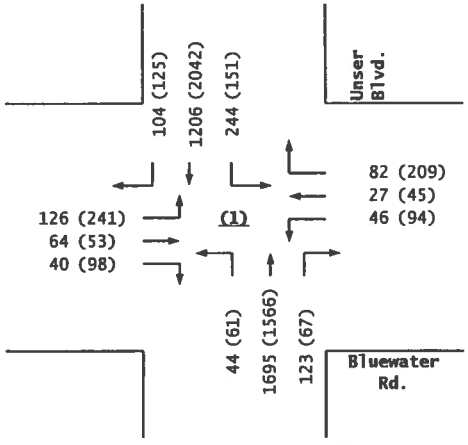
2012
NO BUILD



Trips



2012
BUILD



Bluewater Rd. / Unser Blvd.

Central / Unser Commercial / Office Development (NW Corner)

Projected Turning Movements Worksheet

Sarracino Pl. / Unser Blvd.

INTERSECTION: E-W Street: **Sarracino Pl.** (2)

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

Year of Existing Counts 2007

Implementation Year **2012**

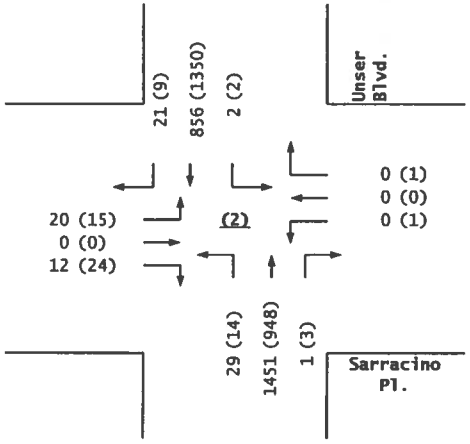
Growth Rates	3.00%			3.00%			2.10%			2.10%		
	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	17	0	10	0	0	0	26	1,313	1	2	775	19
Background Traffic Growth	3	0	2	0	0	0	3	138	0	0	81	2
Subtotal	20	0	12	0	0	0	29	1,451	1	2	856	21
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***20***	***0***	***12***	***0***	***0***	***0***	***29***	***1,451***	***1***	***2***	***856***	***21***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*72.30%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*18.17%*
Percent Commercial Trips Generated(Exiting)	*18.17%*	*0.00%*	*72.30%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	22	0	89	0	0	0	134	0	0	0	0	34
Subtotal AM Pk Hr. BUILD Volumes	**42**	**0**	**101**	**0**	**0**	**0**	**163**	**1,451**	**1**	**2**	**856**	**55**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**42**	**0**	**101**	**0**	**0**	**0**	**163**	**1,451**	**1**	**2**	**856**	**55**

	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	13	0	21	1	0	1	13	858	3	2	1,222	8
Background Traffic Growth	2	0	3	0	0	0	1	90	0	0	128	1
Subtotal	15	0	24	1	0	1	14	948	3	2	1,350	9
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***15***	***0***	***24***	***1***	***0***	***1***	***14***	***948***	***3***	***2***	***1,350***	***9***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*72.30%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*18.17%*
Percent Commercial Trips Generated(Exiting)	*18.17%*	*0.00%*	*72.30%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	63	0	251	0	0	0	238	0	0	0	0	60
Subtotal PM Pk Hr. BUILD Volumes	**78**	**0**	**275**	**1**	**0**	**1**	**252**	**948**	**3**	**2**	**1,350**	**69**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**78**	**0**	**275**	**1**	**0**	**1**	**252**	**948**	**3**	**2**	**1,350**	**69**

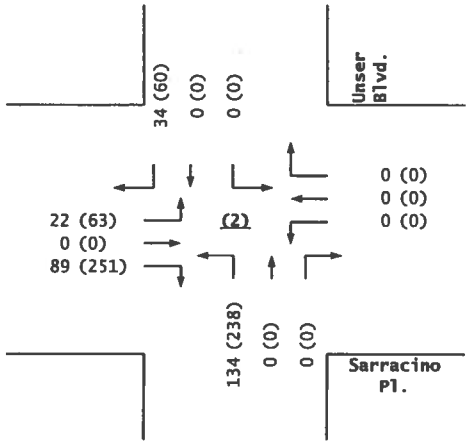
	Entering	Exiting		
Number of Commercial Trips Generated	**185**	**123**	A.M.	100% Commercial Development
	329	**347**	P.M.	

	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2008 AM Peak Hr. Volumes	18	0	10	0	0	0	27	1,341	1	2	791	19
2008 PM Peak Hr. Volumes	13	0	22	1	0	1	13	876	3	2	1,248	8

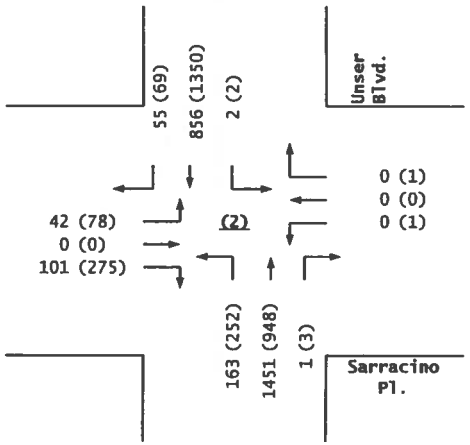
2012
NO BUILD



Trips

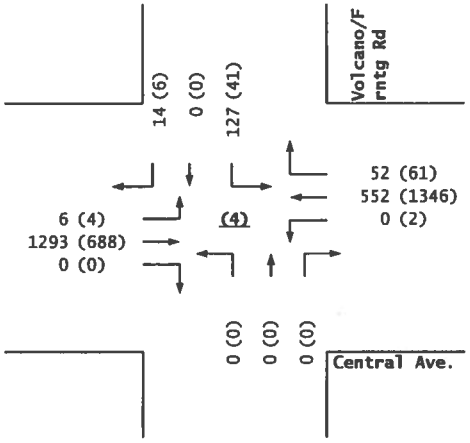


2012
BUILD

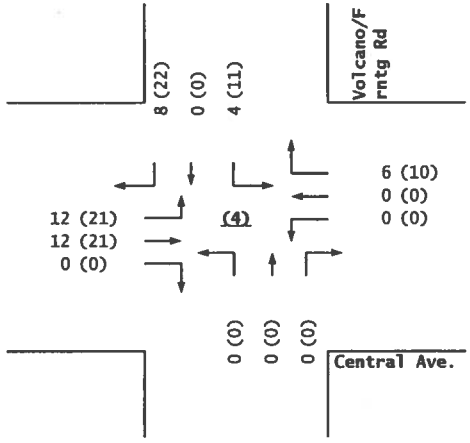


Sarracino Pl. / Unser Blvd.

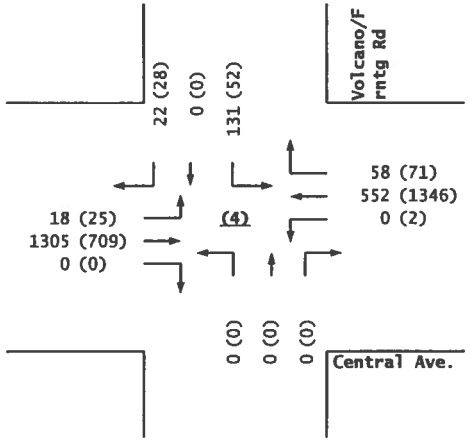
2012
NO BUILD



Trips



2012
BUILD



Central Ave. / Volcano/Frntg Rd

Central / Unser Commercial / Office Development (NW Corner)

Projected Turning Movements Worksheet

Bridge Blvd. / Unser Blvd.

INTERSECTION: E-W Street: **Bridge Blvd.** (5)

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

Year of Existing Counts **2006**

Implementation Year **2012**

Growth Rates	1.90%			2.60%			2.10%			2.10%		
	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	141	157	16	12	56	148	13	440	21	152	208	17
Background Traffic Growth	16	18	2	2	9	23	2	55	3	19	26	2
Subtotal	157	175	18	14	65	171	15	495	24	171	234	19
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***157***	***175***	***18***	***14***	***65***	***171***	***15***	***495***	***24***	***171***	***234***	***19***
Percent Commercial Trips Generated(Entering)	*2.05%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*0.00%*	*31.50%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*31.50%*	*2.05%*
Total Trips Generated	4	0	0	0	0	27	0	58	0	18	39	3
Subtotal AM Pk Hr. BUILD Volumes	**161**	**175**	**18**	**14**	**65**	**198**	**15**	**553**	**24**	**189**	**273**	**22**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**161**	**175**	**18**	**14**	**65**	**198**	**15**	**553**	**24**	**189**	**273**	**22**

	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	80	115	26	46	179	113	18	237	11	125	432	62
Background Traffic Growth	9	13	3	7	28	18	2	30	1	16	54	8
Subtotal	89	128	29	53	207	131	20	267	12	141	486	70
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***89***	***128***	***29***	***53***	***207***	***131***	***20***	***267***	***12***	***141***	***486***	***70***
Percent Commercial Trips Generated(Entering)	*2.05%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*0.00%*	*31.50%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*31.50%*	*2.05%*
Total Trips Generated	7	0	0	0	0	49	0	104	0	51	109	7
Subtotal PM Pk Hr. BUILD Volumes	**96**	**128**	**29**	**53**	**207**	**180**	**20**	**371**	**12**	**192**	**595**	**77**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**96**	**128**	**29**	**53**	**207**	**180**	**20**	**371**	**12**	**192**	**595**	**77**

	Entering	Exiting		
Number of Commercial Trips Generated	**185**	**123**	A.M.	100% Commercial Development
	329	**347**	P.M.	

	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2008 AM Peak Hr. Volumes	146	163	17	13	59	156	14	458	22	158	217	18
2008 PM Peak Hr. Volumes	83	119	27	48	188	119	19	247	11	130	450	65

Central / Unser Commercial / Office Development (NW Corner)

Projected Turning Movements Worksheet

Central Ave. / Volcano/Frntg Rd

INTERSECTION: E-W Street: **Central Ave.** (4)

N-S Street: **Volcano/Frntg Rd**

Year of Existing Counts 2007

Implementation Year **2012**

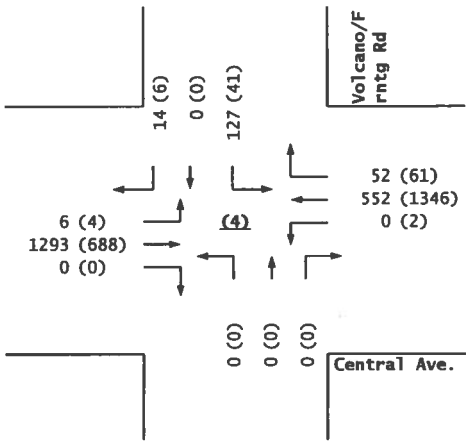
Growth Rates	2.10%			2.50%			3.00%			3.00%		
	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Volcano/Frntg Rd)			Southbound (Volcano/Frntg Rd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	5	1,170	0	0	491	46	0	0	0	110	0	12
Background Traffic Growth	1	123	0	0	61	6	0	0	0	17	0	2
Subtotal	6	1,293	0	0	552	52	0	0	0	127	0	14
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***6***	***1,293***	***0***	***0***	***552***	***52***	***0***	***0***	***0***	***127***	***0***	***14***
Percent Commercial Trips Generated(Entering)	*6.44%*	*6.45%*	*0.00%*	*0.00%*	*0.00%*	*3.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*3.09%*	*0.00%*	*6.44%*
Total Trips Generated	12	12	0	0	0	6	0	0	0	4	0	8
Subtotal AM Pk Hr. BUILD Volumes	**18**	**1,305**	**0**	**0**	**552**	**58**	**0**	**0**	**0**	**131**	**0**	**22**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**18**	**1,305**	**0**	**0**	**552**	**58**	**0**	**0**	**0**	**131**	**0**	**22**

	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Volcano/Frntg Rd)			Southbound (Volcano/Frntg Rd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	4	623	0	2	1,196	54	0	0	0	36	0	5
Background Traffic Growth	0	65	0	0	150	7	0	0	0	5	0	1
Subtotal	4	688	0	2	1,346	61	0	0	0	41	0	6
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***4***	***688***	***0***	***2***	***1,346***	***61***	***0***	***0***	***0***	***41***	***0***	***6***
Percent Commercial Trips Generated(Entering)	*6.44%*	*6.45%*	*0.00%*	*0.00%*	*0.00%*	*3.09%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*3.09%*	*0.00%*	*6.44%*
Total Trips Generated	21	21	0	0	0	10	0	0	0	11	0	22
Subtotal PM Pk Hr. BUILD Volumes	**25**	**709**	**0**	**2**	**1,346**	**71**	**0**	**0**	**0**	**52**	**0**	**28**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**25**	**709**	**0**	**2**	**1,346**	**71**	**0**	**0**	**0**	**52**	**0**	**28**

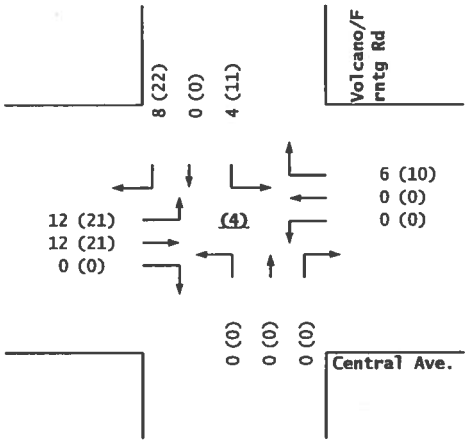
	Entering	Exiting		
Number of Commercial Trips Generated	**185**	**123**	A.M.	100% Commercial Development
	329	**347**	P.M.	

