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98<sup>th</sup> / Unser Commercial Development (NE Corner of Vista Oriente St. / Unser Blvd.)

### **Traffic Impact Study**

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### Presented to:

City of Albuquerque Transportation Development Section & NM Department of Transportation District #3

### **Prepared for:**

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### 98<sup>th</sup> St. / Unser Commercial / Office Development (Northeast Corner) TRAFFIC IMPACT STUDY

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### 98<sup>th</sup> St. / Unser Commercial / Office Development (Northeast Corner) TRAFFIC IMPACT STUDY

### STUDY PURPOSE

The study is being conducted in conjunction with a request for approval of a commercial / office development plan such as the one shown in the Appendix (Page A-2) of this report. The purposed of this study is to identify the impact of the Development on the adjacent transportation system, and to make recommendations to mitigate any significant adverse impact on the adjacent transportation system resulting from the implementation of the proposed plan. This report is being prepared to meet the requirements of the City of Albuquerque Transportation Development Section and the New Mexico Department of Transportation (District 3) in association with the development of this proposed commercial / office development located on the northeast corner of 98<sup>th</sup> St. (Tierra Pintada - Vista Oriente) / Unser Blvd.

### **STUDY PROCEDURES**

A scoping meeting was held on August 9, 2007 with City of Albuquerque Transportation staff (Tony Loyd and Steele Nowak) prior to beginning the study 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 and horizon year definition.

The basic procedure followed is described as follows:

- 1) Calculate the generated trips for the proposed development consisting of a commercial development including a 14,820 S.F. Pharmacy w/a Drive-Through Window, a 2,400 S.F. Fast Food Restaurant with drive-thru window, approximately 46,640 S.F. of retail commercial floor space, and approximately 23,100 S.F. of general office space. (See Appendix Pages A-7 thru A-11).
- 2) Calculate trip distribution for the newly generated trips by this development. The Commercial trips will be distributed based on year 2010 population distribution within a two-mile radius of the site. (See Appendix Pages A-12 thru A-17).
- 3) Determine Trip Assignments for the newly generated trips based on the results of the Trip Distribution Analysis and logical routing to and from the site. (See Appendix Pages A-22 thru A-23).
- 4) Acquire recent traffic counts for all signalized intersections to be analyzed in this report. (See Appendix Pages A-88 thru A-95).
- 5) Calculate growth rate for the area utilizing recent traffic volumes (obtained from recent traffic count data) and traffic forecast volumes from the Mid-Region Council of Governments' transportation model (See Appendix Pages A-26 thru A-40).
- 6) Determine 2010 NO BUILD Volumes by growing the existing turning movement counts to the year 2010 utilizing the calculated annual historic growth rate for the area and then adding in trips generated by the proposed Southwest Mesa

- Subdivisions, Storm Cloud Development, and the I-40 / Unser Commercial Development. (See Appendix Pages A-24 thru A-44).
- 7) Add in data from Trip Assignments Maps and Tables to the 2010 NO BUILD Volumes to obtain 2010 BUILD Volumes for this project (See Appendix Pages A-24 thru A-44).
- 8) Provide signalized and / or unsignalized intersection analyses (See Appendix Pages A-45 thru A-83) for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD	BUILD
1) I-40 N. Ramp / Unser Blvd.	Traffic Signal	2010	2010
2) Ladera Dr. / Unser Blvd.	Traffic Signal	2010	2010
3) Ouray Rd. / Unser Blvd.	Traffic Signal	2010	2010
4) Vista Oriente St. / Unser Blvd.	Traffic Signal	2010	2010
5) Ladera Dr. / Unser Blvd.	Traffic Signal	2010	2010
6) Vista Oriente St. / Driveway "A"	Stop Sign	2010	2010
7) Vista Oriente St. / Driveway "B"	Stop Sign	N/A	2010
8) Driveway "C" / Unser Blvd.	Stop Sign	N/A	2010

### **GENERAL AREA CHARACTERISTICS**

The proposed development plan is located along the east side of Unser Blvd. north of Vista Oriente St. as shown on the Vicinity Map on Page A-1 of the Appendix of this report. The property is bounded on the south by Vista Oriente Dr. (an extension of Tierra Pintada), on the west by Unser Blvd., and on the north by Old Ouray Rd. (vacated). The property north and west of this site is primarily zoned for residential development. The property to the east and south of this site is primarily industrial use. This project is located in the midst of a relatively active development area.

### **AREA STREET NETWORK**

The streets most impacted by this project are Vista Oriente St. - Tierra Pintada Blvd. (old 98<sup>th</sup> St.), Unser Blvd., Ladera Dr., and Ouray Rd.

Unser Blvd. near Ouray Rd. is classified as a Limited Access Principal Arterial Street on the Long Range Roadway System Plan for the Albuquerque Urban Area. It is a four lane paved urban street with curbs and gutters on both sides of the street and raised medians in the center. The posted speed limit on Unser Blvd. from Ladera Dr. to Ouray Rd. is 45 MPH.

Tierra Pintada Blvd. is classified as a Collector Street on the Long Range Roadway System Plan for the Albuquerque Urban Area. It is generally a four lane paved urban roadway west of Unser Blvd. The posted speed limit on Tierra Pintada Blvd. near Unser Blvd. is 35 MPH.

Ladera Dr. is classified as a Minor Arterial street on the Long Range Roadway System Plan for the Albuquerque Urban Area. Ladera Dr. is generally a four lane urban roadway from Unser Blvd. northeast to Ouray Rd. The posted speed limit on Ladera Dr. in the vicinity of Unser Blvd. is 40 MPH.

Ouray Rd. is classified as a Collector Street on the Long Range Roadway System Plan for the Albuquerque Urban Area. It is generally a two and four lane paved urban roadway from Unser Blvd. east to Ladera Dr. The posted speed limit on Ouray Rd. near Unser Blvd. is 30 MPH.

### **EXISTING TRAFFIC VOLUMES**

2006 Average Weekday Traffic Volumes (AWDT) for major streets in the site plan area are shown on Appendix Page A-5.

Recent AM and PM peak hour turning movement counts for the years 2006 and 2007 were collected for the following intersections:

I-40 N. Ramp / Unser Blvd. - 2007 Ladera Dr. / Unser Blvd. - 2007 Ouray Rd. / Unser Blvd. - 2006 Vista Oriente St. - Tierra Pintada Blvd. / Unser Blvd. - 2007 Ouray Rd. / Unser Blvd. - 2007

The counts are included on Appendix Pages A-88 thru A-95.

### **EXISTING LEVELS OF SERVICE**

The <u>Highway Capacity Manual</u> defines Level of Service (LOS) for signalized intersections in terms of average controlled delay per vehicle as follows:

LOS A	10.0" or less	Most Vehicles do not stop
LOS B	10.1 to 20.0"	Some Vehicles stop
LOSC	20.1 to 35.0"	Significant number of vehicles stop.
LOSD	35.1 to 55.0"	Many vehicles stop.
LOSE	55.1 to 80.0"	Limit of acceptable delay.
LOSF	> 80.0"	Unacceptable delay.

Level of Service D is generally considered acceptable in urban areas and is the desirable base condition for analysis in a traffic study. In addition to consideration of the overall level-of-service of the signalized intersection, the levels-of-service of each individual movement should be considered.

Existing levels-of-service for this project were not calculated since the implementation year (2010) is only two and one-half years away.

### **EXISTING TRANSIT SERVICE**

This area is serviced by the Downtown express bus route (Route 94) on Unser Blvd. which only services the area during the AM and PM Peak Hour periods.

### PROPOSED DEVELOPMENT

The subject area of land targeted for this project totals approximately 11.5 acres. Current zoning of the land is SU-1 for IP. The proposed plan on Page A-2 in the Appendix of this study shows the development to be comprised of a 14,820 S.F. Pharmacy with a Drive-Thru Window, a 2,400 S.F. Fast Food Restaurant with a drive-thru window, approximately 46,640 S.F. of retail space, and 23,100 S.F. of general office space. Access to the proposed development will be via two full access driveways on Vista Oriente St. Both driveways are partially constructed. The westernmost of the two driveways on Vista Oriente St. aligns with Vista Oeste Rd., a private roadway in the Ladera Industrial Park development on the south side of Vista Oriente St. Also, the Metropolitan Transportation Board of the Mid-Region Council of Governments approved a right-in only driveway on Unser Blvd. north of Vista Oriente St. for access to this development. The right-in only access driveway is already constructed and is shown on the aerial photograph of the project on Page A-3 in the Appendix of this report.

### PREVIOUS RELATED TRAFFIC IMPACT STUDIES

Generated Trips from the proposed Southwest Mesa Subdivisions, Storm Cloud Subdivision, and the I-40 / Unser Commercial Development were all added in to the background volumes for this project so that trips generated by those projects are included in the 2010 AM and PM Peak Hour NO BUILD Volumes utilized in this analysis.

### TRIP GENERATION

Projected trips were calculated from data in the Institute of Transportation Engineers <u>Trip Generation</u> report (7th Edition, 2003). Trips for the development were determined based on land uses defined on the Conceptual Site Development Plan on Page A-2 in the Appendix of this report.

The resulting number of trips generated for the proposed development are summarized in the following table:

					-		
	USE (ITE CODE)		24 HR VOL	A. M. PE	AK HR.	P. M. PEAK HR.	
COMMENT	DESCRIPTION		GROSS	ENTER	EXIT	ENTER	EXIT
	Summary Sheet	Units					
Approved	Walgreen's (Local Data)	14.82	1,853	33	23	122	127
Proposed	Fast Food Restaurant w/ Drive-Thru Window (934)	2.40	1,191	65	62	43	40
Proposed	Shopping Center (820)	46.64	4,136	60	39	182	197
Proposed	General Office Building (710) - Less than 51,000 S.F.	23.10	340	42	6	9	45
	Subtotal Trips Generated		7,520	200	130	356	409

Note that the Walgreen's was approved under a different Traffic Impact Study, but has not yet been constructed. Therefore, it is not generating traffic yet. This study includes the Walgreen's facility even though it has already been approved.

### TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Trips were distributed as follows:

### Commercial Land Uses

### **Commercial Land Use**

Primary and diverted linked trips for the commercial land use development were distributed proportionally to the 2010 projected population of Data Analysis Subzones within a three 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 Mid-Region of New Mexico supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2004 and 2030 was interpolated linearly to obtain 2010 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 data analysis subzones is shown in the Appendix. The commercial Trip Distribution map can be found in the Appendix on Page A-17. Since the office use is a minor traffic generator for this project, the traffic generated by the office use was distributed in the same manner as the commercial trips.

Also, an adjustment was made for the future connection of Tierra Pintada to connect to the west to the Storm Cloud Subdivision. The eastbound left turn movements at Ladera Dr. / Unser Blvd. generated by the Storm Cloud Subdivision were re-assigned to the intersection of Tierra Pintada Blvd. / Unser Blvd.

### TRIP ASSIGNMENTS

Trip assignments are made on a percentage basis derived from data established in the trip distribution determination process and logical routing. Those percentages are then applied to the projected trips to determine individual traffic movements. Trip Distribution Maps and Trip Assignments maps are shown in the Appendix on Pages A-22 thru A-23.

### **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 regional transportation model's AM and PM Peak Hour link volumes. The growth rate was calculated so that the implementation year forecast volumes were consistent with the regional model forecast volumes, except that the volumes from other proposed projects were added into this analysis. Therefore, the actual forecast volumes utilized in this report should be conservatively high in that they exceed the Mid-Region Council of Governments regional forecast AM and PM Peak Hour link volumes by the volumes of trips assigned to each intersection from the proposed projects added in with this study.

If the calculated growth rate in this report resulted in a negative growth rate, then a zero percent growth rate or a generic 3% annual growth rate was utilized.

### PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2010 BUILDOUT

The calculated growth rates were applied to the 2006 and 2007 peak hour traffic counts over a three to four year period to establish the 2010 background traffic volumes. Trips generated by the Southwest Mesa Subdivisions, Storm Cloud Subdivision, and the I-40 / Unser Commercial Development were added into the background traffic volumes to obtain the 2010 AM and PM Peak Hour NO BUILD Volumes. To these volumes, the generated trips based on implementation of the proposed 98<sup>th</sup> / Unser Commercial Development were added to obtain 2010 BUILD volumes for the intersection analyses. See Appendix Pages A-24 thru A-44 for further information regarding turning movement counts.

### **INTERSECTION CAPACITY ANALYSIS**

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections utilized in the <u>Synchro (Version 7, Build 755)</u> Transportation System analysis software program as required by the New Mexico Department of Transportation. Synchro software deviates from the 2000 Highway Capacity Manual methods in several areas. The results obtained using Synchro software are generally deemed by the State to be close to those based on the 2000 Highway Capacity Manual in most cases.

Capacity analyses were performed for the following traffic conditions.

2010 without development of the subject property (2010 NO BUILD) 2010 with total development as per the Proposed Site Plan (2010 BUILD).

The results of the existing, 2010 NO BUILD and 2010 BUILD capacity analyses are summarized in the following sections - Results and Discussion of Intersection Capacity Analyses.

### **RESULTS OF SIGNALIZED INTERSECTION CAPACITY ANALYSES**

### IMPLEMENTATION YEAR (2010)

### #1 - I-40 N. Ramp / Unser Blvd. - Pages A-45 thru A-49

The results of the 2010 implementation year analysis of the signalized intersection of I-40 N. Ramp / Unser Blvd. are summarized in the following tables:

Existing Geometry (I-40 N. Ramp / Unser Blvd.)

	Existing Common (to the team of Chicon Divar)										
Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes						
EB I-40 N. Ramp	N/A	N/A	N/A	N/A	N/A						
WB I-40 N. Ramp	1	1	0	0	1*						
NB Unser Blvd.	1	0	2	0	0						
SB Unser Blvd.	0	0	3	0	1*						

I-40 N. Ramp / Unser Blvd.	N. Ramp / Unser Blvd. 2010 No Build 201			
	<u>A.M.</u>	<u>P.M.</u>	<u>A.M.</u>	<u>P.M.</u>
Existing Geometry	B - 12.5	B - 17.7	B – 12.2	B - 17.5

**D** – **39.8** – Bold Italicized LOS indicates that one or more movements are at Level-of-Service "E" or worse.

The signalized analysis of the I-40 North Ramp / Unser Blvd. indicates that the projected 2010 AM and PM Peak Hour NO BUILD and BUILD Conditions will operate at satisfactory levels-of-service under the existing geometry.

The queuing analysis for this intersection are summarized in the following table:

### **Queueing Analysis Summary Sheet**

Project:

98th / Unser Commercial Development

Intersection:

I-40 N. ramp / Unser Blvd

2010									
Approach Left Turns		Thru	Thru Movements			Right Turns			
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Len
Existing Lane Length	0	0	0	0	0	Cont	0	0	0
AM NO BUILD Queue	0	0	0	0	0	0	0	0	0
AM BUILD Queue	0	0	0	0	0	0	0	0	0
Existing Lane Length	0	0	0	0	0	Cont	0	0	0
PM NO BUILD Queue	0	0	0	0	0	0	0	0	0
PM BUILD Queue	0	0	0	0	0	0	0	0	0
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Len
Existing Lane Length	2	343	1,000	1	3	Cont	1	188	1,20
AM NO BUILD Queue	2	442	275	1	3	0	1	190	22
AM BUILD Queue	2	442	275	1	3	0	1	219	25
Existing Lane Length	2	626	1,000	1	0	Cont	1	771	1,2
PM NO BUILD Queue	2	816	575	1	0	0	1	827	1,0
PM BUILD Queue	2	816	575	1	0	0	1	879	1,0
N-4th	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Len
Northbound Existing Lane Length	1	24	350	2	687	Cont	0	0	0
AM NO BUILD Queue	1 1	46	75	2	948	525	0	0	0
AM BUILD Queue	1 1	46	75	2	974	525	0	0	0
Existing Lane Length	1	24	350	2	725	Cont	0	0	0
PM NO BUILD Queue	1 1	80	150	2	1,412	1,001	0	0	0
PM BUILD Queue	1	80	150	2	1,458	1,001	0	0	0
	#1	Vol.	Longth	# Lanes	Vol.	Longth	# Lanes	Vol.	Lan
Southbound	# Lanes	0	Length 0	# Lanes	1,775	Length Cont	# Lanes	68	Len
Existing Lane Length  AM NO BUILD Queue	0	0	0	3	2,246	800	1	76	12
AM BUILD Queue	0	0	0	3	2,240	825	1	76	12
	0	0	0	3	903	Cont	1	70	90
Existing Lane Length PM NO BUILD Queue	0	0	0	3	1,541	725	1	115	20
PM BUILD Queue	0	0	0	3	1,653	775	1	116	-
rivi build Gueue	U		U		1,003	115		110	200

<u>AM</u> PM

NOTE: Queue lengths are in feet.

100 Cycle Length:

130

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

### #2 - Ladera Dr. / Unser Blvd. - Pages A-50 thru A-57

The results of the 2010 implementation year analysis of the signalized intersection of Ladera Dr. / Unser Blvd. are summarized in the following tables:

Existing Geometry (Ladera Dr. / Unser Blvd.)

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

Ladera Dr. / Unser Blvd.	2010 N	o Build	2010 BUILD		
	A.M.	P.M.	A.M.	P.M.	
Existing Geometry	4 10000	F - 85.1	D - 48.4	F - 117	
Exist. Geom. Plus 2 <sup>nd</sup> WB Thru Lane (City Improvement)				F - 87.7	
Mitigated Geometry				D - 45.7	

D - 39.8 - Bold Italicized LOS indicates that one or more movements are at Level-of-Service "E" or worse.

Analysis of the signalized intersection of Ladera Dr. / Unser Blvd. demonstrates that the intersection is failing for the projected 2010 PM Peak Hour NO BUILD and BUILD Conditions. Partial mitigation of the excessive delays at the intersection consist of adding a 2<sup>nd</sup> westbound thru lane on Ladera Dr. The second westbound thru lane on Ladera Dr. is already planned to be constructed in the near future by the City of Albuquerque. However, construction of the new westbound thru lane will not result in an acceptable level-of-service at the intersection. Further improvements will be required at the intersection to effect a level-of-service "D" or better at the intersection. The mitigated geometry for the intersection of Ladera Dr. / Unser Blvd. is summarized in the following table:

Mitigated Geometry (Ladera Dr. / Unser Blvd.)

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

In summary, the mitigation measures required at the intersection of Ladera Dr. / Unser Blvd. consist of a second westbound thru lane on Ladera Dr., dual northbound and southbound left turn lanes, and a new southbound right turn lane on Unser Blvd.

The queuing analysis for this intersection are summarized in the following table:

### **Queueing Analysis Summary Sheet**

Project:

98th / Unser Commercial Development

Intersection:

Ladera Dr / Unser Blvd

<u>2010</u>												
Approach	L	eft Tu	rns	Thru	Thru Movements				Right Turns			
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# La	anes	Vol.	Lengt		
Existing Lane Length	1	175	250	1	251	Cont	ELS)	2	365	350		
AM NO BUILD Queue	1	178	225	1	368	400		2	557	350		
AM BUILD Queue	1	198	250	1	368	400		2	557	350		
Existing Lane Length	1	140	250	1	182	Cont		2	138	350		
PM NO BUILD Queue	1	155	250	1	272	375		2	322	275		
PM BUILD Queue	1	190	275	1	272	375		2	322	275		
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# La	nes	Vol.	Lengt		
Existing Lane Length	2	317	350	2	105	Cont			44	0		
AM NO BUILD Queue	2	524	325	2	156	125		)	53	100		
AM BUILD Queue	2	524	325	2	156	125		)	120	175		
Existing Lane Length	2	281	350	2	264	Cont	(	)	107	0		
PM NO BUILD Queue	2	591	450	2	399	325		)	128	200		
PM BUILD Queue	2	591	450	2	399	325		)	248	350		
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# La	nes	Vol.	Lengtl		
Existing Lane Length	2	48	300	2	429	Cont	1		224	230		
AM NO BUILD Queue	2	133	125	2	584	350	1		372	400		
AM BUILD Queue	2	133	125	2	639	375	1		372	400		
Existing Lane Length	2	288	300	2	860	Cont	1		372	230		
PM NO BUILD Queue	2	572	425	2	1,352	900			724	875		
PM BUILD Queue	2	572	425	2	1,450	1,001	1		724	875		
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# La	nes	Vol.	Length		
Existing Lane Length	2	45	160	2	906	Cont	1	= 1	58	TBD		
AM NO BUILD Queue	2	55	75	2	1,119	600	1		93	125		
AM BUILD Queue	2	99	100	2	1,155	625	1		106	150		
Existing Lane Length	2	94	160	2	547	Cont	1	Call!	184	TBD		
PM NO BUILD Queue	2	123	125	2	949	650	1		288	400		
PM BUILD Queue	2	260	225	2	1,062	725	1		329	450		

Cycle Length: 100 130

NOTE: Queue lengths are in feet.

TBD – To be designed.

The northbound left turn lane should be extended to a total length of 225 feet plus transition. The southbound left turn lane should be extended to a total length of 425 feet plus transition. One of the westbound left turn lanes extends well beyond 350 feet. The excess queues will be contained in that single left turn lane. The northbound right turn lane is a free right turn with an add lane. Therefore, the actual calculated queue is zero.

<sup>\* -</sup> Queue Length of 1,001 indicates that the calculated queue > 1

### #3 - Ouray Rd. / Unser Blvd. - Pages A-58 thru A-62

The results of the 2010 implementation year analysis of the signalized intersection of Ouray Rd. / Unser Blvd. are summarized in the following tables:

Existing Geometry (Ouray Rd. / Unser Blvd.)

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

Ouray Rd. / Unser Blvd.	2010 N	o Build	2010	BUILD
	<u>A.M.</u>	P.M.	<u>A.M.</u>	<u>P.M.</u>
Existing Geometry	A – 9.9	A - 7.0	B - 10.5	A - 7.7

**D** - **39.8** - Bold Italicized LOS indicates that one or more movements are at Level-of-Service "E" or worse.

The signalized analysis of Ouray Rd. / Unser Blvd. indicates that the projected 2010 AM and PM Peak Hour NO BUILD and BUILD Conditions will operate at satisfactory levels-of-service.

The queuing analysis for this intersection are summarized in the following table:

### **Queueing Analysis Summary Sheet**

Project:

98th / Unser Commercial Development

Intersection:

Ouray Rd / Unser Blvd

<u>2010</u>									
Approach	Le	oft Tu	rns	Thru	Move	ments	Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	45	80	1	18	Cont	1	11	80
AM NO BUILD Queue	1	45	75	1	18	50	1	11	25
AM BUILD Queue	1	45	75	1	18	50	1	13	50
Existing Lane Length	1	23	80	1	12	Cont	1	3	80
PM NO BUILD Queue	1	23	75	1	12	50	1	3	25
PM BUILD Queue	1	23	75	1	12	50	1	6	25
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	166	200	1	10	Cont	1	38	170
AM NO BUILD Queue	1	166	200	1	10	25	1	38	75
AM BUILD Queue	1	179	225	1	10	25	1	38	75
Existing Lane Length	1	68	200	1	18	Cont	1	34	170
PM NO BUILD Queue	1	92	175	1	24	75	1	46	100
PM BUILD Queue	1	115	200	1	24	75	1	46	100
	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Northbound Existing Lane Length	# Lalles	9	250	2	1,130	Cont	# Lailes	22	225
AM NO BUILD Queue	1	9	25	2	1,135	600	1	22	50
AM BUILD Queue	1 1	10	25	2	1,149	625	1	30	75
	1	21	250	2	1,141	Cont	1	87	225
Existing Lane Length PM NO BUILD Queue	1	21	50	2	1,141	775	1	87	150
PM BUILD Queue	1	25	75	2	1,186	800	1	113	200
1 11 20122 44040									
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	37	325	2	883	Cont	1	6	280
AM NO BUILD Queue	1	42	75	2	1,009	550	1	7	25
AM BUILD Queue	1	42	75	2	1,031	575	1	7	25
Existing Lane Length	1	93	325	2	739	Cont	1	34	280
PM NO BUILD Queue	1	107	175	2	847	600	1	39	100
PM BUILD Queue	1	107	175	2	886	625	1	39	100

AM PM Cycle Length: 100 130

NOTE: Queue lengths are in feet.

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

### #4 - Vista Oriente St. - Tierra Pintada Blvd. / Unser Blvd. - Pages A-63 thru A-67

The results of the 2010 implementation year analysis of the signalized intersection of Vista Oriente St. – Tierra Pintada Blvd. / Unser Blvd. are summarized in the following tables:

**Existing Geometry (Vista Oriente St. / Unser Blvd.)** 

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Tierra Pintada Blvd.	1	0	1	0	1
WB Vista Oriente St.	1	0	1	0	1
NB Unser Blvd.	1	0	2	0	1
SB Unser Blvd.	1	0	2	0	1

Vista Oriente St. / Unser Blvd.	2010 N	2010 No Build		BUILD
	<u>A.M.</u>	P.M.	<u>A.M.</u>	<u>P.M.</u>
Existing Geometry	B – 11.6	A - 8.6	B - 12.6	C - 26.0

**D** - **39.8** - Bold Italicized LOS indicates that one or more movements are at Level-of-Service "E" or worse.

The signalized analysis of Vista Oriente St. – Tierra Pintada Blvd. / Unser Blvd. indicates that the projected 2010 AM and PM Peak Hour NO BUILD and BUILD Conditions will operate at satisfactory levels-of-service under the existing geometry.

The queuing analysis for this intersection are summarized in the following table:

### **Queueing Analysis Summary Sheet**

Project: Intersection: 98th / Unser Commercial Development

Vista Oriente St / Unser Blvd

Approach	Le	ft Tu	ns	Thru	Move	ments	Rig	ht Tu	rns
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	34	150	1	3	Cont	1	195	999
AM NO BUILD Queue	<del>                                     </del>	127	175	1	4	25	1	228	275
AM BUILD Queue	1 1	131	175	1	19	50	1	228	275
Existing Lane Length	1	31	150	1	2	Cont	1	68	999
PM NO BUILD Queue	1 1	100	175	1	3	25	1	101	175
PM BUILD Queue	1	107	175	1	30	75	1	101	175
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	14	260	1	0	Cont	1	. 4	270
AM NO BUILD Queue	1 1	14	50	1	0	0	1	4	25
AM BUILD Queue	1 1	106	150	1	12	25	1	28	50
Existing Lane Length	1	65	260	1	. 1	Cont	1	24	270
PM NO BUILD Queue		65	125	1	1	0	1	24	75
PM BUILD Queue	1	356	475	1	40	100	1	99	175
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	28	350	2	631	Cont	1	15	220
AM NO BUILD Queue	1	29	50	2	658	400	1	16	50
AM BUILD Queue	1	29	50	2	686	400	1	130	175
Existing Lane Length	1	179	350	2	840	Cont	1	22	220
PM NO BUILD Queue	11	196	300	2	920	650	1	24	75
PM BUILD Queue	1	196	300	2	971	675	1	226	325
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	10	220	2	783	Cont	1	21	300
AM NO BUILD Queue	1 1	12	25	2	944	525	1	25	50
AM BUILD Queue	1 1	49	75	2	944	525	1	25	50
Existing Lane Length	1	28	220	2	770	Cont	1 1	47	300
PM NO BUILD Queue	1 1	32	75	2	889	625	1	54	100
PM BUILD Queue	1	97	175	2	889	625	1	54	100

The westbound left turn lane cannot be extended due to the presence of an existing intersection of Vista Oriente with Vista Oeste. The calculated length of the northbound right turn lane can be reduced by 50% to account for right turns on red and the right turn overlap phase.

130

Cycle Length:

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

### RESULTS OF UNSIGNALIZED INTERSECTION CAPACITY ANALYSES

### IMPLEMENTATION YEAR (2010)

### #5 - I-40 S. Ramp / Unser Blvd. - Pages A-69 thru A-72

The results of the analysis of the unsignalized intersection of the I-40 South Ramp / Unser Blvd. are summarized in the following table:

	2010 NO BUILD		2010 BUILD	
	AM	PM	AM	PM
I-40 South Ramp / Unser Blvd.				
Minor Street (I-40 S. Ramp)				
EB Left	F - 247	F - 860	F - 247	F - 970
EB Right	N/A	N/A	N/A	N/A
Major Street (Unser Blvd.)				
NB Left	N/A	N/A	N/A	N/A

NOTE: The eastbound right turn movement occurs with a free right turn ramp with an add lane. There is no northbound left turn movement since the ramp is one-way eastbound. Also, there are no eastbound thru movements at this intersection.

As demonstrated in the previous Traffic Impact Study for the proposed I-40 / Unser Commercial Development, the unsignalized intersection of the I-40 South Ramp / Unser Blvd. is not projected to meet the minimum warrant for a traffic signal based on the 2010 AM and PM Peak Hour forecast volumes. The deficit in the signal warrant analysis was the volume projected on the side street (the I-40 South Ramp). This project adds only one vehicle per hour to the eastbound movement on the South Ramp. Therefore, this analysis also concludes that a signal will not be warranted at the I-40 South Ramp / Unser Blvd.

### #6 - Vista Oriente St. / Driveway "A" - Pages A-74 thru A-77

The results of the analysis of the unsignalized intersection of Vista Oriente St. / Driveway "A" are summarized in the following table:

	2010 NO BUILD		2010	BUILD
			AM	PM
Vista Oriente St. / Driveway "A"				
Minor Street (Vista Oeste)				
NB Left	A - 8.7	A - 9.5	C - 15.2	D - 31.6
NB Thru	N/A	N/A	C - 15.2	D - 31.6
NB Right	N/A	N/A	C-15.2	D - 31.6
Minor Street (Driveway "A")				
SB Left	N/A	N/A	A - 9.1	C - 16.4
SB Thru	N/A	N/A	A - 9.1	C - 16.4
SB Right	N/A	N/A	A - 9.1	B - 12.0
Major Street (Vista Oriente St.)				
EB Left	N/A	N/A	A - 5.3	A - 8.1
WB Left	A-1	A-1	A-1	A - 1

Driveway "A" is proposed as a full access unsignalized intersection on Vista Oriente St. which aligns with the existing intersection of Vista Oriente St. / Vista Oeste. It is located about 365 feet (centerline to centerline) east of Unser Blvd. The available queuing distance between the stop bar for westbound traffic on Vista Oriente St. at Unser and the eastbound left turn traffic on Vista Oriente at Driveway "A" is approximately 270 feet. The calculated maximum eastbound left turn volume into Driveway "A" during the projected PM Peak Hour is 227 vehicles per hour. The resulting calculated queue requirement (from Synchro) for this movement is 25 feet.

### #7 - Vista Oriente St. / Driveway "B" - Pages A-78 thru A-80

The results of the analysis of the unsignalized intersection of Vista Oriente St. / Driveway "B" are summarized in the following table:

	2010	BUILD
	AM	PM
Vista Oriente St. / Driveway "B"		
Minor Street (Driveway "B")		
SB Left	A - 8.5	A - 9.0
SB Right	A - 8.5	A - 9.0
Major Street (Vista Oriente St.)		
EB Left	A - 5.3	A - 5.3

Driveway "B" is proposed as a full access unsignalized intersection on Vista Oriente St. approximately 150 feet east of Driveway "A" on Vista Oriente St. The calculated maximum eastbound left turn volume into Driveway "B" during the projected PM Peak Hour is 68 vehicles per hour. The resulting calculated queue requirement (from Synchro) for this movement is 25 feet.

### #8 - Driveway "C" / Unser Blvd. - Pages A-81 thru A-83

Since Driveway "C" exists as a right-turn-in only driveway off of the major street, then the unsignalized intersection analysis yields zero delay for all movements permitted.

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

<u>Average Delay</u>	Level-of-Service
(secs)	
≤ 10	Α
> 10 and ≤ 15	В
> 15 and ≤ 25	С
> 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**

This analysis was conducted using the following methodology: Trip Generation was established using the Institute of Transportation Engineers' (ITE's) Trip Generation Manual (7th Edition). Generated Trips were distributed proportionately based on population data within a two-mile radius of the commercial project; annual growth rate of background traffic volumes was established from MRCOG regional transportation model data so as to be consistent with the projected AM and PM Peak Hour link volumes; and the intersection analyses were performed in accordance with methods incorporated by Synchro transportation modeling software. The Traffic Impact Study showed a relatively insignificant increase in traffic congestion for the adjacent transportation network based on 100% buildout of the proposed project.

The intersection of Ladera Dr. / Unser Blvd. showed considerable congestion and delays due to the high volume of background traffic during the 2010 PM Peak Hour NO BUILD and 2010 PM Peak Hour BUILD Conditions. Addition of the traffic from the proposed 98<sup>th</sup> / Unser Commercial Development is not the cause of level-of-service failures at that intersection. It is important to note that this project constitutes less than a 9% of the projected 2010 PM Peak Hour BUILD volumes at the intersection of Ladera Dr. / Unser Blvd.

In summary, the proposed development of 98<sup>th</sup> / Unser Commercial Development presents no significant adverse impact to the adjacent transportation system provided that the following recommendations are followed:

### **RECOMMENDATIONS**

### FROM IMPLEMENTATION YEAR (2010) ANALYSIS

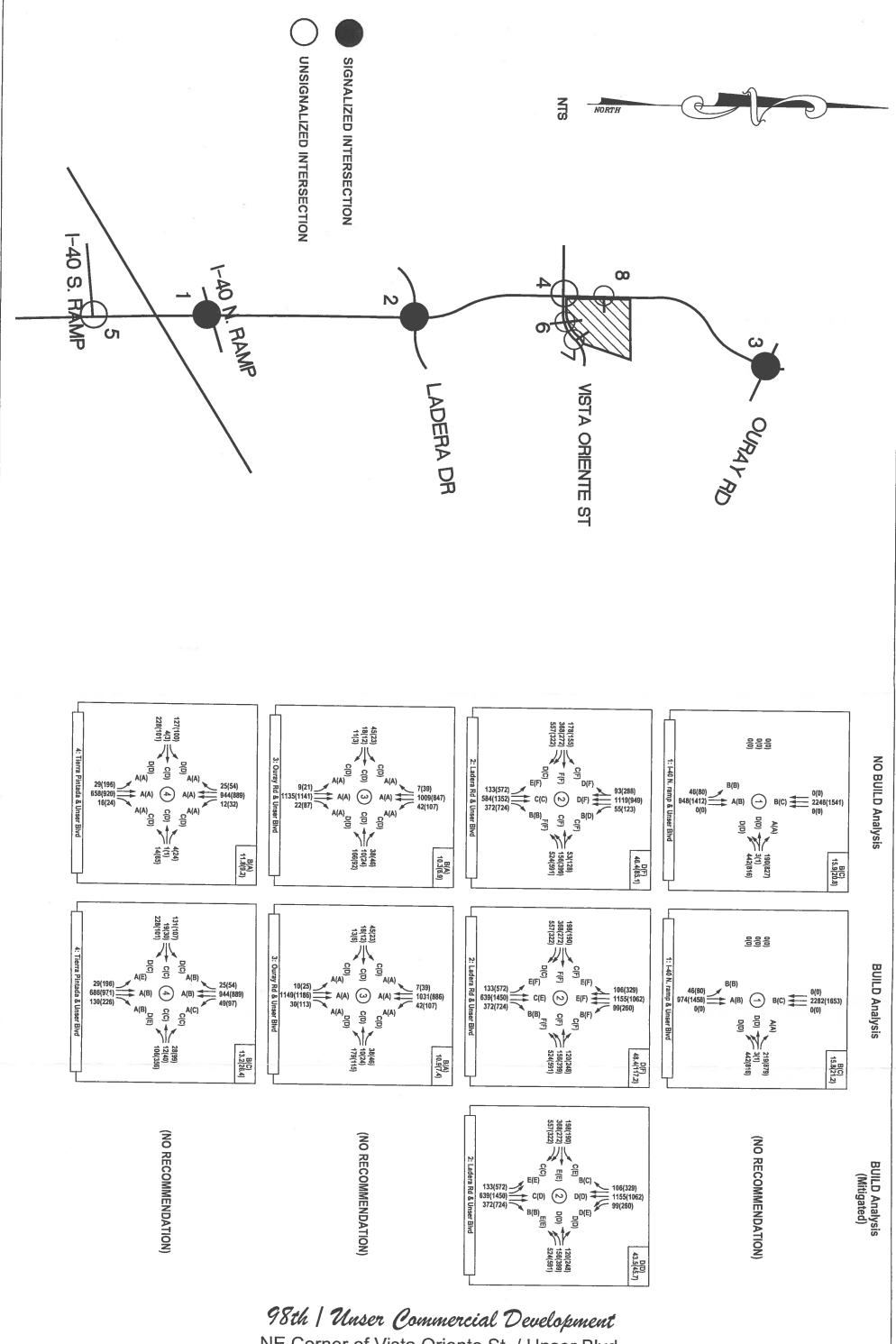
- All design and construction for this project shall insure that adequate site distances at the proposed access points are maintained.
- Driveways shall be constructed using a minimum of 25-foot radius curb returns or larger if need for truck access.

### **Mitigation Recommendations:**

- Driveway "C" / Unser Blvd. Driveway "C" on Unser Blvd. is an existing approved right-turn-in only unsignalized driveway. No changes are recommended as a result of this study.
- Vista Oriente St. / Driveway "A" Driveway "A" is proposed as a full access unsignalized driveway located approximately 365 feet east of Unser Blvd. (centerline to centerline). Driveway "A" should be constructed to include an eastbound left turn lane on Vista Oriente St. The eastbound left turn lane should be constructed to a length of 125 feet plus transition. The north leg of Driveway "A" should align with Vista Oeste on the south side of Vista Oriente St. The north leg of the intersection should be constructed with two exiting lanes (one for right turns and one for thru / left turns). The right turn lane should be channelized. Design and construction of Driveway "A" should conform to the requirements of the City of Albuquerque's Development Process Manual.
- Vista Oriente St. / Driveway "B" Construct the proposed Driveway "B" on Vista Oriente St. shown on the site plan on Page A-2 in the Appendix of this study as a full access unsignalized tee intersection on the north side of Ouray Rd. Locate the intersection of Driveway "B" approximately 150 feet east of Driveway "A". The driveway should be constructed with at least one exiting lane (for left turns and right turns) and one entering lane in conformance with the requirements of the current City of Albuquerque Development Process Manual and the requirements of the City Engineer.
- Ladera Dr. / Unser Blvd. The City of Albuquerque plans to construct a second westbound thru lane on Ladera Dr. at Unser Blvd. In addition, construction of dual northbound and southbound left turn lanes on Unser Blvd. at Ladera, and construction of a new southbound right turn lane on Unser Blvd. at Ladera will be required to effect an operational level-of-service "D" or better at the intersection of Ladera Dr. / Unser Blvd.

### **AUXILIARY LANES**

• Ladera Dr. / Unser Blvd. - The northbound left turn lane on Unser Blvd. at Ladera Dr. should be extended to a total length of 225 feet plus transition. The southbound left turn lane on Unser Blvd. at Ladera Dr. should be extended to a total length of 425 feet plus transition.

