Mechenbier Building
(4545 Alameda Blvd. NE)

Traffic Impact Study

Draft – October 10, 2007
Final – February 2, 2009

Presented to:

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

Prepared for:

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<u>Traffic Impact Study</u> <u>Mechenbier Building – (4545 Alameda Blvd. NE)</u>

STUDY PURPOSE

The purpose of this study is to identify the development's impact on the adjacent transportation system. The study is being conducted in conjunction with a request for approval of a proposed plan for a commercial/office development located along Alameda Blvd. between Jefferson St. and Horizon Blvd. in Albuquerque, New Mexico. This study is presented to satisfy the requirements of the New Mexico Department of Transportation, District 3 and the City of Albuquerque.

GENERAL

The proposed development is located along the north side of Alameda Blvd., at 4545 Alameda Blvd. NE, between Jefferson St. and Horizon Blvd. (see Appendix Page A-1 - Vicinity Map). The existing intersections of Alameda Blvd. / 2nd St., Alameda Blvd. / Horizon Blvd., Alameda Blvd. / Jefferson St., Alameda Blvd. / San Mateo Blvd., Alameda Blvd. / I-25 West Frontage Rd. and Alameda Blvd. / I-25 East Frontage Rd. are currently signalized intersections and will be analyzed in this study. In the future, the traffic signal at Horizon Blvd. will be removed and the traffic signal at Balloon Museum Dr. to the east will become operational. Since the time of this change is unknown, this report analyzes the existing condition.

Currently, properties in the area are commercial/office in nature, with a small amount of residential.

PROPOSED DEVELOPMENT

The proposed plan for this site consists of a 24,340 SF retail/office building. This development will be constructed in one phase and is proposed to take access from one full access driveway along Alameda Blvd.

The anticipated implementation year for this site is the year 2009.

STUDY PROCEDURES

A scoping meeting was held in September of 2007 with City of Albuquerque Transportation Development staff (Tony Loyd) to discuss scope and methodology to be utilized within the report. Specific items included format, intersections to be studied, intersection analysis procedures, existing traffic counts, trip distribution methodology, and implementation year definition. The same was discussed with New Mexico Department of Transportation, District 3 staff (Tony Abbo) via e-mail.

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

- ◆ Calculate the generated trips for this proposed commercial / office development as defined on Page A-2 of the Appendix of this report and more specifically defined in the Trip Generation Table on Page A-4 of the Appendix of this report. The trips generated for the implementation year analyses (2009) will assume that 100% of the development has occurred. Since the number of office trips generated is quite low compared to the total, the office trips and commercial trips will not be distributed separately, but be grouped together as commercial.
- Calculate trip distribution for the newly generated trips by this development. The new commercial trips will be distributed based on year 2009 population within a two (2) mile radius boundary of the proposed site as shown on Page A-8 in the Appendix of this report.
- Determine Trip Assignments for the newly generated trips based on the results of the Trip Distribution Analysis and logical routing to and from the new site.
- Obtain AM Peak Hour and PM Peak Hour Turning Movement Volumes Traffic Counts for the intersections of Alameda Blvd. / 2nd St., Alameda Blvd. / Horizon Blvd., Alameda Blvd. / Jefferson St., Alameda Blvd. / San Mateo Blvd., Alameda Blvd. / I-25 West Frontage Rd., and Alameda Blvd. / I-25 East Frontage Rd.
- Determine Historic Growth Rates for background traffic volumes based on an analysis of the growth trend of recent AWDT Volumes obtained from 2002 thru 2006 MRCOG Traffic Flow Maps.
- Determine the 2009 NO BUILD Volumes for each intersection to be analyzed by growing the background traffic growth from the year of the counts to 2009.
- Add data from Trip Assignments Maps and Tables to the 2009 NO BUILD Volumes to obtain the 2009 BUILD Volumes for this project.
- ◆ Provide signalized and unsignalized intersection analyses for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD ANALYSIS	BUILD ANALYSIS
Alameda Blvd. / 2nd St.	Traffic Signal	2009	2009
Alameda Blvd. / Horizon Blvd.	Traffic Signal	2009	2009
Alameda Blvd. / Jefferson St.	Traffic Signal	2009	2009
Alameda Blvd. / San Mateo Blvd.	Traffic Signal	2009	2009
Alameda Blvd. / I-25 W. Frntg. Rd.	Traffic Signal	2009	2009
Alameda Blvd. / I-25 E. Frntg. Rd.	Traffic Signal	2009	2009
Alameda Blvd. / Driveway 'A'	Stop Sign	N/A	2009

TRIP GENERATION WORKSHEET

Projected trips were calculated from the ITE trip generation data for shopping center, specialty retail center, and general office building – less than 51,000 SF. Trips for the development were determined based on land use defined on the Conceptual Site Development Plan on Page A-2 in the Appendix of this report.

See Appendix Page A-4 thru A-7 for the Trip Generation Summary Table and Worksheets for this project.

Mechenbier Building - Alameda Trip Generation Data

USE (ITE CODE)		24 HR VOL	A. M. PE	AK HR.	P. M. PEAK HR.		
DESCRIPTION		GROSS	ENTER	EXIT	ENTER	EXIT	
Summary Sheet	Units						
Shopping Center (820)	7.30	1,239	20	13	54	58	
Specialty Retail Center (814)	7.30	350	67	85	17	22	
General Office Building (710) - Less than 51,000 S.F.	9.74	143	18	2	4	19	
	!	4-00	405	400			
Total	24.34	1,732	105	100	75	99	

BACKGROUND TRAFFIC GROWTH

Background traffic growth rates were considered for each individual approach to an intersection that was targeted for analysis based on data from the 2002, 2003, 2004, 2005 and 2006 Traffic Flow maps prepared by the Mid-Region Council of Governments. Most of the Traffic Flow Data for those years taken from the MRCOG Traffic Flow Maps were Standard Data. The data from those years for each approach was plotted on a graph and a linear "regression trend line" calculated using the equation format y=mx+b. The growth rate was determined by calculating the average volume increase per year during the time period considered and dividing that volume into the most recent AWDT used in the analysis from which future volumes will be calculated. The rate of growth of that trend line was utilized as the annual growth rate for each approach if that calculated rate appeared feasible. However, there were some instances where the rate indicated a negative growth trend or appeared to be unreasonably high or low. In those cases, an appropriate growth rate from an adjacent segment of the same roadway was used, a shorter time span was used to determine the growth rate, or the growth rate was considered to be 1% or a generic 3% if appropriate. Due to the possible potential for growth in the area, it was believed that a 3% growth rate was appropriate for this study. Therefore, a growth rate of 3 % was used if the linear regression analysis showed the growth rate to be negative. Additionally, if the R2 value of the trend line was low, other means of establishing a probable growth rate from the data accumulated was considered. Historical Growth Rate Graphs with linear regression trendlines are shown in the Appendix on Pages A-15 through A-27. Additionally, the growth rate utilized for each approach to an intersection is printed at the top of the Turning Movement sheets for each intersection (Appendix Pages A-30 through A-43).

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2009 BUILDOUT

The calculated growth rates were applied to the most recent peak hour traffic counts (conducted for this study) to derive the 2009 AM and PM Peak Hour NO BUILD Volumes. To these volumes, the generated trips based on implementation of the proposed Site Development Plan (100% development) were added to obtain BUILD volumes for the intersection analyses. See Appendix Pages A-72 through A-78 for further information regarding the turning movement counts. Turning Movement Volumes Maps for the 2009 NO BUILD Conditions, Trips Generated, and 2009 BUILD Conditions are shown on Pages A-44 thru A-45 in the Appendix of this report.

The volumes along the project area were balanced using Synchro 6 in order to make the model analogous to actual conditions.

TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Commercial Land Use

Primary and diverted linked trips for the commercial land use development were distributed proportionally to the 2009 projected population of Data Analysis Subzones within a two-mile radius of the proposed development. Population data for the years 2000 and 2025 were taken from the 2025 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico, S-03-01, 2003, Appendix B and Appendix C, supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2000 and 2025 was interpolated linearly to obtain 2009 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of subareas and data analysis subzones is shown on Appendix Pages A-9 thru A-13.

RESULTS OF SIGNALIZED INTERSECTION CAPACITY ANALYSES

#1 - Alameda Blvd. / 2nd St. - Pages A-46 thru A-49

The results of the implementation year analysis of the signalized intersection of Alameda Blvd. / 2nd St. are summarized in the following table:

Alameda Blvd. / 2nd St.	No E	Build	BU	ILD
2009	<u>A.M.</u>	<u>P.M.</u>	A.M.	P.M.
Existing Geometry	D - 40.9	C - 34.1	D - 46.9	C - 34.8

The implementation year analysis of the intersection of Alameda Blvd. / 2nd St. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour conditions. The implementation year analysis shows that the proposed development increases the AM delay at the intersection by 6 seconds and the PM delay by only 7 tenths of a second. Therefore, this study concludes that the development presents no significant impact to the calculated delays at the intersection of Alameda Blvd. / 2nd St.

Geometry used for this analysis of Alameda Blvd. / 2nd St. is demonstrated in the following table:

Existing Geometry (Alameda Blvd. / 2nd St.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Alameda Blvd.	1	0	2	0	1
WB Alameda Blvd.	1	0	2	0	1
NB 2 nd St.	2	0	1	1	0
SB 2 nd St.	2	0	1	1	0

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

Queueing Analysis Summary Sheet

Project:

Mechenbier Building (4545 Alameda Blvd. NE)

Intersection:

Alameda Blvd. / 2nd St.

Approach	L	eft Tu	rns	Thru	Move	ments	Right Turns			
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length	
Existing Lane Length	1	44	100	2	1,597	Cont	1	196	200	
AM NO BUILD Queue	1	47	75	2	1,696	875	1	208	250	
AM BUILD Queue	1	47	75	2	1,706	875	1	208	250	
Existing Lane Length	1	114	100	2	1,005	Cont	1	203	200	
PM NO BUILD Queue	1	121	175	2	1,067	575	1	216	250	
PM BUILD Queue	1	121	175	2	1,074	575	1	216	250	
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length	
Existing Lane Length	1	74	100	2	537	Cont	1	36	150	
AM NO BUILD Queue	1	79	125	2	572	350	1	38	75	
AM BUILD Queue	1	84	125	2	582	350	1	42	75	
Existing Lane Length	1	197	100	2	1,398	Cont	1	65	150	
PM NO BUILD Queue	1	210	250	2	1,490	775	1	69	100	
PM BUILD Queue	1	215	250	2	1,500	775	1	73	125	
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length	
Existing Lane Length	2	182	150	2	299	Cont	0	402	Cont.	
AM NO BUILD Queue	2	193	150	2	317	225	0	426	450	
AM BUILD Queue	2	193	150	2	317	225	0	431	450	
Existing Lane Length	2	300	150	2	325	Cont	0	86	Cont.	
PM NO BUILD Queue	2	318	225	2	345	225	0	91	125	
PM BUILD Queue	2	318	225	2	345	225	0	94	125	
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length	
Existing Lane Length	2	78	175	2	222	Cont	0	37	Cont.	
AM NO BUILD Queue	2	84	75	2	240	175	0	40	75	
AM BUILD Queue	2	89	75	2	240	175	0	40	75	
Existing Lane Length	2	49	175	2	267	Cont	0	52	Cont.	
PM NO BUILD Queue	2	53	50	2	288	200	0	56	100	
PM BUILD Queue	2	56	75	2	288	200	0	56	100	

AM PM Cycle Length: 100 100

NOTE: Queue lengths are in feet.