	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Volcano/Frntg Rd)			Southbound (Volcano/Frntg Rd)		
2008 AM Peak Hr. Volumes	5	1195	0	0	503	47	0	0	0	113	0	12
2008 PM Peak Hr. Volumes	4	636	0	2	1,226	55	0	0	0	37	0	5

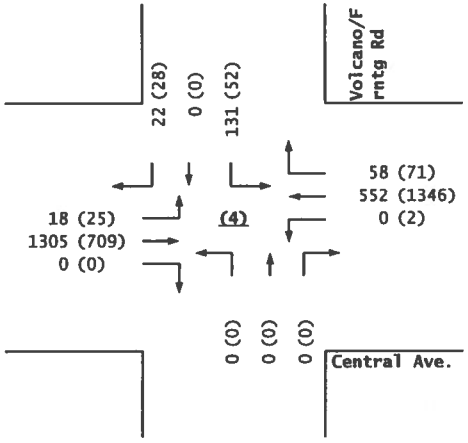
2012
NO BUILD



Trips



2012
BUILD



Central Ave. / Volcano/Frntg Rd

Central / Unser Commercial / Office Development (NW Corner)

Projected Turning Movements Worksheet

Bridge Blvd. / Unser Blvd.

INTERSECTION: E-W Street: **Bridge Blvd.** (5)

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

Year of Existing Counts: 2006

Implementation Year: **2012**

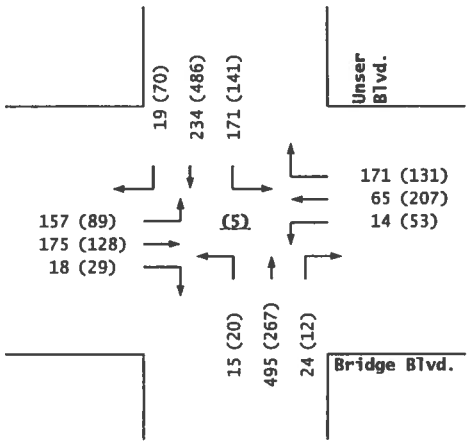
Growth Rates	1.90%			2.60%			2.10%			2.10%		
	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	141	157	16	12	56	148	13	440	21	152	208	17
Background Traffic Growth	16	18	2	2	9	23	2	55	3	19	26	2
Subtotal	157	175	18	14	65	171	15	495	24	171	234	19
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***157***	***175***	***18***	***14***	***65***	***171***	***15***	***495***	***24***	***171***	***234***	***19***
Percent Commercial Trips Generated(Entering)	*2.05%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*0.00%*	*31.50%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*31.50%*	*2.05%*
Total Trips Generated	4	0	0	0	0	27	0	58	0	18	39	3
Subtotal AM Pk Hr. BUILD Volumes	**161**	**175**	**18**	**14**	**65**	**198**	**15**	**553**	**24**	**189**	**273**	**22**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total AM Peak Hour BUILD Volumes	**161**	**175**	**18**	**14**	**65**	**198**	**15**	**553**	**24**	**189**	**273**	**22**

	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	80	115	26	46	179	113	18	237	11	125	432	62
Background Traffic Growth	9	13	3	7	28	18	2	30	1	16	54	8
Subtotal	89	128	29	53	207	131	20	267	12	141	486	70
Southwest Mesa Subdivision Trips	0	0	0	0	0	0	0	0	0	0	0	0
Unser Town Center Trips	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***89***	***128***	***29***	***53***	***207***	***131***	***20***	***267***	***12***	***141***	***486***	***70***
Percent Commercial Trips Generated(Entering)	*2.05%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*0.00%*	*31.50%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*14.77%*	*31.50%*	*2.05%*
Total Trips Generated	7	0	0	0	0	49	0	104	0	51	109	7
Subtotal PM Pk Hr. BUILD Volumes	**96**	**128**	**29**	**53**	**207**	**180**	**20**	**371**	**12**	**192**	**595**	**77**
Pass-by Trip Adjustments	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total PM Peak Hour BUILD Volumes	**96**	**128**	**29**	**53**	**207**	**180**	**20**	**371**	**12**	**192**	**595**	**77**

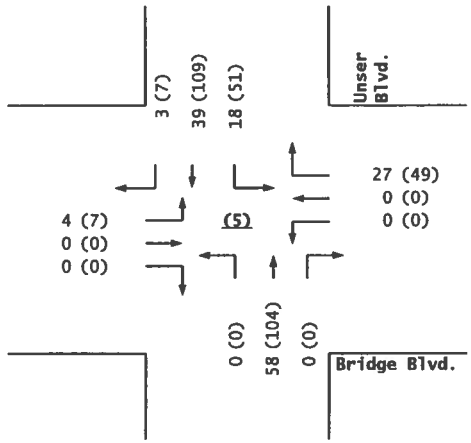
	Entering	Exiting		
Number of Commercial Trips Generated	**185**	**123**	A.M.	100% Commercial Development
	329	**347**	P.M.	

	Eastbound (Bridge Blvd.)			Westbound (Bridge Blvd.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
2008 AM Peak Hr. Volumes	146	163	17	13	59	156	14	458	22	158	217	18
2008 PM Peak Hr. Volumes	83	119	27	48	188	119	19	247	11	130	450	65

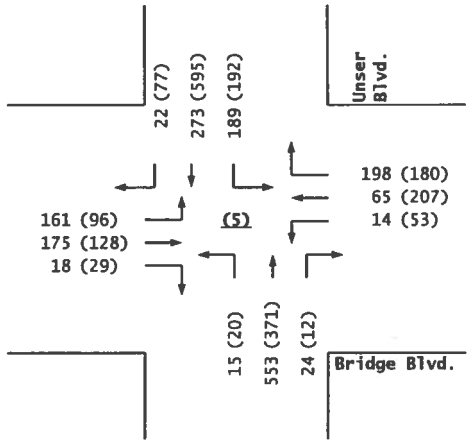
2012
NO BUILD



Trips

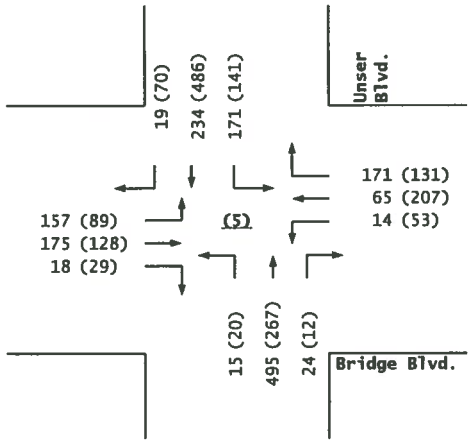


2012
BUILD

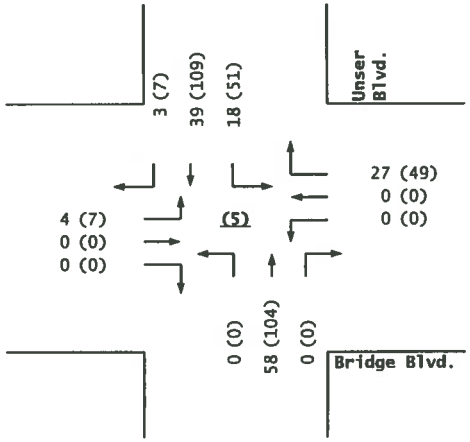


Bridge Blvd. / Unser Blvd.