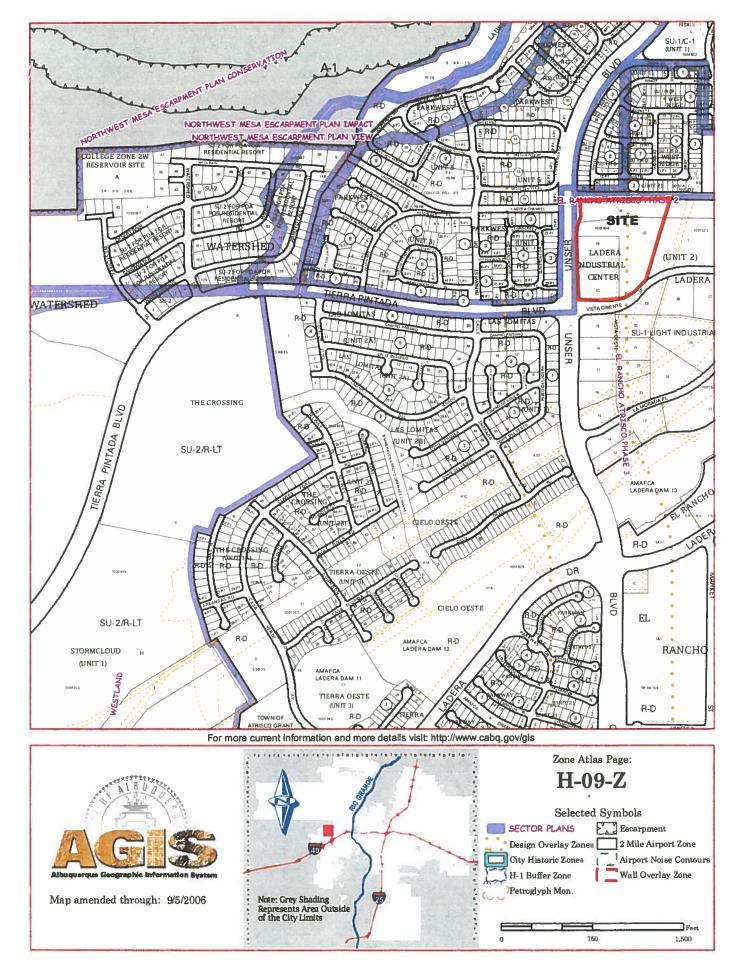


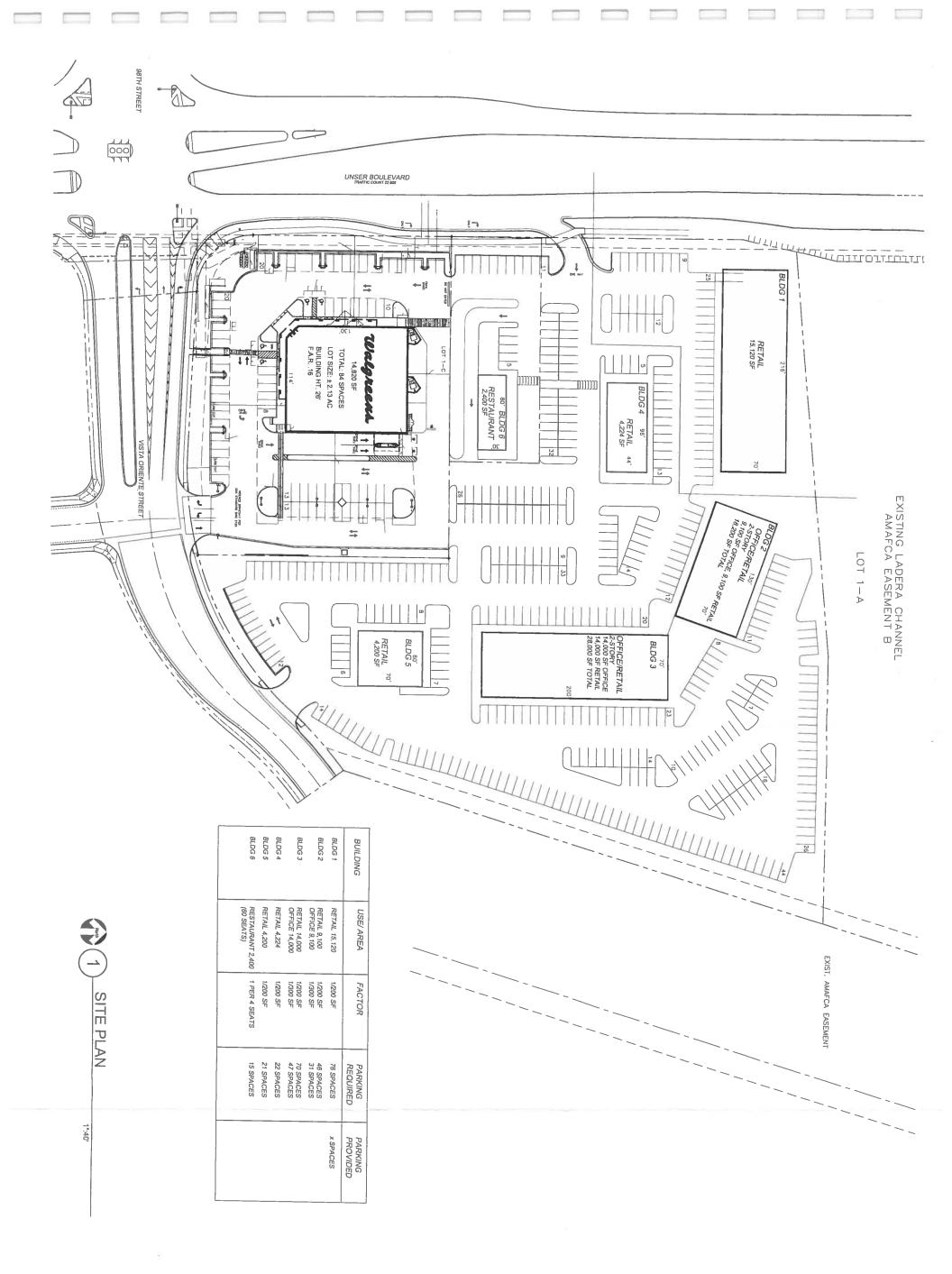
98th | *Unser Commercial Development*NE Corner of Vista Oriente St. / Unser Blvd.
LOS / Volume Analysis Map

### <u>xibnaqqA</u>

38-A undt 88-A	Traffic Count Data
	Supporting Data
78-A undt №8-A	Auxillary Lane Warrant Worksheets (New Mexico Department of Transportation)
E8-A undt 18-A	Unsignalized Intersection Analyses (Driveway "C" / Unser Blvd.)
08-A undt 87-A	Unsignalized Intersection Analyses (Vista Oriente St. / Driveway "B")
TT-A undt ET-A	Unsignalized Intersection Analyses (Vista Oriente St. / Driveway "A")
SY-A undt 88-A	Unsignalized Intersection Analyses (I-40 South Ramp / Unser Blvd.)
	UNSIGNALIZED INTERSECTION ANALYSES
78-A undt 68-A	Signalized Intersection Analyses (Tierra Pintada Blvd Vista Oriente St. / Unser Blvd.)
S9-A undt 83-A	Signalized Intersection Analyses (Ouray Rd. / Unser Blvd.)
73-A undt 03-A	Signalized Intersection Analyses (Ladera Dr. / Unser Blvd.)
44 thru A-49	Signalized Intersection Analyses (I-40 South Ramp / Unser Blvd.)
	SIGNALIZED INTERSECTION ANALYSES
£4-43	2010 BUILD Volumes Maps
Zp-A	Trips Generated Volumes Maps
ZÞ-42	2010 NO BUILD Volumes Maps
F4-A undt 8S-A	Individual Intersection Turning Movement Counts Tables (2010)
A-24 thru A-25	2010 Summary Table of Intersection Turning Movement Volumes
	TURNING MOVEMENT COUNTS
£S-A	Trip Assignments Map - Commercial (% Exiting)
SS-A	Trip Assignments Map - Commercial (% Entering)
tS-A undt 8t-A	MRCOG Forecast Volumes
71-A	Trip Distribution Map - Commercial Trips
8f-A undt Ef-A	Trip Distribution Worksheets – (Commercial)
SI-A	Trip Distribution Data Analysis Subzone Map
	TRIP DISTRIBUTION
LT-A undt 8-A	Trip Generation Worksheets
Z-A	Trip Generation Summary Worksheet
	TRIP GENERATION
9-∀	Long Range Roadway Plan for the Albuquerque Urban Area
S-A	MRCOG's 2006 Traffic Flow Map for the Greater Albuquerque Area
<b>⊅-</b> ∀	Aerial Photo – Transportation System
E-A	Aerial Photos – Project
S-A	Conceptual Site Development Plan
r-A	Vicinity Map
	SITE INFORMATION

**APPENDIX** 





DATE: 1/31/07 SCALE:	PROJECT TITLE UNSER & 98	TH STREE	T
A1	PROJECT MANAGER George Reterrori, AVA	JOB NO	DRAWN BY:
1.0	Site Plan		

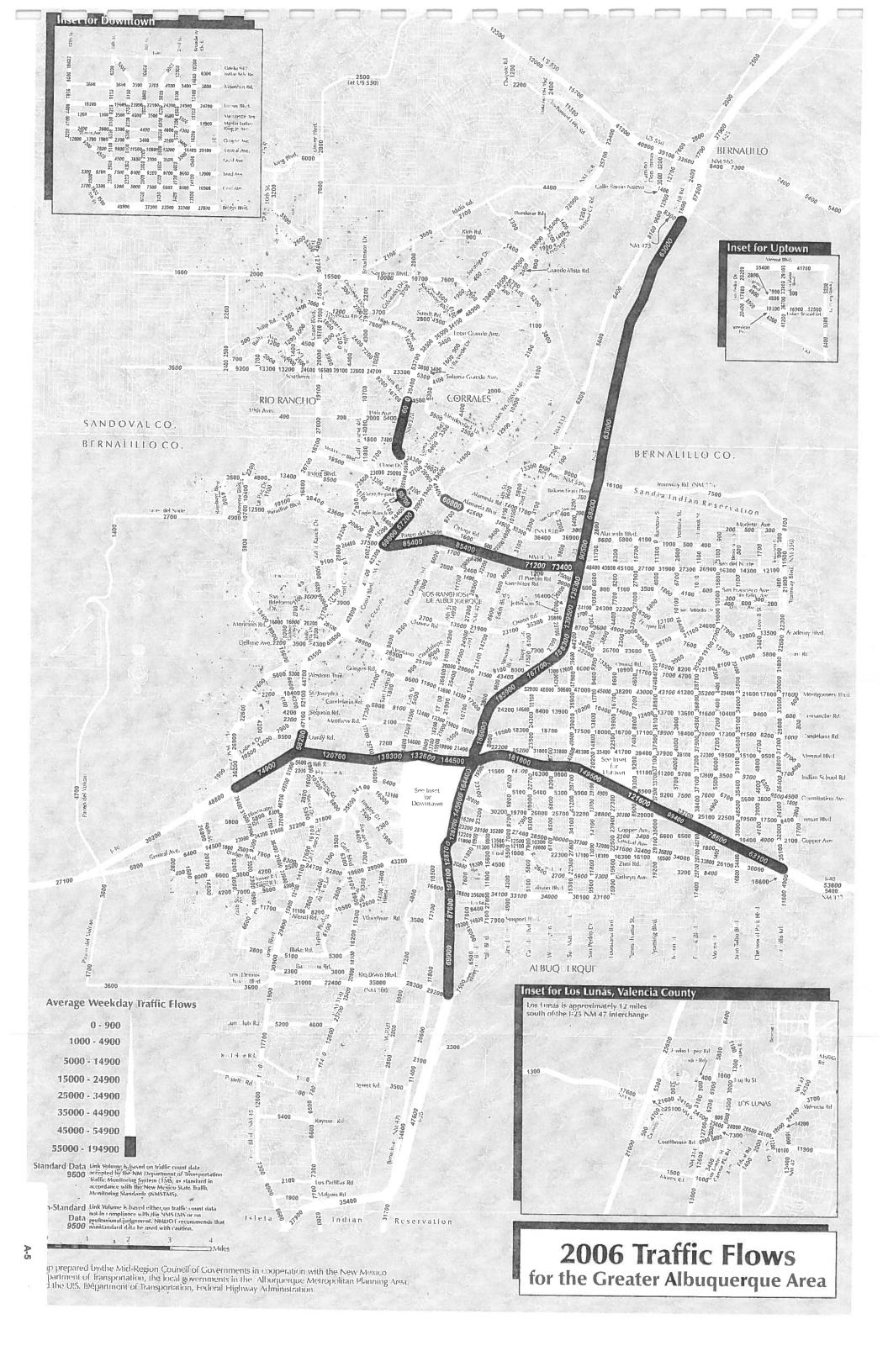
GEORGE RAINHART, ARCHITECT AND ASSOCIATES P.C. 2325 SAN PEDRO NE., SUITE 2-B ALBUQUERQUE, NEW MEXICO 87110 PHONE (505) 884-9110 FAX (505) 837-9877

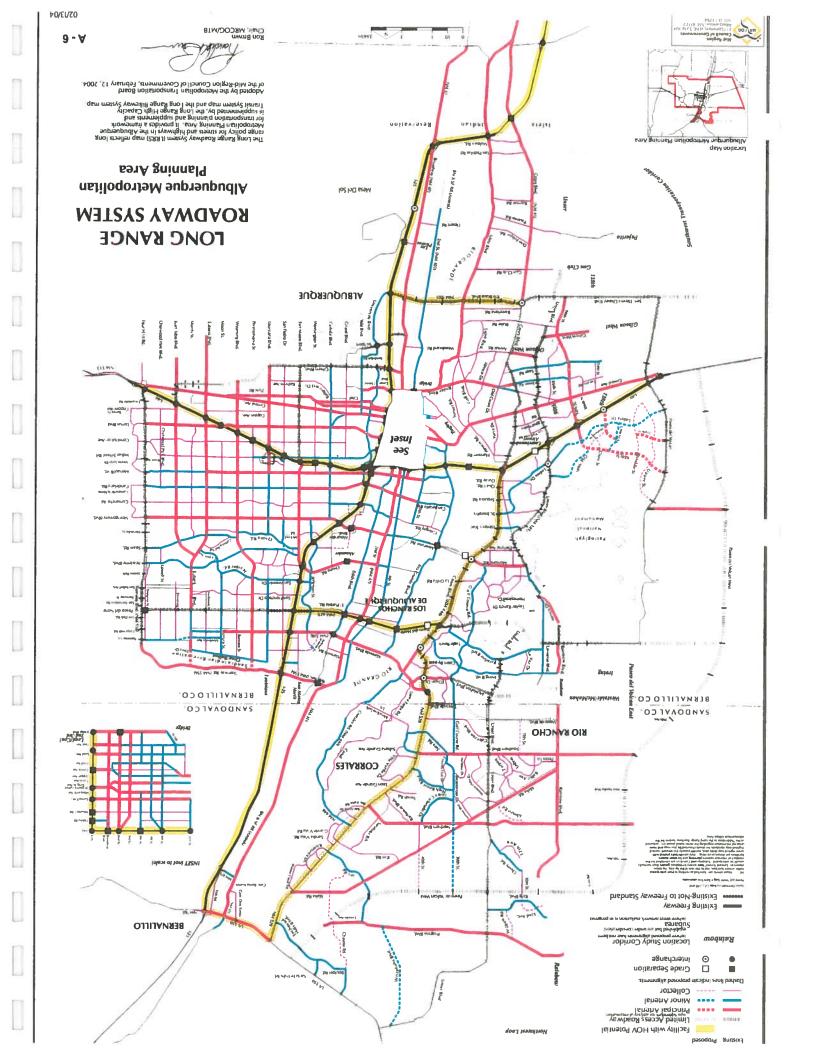
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		6.13.07	JS	WAG BUFFER ADDED









98th/ Unser Commercial Development (NE Corner) Trip Generation Data

	IISE (ITE CORT)					
	OSE (IIE CODE)	24 HP VOI	25 4	41.714		
COMMENT		ET IIIN VOL	A. M. PEAK HK.	AN HK.	P. M. PEAK HR.	AK HR.
	DESCRIPTION	GROSS	ENTER	EXIT	ENTED	FVIT
	Summary Sheet				LINI EN	
Fyicting	,					
Bungar	Walgreen's (Local Data)	4 052	5			
Proposed		1,000	33	23	122	127
5	de la con restaurant W/ Drive-Thru Window (934)	1 101	20	8		
Proposed		1,131	000	70	43	40
D contract	46.64 (6.64)	4.136	09	30	182	107
Lioposed	General Office Building (710) - I ass than 61 000 or			3	102	2
	23.10 S. L.	340	42	ဖ	σ	45
	Subtotal Trips Generated	200			,	2
		7,520	200	130	356	409

HOUR PEAK HOUR	EXIT ENTER FXIT		23 122 127	
M.A	ENTER		33	
24 HOUR TWO-WAY VOLUME	GROSS		1,853	
USE (ITE CODE)		Walnean's (1909) Both	14.82	1,000 S.F.

## ITE Trip Generation Equations:

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

0 41% Exit

3.79 (X) +

59% Enter,

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

Comments: T= 
$$16.82 \text{ (X)} + 0$$
  
Existing

USE (ITE CODE)	24 HOUR TWO-WAY VOLUME		A. M. PEAK HOUR	.M.9	PEAK
	GROSS	ENTER	EXIT	ENTER	FYIT
Face Food Books and Albert The Contract of the					
2.40	1,191	65	62	43	40
1,000 S.F.					

### ITE Trip Generation Equations:

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

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

$$T = 53.11 (X) + 0$$
  
51% Enter, 49% Exit

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

A. M. PEAK HOUR PEAK HOUR PEAK	ENTER EXIT ENTER FXIT	-	60 39 182 197	
AUOH AS YAW-OWT	GROSS		4,136	
USE (ITE CODE)		Shopping Center (820)	46.64	1,000 S.F.

### ITE Trip Generation Equations:

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

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

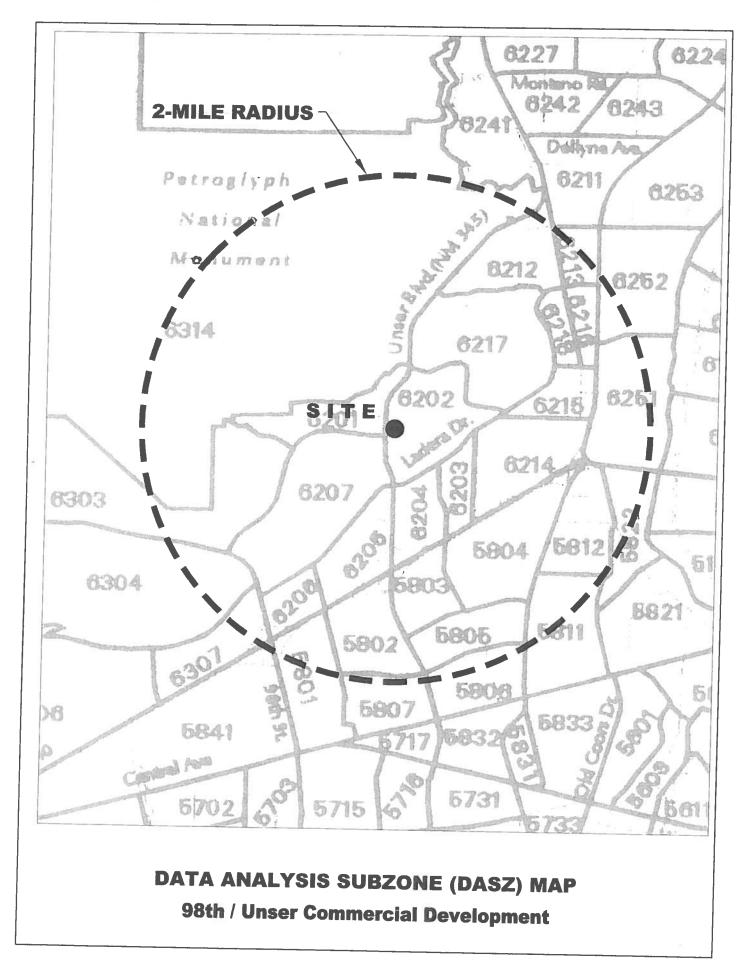
Average Vehicle Trip Ends on a Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4pm and 6pm (P.M. PEAK HOUR)

A. M. PEAK HOUR PEAK HOUR	ENTER EXIT ENTER EXIT	6
A HOUR TWO-WAY VOLUME	GROSS	340
USE (ITE CODE)		General Office Building (710) - Less than 51,000 S.F. 23.10 1,000 S.F.

## ITE Trip Generation Equations:

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

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



Trip Distribution Table Project Name (Location)

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

2004 and 2030 Data Takan from Mid-Region Council of Governments' 2030 <u>Socioeconomic</u> 2030 Socioeconomic Forecasts by Data Anahsis Subzones for the Mid-Region of New Mexico

and the same of th	ast	Population				0		P	P	P	P		C		0	0	345	0			0 0	P	P	C	0	0	0	0	0		0	0	C			315
(VE)	Vista Oriente St East	% Population	Contains			0.00%	0.00%	%00.0	%00.0	%000	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	1.07%	0.00%	0.00%	%00.0	%00.0	0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	0.00%	0.00%	%00.0	0.00%	0.00%	0.00%	
1 3 1	VISIS	% Utilizing				%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	30%	%0	%0	%0	%0	1%0	%0	%0	%0	%0	0%0	%.0	%0	%0	%0	%0	%0	0%0	9%0	
		Population				0	0	0	0	0	0	0	0	0	0	0	526	0	0	0	0	0	0	0	0	0	0	1,361	0	0	0	0	0	0	0	1,886
(OE) Ourav Rd Faet	% Donulation	Utilizing						%00.0	0.00%			%00.0			%00.0							l			0.00%								0.00%	0.00%	0.00%	
		% Utilizing																					%0	%0	%0	%0	%0	%0¢	0%0	2,00	0.00	%.0	%,5	%0 0	%0	
ţ.		Population				0	0	o	0	o	0	0	0	0	0	0	0	0	0	0	0	0	1,869	0	0	0	700,	100'	2	0	0	0	ם י	0	-	3,23 <b>1</b> 11.00%
Unser Blvd. North	% Population	Utilizing							Ì						800.0			8000					6.36%				2000					8000		8000	0.00%	
בֿ	D/ 1 14111-1	Buzino &			200	200	2 200	0.20	%000	200	800	8.0	200	0.00	800	650	0 0	0.00	200	5 6	0,00	W 00 0	2001	200	800	200	50%	200	300	ŝ	200	800	700	2000	% 001	
	Percent	Population			O Rew	1 568K	9000	7 000/	%0C 0	0.4070	0.0270	8 028	7 80%	4 70%	A 30%	2 500/	2.00/2	A 2384	A 594/	0 878	0.07 /a	2000	0.00%	14 858/	20.5	1 1997	9 27%	8 17%	4 Koaz	0.5787	1 08%	0.60%	A 204/	0.000	400 00t	8
	Population in	Study			252	459		2 082	2,002	15.0	45	1 787	2 289	2005	1 281	1051	RR2	1 243	1 327	107	2 824	080		3 393	1.747	348	2.721	1.811	487	187	310	147	84		29.364	1000
	Interpolated Population for	the Year	2010		831	459	C	2 CB2	1,000	615	896	3.926	2.289	1.000	1.281	1.051	882	1.243	1.327	197	2.624	1 987	139	3.393	1,747	348	2,721	1,811	1.869	1,110	619	983	337	2	37.612	
		i	2030		926	432	0	2412	97	635	1424	3816	2177	1006	1691	1520	835	1357	1312	854	4709	2225	398	3331	1673	400	2653	1989	1788	1418	2684	4261	1460	0		
	2004 Population 2030 Population		2004	Map	542	467	0	1983	79	609	737	3959	2322	866	1158	910	870	1209	1331	0	1998	1889	61	3411	1769	333	2742	1758	1893	1017	0	0	0	2		
	% Sub Area			Boundary Specified on DASZ Map	40%	100%	100%	100%	100%	25%	2%	45%	100%	20%	100%	100%	100%	100%	100%	100%	100%	95%	%09	100%	100%	100%	100%	100%	25%	15%	20%	15%	25%	40%		
	DASZ#			oundary Spec	5801	5802	5803	5804	5805	5806	5807	5811	5812	5822	6201	6202	6203	6204	6205	6206	6207	6212	6213	6214	6215	6216	6217	6218	6251	6252	6303	6304	6307	6314		

Trip Distribution Table
Project Name (Location)

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 <u>Socioeconomic</u> 2030 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

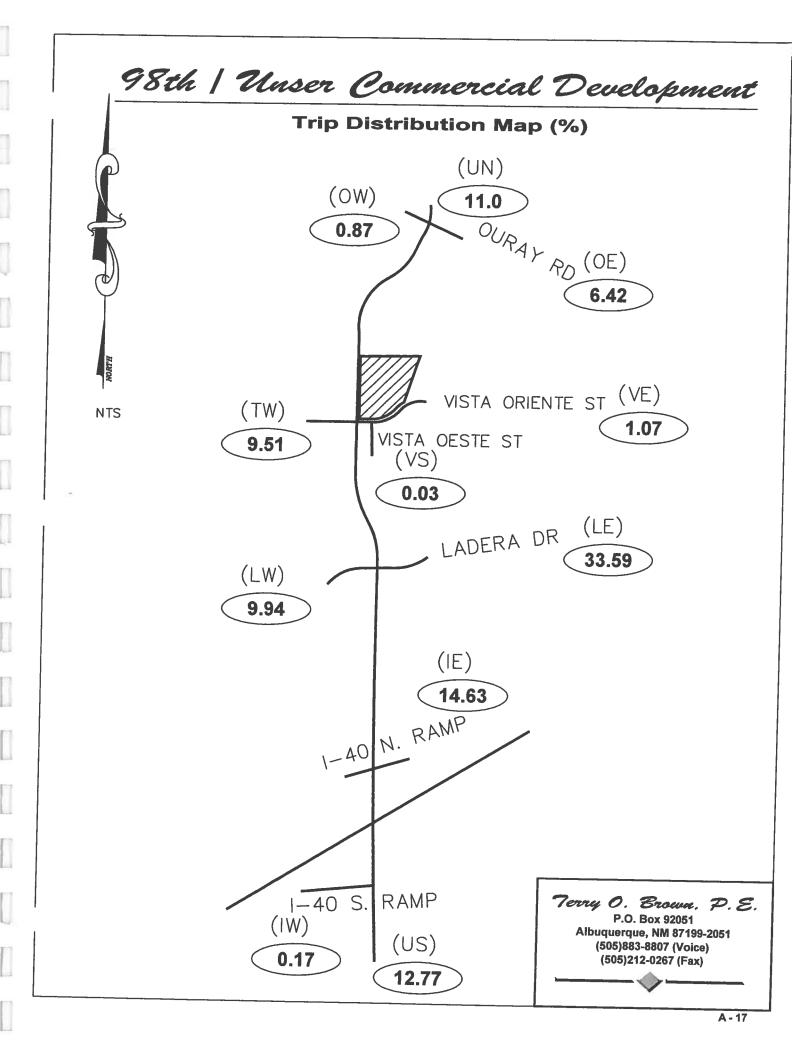
The state of the s	£		Population				202	459	0	1,041	83	154	45	1.767	0	0				0		0 0	PIC	0	C	0	0	0	0	0	0		0	0		5	0	3,751 12.77%
(ns)	Unser Blvd South	% Population	Utilizing				0.69%	1.56%	0.00%	3.55%	0.28%	0.52%	0.15%	6.02%	%00.0	%00.0	0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	%00.0	0.00%	%00.0	0.00%	%OO O	0.00%	2000	0.00%	
	ם	% I Itilizina	Sall Sall Sall Sall Sall Sall Sall Sall				%08	100%	100%	20%	100%	100%	100%	100%	%0	%,0	%.0	%0	%0	350	%0	%0	1%0	%0	%0	9,60	0,00	0%	0%0	%0	0%	9%0	%0	0%	%0	%0		
	p East	Population						0	ם י	1,041	5	0	0	0	2,289	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	467	0	0	0	0	0	4 207	14.63%
(IE)	Interstate 40 N. ramp East	% Population	Buzzino			70000	2000	886	6000	2000	2000	0.00%	0.00%	10.00%	, ac. /	3.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	800.0	0.00%	6.00%	1.59%	0.00%	0.00%	0.00%	%00.0	%00.0		
	Interst	% Utilizing				%0	%0	Des	20%	880	Ouv.	S O O	000	1000,	1000	0,007	800	3 0	200	%0	800	3%	200	%0	2000	% 6	000	8.0	800	0,000	%001	0/0	0%0	%0	050	0%0		
		Population				0	0	0	C	0	C	0	C	C	0	0	200	0.40	1 242	C+2'-	0	5 0	0	2 00	2 202 6	1747	348	2	1811		187	2	0	5 6	Э	0	9,864	33.59%
(LE)	ממכום זים במ	% Population Utilizing	9			0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	0 00%	0 72%	20404	4 23%	2000	70000	2000	0.000	0.00%	11 55%	5.95%	1.19%	%00.0	6.17%	%00.0	0.57%	D 0004	7000	2000	8000	8000		
-		% Utilizing				0.%	%0	0.%	%0	%0	0%0	%0	%.0	%0	%0	0%0	20%	100%	100%	%0	0%0	%.0	%0	100%	100%	100%	100%	%0	100%	%0	100%	%0	0%0	7,0	2000	220		
		Population			2000	0.00%	1.56%	0.00%	7.09%	0.28%	0.62%	0.15%	6.02%	7.80%	1.70%	4.36%	3.58%	2.94%	4.23%	4.52%	0.67%	8.94%	6.36%	0.28%	11.55%	2.95%	1.19%	9.27%	8.17%	1.59%	0.57%	1.06%	0.50%	0.29%	75000	100.00%	80.00	
	Doorslaston In	Study			252	707	904	0	2,082	83	154	45	1,767	2,289	200	1,281	1,051	862	1,243	1,327	197	2,624	1,869	83	3,393	1,747	348	2,721	1,811	467	167	310	147	84	-	29.364	100	
	hetalografin	Population for the Year	2010		631	AFD	DOT C	0000	790'7	20 00	0 0	968	3,926	2,289	000	1,281	1,051	862	1,243	1,327	197	2,624	1,967	139	3,393	1,747	348	2,721	1,811	1,869	1,110	619	983	337	2	37,612		
			2030		926	CE7	100	2412	2147	835	4408	3010	2010	1000	000	100	1520	833	135/	1312	400	4709	2225	398	3331	16/3	2000	7000	1700	1,00	1418	7684	4261	1460	0			
	2004 Daniel	ZU30 Population	2004	Map	542	467	0	1983	79	609	737	3959	2322	800	44.00	0000	0.00	000	1203	100	0 000	986	200	0	4700	80/1	2742	1758	1803	4047	200	0 0	0 0	0	2			
	m	in Study		Boundary Specified on DASZ Map	40%	100%	100%	100%	100%	25%	5%	45%	100%	20%	100%	100%	100%	100%	100%	100%	100%	02070	80%	100%	100%	100%	100%	100%	25%	15%	50%	150%	2507	20.00	40%			
	DAS7 #			Boundary Spe	5801	5802	5803	5804	5805	5806	5807	5811	5812	5822	6201	6202	6203	6204	8205	8206	6207	6212	6213	6214	6215	6216	6217	6218	6251	6252	6303	6304	6307	2344	1 20			

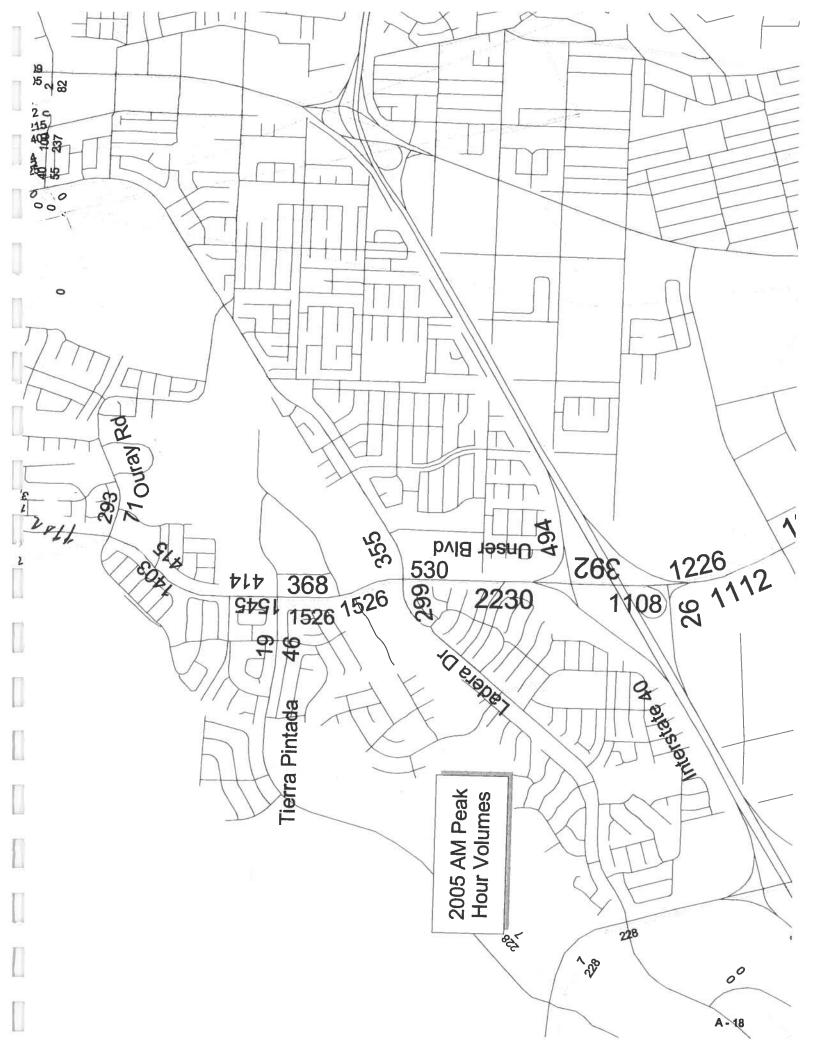
**Trip Distribution Table**Project Name (Location)

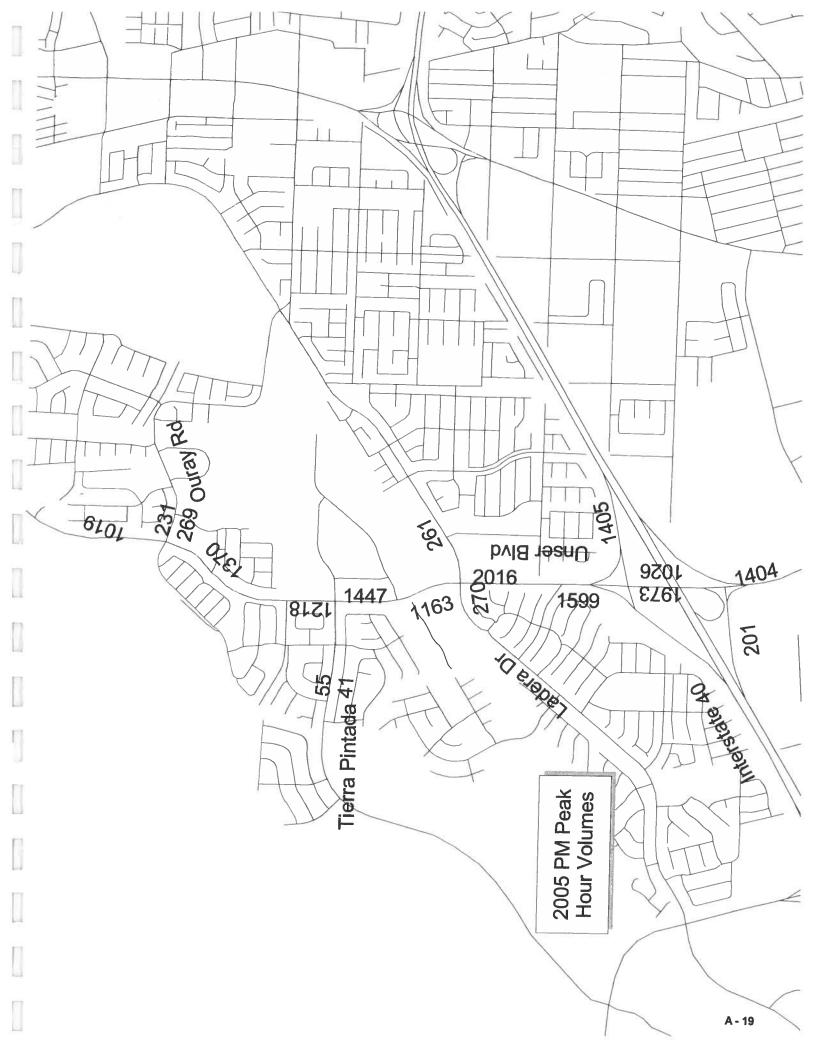
Data Analysis Subzone Population Data for determination of Local Trip Distribution for Proposed Retail Commercial Trips

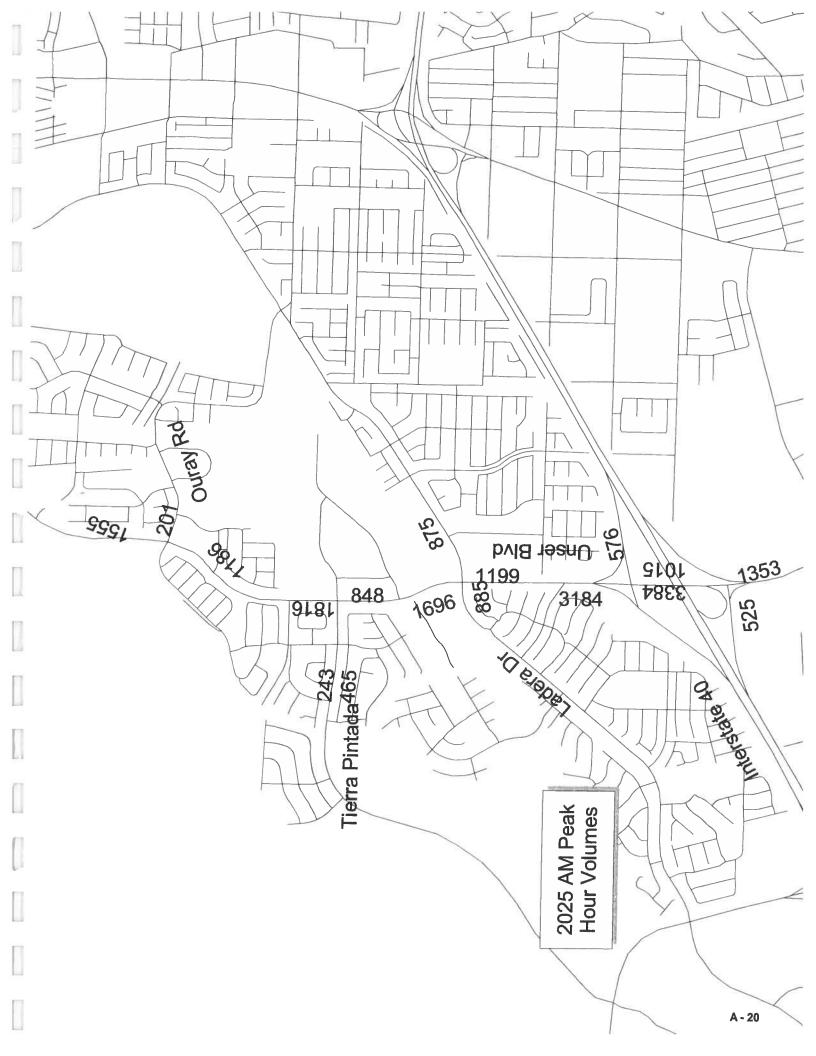
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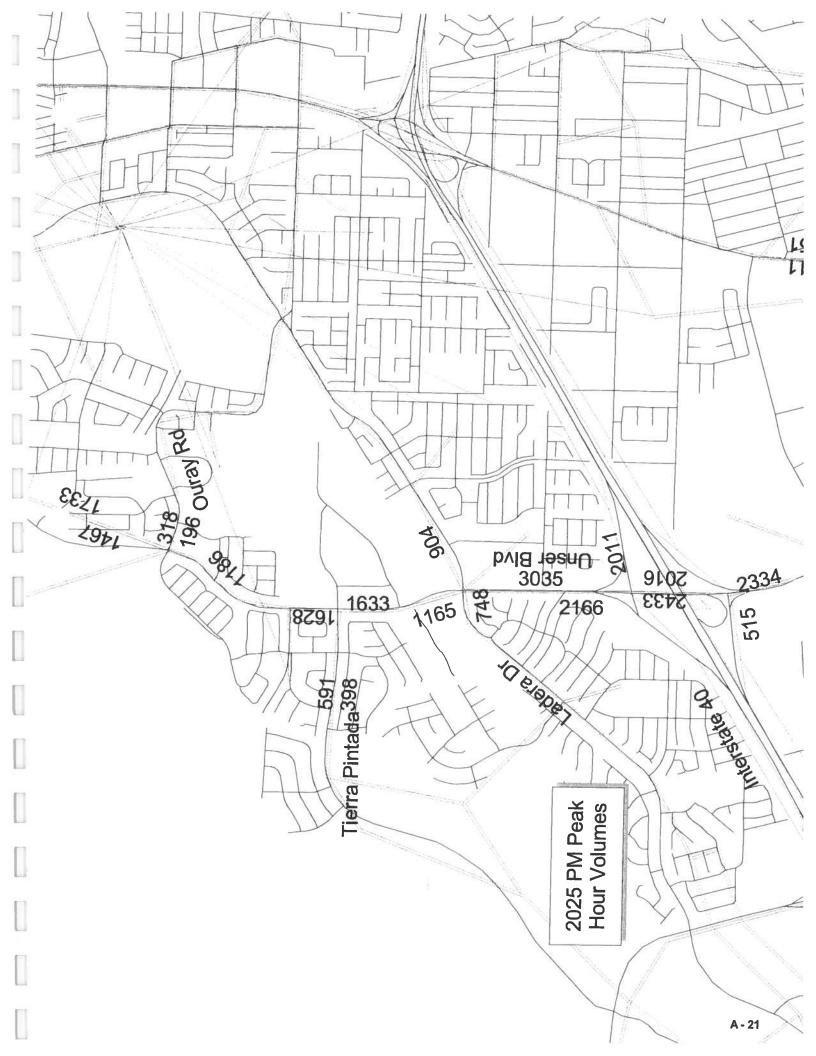
	Population	- Challengo			0			2	0	0	0	0	0	0	0	258	O		0	0	0 0	0	0						0	0	0	0	0	0	0	0	268
Ouray Ed West	% Population	Offizing			70000	7000	70000	2000	0.00%	0.00%	2000	80.0	0.00%	0.00%	0.00%	0.87%	%00.0	0.00%	%00.0	0.00%	%000	0.00%	0.00%	7000	2000	0.000	7000	7000	2000	8 200	800	800.0	%00.0	0.00%	0.00%	0.00%	
	% Utilizing	)			%0	0%	%0	/80	0,00	000	700	0.00	0 0	200	0.00	20%	%0	%0	%.0	8,0	%0	)ac	540	0%0	%0	i aO	0%0	00%	700	200	2 2	0.70	0.00	0.50	0.20	0'%	
West	Population				0	0	0	-	0 0	0	0	0	2	0	0	1,025	0	0	0	0	0	1.312	0	0	0	0	0	0	C	0	0 0	2 6	147	-	5 0	5	2,784
Tierra Piniada Blvd West	% Population	Guitzino			0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	%00.0	0.00%	%000	0.000	2000	6.44.9	0.00%	0.00%	0.00%	0.00%	0.00%	4.47%	0.00%	0.00%	%00.0	%00.0	%00.0	0.00%	0.00%	%00.0	%00.0	1 06%	0.50%	7000	989	8000	
Tierra	% Utilizing				000	'%O	%0	%0	%0	0%	%0	% <sub>0</sub>	%0	%0	/00a	200	200	Š	200	%0	%,0	20%	%.0	0,00	%,0	% 0	%0	0%	11/60	%0	%0	100%	100%	7,00	760	0	
	Percent Population				0.86%	1.56%	0.00%	7.09%	0.28%	0.62%	0.15%	6.02%	7.80%	1.70%	4 36%	2 586/	2040	4 0000	4.4378	4.0276	0.67%	8.94%	6.38%	0.28%	11.65%	5.95%	1.19%	9.27%	6.17%	1.59%	0.57%	1.06%	0.50%	0.29%	0.00%	100 00%	8000
	Population in Study			020	707	200	0	2,082	83	154	45	1,767	2,289	200	1.281	1.051	RRO	1 242	700 1	407	2000	2,524	1,869	200	3,383	1,747	348	2,721	1,811	467	167	310	147	84	-	29.364	
Indoornal admit	Population for	2010	2	834	200	000	0000	7,002	80	615	988	3,926	2,289	1,000	1,281	1.051	862	1 243	1 327	107	2 634	4,067	1,907	0000	777	1,74	2 724	17/7	1,617	999,	1,110	619	983	337	2	37.612	
	Population 2030 Population	2030		926	432		2442	2142	76	020	4741	3010	//17	1006	1691	1520	835	1357	1312	854	4709	2225	308	3331	1673	200	2853	1000	1700	00/1	1418	7084	4261	1460	0		
	2004 Population	2004	Мар	542	467	C	1983	200	200	737	3050	0000	7777	200	1158	910	870	1209	1331	0	1998	1889	6	3411	1769	333	2742	1758	1803	1047	2	0	0 0	5	2		
	% Sub Area in Study		Boundary Specified on DASZ Map	40%	100%	100%	100%	100%	25%	2%	45%	100%	200%	889	800	100%	100%	100%	100%	100%	100%	95%	%09	100%	100%	100%	100%	100%	25%	15%	50%	150%	7056	4004	40%		
	DASZ#		Soundary Spec	5801	5802	5803	5804	5805	5806	5807	5811	5812	5822	6204	1020	7070	6203	6204	6205	6206	6207	6212	6213	6214	6215	6216	6217	6218	6251	6252	6303	6304	6307	6344	2		





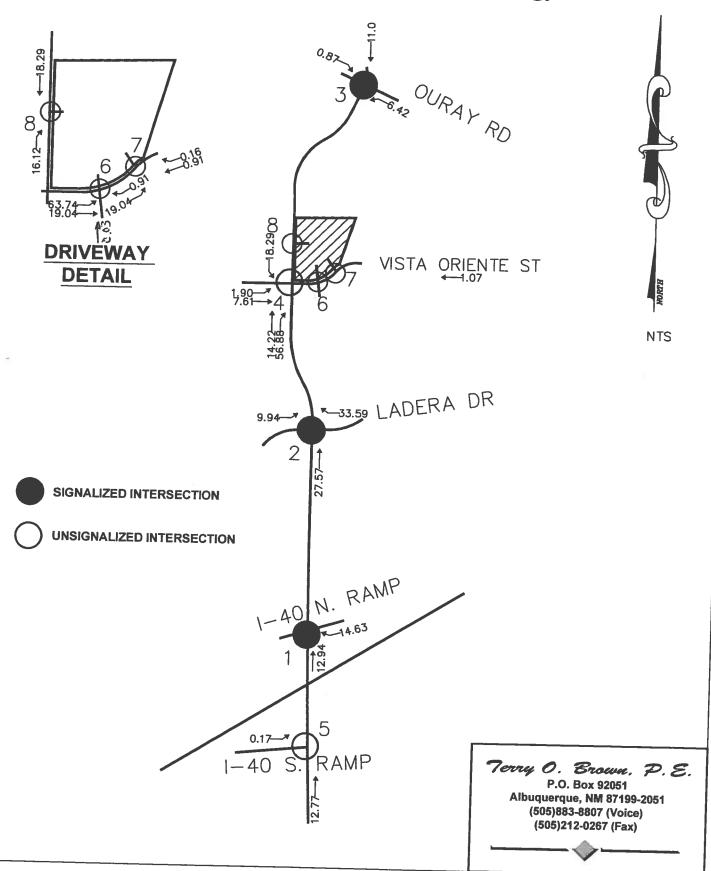






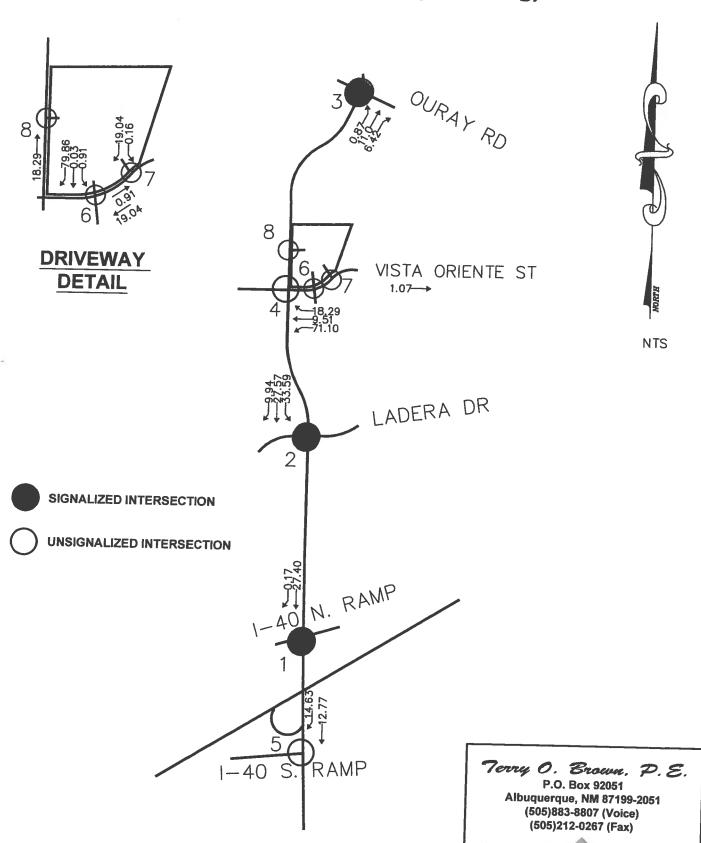
## 98th | Unser Commercial Development





# 98th | Unser Commercial Development

### **Trip Assignments (% Exiting)**



#### 98th / Unser Commercial Development Projected Turning Movements SUMMARY PROPOSED DEVELOPMENT (2010) - 100% Development

INTERSECTI	O N	:
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### Summary

I-40 N. ramp / Unser Blvd
(1)
3.0% Truck
Existing (2007)
2010 (NO BUILD - A.M.)
2010 (BUILD - A.M.)
•

	0.85			0.91			0.97			0.89	PHF
	und (I-40 N.		Westbe	ound (I-40 N.	ramp)	- Northb	ound (Unser	Blvd)	Southb	ound (Unser	Blvd)
Left I	Thru	Right	Left	Thru	Right	Left !	Thru	Right	Left	Thru	Right
0	0	0	343	. 3	188	24	687	01	01	1,775	68
0	0	0	442	3	190	46	948	0	0	2,246	76
0	0	0	442	3	219	46	974	0	0	2.282	76
	0.85			0.94			0.87			0.92	PUE

Existing (2007) 2010 (NO BUILD - P.M.) 2010 (BUILD - P.M.)