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

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

Lane Description	Existing Length (Ft)	NO BUILD Length (F	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	100	175	175	175' plus transition.
Eastbound Right Turn:*	200	130	130	No Recommendation
Westbound Left Turn:	100	250	250	250' plus transition.
Westbound Right Turn:*	150	50	60	No Recommendation
Northbound Left Turn:	150	225	225	225' plus transition.
Northbound Right Turn:*	Cont.	230	230	No Recommendation
Southbound Left Turn:	175	75	75	No Recommendation
Southbound Right Turn:*	Cont.	50	50	No Recommendation

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

#2 - Alameda Blvd. / Horizon Blvd. - Pages A-50 thru A-53

The results of the implementation year analysis of the signalized intersection of Alameda Blvd. / Horizon Blvd. are summarized in the following table:

Alameda Blvd. / Horizon Blvd.	No E	Build	BUILD		
2009	<u>A.M.</u>	P.M.	A.M.	P.M.	
Existing Geometry	A – 2.5	A - 9.0	A – 1.7	A – 7.2	

The implementation year analysis of the intersection of Alameda Blvd. / Horizon Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM peak hour conditions. The implementation year analysis shows that there is no increase in delay at the intersection due to the development. Therefore, this study concludes that the development presents no significant impact to the calculated delays at the intersection of Alameda Blvd. / Horizon Blvd.

Geometry used for this analysis of Alameda Blvd. / Horizon Blvd. is demonstrated in the following table:

Existing Geometry (Alameda Rlyd / Horizon Rlyd)

Approach	Left Turn Lanes			Thru/Rights	Right Turn Lanes
EB Alameda Blvd.	1 117 - 1490 - 1700 1771 (1700 1770 (1700 1700	0	1	1	n
WB Alameda Blvd.	1	0	2	0	1
SB Horizon Blvd.	1	0	Ō	0	1

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

Queueing Analysis Summary Sheet

Project:

Mechenbier Building (4545 Alameda Blvd. NE)

Intersection:

Alameda Bivd. / Horizon Bivd.

2009					A CONTRACTOR OF THE PARTY OF TH			is migration of experimental and the second desired desired and the second desired desired and the second desired desire	ridgeminisprofesjon's, gor i syprofesjone-		
Approach	L	eft Tu	Thru	Thru Movements				Right Turns			
Eastbound	# Lanes	Vol.	Length	# Lanes		Length	ı	# Lanes		Lengt	
Existing Lane Length	1	58	100	2	1,521	Cont	1	0	0	0	
AM NO BUILD Queue	1	67	100	2	1,749	875	1	0	0	0	
AM BUILD Queue	1	67	100	2	1,791	900	1	0	0	0	
Existing Lane Length	1	41	100	2	896	Cont	1	0	0	0	
PM NO BUILD Queue	1	47	75	2	1,030	575	1	0	0	0	
PM BUILD Queue	1	47	75	2	1,060	575		0	0	0	
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Lenath	Ī	# Lanes	Vol.	Lengti	
Existing Lane Length	1	0	0	2	977	Cont	1	1	103	175	
AM NO BUILD Queue	1	0	0	2	1,124	600	1	1	118	150	
AM BUILD Queue	1	0	0	2	1,164	625	ı	1	120	175	
Existing Lane Length	1	0	0	2	2,102	Cont		1	69	175	
PM NO BUILD Queue	1	0	0	2	2,417	1,001	*	1	79	125	
PM BUILD Queue	1	0	0	2	2,456	1,001	*	1	81	125	
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Lenath		# Lanes	Vol.	Length	
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	
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	===	# Lanes	Vol.	Length	
Existing Lane Length	1.	16	Cont.	0	0	Cont		1	7	Cont.	
AM NO BUILD Queue	1	18	50	0	0	0		1	8	25	
AM BUILD Queue	1	20	50	0	0	- 0		1	8	25	
Existing Lane Length	1	138	Cont.	0	0	Cont		1	57	Cont.	
	4	159									
PM NO BUILD Queue	1 1	159 1	200	0	0	0		1	66	100	

AM PM Cycle Length: 100 100

NOTE: Queue lengths are in feet.

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

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

Lane Description	Existing Length (Ft)	NO BUILD Length (F	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	100	100	100	No Recommendation
Eastbound Right Turn:*	0	0	0	No Recommendation
Westbound Left Turn:	0	0	0	No Recommendation
Westbound Right Turn:*	175	80	90	No Recommendation
Northbound Left Turn:	0	0	0	No Recommendation
Northbound Right Turn:*	0	0	0	No Recommendation
Southbound Left Turn:	Cont.	200	200	No Recommendation
Southbound Right Turn:*	Cont.	50	50	No Recommendation

^{* -} Calculated right turn queue lengths have been reduced by 50% to account for right-turns-on red and overlap;

#3 - Alameda Blvd. / Jefferson St. - Pages A-54 thru A-57

The results of the implementation year analysis of the signalized intersection of Alameda Blvd. / Jefferson St. are summarized in the following table:

Alameda Blvd. / Jefferson St.	No I	Build	BUILD		
2009	<u>A.M.</u>	P.M.	A.M.	P.M.	
Existing Geometry	B - 14.2	B - 15.8	B – 14.1	B - 16.5	

The implementation year analysis of the intersection of Alameda Blvd. / Jefferson St. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour conditions. The implementation year analysis shows that the proposed development does not increase the AM delay and increases the PM delay at the intersection by only 7 tenths of a second. Therefore, this study concludes that the development presents no significant impact to the calculated delays at the intersection of Alameda Blvd. / Jefferson St.

Geometry used for this analysis of Alameda Blvd. / Jefferson St. is demonstrated in the following table:

Existing Geometry (Alameda Blvd. / Jefferson St.)

		7- 11-0111-0011		0,00,,00,	
Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Alameda Blvd.	1	0	1	1	0
WB Alameda Blvd.	1	0	1	1	0
NB Jefferson St.	1	0	1	1	0
SB Jefferson St.	, 1	0	1	1	0

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

Queueing Analysis Summary Sheet

Project:

Mechenbier Building (4545 Alameda Blvd. NE)

Intersection:

Alameda Blvd. / Jefferson St.

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Approach	L	eft Tu	rns	Thru	Move	ments	Ri	ght T	urns
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Lengti
Existing Lane Length	1	112	175	2	1,233	Cont	0	273	Cont
AM NO BUILD Queue	1	129	175	2	1,418	750	0	314	350
AM BUILD Queue	1	131	175	2	1,471	775	0	318	350
Existing Lane Length	1	30	175	2	1,253	Cont	0	119	Cont.
PM NO BUILD Queue	1	35	75	2	1,441	750	0	137	175
PM BUILD Queue	1	37	75	2	1,493	775	0	141	175
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	114	375	2	864	Cont	0	109	Cont.
AM NO BUILD Queue	1 1	127	175	2	959	525	0	121	175
AM BUILD Queue	1	127	175	2	1,014	550	0	121	175
Existing Lane Length	1	131	375	2	792	Cont	0	41	Cont.
PM NO BUILD Queue	1 1	145	200	2	879	500	0	46	75
PM BUILD Queue	1	145	200	2	918	500	0	46	75
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	129	175	2	76	Cont	0	120	Cont.
AM NO BUILD Queue	1	137	175	2	81	75	0	127	175
AM BUILD Queue	1	141	175	2	81	75	0	127	175
Existing Lane Length	1	130	175	2	47	Cont	0	96	Cont.
PM NO BUILD Queue	1 1	138	175	2	50	50	0	102	150
PM BUILD Queue	1	141	175	2	50	50	0	102	150
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	1	78	150	2	43	Cont	0	20	Cont.
AM NO BUILD Queue	1	83	125	2	46	50	0	21	50
AM BUILD Queue	1	83	125	2	46	50	0	23	50
Existing Lane Length	1	136	150	2	102	Cont	0	52	Cont.
PM NO BUILD Queue	1	144	200	2	108	100	0	55	100
PM BUILD Queue	1	144	200	2	108	100	0	56	100

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

NOTE: Queue lengths are in feet.

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

<u>AM</u>

100

Cycle Length:

PM.

100

Lane Description	Existing Length (Ft)	NO BUILD Length (F	BUILD Length (Ft)	Lengthen Existing Auxiliary Lane to:
Eastbound Left Turn:	175	175	175	No Recommendation
Eastbound Right Turn:*	Cont.	180	180	No Recommendation
Westbound Left Turn:	375	200	200	No Recommendation
Westbound Right Turn:*	Cont.	90	90	No Recommendation
Northbound Left Turn:	175	175	175	No Recommendation
Northbound Right Turn:*	Cont.	90	90	No Recommendation
Southbound Left Turn:	150	200	200	200' plus transition.
Southbound Right Turn:*	Cont.	50	50	No Recommendation

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

#4 - Alameda Blvd. / San Mateo Blvd. - Pages A-58 thru A-61

The results of the implementation year analysis of the signalized intersection of Alameda Blvd. / San Mateo Blvd. are summarized in the following table:

Alameda Blvd. / San Mateo Blvd.	No I	Build	BU	ILD
2009	A.M.	P.M.	A.M.	P.M.
Existing Geometry	B - 12.1	C - 20.6	B - 18.9	C - 21.8

The implementation year analysis of the intersection of Alameda Blvd. / San Mateo Blvd. demonstrates that the level-of-service will be acceptable for both the AM Peak Hour and PM Peak Hour conditions. The implementation year analysis shows that the proposed development increases the delays at the intersection by 1.2 - 6.8 seconds. Therefore, this study concludes that the development of the proposed development presents no significant impact to the calculated delays at the intersection of Alameda Blvd. / San Mateo Blvd.

Geometry used for this analysis of Alameda Blvd. / San Mateo Blvd. is demonstrated in the following table:

Existing Geometry (Alameda Blvd. / San Mateo Blvd.)

Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
1	0	1	1	0
1	0	1	1	0
1	0	1		0
1	0	0	1	0
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The following table summarizes the results of the queuing analysis for the auxiliary lanes at the intersection:

Queueing Analysis Summary Sheet

Project:

Mechenbier Building (4545 Alameda Blvd. NE)

Intersection:

Alameda Blvd. / San Mateo Blvd.

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L	eft Tu	ırns	Thru	Move	ements	Ri	aht T	urns
# Lanes	Vol.	Length			I Charles and Child			Lengt
1	172	250	2					Cont.
1	198	250	2				1	50
1	198	250	2					50
1	51	250	2					Cont.
1	59	100						
1	59	100	2	1,609	825	0	38	75 75
# Lanes	Vol.	Length	# Lanes	Vol	Length	# Lance	Val	Lan-Al
1	54	225	2					Length Cont.
1	60	100	2					475
1	60	100	2					
1	56							475
1								Cont.
1	62	100	2	1,349	700	0	108	150 150
# Lanes	Vol.	Length	# Lanes	Vol.	Length	#I anes	Val	Length
1		75	2					Cont.
1	10	25	2					50
1	11	25	2					50
. 1	23	75	2					Cont.
1	24	50						100
1	25	50	2	10	25	0	51	100
# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
			1	7	Cont	0		Cont.
		100	1	7	25	0		75
-		100	1	7	25	0		75
	203	300	1	18				Cont
		250	1					200
1	215	250	1	19	50	0	158	200
	# Lanes 1 1 1 1 1 1 1 1 1 1 1 1 # Lanes 1 1 1 1 # Lanes 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# Lanes Vol. 1 172 1 198 1 198 1 198 1 51 1 59 1 59 # Lanes Vol. 1 60 1 60 1 60 1 62 1 62 # Lanes Vol. 1 9 1 10 1 11 1 23 1 24 1 25 # Lanes Vol. 1 54 1 57 1 57 1 203 1 215	1 172 250 1 198 250 1 198 250 1 51 250 1 59 100 1 59 100 #Lanes Vol. Length 1 54 225 1 60 100 1 56 225 1 62 100 1 62 100 4 4 50 1 10 25 1 11 25 1 24 50 1 25 50 # Lanes Vol. Length 1 54 300 1 57 100 1 57 100 1 203 300 1 215 250	# Lanes Vol. Length 1 172 250 1 198 250 1 198 250 1 51 250 1 59 100 2 2 4 Lanes Vol. Length 7 54 225 1 60 100 1 56 225 1 62 100 2 4 Lanes Vol. Length 7 56 225 1 62 100 2 4 Lanes Vol. Length 7 56 225 1 62 100 2 4 Lanes Vol. Length 7 9 75 1 10 25 1 11 25 1 23 75 1 24 50 1 25 50 4 Lanes 7 54 300 1 57 100 1 57 100 1 203 300 1 215 250 1	# Lanes Vol. Length 1 172 250 2 1,227 1 198 250 2 1,411 1 198 250 2 1,356 1 59 100 2 1,559 1 59 100 2 1,609 # Lanes Vol. Length 1 54 225 2 1,082 1 60 100 2 1,254 1 62 100 2 1,311 1 62 100 2 1,349 # Lanes Vol. Length 1 9 75 1 10 25 1 11 25 2 21 1 23 75 1 24 50 1 57 100 1 7 1 57 100 1 7 1 203 300 1 18 1 215 250 1 19	#Lanes Vol. Length 1 172 250 1 198 250 1 198 250 1 198 250 1 51 250 1 59 100 1 59 100 2 1,356 Cont 2 1,559 800 2 1,609 825 #Lanes Vol. Length 1 60 100 1 60 100 1 62 100 1 62 100 1 62 100 1 62 100 1 62 100 1 10 25 1 11 25 1 23 75 1 24 50 1 24 50 1 25 50 #Lanes Vol. Length 1 54 300 1 203 300 1 57 100 1 57 100 1 57 100 1 7 25 1 18 Cont 1 7 25	#Lanes Vol. Length 1 172 250 1 198 250 1 198 250 1 1 51 250 1 1 59 100 1 59 100 2 1,356 Cont 1 60 100 1 60 100 1 62 100 1 62 100 2 1,349 700 #Lanes Vol. Length 1 9 75 1 10 25 1 11 24 50 1 27 100 1 27 25 1 27 26 1 27 26 1 27 27 1 27 27 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	#Lanes Vol. Length 1 172 250 1 198 250 1 198 250 1 1 59 100 1 59 100 2 1,559 800 1 1 60 100 1 60 100 1 60 100 1 62 100 1 63 100 1 64 100 1 65 100 1 60 100 1

Cycle Length: AM PM 100 100

NOTE: Queue lengths are in feet.

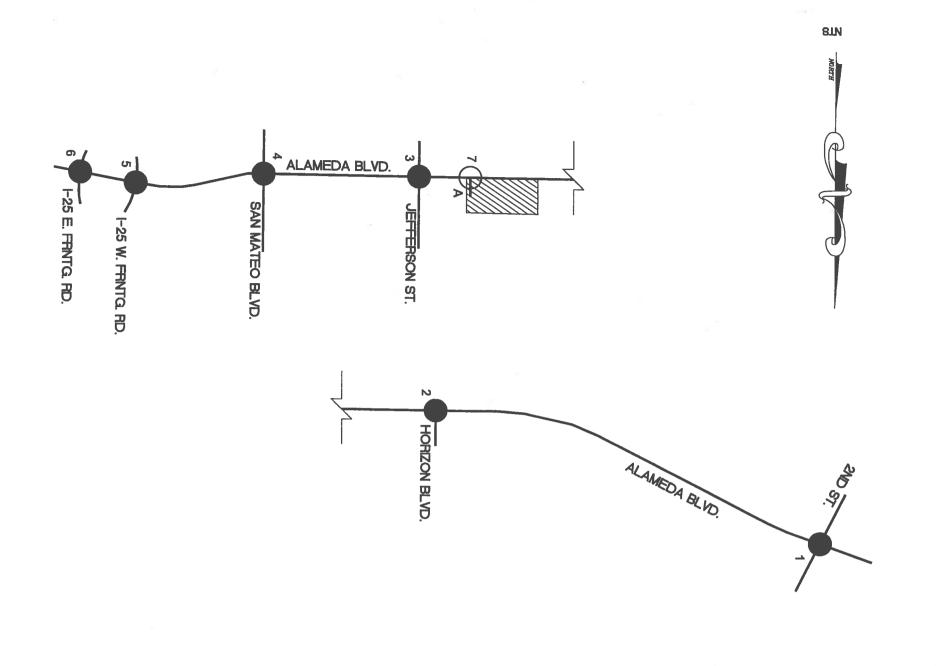
The recommendations based on the queuing analysis for the auxiliary lanes at the intersection are summarized in the following table:

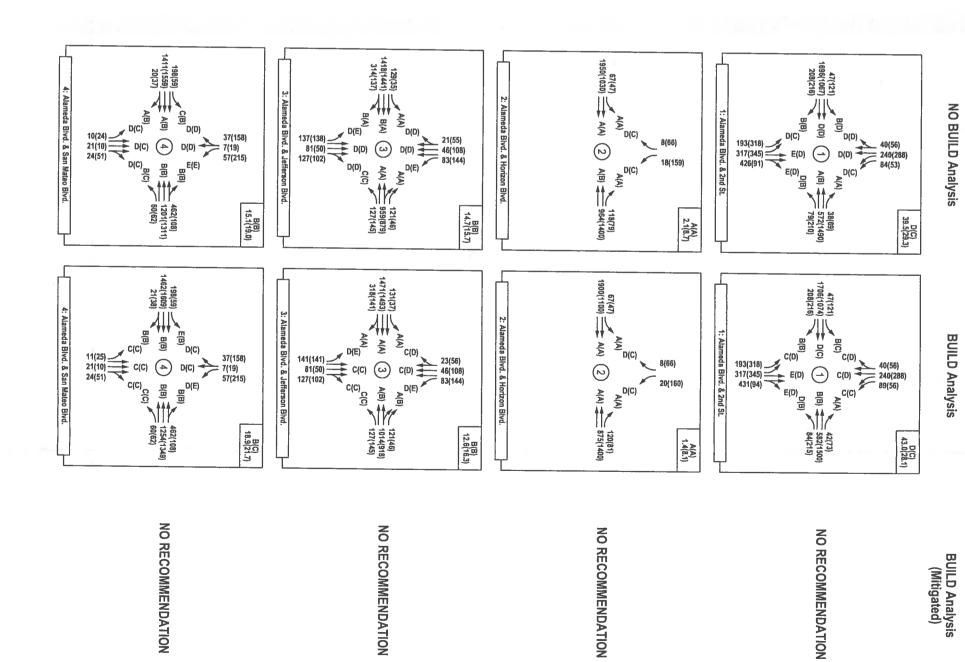
^{* -} Queue Length of 1,001 indicates that the calculated queue > 1

- Alameda Blvd.) for access. The driveway should be unsignalized and should be constructed with one entering lane and one exiting lane.
- Lengthen the EB, WB, and NB left turn lanes at Alameda Blvd. / 2nd St. to 175 feet, 250 feet, and 225 feet, respectively, plus transition.
- Lengthen the SB left turn lane at Alameda Blvd. / Jefferson St. to 200 feet plus transition.