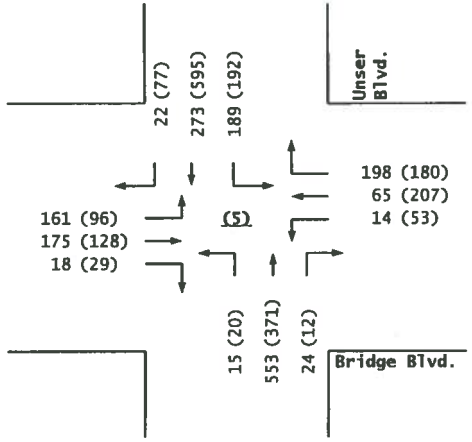
2012
NO BUILD



Trips



2012
BUILD

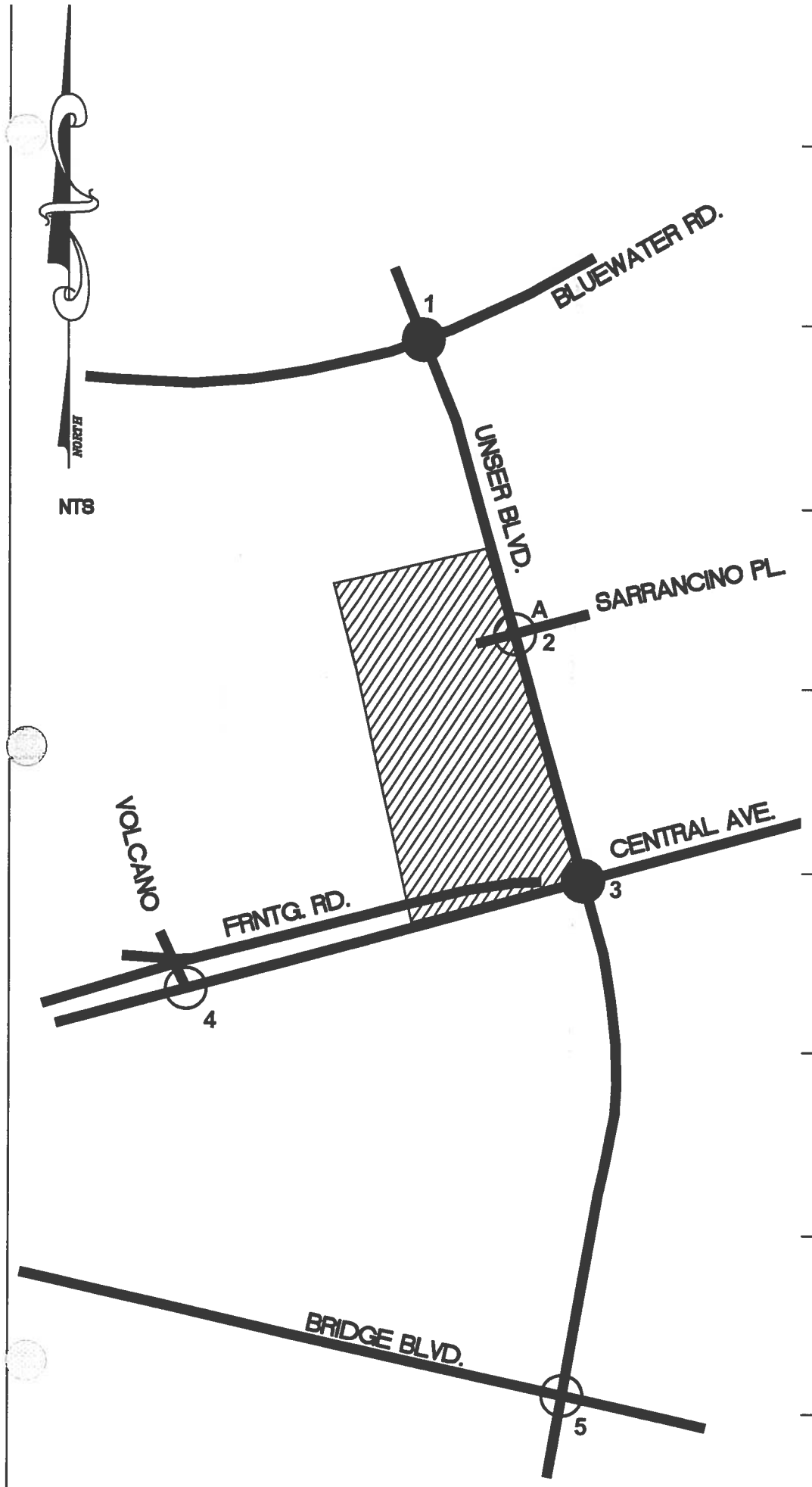


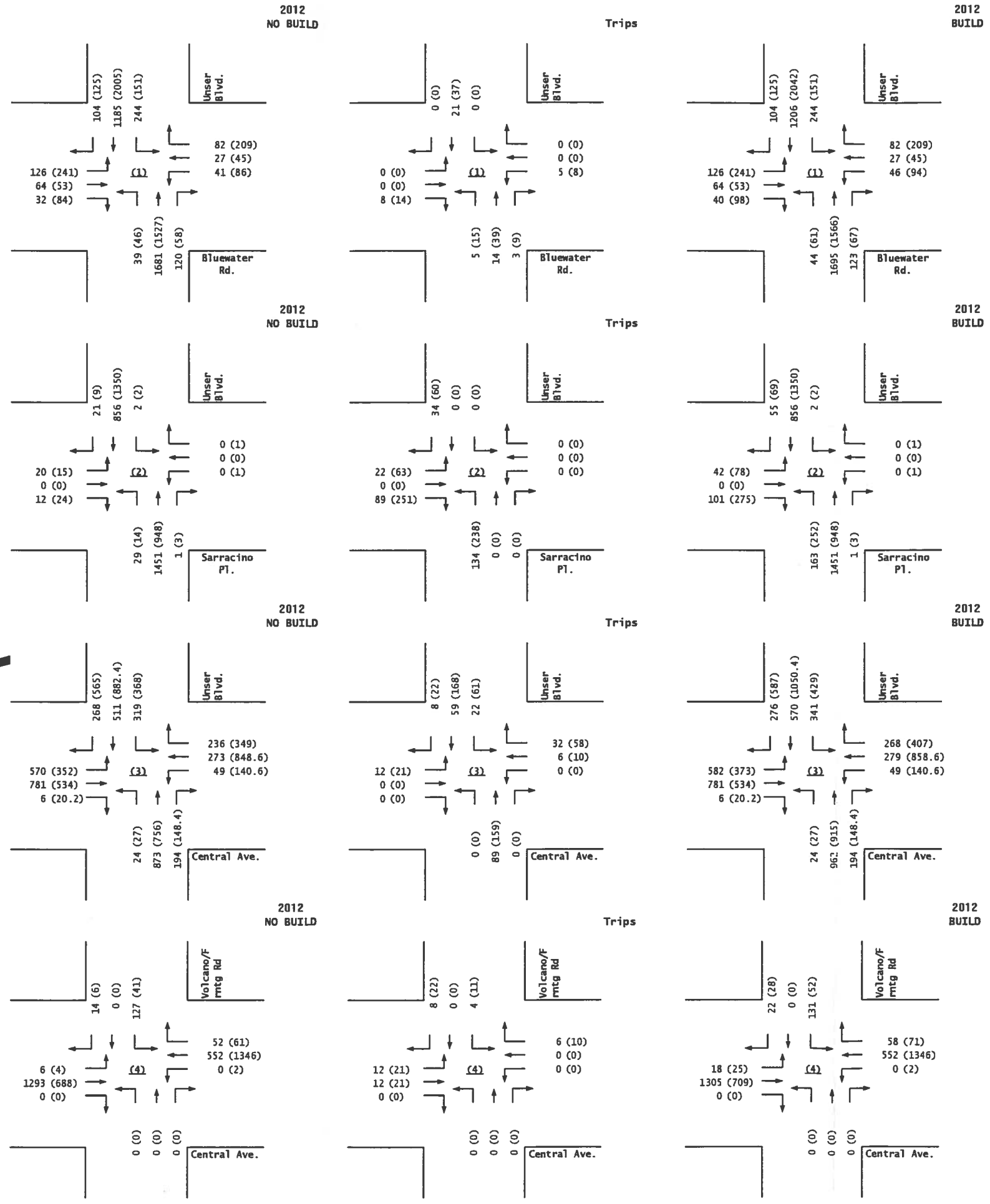
Bridge Blvd. / Unser Blvd.

Central / Unser Commercial / Office Development

NW Corner

2012 NO BUILD, Trips Generated, and BUILD Volumes - AM(PM)





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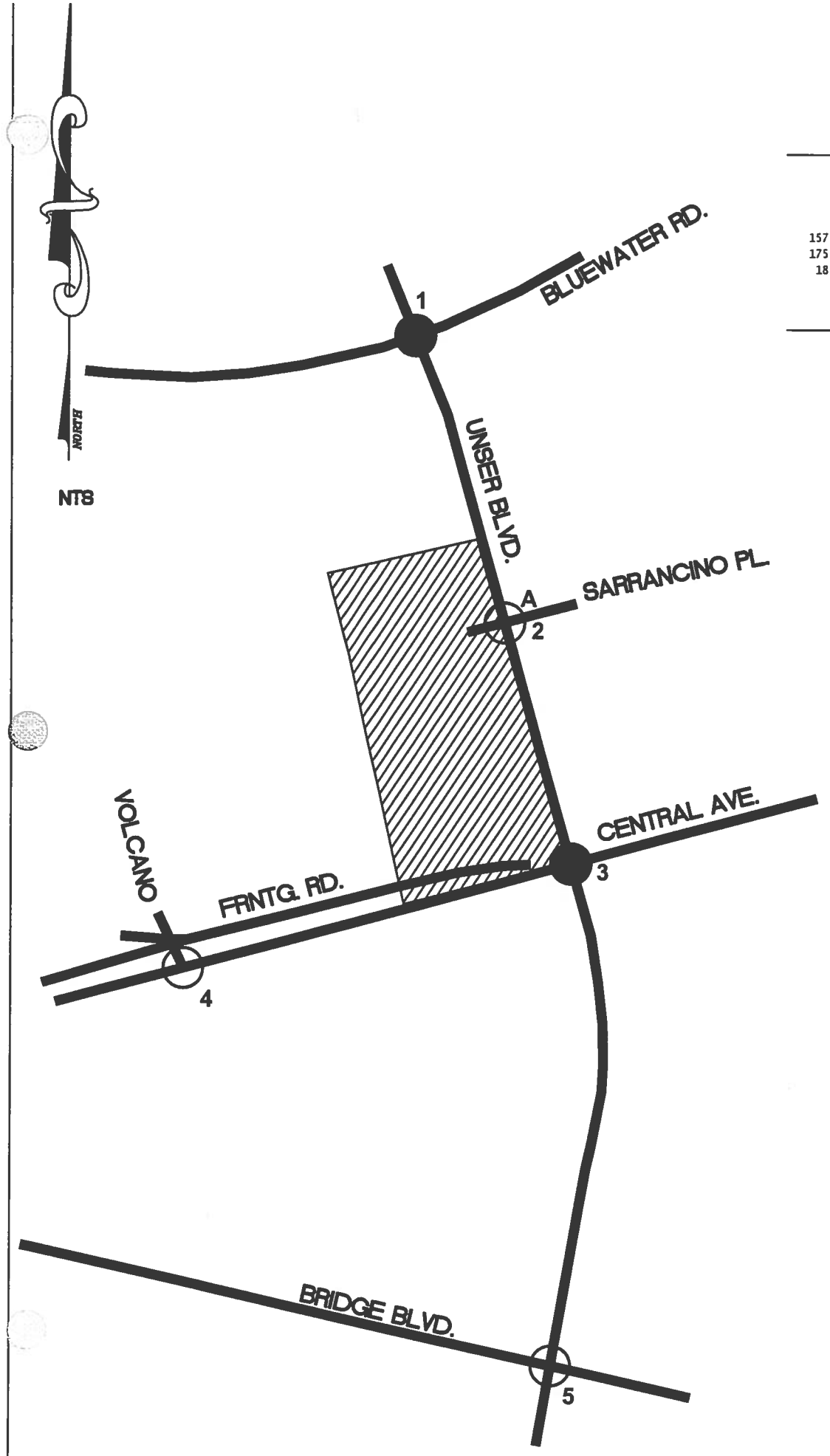
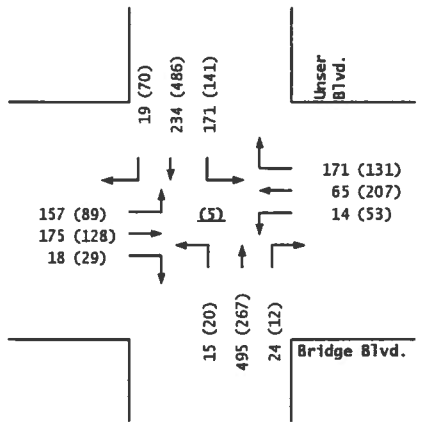
Central / Unser Commercial / Office Development

NW Corner

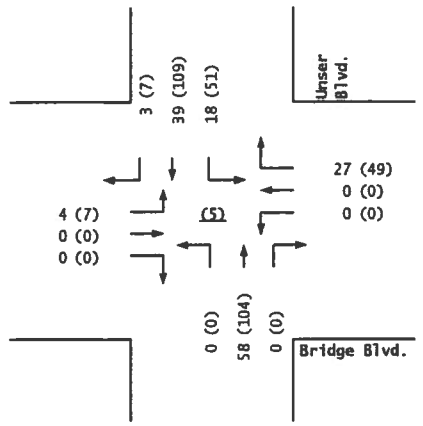
2012 NO BUILD, Trips Generated, and BUILD Volumes - AM(PM)



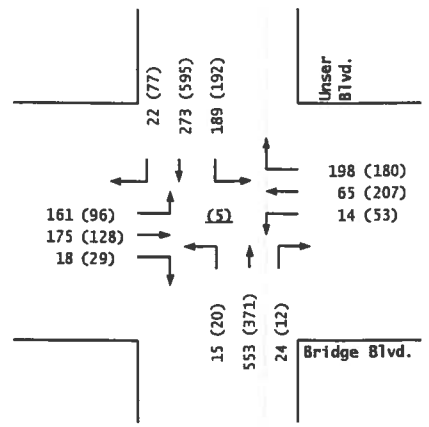
2012
NO BUILD



Trips



2012
BUILD



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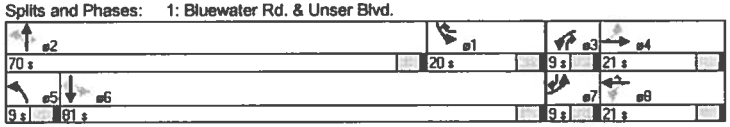
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	126	64	41	27	82	39	1681	120	244	1185	104
Turn Type	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	3	8	1	5	2	3	1	6	7
Permitted Phases	4		8		8	2		2	6		6
Detector Phases	7	4	3	8	1	5	2	3	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	9.0	21.0	9.0	21.0	20.0	9.0	70.0	9.0	20.0	81.0	9.0
Total Split (%)	7.5%	17.5%	7.5%	17.5%	16.7%	7.5%	58.3%	7.5%	16.7%	67.5%	7.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	Min	C-Min	Min
Act Effct Green (s)	17.7	12.3	17.4	12.1	27.6	70.9	70.9	76.2	79.7	79.7	89.2
Actuated g/C Ratio	0.15	0.10	0.14	0.10	0.23	0.59	0.59	0.64	0.66	0.66	0.74
v/c Ratio	0.63	0.54	0.24	0.16	0.23	0.19	0.88	0.13	0.91	0.55	0.09
Control Delay	58.2	52.3	43.5	49.2	18.9	9.7	18.5	1.3	75.6	12.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	52.3	43.5	49.2	18.9	9.7	18.5	1.3	75.6	12.1	1.1
LOS	E	D	D	D	B	A	B	A	E	B	A
Approach Delay		55.7		31.1			17.2			21.5	
Approach LOS		E		C			B			C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 46 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 21.8 — Intersection LOS: C
Intersection Capacity Utilization 83.6% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Bluewater Rd. & Unser Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1752		1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.73	1.00		0.55	1.00	1.00	0.13	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1340	1752		1012	1845	1568	246	3505	1568	115	3505	1568
Volume (vph)	126	64	32	41	27	82	39	1681	120	244	1185	104
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	70	35	45	29	89	42	1827	130	265	1288	113
RTOR Reduction (vph)	0	15	0	0	0	25	0	0	40	0	0	33
Lane Group Flow (vph)	137	90	0	45	29	64	42	1827	90	265	1288	80
Turn Type	pm+pt			pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	15.8	11.3		15.4	11.1	25.6	69.9	69.9	74.2	78.7	78.7	83.2
Effective Green, g (s)	17.8	12.3		17.4	12.1	27.6	70.9	70.9	76.2	79.7	79.7	85.2
Actuated g/C Ratio	0.15	0.10		0.14	0.10	0.23	0.59	0.59	0.64	0.66	0.66	0.71
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	218	180		179	186	361	229	2071	996	288	2328	1166
v/s Ratio Prot	c0.03	0.05		0.01	0.02	0.02	0.01	c0.52	0.00	c0.12	0.37	0.00
v/s Ratio Perm	c0.06			0.03		0.02	0.10		0.05	c0.49		0.05
v/c Ratio	0.63	0.50		0.25	0.16	0.18	0.18	0.88	0.09	0.92	0.55	0.07
Uniform Delay, d1	47.4	50.9		45.0	49.3	37.1	13.1	21.0	8.5	40.1	10.7	5.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.75	0.65	0.83	1.00	1.00	1.00
Incremental Delay, d2	5.6	2.2		0.7	0.4	0.2	0.2	3.6	0.0	32.8	1.0	0.0
Delay (s)	53.0	53.1		45.8	49.7	37.3	10.0	17.2	7.1	72.9	11.7	5.3
Level of Service	D	D		D	D	D	A	B	A	E	B	A
Approach Delay (s)		53.0			41.9			16.4			21.0	
Approach LOS		D			D			B			C	

Intersection Summary

HCM Average Control Delay	21.5	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.83				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	83.6%	ICU Level of Service		E	
Analysis Period (min)	15				
c Critical Lane Group					

Timings
1: Bluewater Rd. & Unser Blvd.