		0.85			0.94			0.87			0.92	PHF
1	Eastbo	und (I-40 N.	ramp)	Westbo	ound (I-40 N.	ramp)	North	ound (Unse	r Blvd)	Southh	ound (Unse	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	0	0	0	626	0	771	24	725	0	01	903	70
].	0	0	0	816	0	827	80	1,412	0	0	1,541	115
L	0	0	0	816	0	879	80	1,458	0	0	1,653	116

Ladera Dr / Unser Blvd (2)

3.0% Truck Existing (2007) 2010 (NO BUILD - A.M.) 2010 (BUILD - A.M.)

_		0.87			0.79			0.85			0.89	PHF
L		ound (Lade	ra Dr)	Westk	ound (Lade	ra Dr)	Northbo	ound (Unser	Blvd)	Southbo	und (Unser	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left I	Thru	Right
	175	251	365	317	105	44	481	429	224	451	9061	58
	178	368	557	524	156	53	133	584	372	55	1.119	93
	198	368	557	524	156	120	133	639	372	99	1.155	106
		0.93		,	0.93			0.05			1,700	700

Existing (2007) 2010 (NO BUILD - P.M.) 2010 (BUILD - P.M.)

			0.93			0.95			0.96	PHF
	a Dr)	Westb	ound (Lade	ra Dr)	Northbo	und (Unser	Blvd)	Southb	ound (Unse	
Thru	Right	Left	Thru	Right	Left	Thru	Right	Left		Right
182	138	281	264	107	288	8601	372	94		184
272	322	591	399	128	572	1,352	724			288
272	322	591	399	248	572	1.450	724	260	1.062	329
	Thru 182 272	Indexest         Image: Control of the control of	und (Ladera Dr)         Westb           Thru         Right         Left           182         138         281           272         322         591	und (Ladera Dr)         Westbound (Ladera Dr)           Thru         Right         Left         Thru           182         138         281         264           272         322         591         399	und (Ladera Dr)         Westbound (Ladera Dr)           Thru         Right         Left         Thru         Right           182         138         281         264         107           272         322         591         399         128	und (Ladera Dr)         Westbound (Ladera Dr)         Northbound (Ladera Dr)	und (Ladera Dr)         Westbound (Ladera Dr)         Northbound (Unser Dr)           Thru         Right         Left         Thru         Right         Left         Thru         Right         Left         Thru         860           182         138         281         264         107         288         860           272         322         591         399         128         572         1,352	und (Ladera Dr)         Westbound (Ladera Dr)         Northbound (Unser Blvd)           Thru         Right         Left         Thru         Right         Left         Thru         Right           182         138         281         264         107         288         860         372           272         322         591         399         128         572         1,352         724	und (Ladera Dr)         Westbound (Ladera Dr)         Northbound (Unser Blvd)         Southb           Thru         Right         Left         Thru         Right         Left         Thru         Right         Left         Thru         Right         Left         Left         Thru         Right         Right         Left         Thru         Right         Left         Thru	und (Ladera Dr)         Westbound (Ladera Dr)         Northbound (Unser Blvd)         Southbound (Unser Blvd)           Thru         Right         Left         Thru         Right         Left         Thru         Right         Left         Thru         Right         Left         Thru         182         138         281         264         107         288         860         372         94         547           272         322         591         399         128         572         1,352         724         123         949           273         273         274         275         276         277         278

Ouray Rd / Unser Blvd

4.3% Truck Existing (2007) 2010 (NO BUILD - A.M.) 2010 (BUILD - A.M.)

		0.93			0.75			0.86			0.98	PHF
		ound (Ouray		Westb	ound (Oura	y Rd)	Northbo	ound (Unser	Blvd)	Southbo	und (Unsei	Blvd)
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru I	Right
1	45	18	11	166	10	38	9	1,131	22	381	915	6
	45	18	. 11	166	10	38	9	1,135	22	42	1.009	7
	45	18	13	179	10	38	10	1.149	30	42	1.031	7
		0.75			0.01			0.04			.,	

Existing (2007) 2010 (NO BUILD - P.M.) 2010 (BUILD - P.M.)

- 1		0.70			0.91			0.91			0.91	PHF
ļ		ound (Oura		Westb	ound (Oura	y Rd)	Northb	ound (Unser	Blvd)	Southbo	und (Unser	Blvd)
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
- [	23	12	3	74	20	37	21	1,141	87	96	7661	35
	23	12	3	92	24	46	21	1,141	87	107	847	39
	23	12	6	115	24	46	25	1,186	113	107	886	39
							-	<del></del>				

Vista Oriente St / Unser Blvd		0.81			0.75			0.97			0.94	PHF
(4)		nd (Vista Or		Westbou	ind (Vista O	riente St)	· Northbe	ound (Unser	Blvd)	Southbo	und (Unser	
3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2007)	34	3	195	14	0	4	28	631	15	10	783	21
2010 (NO BUILD - A.M.)	127	4	228	14	0	4	29	658	16	12	944	25
2010 (BUILD - A.M.)	131	19	228	106	12	28	29	686	130	49	944	25
		0.90			0.75			0.94			0.00	20

Existing (2007) 2010 (NO BUILD - P.M.) 2010 (BUILD - P.M.)

		0.90			0.75							
г	F 44				0.75			0.94			0.88	PHF
Į.	Eastbou	nd (Vista Ori	ente St)	Westbou	nd (Vista Or	iente St)	Northb	ound (Unse	r Blvd)	South	ound (Unse	r Rivel)
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	31	2	68	65	1	24	179	840	22	28	7701	
	100	3	101	65	1	24	196	920	24	32	889	54
	107	30	101	356	40	99	196	971	226	97	889	54

### 98th / Unser Commercial Development Projected Turning Movements SUMMARY PROPOSED DEVELOPMENT (2010) - 100% Development

INTERSECTION:	S	umma	ry									
I-40 S. ramp / Unser Blvd		0.75										
(5)	Eaeth	ound (I-40 S	- Lamana	10141	0.85			0.80			0.88	PHF
3.0% Truck	Left	Thru	Right		ound (I-40 !			ound (Unse		Southt	ound (Uns	er Blvd)
Existing (2007)	31			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
				0				535	580	4	821	740
2010 (NO BUILD - A.M.)	94	0	54	0	0	0	0	787	671	5	1,331	883
2010 (BUILD - A.M.)	94	0	54	0	0	0	0	813	671	5	1,348	883
		0.90			0.85	·	1	0.92			0.97	
	Eastbo	ound (I-40 S	ramp)	Westb	ound (I-40 S	3. ramp)	Northb	ound (Unse	r Rlvd):	Southb	ound (Unse	PHF
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2007)	69	0	21	0	0	0	0	641	364	0	1,162	
2010 (NO BUILD - P.M.)	123	0	87	0	0			1,316	591	0		308
2010 (BUILD - P.M.)	124	0	87	0		-					1,885	342
	127	- 0	0/	U	U	0	0	1,361	591	0	1,937	342
Vista Oriente St / Driveway	'A'	0.75			0.75			0.85				
(6)	Eastbour	nd (Vista Or	iente St)	Westhou	nd (Vista O	rianta St)	Morthbo		terra (AD	0. 111	0.85	PHF
3.0% Truck	Left	Thru	Right	Left	Thru	Right	Left	und (Drivew			und (Drive	
Existing (2007)	01	14	14	0	9				Right	Left	Thru	Right
2010 (NO BUILD - A.M.)	0	14	14	0				0	0	0	0	0
2010 (BUILD - A.M.)					9	0	9	0	0	0	0	0
2010 (BUILD - A.M.)	127	52	14	0	34	2	9	0	0	1	0	104
ř	- m	0.75			0.75			0.85			0.85	PHF
		d (Vista Ori			nd (Vista Oı	riente St)	Northbo	und (Drivew	ay 'A')	Southbo	und (Drivey	(av 'A')
F.::-4: (0007)	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru I	Right
Existing (2007)	0	26	26	0	45	0	45	0	0	0	01	0
2010 (NO BUILD - P.M.)	0	26	26	0	45	0	45	0	0	0	0	0
2010 (BUILD - P.M.)	227	94	26	0	123	3	45	0	0	4		
					7.20		70	0 ;	١	4	0	327
Vista Oriente St / Driveway '	B'	0.75			0.75							
(7)	Fastboun	d (Vista Orio	ente St)	Monthous	d (Vista Or	Innan Oak : I	101 41.11	0.85			0.85	PHF
3.0% Truck	Left	Thru	Right	Left	Thru :			ınd (Drivewa			ınd (Drivew	
Existing (2007)	01	141	O			Right	Left	Thru	Right	Left	Thru	Right
2010 (NO BUILD - A.M.)	0	14		0	9	0	0	0	0	0	0	0
			0	0	9	0	0	0	0	0	0	0
2010 (BUILD - A.M.)	38	15	0	0	11	0	0	0	0	0	0	25
		0.75			0.75			0.85			0.85	PHF
		d (Vista Orie		Westboun	d (Vista Ori	ente St)	Northbou	nd (Drivewa	ıv 'B')	Southbou	nd (Drivew	av 'B'\
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2007)	0	26	0	0	45	0	01	01	0	01	0	0
2010 (NO BUILD - P.M.)	0	26	0	0	45	0	0	0	0	0	0	0
2010 (BUILD - P.M.)	68	30	0	0	48	1	0	0	0			
					70	- '	0 }	<i>U</i>	- 0	1	0	78
Driveway 'C' / Unser Blvd		0.85										
(8)	Eaethour		.100	18141	0.85			0.94			0.94	PHF
3.0% Truck	Left !	nd (Drivewa) Thru	Right	westbou	nd (Drivewa			nd (Unser E		Southbou	ınd (Unser I	3lvd)
Existing (2007)	0			Left	Thru	Right	Left		Right	Left	Thru	Right
2010 (NO BUILD - A.M.)		0	0	0	0	0	0	669	0	0	814	0
· L	0	0	0	0	0	0	0	806	0	0	981	0
2010 (BUILD - A.M.)	0	0	0	0	0	0	0	830	32	0	1,018	0
		0.85	-		0.85			0.88				
	Eastboun	d (Driveway	'C') :	Westbour	d (Drivewa	v 'C')	Northbou	nd (Unser B	lvd)	Southhou	0.88 nd (Unser E	PHF
	Left		Right	Left	Thru	Right			Right	Left		
Existing (2007)	0	0	0	01	0	0	01	895	0			Right
2010 (NO BUILD - P.M.)	0	0	0	0	0	0	0	1,033	0	0	845	0
2010 (BUILD - P.M.)	0	0	0	0						0	976	0
	0	V I	U	U	0	0	0	1,108	57	0	1,041	0

#### 98th / Unser Commercial Development Projected Turning Movements Worksheet I-40 N. ramp / Unser Bivd

INTERSECTION:

E-W Street: I-40 N. ramp N-S Street: Unser Blvd

(1)

Year of Existing Counts

Implementation Year

Existing Volumes Background Traffic Growth Subtotal I-40 / Unser Development Southwest Mesa Subdivisions

Total Trips Generated

2007

2010

**Growth Rates** 

Growth Rates		0.00%			0.44%			2.38%			4.04%	
		ound (I-40 N		Westb	ound (I-40 N	. ramp) ·	North	oound (Unse	r Blvd)	Southi	ound (Unse	e Dissell
Volumes	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	0	0	0	343	3	188	24	687	n	0		
and Traffic Growth	0,	0	0	4	0	2	2	49	0	0		68
ubtotal	0	0.	0	347	2	190			<u> </u>	<u>v</u>	215	<u> </u>
ser Development	0	0	- 0		3	190		736	0	0	1,990	76
- '	- 0		- 0	28	0	0	20	186	0	0	246	0
st Mesa Subdivisions	<u>0</u>	0	0	67	0	0	0	26	0	0	10	
Subtotal (NO BUILD - A.M.)	0	0	0	442	2	190	46			Ā	10	꼬
nt Commercial Trips Generated(Entering)	0.00%	0.00%	0.00%	0.00%	0.00%			948		0	2,246	76
ent Commercial Trips Generated(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	14.63%	0.00%	12.94%	0.00%	0.00%	0.00%	0.00%
s Generated	0	0.007	0.0076	0.0078	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	27.40%	0.17%
Total AM Peak Hour BUILD Volumes	0	0	0	- 0	U	29	0	26	0	0	36	0
Total Doild Volumes	01	U	U	442	3	219	46	974	0	0	2.282	76

**Existing Volumes** Background Traffic Growth Subtotal I-40 / Unser Development Southwest Mesa Subdivisions Subtotal (NO BUILD - P.M.) Percent Commercial Trips Generaled(Exiting) Total Trips Generated

Percent Commercial Trips Generated(Entering) Total PM Peak Hour BUILD Volumes

Subtotal (NO BUILD - A.M.) Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting)

		0.00%			2 4487							
	Easth -				2.44%			9.40%			6.81%	
		und (I-40 N.		Westb	ound (I-40 N	. ramp)	Northb	ound (Unse	r Blvd)	South	ound (Unse	er Blud)
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	0	0	0	626	0	771	24	725	0	01		
	0	n	Λ		0				U	- 0	903	70
			⊻	<u>46</u>	Ω	<u>56</u>	<i>I</i>	204	<u>0</u>	0	<u>185</u>	14
	0	0	0	672	0	827	31	929	0	0	1,088	84
	0	0	0	51	0	0	49	445	0	0	447	
	0	0	0	93	0	0	0	38	0	0	6	31
Į	0	0	0	816	0	827	80			<u> </u>	의	
	0.00%	0.0004			U			1,412	0	0	1,541	115
		0.00%	0.00%	0.00%	0.00%	14.63%	0.00%	12.94%	0.00%	0.00%	0.00%	0.00%
ŀ	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	27.40%	0.17%
	0	01	0	0	01	52	0	46	0	0	112	V.1/70
s	0	0	n	816	0				- 0	U		1
- L			0	0 10	U	879	80	1,458	. 0	0)	1,653	116

Number of Commercial Trips Generated

Entering Exiting 130

200 356 409

A.M. P.M.

100% Commercial Development

	Eastbound	(I-40 N. ram	p) .	Westbou	ind (I-40 N. ra	(am	Northbour	d (Unser Blvd)		Southba	und (Hanna D	L. D
2007 AM Peak Hr. Volumes	0	0	01	343	3	1881	24	687			und (Unser B	
2007 PM Peak Hr. Volumes	0!	0	0	626	0	771	24		0	0	1,775	68
· · · · · · · · · · · · · · · · · · ·			- 01	0201	UI	7711	24	725	0	0	903	70
MRCOG Forecast Volumes Worksheet												
Based on 2007 Traffic Count												
2007 AM Link Volume		0			10.00							
2007 PM Link Volume		U			534			711			1,843	
Based on MDCCC Made to come by the come		0			1,397			749			973	
Based on MRCOG Model (2025 Data Set)											313	
2005 AM Link Volume		0			494			392			G. I.	
2005 PM Link Volume		0			1405						2230	
					1403			1026			1599	
2025 AM Link Volume					100							
2025 PM Link Volume		0			576			1015			3184	
TOTO ) IN CUIL A DIDILE		0			2011			2016			2166	
Compatible											2100	
Growth Rate to Apply to Existing Counts to Match	2025 Forecast	s										
2006-2025 AM Growth Rates	#DI\				0.44%			200/				
2006-2025 PM Growth Rates	#DI\	//01						.38%			4.04%	
	#DI1	1101			2.44%		9	.40%			6.81%	

9/8/2007

#### 98th / Unser Commercial Development Projected Turning Movements Worksheet Ladera Dr / Unser Blvd

INTERSECTION:

E-W Street: Ladera Dr

(2)

Year of Existing Counts

N-S Street: Unser Blvd 2007

Implementation Year

**Existing Volumes** Background Traffic Growth Subtotal I-40 / Unser Development Ladera Business Park Storm Cloud Dev. w/ others

Total Trips Generated

2010

**Growth Rates** 

Growth Rates	0.66% Eastbound (Ladera Dr)				4.88%			3.95%		3.78%		
					bound (Lade	ra Dr)	North	ound (Unse	r Blvd)	South	bound (Unse	er Blvd)
/olumes	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
	175	251	365	317	105	44	48	429	224	45	906	58
nd Traffic Growth	3	<u>5</u>	<u>7</u> 1	46	15	6	6	51	27	5	103	7
ubtotal	178	256	372	363	120	50	54	480	251	50	1,009	65
er Development	0	0	43	161	n	0	32	32	121	30		00
usiness Park	0	0	0	- 101	- 0		JZ		121	U	42	0
oud Dev. w/ others	- 0		U	U	0	3	0	28	0	5	47	0
	0,	112	142	0	<u>36</u>	0	47	44	0	0	21	28
Subtotal (NO BUILD - A.M.)	178	368	557	524	156	53	133	584	372	55	1.119	93
nt Commercial Trips Generated(Entering)	9.94%	0.00%	0.00%	0.00%	0.00%	33.59%	0.00%	27.57%	0.00%	0.00%	0.00%	0.00%
nt Commercial Trips Generaled(Exiting)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33,59%	27.57%	9.94%
s Generated	20	0	0	0	0	67	0	55	0.0076	44	36	3.3476
Total AM Peak Hour BUILD Volumes	198	368	557	524	156	120	133	639	372	99	1,155	106
-						1.20	100	000	312	33	1,133	106

Existing Volumes Background Traffic Growth Subtotal I-40 / Unser Development Ladera Business Park Storm Cloud Dev. w/ others Subtotal (NO BUILD - P.M.)

Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting) Total Trips Generated

Subtotal (NO BUILD - A.M.) Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting)

Total PM Peak Hour BUILD Volume

		3.48%			2.15%			5.54%		2.29%			
		ound (Lade		Westi	ound (Lade	era Dr)	North	oound (Unse	r Blvd)	South	ound (Unse	r Blvd)	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	140	182	138	281	264	107	288	860	372	94	5471	184	
	<u>15</u>	<u>19</u>	<u>14</u>	<u>18</u>	17	7	48	143	62	6	38	13	
	155	201	152	299	281	114		1,003	434	100	585	197	
	0	0	78	292	0	0	77	77	290	0	77		
	0	0	0	0	0	14	0	123	0	23	204		
	<u>0</u>	<u>71</u>	92	0	118	0	159	149	0	0	83	91	
[	155	272	322	591	399	128	572	1.352	724	123	949	288	
	9.94%	0.00%	0.00%	0.00%	0.00%	33.59%	0.00%	27.57%	0.00%	0.00%	0.00%	0.00%	
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33,59%	27.57%	9.94%	
	35	0	0	0	0	120	0	981	0.0078	137	113	3.3476	
es	190	272	322	591	399	248	572	1,450	724	260	1.062	329	

Number of Commercial Trips Generated

Entering Exiting 200 130 A.M. 356 409 P.M.

Easthound (Ladara Dd

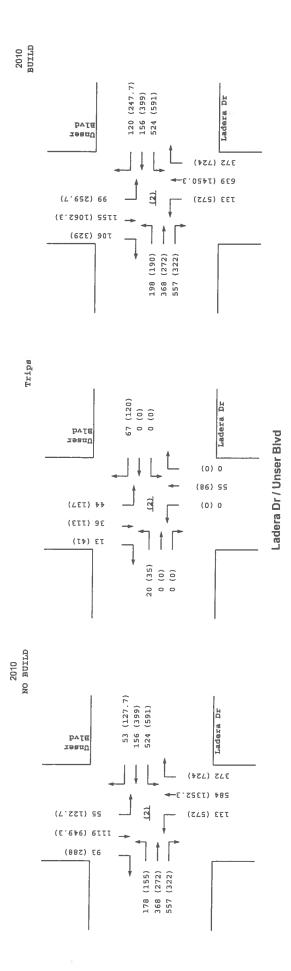
100% Commercial Development

2007	АМ	Peak	Нг.	Volumes
2007	PM	Peak	Hr.	Volumes

	Lustoon			Mesto	ouna (Lage	ra Ur)	Northb	ound (Unse	r Blvd)	Southbou	nd (Unser E	(hvd)
es	175	251	365	317	105	44	48	429	2241	451	906	58
28	140	182	138	281	264	107	288	860	372	94	547	
								000;	0121	54:	347	184

MRCOG Forecast Volumes Worksheet

Based on 2007 Traffic Count				
2007 AM Link Volume 2007 PM Link Volume Based on MRCOG Model (2025 Data Set)	791 460	466 652	701 1,520	1,009 825
2005 AM Link Volume 2005 PM Link Volume	299 270	355 261	530 2016	1526 1163
2025 AM Link Volume 2025 PM Link Volume	885 748	875 904	1199 3035	1696 1165
Growth Rate to Apply to Existing Counts to Match 2025 2006-2025 AM Growth Rates 2006-2025 PM Growth Rates	Forecasts 0.66% 3.48%	4.88% 2.15%	3.95% 5.54%	3.78% 2.29%



#### 98th / Unser Commercial Development Projected Turning Movements Worksheet Ouray Rd / Unser Blvd

INTERSECTION:

E-W Street: Ouray Rd

2006

N-S Street: Unser Blvd

(3)

Year of Existing Counts Implementation Year

**Existing Volumes** 

**Total Trips Generated** 

Background Traffic Growth

2010 **Growth Rates** 0.00%

0.00% 0.11% 3.58% Eastbound (Ouray Rd)
eft Thru Right Westbound (Ouray Rd) Northbound (Unser Blvd) Southbound (Unser Blvd) Left Thru | Right Left Thru Right Left Left Thru I Right 45 18 166 10 38 1,130 883 0 0 0 0 0 <u>126</u> 45 18 11 166 10 38 9 1,135 22 42 1,009 0.00% 0.00% 0.87% 6.42% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 11.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.87% 11.00% 6.42% 0.00% 0.00% 0.00% 0 13 0 14 0 22 45 18 13 179 10 38 10 1,149 30 42 1,031

**Existing Volumes** Background Traffic Growth

Subtotal (NO BUILD - P.M.) Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting) Total Trips Generated

Subtotal (NO BUILD - A.M.)

Percent Commercial Trips Generated(Entering)

Percent Commercial Trips Generated(Exiting)

Total AM Peak Hour BUILD Volumes

Total PM Peak Hour BUILD Volumes

		0.00%			8.68% 0.00%					3.65%			
-		ound (Oura		West	bound (Ours	y Rd)	Northb	ound (Unse	r Blvd)	Southb	ound (Unse	· Blvd)	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru I	Right	
	23	12	3	68	18	34	21	1,141	87	931	739	34	
Į	0	<u>0</u> i	0	<u>24</u>	6	<u>12</u>	0	0	0	14	108	5	
	23	12	3	92	24	46	21	1,141	87	107	847	39	
1	0.00%	0.00%	0.87%	6.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	11.00%	0.00%	
],	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.87%	11.00%	6.42%	0.00%	0.00%	0.00%	
	0	0	3	23	0	0	4	45	26	0	39	0.0070	
В	23	12	6	115	24	46	25	1,186	113	107	886	39	

Number of Commercial Trips Generated

Entering Exiting 200 130 A.M. 356 409 P.M.

100% Commercial Development

2007	AM	Peak	Hr.	Volumes	
2007	PM	Peak	Hr.	Volumes	

	Eastbol	ing (Ouray Ru		westo	onna (Onsa	y Rd)	Northb	ound (Unser	Blvd)	Southbo	ound (Unser	Blvd)
S	45	18	11	166	10	38	91	1.131	22	38	915	6
S	23	12	3	74	20	37	21	1.141	87	96	766	35
										- 001	700	0.0

MRCOG Forecast Volumes Worksheet

74	214	1 161	926
38			
	120	1,249	866
0	293	415	1144
0	231	1370	1019
0	201	1186	1555
0	318	1186	1467
025 Forecasts			
-5.26% -5.26%	-0.32% 8.68%	0.11% -0.27%	3.58% 3.65%
	38 0 0 0 0 0 2025 Forecasts -5.26%	38 120 0 293 0 231 0 201 0 318 0025 Forecasts -5.26% -0.32%	38 120 1,249  0 293 415 0 231 1370  0 201 1186 0 318 1186  0025 Forecasts -5.26% -0.32% 0.11%

9/8/2007

#### 98th / Unser Commercial Development Projected Turning Movements Worksheet Vista Oriente St / Unser Blvd

INTERSECTION:

E-W Street: Vista Oriente St N-S Street: Unser Blvd

(4)

Year of Existing Counts

2007

Implementation Year

2010

ser Blvd) Right		ound (Uns	ound (Unse	1 1.00													
Right	The	Northbound (Unser Blvd)				thbou	Northb		iente St)	)rie	nd (Vista Or				nd (Vista Or		
	THE	Thru	Thru	Thr	T	115	Left		Right	Γ	Thru	. 1	Left	Right	Thru	Left	Eviation Values and
11 15	631	631	631	3  6	31	281	28	T	4	T	0	14	1	195	3	34	
7	27	2	27	1	1	1	1		0		0	0		33	1	6	Background Traffic Growth
-	000	000	650	1 -	1	201	201	-		Ť	0		-		4	40	Subtotal
8 16	658	000	008	7	1	78	29	1	- 4	1		17		220	- 0		Storm Cloud
0 (	0	(	0	2	)	0	0	!	0		0	01		<u>0</u>	<u>U</u>	-	
8 16	658	658	658	6		9	29		4		0	14	14	228	4		
56.88%	14.22%	14.22%	14.22%	14.22	14.	1	0.00%	17	0.00%		0.00%		0.00%	0.00%	7.61%		Percent Commercial Trips Generated(Entering)
0.00%	0.00%	0.00%	0.00%	0.009	0.0	1	0.00%	1	18.29%		9.51%	ó	71.10%	0.00%		0.00%	
8! 114	28	28	28			0	0	П	24		12	92	9:	0	15	4	•
6 130	686	686	686	(		9	29		28		12	06	10	228	19	131	i otal AM Peak Hour BUILD Volumes
5	65 65 14.22% 0.00%	65 14.22% 0.00%	65 14.22% 0.00%	1 6 1 14.22: 0.009	1 14 0.0	1 29 0 9	28 1 29 0 29 0.00% 0.00%		4 0 4 0 4 0 00% 18.29% 24	-	0 0 0 0 0 0 0 0 0,00% 9,51%	14 <u>0</u> 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	1 1 0.00% 71.10%	195 33 228 0 228 0.00% 0.00%	3 1 4 0 4 7.61% 0.00%	34   6   40   87   127   1.90%   0.00%   4	Existing Volumes Background Traffic Growth Subtotal Storm Cloud Subtotal (NO BUILD - A.M.) Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated (Exiting) Total Trips Generated Total AM Peak Hour BUILD Volumes

**Existing Volumes** Background Traffic Growth Subtotal Storm Cloud

Subtotal (NO BUILD - P.M.) Percent Commercial Trips Generated(Entering)
Percent Commercial Trips Generated(Exiting) Total Trips Generated

Total PM Peak Hour BUILD Volumes

_		16.34%			0.00%			3.16%		5.15%			
-		nd (Vista Ori		Westbou	nd (Vista O	riente St)	Northb	ound (Unse	r Blvd)	Southb	ound (Unse	r Blvd)	
L	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
L	31	2	68	65	1	24	179	840	22	28	7701	47	
L	<u>15</u>	1	<u>33</u>	0	0	0	17	80	2	4	119	7	
L	46	3	101	65	1	24	196	920	24	32	889	54	
	<u>54</u>	0	0	0	0	0	0	0	0	0	0	0	
	100	3	101	65	1	24	196	920	24	32	889	54	
	1.90%	7.61%	0.00%	0.00%	0.00%	0.00%	0.00%	14,22%	56.88%	18.29%	0.00%	0.00%	
L	0.00%	0.00%	0.00%	71.10%	9.51%	18.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
L	7	27	0	291	39	75	0	51	202	65	0.0078	0.00%	
8	107	30	101	356	40	99	196	971	226	97	889	54	

Number of Commercial Trips Generated

Entering Exiting 200 130

356

A.M. P.M. 409

100% Commercial Development

2007	AM	Peak	Hr.	Volumes
2007	PM	Peak	Hr.	Volumes

J.	Eastbound	J (Vista Or	iente St)	Westboun	d (Vista Orie	nte St)	Northbor	und (Unser I	3lvd)	Southbound (Unser Blvd)			
ı	34	3	1951	14	01	4	28	631	15	10	7831	21	
Į	31	2	68	65	1	24	179	840	22	28	770	47	
							11 01	0.101	661	201	170	4/	

MRCOG Forecast Volumes Worksheet

Based on 2007 Traffic Count				
2007 AM Link Volume	232	18	674	244
2007 PM Link Volume	101			814
Based on MRCOG Model (2025 Data Set)	101	90	1,041	845
2005 AM Link Volume	46	0	368	1545
2005 PM Link Volume	41	0		
	ii 8		1447	1218
2025 AM Link Volume	465	0	848	4046
2025 PM Link Volume	398			1816
	550	U	1633	1628
Growth Rate to Apply to Existing Counts to Match 202	5 Forecasts			
2006-2025 AM Growth Rates	5.58%	-5.56%	1.43%	
2006-2025 PM Growth Rates	16.34%			6.84%
The second secon	10.3470	-5.56%	3.16%	5.15%

2010 BUILD

9/8/2007

#### 98th / Unser Commercial Development Projected Turning Movements Worksheet I-40 S. ramp / Unser Blvd

INTERSECTION:

E-W Street: I-40 S. ramp N-S Street:

(5)

Year of Existing Counts

Unser Blvd 2007

Implementation Year

2010

Growth Rates

**Existing Volumes** Background Traffic Growth Subtotal I-40 / Unser Development Southwest Mesa Subdivisions Subtotal (NO BUILD - A.M.) Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generaled(Exiting) Total Trips Generated Total AM Peak Hour BUILD Volumes

Э,	0.00%						1.19% 6.469/					
	Eastb	ound (1-40 S	. ramp)	Westb	ound (I-40 S	. ramp)	North	oound (Unse			6.46%	
J	Left	Thru	Right	Left	Thru	Right	Left				ound (Unse	er Blvd)
Ì	31	0	9	1 0	11110	Night	Len	Thru	Right	Left	Thru	Right
i					0	0	0	535	580	4	821	740
-	<u>63</u>	<u>0</u>	<u>18</u>	0	0	0	0	19	21	1	159	
-	94	0	27	0	Λ	0						<u>143</u>
ı	0	0					0	554	601	5	980	883
ŀ		U	27	0	0	0	0	207	21	0	274	-
1	0	0	0	0	0	0	0					
Ť	94	0	F.4			브	<u>u</u>	<u>26</u>	49	0	77	0
-		U	54	0	0	0	0	787	671	5	1.331	883
L	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	12.77%	0.00%	0.0004		
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%
r	0	n	0			0.00%	0.00%	0.00%	0.00%	0.00%	12.77%	0.00%
ŀ	0.4	0	- 0	01	0	0	0	26	0	0	17	0
Ľ	. 94	- Ui	54	0;	0	0	0	813	671	E.	1,348	
								0.0	0,1	3	1,348	883

Existing Volumes Background Traffic Growth Subtotal I-40 / Unser Development Southwest Mesa Subdivisions Subtotal (NO BUILD - P.M.) Percent Commercial Trips Generaled(Entering)

Percent Commercial Trips Generaled(Exiting) Total Trips Generated

Total PM Peak Hour BUILD Volumes

	26.23% 0.00%  Eastbound (I-40 S. ramp) Westbound (I-40 S. ramp)							7.35%				
			ramp)	Westb	ound (I-40 S	. ramp)	Northi	ound (Unse		Country	3.64%	- F21 - 11 - 1
	Left	Thru	Right	Left	Thru	Right	Left	Thru			bound (Unse	
	691	01	21	0	0	ragia	LOIL		Right	Left	Thru	Right
		0	47	- 0		0	0	641	364	0	1,162	308
	<u>54</u>	<u> </u>		<u>0</u>	0	<u>0</u>	0	141	80	0.	127	34
	123	0	38	0	0	0	Ō	782	444	Λ.	1.289	342
	0	0	49	0	0	0	0					342
ı	0	0					U	496	51	0	498	0
	<u> </u>		<u>U</u>	0	0	0	0	38	96	0	98	0
- 1	123	0	87	0	0	0	0	1,316				<u>¥</u>
- 1	0.17%	0.00%	0.00%	0.00%	0.00%	0.0004			591	0	1,885	342
ı	0.00%	0.00%	0.00%			0.00%	0.00%	12.77%	0.00%	0.00%	0.00%	0.00%
ŀ	0.0076	0.0078	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	12.77%	0.00%
ŀ	11	UI	0	01	0	0	0	45	0	0	52	0.0078
S	124	0	87	0	0	n	n!		504	- 01		0
-							- 0	1,361	591	O;	1,937	342

Number of Commercial Trips Generated

Entering Exiting 200 A.M. P.M. 130 356 409

100% Commercial Development

2007 AM Peak Hr. Volumes 2007 PM Peak Hr. Volumes

Eastbound (I-40 S. ra	mp)	Westboun	d (I-40 S. ra	amp)	Northhou	nd (Unser B	hed)	Caudhh		-
31 0	9	0	01	0	0	535	580	Southbol	und (Unsei	
69 0	21	0	0	0	0	641	364	0	1 162	740

MRCOG Forecast Volumes Worksheet

Based on 2007 Traffic Count				
2007 AM Link Volume 2007 PM Link Volume Based on MRCOG Model (2025 Data Set)	40 90	0	1,115 1,005	1,565 1,470
2005 AM Link Volume 2005 PM Link Volume	26 201	0	1226 1404	1108 1973
2025 AM Link Volume 2025 PM Link Volume	525 515	0	1353 2334	3384 2433
Growth Rate to Apply to Existing Counts to Match 2006-2025 AM Growth Rates 2006-2025 PM Growth Rates	2025 Forecasts 67.36% 26.23%	#DIV/0! #DIV/0!	1.19% 7.35%	6.46% 3.64%

9/8/2007

#### 98th / Unser Commercial Development Projected Turning Movements Worksheet Vista Oriente St / Driveway 'A'

INTERSECTION:

N-S Street:

E-W Street: Vista Oriente St Driveway 'A'

(6)

Year of Existing Counts

2007

Implementation Year

2010

**Growth Rates** 

0.00% 0.00% 0.00% 0.00% Westbound (Vista Oriente St)
Left Thru Right Eastbound (Vista Oriente St) Northbound (Driveway 'A')
Left Thru Right Southbound (Driveway 'A') Left Thru Right Left Thru **Existing Volumes** 14 9 Background Traffic Growth 0 0 0 0 0 0 0 Subtotal (NO BUILD - A.M.) 0 14 14 0 9 0 9 0 0 0 0 0 Percent Commercial Trips Generated(Entering) 63.74% 0.00% 0.00% 0.00% 0.91% 0.00% 19.04% 0.03% 0.00% 0.00% 0.00% 0.00% Percent Commercial Trips Generaled(Exiting) 0.00% 0.00% 0.00% 0.00% 19.04% 0.00% 0.00% 0.00% 0.00% 0.91% 0.03% 79.86% **Total Trips Generated** 127 38 25 0 0 104 Total AM Peak Hour BUILD Volumes 14 0 34 9 0 0 0 104

**Existing Volumes** Background Traffic Growth Subtotal (NO BUILD - P.M.) Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting) Total Trips Generated Total PM Peak Hour BUILD Volumes

		0.00%			0.00%			0.00%		0.00%								
		nd (Vista Or	iente St)	Westbou	ind (Vista O	riente St)	Northb	ound (Driver	vav 'A')	Southho	ound (Driver	Vav 'A')						
	Left (	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right						
	0	26	26	0	45	0	45	0	0	0	ni	- reight						
Į	<u>0</u>	0 0 0		0	0	0	0	0	0	0	0							
[	0	26	26	0	45	0	45	0	0	0	0	<u> </u>						
	63.74%	19.04%	0.00%	0.00%	0.00%	0.91%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%						
	0.00%	0.00%	0.00%	0.00%	19.04%	0.00%	0.00%	0.00%	0.00%	0.91%	0.03%	79.86%						
	227	68	0	0 0 78		3	0	0	0	4	0.007.0	327						
es	227	227 94 26 0		123	3	45	0	0	4	0	327							

Number of Commercial Trips Generated

Exiting Entering A.M.

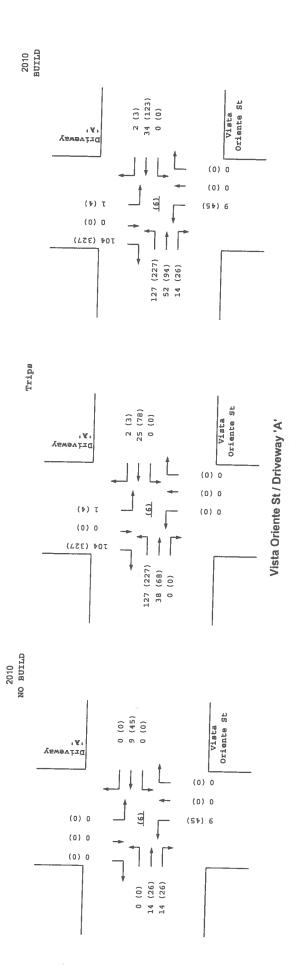
130 356 409

P.M.

100% Commercial Development

	Eastbound	Vista Orier	ite St)	Westbound	Vista Orient	e St)	Northbound	d (Driveway '/	1 ()	Southbour	d (Driveway 'A')
2007 AM Peak Hr. Volumes	0	14	14	0	9	0	9	01	01	01	0
2007 PM Peak Hr. Volumes	0	26	26	0	45	0	45	0	0	0	0

Based on 2007 Traffic Count				
2007 AM Link Volume 2007 PM Link Volume Based on MRCOG Model (2025 Data Set)	28 52	9 45	9 45	0
2005 AM Link Volume 2005 PM Link Volume	370 313	327 1024	1248 1058	1049 1246
2025 AM Link Volume 2025 PM Link Volume	1468 923	848 1753	1609 1389	777 1534
Growth Rate to Apply to Existing Counts to Match 202 2006-2025 AM Growth Rates 2006-2025 PM Growth Rates	25 Forecasts 285.71% 93.06%	517.90% 210.86%	987.65% 165.93%	#DIV/0! #DIV/0!