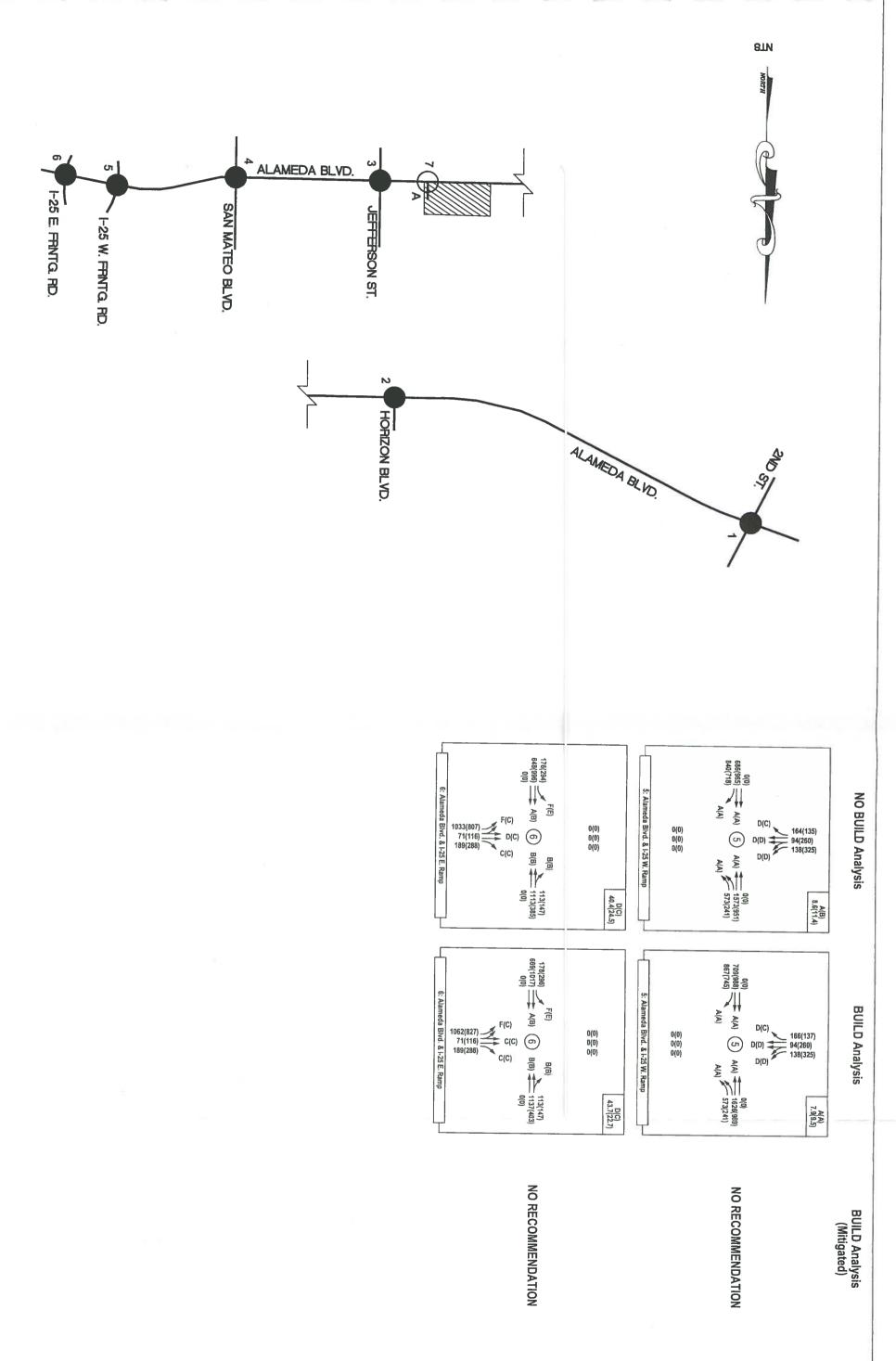
Appendix

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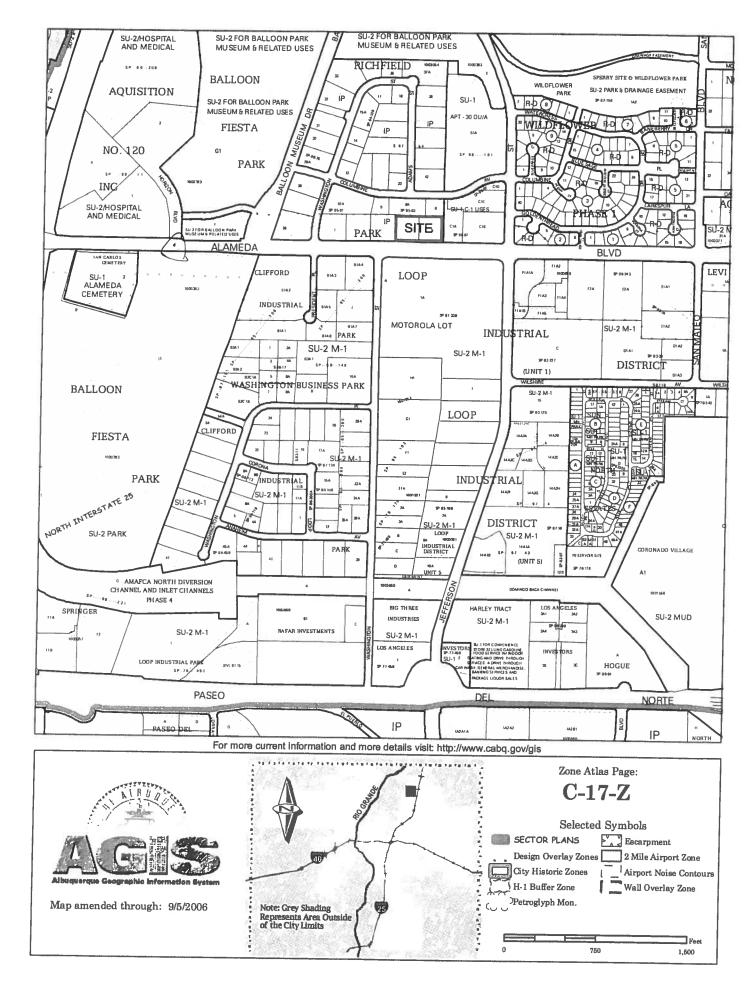


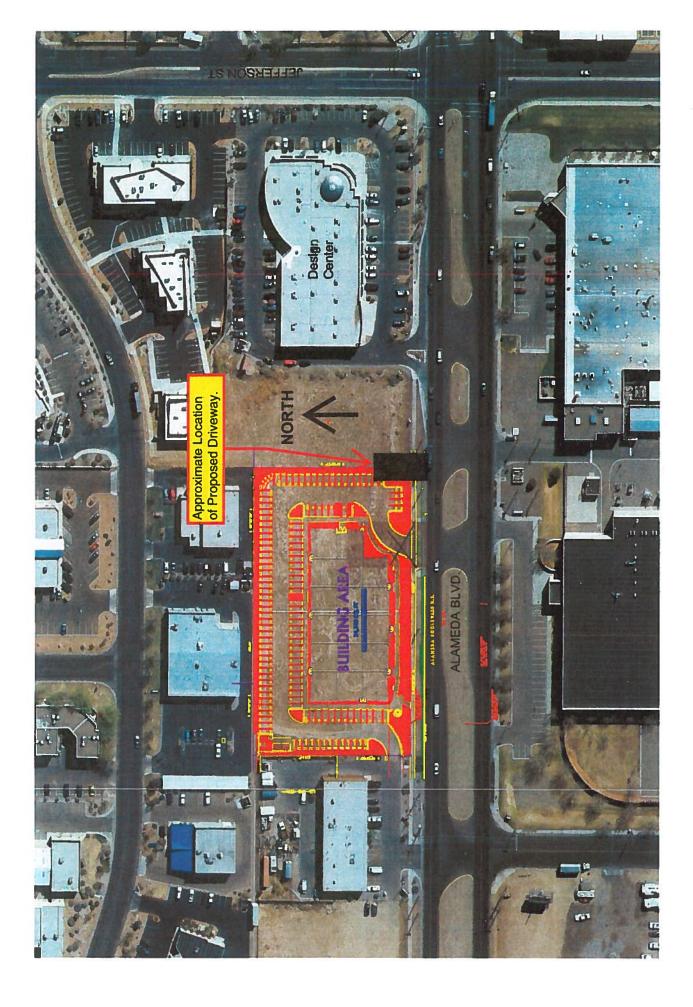
Mechenbier Building
4545 Alameda Blvd. NE
LOS / Volume Analysis Map

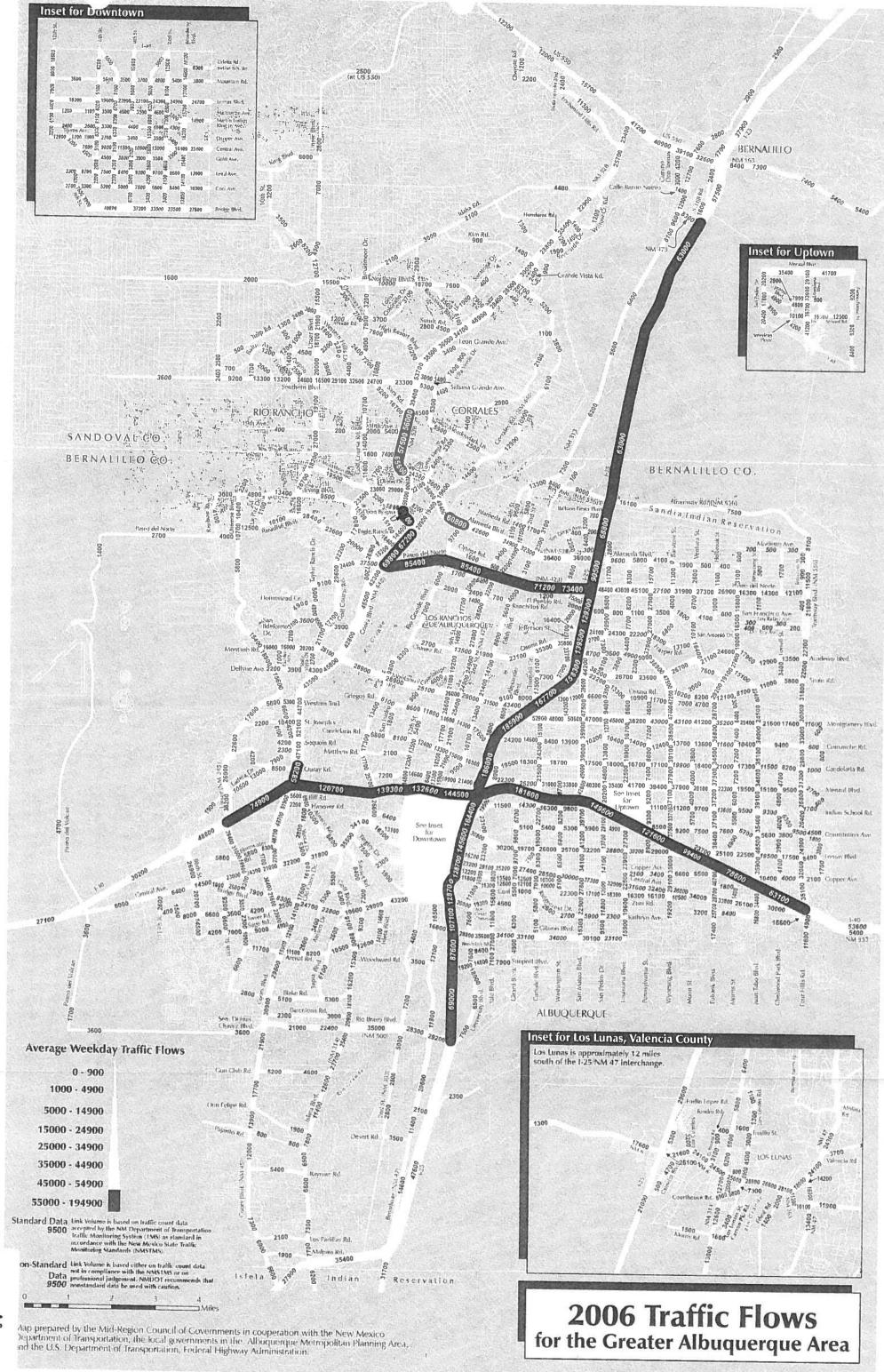


Mechenbier Building
4545 Alameda Blvd. NE
LOS / Volume Analysis Map

APPENDIX







Mechenbier Building - Alameda Trip Generation Data

USE (ITE CODE)		1000 011 10				
		24 HK VOL	A. M. PEAK HR.	AK HR.	P. M. PEAK HR.	AK HR.
DESCRIPTION		GROSS	ENTER	EXIT	ENTER	EXIT
Summary Sheet	Units					
Snopping Center (820)	7.30	1,239	20	13	54	58
Specially Retail Center (814)	7.30	350	29	85	17	22
General Office Building (710) - Less than 51,000 S.F.	9.74	143	18	2	4	19
1	L					
lotal	24.34	1,732	105	100	75	66

Mechenbier Building - Alameda Trip Generation Data

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME		PEAK HOUR	9	PEAK HOUR	7
		GROSS	ENTER	EXIT	ENTER	EXIT	
Observed to the control of the contr	Units						
Shopping Center (820)	7.30	1,239	20	13	54	58	
	1,000 S.F.						