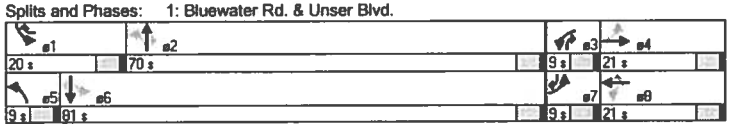
Terry O. Brown, P.E.
1/4/2008

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	126	64	46	27	82	44	1695	123	244	1206	104
Turn Type	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	3	8	1	5	2	3	1	6	7
Permitted Phases	4		8		8	2		2	6		6
Detector Phases	7	4	3	8	1	5	2	3	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	9.0	21.0	9.0	21.0	20.0	9.0	70.0	9.0	20.0	81.0	9.0
Total Split (%)	7.5%	17.5%	7.5%	17.5%	16.7%	7.5%	58.3%	7.5%	16.7%	67.5%	7.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	Min	C-Min	Min
Act Effct Green (s)	17.8	12.5	17.7	12.4	34.1	75.1	68.6	77.9	90.2	79.7	89.1
Actuated g/C Ratio	0.15	0.10	0.15	0.10	0.28	0.63	0.57	0.65	0.75	0.66	0.74
v/c Ratio	0.62	0.56	0.27	0.15	0.19	0.17	0.92	0.13	0.83	0.56	0.09
Control Delay	57.9	51.8	44.1	48.9	21.8	4.7	21.2	1.1	53.5	12.3	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	51.8	44.1	48.9	21.8	4.7	21.2	1.1	53.5	12.3	1.1
LOS	E	D	D	D	C	A	C	A	D	B	A
Approach Delay		55.2		33.1			19.5			18.0	
Approach LOS		E		C			B			B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 21.6 — Intersection LOS: C
Intersection Capacity Utilization 84.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Bluewater Rd. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
1: Bluewater Rd. & Unser Blvd.

Terry O. Brown, P.E.
1/4/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1739		1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.74	1.00		0.51	1.00	1.00	0.18	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1362	1739		939	1845	1568	331	3505	1568	102	3505	1568
Volume (vph)	126	64	40	46	27	82	44	1695	123	244	1206	104
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	70	43	50	29	89	48	1842	134	265	1311	113
RTOR Reduction (vph)	0	19	0	0	0	22	0	0	47	0	0	33
Lane Group Flow (vph)	137	94	0	50	29	67	48	1842	87	265	1311	80
Turn Type	pm+pt			pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	15.8	11.5		15.8	11.5	28.1	73.1	67.6	71.9	89.2	78.7	83.0
Effective Green, g (s)	17.8	12.5		17.8	12.5	30.1	75.1	68.6	73.9	90.2	79.7	85.0
Actuated g/C Ratio	0.15	0.10		0.15	0.10	0.25	0.63	0.57	0.62	0.75	0.66	0.71
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	219	181		175	192	446	284	2004	1018	319	2328	1163
v/s Ratio Prot	c0.03	0.05		0.01	0.02	0.02	0.01	c0.53	0.00	c0.12	0.37	0.00
v/s Ratio Perm	c0.07			0.03		0.02	0.10		0.05	0.50		0.05
v/c Ratio	0.63	0.52		0.29	0.15	0.15	0.17	0.92	0.09	0.83	0.56	0.07
Uniform Delay, d1	47.4	50.9		44.8	48.9	35.0	9.1	23.2	9.3	39.4	10.8	5.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.70	0.64	0.50	1.00	1.00	1.00
Incremental Delay, d2	5.5	2.7		0.9	0.4	0.2	0.2	5.0	0.0	16.6	1.0	0.0
Delay (s)	52.9	53.6		45.7	49.3	35.1	6.5	19.8	4.7	56.0	11.8	5.4
Level of Service	D	D		D	D	D	A	B	A	E	B	A
Approach Delay (s)		53.2			40.7			18.5			18.3	
Approach LOS		D			D			B			B	

Intersection Summary

HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Timings
1: Bluewater Rd. & Unser Blvd.

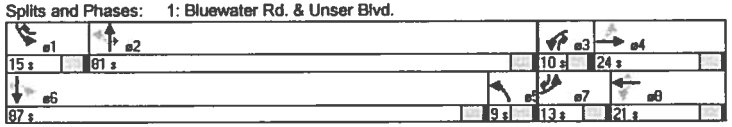
Terry O. Brown, P.E.
1/4/2008

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	241	53	86	45	209	46	1527	58	151	2005	125
Turn Type	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	3	8	1	5	2	3	1	6	7
Permitted Phases	4		8		8	2		2	6		6
Detector Phases	7	4	3	8	1	5	2	3	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	13.0	24.0	10.0	21.0	15.0	9.0	81.0	10.0	15.0	87.0	13.0
Total Split (%)	10.0%	18.5%	7.7%	16.2%	11.5%	6.9%	62.3%	7.7%	11.5%	66.9%	10.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	Min	C-Min	Min
Act Effct Green (s)	23.3	14.3	17.3	11.3	27.6	81.4	81.4	91.4	88.6	88.6	97.6
Actuated g/C Ratio	0.18	0.11	0.13	0.09	0.21	0.63	0.63	0.70	0.68	0.68	0.75
v/c Ratio	1.07	0.65	0.56	0.31	0.63	0.39	0.76	0.06	0.73	0.91	0.11
Control Delay	124.3	48.9	58.5	59.0	47.5	30.5	15.6	1.1	45.9	25.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.3	48.9	58.5	59.0	47.5	30.5	15.6	1.1	45.9	25.4	0.8
LOS	F	D	E	E	D	C	B	A	D	C	A
Approach Delay		97.0		51.8			15.5			25.4	
Approach LOS		F		D			B			C	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 112 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 29.7 — Intersection LOS: C
Intersection Capacity Utilization 88.8% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Bluewater Rd. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
1: Bluewater Rd. & Unser Blvd.

Terry O. Brown, P.E.
1/4/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1676		1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.57	1.00		0.46	1.00	1.00	0.05	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1057	1676		849	1845	1568	97	3505	1568	108	3505	1568
Volume (vph)	241	53	84	86	45	209	46	1527	58	151	2005	125
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	58	91	93	49	227	50	1660	63	164	2179	136
RTOR Reduction (vph)	0	45	0	0	0	26	0	0	21	0	0	31
Lane Group Flow (vph)	262	104	0	93	49	201	50	1660	42	164	2179	105
Turn Type	pm+pt			pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	21.3	13.3		15.3	10.3	21.6	80.4	80.4	85.4	87.6	87.6	95.6
Effective Green, g (s)	23.3	14.3		17.3	11.3	23.6	81.4	81.4	87.4	88.6	88.6	97.6
Actuated g/C Ratio	0.18	0.11		0.13	0.09	0.18	0.63	0.63	0.67	0.68	0.68	0.75
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	238	184		155	160	333	126	2195	1102	229	2389	1177
v/s Ratio Prot	c0.08	0.06		0.03	0.03	0.06	0.02	c0.47	0.00	0.07	c0.62	0.01
v/s Ratio Perm	c0.12			0.05		0.07	0.23		0.03	0.42		0.06
v/c Ratio	1.10	0.56		0.60	0.31	0.60	0.40	0.76	0.04	0.72	0.91	0.09
Uniform Delay, d1	52.7	54.9		51.8	55.7	48.9	46.8	17.3	7.2	33.1	17.4	4.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.79	0.73	0.59	1.00	1.00	1.00
Incremental Delay, d2	88.0	3.9		6.4	1.1	3.1	1.8	2.1	0.0	10.2	6.7	0.0
Delay (s)	140.6	58.8		58.2	56.8	52.0	38.6	14.7	4.2	43.3	24.1	4.4
Level of Service	F	E		E	E	D	D	B	A	D	C	A
Approach Delay (s)		111.0			54.2			15.0			24.3	
Approach LOS		F			D			B			C	

Intersection Summary

HCM Average Control Delay	30.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

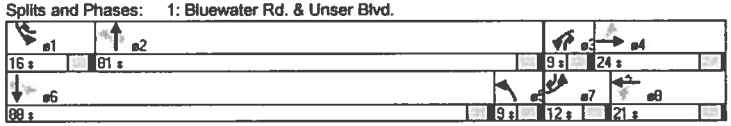
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	241	53	94	45	209	61	1566	67	151	2042	125
Turn Type	pm+pt		pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	3	8	1	5	2	3	1	6	7
Permitted Phases	4		8		8	2		2	6		6
Detector Phases	7	4	3	8	1	5	2	3	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0
Total Split (s)	12.0	24.0	9.0	21.0	16.0	9.0	81.0	9.0	16.0	88.0	12.0
Total Split (%)	9.2%	18.5%	6.9%	16.2%	12.3%	6.9%	62.3%	6.9%	12.3%	67.7%	9.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	C-Min	Min	Min	C-Min	Min
Act Effct Green (s)	22.7	14.7	16.7	11.7	27.9	82.1	82.1	91.1	89.3	89.3	97.3
Actuated g/C Ratio	0.17	0.11	0.13	0.09	0.21	0.63	0.63	0.70	0.69	0.69	0.75
v/c Ratio	1.11	0.68	0.68	0.30	0.63	0.52	0.77	0.07	0.73	0.92	0.11
Control Delay	138.6	49.0	70.7	58.2	47.9	39.6	16.4	1.2	45.9	25.9	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	138.6	49.0	70.7	58.2	47.9	39.6	16.4	1.2	45.9	25.9	0.9
LOS	F	D	E	E	D	D	B	A	D	C	A
Approach Delay		104.0		55.4			16.6			25.9	
Approach LOS		F		E			B			C	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 116 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 31.2 — Intersection LOS: C
Intersection Capacity Utilization 89.8% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 1: Bluewater Rd. & Unser Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	1665		1752	1845	1568	1752	3505	1568	1752	3505	1568
Flt Permitted	0.58	1.00		0.39	1.00	1.00	0.05	1.00	1.00	0.05	1.00	1.00
Satd. Flow (perm)	1065	1665		727	1845	1568	96	3505	1568	100	3505	1568
Volume (vph)	241	53	98	94	45	209	61	1566	67	151	2042	125
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	58	107	102	49	227	66	1702	73	164	2220	136
RTOR Reduction (vph)	0	53	0	0	0	23	0	0	24	0	0	30
Lane Group Flow (vph)	262	112	0	102	49	204	66	1702	49	164	2220	106
Turn Type	pm+pt			pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	20.7	13.7		14.7	10.7	21.9	81.1	81.1	85.1	88.3	88.3	95.3
Effective Green, g (s)	22.7	14.7		16.7	11.7	23.9	82.1	82.1	87.1	89.3	89.3	97.3
Actuated g/C Ratio	0.17	0.11		0.13	0.09	0.18	0.63	0.63	0.67	0.69	0.69	0.75
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	228	188		133	166	337	124	2214	1099	224	2408	1174
v/s Ratio Prot	c0.07	0.07		0.03	0.03	0.06	0.02	c0.49	0.00	0.07	c0.63	0.01
v/s Ratio Perm	c0.13			0.07		0.07	0.32		0.03	0.43		0.06
v/c Ratio	1.15	0.59		0.77	0.30	0.61	0.53	0.77	0.04	0.73	0.92	0.09
Uniform Delay, d1	53.1	54.8		53.9	55.3	48.7	49.6	17.2	7.3	35.3	17.4	4.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.83	0.76	0.63	1.00	1.00	1.00
Incremental Delay, d2	105.7	5.0		22.8	1.0	3.1	3.7	2.2	0.0	11.7	7.3	0.0
Delay (s)	158.8	59.8		76.7	56.3	51.8	44.9	15.4	4.6	46.9	24.7	4.4
Level of Service	F	E		E	E	D	D	B	A	D	C	A
Approach Delay (s)		120.5			59.1			16.0			25.0	
Approach LOS		F			E			B			C	

Intersection Summary

HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Central Ave. & Unser Blvd.