#### 98th / Unser Commercial Development Projected Turning Movements Worksheet Vista Oriente St / Driveway 'B'

INTERSECTION:

N-S Street:

E-W Street: Vista Oriente St

(7)

Year of Existing Counts

Background Traffic Growth

Total Trips Generated

Driveway 'B' 2007

Implementation Year

**Existing Volumes** 

2010

**Growth Rates** 

0.00% 0.00% 0.00% 0.00% Eastbound (Vista Oriente St)
Left | Thru | Right Northbound (Driveway 'B')
Left | Thru | Right Westbound (Vista Oriente St) Southbound (Driveway 'B') Right Left Thru Left Left Thru Right 0 14 0 01 0 0 0 Q 0 0 0 0 14 0 0 9 0 0 0 0 0 0 0.00% 19.04% 0.00% 0.00% 0.91% 0.16% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.91% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.19% 0.00% 19.04% 38 0 0 0 Total AM Peak Hour BUILD Volumes 38 15 0 0 11 0 0 0 25

Existing Volumes Background Traffic Growth Subtotal (NO BUILD - P.M.)

Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting) Total Trips Generated

Subtotal (NO BUILD - A.M.)

Percent Commercial Trips Generated(Entering)

Percent Commercial Trips Generated(Exiting)

Total PM Peak Hour BUILD Volumes

		0.00%			0.00%			0.00%		0.00%									
		nd (Vista Or	iente St)	Westbou	nd (Vista O	riente St)	Northb	ound (Drive	way 'B')	Southbo	ound (Drive	vav 'R')							
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right							
	0	26	0	0	45	0	0	0	0	0.1	0	, rugin							
	<u>0</u>	0	0	0	0	0	0	0	0	0	0	- 0							
	0	26	0	0	45	0	0	0	0	0	01								
	19.04%	0.00%	0.00%	0.00%	0.91%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							
	0.00%	0.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%	0.00%	19.04%							
	68	68 4		0	3	1	0	0	0	1	0.0070	78							
35	68 30		30 0 0		48 1		0	0	0	- 1	0	78							
											- 1	, ,							

Number of Commercial Trips Generated

Entering Exiting 200 130 356 409 P.M.

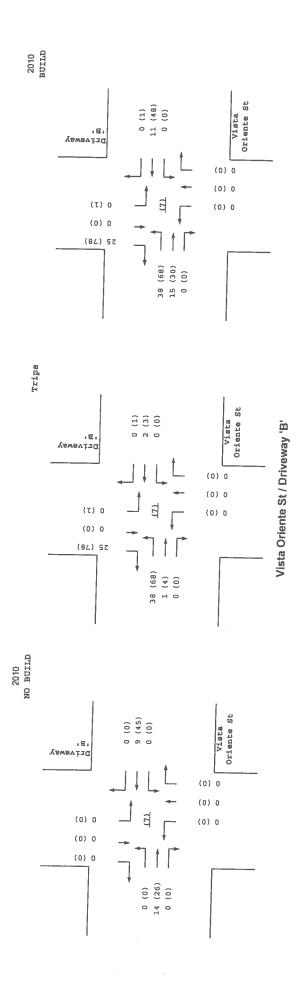
100% Commercial Development

2007	AM Peak Hr. Volume	s
2007	PM Peak Hr. Volume:	S

1	Eastbound (	Vista Orient	e St)	Westbound	(Vista Orien	te St)	Northbound	(Driveway	B')	Southboun	d (Driveway 1	An T
1	0	14	0	0	9	0	0	0	0	01	0	0
	01	26	0	01	45	0	0	0	0	0	0	0

MRCOG Forecast Volumes Worksheet

Based on 20	07 Traffic Count				
	2007 AM Link Volume	14	9	0	
	2007 PM Link Volume	26	45		V U
Based on M	RCOG Model (2025 Data Set)	g=c 101	45	0	0
	2005 AM Link Volume	370	327	1248	40.40
	2005 PM Link Volume	313	1024		1049
			1024	1058	1246
	2025 AM Link Volume	1468	848	4000	
	2025 PM Link Volume	923		1609	777
		525	1753	1389	1534
Growth Rate	to Apply to Existing Counts to Ma	atch 2025 Forecasts			
2006-2025 At	M Growth Rates	576.98%	547 000		
	M Growth Rates		517.90%	#DIV/01	#DIV/0!
		191.67%	210.86%	#DIV/01	#DIV/0!



#### 98th / Unser Commercial Development Projected Turning Movements Worksheet Driveway 'C' / Unser Blvd

0.00%

0

0

0

0

INTERSECTION:

N-S Street:

E-W Street: Driveway 'C'

Unser Blvd

(8)

Year of Existing Counts

2007

Implementation Year

2010 **Growth Rates** 

Westbound (Driveway 'C') Left Thru Right Northbound (Unser Blvd) Left Thru | Right Left Left **Existing Volumes** 0 0 0 01 Background Traffic Growth 0 0 0 0 0 Subtotal (NO BUILD - A.M.) 0 0 0 0 0 0 0 Percent Commercial Trips Generaled(Entering) 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Percent Commercial Trips Generaled(Exiting) 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 18.29% Total Trips Generated 0

0

0.00%

0

0

P.M.

0

Eastbound (Driveway 'C')

0 32 0 1,018 0.00% 0.00% 5.15% Eastbound (Driveway 'C')
Left | Thru | Right Westbound (Driveway 'C') Left | Thru | Right Northbound (Unser Blvd) Southbound (Unser Blvd) Left Left Thru | Right Left Thru 0 895 0 845 0 0 0 0 <u>138</u> 0 <u>131</u> 0 0 0 0 0 0 0 1,033 0 0 976 0 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 16.12% 0.00% 18,29% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 18.29% 0.00% 0.00% 0.00% 0.00%

0

0

6.84%

669

137

806

24

830

75

1,108

0.00%

Thru | Right

16.12%

0.00%

57

57

6.84%

814

167

981

65

1,041

18.29%

0.00%

Thru | Right

0

0.00%

Southbound (Unser Blvd)

Left

0

0

0

0

0.00%

0.00%

**Existing Volumes** Background Traffic Growth Subtotal (NO BUILD - P.M.)

Percent Commercial Trips Generated(Entering) Percent Commercial Trips Generated(Exiting) Total Trips Generated

Total PM Peak Hour BUILD Volumes

Entering Exiting 200 130 A.M.

409

0

356

100% Commercial Development

0

0

2007 AM Peak Hr. Volumes 2007 PM Peak Hr. Volumes

**Total AM Peak Hour BUILD Volumes** 

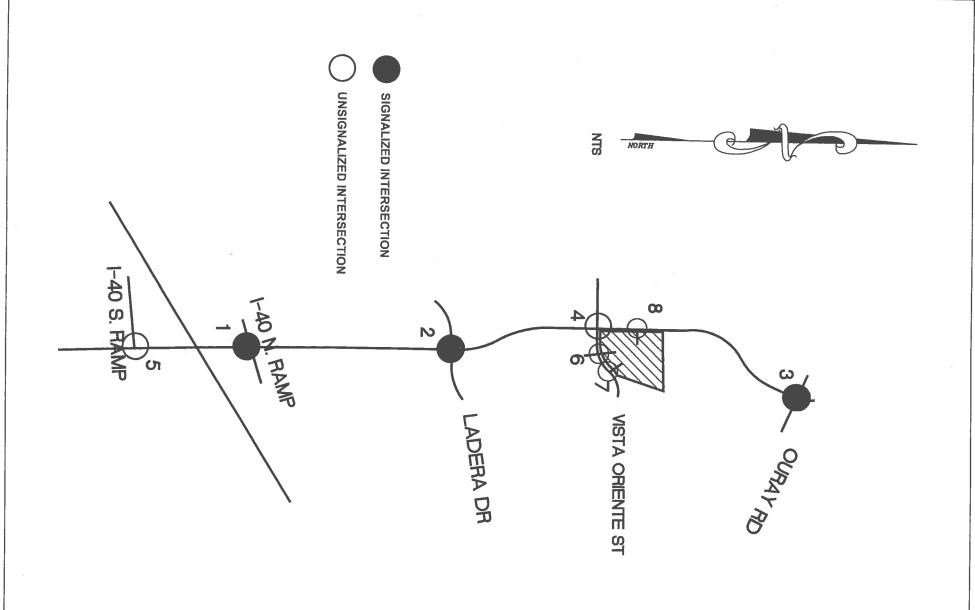
	Eastbound (Driveway	'C')	Westbou	nd (Driveway	'C')	Northboun	d (Unser Bl	vd)	Southbou	nd (Unser Blvd)	
ì	0 0	0	0	0	0	0	669	0	0	814	0
•	0 0	- 0	01	01	01	0	895	0	0	845	ō

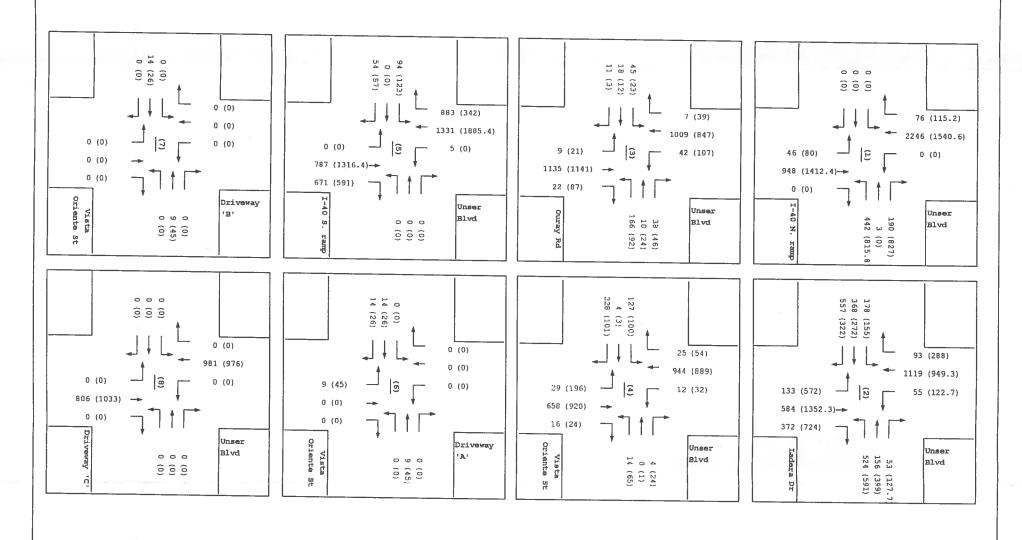
MRCOG Forecast Volumes Worksheet

Number of Commercial Trips Generated

Based on 2007 Traffic Count				
2007 AM Link Volume 2007 PM Link Volume Based on MRCOG Model (2025 Data Set)	0	0	669 895	814 845
2005 AM Link Volume 2005 PM Link Volume	370 313	327 1024	1248 1058	1049 1246
2025 AM Link Volume 2025 PM Link Volume	1468 923	848 1753	1609 1389	777 1534
Growth Rate to Apply to Existing Counts to Matc 2006-2025 AM Growth Rates 2006-2025 PM Growth Rates	h 2025 Forecasts #DIV/01 #DIV/01	#DIV/01 #DIV/01	7.81% 3.07%	-0.25% 4 53%

9/8/2007



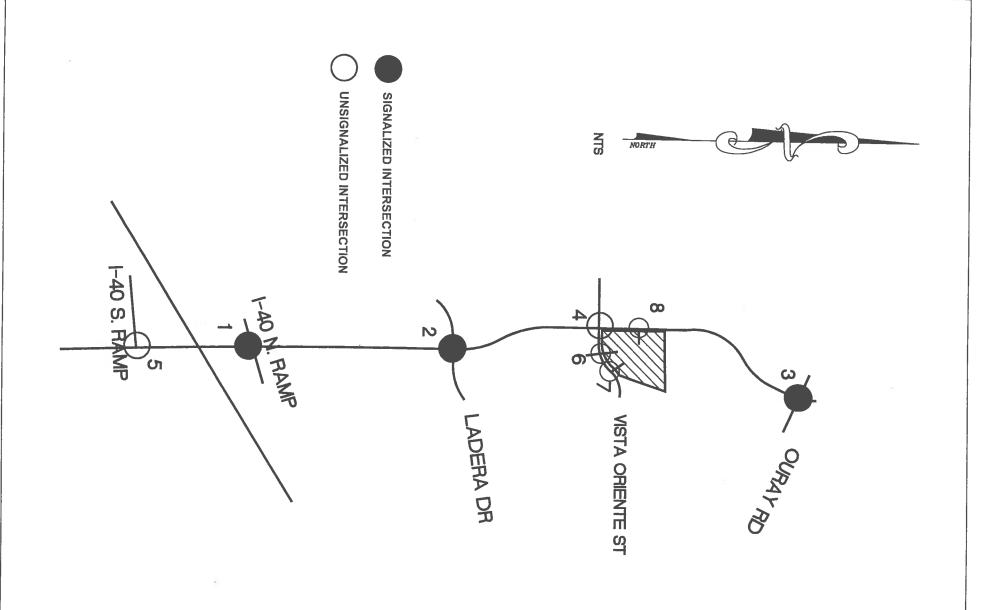


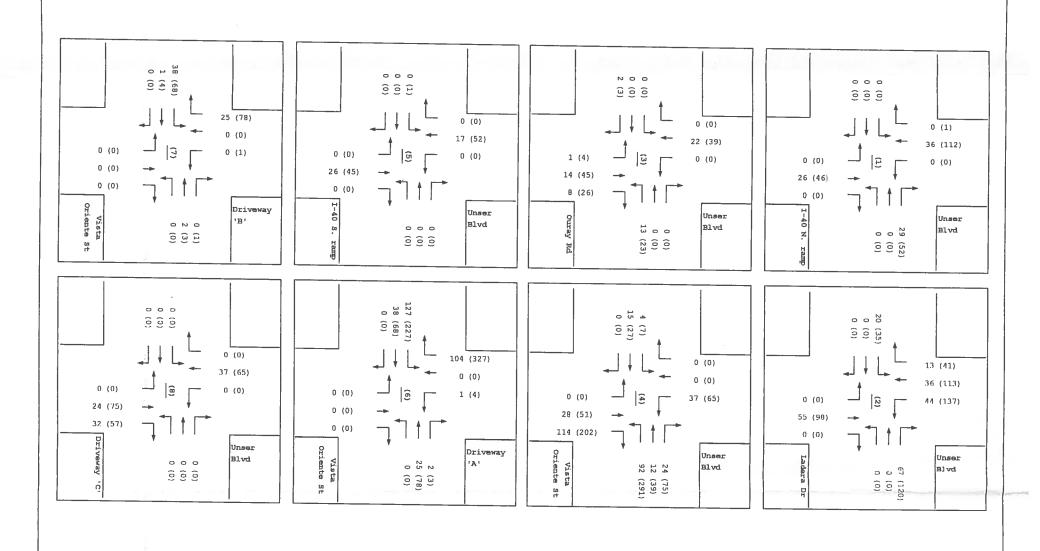


W

# 98th | Unser Commercial Development

2011 NO BUILD Volumes - AM(PM)





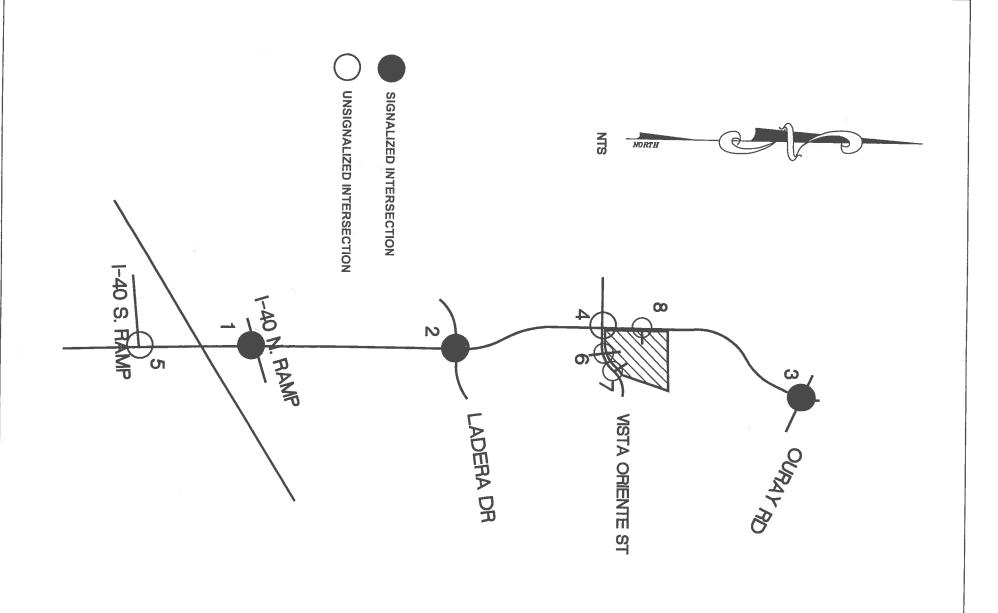
Perry O. Enoum. P. E.

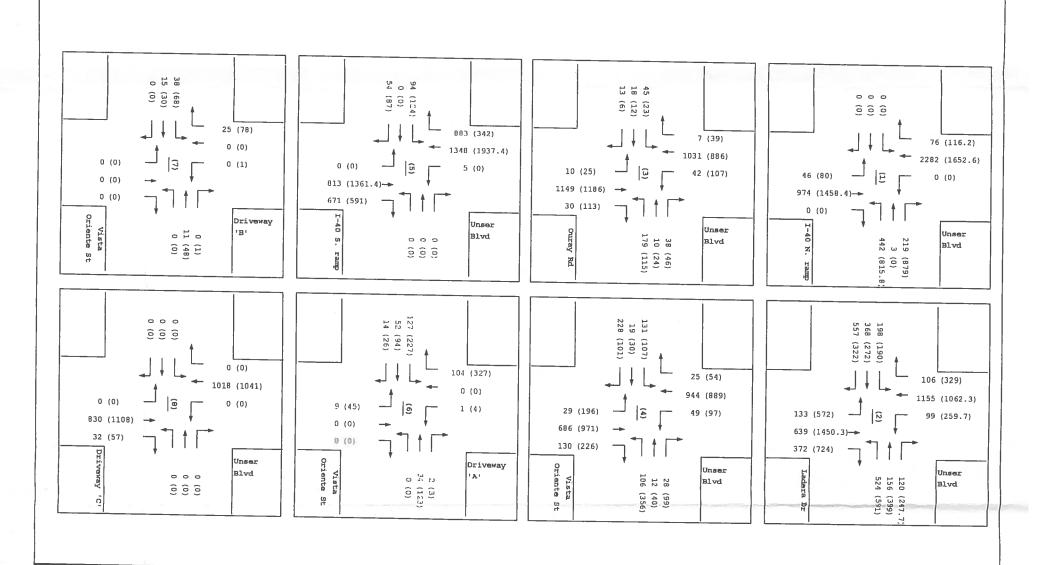
P.O. Box 92051

Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

98th | Unser Commercial Development

Trips Generated Volumes - AM(PM)





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

98th | Unser Commercial Development

2011 BUILD Volumes - AM(PM)

Analysis of Intersection #1

I-40 North Ramp / Unser Blvd.

Timings 1: I-40 N. ramp & Unser Blvd

MBL

WBR

WBT

WBL

Lane Group Lane Configurations Volume (vph)

Protected Phases Permitted Phases Detector Phases

Turn Type

190 46 Free pm+pt

442

Free

Brown, P.E.	9/8/2007
o.	
Terry	

%0.0 0.0

5.0 5.0 21.0 21.0 27.0 27.0 27.0% 27.0% 4.0 4.0 1.0 1.0

Minimum Initial (s)
Minimum Split (s)
Total Split (s)
Total Split (%)
Yellow Time (s)
All-Red Time (s)

Р.	9/8/2007	*	000	5 5	200							0 0	69.0	o c	•	<u>'</u>																			1000				
Terry O. Brown, P.E.	8/6	-	THE	444	300	0.91	00	00.	5036	1.00	5036	2746	2524	0	2524		9		61.0	63.0	0.63	5.0	3.0	3173	c0.50		0.80	13.7	0.68	8.0	10.1	ß	10.1	m	1000000				
y 0. E	-	ø	0	9	25						(	0 0	60.0	0	0										Ĭ														
Ten		L	NBR	000	3							200	0	0	0																					8	9.0	ပ	
	1	-	NBT	₩	30	0.95	1.00	1.00	3505	9.5	3303	040	226	0	977		2		71.5	73.5	0.74	5.0	3.0	2576	c0.28		0.38	4.9	00.	0.4	5.3	۷ļ	2.7	∢	SEASON OF THE PERSON OF THE PE				
	,	~	NBI	¥-00	3.0	1.00	1.00			0.06		0 0 0	47	0	47	n+pt	S	2				5.0	3.0	1						9.0	13.4	m			STATE OF	60		0	
		/	WBR	<b>1</b> CO	3.0	1.00	0.85	1.00		1.00	100			0	209	Free pm+pt					9			568							0.5	<b>V</b>			DESCRIPTION OF THE PERSON OF T	HCM Level of Service	Sum of lost time (s)	ICU Level of Service	
		,	WBT \	₩ 006	3.0	0.95	1.00	0.95	1670	0.95	200	0.91		0	246	_	æ					5.0	3.0	342 1		0.15		Ì			44.1	2 6	9. 10. 10.	د		Level	of lost	Levelo	
nalysis	,	•	WBL	7 0061						1665					243	Регт						5.0	3.0	341		0.15		37.0		9.0			2			HCN	Sum	2	
city Ar	1	<b>/</b>	EBR \	1900		_			,		0	0.85	0	0	0	۵				N I	3			.,	,	0 0	9 0	2) 4	-		4					12.5	100.0	% <del>.</del>	2
Capa		†	EBT	1900							0	0.85	0	0	0																	00	2 <	ζ		<del>+</del> c	Ď	69.9%	
section er Blvr			EBL	1900							0	0.85 0	0	0	0																					, g		CO.	
Inters														<u> </u>	<u></u>			10	0 1										2	9					X	ol Delay acity rai	th (s)	Untizat	d
HCM Signalized Intersection Capacity Analysis 1: I-40 N. ramp & Unser Blvd				-ane Configurations deal Flow (vphpt)	ne (s)	actor		, and	200	регш)		Peak-hour factor, PHF	ر <del>ا</del> ر :	KI UK Keduction (vph)	ane Group Flow (vph	0000	Speri	Achiated Green G (c)	Effective Groon a (a)	Ell, g (s	One	Jehicle Extension (s)	2000	(vph)		=	, d1	Factor	ncremental Delay do	o i do	9	lav (s)	2		ntersection Summary	HCM Average Control Delay HCM Volume to Capacity ratio	Actuated Cycle Length (s)	mersection Capacity Utilization Analysis Period (min)	Critical Lane Group
M Sigr 40 N.			Movement	Lane Configuration Ideal Flow (vphpt)	otal Lost time (s)	Lane Util. Factor	rit	Sate Flow (and)	Fit Permitted	Satd. Flow (perm)	Volume (vph)	-hour fa	Adj. Flow (vph)	Kedu	diono	Turn Type	Jornalited Phone	ated Gre	in o	Arthrafad of Dalin	Pleased By Caul	di Evio	TA LAKE	ane Gro Cap (vph)	/s Patio Parm	atio rea	Iniform Delay 41	Progression Eacher	nental	(8)	evel of Service	Approach Delay (s)	Approach LOS		BCDOU	Average Volume	led Cyc	sis Perk	itical La
중 ;:			Mov	Lane	Total	Lane	Ž	Cate	F	Satd	Volur	Peak	Adj	2 2	Lane	- Lum		Achie	Effor	Achie		Vehic	2	Lane We D.	d d	v/c Ratio	Unifor	Proor	Increr	Delay (s)	Level	Appro	Appro		Inters	E E	Actual	Analys	, C
Terry O. Brown, P.E. 9/8/2007		A CONTRACT OF STREET																							THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSONS AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSONS AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSONS AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO PERSON NAMED														
Tei	<b>→ ←</b>	BL NBT SRT		46 948 2246 +pt	5 2 6	2	2	2.0	21.0	7	4.0	1.0	ad Lag	-	C-Min	3.5 73.5 63.0	0.74	0.38	- c	0.0 0.0	2.0	K 0	7.01 8.0	B				6:SBT, Start of Green				Intersection LOS: B	ICU Level of Service C						27.5

Min 73.5 0.74 0.23 6.9 0.0 6.9

Min 20.5 0.20 0.71 48.6 0.0

v/c Ratio

1.00 0.2 0.0 0.2

Min 20.5 0.20 0.72

Lead/Lag Lead-Lag Optimize? Recall Mode Act Effct Green (s) Actuated g/C Ratio

49.0 49.0

2010 AM Peak NOBUILD Conditions

D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\2010ANX.sy7

1: 1-40 N. ramp & Unser Blvd

Splits and Phases:

Intersection Capacity Utilization 69.9%

Analysis Period (min) 15

Intersection Signal Delay: 13.4 Maximum v/c Ratio: 0.80

Actuated Cycle Length: 100
Offset: 84 (84%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Intersection Summary

Approach Delay Control Delay Queue Delay Total Delay LOS

Approach LOS

Cycle Length: 100

2010 AM Peak NOBUILD Conditions

D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ANX.sy7

Timings

Timings 1: I-40 N. ramp & Unser Blvd	Unser E	pvlg					Terry O. Brown, P.E.	vn, P.E.
	1	<b>†</b>	1	*	-	-		
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT		ĺ
Lane Configurations	<b>I</b> C.	42	R	K	AA	E		
Volume (vph)	442	· co	219	46	P26	2282		
Tum Type	Perm		Free	pm+nt	5	7077		
Protected Phases		00		140	0	Œ		
Permitted Phases	89		Free	2	1	,		
Detector Phases	00	100		I KC	0	9		
Minimum Initial (s)	5.0	5.0		5.0	5.0	יי		
Minimum Split (s)	21.0	21.0		10.0	25.0	2, 5		
Total Split (s)	26.0	26.0	0	100	74.0	0.0		
Total Solit (%)		26.084	200	200	0.47	2 :		
Yellow Time (c)		20.02	60.0	0.02	74.0%	64.0%		
All Dead Time (s)	5 .	O		4.0	4.0	4.0		
Landillo	0.1	1.0		1.0	1.0	1.0		
Leau/Lag				Lead		Lag		
Lead-Lag Optimize?						0		
Recall Mode	Min	Min		Min	C-Min	C-Min		
Act Effet Green (s)	20.1	20.1	100.0	73.9	73.9	63.4		
Actuated g/C Ratio	0.20	0.20	9.	0.74	0.74	0.63		
v/c Ratio	0.73	0.73	0.15	0.23	0.39	0.00		
Control Delay	50.0	50.4	0.2	6.7	9	10.4		
Queue Delay	0.0	0.0	0.0	0.0	000			
Total Delay	20.0	50.4	0.2	6.7	9	10.4		
SOT	۵	۵	٧	V	A			
Approach Delay		33.7			5.7	10.4		
Approach LOS		ပ			4	ď		
Infersection Summon	STRANSFER	ALC: UNIVERSITY OF						

Intersection LOS: B ICU Level of Service C Actuated Cycle Length: 100
Offset: 95 (95%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 75
Control Types. Actuated-Coordinated
Maximum vic Ratio: 0.80
Intersection Signal Delay: 13.1
Intersection Capacity Utilization 70.6%
Analysis Period (min) 15 Splits and Phases: 1: I-40 N. ramp & Unser Blvd

D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\2010ABX.sy7 2010 AM Peak BUILD Conditions

HCM Signalized Intersection Capacity Analysis 1: I-40 N. ramp & Unser Blvd

Movement   EBL   EBT   EBR   WBI   WBT   WBR   NBL   NBT   NBR   SBL   SBL					l	İ						ò	9/8/2007
EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL  1900 1900 1900 1900 1900 1900 1900 190		1	†	~	1	1	1	*	<b>—</b>	4	•	-	7
1900   1900	Movement	EBL	EBT	EBR	WBL	WBT	WBR	Ž	TRN	OGN	Q	+60	C
1900 1900 1900 1900 1900 1900 1900 1900	Lane Configurations				15	4	×		1	YOU	SDL	000	T T T
3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1001	4000	000	444	- 4
100   100	Total Lost time (s)				000		2 5	200	36	3	3	200	1900
10.59 1.05 1.00 0.05 1.00 0.05 1.00 0.05 1.00 0.05 1.00 0.05 1.00 0.05 1.00 0.05 1.00 1.00	Lane Util Factor				5 6	0,0	3.0	3.0	3.0			3.0	
1.00 1.00 0.085 1.00 1.00 1.665 1670 1568 1752 3565 0.95 0.95 1.00 0.06 1.00 1.665 1670 1568 111 3505 0.95 0.95 1.00 0.06 1.00 1.665 1670 1568 111 3505 0.90 0.90 0.91 0.91 0.91 0.97 0.97 0.97 0.97 0.00 0 0 0 486 0.3 241 47 1004 0 0 0 0.00 0 0 243 246 241 47 1004 0 0 0 0.00 0 0 243 246 241 47 1004 0 0 0 0.00 0 0 0 0 0 0 0 0 0 0 0.00 0 0 0	The state of the s				0.95	0.95	8	1.8	0.95			0.91	
Company   Comp					1.00	1.00	0.85	1.00	1.00			8	
1665 1670 1568 1752 3505  1665 1670 1568 1752 3505  170 0.06 1.00  1665 1670 1568 1752 3505  180 0.06 1.00  190 0.0 442 3 219 46 97 0.97 0.89  180 0.0 243 246 241 47 1004 0 0 0 243  181 181 100.0 73.9 73.9  181 181 100.0 73.9 73.9  182 181 181 100.0 73.9 73.9  183 335 336 1568 205 2590  20 0.0 0 0 13.1 4.8  10 0 0 0 243 3.0 3.0  20 1 20.1 100.0 73.9 73.9  20 1 20.1 100.0 73.9 73.9  20 1 20.1 100.0 73.9 73.9  20 2 20.2 20.2 20.2  20 3 3 3 3 3 3 1568 205 2590  20 4 5 0 0.2 100 100 100  20 73 0.73 0.15 0.15 0.15  20 76 8.0 0.2 13.7 5.2  20 76 8.0 0.2 13.7	FIL PTOINCING				0.95	0.95	1,00	0.95	100			8 8	
0.95 0.95 1.00 0.05 1.00  1665 1670 1568 111 3505  17 0 0 0 0 442 3 219 46 974 0 0 0  18 0 0 0 0 486 0.91 0.91 0.97 0.97 0.89  18 0 0 0 0 0 486 241 47 1004 0 0  19 0 0 0 0 243 246 241 47 1004 0 0  19 0 0 0 0 243 246 241 47 1004 0 0  19 18 1 18 1 1000 73.9 73.9  20 1 20.1 100.0 73.9 73.9  20 1 20.1 100.0 73.9 73.9  20 1 20.1 100.0 73.9 73.9  20 2 0 20 1.00 0.74 0.74 0.74 0.74 0.74 0.74 0.74 0	Satd. Flow (prot)				1665	1670	1568	1753	2505			3 5	
Color   Colo	Fit Permitted				0 06	2 2	2 6	700	cocc			2036	
F	Satd. Flow (perm)				16.00	16.00	3 5	0.00	00.			9	
F	Volume (veh)	6		ľ	3		200		3505	İ		5036	
11. U.85 0.85 0.91 0.91 0.91 0.97 0.97 0.89 0.89 0.90 0.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Dook hour foots Dur	<u>ا</u> د	0	0	442	က	219	46	974	0	0	2282	
10) 0 0 0 486 3 241 47 1004 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Adi Flam (me)	0.85	0.85	0.85	0.91	0.91	0.91	0.97	0.97	0.97	0.80	080	000
b) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Adj. Flow (vph)	0	0	0	486	e	241	47	1004		3	20.00	9
bi) 0 0 0 243 246 241 47 1004 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	KIOR Reduction (vph)	0	0	0	0	C	0	: <	5	0	0	4007	<b>O</b>
s) Perm	Lane Group Flow (vph)	0	0	0	243	246	241	47	1007	0 0	<b>&gt;</b> c	0	0
8 Free Free Free Free Free Free Free Fre	Turn Type				Perm		Free	- Juntan	3		9	7204	
S	Protected Phases					c	200	100					
s) 18, 18, 1 100, 0 71, 9 71,	Permitted Phases				•	0	ı	n	7			9	
18.1 18.1 100.0 71.9 71.9  10.20 0.20 1.00 0.74 0.74  5.0 0.20 1.00 0.74 0.74  5.0 0.20 1.00 0.74 0.74  5.0 0.20 1.00 0.74 0.74  5.0 0.20 0.20 1.00 0.74  5.0 0.20 0.73 0.05 0.95  0.15 0.15 0.15 0.15 0.15  0.73 0.73 0.73 0.15 0.15  0.73 0.73 0.73 0.15 0.15  1.00 0.00 0.00 0.00  7.6 8.0 0.2 0.6 0.4  45.0 45.4 0.2 13.7 5.2  D D A B A  12.2 HCM Level of Service B  15.6 0.76  15.0 Sum of lost time (s)  16.1 100.0 Sum of lost time (s)  17.1 15.2 HCM Level of Service C	Achipted Green C /e)				0	ì	F186	2					
20.1 20.1 100.0 73.9 73.9  20.1 20.1 100.0 73.9 73.9  5.0 5.0 5.0 5.0  3.0 3.0 3.0 3.0 3.0  3.1 3.0 3.0 3.0 3.0  3.2 3.0 3.0 3.0 5.0 5.0  0.15 0.15 0.15 0.15 0.15 0.15  0.73 0.73 0.73 0.15 0.23 0.39  7.6 8.0 0.2 0.0 1.00  7.6 8.0 0.2 0.6 0.4  45.0 45.4 0.2 13.7 5.2  D D A B A  12.2 HCM Level of Service  B 100.0 Surm of lost time (s)  1.00 Surm of Service  C C C C C C C C C C C C C C C C C C C	Freeding Creek, G (S)				18.1	18.1	100.0	71.9	71.9			61 A	
0.20 0.20 1.00 0.74 0.74 0.74 0.74 0.74 0.74 0.74 0	Ellective Green, g (s)				20.1	20.1	100.0	73.9	73.0			7 63	
100   100	Actuated g/C Ratio				0.20	0.20	100	0.74	0.74			4.00	
3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Clearance Time (s)				5.0	5.0			5 4			50.	
335 336 1568 335 336 336 336 336 336 336 336 336 336	Vehicle Extension (s)				20	0 0		9 0	0.0			9.0	
335 336 1568 205 2590 0.15 0.15 0.15 0.15 0.15 0.73 0.73 0.73 0.15 0.15 0.73 0.73 0.73 0.15 0.15 0.74 37.4 0.0 13.1 4.8 1.00 0.0 1.00 1.00 1.00 1.00 0.0 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B A B A 0.0 B B A 0.0 B B B B B B B B B B B B B B B B B B	ane Grn Can (voh)					2		3.0	3.0			3.0	
0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	//s Ratio Prot				335	336	1568	202	2590			3193	
2 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15	//s Ratio Perm				!			0.02	c0.29		Ī	50.51	
2 0.73 0.73 0.15 0.23 0.39 3.74 0.01 0.0 13.1 4.8 1.00 1.00 1.00 1.00 7.6 8.0 0.2 0.6 0.4 45.0 45.4 0.2 13.7 5.2 D D A B A C A C A A C A A C B A A C B A A A C A A A A A C A A A C A A A A C A A A C A A A C A A A C A A A C A A A C A A A C A A A C A A A C A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A C C A A A A A C C A	Ar Patio				0.15	0.15	0.15	0.15					
2 137.4 37.4 0.0 13.1 4.8 1.0 1.0 1.00 1.00 1.00 1.00 1.00 1.00	Inform Delan 14				0.73	0.73	0.15	0.23	0.39			0.80	
2 100 100 1.00 1.00 1.00 1.00 1.00 1.00	Dragonalia Delay, GI				37.4	37.4	0.0	13.1	4.8			13.6	
7.6 8.0 0.2 0.6 0.4 45.0 45.4 0.2 13.7 5.2 0.0 A B A C A C A HORlay 12.2 HCM Level of Service B Office of Service B Office of Service B Office of Service C Office of Service C Office of Service C Office of Service C Office of Service C Office of Service C Office of Service C	Togi ession Factor				9	1.00	1.00	1.00	1.00			0.66	
45.0 45.4 0.2 13.7 5.2  D D A B A  B A  0.0 30.3 5.6  A C  A C  A C  A C  A C  A C  A C  A	inclementar Detay, dz				9.7	8.0	0.2	9.0	0.4			200	
0.0 30.3 5.6 A B A C C C C C C C C C C C C C C C C C	Jeray (s)				45.0	45.4	0.2	13.7	5.2			0 0	
0.0 30.3 5.6 A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A C A A C A C A A C	evel of Service				۵	_	٧	0				o .	
A C C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A C A A A C A A A C A A A C A A A C A A A C A A A A C A A A A C A	Approach Delay (s)		0.0		3	30 2	C	٥	<			⋖ ,	
A H Delay 12.2 HCM Level of Service B Hoffs 100.0 Sum of lost time (s) 9.0 Utilization 70.6% ICU Level of Service C 15.0%	Approach LOS		٧			3			0.0			9.8	
/ Hoeley 12.2 HCM Level of Service acty ratio 0.76 Sum of lost time (s) Utilization 70.6% ICU Level of Service 15			:			ر			Κ			٧	
12.2 HCM Level of Service odfy ratio 0.76 Sum of lost time (s) 100.0 Sum of lost time (s) Utilization 70.6% ICU Level of Service 15	Hersection Summary		Ero-Volva				Mark Say		Street, or other	THE PERSON		1000	9
This is an income of the control of time (s) (h) (s) 100.0 Sum of lost time (s) Utilization 70.6% ICU Level of Service 15	TCM Average Control Del	lay min		12.2	¥	M Leve	al of Ser	vice		8			
Utilization 70.6% iCU Level of Service	Actuated Cycle Length (s)	ono	-	0 0	å	90	1						
15	tersection Capacity Utili	zation	2	.6%	3 0	U Level	of Serv	s)		9.0 C			
Contract of the contract of th	Vietysis Period (min)			5						)			

2010 AM Peak BUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\2010ABX.sy7

Timings 1: I-40 N. ramp & Unser Blvd

Terry O. Brown, P.E.	9/8/2007

SBR 1900

1: 1-40 N. ramp & Unser Blvd	nser B	ρΛ					9/8/2007	1.1-40 N rams
	1	ļ	4	•	<b>←</b>	<b>→</b>		
Lane Group	WBL	WBT	WBR	NB	NBT	SBT		
Lane Configurations	<i>y-</i>	₹	N.	K	*	444		Movement
Volume (vph)	816	-	827	80	1412	1541		Lane Configuration
Turn Type	Perm			pm+pt				Ideal Flow (vphpl)
Protected Phases		80		L.C.	0	2		Total Lost time (s
Permitted Phases	89		Free	2	ı	•		Lane Util. Factor
Detector Phases	80	8		ເດ	2	œ		FT.
Minimum Initial (s)	5.0	5.0		5.0	5.0	, rc		Fit Protected
Minimum Split (s)	21.0	21.0		10.0	210	210		Satd. Flow (prot)
Total Split (s)	48.0	48.0	0.0	12.0	72.0	900		Fit Permitted
Total Split (%)	40.0%	40.0%	%0.0	10.0%		50.0%		Satd. Flow (perm)
Yellow Time (s)		4.0		4.0		40		Volume (vph)
All-Red Time (s)	1.0	1.0		1.0	1.0	0 0		Peak-hour factor,
Lead/Lag				Lead	?	2 5		Adj. Flow (vph)
Lead-Lag Optimize?						20		RTOR Reduction
Recall Mode	Min	Min		Min	C-Min	C-Min		Lane Group Flow
Act Effct Graen (s)	37.3	37.3	120.0	76.7	76.7	643		Turn Type
Actuated g/C Ratio	0,31	0.31	1.00	0.64	0.64	0.54		Protected Phases
v/c Ratio	0.84	0.84	0.56	0.45	0.72	0.62		Permitted Phases
Control Delay	52.8	52.7	1,5	20.0	183	114		Actuated Green, C
Queue Delay	0.0	0.0	0.0	0.0	0.0	0		Effective Green, g
Total Delay	52.8	52.7	1.5	20.0	18.3	114		Actuated g/C Ratio
SOT	٥	۵	<b>V</b>	O	0	00		Clearance Time (s
Approach Delay		26.9			18.4	11.4		Vehicle Extension
Approach LOS		O			m	Φ		Lane Grp Cap (vpl
Intersection Summary						S. C. Strategick		v/s Ratio Prot
		-						Me Datio Dati

Cycle Length: 120 Actuated Cycle Length: 120

Offset: 76 (63%), Referenced to phase 2:NBTL and 6:SBT, Start of Green Natural Cycle: 60

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0,84

Intersection LOS: B ICU Level of Service C Intersection Signal Delay: 19.0 Intersection Capacity Utilization 68.3% Analysis Period (min) 15

80 48 3 1: I-40 N. ramp & Unser Blvd Splits and Phases: 8

D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010P\X.sy7 2010 PM Peak NOBUILD Conditions

Terry O. Brown, P.E. 9/8/2007 0.92 444 1900 3.0 0.91 1.00 1.00 1.00 5036 5036 SBT 1541 0.92 1675 0 0 62.4 64.4 0.54 5.0 3.0 2703 0.62 19.3 0.54 0.3 1900 0.92 SBL 1900 0.87 0.0 В 3.0 0.95 1.00 1.00 3505 1412 0.87 NBT 74.7 76.7 0.64 5.0 3.0 2240 c0.46 1623 14.6 2.1 0.72 3.0 3.0 1.00 1.00 0.95 0.08 142 92 92 74.7 3.0 216 0.03 0.43 8 0.24 13.7 15.1 HCM Level of Service Sum of lost time (s) ICU Level of Service Free | 1.00 0.85 1.00 1.00 1.00 1.568 827 0.94 880 120.0 88 Free 8 0.56 8 WBT 1.00 0.95 1669 0.95 1669 0.94 35.3 37.3 0.31 5.0 3.0 519 0.26 11.3 8 HCM Signalized Intersection Capacity Analysis EBR WBL 1.00 1665 0.95 1665 0.94 0.84 37.3 434 8.1 49.8 1900 0.85 17.7 0.76 120.0 68.3% EBT 1900 0.85 0.0 A np & Unser Blvd 1900 0.85 Intersection Capacity Utilization 問 HCM Volume to Capacity ratio HCM Average Control Delay Actuated Cycle Length (s) (vph) v (vph) G (s) g (s) Analysis Period (min) c Critical Lane Group 뚪 Incremental Delay, d2 (S) (Hg Intersection Summary Delay (s) Level of Service Approach Delay (s) Approach LOS Progression Factor Uniform Delay, d1 v/s Ratio Perm v/c Ratio

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\2010PNX.sy7 2010 PM Peak NOBUILD Conditions