ITE Trip Generation Equations:

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

Ln(T) = 0.65 Ln(X) + 5.8350% Enter, 50% Exit

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

Ln(T) = 0.6 Ln(X) + 2.29 61% Enter, 39% Exit

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

Ln(T) = 0.66 Ln(X) + 3.403 48% Enter, 52% Exit

Comments: Tract No.

Based on ITE Trip Generation Manual - 7th Edition

Mechenbier_TRIPS.xls - LandUse (1)

T = 42.78 (X) + 37.6 50% Enter, 50% Exit

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

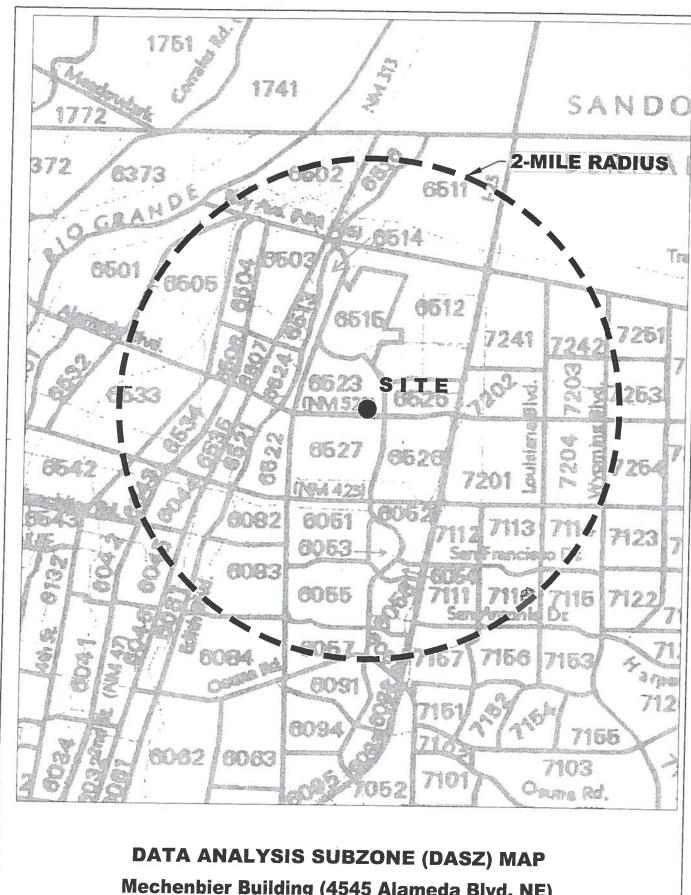
T = 4.9 (X) + 115.59 44% Enter, 56% Exit

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

T = 2.4 (X) + 21.48 44% Enter, 56% Exit

Comments: Tract No.

Based on ITE Trip Generation Manual - 7th Edition



Mechenbier Building (4545 Alameda Blvd. NE)

Trip Distribution Table Mechenbier Building (4545 Alameda Blvd. NE)

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

	7231	7157	6516	1,000	2024	7254	7253	7251	7242	7241	7204	7203	7202	1207	411/	1110	7448	7414	7443	7445	7111	6084	6083	6082	6058	6057	6056	6055	6054	6053	6052	6051	6045	6044	6043	6535	6534	6533	6527	6526	6525	6524	6523	6522	6521	65151	6544	0012	6517	6507	6505	6504	6503	6502	Boundary Specified on DASZ Map		DASZ#	
	5%	50%	60%	20%	10%	1000	10%	5%	90%	100%	100%	100%	100%	1 %001	30%	2%	200	200%	100%	100%	100%	10%	100%	100%	70%	60%	100%	100%	100%	100%	100%	100%	15%	100%	40%	100%	100%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	700%	100%	100%	100%	60%	cified on DAS		% Sub Area in Study	
	0	735	129	343	1/30	1730	3001	204	102	0	1066	1423	104	8907	1413	1010	1513	1460	200	7	1159	2480	2263	113	56	6	0	0	2	0	0	0	692	214	1057	452	343	1212	00	1308	379	262	703	ند	187	0	170	170	35	72	1045	321	870		Map	2004	2004 Population 2030 Population	
	0	831	213	443	1004	1477	1/77	471	991	373	1513	1612	434	1982	1496	1400	1400	1272	000	1070	1073	2547	2283	104	83	.0	0	0	0	0	0	0	721	195	1029	449	364	1414	0	1249	350	249	834	0	175	0 0	100	200	45	63	1017	323	853	161		2030	2030 Population	
30 473	0	753	145	362	1,706	1,100	1 160	255	273	72	1,152	1,459	167	2,043	1,429	1,493	1 400	1 442	072	741,1	1 142	2 484	2 267	111	58	5	0	0	2	0	0	0	698	210	1,052	451	347	1,251	6	1,297	373	260	728	2	185	0 0	110	170	3/	70	1,040	321	867	124		2009	Interpolated Population for the Year	
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100 00%	0.00%	1.83%	0.42%	0.88%	0.83%	0.07 /6	0.579/	7690 0	1.20%	0.35%	5.60%	7.10%	0.81%	9.94%	5.56%	0.30%	4.4.1/0	0/ C.7.4	0.0270	0.00%	7 569/	1 240/	11 03%	0.54%	0.20%	0.01%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.51%	1.02%	2.05%	2.19%	1.69%	3.05%	0.03%	6.31%	1.81%	1.26%	3.54%	0.00%	0.00%	0.00%	0.83%	0.01%	0.13%	0.34%	5.06%	1.56%	4.22%	0.36%			Percent Population	
	09%	0%	0%	1%0	0%	0,0	0,0	700	0%	0%	0%	0%	0%	0%	0%																				0%	20%		100%			0%		0%			7,00					10			0%			% Utilizing	710
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2,000	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%	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%	0.00%	0.00%	0.84%	3.05%	0.00%	0.00%	0.00%	0.00%	0.00%	2000%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.06%	0.78%	0.00%	0.00%			% Population Utilizing	Aldilieud DIVU. YVESL
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4 70	0%	0%	0%	0%	0%	07/0	00/	700	0%	20%	0%	0%	0%	0%	0%	0%	0,0	0%	0,0	00/0	0,00	0,0	7.60	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%0	0%	0%	0%	0%0	0%	0%	0%	0%	0%	700	7007	0,00	0%	0%	0%	20%	0%	50%	80%	40%			% Utilizing	
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808	0	0	0	0	0	0	0 0		0 0	0	0	0	0	0	0	C	0 0	0 0	0	0 0		0 0		0	0 0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0 0		0 0	0	0	0	14	0	161	694	30			Population	
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0.00.0	0 00%	0.00%	0.21%	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%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1 26%	0.00%	0.00%	0.00%	0.55%	0.83%	0.00%	0.00%	0.27%	0.00%	0.00%	0.84%	0.22%				BIVG. MIG.
10/2	0	0	44	0	0	0 0	0 0	0	0	0	0	0	0	0	0	0	0		0		0 0	0 0		0	0 0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	201	180		0	113	170	0	0	56	0	0	173	44			Population	NOTIO
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0.0070	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%	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%	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%	0.00%	0.00%	0.00%	1 77%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			% Population Utilizing	Horizon Blvd. North
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Trip_Dist_Commercial_2030_Dataset1.xls

Trip Distribution Table Mechenbier Building (4545 Alameda Bivd. NE)