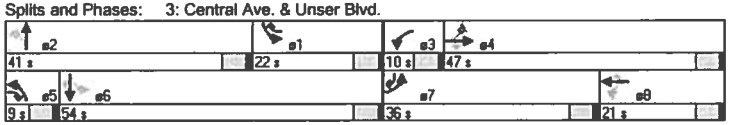
Terry O. Brown, P.E.
1/4/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	570	781	6	49	273	236	24	873	319	511	268
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	1	6	7
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	5	3	8	1	5	2	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	21.0	9.0
Total Split (s)	36.0	47.0	9.0	10.0	21.0	22.0	9.0	41.0	22.0	54.0	36.0
Total Split (%)	30.0%	39.2%	7.5%	8.3%	17.5%	18.3%	7.5%	34.2%	18.3%	45.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min	Min
Act Effct Green (s)	51.4	41.4	51.2	21.4	15.4	33.4	38.6	38.6	50.8	50.8	86.8
Actuated g/C Ratio	0.43	0.34	0.43	0.18	0.13	0.28	0.32	0.32	0.42	0.42	0.72
v/c Ratio	1.11	0.70	0.01	0.32	0.66	0.55	0.17	1.04	1.06	0.71	0.24
Control Delay	101.7	37.5	11.0	29.1	57.1	19.5	31.8	78.1	107.8	33.5	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.7	37.5	11.0	29.1	57.1	19.5	31.8	78.1	107.8	33.5	1.7
LOS	F	D	B	C	E	B	C	E	F	C	A
Approach Delay		64.3			38.7			77.1		47.3	
Approach LOS		E			D			E		D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 59.7 — Intersection LOS: E
Intersection Capacity Utilization 100.5% — ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Central Ave. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/4/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3409		1752	1845	1568
Flt Permitted	0.28	1.00	1.00	0.33	1.00	1.00	0.12	1.00		0.12	1.00	1.00
Satd. Flow (perm)	513	3505	1568	614	3505	1568	225	3409		225	1845	1568
Volume (vph)	570	781	6	49	273	236	24	873	194	319	511	268
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	849	7	53	297	257	26	949	211	347	555	291
RTOR Reduction (vph)	0	0	4	0	0	34	0	16	0	0	0	60
Lane Group Flow (vph)	620	849	3	53	297	223	26	1144	0	347	555	231
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	50.4	40.4	45.2	19.4	14.4	31.4	37.6	37.6		49.8	49.8	80.8
Effective Green, g (s)	51.4	41.4	47.2	21.4	15.4	33.4	38.6	38.6		50.8	50.8	82.8
Actuated g/C Ratio	0.43	0.34	0.39	0.18	0.13	0.28	0.32	0.32		0.42	0.42	0.69
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	550	1209	669	166	450	436	146	1097		324	781	1134
v/s Ratio Prot	c0.30	0.24	0.00	0.02	0.08	0.08	0.01	c0.34		c0.16	0.30	0.05
v/s Ratio Perm	c0.18		0.00	0.04		0.07	0.05			0.29		0.09
v/c Ratio	1.13	0.70	0.00	0.32	0.66	0.51	0.18	1.04		1.07	0.71	0.20
Uniform Delay, d1	30.5	34.0	22.1	41.8	49.8	36.4	32.0	40.7		47.3	28.5	6.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.92	0.98	0.64
Incremental Delay, d2	78.4	1.9	0.0	1.1	3.6	1.0	0.6	39.1		68.2	5.0	0.1
Delay (s)	109.0	35.8	22.1	42.9	53.4	37.5	32.6	79.8		111.7	32.5	4.4
Level of Service	F	D	C	D	D	D	C	E		F	C	A
Approach Delay (s)		66.5			45.7			78.8			48.7	
Approach LOS		E			D			E			D	

Intersection Summary

HCM Average Control Delay	62.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

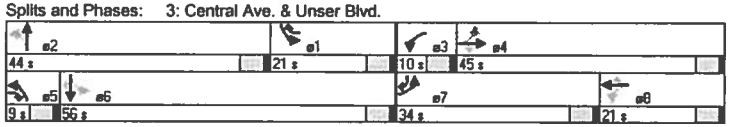
Timings
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/15/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	582	781	6	49	279	268	24	962	341	570	276
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	1	6	7
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	5	3	8	1	5	2	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	21.0	9.0
Total Split (s)	34.0	45.0	9.0	10.0	21.0	21.0	9.0	44.0	21.0	56.0	34.0
Total Split (%)	28.3%	37.5%	7.5%	8.3%	17.5%	17.5%	7.5%	36.7%	17.5%	46.7%	28.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min	Min
Act Effct Green (s)	49.5	39.5	49.3	21.5	15.5	32.5	41.5	41.5	52.7	52.7	86.7
Actuated g/C Ratio	0.41	0.33	0.41	0.18	0.13	0.27	0.35	0.35	0.44	0.44	0.72
v/c Ratio	1.20	0.74	0.01	0.32	0.67	0.64	0.18	1.05	1.20	0.76	0.25
Control Delay	136.6	39.9	11.7	29.6	57.3	24.0	29.8	78.8	149.3	28.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.6	39.9	11.7	29.6	57.3	24.0	29.8	78.8	149.3	28.5	1.0
LOS	F	D	B	C	E	C	C	E	F	C	A
Approach Delay		80.9			40.1			77.8		56.9	
Approach LOS		F			D			E		E	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 48 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green		
Natural Cycle: 120		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.20		
Intersection Signal Delay: 67.9	Intersection LOS: E	
Intersection Capacity Utilization 105.0%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 3: Central Ave. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/15/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3417		1752	1845	1568
Flt Permitted	0.27	1.00	1.00	0.33	1.00	1.00	0.11	1.00		0.11	1.00	1.00
Satd. Flow (perm)	501	3505	1568	614	3505	1568	207	3417		207	1845	1568
Volume (vph)	582	781	6	49	279	268	24	962	194	341	570	276
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	849	7	53	303	291	26	1046	211	371	620	300
RTOR Reduction (vph)	0	0	4	0	0	27	0	14	0	0	0	60
Lane Group Flow (vph)	633	849	3	53	303	264	26	1243	0	371	620	240
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	48.5	38.5	43.3	19.5	14.5	30.5	40.5	40.5		51.7	51.7	80.7
Effective Green, g (s)	49.5	39.5	45.3	21.5	15.5	32.5	41.5	41.5		52.7	52.7	82.7
Actuated g/C Ratio	0.41	0.33	0.38	0.18	0.13	0.27	0.35	0.35		0.44	0.44	0.69
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	519	1154	644	167	453	425	146	1182		310	810	1133
v/s Ratio Prot	c0.30	0.24	0.00	0.02	0.09	0.09	0.01	c0.36		c0.17	0.34	0.05
v/s Ratio Perm	c0.20		0.00	0.04		0.08	0.05			c0.36		0.10
v/c Ratio	1.22	0.74	0.00	0.32	0.67	0.62	0.18	1.05		1.20	0.77	0.21
Uniform Delay, d1	30.8	35.6	23.3	41.7	49.8	38.4	31.3	39.2		48.1	28.4	6.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.84	0.75	0.26
Incremental Delay, d2	115.3	2.5	0.0	1.1	3.7	2.8	0.6	40.9		114.1	6.4	0.1
Delay (s)	146.2	38.1	23.3	42.8	53.5	41.2	31.9	80.2		154.6	27.8	1.8
Level of Service	F	D	C	D	D	D	C	F		F	C	A
Approach Delay (s)		84.0			47.1			79.2			58.2	
Approach LOS		F			D			E			E	

Intersection Summary					
HCM Average Control Delay	70.5	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.18				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	105.0%	ICU Level of Service		G	
Analysis Period (min)	15				
c Critical Lane Group					

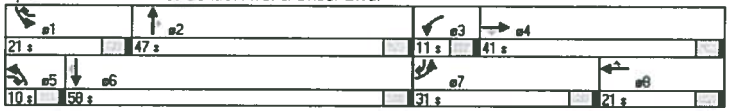
Timings
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/15/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	582	781	6	49	279	268	24	962	194	341	570	276
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Perm	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phases	7	4	5	3	8	1	5	2	2	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	31.0	41.0	10.0	11.0	21.0	21.0	10.0	47.0	47.0	21.0	58.0	31.0
Total Split (%)	25.8%	34.2%	8.3%	9.2%	17.5%	17.5%	8.3%	39.2%	39.2%	17.5%	48.3%	25.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	Min	C-Min	C-Min	Min	C-Min	Min
Act Effct Green (s)	26.1	34.3	44.8	7.3	15.5	36.3	6.4	45.7	45.7	16.7	56.0	86.0
Actuated g/C Ratio	0.22	0.29	0.37	0.06	0.13	0.30	0.05	0.38	0.38	0.14	0.47	0.72
v/c Ratio	0.86	0.85	0.01	0.50	0.67	0.60	0.28	0.78	0.30	0.78	0.38	0.26
Control Delay	57.6	49.0	12.7	71.3	57.3	38.1	62.5	38.7	8.8	62.2	22.1	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	49.0	12.7	71.3	57.3	38.1	62.5	38.7	8.8	62.2	22.1	2.8
LOS	E	D	B	E	E	D	E	D	A	E	C	A
Approach Delay		52.5			49.8			34.2			29.1	
Approach LOS		D			D			C			C	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 8 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 40.8 Intersection LOS: D
Intersection Capacity Utilization 74.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Central Ave. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/15/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Volume (vph)	582	781	6	49	279	268	24	962	194	341	570	276
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	849	7	53	303	291	26	1046	211	371	620	300
RTOR Reduction (vph)	0	0	5	0	0	16	0	0	100	0	0	57
Lane Group Flow (vph)	633	849	2	53	303	275	26	1046	111	371	620	243
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Perm	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	25.1	33.3	38.7	6.3	14.5	30.2	5.4	44.7	44.7	15.7	55.0	80.1
Effective Green, g (s)	26.1	34.3	40.7	7.3	15.5	32.2	6.4	45.7	45.7	16.7	56.0	82.1
Actuated g/C Ratio	0.22	0.29	0.34	0.06	0.13	0.27	0.05	0.38	0.38	0.14	0.47	0.68
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	740	1002	584	107	453	473	93	1335	597	473	1636	1125
v/s Ratio Prot	c0.19	c0.24	0.00	0.03	0.09	0.08	0.01	c0.30		c0.11	0.18	0.05
v/s Ratio Perm			0.00			0.09			0.07			0.11
v/c Ratio	0.86	0.85	0.00	0.50	0.67	0.58	0.28	0.78	0.19	0.78	0.38	0.22
Uniform Delay, d1	45.1	40.4	26.2	54.6	49.8	38.1	54.6	32.8	24.8	49.9	20.7	7.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5	6.8	0.0	3.6	3.7	1.8	1.6	4.7	0.7	8.3	0.7	0.1
Delay (s)	54.7	47.1	26.2	58.1	53.5	39.9	56.2	37.4	25.4	58.2	21.4	7.1
Level of Service	D	D	C	E	D	D	E	D	C	E	C	A
Approach Delay (s)		50.2			47.8			35.9			28.7	
Approach LOS		D			D			D			C	

Intersection Summary

HCM Average Control Delay	40.1	HCM Level of Service		D		
HCM Volume to Capacity ratio	0.80					
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		12.0		
Intersection Capacity Utilization	74.6%	ICU Level of Service		D		
Analysis Period (min)	15					

c Critical Lane Group

Timings
3: Central Ave. & Unser Blvd.

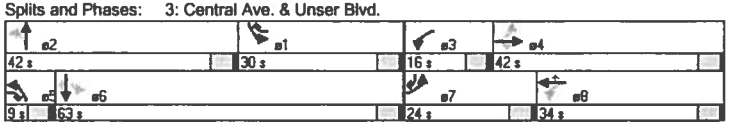
Terry O. Brown, P.E.
1/4/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	352	534	20	141	849	349	27	756	368	882	585
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	1	6	7
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	5	3	8	1	5	2	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	21.0	9.0
Total Split (s)	24.0	42.0	9.0	16.0	34.0	30.0	9.0	42.0	30.0	63.0	24.0
Total Split (%)	18.5%	32.3%	6.9%	12.3%	26.2%	23.1%	6.9%	32.3%	23.1%	48.5%	18.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min	Min
Act Effct Green (s)	54.0	38.5	47.5	41.5	30.0	56.0	38.0	38.0	59.0	59.0	83.0
Actuated g/C Ratio	0.42	0.30	0.37	0.32	0.23	0.43	0.29	0.29	0.45	0.45	0.64
v/c Ratio	1.17	0.56	0.04	0.51	1.14	0.54	0.23	0.97	0.98	1.15	0.60
Control Delay	139.2	41.2	10.2	31.7	122.9	16.3	37.8	66.9	75.1	104.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.2	41.2	10.2	31.7	122.9	16.3	37.8	66.9	75.1	104.3	5.8
LOS	F	D	B	C	F	B	D	E	E	F	A
Approach Delay		78.6			85.5			66.0		67.7	
Approach LOS		E			F			E		E	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 74.2 — Intersection LOS: E
Intersection Capacity Utilization 106.1% — ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Central Ave. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/4/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3419		1752	1845	1568
Flt Permitted	0.12	1.00	1.00	0.34	1.00	1.00	0.12	1.00		0.12	1.00	1.00
Satd. Flow (perm)	217	3505	1568	635	3505	1568	224	3419		224	1845	1568
Volume (vph)	352	534	20	141	849	349	27	756	148	368	882	585
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	383	580	22	153	923	379	29	822	161	400	959	614
RTOR Reduction (vph)	0	0	15	0	0	22	0	13	0	0	0	32
Lane Group Flow (vph)	383	580	7	153	923	357	29	970	0	400	959	582
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	53.0	37.5	41.5	39.5	29.0	54.0	37.0	37.0		58.0	58.0	77.0
Effective Green, g (s)	54.0	38.5	43.5	41.5	30.0	56.0	38.0	38.0		59.0	59.0	79.0
Actuated g/C Ratio	0.42	0.30	0.33	0.32	0.23	0.43	0.29	0.29		0.45	0.45	0.61
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	326	1038	573	302	809	675	124	999		407	837	1001
v/s Ratio Prot	c0.18	0.17	0.00	0.04	0.26	0.11	0.01	c0.28		0.20	c0.52	0.09
v/s Ratio Perm	c0.31		0.00	0.12		0.12	0.06			0.25		0.28
v/c Ratio	1.17	0.56	0.01	0.51	1.14	0.53	0.23	0.97		0.98	1.15	0.58
Uniform Delay, d1	57.2	38.6	28.9	33.2	50.0	27.3	61.1	45.5		46.4	35.5	15.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.83	0.78	0.33
Incremental Delay, d2	106.2	0.7	0.0	1.3	78.0	0.8	1.0	22.3		33.9	76.4	0.6
Delay (s)	163.3	39.2	28.9	34.5	128.0	28.0	62.1	67.8		72.6	104.0	5.8
Level of Service	F	D	C	C	F	C	E	E		E	F	A
Approach Delay (s)		87.3			92.2			67.6			67.1	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	77.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