2: Ladera Rd & Unser Blvd Timings

1

EBI

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

pm+pt

pm+ov

133 NB NB

524 Prot

557 557 pt+ov

pm+pt

5.0 21.0 48.0 43.6%

5.0 21.0 48.0

9.1% 43.6% 21.8%

4 4 5.0 5.0 5.0 5.0 10.0 21.0 13.0 28.0 38.0 24.0 39.0 10.1 13.8 25.5% 34.5% 21.8% 35.5% 9 4.0 4.0 4.0 1.0 1.0 1.0

Total Split (%)
Total Split (%)
Yellow Time (s)
All-Red Time (s)

Detector Phases Minimum Initial (s) Minimum Split (s)

Turn Type Protected Phases Permitted Phases

Volume (vph)

4.0 1.0 Lead

C-Min 0.41

Min 52.0

Min 69.0 0.63

C-Min 45.0

Min 38.0 0.33 0.45

0.0 47.4 D

15.9 0.0 15.9

6.4

25.3 0.0 25.3

30.1

Min 52.0 0.47 0.87 63.1 0.0

21.0 0.19 1.02 85.3 0.0

35.0 0.32 0.71 37.0 0.0 0.0

Min 25.0 0.23 1.01 89.5 0.0

Min 35.0 0.32 0.50 25.8 0.0 25.8

Control Delay

//c Ratio

Lead/Lag Lead-Lag Optimize? Recali Mode

Act Effet Green (s) Actuated g/C Ratio

Intersection LOS: D ICU Level of Service E

Intersection Capacity Utilization 88.9%

Analysis Period (min) 15

Intersection Signal Delay: 46.3

Maximum v/c Ratio: 1.02

Control Type: Actuated-Coordinated

Natural Cycle: 100

8

A 83

2: Ladera Rd & Unser Blvd

Splits and Phases:

10 s d d s d d s d d s d d s d

48

Actuated Cycle Length: 110 Offset: 16 (15%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Intersection Summary

Approach Delay Queue Delay Total Delay

Approach LOS

Cycle Length: 110

Terry O. Brown, P.E. 9/8/2007

	1	Î	1	-	ļ	1	•	<del></del>	•	٨	<b>→</b>	•
Movement	EBL	EBT	EBR	Wel	WBT	WBT WBR	MOL	MRT	NBO	- POD	100	9
Lane Configurations	15	*	R. R.	N. N.	4		1		NO.	do	100	200
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1800	1900	1907	± 000	400
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	30	30	3 6	5
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		1.00	0.95	1.00	100	200	
¥.	9.6	1.0	0.85	1.00	96.0		9.	1.00	0.85	8	000	
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	98.0	100	
Satd. Flow (prot)	1752	1845	2760	3400	1774		1752	3505	1568	1752	3485	
Fit Permitted	0.60	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0 27	9 6	
Satd. Flow (perm)	138	1845	2760	3400	1774		164	3505	1568	507	3465	
Volume (vph)	178	368	221	524	158	53	133	584	372	3	1110	8
Peak-hour factor, PHF	0.87	0.87	0.87	0.79	0.79	0.79	0.85	0.85	0.85	3 8		0
Adj. Flow (vph)	205	423	949	663	197	67	158	687	438	6.00	1267	7.03
RTOR Reduction (vph)	0	0	18	0	F	0	0	9	3 &	3 <	9	=
Lane Group Flow (vph)	202	423	622	683	253	0	158	687	357	. 6	1356	
Tum Type	pm+pt		pt+ov	Prot			pm+pt			to+mo		
Protected Phases	7	4	45	က	80		ເດ	2		-	9	9
Permitted Phases	4						2		2	60	1	
Actuated Green, G (s)	31.0	23.0	33.0	19.0	34.0		48.0	43.0	62.0	48.0	43.0	
Effective Green, g (s)	35.0	25.0	35.0	21.0	36.0		52.0	45.0	96.0	52.0	45.0	
Actuated g/C Ratio	0.32	0.23	0.32	0.19	0.33		0.47	0.41	0.60	0.47	0.41	
Clearance Time (s)	2.0	5.0		5.0	5.0		5.0	5.0	5.0	20	2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	30	30	200	
Lane Grp Cap (vph)	409	419	878	649	581		179	1434	780	340	1440	
v/s Ratio Prot	0.05	c0.23	60.23	00.20	0.14		0.08	0.50	200	2 5	0 2 2	
v/s Ratio Perm	0.11						0.38		0.16	800	85.75	
V/c Katio	0.50	1.01	0.71	1.02	0.43		0.87	0.48	0.38	0 19	800	
Uniform Delay, d1	29.0	42.5	33.0	44.5	29.0		24.9	23.9	11.3	16.7	31.5	
Tiographic Pacific	3.	9	8	1.00	90.		1.00	1.00	1,00	1.00	1.00	
Dolar (a)	0.0	46.4	5.6	40.9	0.5		34.0	11	0.2	0.3	15.5	
Locaty (s)	28.8	88.9	35.7	85.4	29.5		58.9	25.0	11.5	17.0	47.0	
Level of Service	ပ	L	۵	ıL	ပ		ш	ပ	0	œ	_	
Approach Delay (s)		52.5			69.5			24.5			45.7	
Approach LOS		Ω			ш			ပ			۵	
intersection Summary	STANDER OF THE PARTY OF	Malek	A STATE OF		1000	Transfer	A STATE OF	PERSONAL PROPERTY.	1	Checonomy	CASTANDA	-
HCM Average Control Delay	elay		46.4	Ì	HCM Level of Service	el of Se	vice		٥			
Artisted Cycle Longth (2)	One L		0.80	•								
Intersection Canacity I Hillyation	s) Hzstion	Ĭ	0.0LL	ภ ⊆	Sum of lost time (s)	st time	œ.		9.0			
Analysis Period (min)			15	5	ICO LEVEI OF SERVICE	5	စ္ဆ		ш			

2010 AM Peak NOBUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\z010ANX.sy7

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ANX.sy7 2010 AM Peak NOBUILD Conditions

Terry O. Brown, P.E. 9/8/2007

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

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Terry O. Brown, P.E. 9/8/2007

Lane Group   Febt   EBF   Febt   Fe	EBL   EBR   Weil   Weil   Net   Ne		1	Ť	1	-	ţ	1	<b>—</b>	•	۶	>
ations   198   388   557   524   158   133   639   372   98   198   388   557   524   158   133   639   372   98   198   198   372   98   198	9 372 89 1 2 2 6 2 3 1 2 2 6 2 3 1 2 2 6 2 3 1 0 10.0 10.0 4 2 4.0 10.0 4 4.0 4.0 1.0 4 1 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.	Lane Group	CBL	EBT	EBR	WBI	WBT	NR	NAT	NBO	100	TOO
198   386   557   524   156   133   619   372   99   198     2888	pm+ev pm+pt 3 1 2 3 1 4 3 1 4 3	Lane Configurations	-	*	R.R.	M. M.	4	×	×	NO.	000	100
pm+pt pt+ov Prot pm+pt pm+ov pm+pt pm+ov pm+pt pm+ov pm+pt pm+s pm+s pm+pt pm+ov pm+pt pm+s pm+pt pm+s pm+pt pm+s pm+pt pm+s pm+pt pm+pt pm+s pm+pt pm+s pm+pt pm+s pm+pt pm+s pm+pt	pm+ov pm+pt 2 3 1 1 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 6 2 2 2 6 2 2 2 6 2 2 2 2 6 2	Volume (vph)	198	388	557	524	158	133	639		-8	1155
888 7 4 45 3 8 5 2 3 7 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2 3 1 2 2 6 2 2 6 2 3 1 1 2 2 9 9 1 2 9 9 1 2 9 9 1 2 9 9 1 2 9 9 1 2 9	Turn Type	pm+pt		pt+ov	Prot		pm+pt			DET + DE	3
888 4 4 5 3 8 5 2 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 6 6 3 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Protected Phases	7	4	45	9	00	LC)	2	3		8
(s)   5.0	2 3 1 0 5.0 5.0 0 24.0 10.0 2 2 24.0 10.0 2 2 24.0 10.0 2 4 0 4.0 4.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	Permitted Phases	4					7		2	. 60	,
(\$) 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	5.0 5.0 5.0 10.0 2.0 10.0 10.0 2.4.0 10.0 2.4.0 10.0 2.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	Detector Phases	7	4	45	e	80	5	2	63	-	œ
(s) 10.0 21.0 10.0 21.0 10.0 21.0 10.0 21.0 10.0 10	10.0 10.0 2 24.0 10.0 4 24.0 10.0 4 24.0 10.0 4 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	. 0.5	2
14.0 28.0 38.0 24.0 38.0 10.0 48.0 24.0 10.0 12.7% 25.5% 34.5% 21.8% 34.5% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.8% 91.% 43.6% 21.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	24.0 10.0 24.0 10.0 24.0 10.0 24.0 10.0 24.0 10.0 24.0 10.0 24.0 20.3 24.0 20.3 24.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0	Minimum Split (s)	10.0	21.0		10.0	21.0	10.0	21.0	10.0	10.0	210
12.7% 25.5% 34.5% 21.8% 34.5% 9.1% 43.6% 21.8% 9.1% 4.  4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	6 21.8% 9.1% 4. 1.0 1.0 1.0	Total Split (s)	14.0	28.0	38.0	24.0	38.0	10.0	48.0	24.0	10.01	48.0
3	20 4.0 4.0 4.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	Total Split (%)	12.7%	25.5%	34.5%	21.8%	34.5%	9.1%	43.6%	21.8%	9.1%	43 6%
8) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	40
Lead Lag Lead Lag Lead Lag Lead Lag Lead Lead Lead I Lead Lead Lead Lead Lead Lead Lead Lead	1 Lead Lead 1 Lead Lead 1 Min None C-1 68.0 52.0 4 0.42 0.38 1 7.8 18.6 5 7.8 18.6 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	10	10
Hito Min Min Min Min Min C-Min Min None C S20 25.0 35.0 21.0 35.0 52.0 45.0 69.0 52.0 45.0 9.32 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45	Min None C 0.63. 0.47 0.63. 0.47 0.042. 0.38 7.6 18.6 7.6 18.6 A B	Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lao	Lead	620	- 6
Min Min Min Min Min Min Nin C-Min Min None C 38.0 38.0 21.0 35.0 21.0 35.0 27.0 45.0 89.0 52.0 45.0 89.0 52.0 62.0 69.0 52.0 62.0 69.0 52.0 69.0 69.0 69.0 69.0 69.0 69.0 69.0 69	Min None C 980 52.0 980 52.0 0.42 0.38 7.6 18.6 7.6 18.6 A B	Lead-Lag Optimize?							,			P
(e) 36.0 25.0 35.0 21.0 35.0 52.0 45.0 69.0 52.0 (e) 36.0 33 0.23 0.32 0.19 0.32 0.47 0.41 0.63 0.47 0.43 0.63 0.47 0.41 0.63 0.47 0.43 0.63 0.47 0.41 0.63 0.47 0.43 0.63 0.47 0.64 0.63 0.42 0.38 0.03 69.5 37.2 65.3 33.5 63.1 26.1 7.6 18.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	Recall Mode	Min	Min		Min	Min	Min	C-Min	Min	None	C.Min
Letico 0.33 0.23 0.32 0.19 0.32 0.47 0.41 0.63 0.47 0.49 0.63 0.47 0.41 0.63 0.47 0.41 0.63 0.47 0.41 0.63 0.47 0.41 0.63 0.47 0.43 0.43 0.43 0.43 0.43 0.43 0.43 0.43	0.63 0.47 0.63 0.47 0.042 0.38 7.6 18.6 0.0 0.0 7.6 18.6 A B	Act Effet Green (s)	36.0	25.0	35.0	21.0	35.0	52.0	45.0	69.0	52.0	45.0
0.63 1.01 0.72 1.02 0.61 0.87 0.52 0.42 0.38 30.3 89.5 37.2 85.3 33.5 63.1 26.1 76 18.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	2 0.42 0.38 7.6 18.6 0.0 0.0 7.6 18.6 A B	Actuated g/C Ratio	0.33	0.23	0.32	0.19	0.32	0.47	0.41	0.63	0.47	0.41
30.3 89.5 37.2 85.3 33.5 63.1 26.1 7.6 18.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	7.6 18.6 0.0 0.0 7.8 18.6 A 18.6	//c Ratio	0.63	1.01	0.72	1.02	0.61	0.87	0.52	0.42	0.38	100
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	A B B	Control Delay	30.3	89.5	37.2	85.3	33.5	63.1	26.1	7.8	18.6	5 A B
30.3 89.5 37.2 85.3 33.5 63.1 26.1 76 18.6 C F D F C E C A B G S3.1 67.4 24.4 D E C C C C C C C C C C C C C C C C C C	7.6 18.6 A B	Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	00	000	200	0.00
y 5 83.1 67.4 24.4 A B C E C A B C C A B C C C A C C C C A B C C C C	2 4	Total Delay	30.3	89.5	37.2	85.3	33.5	63.1	26.1	7.8	10.0	2 4
y 53.1 67.4 24.4 D E C C	a .	SOT	O	LL.	٥	4	C	ш	C	2	2 0	2 1
D 3 0		Approach Delay		53.1			67.4	1	24.4		3	F2 4
plessection Summary	intersection Summary Sycle Length: 110 Actuated Cycle Length: 110 Iffiset: 28 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	Approach LOS		٥			Ш		0			3
	Sycle Length: 110 Actuated Cycle Length: 110 ffiset: 28 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	ntersection Summary	SANSAGE OF THE PERSON NAMED IN	20100	Server St	1000	STEEL ST	SECTION	TO SHARE	COLUMN CO.	-	
Natural Cycle: 100 Control Type: Actuated-Coordinated Maximum vic Ratio: 1.02		Intersection Signal Delay: 48.4 Intersection Capacity Utilization 90.3% Analysis Period (min) 15	ey: 48.4 Jtilization	90.3%		= 0	Intersection LOS: D	on LOS	: D vice E			

Lane Configurations II 4 If I	1900 1900 1000	\$ 200	30 (1990) 30 (1990) 1.00 (100) 1.00 (1095)	1900 3.0 3.0 1.00 1.00 1.00 3505 3505 1.00 3505 752 752 2 2 2 43.0 45.0	1900 1900 1900 1900 1900 1900 1900 1900	1900 3.0 1.00 1.00 1.00 1.00 1.00 1.00 1.0	1900 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3
1900 1900 1900 1900 1900 1900 1900 1900				1900 3.00 3.00 1.00 1.00 3505 1.00 3505 6.88 0.85 752 752 2 43.0	1900 3.0 1.00 1.00 1.00 1.00 1.00 1.00 1.0	1900 3.0 1.00 1.00 1.00 1.752 0.24 446 98 98 0.08 0.08 1111 111 111 111 111 111 111 111 111	1900 3.0 0.99 0.99 0.99 1.00 1.00 1.00 1.00 1.
3.0 3.0 1.00 1.00 1.00 1.00 1.00 1.00 1.				3.0 0.95 1.00 1.00 1.00 3505 1.00 3505 638 0.85 752 752 2 2 43.0	3.00 1.00 1.00 1.00 1.00 1.00 1.00 3.72 4.38 6.4 3.74 3.74 3.74 6.00 6.00 6.00 6.00 6.00 6.00 6.00 6.0	3.0 1.00 1.00 1.00 1.00 1.752 0.24 446 98 98 0.08 0.08 0.111 111	0.95 0.95 0.99 0.99 1.00 1.00 1.00 1.288 1.288 1.47 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	040%0%120 21	202	400		1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	1.00 1.00 1.00 0.024 1.752 0.24 1.46 0.89 0.89 0.89 0.89 0.89	0.099 0.099 1.009 3.461 1.00 1.288 1.288 1.288 1.411 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00		4.04	I I		1568 1.00 1.00 1.00 1.00 1.00 3.72 4.38 6.4 3.74 3.74 3.74 3.62 0.85	0.24 0.24 0.24 0.24 446 98 0.89 111 0	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
0.85 1.00 1.04 1.00 1.04 1.00 1.04 1.00 1.04 1.00 1.04 1.00 1.04 1.00 1.00		1,00	E E		1.00 1.00 1.00 1.00 1.00 3.72 4.38 6.4 3.74 3.74 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3.0	0.85 0.24 0.24 0.89 0.89 0.89 0.89	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
1752 1845 2 1845		1,00	g g		1568 1.00 1568 372 0.85 438 64 374 374 374 362.0	1752 0.24 446 98 0.89 111 0 111	3461 1.00 3461 1.08 0.89 1.288 1.411 7 7 7 7 43.0 6 43.0 6 45.0
1845 1.00 1844 1.00 1813 1845 2 1845 384		1,00,4			1.00 1588 372 0.85 438 64 374 374 3 62.0	0.24 98 0.89 111 111 0 0m+pt	1.00 3.461 1.089 1.288 1.288 1.288 1.47 7 7 7 7 7 43.0 6 6 43.0 6 45.0
HE 1845 5 188 188 188 188 188 188 188 188 188		1,00.7	E.		372 0.85 438 64 374 374 374 3 620	98 0.89 0.89 111 111 0 111 mth	3461 1155 0.89 1288 7 7 7 7 1411 6 43.0 43.0
198 368 1F 0.87 0.87 199 368 190 0.87 190 0.83 190 0.83 10.33 10.33 10.34 10.06 10.06 10.06 10.06 10.06 10.07 10.00 10.06 10.00 10.0		1.0.1	<u>a</u>		372 0.85 438 64 374 374 374 3 62.0	98 0.89 1111 0 1111	0.89 1288 1288 7 7 7 7 7 7 7 7 7 43.0 6 43.0 43.0
HF 0.87 0.87 (19) 12.8 423 (19) 12.8 423 (19) 12.8 423 (19) 13.0 (		1.0	<u>a</u>		0.85 438 64 374 30 2 2 82.0	0.89 111 0 111 0 111 111	0.89 1288 7 7 7 1411 6 6 43.0 43.0
228 423 bit) 228 423 bit) 228 423 bit) 228 423 bit) 228 230 c) 36.0 25.0 c) 36.0 25.0 c) 36.0 25.0 c) 36.0 23.0 c) 36.0 23.0 c) 36.0 23.0 c) 419 c) 60.23 c( c) 10.0 c			F 2		438 64 374 374 3 2 82.0	11 of #	1298 7 1411 6 43.0 45.0
hi) 228 423 pm+Pt t t t t t t t t t t t t t t t t t t			E		374 374 3 3 2 82.0	110 H	1411 6 43.0 45.0 0.41
h) 228 423 pm+pt			E		374 3 2 2 2 62.0	111 m+pt	6 43.0 45.0 0.41
pm+pt pt 4 4 4 4 4 9 32.0 23.0 25.0 10.3 0.23 0.23 0.23 0.23 0.23 0.23 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.0		8 33.0 35.0 0.32 5.0 5.0 5.0	pm+pt 5 2 48.0 52.0 52.0 5.0		3 2 2 82.0	m+pt	6 43.0 45.0
32.0 23.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0		8 33.0 35.0 0.32 5.0 5.0 549			3 2 62.0		6 43.0 45.0 0.41
9) 32.0 23.0 36.0 25.0 0.33 0.23 0.23 0.23 0.23 0.23 0.23 0.		33.0 35.0 0.32 5.0 3.0 549	2 48.0 52.0 0.47 5.0	43.0	620	+	43.0
32.0 23.0 36.0 25.0 0.33 0.23 5.0 5.0 3.0 419 0.06 60.23 0.04 0.03 1.01 28.3 1.01 28.4 88.9 0.6 6.4 0.4 1.00 1.00 1.00 2.3 4.6 4.4 5.0 5.0 1.00 1.00 2.3 4.6 4.4 5.0 5.0 1.00 1.00	9 9 9	33.0 35.0 0.32 5.0 3.0 549	48.0 52.0 0.47 5.0	43.0	62.0	. 6	43.0
36.0 25.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3	0	35.0 0.32 5.0 3.0 549	52.0 0.47 5.0	450	0 00	48.0	45.0
0.33 0.23 0.30 0.23 3.0 419 0.08 60.23 c 0.14 0.63 1.01 2.88 42.5 1.00 1.00 2.36 46.4 3.24 88.9	В	0.32 5.0 3.0 549	5.0	2	000	52.0	0.41
5.0 5.0 3.0 3.0 3.0 4.19 0.06 60.23 0.04 0.14 1.01 28.8 42.5 1.00 1.00 2 3.6 48.4 32.4 88.9	8	5.0 549	5.0	0.41	0.60	0.47	
3.0 4.19 3.0 4.19 0.06 60.23 0.14 0.10 2.8 48.4 2.5 1.00 1.00 1.00 2.3.6 48.4 5.5.7 E.	8	549		5.0	5.0	5.0	5.0
360 419 0.06 60.23 0 0.14 0.63 1.01 28.8 42.5 1.00 1.00 42 3.4 48.4 32.4 88.9		549	3.0	3.0	3.0	3.0	3.0
0.06 c0.23 c 0.14 1.01 28.8 42.5 1.00 1.00 d2 3.6 46.4 32.4 88.9			179	1434	984	204	1416
0.14 0.63 1.01 28.8 42.5 1.00 1.00 d2 3.6 46.4 32.4 88.9		0.19	90.0	0.21	0.07	H	50.41
0.63 1.01 28.8 42.5 1.00 1.00 d2 3.6 46.4 32.4 88.9			0.36		0.17		
28.8 42.5 1.00 1.00 d2 3.6 46.4 32.4 88.9 C F	1.02	0.59	0.87	0.52	0.38	0.38	1.00
1.00 1.00 d2 3.6 46.4 88.9 c		31.5	25.6	24.4	11.4	17.6	32.4
tal Delay, d2 3.6 46.4 32.4 88.9 Service C F	1.00	1.00	1.00	1.00	1.00	1.00	1.00
32.4 88.9 Service C F		1.6	34.0	4.1	0.2	0.8	23.0
L C	85.4	33.1	59.6	25.8	11.7	18.4	55.4
	L	ပ	ш	O	8	•	Ц
Approach Delay (s) 52.6		67.4		25.1		SELL FELLS	52.7
Approach LOS		ш		ပ			٥
ntersection Summary	<b>MERCANIS</b>	September 1	IN NATIONAL PAR	ACS 7882	STORES.	SECTION S	SATRICE
	유	HCM Level of Service	Service		٥		
ODE							
		Sum of lost time (s)	ne (s)		9.0		
ntersection Capacity Utilization 90.3%		ICU Level of Service	ervice		ш		
Aldiyas renou (min)							

E8 7 10 \$ | 48 \$ 

2: Ladera Rd & Unser Blvd

Splits and Phases:

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ABX.sy7

2010 AM Peak BUILD Conditions

2010 AM Peak BUILD Conditions

D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ABX.sy7

HCM S	2. Lade
Terry O. Brown, P.E.	9/8/2007

SBT 1119

9 pm+pt

372

133 pm+pt

524 Prot

557

Lane Configurations Volume (vph)

Tum Type

Protected Phases Permitted Phases

pt+ov

45

EBR

EB1

1

pm+ov

5.0 21.0 48.0 43.6%

9.1%

5.0 10.0 10.0

5.0 5.0 5.0 21.0 10.0 48.0 24.0 43.6% 21.8%

5.0 10.0 10.0 9.1%

5.0 10.0 13.0 11.8% 2 4.0 1.0 Lead

Detector Phases
Minimum Initial (s)
Minimum Spitt (s)
Total Spitt (s)
Total Spitt (%)
Yellow Time (s)
All-Red Time (s)

4.0 1.0 Lead

1.0 Lead

0.1 B 3.0

4.0 1.0 Lead

C-Min 45.0 0.41 0.98

Min 89.0 0.63 0.41 6.4 6.4

Min 52.0 0.47

C-Min 45.0 0.41 0.48

Min 52.0 0.47

36.0 0.33 30.1

Min 21.0 0.19 1.02 0.0

Min 25.0 0.23 1.01

Lead/Lag Lead-Lag Optimize? Recail Mode Act Effet Green (s) Actuated g/C Ratio

47.4 0.0 47.4

0.0 0.19 15.9

0.0

63.1

63.1

35.0 0.32 0.71 37.0 0.0 37.0

89.5

Control Delay Queue Delay

v/c Ratio

Min 35.0 0.32 0.50 25.8 0.0

0.0

Offset: 16 (15%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100 Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Actuated Cycle Length: 110

Cycle Length: 110

ntersection Summary

Approach Delay

Approach LOS Total Delay LOS

Intersection LOS: D

Intersection Signal Delay: 46.3 Intersection Capacity Utilization 88.9% Analysis Period (min) 15

	4
	,
	•
DIAG	4
200	
2	
il	

Terry	
Analysis	,
n Capacity /	
I Intersection	Unser Blvd
Signalized	era Rd & L

FBL EBT EBR WEL WAST WAR NEL NBT NBR SBL   FBL EBT EBR WEL WAST WAR NBC NBC   100   1900		1	†	-	-	ţ	1	1	<b>←</b>	•	٨	→	7
1900   1900	Movement	EBE	EBT	EBR	105	WBT	WBR	NBC	NBT	NBA	SBI	SPIT	odb
1900 1900 1900 1900 1900 1900 1900 1900	Lane Configurations	<i>J</i> r	+	N. N.	N. N.	2		E	*	×	-		
3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1800	1900	1900	1900	1900	1904	1000
1.00 1.00 0.88 0.87 1.00 1.00 0.85 1.00 1.00 0.95 1.00 1.00 0.95 1	Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	30	3
1.00 1.00 0.85 1.00 0.96 1.00 1.00 0.85 1.00 0	Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		1.00	0.85	1.00	100	0.05	
0.95 1.00 1.00 0.95 1.00 0.95 1.00 1.00 0.95 1.00 1.00 0.95 1.00 1.00 0.95 1.00 1.00 0.95 1.00 1.00 0.95 1.00 1.00 0.95 1.00 1.00 0.05 1.00 1.00 0.05 1.00 1.00	Fr	9.	1.00	0.85	1.00	96.0		100	100	0.85	8	000	
1752 1845 2760 3400 1774   1752 3505 1568 1752     1080 1.00 0.985 1.00 0.09 1.00 0.27     178 388 557 624 156 53 133 564 136 50.85     205 423 622 663 197 67 156 687 357 62     178 388 557 624 156 53 133 564 136 62     205 423 622 663 253 197 67 156 687 357 62     178 388 557 624 156 53 143 564 156     205 423 622 663 253 197 67 156 687 357 62     205 423 622 663 253 197 67 156 687 357 62     206 423 622 623 253 190 340 840 480 430 620 480     310 230 330 190 340 840 581 179 1434 994 319 10.05 6.23 6.23 6.23 6.23 6.23 6.23 6.23 6.23	Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	100	100	9 6	100	
0.80 1.00 1.00 0.95 1.00 0.09 1.00 1.00 0.27  1100 1845 2760 3400 1774 164 3505 1568 507  1101 1845 2760 3400 1774 164 3505 1568 507  1205 423 640 683 197 67 158 687 438 62 108 108 108 108 108 108 108 108 108 108	Satd. Flow (prot)	1752	1845	2760	3400	1774		1752	3505	15.69	1752	2405	
1100   1845   2760   3400   1774   164   3506   1568   507     178   386   557   524   156   53   133   564   372   565     205   423   640   683   197   67   156   687   438   62     10	Fit Permitted	0.60	1.00	1.00	0.95	1.00		0.00	1.00	100	0.02	200	
178   368   557   524   156   53   133   584   372   555     F   0.87   0.87   0.79   0.79   0.79   0.85   0.85   0.85   0.89     205   423   640   663   197   67   156   687   357   62     Dnh   205   423   642   663   253   0   156   687   357   62     Dnh   205   423   622   663   253   0   156   687   357   62     Dnh   205   423   622   633   253   0   156   687   357   62     Dnh   205   423   622   633   240   480   480   480     35.0   25.0   35.0   21.0   34.0   48.0   48.0     35.0   25.0   35.0   21.0   36.0   52.0     35.0   25.0   35.0   21.0   36.0   52.0     35.0   25.0   35.0   31.0   31.0     35.0   25.0   35.0   31.0   31.0     35.0   25.0   35.0   31.0   31.0     35.0   25.0   35.0   31.0     35.0   25.0   35.0   31.0     35.0   25.0   35.0   31.0     35.0   25.0   35.0   31.0     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   30.3   30.3     35.0   3	Satd. Flow (perm)	1100	1845	2760	3400	1774		164	3505	1568	507	3465	
F 0.87 0.87 0.87 0.79 0.79 0.86 0.85 0.86 0.89     205 423 640 683 197 67 156 687 436 62     100 18	Volume (vph)	178	368	557	524	156	23	133	584	372	8	1110	8
205 423 640 663 197 67 159 687 438 62 640 663 197 67 159 687 438 62 640 693 253 0 0 159 687 357 62 62 643 253 62 159 687 357 62 62 645 645 645 645 645 645 645 645 645 645	Peak-hour factor, PHF	0.87	0.87	0.87	0.79	0.79	0.79	0.85	0.85	0.85	80	080	2 0
h) 205 423 682 263 0 156 687 357 62 pm+pt pt+ov Prot pm+pt pm+pt pm+pt pm+pt pm+pt pm+pt pt+ov pm+pt pt+ov pm+pt p	Adj. Flow (vph)	205	423	940	683	197	29	158	687	438	5	1257	104
h) 205 423 682 863 263 0 156 687 357 62 pm+pt pt+vy Prot pm+pt pm-pt pm-	KIOK Keduction (vph)	0	0	18	0	Ξ	0	0	0	8	0	47	?
Pm+pt pt+ov Prot pm+pt pm+ov pm+pt pm+ov pm+pt pm+ov pm+pt pm over pm	Lane Group Flow (vph)	202	423	622	863	253	0	158	687	357	62	1356	100
7 4 45 3 8 5 2 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		рш+рt		pt+ov	Prot			m+pt	ľ	vo+mc	pm+pt		
31,0   23,0   33,0   19,0   34,0   48,0   43,0   62,0   48,0   62,0   48,0   63,0   62,0   63,0   63,0   62,0   63,0	Protected Phases	7	4	45	က	80		ເລ		9		æ	
9) 31.0 23.0 33.0 19.0 34.0 48.0 43.0 62.0 48.0 135.0 25.0 35.0 21.0 38.0 52.0 45.0 68.0 52.0 63.2 62.0 33.0 22.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3	Permitted Phases	4						2		2	. 60	•	
35.0 25.0 35.0 21.0 38.0 52.0 45.0 68.0 52.0 63.2 20.3 0.32 0.19 0.33 0.47 0.41 0.60 0.47 0.43 0.30 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3	Actuated Green, G (s)	31.0	23.0	33.0	19.0	34.0		48.0	43.0	82.0	48.0	43.0	
0.32 0.23 0.32 0.19 0.33 0.47 0.41 0.80 0.47 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5	Effective Green, g (s)	35.0	25.0	35.0	21.0	36.0		52.0	45.0	66.0	52.0	45.0	
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Actuated g/C Ratio	0.32	0.23	0.32	0.19	0.33		0.47	0.41	0.60	0.47	0.41	
3.0   3.0   3.0   3.0   3.0   3.0   3.0   3.0   3.0   3.0     408   419   878   849   581   179   1434   984   319   1.0.05   0.023   0.023   0.023   0.023   0.023   0.023   0.023   0.036   0.00   0.01   0.01   0.02   0.03   0.01   0.02   0.03   0.01   0.02   0.03   0.01   0.02   0.03   0.01   0.02   0.03   0.01   0.03   0.03   0.01   0.03   0.03   0.01   0.03	Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	20	5.0	2	
409 419 878 649 581 179 1434 984 319 1.  0.05 c0.23 c0.23 c0.20 0.14 0.06 0.20 0.07 0.01 c0.01 0.01 0.01 1.02 0.14 0.06 0.20 0.07 0.01 c0.01 0.01 0.01 0.01 0.01 0.02 0.03 0.18 0.08 0.20 0.07 0.01 c0.08 0.20 0.07 0.01 c0.08 0.20 0.07 0.01 c0.08 0.08 0.18 0.08 0.18 0.18 0.18 0.18	Vehicle Extension (s)	3.0	3.0	A STATES	3.0	3.0		3.0	3.0	3.0	30	30	
0.05 60.23 60.23 60.20 0.14 0.06 0.20 0.07 0.01 0.11 0.11 0.11 0.21 0.38 0.16 0.08 0.16 0.08 0.10 0.11 0.11 0.2 0.38 0.16 0.16 0.08 0.19 0.30 0.10 0.10 0.10 0.10 0.10 0.10 0.10	Lane Grp Cap (vph)	409	419	878	649	581		179	1434	984	319	1418	l
0.50 1.01 0.77 1.02 0.43 0.36 0.16 0.08 0.50 0.50 1.01 0.77 1.02 0.43 0.87 0.48 0.38 0.19 0.50 1.00 1.00 1.00 1.00 1.00 1.00 1.00	v/s Ratio Prot	0.05	c0.23	60.23	60.20	0.14		90.0	0.20	0.07	0.01	00.00	
0.50 1.01 0.71 1.02 0.43 0.87 0.48 0.38 0.19 2.9.0 42.5 33.0 44.5 29.0 24.9 23.9 11.3 16.7 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	v/s Katio Perm	0.11						0.38		0.16	000	3	
29.0 42.5 33.0 44.5 29.0 24.9 23.9 11.3 16.7 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	v/c Ratio	0.50	1.01	0.71	1.02	0.43		0.87	0.48	0.38	0.19	980	
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Uniform Delay, d1	29.0	42.5	33.0	44.5	29.0		24.9	23.9	11.3	16.7	31.5	
29.9 88.9 35.7 65.4 29.5 58.9 25.0 11.5 17.0 C E E C B B E C C B B E C C B B E C C B B E C C B C C B C C C C	Progression Factor	0.1	00.	1.00	1.00	1.00		1.00	1.00	00.1	1.00	1.00	
29.9 88.9 35.7 65.4 29.5 58.9 25.0 11.5 17.0 C F D F C E C B B B 69.5 D C C B B B C C B B B C C B B B C C C B C C B B B C C C B C C B B B C C C B C C B B B C C C B C C B B B C C C B C C B B B C C C B C C B B B C C C B C C B B B C C C B C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B C C C B B B B B C C C B B B B B C C C B B B B B C C C B B B B B C C C C B B B B B C C C B B B B B C C C C B B B B B C C C B B B B B C C C C B B B B B C C C C B B B B B B C C C C B B B B B B C C C C B B B B B B C C C C B B B B B B C C C C B B B B B C C C C C B B B B B B C C C C C B B B B B B C C C C B B B B B C C C C C B B B B B B C C C C C B B B B B C C C C C C B B B B B B C	incemental Delay, d2	0.	46.4	2.6	40.9	0.5		34.0	1.	0.2	0.3	15.5	
C F D F C E C B B  52.5 69.5 24.5 B B  (100 lay 46.4 HCM Level of Service D C B B B  (10.0 Sum of lost time (s) 9.0 Utilization 88.9% ICU Level of Service E	Detay (s)	28.8	88.9	35.7	85.4	29.5		58.9	25.0	11.5	17.0	47.0	
52.5 69.5 24.5  7  7  10 Elay 46.4 HCM Level of Service D city and of lost time (s) 9.0 Utilization 88.9% ICU Level of Service E	Level of Service	O	L i	۵	L	ပ		ш	ပ	8	0	۵	
t D E C C  1 Delay 46.4 HCM Level of Service D Cdf	Approach Detay (s)		27.2			69.5			24.5			45.7	
1 Delay 46.4 HCM Level of Service city ratio 0.95 Num of lost time (s) 110.0 Sum of lost time (s) Utilization 88.9% ICU Level of Service	Approach LOS		۵			ш			O			0	
Delay	Intersection Summary	THE PARTY	No. of Lot	SALA		The same	Programme of the second	Control	Target A	SCHOOL STATE	STATE STATE OF	NATTOWN	Academic Co.
h (s) 110.0 Sum of lost time (s) Utilization 88.9% ICU Level of Service	HCM Average Control De HCM Volume to Canacity	elay		46.4	Ĭ	CM Leve	el of Se	vice		٥			
Utilization 88.9% ICU Level of Service	Actuated Cycle Length (s	anna 12		1100	ű	- of lo	1						
24 DO 10 10 10 10 10 10 10 10 10 10 10 10 10	Intersection Capacity Utili	Kzation		38.8%	5 <u>0</u>	Lievel U	of Serv	(s.)		0.6 П			
	Analysis Period (min)			15	!		Š	3		u			

12 열 18 48 ×

2: Ladera Rd & Unser Blvd Splits and Phases: 10 s d8 48 s

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ANX.sy7 2010 AM Peak NOBUILD Conditions

2010 AM Peak NOBUILD Conditions

D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010A\X.sy7

Terry O. Brown, P.E. 9/8/2007

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

Lane Group EBL Lane Configurations   198 Volume (vph) 198 Protected Phases   7 Permitted Phases 4	EBT	200	1000	STATE OF THE PERSON					
su Ind	*	EBR	WOL	WBI	NBL	NBT	NBR	SBI	SRT
₹.	-	N. W.	N.	±±	15	#	*	-	4.5
	388	222	524	158	133	639	372	88	1155
otected Phases 7 emitted Phases 4		pt+ov	Prot		pm+pt		bm+ov	pm+ot	
ermitted Phases 4	4	45	3	89	co.	2	6	-	8
minor Dhann					2		0	· cc	•
Joseph Lieses	4	45	3	80	2	2	es.		8
				5.0	5.0	5.0	5.0	5.0	200
Ainimum Split (s) 10.0				21.0	10.0	21.0	10.0	10.0	21.0
	28.0		24.0	38.0	10.0	48.0	24.0	10.0	48.0
otal Split (%) 12.7%		34.5%		34.5%	9.1%	43.6%	21.8%	9.1%	43.6%
				4.0	4.0	4.0	4.0	4.0	4.0
те (s)			1.0	1.0	1.0	1.0	1.0	1.0	10
-ead/Lag Lead			Lead	Lag	Lead	Lag	Lead	lead	200
-ead-Lag Optimize?				STATE OF					P
	Min		Min	Min	Min	C-Min	Min	None	C-Min
Act Effet Green (s) 36.0	25.0	35.0	21.0	35.0	52.0	45.0	69.0	520	ARD
Actuated g/C Ratio 0.33	0.23	0.32	0.19	0.32	0.47	0.41	0.63	0.47	0.44
//c Ratio 0.83	1.01	0.72	1.02	0.61	0.87	0.52	0.42	0.38	8
Control Delay 30.3	89.5	37.2	85.3	33.5	63.1	26.1	7.8	186	55.B
ly in	0.0	0.0	0.0	0.0	0.0	0.0	0.0	00	000
Delay	89.5	37.2	85.3	33.5	63.1	26.1	7.8	18.6	25.0
OS SO.	11	۵	Ŀ	O	Ш	O	*	8	ш
Approach Delay	53.1			67.4		24.4			53.1
Approach LOS	٥			Ш		ပ			0
ntersection Summary	Sept 1010	100 Table	NAME OF THE PERSON	S. Bulk	SELECTION OF	THEFT	TO SHARE	THE CASE	TOTO SECTION

Aduated Cycle. Length: 110
Offset: 28 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle. 100
Control Type: Actuated-Coordinated
Maximum vic Ratio: 1.02
Intersection Signal Delay: 48.4
Intersection Capacity Utilization 90.3% ICU Level of Service E
Analysis Period (min) 15

\$ 24.5 2: Ladera Rd & Unser Blvd Splits and Phases: 10 \$ 48 \$ 10 \$ 48 \$

2010 AM Peak BUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\B8th\_Unser\_Commercial\Synchro\z010ABX.sy7

			•				-	-	•		>	
Movement	EBL	EBT	EBR	MBL	WET	WBR	MR	NRT	NRR	TOO S	Cort	opo
Lane Configurations	1	+	R.R.	N. C.	44		1	¥	×	3 14	100	Ö
Ideal Flow (vphpf)	1900	1900	1900	1900	1900	1900	1900	1800	1800	1000	100	4000
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	308	3
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		1.00	0.95	1.00	100	0.95	
E	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	9	0.99	
Fit Protected	0.85	1.00	1.00	0.95	1.00		0.95	1,00	1.00	0.95	100	
Satd. Flow (prot)	1752	1845	2760	3400	1724		1752	3505	1568	1752	3461	
Fit Permitted	0.44	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.24	100	
Satd. Flow (perm)	813	1845	2760	3400	1724		164	3505	1588	446	3461	
Volume (vph)	198	368	557	524	156	120	133	639	372	88	1155	108
Peak-hour factor, PHF	0.87	0.87	0.87	0.79	0.79	0.79	0.85	0.85	0.85	0.89	0.89	0.89
Adj. Flow (vph)	228	423	640	883	197	152	156	752	438	111	1298	119
RTOR Reduction (vph)	0	0	16	0	22	0	0	0	2	0	7	0
Lane Group Flow (vph)	228	423	624	983	324	0	156	752	374	111	1411	0
Tum Type	pm+pt		pt+ov	Prot			pm+pt		la+ma vo+ma	pm+pt		
Protected Phases	7	4	45	9	80		2	2	63	-	6	
Permitted Phases	4						2		0	· cc		
Actuated Green, G (s)	32.0	23.0	33.0	19.0	33.0		48.0	43.0	62.0	48.0	43.0	
Effective Green, g (s)	36.0	25.0	35.0	21.0	35.0		52.0	45.0	66.0	52.0	45.0	
Actuated g/C Ratio	0.33	0.23	0.32	0.19	0.32		0.47	0.41	0.60	0.47	0.41	
Clearance Time (s)	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	
Lane Grp Cap (vph)	360	419	878	649	549		179	1434	984	294	1416	
v/s Ratio Prot	90.0	c0.23	c0.23	c0.20	0.19		90.0	0.21	0.07	0.02	c0.41	
v/s Ratio Perm	0.14						96.0		0.17	0.15		
V/C Katio	0.63	1.01	0.71	1.02	0.59		0.87	0.52	0.38	0.38	1.00	
Uniform Delay, d1	28.8	42.5	33.0	44.5	31.5		25.6	24.4	11.4	17.6	32.4	
Progression Factor	00.	90.	1.00	9,	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.6	46.4	2.7	40.9	1.6		34.0	4.	0.2	0.8	23.0	
Delay (s)	32.4	88.9	35.8	85.4	33.1		59.6	25.8	11.7	18.4	55.4	
Level of Service	ပ	L	۵	L	O		ш	ပ	00	00	ш	
Approach Delay (s)		52.6			67.4			25.1			52.7	
Approach LOS		۵			ш			ပ			٥	
Intersection Summary	5. S. ROSE	4 100	N. Sept. No.			( Jan 19 19 19 19 19 19 19 19 19 19 19 19 19	SETTEM.	Sec. 280	CONTRA	SHEWAS	Straff LIN	0.00
HCM Average Control Delay HCM Volume to Canacity ratio	elay	- Control	48.4	I	CM Lev	HCM Level of Service	vice		۵			
Artirated Cycle Legath (s)	2		4400	ć	1							
Intersection Capacity   #ilization	Hyation		200	ō ⊆	or to min	Sum or lost time (s)	(8)		0.6 L			
Analysis Period (min)			15	2		1 OF COR	8		ij			
			2									