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

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

7231	1011	7457	חלם	6081	7254	7253	7251	7242	7241	7204	7203	7202	7202	7776	7440	7114	7113	7112	7445	7444	6084	6083	6082	6058	6057	6056	6055	6054	6053	6052	6051	6045	6044	2043	0000	6534	6533	6527	6526	6525	6524	6523	6522	6521	6515	6514	6513	6512	6511	6507	6505	6504	6503	6502	ייים יייים יייים	DASZ#	
5%	% OC	100/	200%	200%	10%	10%	5%	90%	100%	100%	100%	100%	100%	80%	076	60%	100%	100%	100%	1000	100/2	100%	100%	70%	60%	100%	100%	700%	%00F	100%	100%	15%	100%	40%	100%	00%	20%	700%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	70%	100%	100%	100%	100%	6502 60%	יינייין איז דאס	% Sub Area in Study	
0	/33	571	100	27.00	1720	1008	20.4	100	0	1066	1423	104	8502	1413	1513	1460	884	20	9011	2409	OSYC	2263	113	56	6	0	0	2	0	0	0	692	214	7601	452	343	1212	0	1308	379	262	703	ω	187	0	105	170	ω	35	72	1045	301	870	2 Map 115	2004	ation	_
0	831	213	245	4007	1604	1/77	471	991	373	1513	1612	434	1982	1496	1408	13/3	828	200	10/3	1070	2647	2283	104	500	0	0	0	0	0	0	0	721	195	1029	449	364	1414	0	1249	350	249	834	0	175	0	149	168	2	45	63	1017	323	25.2	161	2030	2030 Population	
0	/53	752	202	1,100	1,100	1 160	255	273	72	1,152	1,459	167	2,043	1,429	1,493	1,443	8/3	0	1,142	2,404	102,2	2 267	111	58	5	0	0	2	0	0	0	698	210	1,052	451	347	1,251	6	1,297	373	260	728	2	185	0	113	170	ω	37	70	1 040	321	267	124	2009	Population for the Year	htopoloiod
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0.00%	1.83%	0.42%	0.00%	0.00%	0.079/	0.00.0	0.06%	1 20%	0.35%	5.60%	7.10%	0.81%	9.94%	5.56%	0.36%	4.21%	4.25%	0.02%	5.56%	1.21%	11.00/0	11 03%	0.54%	0.20%	0.01%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.51%	1.02%	2.05%	2.19%	1.69%	3.05%	0.03%	6.31%	1.81%	1.26%	3.54%	0.01%	0.90%	0.00%	0.55%	0.83%	0.01%	0.13%	0.34%	5 06%	1 55%	A 220/0	0.36%		Percent Population	
0%	0%	0%	0.0	0.79	0,0	00%	0.50	760	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.70	700	760	200	00%	0%	0%	0%	0%	0%	0%	%0	0%	0%	0%	0%	0%			60%		25%	0%	0%	60%	0%	0%	40%	0%	7,60	700	700				% Utilizing	
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%	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%	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%	0.00%	1.09%	0.00%	0.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	2000	2000	0.00%	7000 O		% Population Utilizing	_
0	c			0 0	0 0			0	0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224	0	182	0	0	0	0	0.		0							Population	
0%	0%	0%	0,0	0%	0,0	0/0	79.0	700	00%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0,0	00/0	700	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0,00	0%	%0	0%	0%	0%	200	7%0	7,00	700	700	760		% Utilizing	
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	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%	0.00%	2000	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%	0.00%	0.00%	0.00%	0.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00.0	0.00%	0.00%	0.00%	0.000		% Population Utilizing	
0	.0	0	0	0 0		0 0	2 0	0 0	0	0	0	0	0	0	0	0	0	0	0	C	0 0		00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0 0	0	0		0 0	2 0	0 0			Population	
100%	0%	50%	0%	0%	0%1	00/00	100%	1000/	100%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0,00	760	00%	%0	0%	0%	0%	0%	0%1	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	%0	0%	0%	0%	0%	0%	50%	%0.0°	700	0.70	0,70	0.70	700		% Utilizing	
0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0,02.1	4 200%	0 35%	0.00%	0.00%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2,000%	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%	0.00%	0.00%	0.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	7 0000		% Population Utilizing	
0	ò	44	0	0 0	0		240	OVC.	70	0	0	17	0	0	0	0	0	0	0	0	0	0 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0 1	02	300	0 0	0 0	0 0	0 0			Population	
0%	100%	0%	0%	30%	0,0	070	0,0	00'6	200%	0%	0%	0%	50%	70%	100%	100%	100%	100%	100%	50%	0%	0,0	00/00/	200%	0%	100%	0%	100%	70%	70%	0%	- 0%	0%	0%	0%	0%	0%	0%	20%	%0	0%	0%	0%	0%0	0%	2,00	00/0	700	00/0	00%	0%	0%	0%	20/		% Utilizing	1 64
0.00%	1.83%	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	2,00.0	0.00%	0.00%	0.00%	4.97%	3.89%	0.36%	4.21%	4.25%	0.02%	5.56%	0.60%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.26%	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%	0.00%	200		% Population Utilizing	20 E. 1 1119. 130.
0	377	0	0	51	C	C			0 0	0	0	0	1,022	800	75	866	873	5	1,142	124	0			2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	259	0	0	0	0	0												Population	

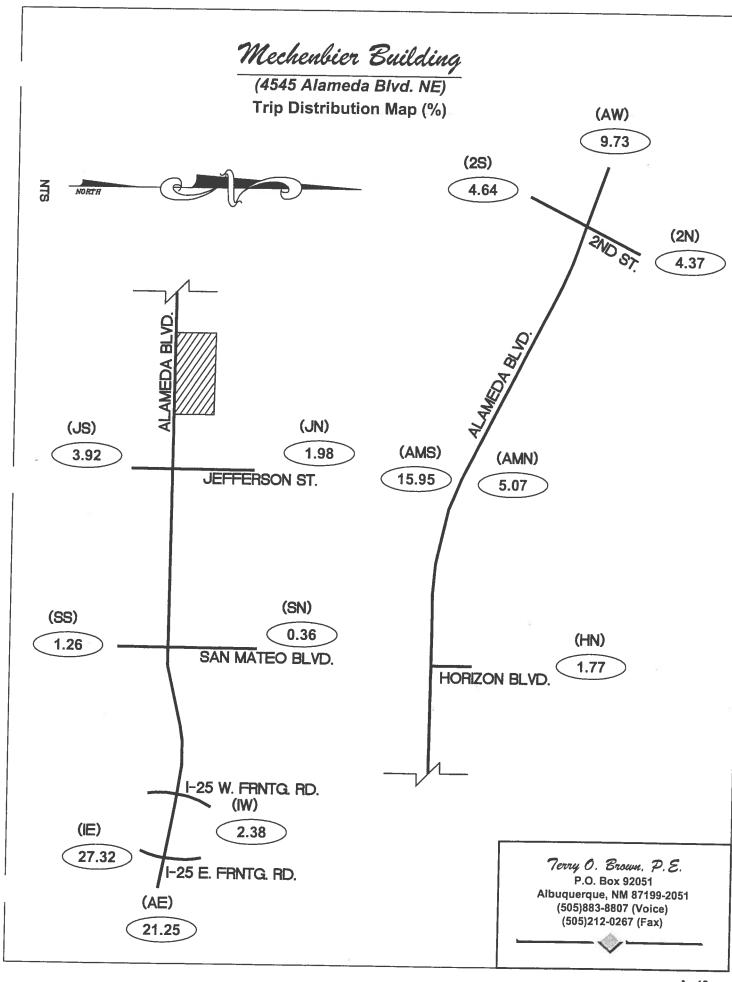
Trip_Dist_Commercial_2030_Dataset1.xls

Trip Distribution Table Mechenbier Building (4545 Alameda Blvd. NE)

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

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

	7231	7157	6516	6081	7254	7253	7251	7242	7241	7204	7203	7202	7201	7116	7115	7114	/113	7112	7111	6084	6083	6082	6058	6057	6056	6055	6054	6053	6052	6051	6045	6044	6043	6535	6534	6533	6527	6526	6525	8000	0000	6527	6515	6514	6513	6512	6511	6507	6505	6504	6503	6502	ans vietning	DASZ#	
	5%	50%	60%	50%	10%	10%	% ²	90%	100%	100%	100%	100%	100%	80%	5%	60%	%001	100%	100%	10%	100%	100%	/0%	60%	100%	100%	100%	100%	100%	100%	15%	100%	40%	100%	100%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	70%	100%	100%	100%	100%	6502 60%	oified on DAS	in Study	8/ 0
	0	735	129	343	1730	1096	204	102	0	1066	1423	104	2058	1413	1513	1460	884	G	1159	2469	2263	113	56			0	2	0	0	0	692	214	1057	452	343	1212	00	1308	370	2007	702	187	0	105	170	ω	35	72	1045	321		115	7 Man	2004 Population	
	0	83.1	213	443	1604	1477	471	991	373	1513	1612	434	1982	1496	1408	1373	826	6	1073	2547	2283	104	68	0	0	0	0	0	0	0	721	195	1029	449	364	1414	0	1249	USC	040	0	175	0	149	168	2	45		_	323	27.2		2030	2004 Population 2030 Population	
30,473	0	753	145	362	1,706	1.169	255	273	72	1,152	1,459	167	2,043	1,429	1,493	1,443	873	51	1,142	2,484	2,267	111	58	C)	0	0	2	0	0	0	869	210	1,052	451	347	1,251	6	1 297	272	827	2	185	0	113	1701	ω	37	70	1.040	321	267	124	2009	Population for the Year	Interpolated
20,556	0	377	87	181	171	117	13	246	72	1,152	1,459	167	2,043	1,143	75	866	873	51	1,142	248	2,267	111	41	ω	0	0	2	0	0	0	105	210	421	451	347	626	6	1 297	272	827	2	185	0	113	170	ω	26	70	1.040	301	7.28	74		Study	
100.00%	0.00%	1.83%	0.42%	0.88%	0.83%	0.57%	0.06%	1 20%	0.35%	5.60%	7.10%	0.81%	9.94%	5.56%	0.36%	4.21%	4.25%	0.02%	5.56%	1.21%	11.03%	0.54%	0.20%	0.01%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.51%	1.02%	2.05%	2.19%	1.69%	3.05%	0.03%	6.31%	1.20%	3.54%	0.01%	0.90%	0.00%	0.55%	0.83%	0.01%	0.13%	0.34%	5.06%	1.56%	70CC V	7635 U		Percent Population	
0.0	0%	0%	0%	0%	70%	100%	50%	00%	0%	100%	100%	90%	50%	30%	0%	0%	0%0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0.00	0%	0%	0%	0%	0%	0%	0%	%0	0%	0,40		7,00			% Utilizing	Ala
0.00.70	0 00%	0.00%	0.00%	0.00%	0.58%	0.57%	0.03%	0.00%	0.00%	5.60%	7.10%	0.73%	4.97%	1.67%	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%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000		% Population Utilizing	Alameda Blvd. East
4.369	0	0	0	0	120	117	7	0	0	1.152	1.459	150	1,022	343	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0	0	0	0	0	0	0	0	0 0	0	0		0 0			Population	150
0.0	7,0D	0%	0%	0%	0%	0%	00%	200	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	%0	0%	0%	0%	7000	0.0	0%	0%	0%	0%	0%	0%	0%	740	0%	0%	0%	0,00	73/		% Utilizing 9	San Mi
0.00.70	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%	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1 26%	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%	0 000		% Population P	Mateo Blvd, South
259	0	0	0	0	0	0	0		0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	350	0	0	0	0	0	0	0	0	2 0	0	0	0 0				Population 9	<u></u>
0.8	700	00%	0%	0%	700	00%	790	00/	760	00%	00%	0%	0%	0%	0%	0%	0%	0%	0%	0000	0%	0%	50%	50%	0%	50%	0%	30%	30%	50%	0%	0%	0%	0%	0%	0%	80%	070	0%	0%	0%	0%	0%	0%	0%	000	700	00%	00,0	000	0,0	00%		% Utilizing	Јепе
0.00 /8	2,000,0	~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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.73%	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%	0.00%			% Population Utilizing	Jefferson St. South
805	0	0	0	0		0	0 0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	2	0	0	0	0	0	0	0	0	0	0	0	0 0	7,00	770	0	0	0	0	0	0	0		0 0	0	0 0	0 0				Population	
0,0	700/	00%	%00.	100%	200	7,00	0.0	000	7007	00%	0%	0%	0%	0%	0%	0%	20%	0%	0%	50%	100%	100%	0%	50%	0%	50%	0%	0%	0%	50%	0,00	0%	0%	90%	0%	700	7000	0%	0%	0%	100%	100%	0%	0%	290	0%	0,00	740	0%	0%	0%			% Utilizing	Alame
0.00%	0.00%	0.00%	0.00%	0.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.60%	11.03%	0.54%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.90%	0.00%	0.00%	7,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			% Population Utilizing	Alameda Blvd. Mid.
3 279			0	181							0	0	0	0	0	0	0	0	0	124	2,267	111	0	2	0	0	0	0	0	0	0	0	0	406	0	0 -	4 0	0	0	0	2	185	0	000	0 0		0 0			0	0			Population	South
0/0	000	700	700	00/2	0 %	000	0%	0.79	00.0	08/	780	00%	0%	0%	0%	0%	0%	0%	0%	0%	000	0%	0%	0%	0%	0%	0%	0%	0%	20%	100%	100%	100%	10%	50%	00/	0,0	0%	0%	0%	0%	0%	0%	0%	700	0.07	00/0	00/0	0,0	0%	0%			% Utilizing	
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2,000	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%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.51%	1.02%	2 05%	0.22%	0.84%	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%	0.00%	0.00%	0.00%			% Population Utilizing	2nd St. South
077								0					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	105	210	421	45	174			0	0	0	0	0	0											Population	