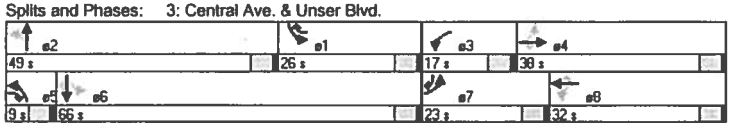
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	373	534	20	141	859	407	27	915	429	1050	587
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	1	6	7
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	5	3	8	1	5	2	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	9.0	21.0	9.0
Total Split (s)	23.0	38.0	9.0	17.0	32.0	26.0	9.0	49.0	26.0	66.0	23.0
Total Split (%)	17.7%	29.2%	6.9%	13.1%	24.6%	20.0%	6.9%	37.7%	20.0%	50.8%	17.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	Min	C-Min	Min	C-Min	Min
Act Effct Green (s)	51.0	34.8	43.8	40.2	28.0	50.0	45.0	45.0	62.0	62.0	85.0
Actuated g/C Ratio	0.39	0.27	0.34	0.31	0.22	0.38	0.35	0.35	0.48	0.48	0.65
v/c Ratio	1.29	0.62	0.04	0.55	1.24	0.71	0.23	0.97	1.32	1.30	0.60
Control Delay	186.3	45.4	11.2	35.0	160.5	25.9	32.9	60.3	195.2	167.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	186.3	45.4	11.2	35.0	160.5	25.9	32.9	60.3	195.2	167.6	6.7
LOS	F	D	B	C	F	C	C	E	F	F	A
Approach Delay		101.3			109.0			59.7		127.6	
Approach LOS		F			F			E		F	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 128 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 104.9 — Intersection LOS: F
Intersection Capacity Utilization 116.3% — ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 3: Central Ave. & Unser Blvd.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3432		1752	1845	1568
Flt Permitted	0.12	1.00	1.00	0.30	1.00	1.00	0.10	1.00		0.10	1.00	1.00
Satd. Flow (perm)	231	3505	1568	553	3505	1568	184	3432		184	1845	1568
Volume (vph)	373	534	20	141	859	407	27	915	148	429	1050	587
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	405	580	22	153	934	442	29	995	161	466	1141	638
RTOR Reduction (vph)	0	0	15	0	0	18	0	10	0	0	0	32
Lane Group Flow (vph)	405	580	7	153	934	424	29	1146	0	466	1141	606
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	50.0	33.8	37.8	38.2	27.0	48.0	44.0	44.0		61.0	61.0	79.0
Effective Green, g (s)	51.0	34.8	39.8	40.2	28.0	50.0	45.0	45.0		62.0	62.0	81.0
Actuated g/C Ratio	0.39	0.27	0.31	0.31	0.22	0.38	0.35	0.35		0.48	0.48	0.62
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	313	938	528	284	755	603	124	1188		353	880	1025
v/s Ratio Prot	c0.19	0.17	0.00	0.05	0.27	0.12	0.01	c0.33		0.22	c0.62	0.09
v/s Ratio Perm	c0.32		0.00	0.12		0.15	0.07			c0.41		0.30
v/c Ratio	1.29	0.62	0.01	0.54	1.24	0.70	0.23	0.96		1.32	1.30	0.59
Uniform Delay, d1	57.7	41.8	31.4	34.3	51.0	33.7	61.1	41.7		48.3	34.0	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.88	0.83	0.41
Incremental Delay, d2	154.0	1.2	0.0	2.0	117.9	3.7	1.0	18.9		159.5	140.4	0.7
Delay (s)	211.7	43.0	31.4	36.3	168.9	37.4	62.1	60.6		201.9	168.4	6.8
Level of Service	F	D	C	D	F	D	E	E		F	F	A
Approach Delay (s)		110.6			117.7			60.7			129.4	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	109.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Central Ave. & Unser Blvd.

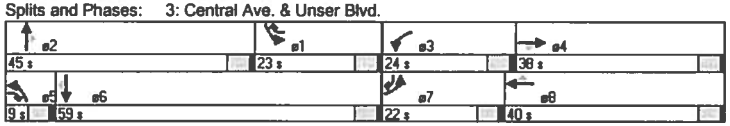
Terry O. Brown, P.E.
1/15/2008

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	534	20	141	859	407	27	915	148	429	1050	587
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Perm	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phases	7	4	5	3	8	1	5	2	2	1	6	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	21.0	9.0	9.0	21.0	9.0	9.0	21.0	21.0	9.0	21.0	9.0
Total Split (s)	22.0	38.0	9.0	24.0	40.0	23.0	9.0	45.0	45.0	23.0	59.0	22.0
Total Split (%)	16.9%	29.2%	6.9%	18.5%	30.8%	17.7%	6.9%	34.6%	34.6%	17.7%	45.4%	16.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Min	Min	Min	Min	Min	Min	Min	C-Min	C-Min	Min	C-Min	Min
Act Effct Green (s)	18.0	37.6	46.9	16.7	36.2	55.6	5.3	40.4	40.4	19.3	54.4	76.5
Actuated g/C Ratio	0.14	0.29	0.36	0.13	0.28	0.43	0.04	0.31	0.31	0.15	0.42	0.59
v/c Ratio	0.86	0.57	0.04	0.68	0.96	0.65	0.41	0.91	0.28	0.92	0.78	0.68
Control Delay	72.9	42.8	11.2	68.9	66.1	22.5	78.1	56.4	8.9	79.3	37.0	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	42.8	11.2	68.9	66.1	22.5	78.1	56.4	8.9	79.3	37.0	20.8
LOS	E	D	B	E	E	C	E	E	A	E	D	C
Approach Delay		54.2			53.8			50.5			41.2	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 48.5 — Intersection LOS: D
Intersection Capacity Utilization 85.3% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Central Ave. & Unser Blvd.



HCM Signalized Intersection Capacity Analysis
3: Central Ave. & Unser Blvd.

Terry O. Brown, P.E.
1/15/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3400	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3400	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Volume (vph)	373	534	20	141	859	407	27	915	148	429	1050	587
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	405	580	22	153	934	442	29	995	161	466	1141	638
RTOR Reduction (vph)	0	0	15	0	0	9	0	0	94	0	0	24
Lane Group Flow (vph)	405	580	7	153	934	433	29	995	67	466	1141	614
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Perm	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	17.0	36.6	40.9	16.7	35.3	53.6	4.3	39.4	39.4	18.3	53.4	70.4
Effective Green, g (s)	18.0	37.6	42.9	16.7	36.3	55.6	5.3	40.4	40.4	19.3	54.4	72.4
Actuated g/C Ratio	0.14	0.29	0.33	0.13	0.28	0.43	0.04	0.31	0.31	0.15	0.42	0.56
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	471	1014	566	225	979	671	71	1089	487	505	1467	922
v/s Ratio Prot	c0.12	0.17	0.00	0.09	c0.27	0.10	0.02	c0.28		c0.14	0.33	0.09
v/s Ratio Perm			0.00			0.18			0.04			0.30
v/c Ratio	0.86	0.57	0.01	0.68	0.95	0.65	0.41	0.91	0.14	0.92	0.78	0.67
Uniform Delay, d1	54.8	39.3	29.3	54.1	46.0	29.4	60.8	43.1	32.2	54.6	32.6	20.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.5	0.8	0.0	8.2	18.5	2.1	3.8	13.1	0.6	22.5	4.1	1.8
Delay (s)	69.3	40.1	29.3	62.3	64.6	31.5	64.6	56.2	32.8	77.1	36.7	22.1
Level of Service	E	D	C	E	E	C	E	E	C	E	D	C
Approach Delay (s)		51.6			54.8			53.2			41.0	
Approach LOS		D			D			D			D	

Intersection Summary

HCM Average Control Delay	48.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	0	12	0	0	0	29	1451	1	2	856	21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	13	0	0	0	32	1577	1	2	930	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		2			2							
Upstream signal (ft)								941			1140	
pX, platoon unblocked	0.79	0.79	0.87	0.79	0.79	0.72	0.87			0.72		
vC, conflicting volume	1798	2588	477	2123	2598	789	953			1578		
vC1, stage 1 conf vol	946	946		1641	1641							
vC2, stage 2 conf vol	852	1641		483	958							
vCu, unblocked vol	1241	2240	244	1653	2254	328	793			1418		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	98	100	100	100	96			99		
cM capacity (veh/h)	252	114	654	85	115	482	709			341		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	22	13	0	820	790	467	488
Volume Left	22	0	0	32	0	2	0
Volume Right	0	13	0	0	1	0	23
cSH	252	654	1700	709	1700	341	1700
Volume to Capacity	0.09	0.02	0.00	0.04	0.46	0.01	0.29
Queue Length 95th (ft)	7	2	0	3	0	0	0
Control Delay (s)	20.6	10.6	0.0	1.2	0.0	0.2	0.0
Lane LOS	C	B	A	A		A	
Approach Delay (s)	16.9		0.0	0.6		0.1	
Approach LOS	C		A				

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	42	0	101	0	0	0	163	1451	1	2	856	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	0	110	0	0	0	177	1577	1	2	930	60
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		2			2							
Upstream signal (ft)								941			1140	
pX, platoon unblocked	0.77	0.77	0.86	0.77	0.77	0.69	0.86			0.69		
vC, conflicting volume	2108	2897	495	2511	2927	789	990			1578		
vC1, stage 1 conf vol	965	965		1932	1932							
vC2, stage 2 conf vol	1143	1933		579	995							
vCu, unblocked vol	1584	2616	246	2112	2655	256	823			1393		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	83	100	100	100	74			99		
cM capacity (veh/h)	156	55	644	35	54	514	683			335		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	46	110	0	966	790	467	525
Volume Left	46	0	0	177	0	2	0
Volume Right	0	110	0	0	1	0	60
cSH	156	644	1700	683	1700	335	1700
Volume to Capacity	0.29	0.17	0.00	0.26	0.46	0.01	0.31
Queue Length 95th (ft)	29	15	0	26	0	0	0
Control Delay (s)	37.4	11.7	0.0	7.0	0.0	0.2	0.0
Lane LOS	E	B	A	A		A	
Approach Delay (s)	19.3		0.0	3.9		0.1	
Approach LOS	C		A				

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	86.6%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	15	0	24	1	0	1	14	948	3	2	1350	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	26	1	0	1	15	1030	3	2	1467	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		2			2							
Upstream signal (ft)								941			1140	
pX, platoon unblocked	0.57	0.57	0.57	0.57	0.57		0.57					
vC, conflicting volume	2023	2541	739	1827	2544	517	1477			1034		
vC1, stage 1 conf vol	1477	1477		1063	1063							
vC2, stage 2 conf vol	547	1064		764	1482							
vCu, unblocked vol	2041	2954	0	1694	2960	517	1078			1034		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	100	96	99	100	100	96			100		
cM capacity (veh/h)	123	134	613	203	124	501	361			662		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	16	26	2	530	518	736	743
Volume Left	16	0	1	15	0	2	0
Volume Right	0	26	1	0	3	0	10
cSH	123	613	289	361	1700	662	1700
Volume to Capacity	0.13	0.04	0.01	0.04	0.30	0.00	0.44
Queue Length 95th (ft)	11	3	1	3	0	0	0
Control Delay (s)	38.8	11.1	17.6	1.3	0.0	0.1	0.0
Lane LOS	E	B	C	A		A	
Approach Delay (s)	21.8		17.6	0.7		0.0	
Approach LOS	C		C				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	78	0	275	1	0	1	252	948	3	2	1350	69
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	85	0	299	1	0	1	274	1030	3	2	1467	75
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		2			2							
Upstream signal (ft)								941			1140	
pX, platoon unblocked	0.65	0.65	0.54	0.65	0.65	0.77	0.54			0.77		
vC, conflicting volume	2573	3091	771	2617	3127	517	1542			1034		
vC1, stage 1 conf vol	1509	1509		1580	1580							
vC2, stage 2 conf vol	1064	1582		1037	1547							
vCu, unblocked vol	1839	2630	0	1905	2685	83	1154			751		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	49	71	100	100	15			100		
cM capacity (veh/h)	36	19	584	4	2	740	322			656		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	85	299	2	789	518	736	809
Volume Left	85	0	1	274	0	2	0
Volume Right	0	299	1	0	3	0	75
cSH	36	584	7	322	1700	656	1700
Volume to Capacity	2.38	0.51	0.30	0.85	0.30	0.00	0.48
Queue Length 95th (ft)	237	73	16	189	0	0	0
Control Delay (s)	870.7	17.4	635.3	64.2	0.0	0.1	0.0
Lane LOS	F	C	F	F		A	
Approach Delay (s)	206.0		635.3	38.7		0.0	
Approach LOS	F		F				