2010 AM Peak BUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ABX.sy7

2: Ladera Rd & Unser Blvd Timings

Terry O. Brown, P.E. 9/9/2007

5.0 10.0 19.0

46.0 41.8%

5.0 5.0 21.0 10.0 46.0 25.0 41.8% 22.7%

5.0 10.0 10.0 9.1% 4.0 1.0 Lead

5.0 10.0 10.0 9.1% 4.0 1.0 Lead

5.0 5.0 10.0 21.0 25.0 35.0 22.7% 31.8% 4.0 4.0 1.0 1.0 Lead Lag

5.0 10.0 21.0 19.0 29.0 39.0 17.3% 28.4% 35.5% 22 4.0 4.0 1.0 1.0

Minimum Initial (s)
Minimum Split (s)
Total Split (s)
Total Split (%)
Yellow Time (s)
Alf-Red Time (s)

1.0 Lead

4.0 1.0 Lead

1.0 Lag

Min 60.8 0.55 0.13 2.4 0.0

47.6 0.0

0.0

27.9 0.0 27.9

Min 33.2 0.30 0.64 36.3 36.3 60.5 E

0.33 0.70 36.0 36.0

78.8 78.8 E E D

25.7 0.0 25.7 C

Control Delay Queue Delay

v/c Ratio

Fotal Delay

SOT

Min 22.0 0.20 0.87 73.3 0.0 0.0 E. 73.3

0 6.0

C-Min 43.0 0.39 0.85

Min 7.0 0.06 0.51 58.7

C-Min 43.0 0.39 0.55

Min 7.0 0.06 0.72 6.69 0.0 69.9 E

Min 26.0 0.24 0.97

Min 40.8 0.37 0.59

Lead/Lag Lead-Lag Optimize? Recail Mode Act Effct Green (s) Actuated g/C Ratio

Min 68.0 0.62 0.43 9.6 9.6

- 9

P 88 50

372

133 Prot 133

524 Prot

557

198

(vdn) (vdv)

Tum Type

pt+ov

Protected Phases Permitted Phases

Detector Phases

NBT

EBR

EBT

田田

рт+оу

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E. 9/9/2007

		•	•		/		<b>—</b>	4	٨	->	
EBL	EBT	EBR	WBL	WBT WBR	WBR	REN	NRT	NRO	ā	100	000
<b>J</b>	*	R.	N. N.	£5		AC AC	¥	N. Carrie	100	00	Ď
1900	1900	1800	1900	1900	1900	1900	1900	1900	100	- 6	- 50
3.0	3.0	3.0	3.0	3.0		3.0	3.0	30	30	3 6	200
1.00	1.00	0.88	0.97	1.00		0.97	0.95	1.00	0.97	0.95	100
1.00	1.00	0.85	1.00	0.93		1.0	00.1	0.85	1.00	1 00	0.85
0.85	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	100	200
1752	1845	2760	3400	1724		3400	3505	1568	3400	3505	1568
0.38	1.00	1.00	0.95	1.00		0.95	1.00	100	0.05	100	3 5
694	1845	2760	3400	1724		3400	3505	1568	3400	3505	1560
198	368	557	524	156	120	133	639	372	8	1155	2 2
0.87	0.87	0.87	0.79	0.79	0.79	0.85	0.85	0.85	0 89	080	200
228	423	640	663	197	152	156	752	438	111	129R	110
0	0	13	0	52	0	0	0	42	0	3	- 4
228	423	627	663	324	0	156	752	386	111	1298	3 8
pm+pt		pt+ov	Prot			Prot		vo+me	Prot		pm+ov
7	4	45	ന	80		3	2	3	-	9	
4								2		1	
36.8	24.0	8,0	20.0	31.2		5.0	41.0	61.0	5.0	41.0	53.8
40.8	26.0	36.0	22.0	33.2		7.0	43.0	65.0	7.0	43.0	57.8
0.37	0.24	0.33	0.20	0.30		90.0	0.39	0.59	0.08	0.39	0.53
5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
3.0	3.0	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	3.0	3.0		3.0	3.0	3.0	30	0.6	5 6
	436	903	980	520		216	1370	989	218	1370	Se7
0.08	50.23	c0.23	c0.20	0.19		0.05	0.21	0.08	000	200	3 6
0.13								0.17	3	20.37	0.0
0.57	0.97	0.69	0.97	0.62		0.72	0.55	0.41	0.51	0.95	0
25.4	41.6	32.2	43.7	33.0		50.5	26.0	12.1	49.9	32.4	12.9
8	90.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	100
6.	35.3	2.3	28.1	2.3		11.3	1.6	0.3	2.1	14.6	0
27.3	76.9	34.5	71.8	35.3		61.8	27.6	12.4	518	47.0	120
ပ	ш	ပ	ш	۵		ш	U	0	-	2	-
	47.1			59.2			28.6	1	)	44.7	•
	۵			ш			O			-	
200		Section 1				2000	Medical	1	0.000	Total Marie	1985
HCM Average Control Delay HCM Volume to Capacity ratio		43.5	İ	CM Lev	el of Se	rvice		۵			
:	İ	110.0	Ö	ol jo mr	st time	(8)		9.0			
ation	ω	15	ō	U Leve	of Sen	ice		ш			
	중요합니다. [편] 전 [편] 전 [편] 전 [편] 전 [편] 전 [편] 전 [편] 전 [편] 전	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	1.00 c 1.	1.00 0.88 0.98 1.00 1.00 0.88 1.00 1.00 0.88 1.00 1.00	1.00 0.88 0.98 1.00 1.00 0.88 1.00 1.00 0.88 1.00 1.00	1.00 0.88 0.98 1.00 1.00 0.88 1.00 1.00 0.88 1.00 1.00	1.00 0.88 0.97 1.00 0.91 1.00 0.88 1.00 0.93 1.00 0.95 1.00 0.93 1.00 0.95 0.95 1.00 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0	1.00 0.88 0.97 1.00 0.97 0.95 0.00 1.00 0.00 0	1.00 0.88 0.97 1.00 0.97 0.95 1.00 0.00 0.90 0.95 0.00 0.90 0.90 0.90 0	1.00 0.88 0.97 1.00 0.97 0.87 0.90 1.00 0.90 0.97 0.85 1.00 0.90 0.97 0.85 1.00 0.90 0.97 0.85 1.00 0.90 0.90 0.90 0.90 0.90 0.90 0.90	1.00 0.88 0.97 1.00 0.97 0.85 1.00 0.97 0.85 1.00 0.95 1.00 0.85 1

101 463

23 5 A 83 3 2: Ladera Rd & Unser Blvd Splits and Phases: 10 46 s

Intersection LOS: D ICU Level of Service E

Intersection Signal Delay, 44.1 Intersection Capacity Utilization 83.7% Analysis Period (min) 15

Offset: 28 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Actuated Cycle Length: 110

Cycle Length: 110

Intersection Summary

Approach Delay Approach LOS Natural Cycle: 90 Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

2010 AM Peak BUILD Conditions

Mitigated Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010AB\_Mit.sy7

2010 AM Peak BUILD Conditions

Mitigated Geometry D:\ATOBE\PROJECTS\98\th\_Unser\_Commercial\Synchro\2010AB\_Mit.sy7

2: Ladera Rd & Unser Blvd

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

5.0 21.0 46.0 35.4%

5.0 11.0 8.5%

5.0 21.0 23.0

Protected Phases Permitted Phases Detector Phases Minimum Initial (s)

123

724

572

322 pt+ov 4 5

Volume (vph)

EBT

8 155 pm+ov pm+pt

4.0 1.0 Lead

4.0 1.0 Lead

4.0 1.0 Lead

4.0 1.0 Lag

4.0 1.0 Lead

4.0 1.0 Lag

Yellow Time (s) Alf-Red Time (s)

5.0 10.0 10.0 7.7% 4.0 1.0 Lead

Total Split (s) Total Split (%)

C-Min 43.0 0.33

0.39

Min 93.0 0.72 0.86

C-Min 68.0 0.52 0.78

0.29

27.0 0.21 1.11 140.1

v/c Ratio

Min 20.0 0.15 1.03

Min

Lead/Lag Lead-Lag Optimize? Recall Mode Act Effet Green (s) Actuated g/C Ratio

79.0 0.61

Min 35.0

109.0 109.0 0.0

143.4

22.8 22.8 C

114.3 0.0

0.0

0.0 11.4 B

Actuated Cycle Length: 130 Offset: 87 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Infersection Summary

Approach Delay

Approach LOS

Control Delay Queue Delay Total Delay

Intersection LOS: F ICU Level of Service H

Intersection Signal Delay: 80.4 Intersection Capacity Utilization 117.8%

Analysis Period (min) 15

Control Type: Actuated-Coordinated

Natural Cycle: 120

Maximum v/c Ratio: 1.20

Terry O. Brown, P.E. 9/8/2007

Movement Lane Configurations							_	_	_	*	+
Lane Configurations	EBI.	EBT	EBR	WBL	WBT	WBR	NBI	NRT	NBD	100	Corre
	Je.	+	N. N.	N. W.	44		M		NO.	1	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	100	1001	רפיי	44
Total Lost time (s)	3.0	3.0	3.0				30	300	3 6	36	200
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		1.00	0.95	100	5 6	200
7.U	1.00	1.00	0.85		96.0		100	100	0.85	3 6	0 0
Fit Protected	0.95	1.00	1.00		1.00		0.95	8 8	2 5	9 9	4 0.87
Satd. Flow (prot)	1752	1845	2760	3400	17771		1752	3505	1569	1753	3.5
Fit Permitted	0.20	1.00	1.00	0.95	1.00		000	200	200	707	3382
Satd. Flow (perm)	369	1845	2760	3400	17771		160	3505	1588	218	2202
Volume (vph)	155	272	322	591	389	128	572	1352	724	132	2002
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0 05	0.05	300	5
Adj. Flow (vph)	167	282	348	635	428	138	602	1423	782	0 0 0	0 00
RTOR Reduction (vph)	0	0	15	0	თ	0	0	0	37	9 0	22
Lane Group Flow (vph)	167	282	331	635	558	0	802	1423	725	128	1287
٦	pm+pt		pt+ov	Prot			pm+pt		pm+ov pm+of	pm+pt	
Protected Phases	1	4	45	3	00		2	2	67		8
Permitted Phases	4						7	ı	0	- 00	>
Actuated Green, G (s)	23.0	18.0	54.0	20.0	33.0		77.0	86.0	88.0	47.0	410
Effective Green, g (s)	27.0	20.0	56.0	22.0	35.0		79.0	68.0	0.06	510	43.0
Actuated g/C Ratio	0.21	0.15	0.43	0.17	0.27		0.61	0.52	0.69	0.30	0 33
Clearance Time (s)	2.0	2.0		5.0	5.0		5.0	20	20	300	3 4
Venicle Extension (s)	30	3.0		3.0	3.0		3.0	3.0	30	0 6	9 6
Lane Grp Cap (vph)	151	284	1189	575	478		501	1833	1122	170	1445
Ws Ratio Prot	90.0	0.16	0.12	60.19	c0.31		00.30	0.41	0 44	200	2 2 2 2
v/s Katio Perm	0.17						c0.42		0.35	0.24	5
V/C KETIO	¥.	8	0.28	1.10	1.17		1.20	0.78	0.85	0.72	4 43
	63.7	22.0	23.9	54.0	47.5		50.7	24.9	111	27.5	43.5
	9	1.00	1.00	1.00	1.00		1.00	1.00	100	1 00	8
rai Delay, d2	104.5	60.9	0.1	69.4	96.1		108.6	3.3	67	12.7	21.0
	188.1	115.9	24.1	123.4	143.6		159.3	28.2	12.4	40.2	1145
Level of Service	Ŀ	L	ပ	ш	u		ш	C		-	, L
Approach Delay (s)		87.2			132.9			52.2	2	)	107.0
Approach LOS		Щ			Ŀ			٥			, L
Intersection Summary	N. Carlot		Sec. 16.	2000	1000	115/200	STATE OF	Contractor of the last of the	STREATURE	S. Charles	- Company
HCM Volume to Control Delay	ay		85.1	I	HCM Level of Service	al of Ser	Nice		L		
Actuated Cycle Length (c)	RIBO		1.17	•							
Intersection Capacity Utilization	zation	1	117.8%	75 <u>C</u>	Sum of lost time (s)	of Serv	(8)		0.0		
Analysis Period (min)			5			5	3		<b>C</b>		

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2: Ladera Rd & Unser Blvd

Splits and Phases:

D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010P\X.sy7 2010 PM Peak NOBUILD Conditions

2010 PM Peak NOBUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PNX.sy7

Terry O. Brown, P.E. Ho. 9/8/2007 2-

SBT

ло+ша

322 pt+ov 45

190

Lane Configurations

Volume (vph)

Tum Type Protected Phases

Permitted Phases

EBR

1 1

5.0 5.0 5.0 10.0 21.0 10.0 2 28.0 41.0 30.0 6 21.5% 31.5% 23.1% 4 4.0 4.0 1.0 1.0 Lead Lead Lead

5.0 10.0 21.0 12.0 25.0 55.0 9.2% 19.2% 42.3% 21 4.0 4.0 1.0 1.0

Detector Phases Minimum Initial (s) Minimum Split (s) 1.0 Lag

4.0 1.0 Lead

4.0 Lag C-Min 0.34 1.24

58.0

Min 85.0 0.65 0.72

C-Min 57.0 0.44 0.99 57.7

0.57

0.29 1.33 95.5 0.0

Min 22.0 0.17 0.94

Min 31.0 0.24

> Act Effet Green (s) Actuated g/C Ratio

Lead/Lag Lead-Lag Optimize? Recall Mode

Total Split (%)
Total Split (%)
Yellow Time (s)
All-Red Time (s)

Min 25.0 0.19 0.97 80.9 0.0

> 52.0 0.40 0.31 25.9 0.0 C

> > 90.4

Min 74.0

153.1 0.0 153.1

> 0.0 17.2 B

0.0

195.5 F 140.8

0.0

Actuated Cycle Length: 130 Offset: 117 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 110

Intersection Summary

Approach Delay Approach LOS

v/c Ratio Control Delay Queue Delay Total Delay Intersection LOS: F ICU Level of Service H

Intersection Signal Delay: 110.9 Intersection Capacity Utilization 131.5%

Analysis Period (min) 15

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.43

2: Ladera Rd & Unser Blvd

Splits and Phases:

123.8 0.0 123.8

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

	`	†	>	-	,	1	•	<b>—</b>	•	•	->	•
Movement	EBL	EBT	EBR	WBI	WAT	WART WAR	Not	More	MON	100		4
Lane Configurations	15	*	N.	N. A.	44		-		MON	700	100	Š
Ideal Flow (vphpl)	1900	1900	1900	1800	1900	1900	1900	1900	1000	1000	100	4000
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	30	5
Lane Util. Factor	1.00	1.00	0.88	0.97	1.00		1.00	0.85	1.00	1.00	0.85	
	9.	9.	0.85	1.00	0.94		1.00	1.00	0.85	1.00	0.98	
rit Protected	0.85	9.	1.00	0.85	1.00		0.95	1.00	1.00	0.95	1.00	
Said. Flow (prot)	1752	1845	2780	3400	1739		1752	3505	1568	1752	3380	
rit Permitted	0.18	90.	1.00	0.95	1.00		0.09	1.00	1.00	0.09	1.00	
Satd. Flow (perm)	332	1845	2760	3400	1739		157	3505	1568	168	3380	
Volume (vph)	190	272	322	591	399	248	572	1450	724	280	1082	320
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0.95	0.95	96.0	96.0	960
Adj. Flow (vph)	×	282	348	635	428	267	802	1526	782	27.1	1108	343
KIOK Reduction (vph)		0	13	0	17	0	0	0	37	0	22	5
Lane Group Flow (vph)	204	292	333	635	629	0	802	1526	725	271	1427	
Tum Type	pm+pt		pt+ov	Prot			pm+pt		pm+ov pm+pt	pm+pt		ĺ
Protected Phases	,	4	4 5	9	8		ın	7	က		9	
Actual of Princes	4 (						7		7	9		
Actualed Green, G (s)	27.0	20.0	20.0	23.0	38.0		72.0	55.0	78.0	54.0	42.0	
Emecuve Green, g (s)	31.0	22.0	52.0	25.0	38.0		74.0	57.0	82.0	58.0	44.0	
Actuated g/C Katto	0.24	0.17	0.40	0.19	0.29		0.57	0.44	0.63	0.45	0.34	
Clearance Lime (s)	2.0	2.0		5.0	2.0		2.0	5.0	2.0	5.0	5.0	
Venicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	30	
Lane Grp Cap (vph)	178	312	1104	654	508		421	1537	1025	248	1144	ı
Ws Katto Prot	80.09	0.16	0.12	0.19	60.39		60.30	0.44	0.14	0.12	0.42	
V/s Katio Perm	0.19						c0.52		0.33	0.37	1	
I briform Delen 44	1.15	0.94	0.30	0.97	1.34		1.43	66.0	0.71	1.10	1.25	
Denomina Detay, d1	62.7	53.3	26.8	52.1	46.0		53.7	36.3	16.0	39.7	43.0	
Incremental Date: 42	3.5	00.5	90	0.0	00.		1.00	1.00	1.00	1.00	1.00	
Dolar (e)	777.5	34.2	0.2	27.9	164.4		206.8	21.3	2.3	87.3	118.6	
Level of Seption	8.4/L	6/. U	26.8	90.1	210.4		260.5	97.9	18.2		161.6	
Arrest of Service	1	_	ပ	L	ட		ц.	ш	00		ш	
Approach Delay (s)		83.7			148.2			89.5			156.1	
Approach LOS		ш			u.			ш				
Intersection Summary	STATE OF THE PARTY OF	2000	SCHOOL SECTION	MARKET	Section Sec	27755		200000000000000000000000000000000000000	CHERRY	Degradado	- Contraction	-
HCM Average Control Detay	elay		117.2	ĮΞ	HCM Level of Service	el of Se	Nice		L			4
HCM Volume to Capacity ratio	ly ratio		1.37									
Actuated Cycle Length (s)	(s)		130.0	Ø	Sum of lost time (s)	st time (	(8)		9.0			
Intersection Capacity Utilization Analysis Period (min)	Hization	<u>t</u>	131.5%	2	ICU Level of Service	of Sen	ice		I			

2010 PM Peak BUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PBX.sy7

2010 PM Peak BUILD Conditions

Existing Geometry D:\ATOBEVPROJECTS\98th\_Unser\_Commercial\Synchro\2010PBX.sy7

2: Ladera Rd & Unser Blvd Timings

Terry O. Brown, P.E. 9/8/2007

SBI

NBT 1450

曼

EBT

EBI

Lane Configurations

Volume (vph)

Turn Type

Protected Phases Permitted Phases

724

мо+ша

pm+pt

322 pt+ov 4 5 EBR

190

5.0 21.0 51.0 39.2% 1.0 Lag

5.0 10.0 19.0 14.6%

23.0

5.0 10.0 21.0 14.0 21.0 56.b 10.8% 16.2% 43.1% 17 4.0 4.0 1.0 1.0

Total Split (s)
Total Split (%)
Yellow Time (s)
All-Red Time (s)

Minimum Initial (s) Minimum Split (s)

Detector Phases

Q-Min 48.0

Min

Min

Min 18.0 0.14

Min

Lead/Lag Lead-Lag Optimize? Recall Mode

29.0 0.22 1.00

Actuated g/C Ratio

v/c Ratio

Act Effct Green (s)

Lead M 0.49

4.0 Lead 0.37 110.4 0.0 110.4

87.0

64.0

0.0 8

16.2 0.0 16.2 B

0.0

156.6 0.64

> 159.0 159.0 0.0

24.7 0.41

100.7

Control Delay Queue Delay

Fotal Delay

SOI

0.92

156.6

61.2

150.4 150.4

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E.

Z. Lauera rd & Unser Blvd	Ser B	p									76	9/8/2007
	1	†	~	-	ļ	1	•	<b>←</b>	*	٨	<b>→</b>	*
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBI	NBT	NRR	ď	TAS	COC
Lane Configurations	100	*	N. N.	K	4.5		×	×	*	1	3	SON
Ideal Flow (vphpl)	1900	1900	1900	1900	B	1900	1900	1900	1900	1900	100	1000
lotal Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	30	30	200	3
Lane Util. Factor	1.00	1.00	0.88	0.97	0.95		1.00	0.95	100	100	0.00	
ער דיי	9.	1.00	0.85	1.00	0.94		1.00	1.00	0.85	8	0 0	
Fit Protected	0.95	1.00	9.	0.95	1.00		0.95	100	100	000	0.00	
Satd. Flow (prot)	1752	1845	2760	3400	3303		1752	3505	1568	1752	2000	
Fit Permitted	0.22	1.00	1.00	0.95	1.00		000	200	8 8	200	1000	
Satd. Flow (perm)	410	1845	2760	3400	3303		145	3505	1568	154	38.0	
Volume (vph)	190	272	322	591	399	248	572	1450	724	260	1062	320
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.95	0 95	0 05	900	200	000
Adj. Flow (vph)	204	292	346	635	429	267	602	1526	762	27.1	1108	243
RTOR Reduction (vph)	0	0	16	0	74	C	C		9 6	2	3 8	2
Lane Group Flow (vph)	204	292	330	635	622	0	602	1526	730	271	1476	> 0
Turn Type	pm+pt		pt+ov	Prot			pm+pt			tu+ma		1
Protected Phases	7	4	45	က	80		ıc	0	J.,	1	u	
Permitted Phases	4						0	1	0 0	- 0	>	
Actuated Green, G (s)	25.0	16.0	51.0	18.0	25.0		810	62.0	AN D	900	40.0	
Effective Green, g (s)	29.0	18.0	53.0	20.0	27.0		83.0	0.7.0	0 0	3 6	10.0	
Actuated g/C Ratio	0.22	0.14	0.41	0.15	0.21		0.50	0.40	2 2	0.40	48.0	
Clearance Time (s)	5.0	5.0		5.0	5.0		200	2	3 4	2.0	0.37	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3 0	0 6	000	0.6	0.0	
Lane Grp Cap (vph)	205	255	1125	523	989		488	1726	1049	27.0	1248	
v/s Ratio Prot	0.08	60.16	0.12	60.19	0.19		0030	0.44	11	12	0 40	
v/s Ratio Perm	0.14						c0.48	5	98.0	75.0	24.0	
v/c Ratio	1.00	1.15	0.29	1.21	0.91		1 23	0.88	0 20	5 5	1 1 1	
Uniform Delay, d1	47.4	56.0	25.9	55.0	50.3		51.2	20.7	7 2 2	3.5	4 6	
Progression Factor	1.00	1.00	100	1.00	100		100	100	0.0	40.0	41.0	
Incremental Delay, d2	61.1	101.2	0.1	113.0	12.5		3 5	3 6	3.0	3.5	3 :	
Delay (s)	108.5	157.2	26.0	168.0	2 2 2		121.3	2.5	7.0	23.2	74.3	
Level of Service	4	iп	2	9 11	о В		13.1	20.7	6.9	93.2	115.3	
Approach Delay (s)		918	)	-	1140		L	2	10	_	ш.	
Approach LOS		<u>.</u> Э пт			о. Б			59.9			111.8	
***					L			IJ			Ŀ	

107.8 F

Offset: 116 (89%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Actuated Cycle Length: 130

Intersection Summary

Approach Delay

Approach LOS

Cycle Length: 130

Intersection LOS: FICU Level of Service H

Intersection Capacity Utilization 116.1%

Analysis Period (min) 15

Intersection Signal Delay: 83.4

Maximum v/c Ratio: 1.23

Control Type: Actuated-Coordinated

Natural Cycle: 130

1.21 1.21 130.0 116.1% Actuated Cycle Length (s) Intersection Capacity Utilization Analysis Period (min) c Critical Lane Group HCM Average Control Delay HCM Volume to Capacity ratio

9.0 H

HCM Level of Service Sum of lost time (s) ICU Level of Service

Intersection Summary Approach LOS

A 83 2: Ladera Rd & Unser Blvd 监 2 Splits and Phases:

2010 PM Peak BUILD Conditions

Existing Geometry w/City Improvements D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\8Synchro\2010PB\_Mit.sy7

2010 PM Peak BUILD Conditions

Existing Geometry w/City Improvements D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PB\_Mit.sy7

1 EBT

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SBT

NBR

1450 NBT

572 Prot Ä

591 Prot

322 pt+ov 4.5

Lane Configurations Volume (vph)

Turn Type Protected Phases Permitted Phases

vo+mq 724

HCM Signalized Intersection Capacity Analysis 2: Ladera Rd & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

	1										6	9/8/2007
	\	†	/	1	ļ	1	*	<b>4</b> -	•	الر	_	7
Movement	EBL	EBT	FRD	igo,	MOT	C.C.		-			•	7
Lane Configurations	No.	1	*	9	AVE	WBK		NBT	NBR	THES	SBT.	SBR
Ideal Flow (vphpl)	1900		1001	ב פל	4 50			‡	<b>R</b> _	44	475	
Total Lost time (s)	3.0	3.0	300		3 6	2005	1900	900	1900	1	1900	1900
Lane Util. Factor	100	0.05	000		3.0		3.0	3.0	3.0	3.0	3.0	)
Frt	5	5 5	0 0	0.97	0.95		0.97	0.95	1.00	0.97	0 95	
Fit Protected	9 0	3 5	0.00		0.94		1.00	1.00	0.85	100	900	
Satd. Flow (pmt)	17.00	3 5	3 5		8.		0.95	1.00	100	000	5 5	
Fit Dermitted	707	3202	2760	•	3303		3400	3505	1560	2400	3 5	
Delining of the Control of the Contr	0.24	9	1.00	0.95	1.00		200	300	000	2400	3380	
Sald. Flow (perm)	434	3505	2760		3303		3400	3 6	3	0.95	9.	
Volume (vph)	190	272	322		300	240	3	coco	1568	3400	3380	
Peak-hour factor, PHF	0.93	0 93	0 0	600	200	240	2/5	1450	724	260	1062	329
Adj. Fłow (vph)	200	202	340	20.00	0.93	0.93	0.95	0.95	0.95	96.0	96.0	96 0
RTOR Reduction (vmh)		400	9 6	650	429	267	602	1526	762	271	1108	242
Lane Group Flow (vnh)	200	200	2 5	0	75	0	0	0	16	c	3 8	3 0
Turn Type	27.7	767	200	635	621	0	602	1526	746	27.1	1476	0
Protected Disease	pm+pt	,	pt+ov	Prot			Prot		nm+on	1000	1450	
Sacrity Description	-	4	45	e	00		u		200	2		
Permitted Phases	4				)		9	7	7	-	9	
Actuated Green, G (s)	25.0	15.0	41.0	220	27.0		0	1	7			
Effective Green, g (s)	29.0	17.0	43.0	24.0	200		0.0	61.7	83.7	11.3	52.0	
Actuated g/C Ratio	0.22	0.13	0 33	10	200		23.0	63.7	87.7	13.3	54.0	
Clearance Time (s)	7.	, r	2	0 0	0.22		0.18	0.49	0.67	0.10	0.42	
Vehicle Extension (s)	3	0 0		0 0	0.0		2.0	5.0	5.0	5.0	20	
and Car		3.0		3.0	3.0		3.0	3.0	20	2 0	9 0	
Lane Grip Cap (vpn)	218	458	913	628	737		En2	1747	200	0.0	3.0	1
WS Kabo Prot	0.00	0.08	0.11	c0.19	2010	•	40 60		1084		1404	
v/s Ratio Perm	0.12				2		.O. 18	0.44	0.13	0.08	c0.42	
v/c Ratio	0.94	D 64	0.35	5	700				0.35			
Uniform Delay, d1	46.0	53.6	32.0	2.5	40.04			0.89	0.68	0.78	1.02	
Progression Factor	100	5 5	200	20.00	46.3			29.9	12.7	56.9	38.0	
Incremental Delay do	200	3 6	3 8	3	8			1.00	1.00	100	100	
Delay (s)	200	7 2	7.7	38.7 2.7	9.6		36.7	7.3	18	10.5	000	
l evel of Service	90.0	20.0	33.1	91.7	57.0			37.3	146	27.4	0.07	
A Comment	1.	ш	O	ш.	ш			2	9 5	÷ 1	0.00	
Approach Delay (s)		54.7			73.5			2 5	0	п	ш	
Approach LOS		۵			2 11			42.3			66.2	
Inferenction Summer:	93550000				J			۵			ш	
Committee of the second			1000	400,000			SAMPHIE	Mikany	200			
HCM Volume to Canacity ratio	flay		56.0	운	HCM Level of Service	of Serv	82		Ш			
Actuated Cycle Length (e)	One	,	0.58									
Intersection Capacity Utilization	zation	- 86	0.051	<u>2</u> S	Sum of lost time (s)	time (s			9.0			
Analysis Period (min)			15	í	CO CEAGI OI OGI AICE	DA IAO	D)		LL.			
donne raile Group												

54.0 0.42 1.02

0.70

1.08

0.33 0.37 30.0 0.0

60.1

17.0 0.13 0.64

29.0

Lead/Lag Lead-Lag Optimize? Recall Mode Act Effct Green (s) Actuated g/C Ratio

0.0

0.95 85.3 0.0 85.3

Control Delay Queue Delay Total Delay

v/c Ratio

63.7

C-Min

64.7 0.0 64.7

0.0

73.0

43.8%

50.8% 20.8%

19.2%

1.0 Lead

4.0 1.0 Lag

Lead

5.0 10.0 27.0

2 5.0 21.0 66.0

5.0 5.0 10.0 21.0 27.0 33.0 20.8% 25.4% 1

5.0 21.0 21.0 46.0 16.2% 35.4% 2

Minimum Initial (s) Minimum Split (s)

Detector Phases

11.5%

Total Split (s)
Total Split (%)
Yellow Time (s)
All-Red Time (s)

E 83

Splits and Phases: 2: Ladera Rd & Unser Blvd

Intersection LOS: E ICU Level of Service F

Intersection Signal Delay: 55.6 Intersection Capacity Utitization 99.0% Analysis Period (min) 15

Control Type: Actuated-Coordinated

Natural Cycle: 130

Maximum v/c Ratio: 1.02

Offset: 116 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Actuated Cycle Length: 130

Intersection Summary

Approach Delay Approach LOS

Cycle Length: 130

Mitigated Geometry D:IATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PB\_Mit.sy7 2010 PM Peak BUILD Conditions

2010 PM Peak BUILD Conditions

Mitigated Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PB\_Mit.sy7

Timings 3: Ouray Rd & Unser Blvd

Н	2004
Brown, P.E.	70/0
o.	
lemy (	

Lane Group Lane Configurations Volume (vph) Turn Type Protected Phases Permitted Phases Permitted Phases Minimal Phases	< ₫	†	-	-	ţ	1	*	4	*	1	-	1
22	EBI							-			4	þ
SE		EBT	EBR	WBN	WRT	WIDD	1014	TOTAL	. !	- 1		
	×	4	,			VOA	ı	2	NBK	SBL	SBI	SBR
	- !	-	_	_	←	-	M.	*	R	AC	AA	*
	45	80	Ξ	166	10	38	0	1135	-66	- 67	1000	_
	Perm		Perm	Dom	2	3		3	77	76	25	
Permitted Phases Detector Phases		-	5	5	•	Leith	Ferm		Perm	Perm		Perm
Detector Phases	,	1			20			2			9	
Wetector Phases	4		4	00		80	0		0	•	9	
Minimum Initial /-/	4	4	4	α	α	0	1 (	•	ν.	٥		9
	2	4	4		9 1	0	7	7	2	9	9	9
	9 6	9 6	0.0	0.0	0.0	2.0	2.0	5.0	5.0	5.0	5.0	5
	2.5	2.0	21.0	21.0	21.0	21.0	210	210	210	24.0	2,0	2
	40.0	40.0	40.0	40.0	An n	40.0	9 0	9 6	0.12	0.12	7.0	21.0
Total Split (%) An		90 0	40.00	200	20.00	40.0	0.00	0.0	00.0	0.09	90.0	60.0
-	١.	6 0	PO.04	80.04 80.04	40.0%	40.0%	60.0%	60.0%	80.09	80.09	80.09	60 D%
Leicow Fillie (s)	0.4	4.0	4.0	4.0	4.0	4.0	4 n	40	7	7	2	9 .
All-Red Time (s)	1.0	1.0	10	10	-	-	2 4	9 6	5 .	0.4	4.0	4.0
Lead/Lag			2	2			?	5.0	-	1.0	0.	1.0
Lead-Lag Optimize?												
	Min	Min	Min	Mis	0.01							
en (e)	22.2	200			MIL	E .	- <u>₩</u>	C-Min	C-Min	C-Min	C-Min	C-Min
	7.77	7.77	7.77	7.77	22.2	22.2	71.8	71.8	71.8	718	71 B	710
g/C Katio	7.52	0.22	0.22	0.22	0.22	0.22	0.73	0.20	1 2	1 1	0.0	0 !
//c Ratio	0.16	0.05	000	0 73	0	1 6	2 0	7 1	0.12	0.72	0.72	0.72
Control Delay	000	37.5	5 5	2 6	20.0		0.04	0.52	0.05	0.27	0.41	0.01
	90	3 0	5.0	49.2	7.0	9.1	5.0	5.9	<u>ر</u> رئ	12.3	6.9	3.6
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	00	0	0
Caray	9.9	27.5	13.1	49.2	27.0	9.1	20	0	7	, ,	9 0	9 6
20.	ပ	O	20	Q	C	٧	<	9	2 4	5.5	6.0	3.6
Approach Delay		26.8		ı	410		c	2 0	<	20	<	¥
Approach LOS		ပ			2			0.			7.1	
		)			2			×			V	

Oycle Length: 100

Actuated Cycle Length: 100
Offset: 23 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum vic Ratio: 0.73
Intersection Signal Delay: 10.5
Intersection Capacity Utilization 57.4%
Analysis Period (min) 15

Intersection LOS; B ICU Level of Service B

40° f 40 Splits and Phases: 3: Ouray Rd & Unser Blvd

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010a\X.sy7 2010 AM Peak NOBUILD Conditions

HCM Signalized Intersection Capacity Analysis 3: Ouray Rd & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

Movement		•		4	1	I	•		ŀ				
Section   Sect		`	†	~	-	,	1	1	-	*	٠	<b>→</b>	•
100   1900   1	Movement	EBL	EBT	EBR	WBL	WBT	WAR	N	TOW	COLV	Č	-	1
1900 1900 1900 1900 1900 1900 1900 1900	Lane Configurations	Jac.	*	R	Jac.	1		100		MON	SE .	IRS	SBR
3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Ideal Flow (vphpt)	1900	1900	1900	1001	1000	4004	1000	1		K.	‡	R
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Total Lost time (s)	3.0	3.0	3.0	30	8 6	36	36	300	0061	1900	1900	1900
1.00 0.05 1.00 1.00 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0	Lane Util. Factor	1.00	100	200	2 5	5 5	5.0	3.0	3.0	3.0	3.0	3.0	3.0
1.00 1.00 0.95 1.00 1.00 0.95 1.00 0.06 1.00 0.95 1.00 1.00 0.95 1	Frt	100	18	9 0	3 8	3 8	3 8	3	0.82	8	9	0.95	9.
1845 1568 1752 1845 1752 3505 1568 1752 3505 1568 1750 100 0.75 1.00 1.00 0.24 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Fit Protected	200	8 8	200	3 8	3.5	0.83	9.6	00.	0.85	1.00	1.00	0.85
100 100 100 100 100 100 100 100 100 100	Safd Flow (nrnt)	1753	304	3 5	0.30	3.5	8	0.95	8	1.00	0.95	1.00	1.00
1.00 1.00 0.75 1.00 0.24 1.00 1.00 1.00 0.75 1.00 0.75 1.00 0.75 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86	Fit Permitted	707	040	9900	1/52	1845	1568	1752	3505	1568	1752	3505	1568
1845   1568   1374   1845   1568   448   3505   1568   1568   1974   1845   1568   448   3505   1568   1975   22   22   13   13   10   1320   25   19   13   13   10   1320   25   19   13   13   10   13   13   10   13   13	Safe Flow (norm)	0.70	3.5	1.00	0.75	9.	1.00	0.24	1.00	1.00	0.17	100	100
18 11 166 10 38 9 1135 22 2 2 2 2 1 13 19 1132 2 2 2 2 2 2 1 13 19 1132 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Sald. Flow (perm)	1382	1845	1568	1374	1845	1568	448	3505	1568	305	3505	1560
0.93   0.93   0.75   0.75   0.75   0.86	voume (vph)	45	18	-	166	10	38	6	1135	2	3	200	3
19   12   221   13   51   10   1320   25     19   3   221   13   13   10   1320   25     19   3   221   13   13   10   1320   19     4   8   8   8   0   0   7     50.2   20.2   20.2   20.2   20.8   69.8   69.8     50.2   22.2   22.2   22.2   22.2   71.8   71.8     50.3   3.0   3.0   3.0   3.0   3.0     50.4   3.0   3.0   3.0   3.0   3.0     50.5   50.5   50.5   50.5   50.5     50.5   50.5	Peak-hour factor, PHF	0.93	0.93	0.93	0.75	0.75	0.75	0.86	0.86	98.	0 00	200	000
19   9   0   0   38   0   0   7   19     19   3   221   13   13   10   1320   19     4   4   8   8   2   13   10   1320   19     4   8   8   2   22   22   22   22   22	Adj. Flow (vph)	48	19	12	221	13	51	9	1320	200	7.00	20.00	0.30
19   3   221   13   13   10   1320   19	KI OK Keduction (vph)	0	0	6	0	0	38	0	0	7	? 0	2	٠ ،
Perm Perm Perm Perm Perm Perm Perm Perm	Lane Group Flow (vph)	48	19	က	221	13	13	10	1320	- 6	43.0	1030	V 11
20.2 20.2 20.2 20.2 69.8 69.8 69.8 69.8 69.8 69.8 69.8 69.8	Drotocted Dhases	Perm		Perm	Perm		Perm	Perm		Рет	Perm		Pam
20.2 20.2 20.2 20.2 69.8 69.8 69.8 22.2 22.2 22.2 71.8 71.8 71.8 71.8 0.22 22.2 22.2 22.2 71.8 71.8 71.8 71.8 0.22 0.22 0.22 0.22 0.22 0.22 0.72 0.72	Domnitted Discos	,	4			ထ			2			Ç	
20.2 20.2 20.2 20.2 69.8 69.8 69.8 69.8 69.8 69.8 69.8 69.8	Actional Prieses	4 6		4	œ		80	8		2	9	•	·
22.2 22.2 22.2 71.8 71.8 71.8 71.8 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Effective Control	20.2	70.7	20.2	20.2	20.2	20.5	69.8	69.8	69.8	69.8	69 A	60 8
0.22 0.22 0.22 0.22 0.72 0.72 0.72 0.72	Activities Green, g (s)	22.2	22.2	22.2	22.2	22.2	22.2	71.8	71.8	71.8	71.8	71.8	71.0
5.0         5.0 <td>Classed gro Ratio</td> <td>0.22</td> <td>0.22</td> <td>0.22</td> <td>0.22</td> <td>0.22</td> <td>0.22</td> <td>0.72</td> <td>0.72</td> <td>0.72</td> <td>0.72</td> <td>0.72</td> <td>0 73</td>	Classed gro Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.72	0.72	0.72	0.72	0.72	0 73
3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Vobigle Establish	2.0	2.0	2.0	5.0	5.0	5.0	5.0	5.0	5.0	200	1 0	2 2
410 348 305 410 348 322 2517 1126 30.00 0.01 0.00 0.01 0.02 0.01 0.02 0.03 0.04 0.03 0.02 0.02 0.03 0.04 0.03 0.02 0.02 0.02 0.00 0.0 0.0 0.0 0.0 0.0	Verifice Caterision (S)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	30	0.6	9 6
0.01 0.00 c0.16 0.01 0.02 0.03 0.00 0.05 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.01 0.02 0.03 0.03 0.04 0.03 0.02 0.02 0.00 0.00 0.00 0.00 0.00	Lane Grip Cap (vph)	307	410	348	305	410	348	322	2517	1126	210	2517	1426
0.05 0.01 0.02 0.01 0.02 0.01 0.05 0.01 0.05 0.01 0.02 0.01 0.02 0.02 0.01 0.02 0.03 0.04 0.03 0.52 0.02 0.03 0.04 0.03 0.05 0.02 0.02 0.00 0.00 0.00 0.00 0.00	V/S Kallo Prot		0.01			0.01			c0.38		2	000	170
0.05 0.01 0.72 0.03 0.04 0.03 0.52 0.02 0.03 0.05 0.00 0.03 0.04 0.03 0.52 0.02 0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0	vis Kano Perm	0.03		0.00	50.16		0.01	000		100	2,0	0.43	0
30.6 30.3 36.1 30.5 30.5 4.1 6.4 4.0 1.00 1.00 1.00 1.00 0.77 0.70 0.59 0.0 0.0 8.3 0.0 0.0 0.2 0.8 0.0 0.0 0.3 44.3 30.5 0.6 3.3 5.2 2.4 0.0 0.0 0.0 0.0 0.0 0.0 0.2 0.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	v/c Katio	0.16	0.05	0.01	0.72	0.03	0.04	0.03	0.52	000	200	77.0	30.0
1.00 1.00 1.00 1.00 1.00 0.77 0.70 0.59 0.0 0.0 0.0 0.0 0.2 0.8 0.0 0.0 0.0 0.2 0.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Uniform Delay, d1	31.4	30.6	30.3	36.1	30.5	30.5	4.1	6.4	40.0	0.20 A 6	- u	3,5
0.0 0.0 8.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Progression Factor	90.	00.	1.00	1.00	1.00	2	0.77	0.20	2 0	2 5	0.0	4.0
30.6 30.3 44.3 30.5 30.6 3.3 5.2 2.4 C C C D C C A A A A A A 3 30.5 30.6 3.3 5.2 2.4 41.2 C A A A A A A A A A A A A A A A A A A	Incremental Delay, d2	0.2	0.0	0.0	83	0	0	; 0	200	0.00	3 8	3.5	9.
3.12 C C C C A A A A A A A A A A A A A A A	Delay (s)	31.6	30.6	30.3	44.3	30.5	30.0	9 6	0 0	0.0	2.0	0.5	0.0
31.2 41.2 5.2 5.2 C C C D D A A A A A A A A A A A A A A A	Level of Service	O	C	C	2	3	9 0	9	2.0	4.4	9.0	6.1	4.0
9.9 HCM Level of Service 0.57 100.0 Sum of lost time (s) 57.4% ICU Level of Service 15.4% ICU Level of Service 15.	Approach Delay (s)		312	)	2	2 5	د	₹	Κ!	<	<	٧	٧
9.9 HCM Level of Service 0.57 100.0 Sum of lost time (s) 57.4% ICU Level of Service	Approach LOS		i C			4 6			5.2			6.1	
9.9 HCM Level of Service 0.57 100.0 Sum of lost time (s) 57.4% ICU Level of Service			•			0			<			٧	
9.9 HCM Level of Service 0.57 100.0 Sum of lost time (s) 57.4% ICU Level of Service 15	mersection Summary				STATE OF THE PARTY OF			Service Servic		SPACE.	100	OMESTICAL SECTION AND ADDRESS OF THE PERSON	Ī
100.0 Sum of lost time (s) 57.4% tCU Level of Service 15	HCM Volume to Capacity	ay ratio		9.9	¥	M Leve	of Ser	vice		V			
	Actuated Cycle Length (s) Intersection Capacity Utili: Analysis Period (min)	sation	΄ Ω	7.4%	S Ö	m of los U Level	of Serv	s) Ce		6.0 B			
	c Critical Lane Group			0									

2010 AM Peak NOBUILD Conditions

D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\2010ANX.sy7

3: Ouray Rd & Unser Blvd Timings

on Capacity Analysis	
HCM Signalized Intersecti	3: Ouray Rd & Unser Blvd

Terry O. Brown, P.E.