Mechenbier Building (4545 Alameda Blvd. NE) **Trip Assignments (% Entering)** 58.47% 1.98% 3.92% JEFFERSON ST. ALAMEDA BLVD. 4 0.36% 1.77% SAN MATEO BLVD. 1.26% -HORIZON BLVD. .53% 50.95% 2.38% I-25 W. FRNTG. RD. 27.32% Terry O. Brown, P.E. I-25 E. FRNTG. RD. P.O. Box 92051 Albuquerque, NM 87199-2051 SIGNALIZED INTERSECTION (505)883-8807 (Voice) (505)212-0267 (Fax) **UNSIGNALIZED INTERSECTION**

Mechenbier Building (4545 Alameda Blvd. NE) **Trip Assignments (% Exiting)** NORTH 41.53% 58.47% 3.92% 1.98%---JEFFERSON ST. 3 0.36%----1.26% SAN MATEO BLVD. 1.77%----HORIZON BLVD. 39.76 27.32% I-25 W. FRNTG. RD. 2.38%----Terry O. Brown, P.E. 1-25 E. FRNTG. RD. P.O. Box 92051

SIGNALIZED INTERSECTION

UNSIGNALIZED INTERSECTION

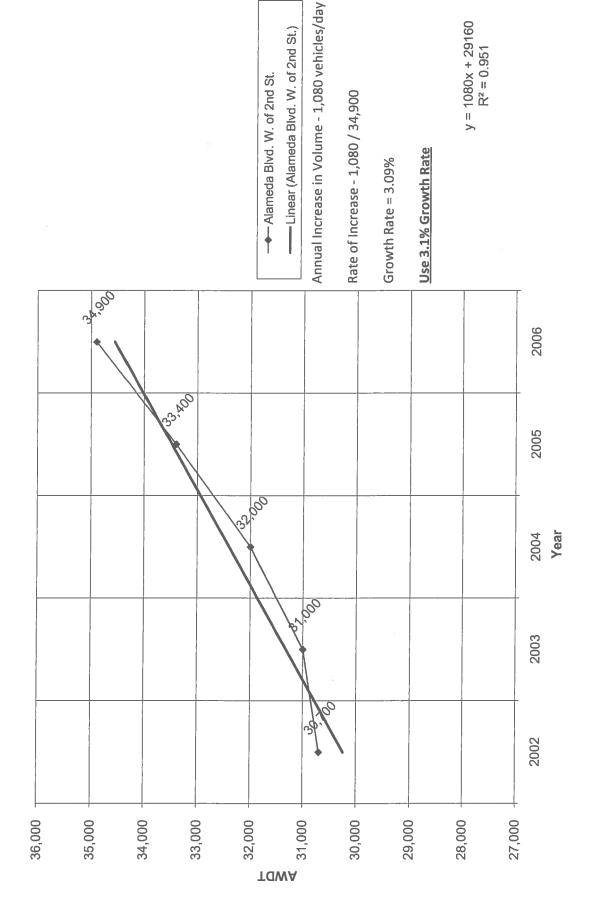
Albuquerque, NM 87199-2051

(505)883-8807 (Voice) (505)212-0267 (Fax)

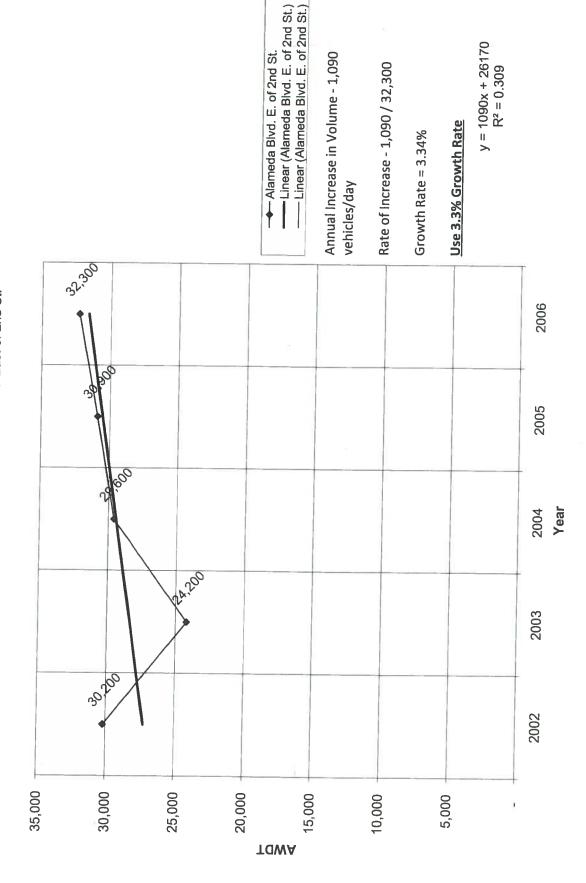
Traffic Flow Table for Mechenbier Building (4545 Alameda Blvd. NE)

	2002	2003	2004	2005	2006
Alameda Blvd. W. of 2nd St.	30,700	31,000	32,000	33,400	34,900
Alameda Blvd. E. of 2nd St.	30,200	24,200	29,600	30,900	32,300
2nd St. N. of Alameda Blvd.	10,300	8,900	9,200	9,600	10,100
2nd St. S. of Alameda Blvd.	16,600	14,600	15,100	15,800	14,900
Alameda Blvd. W. of Jefferson St.	26,600	27,000	33,300	34,800	36,400
Alameda Blvd. E. of Jefferson St.	29,700	27,700	30,700	33,500	36,900
Jefferson St. N. of Alameda Blvd.	-	2,800	2,900	3,000	2,200
Jefferson St. S. of Alameda Blvd.	13,200	13,400	9,700	9,400	9,800
Alameda Blvd. W. of I-25	29,700	27,700	30,700	33,500	36,900
Alameda Blvd. E. of I-25	9,400	9,500	9,400	9,500	9,600
I-25 N. of Alameda Blvd.	51,400	60,600	64,900	64,800	68,800
I-25 S. of Alameda Blvd.	76,600	82,900	86,900	87,200	90,500

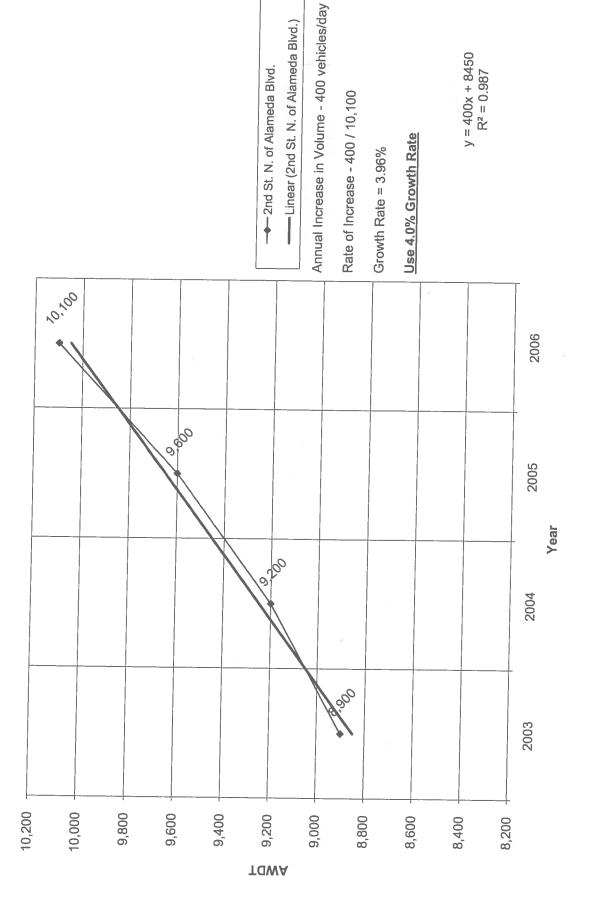
Growth Chart for Alameda Blvd. West of 2nd St.



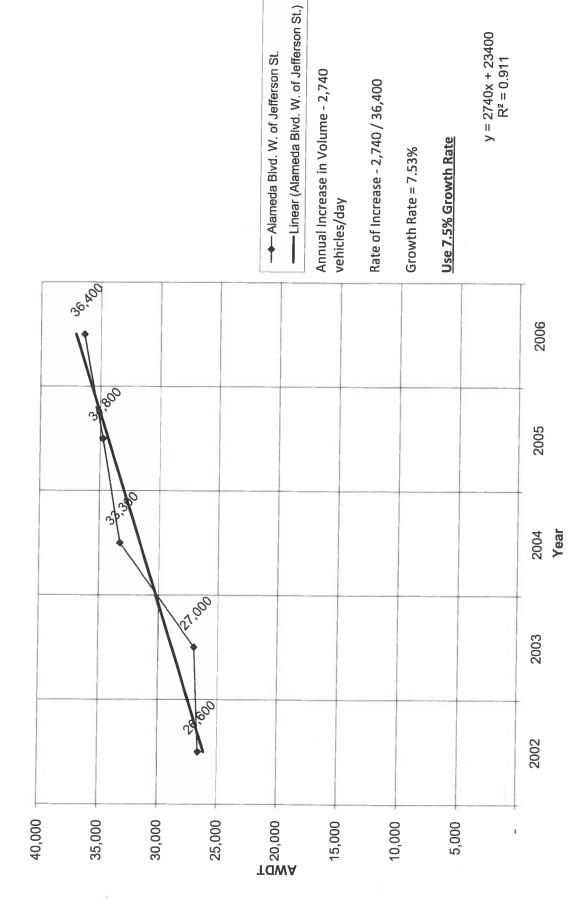
Growth Chart for Alameda East of 2nd St.