Intersection Summary				
Average Delay	40.5			
Intersection Capacity Utilization	100.2%	ICU Level of Service	G	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	1293	552	52	127	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	1405	600	57	138	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	657				1344	328
vC1, stage 1 conf vol					628	
vC2, stage 2 conf vol					716	
vCu, unblocked vol	657				1344	328
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				50	98
cM capacity (veh/h)	920				276	665

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	475	937	400	257	153
Volume Left	7	0	0	0	138
Volume Right	0	0	0	57	15
cSH	920	1700	1700	1700	293
Volume to Capacity	0.01	0.55	0.24	0.15	0.52
Queue Length 95th (ft)	1	0	0	0	71
Control Delay (s)	0.2	0.0	0.0	0.0	30.1
Lane LOS	A				D
Approach Delay (s)	0.1		0.0		30.1
Approach LOS					D

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	18	1305	552	58	131	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	1418	600	63	142	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	663				1380	332
vC1, stage 1 conf vol					632	
vC2, stage 2 conf vol					748	
vCu, unblocked vol	663				1380	332
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				46	96
cM capacity (veh/h)	915				265	661

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	492	946	400	263	166
Volume Left	20	0	0	0	142
Volume Right	0	0	0	63	24
cSH	915	1700	1700	1700	290
Volume to Capacity	0.02	0.56	0.24	0.15	0.57
Queue Length 95th (ft)	2	0	0	0	83
Control Delay (s)	0.6	0.0	0.0	0.0	32.9
Lane LOS	A				D
Approach Delay (s)	0.2		0.0		32.9
Approach LOS					D

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	688	1346	61	41	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	748	1463	66	45	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1529				1879	765
vC1, stage 1 conf vol					1496	
vC2, stage 2 conf vol					383	
vCu, unblocked vol	1529				1879	765
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				68	98
cM capacity (veh/h)	427				140	344

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	254	499	975	554	51
Volume Left	4	0	0	0	45
Volume Right	0	0	0	66	7
cSH	427	1700	1700	1700	151
Volume to Capacity	0.01	0.29	0.57	0.33	0.34
Queue Length 95th (ft)	1	0	0	0	34
Control Delay (s)	0.4	0.0	0.0	0.0	40.4
Lane LOS	A				E
Approach Delay (s)	0.1		0.0		40.4
Approach LOS					E

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	25	709	1346	71	52	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	771	1463	77	57	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1540				1941	770
vC1, stage 1 conf vol					1502	
vC2, stage 2 conf vol					440	
vCu, unblocked vol	1540				1941	770
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	94				58	91
cM capacity (veh/h)	423				135	341

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	284	514	975	565	87
Volume Left	27	0	0	0	57
Volume Right	0	0	0	77	30
cSH	423	1700	1700	1700	171
Volume to Capacity	0.06	0.30	0.57	0.33	0.51
Queue Length 95th (ft)	5	0	0	0	63
Control Delay (s)	2.3	0.0	0.0	0.0	45.9
Lane LOS	A				E
Approach Delay (s)	0.8		0.0		45.9
Approach LOS					E

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	89	128	29	53	207	131	20	267	12	141	486	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	97	139	32	58	225	142	22	290	13	153	528	76

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	97	171	58	367	312	13	153	604
Volume Left (vph)	97	0	58	0	22	0	153	0
Volume Right (vph)	0	32	0	142	0	13	0	76
Hadj (s)	0.55	-0.08	0.55	-0.22	0.09	-0.65	0.55	-0.04
Departure Headway (s)	9.0	8.4	8.6	7.8	8.2	7.5	8.3	7.7
Degree Utilization, x	0.24	0.40	0.14	0.80	0.71	0.03	0.35	1.29
Capacity (veh/h)	388	416	408	451	426	461	426	477
Control Delay (s)	13.6	15.6	11.7	34.0	28.1	9.5	14.5	167.7
Approach Delay (s)	14.8		31.0		27.3		136.7	
Approach LOS	B		D		D		F	

Intersection Summary			
Delay	73.0		
HCM Level of Service	F		
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	96	128	29	53	207	180	20	371	12	192	585	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	104	139	32	58	225	196	22	403	13	209	636	84

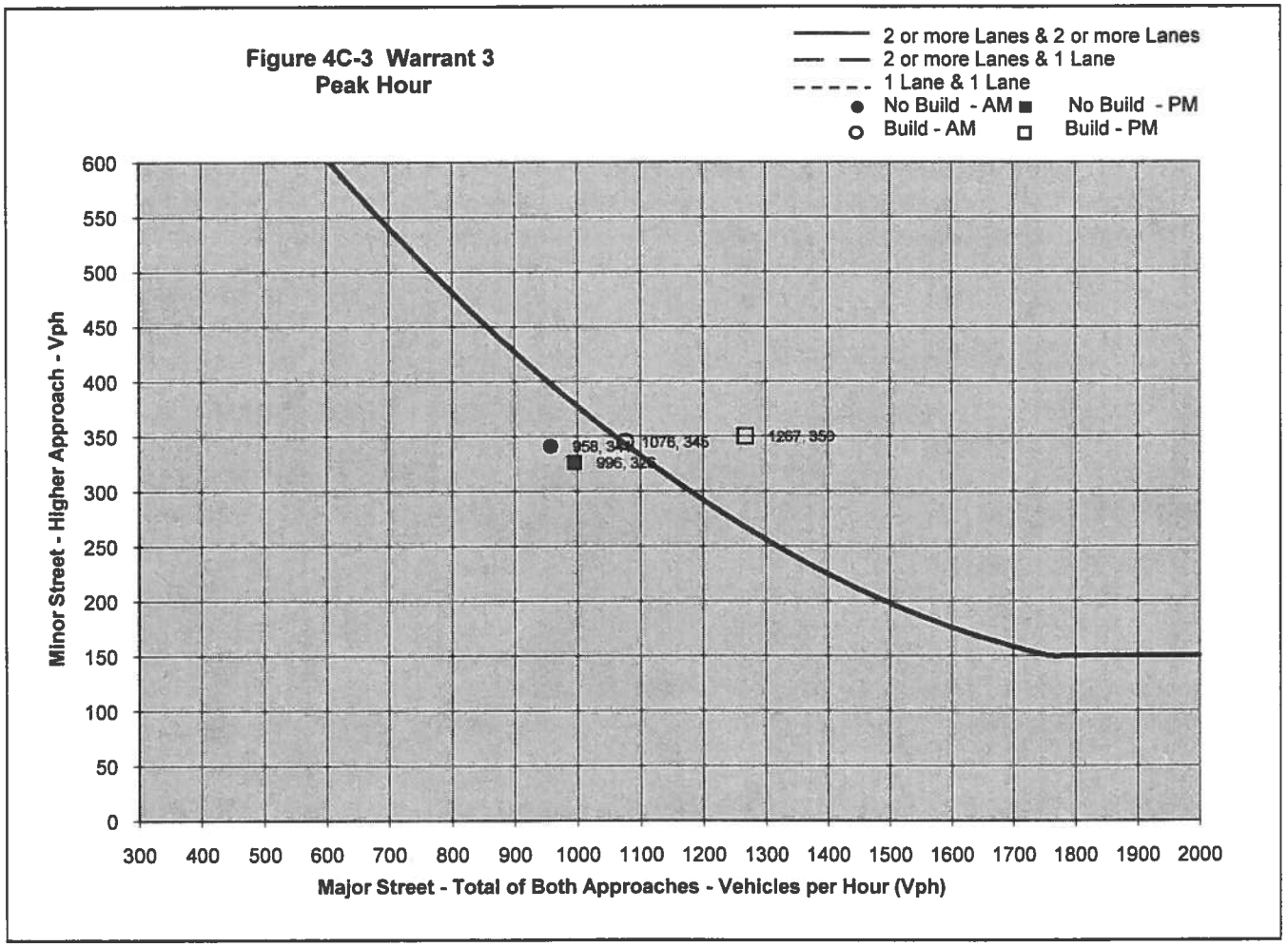
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	104	171	58	421	425	13	209	720
Volume Left (vph)	104	0	58	0	22	0	209	0
Volume Right (vph)	0	32	0	196	0	13	0	84
Hadj (s)	0.55	-0.08	0.55	-0.27	0.08	-0.65	0.55	-0.03
Departure Headway (s)	9.8	9.2	9.2	8.4	8.7	8.0	9.0	8.4
Degree Utilization, x	0.28	0.44	0.15	0.98	1.02	0.03	0.52	1.69
Capacity (veh/h)	357	381	385	421	425	438	395	431
Control Delay (s)	15.4	17.9	12.5	66.2	78.8	10.0	20.2	339.1
Approach Delay (s)	17.0		59.7		76.7		267.4	
Approach LOS	C		F		F		F	

Intersection Summary				
Delay	148.7			
HCM Level of Service	F			
Intersection Capacity Utilization	96.6%	ICU Level of Service	F	
Analysis Period (min)	15			

Project Name	Analysis Year Traffic Volumes					
Central/Unser Commercial/Office Dev.	AM	Major	Minor	PM	Major	Minor
Intersection	No Build	958	341	No Build	996	326
Bridge Blvd. / Unser Blvd.						
Analysis Year						
2012	Build	1076	345	Build	1267	350

Number of Lanes

Major St.	2
Minor St.	2



Comments -

Traffic Count Data Sheet

Central / Unser Commercial Development (NW Corner)

Year Counts Taken: **2007**

E-W Street **Sarracino Pl.** Speed Limit (Sarracino Pl.)= **25** MPH

N-S Street: **Unser Blvd.** Speed Limit (Unser Blvd.)= **45** MPH

UNSIGNALIZED Date of Count: **12/6/07**

Begin Time	End Time	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	**5**	**0**	**3**	**0**	**0**	**0**	**7**	**363**	**0**	**1**	**150**	**7**
7:15 AM	7:30 AM	**8**	**0**	**3**	**0**	**0**	**0**	**10**	**343**	**0**	**0**	**215**	**7**
7:30 AM	7:45 AM	**3**	**0**	**2**	**0**	**0**	**0**	**4**	**321**	**0**	**1**	**179**	**4**
7:45 AM	8:00 AM	**1**	**0**	**2**	**0**	**0**	**0**	**5**	**286**	**1**	**0**	**231**	**1**
8:00 AM	8:15 AM	~~3~~	~~0~~	~~6~~	~~0~~	~~0~~	~~0~~	~~8~~	~~295~~	~~0~~	~~0~~	~~176~~	~~3~~
8:15 AM	8:30 AM	~~2~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~3~~	~~238~~	~~0~~	~~1~~	~~159~~	~~3~~
8:30 AM	8:45 AM	~~0~~	~~0~~	~~3~~	~~0~~	~~0~~	~~0~~	~~9~~	~~233~~	~~0~~	~~0~~	~~153~~	~~3~~
8:45 AM	9:00 AM	~~2~~	~~0~~	~~5~~	~~0~~	~~0~~	~~0~~	~~8~~	~~192~~	~~0~~	~~0~~	~~132~~	~~2~~
AM Peak Hour Volumes		**17**	**0**	**10**	**0**	**0**	**0**	**26**	**1313**	**1**	**2**	**775**	**19**
% of Total Traffic		0.8%	0.0%	0.5%	0.0%	0.0%	0.0%	1.2%	60.7%	0.0%	0.1%	35.8%	0.9%
% Directional			1.2%			0.0%			62.0%			36.8%	
AM Peak Hour Factor			*0.61*			*#DIV/0!*			*0.91*			*0.86*	