Terry O. Brown, P.E.	9/8/2007

SBT

NB1

WBR

WBT

WBL

**EBI** 

-ane Configurations

Ideal Flow (vphpl) Total Lost time (s)

Lane Util. Factor

Ť EBT 1900 3.0 1.00 0.85 1.00 1.00 1.00 1.00 43 9 9 9 9

343

3505

886 0.91 974 0

107 0.91 118

113 0.91 124 25 99

0.91 0.91

1378 115 0.91 126

0.75

3

Peak-hour factor, PHF Adj. Flow (vph) RTOR Reduction (vph) Lane Group Flow (vph

Satd. Flow (perm) Volume (vph)

0.95 1.00 1.00 3505 1.00 3505

1.00 1.00 0.95 0.19

1.00 1.00 1.00 1.00 1.00

1.00 0.85 1.00 1.00 1.00 46 0.91 51

3.0 1.00 1.00 1.00 1.00 1.00 1.00 24 26 26 26

1900 3.0 0.95 1.00 1.00 1.00 1.00 1.00

3.0 1.00 1.00 0.95 1752 0.75

3.0 1.00 0.85 1.00 1.00 1.00 1.568

3.0 3.0 1.00 1.00 1.00 0.95 0.74 0.74 23 23 0.75

Satd. Flow (prot)

Fit Protected Fit Permitted 6 94.2 96.2 0.80 5.0 3.0

94.2 96.2 0.80 5.0

94.2 96.2 0.80 5.0 3.0 275

94.2 96.2 0.80 5.0 3.0

94.2 96.2 0.80 5.0 3.0

94.2 96.2 0.80 5.0 3.0 406

8 15.8 17.8 0.15 5.0 3.0 233

15.8 17.8

15.8 17.8

15.8 17.8

Actuated Green, G (s)

Protected Phases Permitted Phases

Turn Type

Effective Green, g (s) Actuated g/C Ratio

2810

1257

2810

3.0 274 0.01

3.0

3.0

5.0 3.0 274 0.01

3.0

Clearance Time (s) Vehicle Extension (s)

Lane Grp Cap (vph)

v/s Ratio Perm

v/c Ratio

v/s Ratio Prot

0.34

0.06 0.08 2.5 0.67

0.46

0.00 9.5

0.0

0.01

0.06

0.02

43.9

44.5 0.4

Uniform Delay, d1

Progression Factor Incremental Delay, d2

c0.09 0.62

0.00

44.1 0.2

1.00 5.5 53.4 47.9

1.00 0.0 0.0 0.0

1.00 1.04 0.14 0.44 0

0.05 0.07 0.73 0.3 2.1

9

Perm

Реп

Perm

1303

27 Perm

26

126

0.03 2.4 1.00 0.0 2.5 A

3.6 3.6 1.00 4.8 8.4 A

0.35 3.3 1.00 0.3 3.6 A A.1 A

0.1 1.8 A

3.4 3.2 A

44.3 D D

K 6.0 B

HCM Level of Service Sum of lost time (s) ICU Level of Service

0.49 120.0 61.8%

Intersection Capacity Utilization

Critical Lane Group

Analysis Period (min)

HCM Average Control Delay HCM Volume to Capacity ratio Actuated Cycle Length (s)

Intersection Summary

Approach Delay (s)

Approach LOS

Level of Service

Delay (s)

Lane Group EBL Lane Configurations Volume (vph) 23 Turn Type Permitted Phases Detector Phases A Minimum Initial (s) 5,0 Minimum Initial (s) 21,0 Minimum Split (s) 21,0	<b>₹</b> 8	1	1	1	<b>†</b>	4	•	+	*	٨	-	7
A Pe	포투							-			•	r
Pe Pe	¥-82	EBT	EBR	WBL	WBT	WBR	ă	TAN	DON	õ		0
g 70 %	23-	4	*	-		1			П	4	000	SPR
g 7.5%	3	- 0	_ 0	- !	Ε;	_ ;	_	ŧ	R	-	+	*
		7	٥	CL.	74	46	25	1186	113	107	BRG	30
	E		Peg	Perm		Perm	Реп		Dom	Dorm		3
		A			a		5	•	Ď			EEE
	_			•	3		1	7			9	
			4	Ø		20	2		2	9		Œ
	4	*	4	0	00	8	2	2	2	9	3	9 4
	5.0	5.0	5.0	5.0	5.0	2	4	1 0	4 0		ם כ	0 1
	9	24.0	24.0	200	2 6	9	0.0	0.0	0.0	5.0	5.0	5.0
	2 0	0.12	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
		30.0	30.0	30.0	30.0	30.0	90.0	90.0	0.06	0.06	000	000
l ocal Split (%) 25.0%	• •	25.0%	25.0%	25.0%	25.0%	25.0%	75.0%	75 0%	75 094	75 00	75 00.0	200
Yellow Time (s) 4	4.0	4.0	4.0	An	A O	4		2 4	2 2	0.0%	20.0	10.0%
All-Red Time (c)	9	Ç	9 6	9 6	2.0	2	4.0	4.0	4.0	4.0	4.0	4.0
_ead/Lag	,		2.	2.	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead-Lag Optimize?												
		:										
	Ē	Μij	Min	Min	M	Min	C-Min	C-Min	C.Min	C.Min	O Miles	1
Act Effct Green (s) 17.8	αį	17.8	17.8	17 B	17 B	17 B	6 20	90			- 10	-MIN
Actuated a/C Ratio 0 1	15	14	0.45	4		2	200	30.2	29.5	208	200	96.2
	ñ	- 6	5 6	0.0	0.0	2	0.80	0.80	0.80	0.80	0.80	0.80
	2	5.0	0.03	0.62	0.09	0.18	0.07	0.46	0.10	0.47	0.35	0.03
		41.4	21.5	60.1	42.2	12.6	2.9	3.7	0.6	12.1	2	5 5
ay.	0	0.0	0.0	0.0	00	0	0		9 6	į (	2 0	7 (
Fotal Delay	ď	41.4	21 E	2	0 0	9 6	9 6	9	0.0	0.0	0.0	0.0
	9 6		5.0	9	45.2	12.6	2.9	3.7	9.0	12.1	4.0	1.2
Delan	2	9	د	ш	۵	æ	×	٧	V	80	٧	۷
Approach Delay		39.9			45.9			6.			OF	:
Approach LOS		٥			۵			×			0. 4	
ntersection Summary		200	Name of Street		The Labour	THE REAL PROPERTY.	and and a	-				

Actuated Cycle Length: 120

Offset: 63 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 60

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.62

Intersection Signal Delay: 7.7

Intersection Capacity Utilization 61.8% Analysis Period (min) 15

Intersection LOS: A ICU Level of Service B

3: Ouray Rd & Unser Blvd Splits and Phases:

30 s 뮡

2010 PM Peak BUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PBX.sy7

D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010PBX.sy7 2010 PM Peak BUILD Conditions

Analysis of Intersection #4

<u>Tierra Pintada Blvd. / Unser Blvd.</u>

Timings 4: Tierra Pintada & Unser Blvd

Terry O. Brown, P.E. 9/8/2007

4

1

†

Terry O. Brown, P.E. 9/8/2007

SBR

SBT

₩.

1900 3.0 1.00 0.85 1.00 1.00 1.00 2.5 2.7 2.7 2.7 2.7

3.0 1.00 1.00 0.95 0.38 695 12 13 0

1900 3.0 3.0 1.00 1.00 3505 3505 3505 944 0.94

1900 3.0 0.95 1.00 1.00 3505 1.00 3505 658 658

3.0 1.00 1.00 0.95 1752 0.26 474 29 29 30

72.7 74.7 0.75 5.0 3.0

6 72.7 74.7 0.75 5.0 3.0 5.19

72.7 74.7 0.75 5.0 3.0

272.7 74.7 0.75 5.0 3.0 354

72.7 74.7 0.75

5.0 3.0 2618 c0.29

3.0

2618 0.26

9

Perm

Perm

0 678

1004

0.01 0.02 3.2 0.46 0.0 1.5

0.01 3.2 1.14 0.0 3.7

0.06 0.08 3.4 0.93 0.4 3.6 A

0.38

0.03

4.5 0.67 0.4 3.4 A A A A

0.1 2.4 A

4.0 0.86 0.2 3.6 A A A A A

Lane Configurations					-					-				0				۵			7	~	0			.,	•	0		0					
Fig.   EBI   EBI   Well   We	•	1	WBR	×	1900	3.0	200	0.85	100	1568	100	1568	4	0.75	ເດ	4	-	Perm		00	17.3	19.3	0.19	5.0	3.0	303	8	0.00	32.6	1.00	0.0	32.6	)		
Fig.   EBT   EBR   WBI, WBI   WBI   NBI   NBI   SBI	1	,	WBT	4	1900	3.0	100	1.00	00	1845	100	1845	-	0.75	-	0	-		œ		17.3	19.3	0.19	5.0	3.0	356	0.00	0.00	32.6	1.00	0.0	32.6	33.0	O	
Fig.   EBT   EBR   WBI   WBI   WBI   NBI   NBI   SBI	•	-	WBL	-	1900	3.0	1.00	1.00	0.95	1752	0.75	1392	14	0.75	19	0	19	Perm		80	17.3	19.3	0.19	5.0	3.0	269	100	0.07	33.0	1.00	0.1	- 0	)		
Fig.   EBT   EBR   WBI   WBR   NBI   NBI   NBI   NBI   NBI   NBI   NBI   SBI   SBR   Movement   EBI   EBT	,	<b>&gt;</b>	EBR	VC.	1900	3.0	1.00	0.85	1.00	1568	1.00	1568	228	0.81	281	89	213	ı		4	17.3	19.3	0.19	2.0	3.0	303									
Feb.   EBT   EBR   WBL   WBT   WBR   NBT   NBT   NBT   SBL   SBR		t	EBT	4	1900	3.0	90.	1.00	1.00	1845	1.00	1845	4	0.81	r,	0	S	-	4						- 1	356							13.0	۵	
Feb.   EBT   EBT   FBF   WBI   WBI   NBF   NBF   NBF   SBF	•	١	EBC	JE-	1900	3.0	1.00	1.00	0.95	1752	92.0	1397	127	0.81	157	0	157	erm							- [										
EBL EBT EBR WBL WBT WBR NBL NBT BBL BBT 127 4 228 14 1 4 29 688 16 12 944 Perm Perm Perm Perm Perm Perm Perm Perm			Movement	US	Ì	s)						erm)		or, PHF					Protected Phases							1	=				di Delay, uz			Approach LOS	1
EBL EBT EBR WB 127 4 228 1 127 4 228 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		WBR NBL NRT NRD CDI COT	A4 × × 44	658 16 12	Perm Perm Perm	4	8 2 2 6 8		5.0 5.0 5.0 5.0 5.0	21.0 21.0 21.0 21.0 21.0 21.0	45.0 55.0 55.0 55.0 55.0 55.0	45.0% 55.0% 55.0% 55.0% 55.0% 55.0%	4.0 4.0 4.0 4.0 4.0 4.0	1.0 1.0 1.0 1.0 1.0			C-Min C-Min C-Min C-Min C-Min	74.7 74.7 74.7 74.7 74.7	0.75 0.75 0.75 0.75 0.75	0.11 0.26 0.01 0.03 0.38	5.9 4.2 2.9 3.7 3.9	0.0 0.0 0.0 0.0	5.9 4.2 2.9 3.7 3.9	BAAAAA	4.3	¥ ¥			tart of Green				il of Service A		
Lane Group Lane Configurations Volume (vph) Turn Type Protected Phases Detector Phases Detector Phases Detector Phases Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) Total Split (s) All-Red Time (s) Lead-Lag Optimize? Recall Mode Act Effct Green (s) Act Leffct Green (s) Act Leff G		EBT EBR WBL	¥	4 228	Perm	8	4 4	4 4 6	5.0 5.0 5.0	21.0 21.0 21.0	45.0 45.0 45.0	45.0% 45.0% 45.0%		1.0 1.0 1.0		Min	AND AND MIN	0.10 0.10 0.40	0.19 0.19	28.2 30.1 20.0	0.00 00 00	28.2 30.1	C. C. 30.0	2				0	ed to phase 2:NBTL and 6:SBTL, S.		orunated				
		Larre Group	Volume (veh)			Permitted Phases	Defector Phases	Minimum Initial (s)					All-Red Time (s)	Lead/Lag	Lead-Lag Optimize?	Recall Mode								Approach Delay	Approach LOS	Intersection Summery	Cycle Length: 100	Actuated Cycle Length: 10	Method Coulty 47	Control Type: Actuated Co	Maximum v/c Ratio: 0.76	Intersection Signal Delay: 1	Intersection Capacity Utiliza	Alarysis Penod (min) 15	

Charles and the same	6.0 A	
THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED	HCM Level of Service Sum of lost time (s) ICU Level of Service	
	11.6 0.45 100.0 54.4%	
Interestation Summary	HCM Average Control Delay HCM Volume to Capacity ratio Actualed Cycle Length (s) Intersection Capacity Utilization Analysis Period (min) C Critical Lane Group	

45 s B 45 8

4: Tierra Pintada & Unser Blvd

Splits and Phases:

2010 AM Peak NOBUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercial\Synchro\2010ANX.sy7

2010 AM Peak NOBUILD Conditions

Existing Geometry D:\ATOBE\PROJECTS\98th\_Unser\_Commercia\Synchro\2010ANX.sy7

Timings

Terry O. Brown, P.E. 9/8/2007

HCM Signalized Intersection Capacity Analysis

Sprimings									ř	T. C	0	L
4: Tierra Pintada & Unser Blvd	, Unser	Blvd							-		2 G	711, P.E. 9/8/2007
	4	†	-	6	+	<	1	-	1	1		-
Lane Group	EBL	EBT	EBR	WBI	WBT	WAR	NB	MOT	10	- 5	-	,
Lane Configurations	*	4	,	1		ы	I		NBK	SBL	SBT	SBR
Volume (vph)	131	<b>-</b> ₽	20gC	106	<b>←</b> ç	<b>*-</b> - 5	<b>,</b> - 8	‡	W_	<b>A</b> -	‡	R.
Turn Type	Perm	2	2 6	3 1	7	200		989	130	49	944	25
Protected Phases	5	_		Elect	•	Perm	Perm		Perm	Perm		Perm
Permitted Phases	٧	t	•		20	•		2			9	
Defector Phases	-	•	* •	0		∞	2		2	9		ç
Minimum Initial (2)	4 0	dr (	4	80	8	80	2	2	2	9	9	2
(s) IRREI (III)	2.0	2.0	5.0	5.0	5.0	5.0	5.0	5.0	5	4	9 0	) (
Minimum Spart (s)	21.0	21.0	21.0	21.0	21.0	21.0	210	210	2.5	5 5	0.5	0.0
l otal Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	1 4	2 1	2	0.12	71.0	0.12
Total Split (%)	45.0%	45 0%	45.0%	45.00	AE OB	70.0	33.0	1	22.0	22.0	55.0	55.0
Yellow Time (s)	40	2 5	2 2	200	45.0%	45.0%	25.0%	22	55.0%	55.0%	55.0%	55.0%
All-Red Time (c)	2 0	5 4	0.4	4.0	0.4	4.0	4.0	4.0	4.0	4.0	4.0	40
Lead/Lag	2	2		0.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead-Lag Optimize?												
Recall Mode	Min	Min	Min	Min	Min	194						
Act Effct Green (s)	10.3	10.2	10.2	E C	E 0	MHU	- N	Ç.	C-Min	Ç-Min	C-Min	C-Min
Actuated o/C Ratio	2 5	2 6	2.0	5.5	20.0	19.3	74.7	74.7	74.7	74.7	74.7	74.7
V/r Ratio	200	0.0	0.0	0.19	0.19	0.19	0.75	0.75	0.75	0.75	0.75	0.75
Control Delay	0.0	0.06	0.76	0.53	0.0	0.11	0.11	0.27	0.11	0.12	0.38	000
Oriento Defen	0,0	23.3	39.0	45.4	29.3	10.0	7.4	5.5	2.9	33	4 1	-
Total Delay	2 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
I OS	40.0	29.9	39.0	42.4	29.3	10.0	7.4	5.5	2.9	3.8	4.1	9 -
Approach Delay	2	ָ פַּ	2	Ω	O	8	V	V	4	V	V	A
Approach LOS		5			35.1			5.2			4.0	
		2			ם			∢			٧	

Intersection Summary Cycle Length: 100

Actuated Cycle Length: 100

Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green Natural Cycle: 45

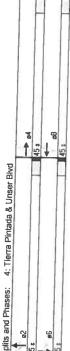
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

ntersection Capacity Utilization 56.1% Intersection Signal Delay: 13.3 Analysis Period (min) 15

Intersection LOS; B ICU Level of Service B

Splits and Phases:



3.0 1.00 1.00 0.95 1752 0.26 474 92 0.97 74.7 0.75 5.0 3.0 354 0.06 0.08 3.4 0.4 3.0 3.0 1.00 0.85 1.00 1.00 1.00 28 0.75 30 19.3 303 0.02 1.00 0.0 0.0 C 0.00 3.0 3.6 356 0.01 1.00 1.00 1.00 1.00 12 0.75 16 0.19 3.0 1.00 1.00 0.95 1752 0.74 106 0.75 141 3.0 1369 0.19 19.3 0.10 141 36.3 1.00 0.85 1.00 1.00 1.00 1.568 228 0.81 281 281 283 0.19 5.0 303 19.3 19 0.81 23 3.0 1.00 1.00 1.00 1.00 1.00 1845 19.3 0.19 5.0 3.0 3.6 0.01 4: Tierra Pintada & Unser Blvd 90.0 33.0 Perm 17.3 3.0 162 0.19 0.12 RTOR Reduction (vph) Peak-hour factor, PHF Lane Group Flow (vph) Actuated Green, G (s) Lane Configurations Ideal Flow (vphpl) Total Lost time (s) Lane Util. Factor Effective Green, g (s) Actuated g/C Ratio Vahicle Extension (s) Lane Grp Cap (vph) Satd. Flow (perm) Volume (vph) Clearance Time (s) Fit Protected Satd. Flow (prot) Fit Permitted Protected Phases Permitted Phases Uniform Delay, d1 v/s Ratio Prot Adj. Flow (vph) v/c Ratio

3.0 3.0 1.00 0.85 1.00 1.00 1.00 25 25 27

00944

0.94

3505

1900 3.0 3.0 1.00 1.00 3505 686 0.97

9

1004

52

707

Perm

3.0 3.0 0.95 1.00 1.00 1.00 1.00

3.0 1.00 1.00 1.00 0.95 0.36

72.7 74.7 0.75 5.0 3.0

74.7

72.7

72.7

72.7

72.7 74.7 0.75

5.0 3.0 2618

3.0 502

1171

2618 0.20 0.27

c0.29

0.01 3.2 0.46 0.0 1.5 A

0.08 0.10 3.5 0.64 0.4 2.6

3.4

4.5 0.70 0.4 3.5

0.1 9.2 A

1.00 0.1 32.9 C C 36.9

2.1 38.4

2.2

33.1

3.9 40.8 0

Incremental Delay, d2

Progression Factor

Intersection Summary

Approach Delay (s)

Approach LOS

Delay (s) Level of Service

0.2

HCM Level of Service Sum of lost time (s) ICU Level of Service 13.6 0.45 100.0 56.1% Intersection Capacity Utilization HCM Volume to Capacity ratio HCM Average Control Delay Actuated Cycle Length (s) Analysis Period (min)

6.0 B

Existing Geometry D:ATOBEIPROJECTS\98th\_Unser\_Commercial\Synchrol2010ABX.sy7

2010 AM Peak BUILD Conditions

2010 AM Peak BUILD Conditions

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	۶	-	7	1	<b>—</b>	4	4	†	-	1	Ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	CDI	CDT	000
Lane Configurations	¥					TVDIX	IADE	<b>†</b> †	NOR	SBL	SBT	SBR
Sign Control		Stop			Stop			Free			<b>↑</b> ↑	
Grade		0%			0%			0%			Free 0%	
Volume (veh/h)	94	0	0	0	0	0	0	787	0	0		•
Peak Hour Factor	0.75	0.75	0.75	0.85	0.85	0.85	0.80	0.80	0.80	0.88	1331	0
Hourly flow rate (vph)	125	0	0	0	0	0	0.00	984	0.00	0.00	0.88 1512	0.88
Pedestrians							J	004	0	U	1312	0
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			None							
Median storage veh)		1										
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2004	2496	756	1740	2496	492	1512			984		
vC1, stage 1 conf vol	1512	1512								304		
vC2, stage 2 conf vol	492	984										
vCu, unblocked vol	2004	2496	756	1740	2496	492	1512			984		
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								1.2		
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	100	100	100	100	100			100		
cM capacity (veh/h)	101	117	348	55	28	520	433			692		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2					For		
Volume Total	125	492	492	756	756						7	
Volume Left	125	0	0	0	0							
Volume Right	0	0	0	0	0							
cSH	101	1700	1700	1700	1700							
Volume to Capacity	1.24	0.29	0.29	0.44	0.44							
Queue Length 95th (ft)	214	0	0	0	0							
Control Delay (s)	247.0	0.0	0.0	0.0	0.0							
Lane LOS	F											
Approach Delay (s)	247.0	0.0		0.0								
Approach LOS	F											
Intersection Summary							1997					10707
Average Delay			11.8					A STATE OF	Constitution of	Europe Sales		5521)
ntersection Capacity Uti	ilization	6	9.9%	ICI	U Level d	of Servi	ce		С			
Analysis Period (min)			15						J			

	1		_		<b>4</b> -	4	4	<b>†</b>		1	1	1
Movement	EBL	EBT	EBR	\A/DI	MOT	MOD	1		- /		*	4
Lane Configurations	LOL.		EDK	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Sign Control	,1	Stop			Ctan						ተተ	
Grade		0%			Stop			Free			Free	
Volume (veh/h)	94	0 %		0	0%			0%			0%	
Peak Hour Factor	0.75	0.75	0 0.75	0 0.85	0	0	0	813	0	0	1348	0
Hourly flow rate (vph)	125	0.73	0.75	0.00	0.85	0.85	0.80	0.80	0.80	0.88	0.88	0.88
Pedestrians	120	U	U	U	0	0	0	1016	0	0	1532	0
Lane Width (ft)												
Walking Speed (ft/s) Percent Blockage												
Right turn flare (veh)												
Median type		Raised			None							
Median storage veh)		1										
Upstream signal (ft)												
pX, platoon unblocked vC, conflicting volume	2040	0540	700	4700								
vC1, stage 1 conf vol	2040 1532	2548	766	1782	2548	508	1532			1016		
vC2, stage 2 conf vol	508	1532										
vCu, unblocked vol	2040	1016 2548	700	4700	05.40							
tC, single (s)	7.6	6.6	766	1782	2548	508	1532			1016		
tC, 2 stage (s)	6.6	5.6	7.0	7.6	6.6	7.0	4.2			4.2		
tF (s)	3.5	4.0	3.3	2.5	4.0	0.0	0.0					
p0 queue free %	0.5	100	100	3.5 100	4.0	3.3	2.2			2.2		
cM capacity (veh/h)	98	113	343	51	100 26	100	100			100		
						507	426			672		
Direction, Lane # Volume Total	EB 1	NB 1	NB 2	SB 1	SB 2			lo vedica	.5V 13	a family		daning sp
Volume Left	125	508	508	766	766							
Volume Right	125	0	0	0	0							
cSH	0	0	0	0	0							
Volume to Capacity	98	1700	1700	1700	1700							
Queue Length 95th (ft)	1.28	0.30	0.30	0.45	0.45							
Control Delay (s)	220	0	0	0	0							
Lane LOS	264.0 F	0.0	0.0	0.0	0.0							
Approach Delay (s)	264.0	0.0		- 0.0								
Approach LOS	204.0 F	0.0		0.0								
ntersection Summary					177.132				2000			
Average Delay			12.4									
ntersection Capacity Ut Analysis Period (min)	ilization	7	0.6% 15	IC	J Level	of Servi	ce		С			

	1	<b>→</b>	7	1	+	1	1	†	-	1	1	1
Movement	EBL	. EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	CDD
Lane Configurations Sign Control Grade	*	Stop			Stop	· · · · ·	NDL	↑↑ Free	NDIX	SBL	††	SBR
Volume (veh/h)	400	0%			0%			0%			0%	
Peak Hour Factor	123		0	0	0	0	0	1316	0	0	1885	0
Hourly flow rate (vph)	0.90 137		0.90	0.85	0.85	0.85	0.92	0.92	0.92	0.97	0.97	0.97
Pedestrians Lane Width (ft)	137	0	0	0	0	0	0	1430	0	0	1943	0
Walking Speed (ft/s) Percent Blockage												
Right turn flare (veh)												
Median type Median storage veh)		Raised 1			None							
Upstream signal (ft) pX, platoon unblocked												
vC, conflicting volume	2659	3374	972	2402	3374	715	1943			1430		
vC1, stage 1 conf vol	1943	1943										
vC2, stage 2 conf vol vCu, unblocked vol	715	1430										
tC, single (s)	2659	3374	972	2402	3374	715	1943			1430		
tC, 2 stage (s)	7.6 6.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tF (s)	3.5	5.6 4.0	2.2	0.5	4.0							
p0 queue free %	0	100	3.3	3.5	4.0	3.3	2.2			2.2		
cM capacity (veh/h)	54	67	250	100 17	100	100	100			100		
survey or					7	371	294			466		
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2		45					
Volume Total	137	715	715	972	972							
Volume Left	137	0	0	0	0							
Volume Right cSH	0	0	0	0	0							
	54	1700	1700	1700	1700							
Volume to Capacity	2.54	0.42	0.42	0.57	0.57							
Queue Length 95th (ft)	350	0	0	0	0							
Control Delay (s) Lane LOS	859.9 F	0.0	0.0	0.0	0.0							
Approach Delay (s) Approach LOS	859.9 F	0.0		0.0								
ntersection Summary											Te males	
Average Delay			33.5									
ntersection Capacity Ut Analysis Period (min)	ilization	6	8.3% 15	IC	U Level o	of Servi	ce		С			

											9/	8/2007
Mariana	٠		- >	•	•	•	1	<b>†</b>	-	-	<b>↓</b>	1
Movement	EBI		T EBF	R WBI	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations Sign Control	1	<b>Š</b>						<b>^</b>		ODL	<b>†</b> †	SDK
Grade		Stop			Stop			Free			Free	
Volume (veh/h)	40	0%			0%			0%			0%	
Peak Hour Factor	124		_		_	0	0	1361	0	0	1937	0
Hourly flow rate (vph)	0.90					0.85	0.92	0.92	0.92	0.97	0.97	0.97
Pedestrians	138	3 0	) 0	0	0	0	0	1479	0	0.07	1997	0.97
Lane Width (ft)											1007	U
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		D-1										
Median storage veh)		Raised			None							
Upstream signal (ft)		1										
pX, platoon unblocked												
vC, conflicting volume	2737	2470	000									
vC1, stage 1 conf vol	1997	3476	998	2478	3476	740	1997			1479		
vC2, stage 2 conf vol	740	1997 1479										
vCu, unblocked vol	2737	3476	000	0.470	0.150							
tC, single (s)	7.6	6.6	998	2478	3476	740	1997			1479		
tC, 2 stage (s)	6.6	5.6	7.0	7.6	6.6	7.0	4.2			4.2		
tF(s)	3.5	4.0	3.3	2.5	4.0							
p0 queue free %	0.0	100	100	3.5	4.0	3.3	2.2			2.2		
cM capacity (veh/h)	50	63	240	100	100	100	100			100		
Direction, Lane #	EB 1			15	6	357	280			446		
Volume Total		NB 1	NB 2	SB 1	SB 2							
Volume Left	138	740	740	998	998						-	
Volume Right	138	0	0	0	0							
cSH	0 50	1700	0	0	0							
Volume to Capacity	2.76	1700 0.44	1700	1700	1700							
Queue Length 95th (ft)	363		0.44	0.59	0.59							
Control Delay (s)	970.2	0 0.0	0	0	0							
Lane LOS	570.2 F	0.0	0.0	0.0	0.0							
Approach Delay (s)	970.2	0.0		0.0								
Approach LOS	F	0.0		0.0								
Intersection Summary			10.000			100						
Average Delay			37.0				and the same		35		Sex executed.	
Intersection Capacity Util	lization	6	9.6%	ICI	J Level o	f Sendi	20		0			
Analysis Period (min)			15	.50		OCIVIC	, <del>C</del>		С			

Analysis of Intersection #6

Vista Oriente St. / Driveway "A"

	-	•	•	-	1	-						
Movement	EBT	EBR	WBL	WBT	NBL	NBR			NEV SYN			E CO
Lane Configurations	ĵ.	-		स	74			_			10.000	222
Sign Control	Free			Free	Stop							
Grade	0%			0%	0%							
Volume (veh/h)	14			9	9	1						
Peak Hour Factor	0.75		0.75	0.75	0.85	0.85						
Hourly flow rate (vph) Pedestrians	19	19	1	12	11	1						
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type					None							
Median storage veh)					NOTIE							
Upstream signal (ft)	399											
pX, platoon unblocked												
vC, conflicting volume			37		43	28						
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol			37		43	28						
tC, single (s)			4.1		6.4	6.2						
tC, 2 stage (s)												
tF (s)			2.2		3.5	3.3						
p0 queue free %			100		99	100						
cM capacity (veh/h)			1567		965	1044						
Direction, Lane #	EB 1	WB 1	NB 1									
Volume Total	37	13	12									
Volume Left	0	1	11									
Volume Right	19	0	1									
cSH	1700	1567	972									
Volume to Capacity	0.02	0.00	0.01									
Queue Length 95th (ft) Control Delay (s)	0.0	0	1									
Lane LOS	0.0	0.7	8.7									
Approach Delay (s)	0.0	A 0.7	A 8.7									
Approach LOS	0.0	0.7	Α									
Intersection Summary				Chemical Assessment	The same of the same			Arrich, Incompany A. P. vo.				
Average Delay	She year		4.0	30 3 N				AS THE ST	MEDIAL S	- 197		
Intersection Capacity Uti	lization	4	1.8	101	111.20.0	- ( 0	. =1					
Analysis Period (min)	nzaliUi l		3.3% 15	IC	o revel	of Serv	ice		Α			
a.yolo i choa (ililii)			10									

	·											101200
	۶	-	-	•	<b>←</b>	*	4	<b>†</b>	-	-	+	1
Movement	EBI	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4			4			4			4	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	127			1	34	2	9	1	1	1	1	104
Peak Hour Factor	0.75		0.75	0.75	0.75	0.75	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph) Pedestrians	169	69	19	1	45	3	11	1	1	1	1	122
Lane Width (ft)												
Walking Speed (ft/s) Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh)								None			None	
Upstream signal (ft)		378										
pX, platoon unblocked		3/6										
vC, conflicting volume	48			88			500	400				
vC1, stage 1 conf vol	10			00			590	468	79	468	476	47
vC2, stage 2 conf vol												
vCu, unblocked vol	48			88			590	468	70	400	470	
tC, single (s)	4.1			4.1			7.1	6.5	79	468	476	47
tC, 2 stage (s)							7.1	0.5	6.2	7.1	6.5	6.2
tF(s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	2.2
p0 queue free %	89			100			97	100	100	100	4.0 100	3.3
cM capacity (veh/h)	1553			1501			336	437	979	459	433	88 1020
Direction, Lane#	EB 1	WB 1	NB 1	SB 1						400	700	1020
/olume Total	257	49	13	125			S PE		Hall Yes H		College II	
/olume Left	169	1	11	1								
/olume Right	19	3	1	122								
SH	1553	1501	366	996								
olume to Capacity	0.11	0.00	0.04	0.13								
Queue Length 95th (ft)	9	0	3	11								
Control Delay (s)	5.3	0.2	15.2	9.1								
ane LOS	Α	Α	С	Α								
pproach Delay (s)	5.3	0.2	15.2	9.1								
pproach LOS			С	Α								
ntersection Summary			- Francis	el- Par	the same			RIGHER	Series and	200000		
verage Delay			6.1			plan of light				the markets		
ntersection Capacity Util	lization	3	0.9%	ICI	J Level	of Servi	2		Α			
nalysis Period (min)			15			O. OC. VI			^			

	-	-	1	<b>—</b>	4	-	
Movement	EBT	EBF	R WBL	WBT	NBL	NBR	
Lane Configurations	1			स	14		
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Volume (veh/h)	26	26	1	45	45		
Peak Hour Factor	0.75	0.75	0.75		0.85	0.85	
Hourly flow rate (vph)	35	35		60	53	1	
Pedestrians						77 C C C C C C C C C C C C C C C C C C	
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				A PART OF	Raised		
Median storage veh)					1		
Upstream signal (ft)	378				SERVE		
pX, platoon unblocked							
vC, conflicting volume			69		97	35	
vC1, stage 1 conf vol					35	00	
vC2, stage 2 conf vol					63		
vCu, unblocked vol			69		97	35	
tC, single (s)			4.1		6.4	6.2	
tC, 2 stage (s)					5.4	0.2	
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		94	100	
cM capacity (veh/h)			1525		852	1035	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	ELLER		ASSESS AND ASSESSMENT OF THE PARTY OF THE PA
Volume Total	35	35	61	54		William Control of the	
Volume Left	0	0	1	53			
Volume Right	0	35	Ö	1			
cSH	1700	1700	1525	855			
Volume to Capacity	0.02	0.02	0.00	0.06			
Queue Length 95th (ft)	0	0	0.00	5			
Control Delay (s)	0.0	0.0	0.2	9.5			
Lane LOS	0.0	0.0	A	Α			
Approach Delay (s)	0.0		0.2	9.5			
Approach LOS	0.0		0.2	9.5 A			
Intersection Summary				150,756		A CONTRACTOR	
Average Delay			2.8			4	
ntersection Capacity Uti	lization		13.3%	ICI	Heve	of Service	A
Analysis Period (min)			15	100	LEVE	or Service	A

	•	-	- 1	* *	- +	- 4	. 4	†	-	1	1	19/200
Movement	EB	L EB	T EB	R WB	L WB	r WBF	R NBI	NBT	NDD	ODI	<b>V</b>	TOTAL TOTAL
Lane Configurations	1	ነ .			<b>ጎ</b> ያ		· NDI	4	NBR	SBL		SBF
Sign Control		Fre	е		Free			Stop			et et	ĭ
Grade		0%			0%			0%			Stop	
Volume (veh/h)	227			6			45		1	1	0%	207
Peak Hour Factor	0.85			5 0.85					0.85	0.85	0.05	327
Hourly flow rate (vph)	267	111	1 3	1 1	145				1	0.03	0.85	0.85
Pedestrians										083	1	385
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								1			vaiseu 1	
Upstream signal (ft)		378									THE REAL PROPERTY.	
pX, platoon unblocked												
vC, conflicting volume	148			141			792	795	111	795	824	140
vC1, stage 1 conf vol							645	645		149	149	146
vC2, stage 2 conf vol	THE WALL						148	151		646	675	
vCu, unblocked vol	148			141			792	795	111	795	824	146
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	146 6.2
tC, 2 stage (s)							6.1	5.5	0.2	6.1	5.5	0.2
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			100			71	100	100	100	100	57
cM capacity (veh/h)	1427			1436			185	310	940	322	314	898
Direction, Lane#	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2	STATISTICS.	CONTRACTOR IN	Thinks a	090
Volume Total	267	111	31	1	148	55	2	385	100,312	SON AREAN	340	1 3/3
Volume Left	267	0	0	1	0	53	1	0				
Volume Right	0	0	31	0	4	1	Ó	385				
cSH	1427	1700	1700	1436	1700	190	318	898				
Volume to Capacity	0.19	0.07	0.02	0.00	0.09	0.29	0.01	0.43				
Queue Length 95th (ft)	17	0	0	0	0	29	1	54				
Control Delay (s)	8.1	0.0	0.0	7.5	0.0	31.6	16.4	12.0				
ane LOS	Α			Α		D	C	12.0				
Approach Delay (s)	5.3			0.1		31.6	12.0	Ь				
Approach LOS						D	12.0 B					
ntersection Summary					O PARTY OF	Entrine		STATES SERVICE	ORDINA NILI	The Cartesian Control		
verage Delay		THE RESERVE OF THE PARTY OF THE	8.6		10 10 15				C. Mari			
ntersection Capacity Utili	ization		0.2%	IC	House	of C	territoria.					
analysis Period (min)			15	10	o revel	of Servi	ce		Α			
and your choo (min)			15									

**Analysis of Intersection #7** 

Vista Oriente St. / Driveway "B"

	*		-	*	-	1	
Movement	EBL	. EBT	WBT	WBR	SBL	SBR	
Lane Configurations		र्स	<b>[</b> *		N/		100 ACOS AND THE RESEARCH STREET STREET
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	38	15	11	1	1	25	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.85	0.85	
Hourly flow rate (vph)	51	20	15	1	1	29	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh)							
Upstream signal (ft)		645					
pX, platoon unblocked							
vC, conflicting volume	16				137	15	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	16				137	15	
tC, single (s)	4.1				6.4	6.2	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	97				100	97	
cM capacity (veh/h)	1595				827	1061	
Direction, Lane #	EB 1	WB 1	SB 1	NAS.	AP TO		
Volume Total	71	16	31				A CONTRACTOR OF THE PROPERTY O
Volume Left	51	0	1				
Volume Right	0	1	29				
SH	1595	1700	1050				
Volume to Capacity	0.03	0.01	0.03				
Queue Length 95th (ft)	2	0	2				
Control Delay (s)	5.3	0.0	8.5				
ane LOS	Α		Α				
Approach Delay (s)	5.3	0.0	8.5				
Approach LOS			Α				
ntersection Summary							
verage Delay			5.4				
ntersection Capacity Util	lization	1	9.6%	ICI	J Level	of Service	ce A
analysis Period (min)			15			vic	7

	*	-	<b>—</b>	*	1	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	The same of the sa
Lane Configurations Sign Control	51	र्स Free			Stop		
Grade		0%	0%		0%		
Volume (veh/h) Peak Hour Factor	68			1	1	78	
Hourly flow rate (vph)	0.75 <b>91</b>			0.75 1	0.85 1	0.85 92	
Pedestrians	,		01	•	•	32.	
Lane Width (ft) Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type Median storage veh)					None		
Upstream signal (ft) pX, platoon unblocked		645					
vC, conflicting volume	65				286	65	
vC1, stage 1 conf vol					200	05	
vC2, stage 2 conf vol							
vCu, unblocked vol tC, single (s)	65 4.1				286	65	
tC, 2 stage (s)	4.1				6.4	6.2	
tF(s)	2.2				3.5	3.3	
p0 queue free %	94				100	91	
cM capacity (veh/h)	1530				661	997	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total Volume Left	131	65	93				
Volume Right	91 0	0	1				
cSH	1530	1700	92 990				
Volume to Capacity	0.06	0.04	0.09				
Queue Length 95th (ft)	5	0	8				
Control Delay (s)	5.3	0.0	9.0				
Lane LOS	Α		A				
Approach Delay (s)	5.3	0.0	9.0				
Approach LOS			Α				
Intersection Summary	No.						
Average Delay			5.3				
Intersection Capacity Util	lization	2	3.6%	ICL	J Level	of Service	ce A
Analysis Period (min)			15				

Analysis of Intersection #8

Driveway "C" / Unser Blvd.

	•	•	<b>†</b>	-	-	ļ		-
Movement	WBL	WBR	NBT	NBR	SBL	SBT		GE I
Lane Configurations			<b>^</b>		200	<b>^</b>		193
Sign Control	Stop		Free			Free		
Grade	0%		0%			0%		
Volume (veh/h)	0	0	830	32	0	1018		
Peak Hour Factor	0.85	0.85	0.94	0.94	0.94	0.94		
Hourly flow rate (vph)	0	0	883	34	0	1083		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	Raised							
Median storage veh)	1							
Upstream signal (ft)			607					
pX, platoon unblocked	0.96	0.96			0.96			
vC, conflicting volume	1424	441			917			
vC1, stage 1 conf vol	883							
vC2, stage 2 conf vol	541							
vCu, unblocked vol	1400	376			872			
tC, single (s)	6.9	7.0			4.2			
tC, 2 stage (s)	5.9							
tF (s)	3.5	3.3			2.2			
p0 queue free %	100	100			100			
cM capacity (veh/h)	254	594			732			
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2			
Volume Total	441	441	34	541	541			-
Volume Left	0	0	0	0	0			
Volume Right	0	0	34	0	0			
cSH	1700	1700	1700	1700	1700			
Volume to Capacity	0.26	0.26	0.02	0.32	0.32			
Queue Length 95th (ft)	0	0	0	0	0			
Control Delay (s)	0.0	0.0	0.0	0.0	0.0			
Lane LOS								
Approach Delay (s)	0.0			0.0				
Approach LOS								
Intersection Summary				Region 3	77765			
Average Delay			0.0			N		
Intersection Capacity Ut	ilization	3	1.5%	IC	U Level	of Service	ce A	
Analysis Period (min)			15				Α	

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

	I DOWN ON THE					
		N DECELERA			RN DECELERA	
	Minimum Vol	ume in Adjacent	Through Lane	Minimum Vol	ume in Adjacent	Through Lan
Turning		(vphpl) <sup>2</sup>			(vphpl) <sup>2</sup>	
Volume <sup>1</sup>						
(vph)	≤30 mph	35 to 40 mph	45 to 55 mph	≤30 mph	35 to 40 mph	45 to 55 mph
<5	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required
5	Not Required	490	420	1,200	730	450
10	420	370	300	820	490	320
15	360	290	220	600	350	240
20	310	230	160	460	260	180
25	270	190	130	360	230	150
30	240	160	110	290	200	130
35	210	130	100	260	180	120
40	180	120	Required	240	170	110
45	160	110	Required	220	160	Required
50	140	Required	Required	200	Required	Required
55	120	Required	Required	190	Required	Required
≥56	Required	Required	Required	Required	Required	Required
						- Add all ou
	Left-turn Decelei	rataion Lanes ar	e Required	Right-turn Decel	erataion Lanes a	ire
	on Urban Multi-l	lane Highways fe	or the	Required on Urb		
	following Left-tu			for the following	Right-turn Volu	mes:
		≤30 mph : 56 vph	or more		≤30 mph : 56 vph	
	• 3	35 to 40 mph: 46	vph or more		35 to 40 mph : 46	
	• 4	5 to 55 mph: 36	vph or more		15 to 55 mph : 41	

### Notes:

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

Lengths (feet)       45 So 60 65       45 50 55     60 65       400 475 550 650 725       370 450 525 620 700       150 175 200 225 250       12.5:1 14.5:1 16.5:1 18.5:1 21:1       550 760 960 1,170 1,380       170 180 230 270 300       14:1 15:1 19:1 22.5:1 25:1				Table	Table 18.K-1						
Ige Lane         Posted Speed (mph)           ion         25         30         35         40         45         50         55         60         65           Stop Condition         150         200         250         325         400         475         550         650         725           Slow to 15 MPH         130         175         230         370         475         550         650         725           For 12-foot Lane         50         75         100         125         150         175         200         225         250           Fatios (L:W)         4:1         6:1         8:1         10.5:1         12.5:1         14.5:1         16.5:1         18.5:1         21:1           ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         190         120         150         170         180         270         300           ength         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5:1         25:1		ecele	ration a	ind Acc	eleration	on Leng	ths (fe	et)			
ion         25         30         35         40         45         50         55         60         65           Stop Condition         150         200         250         325         400         475         550         650         725           Slow to 15 MPH         130         175         230         300         370         450         525         620         725           For 12-foot Lane         50         75         100         125         150         175         200         225         250           Regitos (L:W)         4:1         6:1         8:1         10.5:1         12.5:1         14.5:1         16.5:1         18.5:1         21:1 <b>ength</b> N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         300           A Strick (L:W)         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5         25:1	Speed Change Lane				<b>a</b> .	osted Sr	beed (mr	(H)			
Ice         30         35         40         475         550         650         725           Stop Condition         150         200         250         325         400         475         550         650         725           Slow to 15 MPH         130         175         230         300         370         450         525         620         700           For 12-foot Lane         50         75         100         125         150         175         200         225         250           Fength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         300           of 12-foot Lane         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5         25:1	Condition	25	30	35	1	AF	4		00		
Stop Condition         150         200         250         325         400         475         550         650         725           Slow to 15 MPH         130         175         230         300         370         450         525         620         725           for 12-foot Lane         50         75         100         125         150         175         200         225         250           ne Ratios (L:W)         4:1         6:1         8:1         10.5:1         12.5:1         14.5:1         16.5:1         18.5:1         21:1           ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5:1         25:1	Deceleration Distance			3	}	2	Oc.	o o	20	65	20
Slow to 15 MPH         130         175         230         300         370         475         500         650         725           for 12-foot Lane         50         75         100         125         150         175         200         225         250           ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12:5:1         14:5:1         16:5:1         18:5:1         22:5         250	Stop Condition	150	200	250	325	700	77.	T.	0		
for 12-foot Lane         50         75         100         125         150         175         200         225         250           ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         380           ne Ratios (L:W)         N/A         8:1         10:1         12:5:1         14:5:1         180         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5:1         25:1	Slow to 15 MPH	120	175	000	200		6/4	ဂ္ဂဇင	ဂ္ဂဌ၀	725	850
for 12-foot Lane         50         75         100         125         150         175         200         225         250           ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12.5:1         14:1         15:1         19:1         22:5:1         25:1	Docoloration Tonor	3	0/-	730	300	370	450	525	620	200	820
For 12-foot Lane         50         75         100         125         150         175         200         225         250           ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5:1         25:1	הככנום ומוחוו ומוחו										
Length         N/A         190         270         380         550         760         960         1,170         1,380           Permits (L:W)         N/A         100         120         15:1         14:5:1         16:5:1         18:5:1         21:1           Permits (L:W)         N/A         100         120         150         170         180         270         300           Permits (L:W)         N/A         8:1         10:1         12:5:1         14:1         15:1         19:1         22:5:1         25:1	Length for 12-foot Lane	20	75	100	125	717	475	000			
ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         230         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12.5:1         14:1         15:1         19:1         22.5:1         25:1	Straight I in Dation / JAM	4.4	3	3	27	200	1/3	200	225	250	250
ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         230         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12.5:1         14:1         15:1         19:1         22.5:1         25:1	פוומון בווים ואמוס (ב. ۸۷)	4-	0	œ.	10.5:1	12.5:1	14.5:1	16.5:1	18.5:1	21:1	21.1
ength         N/A         190         270         380         550         760         960         1,170         1,380           of 12-foot Lane         N/A         100         120         150         170         180         230         270         300           ne Ratios (L:W)         N/A         8:1         10:1         12.5:1         14:1         15:1         19:1         22.5:1         25:1			_								
of 12-foot Lane     N/A     100     120     150     170     180     270     300       ne Ratios (L:W)     N/A     8:1     10:1     12.5:1     14:1     15:1     19:1     22.5:1     25:1	Acceleration Lane Length	N/A	190	270	380	550	760	000	017		
N/A 100 120 150 170 180 230 270 300 N/A 8:1 10:1 12.5:1 14:1 15:1 19:1 22.5:1 25:1	Acceleration Taper				3	200	20	000	1,1/0	1,380	1,590
N/A 8:1 10:1 12.5:1 14:1 15:1 19:1 22.5:1 25:1	Length of 12-foot Lane	N/A	100	120	150	170	100				- 4
0.1 10:1 12:5:1 14:1 15:1 19:1 22:5:1 25:1	Straight I ine Ratios /I .W/	NI/A	0.4	200	3	2	001	230	2/0	300	300
	1/1×1/ 00:00:00:00:00:00:00:00:00:00:00:00:00:	۲/۷	0.	10.1	12.5:1	14:1	15:1	19:1	22.5:1	25:1	25.1

# **Traffic Count Data Sheet**

MPH	MPH	
25 MPH	45	5/22/07
Speed Limit (I-40 N. ramp)=	Speed Limit (Unser Blvd)=	Date of Count:
E-W Street I-40 N. ramp	N-3 Sileel. Oriser BIVO	
2007		
Year Counts Taken:		

pedlu	End	Eastbo	Eastbound (I-40 N	. ramp)	Westbo	Westbound (I-40 N. ramp)	l. ramp)	Northb	Northbound (Unser Blvd)	r Blvd)	Southb	Southbound (Ilnear Blvd)	ar Rhod
Time	Time	٦	⊢	~		F	~		_	2		-	
7:00 AM	7:15 AM	0	0	0	87	33	38	13	165	-	ء اد	- 907	4
7.15 AM	7:30 AM		c	0	03		20	2	2	5	5	430	2
	200.	,	}		3	2	CO	٥	1/5	0	0	498	<del>1</del> 3
7:30 AM	7:45 AM	0	0	0	93 0	0	53	က	180	0	0	424	25
7:45 AM	8:00 AM	0	0	0	8	0	62	2	167	6	-	257	4
8:00 AM	8:15 AM	đ	Q	q	58	0	F.4	C	, ,		•	300	= :
		,	ì	P	B	Φ	<b>t</b>	'n	+34	A	A	356	43
8:15 AM	8:30 AM	д	Φ	0	7	0	<i></i>	+	456	Ø	a	310	ĸ
8:30 AM	8:45 AM	0	θ	θ	17	Q	64	6	130	0	0	200	
D.AE ANA	0.00	c	,	,	i			1	B	٥	A	6€7	20
0.43 AIM	S.UO AIM	₽	A	A	\$	θ	44	ф	65	0	0	261	g
AM Peak Hour Volumes	Volumes	0	0	0	343	က	188	24	687	0	6	1775	o d
% of Total Traffic		%0'0	%0:0	%0:0	11.1%	0.1%	6.1%	0.8%	22 2%	%00	760	£7 £0/	3 6
% Directional			%0:0			17.3%			23.0%	200	8	0.70	2.270
AM Peak Hour Factor	actor					0.91			0.07			08.7%	

Time	_ _ _	Lasibor	Eastbound (1-40 N.	ramp)	Westbo	Westbound (I-40 N. ramo)	. ramo)	Northb	Northbound (Linser Blvd)	r Rive	Couthh	Southbound / Inca Black	Property of
		-	  -	~		  -	α	-	L				DAIG IS
A-00 DAA A-4E	MO		,		1	,	2	1	-	ے	-	-	צ
1	M	₽ 	A	Ą	498	G-2	137	4	478	0	θ	376	13
4:15 PM 4:30 PM	PM	θ	θ	0	177	в	159	7+	145	0	a	232	10
4:30 PM 4:45 PM	PM	θ	θ	0	184	7+	143	9	146	D	P	202	78
4:45 PM 5:00 PM	PM	0	0	đ	157	Q	103	11	166	,		200	9 9
5.00 DM 5.45 DM	Y O				27				B	Þ	A	677	+160
	ž	5	9	5	153	0	217	ဖ	210	0	0	219	20
5:15 PM 5:30 PM	PM	0	0	0	145	0	190	8	193	0	0	208	14
5:30 PM 5:45 PM	PM	0	0	0	168	0	190	6	148	0	6	222	15
5:45 PM 6:00 PM	PM	0	0	0	160	0	174		174	)	, ,	244	2 2
PM Peak Hour Volumes	100		6	-	909						2	7447	7.7
		•	>	>	070	>	1//	74	7.25	0	0	<b>90</b> 3	20
% of Total Traffic	ی	%0.0	%0:0	%0:0	20.1%	%0:0	24.7%	0.8%	23.2%	%0.0	%0:0	%0.60	2 2%
% Directional			%0.0			44.8%			24 0%			24.20%	2.7
PM Peak Hour Factor						0.94			0.87			0.00	

### **Turning Movement Count Data**

Date: E-W Street: 6/12/2007 Ladera Dr

Day: N-S Street:

Tuesday Unser Bivd

AM Period

											r					1						
			Eastbou	ınd			٧	Vestboo	ınd		1	N	orthbo	und			S	outhbo	und			Hausti
Time	LT	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	LT				_		Hourty
7:00-7:15	46	52	88	3	186	68	16	10	D	94	10	88		HUCK		_	TH	RT	Truck		Sum	Total
7:15-7:30	44	66	91	1	201	75	15	6	1	96	1		42	2	140	9	237	17	1	263	683	
7:30-7:45	44	77	106	o	227	76	43	_	,		6	104	49	2	159	10	263	11	2	284	740	
7:45-8:00	41	56	80	2	177	1		9	0	128	18	120	69	1	207	17	227	15	0	259	821	
8:00-8:15	26	35	80	- 4		98	31	19	1	148	14	117	64	4	195	9	179	15	0	203	723	2967
8:15-8:30	32	49		1	141	61	16	27	1	104	17	109	49	4	175	22	198	10	0	230	650	2934
			80	1	161	86	14	8	1	108	17	100	55	3	172	22	179	12	2	213	654	2848
8:30-8:45	33	38	65	2	136	61	19	6	1	86	17	79	46	1	142	11	177	13	5	201	565	2592
8:45-9:00	28	31	63	2	122	45	23	10	1	78	17	76	33	3	126	13	149	14	4	176		
9:00-9:15	25	24	37	2	88	42	19	7	1	68	14	72	28	1	115	14	128		•		502	2371
9:15-9:30	21	31	37	0	89	41	15	5	0	61	19	71	36	3		''		17	2	159	430	2151
9:30-9:45	26	38	31	2	97	40	26	9	3	75	16	88			129	8	105	14	2	127	406	1903
9:45-10:00	29	62	30	1	122	47	19	9	4	75			44	3	151	12	126	17	7	155	478	1816
Peak Hour	175	251	365	6	791	317	105			_	18	72	38	_1_	128	14	100	17	0	131	456	1770
PHF	0.95	0.81	0.86	3	0.87			44	2	466	48	429	224	9	701	45	906	58	3	1009	2967	Peak
Truck %	50	5.01	0.00	40/	U.07	0.81	0.61	0.58		0.79	0.67	0.89	0.81		0.85	0.66	0.86	0.85		0.89	0.90	7:00
1150K 70				1%					0%					1%	- 1				0%		1%	8:00
																					- 79	0.00

Mid-Day Period

1												01100										
		ı	Eastboo	and			٧	Vestbo	und			N	lorthbo	und		T					T	T
Time	LT	TH	RT	Truck	Sum	LT	TH	RT	Totale		1			uliu			S	outhbo	und			Hourly
11:00-11:15	26	30	32	0					Truck		_	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	Sum	Total
11:15-11:30	1	24		U	88	43	19	12	0	74	28	80	41	3	149	15	75	16	2	106	417	
11:30-11:45	1		29	ī	82	41	27	16	3	84	34	73	47	3	154	14	86	14	2	114	434	1
1		32	29	0	83	38	22	8	1	68	18	74	49	1	141	21	76	18	0	115		
11:45-12:00	1	38	24	0	79	46	27	6	2	79	14	71	53	2	138	16	103	19	_		407	
12:00-12:15		26	15	0	63	37	34	8	2	79	53	97	62	2	212				0	138	434	1692
12:15-12:30	17	31	37	0	85	48	43	10	0	101	31	98				22	98	16	2	136	490	1765
12:30-12:45	25	28	31	0	84	39	40	12	0	91	30		58	4	187	13	99	21	1	133	506	1837
12:45-1:00	27	29	32	0	88	50	33	7	0			81	48	3	159	8	98	18	2	124	458	1888
1:00-1:15	26	26	17	1	69			1	0	90	31	83	42	2	156	15	98	20	5	133	467	1921
1:15-1:30	20	38	24	'		46	26	18	0	90	28	95	46	1	169	16	80	17	2	113	441	1872
1:30-1:45	18			0	82	53	29	7	1	89	31	92	46	4	169	16	100	15	0	131	471	1837
ł		39	26	0	83	30	29	5	0	64	27	69	58	0	154	17	91	19	3	127		
1:45-2:00	15	32	16	1	63	58	25	3	. 1	86	24	76	71	1	171	16	90	21	-		428	1807
Peak Hour	91	114	115	0	320	174	150	37	2	361	145	359	210	11	714	58			0	127	447	1787
PHF	0.84	0.92	0.78		0.91	0.87	0.87	0.77		0.89	0.68	0.92	0.85	• • •			393	75	10	526	1921	Peak
Truck %				0%					1%	0.00	0.00	0.52	0.00		0.84	0.66	0.99	0.89		0.97	0.95	12:00
									1 /0					2%					2%	- 1	1%	1:00

PM Period

Time	LT	TH.	astbou RT	nd Truck	Sum	LT	V TH	Vestbou RT	and Truck	Sum	LT	N TH	orthboi RT	und Truck	Sum			outhbo				Hourly
3:00-3:15	27	21	32	0	80	49	36	12	1	97	38	116		HUCK		LT	TH	RT	Truck	Sum	Sum	Total
3:15-3:30	29	24	28	0	81	43	42	12	3	97			60	1	214	10	97	30	1	137	528	
3:30-3:45	29	47	33	0	109	57	44	16	4		43	123	59	0	225	16	117	32	0	165	568	
3:45-4:00	21	26	17	0	64	l			1	117	35	174	99	1	308	16	160	22	0	198	732	1 1
4:00-4:15	29	38	22	0		50	45	22	0	117	64	154	82	1	300	14	151	35	0	200	681	2509
4:15-4:30	20	42	16	-	89	53	36	21	3	110	56	180	104	2	340	36	145	41	0	222	761	2742
4:30-4:45	26	_		0	78	59	62	21	2	142	59	172	67	1	298	20	144	50	0	214	732	2906
4:45-5:00		44	32	0	102	61	56	16	1	133	70	209	86	0	365	21	144	36	3	201		
	33	45	31	1	109	56	58	16	0	130	65	213	85	4	363	13	128	52	_		801	2975
5:00-5:15	32	36	34	0	102	78	58	19	0	155	73	238	89	3	400	33			0	193	795	3089
5:15-5:30	36	52	33	0	121	83	64	29	1	176	66	215	102	4			149	33	0	215	872	3200
5:30-5:45	34	50	39	1	123	53	75	27	0	155	68			7	383	22	131	54	0	207	887	3355
5:45-6:00	38	44	32	0	114	67	67	32	4			222	103	3	393	17	124	50	0	191	862	3416
Peak Hour	140	182	138	1	460	281	264			166	81	185	78	0	344	22	143	47	0	212	836	3457
PHF	0.92	0.88	0.88	'	0.93			107	2	652	288	860	372	7	1520	94	547	184	0	825	3457	Peak
Truck %		50	0.00	00/	U.83	0.85	88.0	0.84		0.93	0.89	0.90	0.90		0.95	0.71	0.92	0.85		0.98	0.97	5:00
				0%					0%					0%					0%		0%	6:00

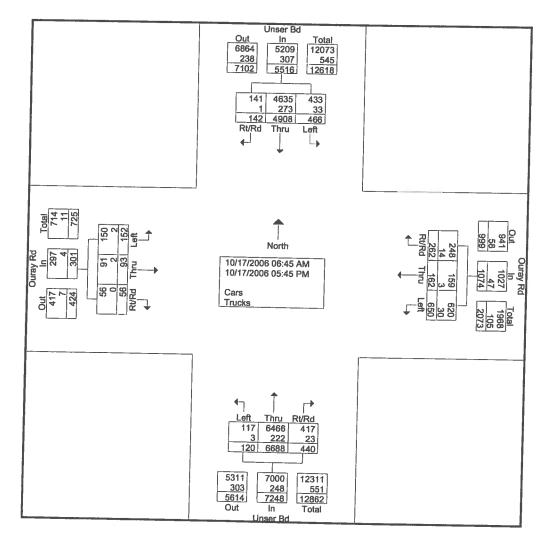
A - 89

This is your address Your City, State ZipCode Your Tagline Here

File Name: Ouray Rd and Unser B

Site Code : 00025702 Start Date : 10/17/2006

		Unse From	er Bd North			Oura From	-				er Bd			Oura	-		
Start Time	Right	Rt/Rd	Thru	Left	Right	Rt/Rd	Thru	Left	Right		Thru	Left	Right	From Rt/Rd		1 - 0	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0						Thru	Left	Int. Tota
05:00 PM	5	0	195	16	7	1.0	8	13	22	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
05:15 PM	8	1	161	26	2	3	3	17		1	309	10	0	1	5	7	603
05:30 PM	4	Ó	200	32	2	3	11		26	Ü	265		0	1	3	4	527
05:45 PM	9	1	167	16	4	2		13	14	0	205	5	1	1	6	3.	501
Total	26	2	723	90	16	12	10	17	26	0	256	10	0	0	6	3	527
. 01.01	20	_	723	30 ]	10	12	32	60	88	1	1035	32	1	3	20	17	2158
Grand Total	137	5	4908	466	122	140	162	650	420	20	6688	400	20	0.4			
Apprch %	2.5	0.1	89	8.4	11.4	13	15.1	60.5	5.8			120	32	24	93	152	14139
Total %	1	0	34.7	3.3	0.9	1	1.1	4.6		0.3	92.3	1.7	10.6	8	30.9	50.5	
Cars	136	5	4635	433	115	133	159		3	0.1	47.3	0.8	0.2	0.2	0.7	1.1	
% Cars	99.3	100	94.4	92.9	94.3	95		620	399	18	6466	117	32	24	91	150	13533
Trucks	1	0	273	33	7	90	98.1	95.4	95	90	96.7	97.5	100	100	97.8	98.7	95.7
% Trucks	0.7	ő	5.6	7.1	5.7	/	3	30	21	2	222	3	0	0	2	2	606
	0.7	U	5.0	7.1	5.7	5	1.9	4.6	5	10	3.3	2.5	0	0	2.2	1.3	4.3

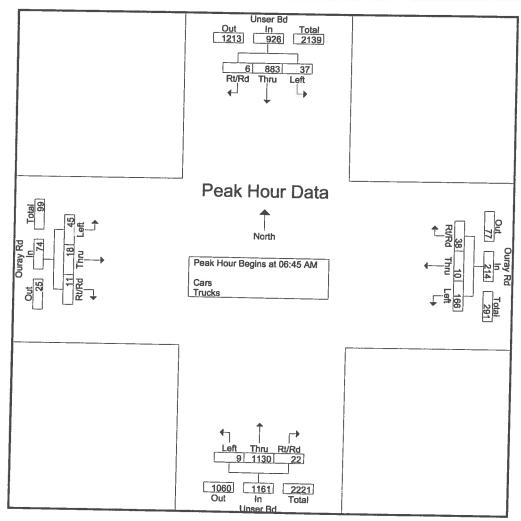


This is your address Your City, State ZipCode Your Tagline Here

File Name: Ouray Rd and Unser B

Site Code : 00025702 Start Date : 10/17/2006

Start Time	- Division	F	Unser rom N	orth			F	Ouray rom E	ast				Unser I					Ouray rom W			
Start Time	Right	Rt/Rd	Thru		App. Total	Right	Rt/Rd	Thru	Left	App. Total	Right	Rt/Rd	Thru	Left	App. Total	Right				App. Total	
Peak Hour A	nalysis	s From	06:45	AM to	09:30 A	M - Pe	ak 1 c	f 1							тфр. тошя	reignie	110110	11110	LCIL	App. Total	Int. Tota
Peak Hour fo	r Entir	e Inter	section	n Beair	ns at 06:	45 AM															
06:45 AM	2	0	229	6	237	9	5	2	58	75		0	242		040		_	_			61
07:00 AM	1	0	220	15	236	4	5	2	41		4	_	213	Ţ	218	4	0	2	12	18	548
07:15 AM	Ó	ň	222	5	227	2	3	4		52	3	0	281	3	287	0	1	8	9	18	593
07:30 AM	3	ŏ	212	-			2	1	39	45	4	1	313	1	319	3	1	3	13	20	611
Total Volume		0		11	226	5	5	4	28	42	8	2	323	4	337	2	0	5	-11	18	623
	6	0	883	37	926	20	18	10	166	214	19	3	1130	9	1161	9	2	18	45	74	2375
% App. Total	0.6	0	95.4	4		9.3	8.4	4.7	77.6		1.6	0.3	97.3	0.8		12.2	2.7	24.3		74	23/5
PHF	.500	.000	.964	.617	.977	.556	.900	.625	.716	.713	.594	.375	.875	.563	.861				60.8		
			- 1 7 7 7 7						., 10	., 10	.034	.575	.0/3	.505	.001	.563	.500	.563	.865	.925	.953

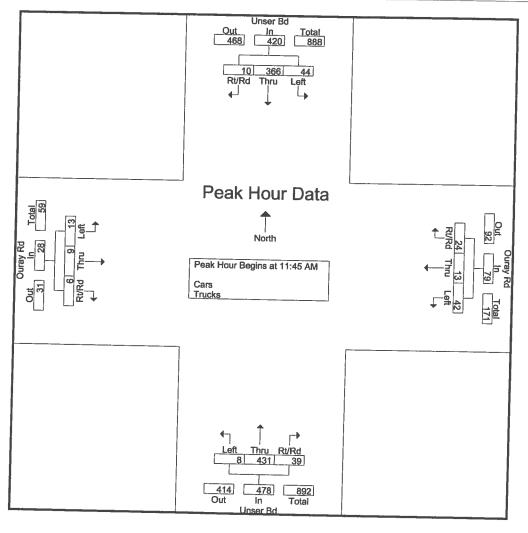


This is your address Your City, State ZipCode Your Tagline Here

File Name: Ouray Rd and Unser Bo

Site Code : 00025702 Start Date : 10/17/2006

															-						
Ctart Time	-	F	Unser rom N	orth			F	Ouray From E					Unser					Ouray rom W			
Start Time	Right	Rt/Rd	I hru	Left	App. Total	Right	Rt/Rd	Thru	Left	App. Total	Right	D+/Dd	Thru	Left		District		1			
Peak Hour A	nalysis	s From	11:00	AM to	01:45 P	M - Pa	ak 1 c	¥ 1		T ropp. Total	TAISPITE	110110	THU	Leit	App, Total	Right	Rt/Rd	Thru	Left	App. Total	Int. Tot
eak Hour fo	r Entir	e Inter	section	n Begir	s at 11:	45 AM		,, ,													
11:45 AM	1	0	91	12	104	3	2	2	14	22	40					1 -					
12:00 PM	1	0	86	10	97	3	2	0			10	7	95	7	107	0	0	1	2	3	23
12:15 PM	4			10		3		2	15	22	6	1	128	2	137	1	1	1	5	8	26
	4	0	105	- /	116	3	5	3	6	17	11	0	94	- 1	106	0	2	· .	4	0	
12:30 PM	4	0	84	15	103	4	2	- 5	7	18	10	ō	114	- 4		4		3	4	9	24
Total Volume	10	0	366	44	420	13	11	13	42					4	128		1	4	2	8	25
% App. Total	2.4	ō	87.1		720				42	79	37	2	431	8	478	2	4	9	13	28	100
				10.5		16.5	<u> 13.9</u>	16.5	53.2		7.7	0.4	90.2	1.7		7 1	14.3	32.1	46.4		
PHF	.625	.000	871	.733	.905	.813	.550	.650	.700	.898	.841	.500	.842	.500	.872	.500					
										.500	.UT1	.000	.042		0/2	.500	.500	.563	.650	.778	.95

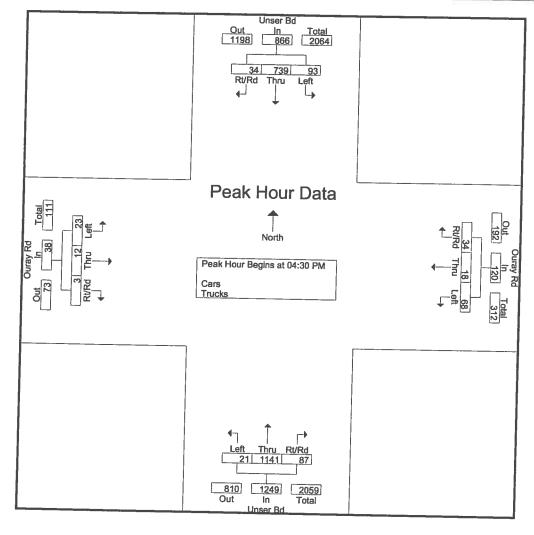


This is your address Your City, State ZipCode Your Tagline Here

File Name: Ouray Rd and Unser B

Site Code : 00025702 Start Date : 10/17/2006

01 17		F	Unser rom N	orth				Ouray rom E					Unser I					Duray I			1
Start Time			Thru		App. Total	Right	Rt/Rd	Thru	Left	App. Total	Right	Rt/Rd	Thru	Left	App. Total	Right	Rt/Rd				-
Peak Hour A	nalysis	From	03:00	PM to	05:30 P	M - Pe	ak 1 o	f 1				110110	, , , iii G	LOIL	Арр. госа	ragnt	RURU	THU	Left	App. Total	Int Tol
Peak Hour fo	r Entir	e Inter	section	n Begir	s at 04:	30 PM															
04:30 PM	8	0	185	22	215	3	6	5	16	30	16	0	267		207		_	_	_	- 11	
04:45 PM	12	0	198	29	239	3	6	2	22	33	22	0	300	4	287	U	Ü	2	6	8	540
05:00 PM	5	0	195	16	216	7	4	8	13	32	22	4	309	0	322	1	0	2	6	9	603
05:15 PM	8	1	161	26	196	2	3	3	17	25	26			10	342	U	1	5	7	13	603
Total Volume	33	1	739	93	866	15	19	18	68	120	86	0	265	- /	298	0	1	3	4	8	527
% App. Total	3.8	0.1	85.3	10.7	000	12.5	15.8		56.7	120		0.4	1141	21	1249	_ 1	2	12	23	38	2273
PHF	.688	.250	.933	.802	.906	.536	.792	.563		000	6.9	0.1	91.4	1.7		2.6	5.3	31.6	60.5		
			.000	.002	.300	.550	.192	.505	.773	.909	.827	.250	.923	.525	.913	.250	.500	.600	.821	.731	.942



### **Turning Movement Count Data**

Date:

6/13/2007

E-W Street:

98th St (Vista Oriente)

Day: N-S Street:

Wednesday Unser Blvd

**AM Period** 

						1					1					_				_		
		E	astbou	ınd			W	estbo	und			N	orthbo	und		Ī	S	outhbo	und			Hourly
Time	LT	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	LT	TH	RT		C		1 1
7:00-7:15	8	2	51	0	61	7	0	2	0	9	9	111	3	4	123	3			Truck	Sum	Sum	Total
7:15-7:30	7	0	62	0	69	2	o	0	o	2	7	161	2	4	170	3	169	2	0	174	367	
7:30-7:45	17	0	55	0	72	5	0	1	0	6	6	163		,		"	215	2	0	217	458	
7:45-8:00	6	0	42	0	48	1	0	1	0	2	5	160	4	3	173	3	209	4	0	216	467	
8:00-8:15	4	3	36	0	43	6	0	2	0	8	10		3	5	168	5	191	8	0	204	422	1714
8:15-8:30	10	0	35	0	45	6	0	3	0	9		147	6	2	163	2	168	7	0	177	391	1738
8:30-8:45	9	1	40	0	50	11	0	4	0	_	14	121	4	3	139	4	131	2	0	137	330	1610
8:45-9:00	2	1	28	1	31	5	4	3	_	15	8	126	4	8	138	3	161	3	0	167	370	1513
9:00-9:15	10	1	23	- 1	34	1 .	1	3	0	9	19	99	3	3	121	3	136	3	0	142	303	1394
9:15-9:30	8	- 1	27	0		4	1	1	0	6	17	71	3	4	91	2	120	2	0	124	255	1258
9:30-9:45	7	0	26	-	36	6	0	1	0	7	12	69	6	1	87	2	118	6	0	126	256	1184
9:45-10:00	10	2		0	33		2	3	0	12	22	96	7	1	125	3	94	4	0	101	271	1085
Peak Hour	_		24	2	36	4	0	_2	0	6	15	93	_ 2	1	110	3	102	8	0	113	265	1047
PHF	34	3	195	0	232	14	0	4	0	18	28	631	15	11	674	10	783	21	0	814	1738	Peak
l	0.50	0.25	0.79		0.81	0.58	#####	0.50		0.56	0.70	0.97	0.63		0.97	0.50	0.91	0.66		0.94	0.93	7:15
Truck %				_0%_					0%					2%					0%		1%	8:15

Mid-Day Period

1	1															_						
<u> </u>			Eastbou	ınd			٧	Vestboi	und		ĺ	N	orthbo	und			S	outhbo	und			Hourly
Time	LT	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	LT	TH	RT	Truck	Sum	LT	TH	RT		C		1
11:00-11:15	9	0	22	0	31	4	0	4	0	8	16	74	8	3		_		KI	Truck		Sum	Total
11:15-11:30	6	0	30	0	36	15	0	2	0	17	20		_	-	98	3	99	7	0	109	246	
11:30-11:45	8	1	30	0	39	13	0	3	_			100	8	2	128	6	84	6	0	96	277	}
11:45-12:00	2	0	21	0	23		4	_	0	16	12	106	7	3	125	5	105	4	0	114	294	]
12:00-12:15	_	4		4		12	7	3	0	16	14	81	10	2	105	3	78	6	0	87	231	1048
12:15-12:30	1		20	1	25	11	0	4	0	15	24	96	13	4	133	5	86	5	0	96	269	1071
1	1 .	2	22	0	31	16	2	8	0	26	33	116	4	2	153	7	120	8	0	135	345	1139
12:30-12:45	1	1	26	0	35	8	2	4	0	14	24	98	7	1	129	1	78	7	0	86	264	
12:45-1:00	10	0	23	1	33	3	0	11	0	14	20	100	11	0	131	5	85	4	0			1109
1:00-1:15	10	2	28	0	40	12	0	9	0	21	24	77	7	2	108			4	-	94	272	1150
1:15-1:30	5	1	22	0	28	15	2	6	0	23	23	99	,			10	96	9	0	115	284	1165
1:30-1:45	8	1	17	0	26	B	4	4	0				5	1	127	4	85	5	0	94	272	1092
1:45-2:00	6	1	11	0	18	-	2	7	-	13	23	102	4	4	129	4	89	9	0	102	270	1098
Peak Hour	35	5	99	4				1	0	10	22	_100		2	133	4	93	3	0	100	261	1087
PHF	0.88	_		'	139	39	4	32	0	75	101	391	29	5	521	23	379	28	0	430	1165	Peak
	U.00	0.63	0.88		0.87	0.61	0.50	0.73		0.72	0.77	0.84	0.66		0.85	0.58	0.79	0.78		0.80	0.84	12:15
Truck %				1%					0%		_			1%					0%	50	1%	
																			<u> </u>		170	1:15

PM Period

Time	LT	TH	astbou RT	nd Truck	Sum	LT	V TH	estbou	ind Truck	Sum	LT	N TH	orthboi RT	ınd Truck	Sum	LT		outhbou		_		Hourly
3:00-3:15	2	1	11	0	14	13	0	5	0	18	27	116	8				TH	RT	Truck	Sum	Sum	Total
3:15-3:30	11	1	14	0	26	5	0	8	0	13	30		_	6	151	9	122	5	0	136	319	
3:30-3:45	6	1	28	0	35	10	0	5	0			148	14	3	192	5	129	12	0	146	377	1 1
3:45-4:00	12	2	22	0	36	11	1	7		15	23	170	6	1	199	4	154	4	0	162	411	
4:00-4:15	8	0	26	0	34	10	2	,	0	19	42	186	10	0	238	2	147	8	0	157	450	1557
4:15-4:30	3	3	13	0	19		2	5	0	17	38	161	7	0	206	5	182	11	0	198	455	1693
4:30-4:45	6	0	33	0		18	4	/	0	29	45	203	10	2	258	9	168	11	0	188	494	1810
4:45-5:00	4	0		-	39	6	3	8	0	17	40	201	6	0	247	6	158	13	0	177	480	1879
5:00-5:15	l '	4	20	0	24	7	1	11	0	19	45	172	17	1	234	3	183	8	0	194	471	1900
5:15-5:30	8	1	17	0	26	22	1	В	0	31	48	216	8	1	272	6	180	13	0	199	528	1973
		0	17	0	24	11	0	0	0	-11	45	229	3	0	277	10	179	5	0	194	506	1985
5:30-5:45	8	0	20	0	28	20	0	11	0	31	34	206	6	0	246	6	219	15	0	240		
5:45-6:00	8	_1_	14	0	23	12	0	5	0	17	52	189	5	1	246	6	192	14	0		545	2050
Peak Hour	31	2	68	0	101	65	1	24	0	90	179	840	22	2	1041	28	770			212	498	2077
PHF	0.97	0.50	0.85		0.90	0.74	0.25	0.55		0.73	0.86	0.92	0.69	~				47	0	845	2077	Peak
Truck %				0%	J				0%	<b></b>	0.00	0.32	0.09		0.94	0.70	0.88	0.78		88.0	0.95	5:00
									0 /0					0%_					0%		0%	6:00

# **Traffic Count Data Sheet**

	MPH	MPH	
	25	45	5/21/07
	Speed Limit (I-40 S. ramp)=	Speed Limit (Unser Blvd)=	Date of Count:
	E-W Street 1-40 S. ramp N-S Street: Unser Blvd		
2007	/007		Factions
Taken.	odis i andi.		in
Year	5		Bed

Dogin	77.2									ממם מ	Date of Course.	/0/L7/c	
		Eastbo	Eastbound (I-40 S.	ramo)	Westho	Westhound /I_40 c romn)	C Pommit						
Time	Limb	-	-			ימוות	o. ramp)	North	Northbound (Unser Blvd)	er Blvd)	South	Southbound (Linear Dir.d)	A. Divid
	0	_	_	Y		-	۵	-			TI DOO	Daria (OIIS	(DAIG )
7:00 AM	7:15 AM	Ø	q	,	,	-		-1	-	œ	_	-	α
7.45 ANA	1.00		,	Þ	A	A	0	θ	Ø	c	c	,	
WIN CL.	7.30 AM	Ф	Φ	0	đ	0	,		,	Þ	Φ	A	0
7:30 AM	7:45 AM	θ	đ	0			A	Ð	в	θ	Ф	θ	0
7:45 AM	8:00 AM	o	, ,		A C	Ą	θ	θ	θ	θ	0	đ	
N 00.0	0.45 484	,	,	0	0	0	0	က	173	172	0		
0.00 AIV	MA CI .0	10	0	~	C	<b>C</b>	•			7,1	2	236	145
8:15 AM	8:30 AM	െ	o	-				5	126	141	-	206	206
8:30 AM	8:45 AM	er,		9		٥ (	0	0	128	138	0	165	200
8.45 AM	0.00 A MA	0		7	5	o	0	0	108	129	0	154	
	2.50 AW	Φ	A	7+	0	Ø	d	45	3		,	40	180
AM Peak Hour Volumes	r Volumes	31	0	6	-			₽,	8	443	Ð	188	439
% of Total Traffic		1 1%	7 U	000	òò	>	>	77	535	580	4	821	740
% Directional		2	200	0.0%	0.0%	%0.0	%0:0	0.1%	19.6%	21.3%	0 1%	/ac 0c	
			1.5%			%0.0			77	20	e -	30.2%	%7.7%
AM Peak Hour Factor	actor		0.67			10/1/0#			41.1%			57.5%	
						10/A/O#			0.80				

			T		Г	Τ	Τ	Τ	T	1		Γ	Т	7			
		er Blvd)	1	Y	8	91	80	71	- 00	3	99	78	9	308		12.0%	
0.88		Southbound (Unser Blvd)	-		297	285	294	272	344		297	324	276	1162	A5 20%	6 50	57.3%
		South	-	4	0	0	0	0	0		A	θ	в	0	%0.0		
		er Bivd)	α	-	82	106	77	85	88	30	8	75	87	364	14.2%		
0.60		Northbound (Unser Blvd)	<b>—</b>		144	168	135	162	176	158	001	138	156	641	25.0%	39 2%	0 0
	1	North			A	0	0	0	0	D		Ð	θ	0	%0:0		
	1	ramp)	ĸ	<	₽ ·	٥ (	0	0	0	0		<b>P</b>	A	0	%0:0		
	Westhound / 40 S	Ot I	-	q			0	5	0	0			₽ C	>	%0.0	%0:0	#D/N/0i
	Waeth	-	_1	Ø	,				5	д	đ		٥	>	%0:0		
	. ramo)	2	اء	ጥ	u	2	,	40	اه	Ф	9	2	3	<b>1</b>	0.8%		
	Eastbound (I-40 S.	-		д	0	0	-	0	•	P	Ф	0	-	ò	800	3.5%	0.90
	Eastbo		3	7	19	17	18	15	9,	2	18	42	69	2 70%	P		
	E	Time	1.4E DM	4. IO FM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5.30 DM	3	5:45 PM	6:00 PM	Volumes			1	ICIOI
	pegin	Time	A-DD DRA	4.00 T [V]	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	200.7	5:30 PM	5:45 PM	PM Peak Hour Volumes	% of Total Traffic	% Directional	DM Dook Hour Frede	און כמא רוטעו רמ



District Three Office - Albuquerque

February 4, 2008

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

Subject:

Proposed 98th Street and Unser Commercial Development

Unser and Vista Oriente Street Intersection Albuquerque, Bernalillo County, District Three

Dear Mr. Brown:

I am writing you this letter in conjunction with the completion of our review of the Traffic Impact Study (TIS) for the proposed 98<sup>th</sup> Street/Unser Commercial Development, dated September 7, 2007. The proposed development is located at the northeast quadrant of the Unser Boulevard and Vista Oriente Street intersection.

I regret to inform you that we are unable to approve the TIA at this time. The NMDOT has the following concerns:

- 1. The report did not comprehensively address traffic operations and circulation along Vista Oriente east of the intersection. The report needs to address how traffic movements are going to operate considering that a full access driveway exists within 270' of the Unser Blvd. and Vista Oriente intersection. In addition, there is an additional access to the development immediately east of the major access (within 150'). The location of the access points onto Vista Oriente needs to be revisited by the developer and the city. Failures along Vista Oriente will have direct impact to the operation of the Unser Boulevard and Vista Oriente intersection.
- 2. I would like to see a full and comprehensive analysis of the Vista Oriente, Driveway A and Vista Oeste un-signalized full access intersection. The analysis shall include a traffic simulation of the operation at the intersection. The analysis shall take into account the upstream signalized intersection at Unser and Vista Oriente.
- 3. On page 16, your evening (PM) WB to SB left turn queue is 475'. That means that left turn queue will extend beyond the eastern access point to the development. Can you please explain how EB traffic is going to turn left into the development if the WB left turn queue extends 475' east of the intersection? This is a fatal flaw in your report.
- 4. On page, 17, the left turn lane queue in advance of Driveway "A" is expected to be 227 feet. If you add a transition area that is required for the left turn pocket, the beginning of the turn lane will extend into the intersection. That would not be possible and thus the left turn capacity will be deficient.

Bill Richardson Governor

Rhonda G. Faught P.E. Cabinet Secretary

Commission

Johnny Cope Chairman District 2

David Schutz Vice Chairman District 5

Gregory T. Ortiz Secretary District 6

Norman Assed Commissioner District 3

Jim Franken Commissioner District 4

John L. Hummer Conmissioner District |



- 5. On page 17, the same concern will apply to left turn lane length in advance of Driveway "B".
- 6. On page A-33, there are 356 westbound to southbound left turn vehicles at the Unser Boulevard and Vista Oriente intersection. That volume meets the criteria for installation of dual left turn lanes. Any improvements at the intersection shall include dual left turn lanes on the westbound approach to the intersection.
- 7. On Page A-74, you can not analyze the intersection of Vista Oriente, Driveway A and Vista Oeste as two separate intersections. This approach is totally unacceptable.
- 8. We do not agree with your assessment that the development should be excluded from providing improvements at the Ladera and Unser intersection to resolve operational deficiencies that result from increased traffic flow through the intersection. At a minimum, the developer shall extend the deficient left turn lane lengths to address the required left turn queue storage requirements.

If you have any questions, please feel free to give me a call at (505) 841-2761. Sincerely,

Tony Abbo Digitally signed by Tony Abbo DN: CN = Tony Abbo, C = US, O = NMDOT, OU = Traffic Reason: I am the author of this document Date: 2008.02.04 23:17:16 -07'00'

Tony Abbo, P.E., P.T.O.E. District Three Traffic Engineer

cc: Terry Doyle Christina Bahl Tony Loyd, City of Albuquerque