Begin Time	End Time	Eastbound (Sarracino Pl.)			Westbound (Sarracino Pl.)			Northbound (Unser Blvd.)			Southbound (Unser Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~3~~	~~0~~	~~5~~	~~1~~	~~0~~	~~0~~	~~2~~	~~165~~	~~0~~	~~1~~	~~266~~	~~2~~
4:15 PM	4:30 PM	~~3~~	~~0~~	~~2~~	~~0~~	~~0~~	~~0~~	~~5~~	~~140~~	~~0~~	~~0~~	~~193~~	~~1~~
4:30 PM	4:45 PM	~~1~~	~~0~~	~~5~~	~~0~~	~~0~~	~~0~~	~~1~~	~~192~~	~~0~~	~~0~~	~~315~~	~~2~~
4:45 PM	5:00 PM	**3**	**0**	**7**	**1**	**0**	**0**	**3**	**211**	**1**	**0**	**280**	**2**
5:00 PM	5:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**195**	**0**	**0**	**304**	**1**
5:15 PM	5:30 PM	**6**	**0**	**8**	**0**	**0**	**1**	**6**	**217**	**2**	**0**	**344**	**2**
5:30 PM	5:45 PM	**4**	**0**	**5**	**0**	**0**	**0**	**2**	**235**	**0**	**2**	**294**	**3**
5:45 PM	6:00 PM	~~1~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~3~~	~~200~~	~~0~~	~~0~~	~~289~~	~~1~~
PM Peak Hour Volumes		**13**	**0**	**21**	**1**	**0**	**1**	**13**	**858**	**3**	**2**	**1222**	**8**
% of Total Traffic		0.6%	0.0%	1.0%	0.0%	0.0%	0.0%	0.6%	40.1%	0.1%	0.1%	57.0%	0.4%
% Directional			1.6%			0.1%			40.8%			57.5%	
PM Peak Hour Factor			*0.61*			*0.50*			*0.92*			*0.89*	

Traffic Count Data Sheet

Year Counts Taken: **2007**

E-W Street **Central Ave**
N-S Street: **Unser Blvd**

Speed Limit (Central Ave)= **25** MPH
Speed Limit (Unser Blvd)= **25** MPH
Date of Count: **5/24/07**

Begin Time	End Time	Eastbound (Central Ave)			Westbound (Central Ave)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	**125**	**195**	**0**	**7**	**63**	**28**	**2**	**173**	**15**	**54**	**92**	**63**
7:15 AM	7:30 AM	**113**	**155**	**2**	**4**	**51**	**35**	**2**	**182**	**18**	**56**	**82**	**62**
7:30 AM	7:45 AM	**113**	**171**	**0**	**4**	**62**	**39**	**1**	**148**	**23**	**68**	**76**	**45**
7:45 AM	8:00 AM	**115**	**140**	**1**	**5**	**58**	**27**	**4**	**116**	**15**	**48**	**67**	**37**
8:00 AM	8:15 AM	~~63~~	~~96~~	~~1~~	~~11~~	~~60~~	~~34~~	~~2~~	~~103~~	~~19~~	~~44~~	~~51~~	~~26~~
8:15 AM	8:30 AM	~~89~~	~~92~~	~~1~~	~~15~~	~~51~~	~~48~~	~~4~~	~~118~~	~~13~~	~~42~~	~~77~~	~~19~~
8:30 AM	8:45 AM	~~71~~	~~77~~	~~1~~	~~11~~	~~50~~	~~27~~	~~7~~	~~113~~	~~16~~	~~37~~	~~60~~	~~30~~
8:45 AM	9:00 AM	~~61~~	~~94~~	~~4~~	~~11~~	~~62~~	~~18~~	~~15~~	~~107~~	~~10~~	~~29~~	~~59~~	~~35~~
AM Peak Hour Volumes		**466**	**661**	**3**	**20**	**234**	**129**	**9**	**619**	**71**	**226**	**317**	**207**
% of Total Traffic		15.7%	22.3%	0.1%	0.7%	7.9%	4.4%	0.3%	20.9%	2.4%	7.6%	10.7%	7.0%
% Directional			38.1%			12.9%			23.6%			25.3%	
AM Peak Hour Factor			*0.88*			*0.91*			*0.87*			*0.90*	

Begin Time	End Time	Eastbound (Central Ave)			Westbound (Central Ave)			Northbound (Unser Blvd)			Southbound (Unser Blvd)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~59~~	~~86~~	~~3~~	~~14~~	~~136~~	~~40~~	~~4~~	~~89~~	~~14~~	~~41~~	~~95~~	~~64~~
4:15 PM	4:30 PM	~~53~~	~~87~~	~~1~~	~~17~~	~~142~~	~~27~~	~~3~~	~~65~~	~~7~~	~~34~~	~~103~~	~~69~~
4:30 PM	4:45 PM	~~69~~	~~97~~	~~4~~	~~21~~	~~150~~	~~41~~	~~3~~	~~77~~	~~15~~	~~43~~	~~103~~	~~86~~
4:45 PM	5:00 PM	~~53~~	~~126~~	~~7~~	~~23~~	~~174~~	~~40~~	~~6~~	~~86~~	~~14~~	~~37~~	~~126~~	~~93~~
5:00 PM	5:15 PM	**53**	**117**	**3**	**31**	**188**	**33**	**5**	**82**	**18**	**49**	**125**	**103**
5:15 PM	5:30 PM	**51**	**114**	**3**	**19**	**171**	**47**	**7**	**93**	**9**	**55**	**115**	**111**
5:30 PM	5:45 PM	**62**	**134**	**5**	**20**	**164**	**40**	**1**	**96**	**17**	**30**	**124**	**115**
5:45 PM	6:00 PM	**78**	**118**	**1**	**25**	**173**	**43**	**4**	**87**	**27**	**50**	**129**	**105**
PM Peak Hour Volumes		**244**	**483**	**12**	**95**	**696**	**163**	**17**	**358**	**71**	**184**	**493**	**434**
% of Total Traffic		7.5%	14.9%	0.4%	2.9%	21.4%	5.0%	0.5%	11.0%	2.2%	5.7%	15.2%	13.4%
% Directional			22.7%			29.4%			13.7%			34.2%	
PM Peak Hour Factor			*0.92*			*0.95*			*0.94*			*0.98*	

Traffic Count Data Sheet

Central / Unser Commercial Development (NW Corner)

Year Counts Taken: **2007**

E-W Street **Central Ave.**

N-S Street: **Frntg Rd -Volcano**

UNSIGNALIZED

Speed Limit (Central Ave.)= **55** MPH

Speed Limit (Frntg Rd -Volcano)= **25** MPH

Date of Count: **12/10/07**

Begin Time	End Time	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Frntg Rd -Volcano)			Southbound (Frntg Rd -Volcano)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	1	311	0	0	112	5	0	0	0	7	0	1
7:15 AM	7:30 AM	1	295	0	0	151	11	0	0	0	16	0	1
7:30 AM	7:45 AM	3	285	0	0	118	10	0	0	0	32	0	1
7:45 AM	8:00 AM	0	279	0	0	110	20	0	0	0	55	0	9
8:00 AM	8:15 AM	~~5~~	~~199~~	~~0~~	~~1~~	~~129~~	~~23~~	~~0~~	~~0~~	~~0~~	~~26~~	~~0~~	~~7~~
8:15 AM	8:30 AM	~~4~~	~~181~~	~~0~~	~~0~~	~~91~~	~~7~~	~~0~~	~~0~~	~~0~~	~~12~~	~~0~~	~~2~~
8:30 AM	8:45 AM	~~2~~	~~161~~	~~0~~	~~0~~	~~99~~	~~8~~	~~0~~	~~0~~	~~0~~	~~12~~	~~0~~	~~3~~
8:45 AM	9:00 AM	~~2~~	~~147~~	~~0~~	~~4~~	~~90~~	~~7~~	~~0~~	~~0~~	~~0~~	~~16~~	~~0~~	~~3~~
AM Peak Hour Volumes		**5**	**1170**	**0**	**0**	**491**	**46**	**0**	**0**	**0**	**110**	**0**	**12**
% of Total Traffic		0.3%	63.8%	0.0%	0.0%	26.8%	2.5%	0.0%	0.0%	0.0%	6.0%	0.0%	0.7%
% Directional			64.1%			29.3%			0.0%			6.7%	
AM Peak Hour Factor			*0.94*			*0.83*			*#DIV/0!*			*0.48*	

Begin Time	End Time	Eastbound (Central Ave.)			Westbound (Central Ave.)			Northbound (Frntg Rd -Volcano)			Southbound (Frntg Rd -Volcano)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~4~~	~~148~~	~~0~~	~~0~~	~~264~~	~~20~~	~~0~~	~~0~~	~~0~~	~~9~~	~~0~~	~~1~~
4:15 PM	4:30 PM	~~0~~	~~154~~	~~0~~	~~1~~	~~239~~	~~11~~	~~0~~	~~0~~	~~0~~	~~9~~	~~0~~	~~1~~
4:30 PM	4:45 PM	~~3~~	~~141~~	~~0~~	~~0~~	~~241~~	~~12~~	~~0~~	~~0~~	~~0~~	~~12~~	~~0~~	~~1~~
4:45 PM	5:00 PM	3	175	0	1	301	12	0	0	0	11	0	0
5:00 PM	5:15 PM	0	146	0	0	282	12	0	0	0	11	0	3
5:15 PM	5:30 PM	0	173	0	0	318	10	0	0	0	9	0	2
5:30 PM	5:45 PM	1	129	0	1	295	20	0	0	0	5	0	0
5:45 PM	6:00 PM	~~0~~	~~261~~	~~0~~	~~10~~	~~135~~	~~13~~	~~0~~	~~0~~	~~0~~	~~1~~	~~0~~	~~0~~
PM Peak Hour Volumes		**4**	**623**	**0**	**2**	**1196**	**54**	**0**	**0**	**0**	**36**	**0**	**5**
% of Total Traffic		0.2%	32.4%	0.0%	0.1%	62.3%	2.8%	0.0%	0.0%	0.0%	1.9%	0.0%	0.3%
% Directional			32.7%			65.2%			0.0%			2.1%	
PM Peak Hour Factor			*0.88*			*0.95*			*#DIV/0!*			*0.73*	

Signalized Intersection Information Sheet

Intersection: **Sarracino Pl / Unser**

Speed Limit - E-W Street: UNKNOWN
Speed Limit - N-S Street: 45 M.P.H.
Type of Intersection Control: Two-Way Stop
Date: **12/6/2007**

East Bound Approach: Sarracino Pl

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	-	1	-	-	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

West Bound Approach: Sarracino Pl

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	-	1	-	1	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

North Bound Approach: Unser

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	1	-	-	1	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

South Bound Approach: Unser

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	1	-	-	1	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

NOTE: Existing Geometry

Signalized Intersection Information Sheet

Intersection: **Central / Unser**

Speed Limit - E-W Street: 50 M.P.H.
Speed Limit - N-S Street: 40 M.P.H.
Type of Intersection Control: Signalized

Date: **5/24/2007**

East Bound Approach: Central

	Left Turn Lanes	Thru / Lefts	Thru Lanes	Thru / Rights	Right Turn Lanes
	1	-	2	-	1
Length	0				0

Left Turn Arrow?	Thru Green	Right Turn Arrow?
YES	YES	YES

Is there a right turn slip laned that by-passes the traffic signal? NO

West Bound Approach: Central

	Left Turn Lanes	Thru / Lefts	Thru Lanes	Thru / Rights	Right Turn Lanes
	1	-	2	-	1
Length	0				0

Left Turn Arrow?	Thru Green	Right Turn Arrow?
YES	YES	YES

Is there a right turn slip laned that by-passes the traffic signal? YES

North Bound Approach: Unser

	Left Turn Lanes	Thru / Lefts	Thru Lanes	Thru / Rights	Right Turn Lanes
	1	-	1	1	-
Length	0				0

Left Turn Arrow?	Thru Green	Right Turn Arrow?
YES	YES	YES

Is there a right turn slip laned that by-passes the traffic signal? NO

South Bound Approach: Unser

	Left Turn Lanes	Thru / Lefts	Thru Lanes	Thru / Rights	Right Turn Lanes
	1	-	1	-	1
Length	0				0

Left Turn Arrow?	Thru Green	Right Turn Arrow?
YES	YES	YES

Is there a right turn slip laned that by-passes the traffic signal? YES

NOTE: The equipment is there for right turn arrows, but I never say them cycle on

Signalized Intersection Information Sheet

Intersection: **Central / Driveway (Volcano)**

Speed Limit - E-W Street: 55 M.P.H.
Speed Limit - N-S Street: UNKNOWN
Type of Intersection Control: Two-Way Stop

Date: **12/7/2007**

East Bound Approach: Central

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	1	-	1	-	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

West Bound Approach: Central

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	-	-	1	1	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

North Bound Approach: Driveway (Volcano)

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	-	-	-	-	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

South Bound Approach: Driveway (Volcano)

	Left Turn Lanes	Thru / Lefts	Left/Thru/Right	Thru Lanes	Thru / Rights	Right Turn Lanes
No. Lanes -	-	-	1	-	-	-
Length -	0					0
		Left Turn Arrow?		Thru Green	Right Turn Arrow?	
Protected ->		NO		NO	NO	

Is there a right turn slip laned that by-passes the traffic signal? NO

NOTE: Existing Geometry