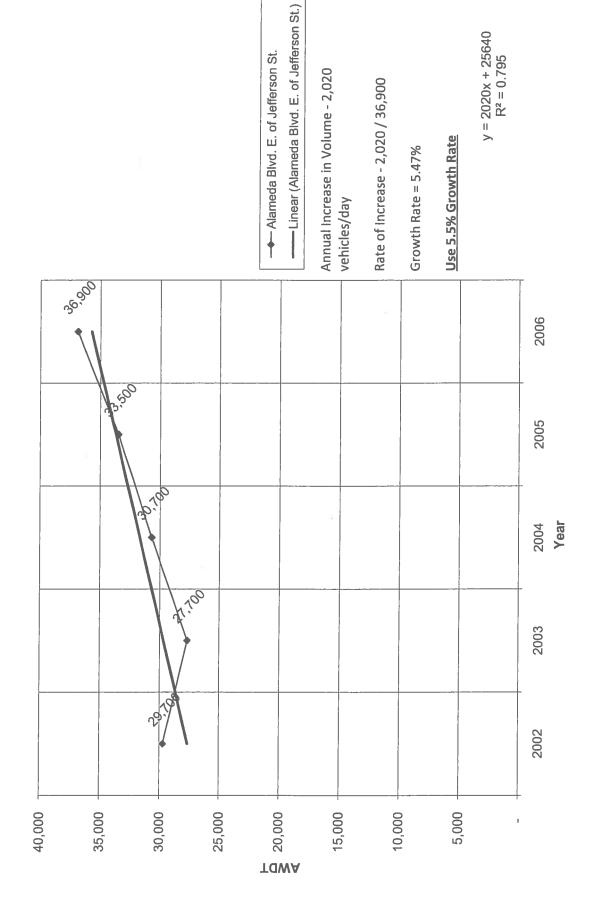
Growth Chart for 2nd St. North of Alameda Blvd.



Growth Chart for Alameda West of Jefferson St.



Growth Chart for Alameda Blvd. East of Jefferson St.

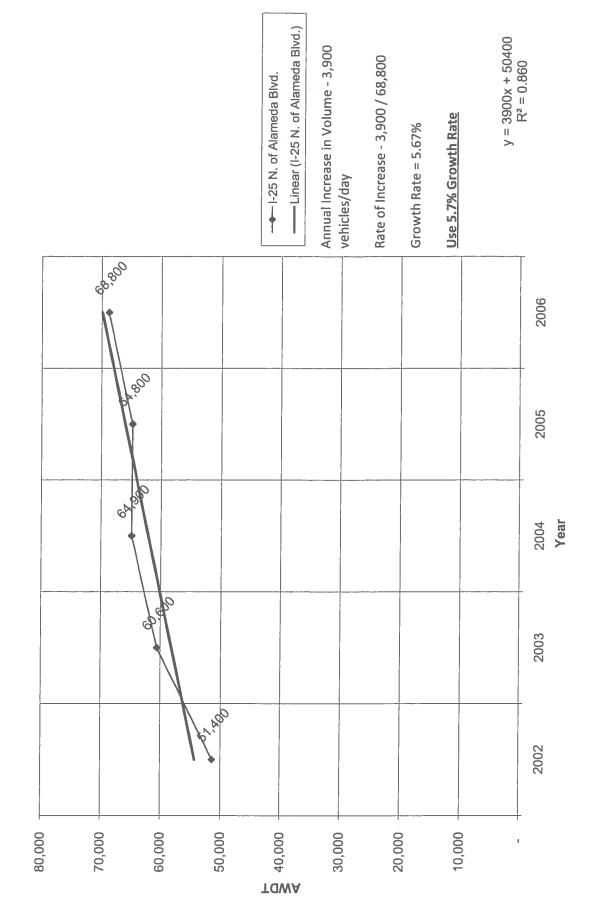


----- Jefferson St. N. of Alameda Blvd. Negative Growth Trendline y = -170x + 3150 $R^2 = 0.372$ 2006 2005 Year 2004 2003 3,500 3,000 2,500 2,000 1,500 200 1,000 **T**MA

Growth Chart for Jefferson St. North of Alameda Blvd.

→ Jefferson St. S. of Alameda Blvd. y = -1080x + 14340 $R^2 = 0.718$ Negative Growth Trendline Growth Chart for Jefferson St. South of Alameda Blvd. 2006 100 2005 2004 **Year** 1,3,00 2003 2002 16,000 14,000 12,000 10,000 8,000 6,000 4,000 2,000 TGWA

Growth Chart for I-25 North of Alameda Blvd.



5: Alameda Blvd. & I-25 W. Ramp Timings

4 8 6 6 6 4.0 40 40 4.0 4.0 4.0 4.0 4.0 21.0 21.0 21.0 21.0 21.0 21.0 21.0 91.0 91.0 91.0 29.0 29.0 29.0 75.8% 75.8% 75.8% 75.8% 24.2% 24.2% 24.2% 4.0 4.0 4.0 4.0 4.0 4.0 4.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0

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

Protected Phases

Turn Type

164 Perm

138

SBT

Lane Configurations

Volume (vph) Lane Group

Terry O. Brown, P.E. 10/8/2007

HCM Signalized Intersection Capacity Analysis 5: Alameda Blvd. & I-25 W. Ramp

Terry O. Brown, P.E. 10/8/2007

Movement EBL EBT EBR WBL WBT, WBR NBL NBT NBR SBL Lane Configurations H		•											Ì
## 1900 1900 1900 1900 1900 1900 1900 19		Ι.	Ť	~	-	ļ	1	•	—	•	٨	→	1
1900 1900 1900 1900 1900 1900 1900 1900	Movement	EBC	EBT	EBR	WBL	WBT	WBR	Z.		Can	ã	TOO	000
1900 1900 1900 1900 1900 1900 1900 1900	Lane Configurations		\$	×	K	44					100	94	8
100 1.00 0.95 1.00 0.97 0.95 1.00 0.97 0.95 1.00 0.97 0.95 1.00 0.97 0.95 1.00 0.97 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 1.00 0.95 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1000	1000	100	5
0.95 1.00 0.97 0.95 1.00 0.85 1.00 0.97 0.95 1.00 0.85 1.00 0.95 1.00 3539 1583 3433 3539 0 686 891 1583 1261 3539 0 746 913 623 1710 0 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 151 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 151 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Total Lost time (s)		4.0	4.0	4.0	4.0			2	3	8	3 5	5 3
1.00 0.85 1.00 1.00 3539 1583 1539 1.00 1.00 0.35 1.00 3539 1583 1261 3539 1.00 1.00 0.35 1.00 0 0.86 840 573 1573 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 746 762 623 1710 0 0 0 0 0 746 762 623 1710 0 0 0 0 0 746 778 87.9 87.9 88.9 88.9 88.9 88.9 88.9 88.9 88.9 88	Lane Util. Factor		0.95	1.00	0.97	0.95					2.0	5 6	5.5
1.00 1.00 0.95 1.00 339 1583 3433 3539 1.00 1.00 0.35 1.00 3539 1583 1261 3539 0 0.86 840 573 1573 0 0 0 0 0 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0 0.746 913 623 1710 0 0 0 0 0 0 746 762 623 1710 0 0 0 0 0 0 746 762 623 1710 0 0 0 0 0 0 746 762 623 1710 0	FA		90.	0.85	1,00	100					5 5	2 5	5 6
3539 1583 3433 3539 1.00 1.00 0.35 1.00 3639 1583 1261 3539 0 886 840 573 1573 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 0 0 746 913 623 1710 0 0 0 0 0 Perm Perm 8 87.9 87.9 87.9 87.9 88.9 88.9 88.9 88.9 0.74 0.74 0.74 0.74 5.0 5.0 5.0 5.0 3.0 3.0 3.0 3.0 0.21 78 8.9 7.8 1.15 1.79 0.95 0.87 0.0 10 1.0 1.2 0.44 5.9 14.9 8 7.5 0.0 10 3.0 3.0 3.0 10.9 7.6 A A A A A A A A A A A A A A A A A A A	Fit Protected		1.00	1.00	0.95	100					3 8	3 8	0.83
1.00 1.00 0.35 1.00 3539 1583 1261 3539 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0 746 0.93 1710 0 0 0 0 0 746 0.93 1710 0 0 0 0 0 746 0.93 1710 0 0 0 0 0 746 0.94 0.74 0.74 5.0 5.0 5.0 5.0 3.0 3.0 3.0 3.0 0.28 0.95 0.87 8.9 88.9 88.9 88.9 88.9 88.9 88.9 88.	Satd. Flow (prot)		3539	1583	3433	3530					0.83	0.98	3
3539 1583 1261 3539 1583 1261 3539 1583 1261 3539 1583 1261 3539 1583 1261 3539 1583 1261 3539 1583 1261 3539 1583 1262 1710 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Fit Permitted		100	200	200	1 20					1610	3323	1583
0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Satd. Flow (perm)		3539	1583	1261	3530					0.95	0.98	9,5
0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Volume (vph)	0	989	8	573	1573	-	0		c	138	2222	1583
0 746 913 623 1710 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0 0	0 0	3 6	6 6	5 6
0	Adj. Flow (vph)	0	746	913	623	1710	0	0	200	, C	150	102	470
0 746 762 623 1710 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	RTOR Reduction (vph)	0	0	151	0	0	0	0	0	0	3 0	3 0	2 6
Perm Perm Bern B B B B B B B B B	Lane Group Flow (vph)	٥	746	762	623	1710	0	0	0	0	, 18	171	141
87.9 87.9 87.9 87.9 87.9 87.9 87.9 87.9	Turn Type			Репл	Perm						Perm		Per
87.9 87.9 87.9 87.9 87.9 88.9 88.9 88.9	Protected Phases		4			8					5	Œ	Ď
87.9 87.9 87.9 87.9 87.9 87.9 87.9 87.9	Permitted Phases			4	80						Œ	,	•
88.9 88.9 88.9 88.9 67.4 6.74 6.74 6.74 6.74 6.74 6.74 6.74	Actuated Green, G (s)		87.9	87.9	87.9	87.9					22 1	22.1	22 4
0.74 0.74 0.74 0.74 5.0 5.0 5.0 26.2 1173 93.4 26.22 0.21 0.48 c0.49 0.28 0.65 0.67 0.65 5.1 7.8 8.0 7.8 1.15 1.79 0.95 0.87 0.0 1.0 1.2 0.4 5.9 14.9 8. 7.2 A B A A A 10.9	Effective Green, g (s)		88.9	88.9	88.9	88.9					3	23.1	3 5
Secondary Seco	Actuated g/C Ratio		0.74	0.74	0.74	0.74					0 10	0 10	10
3.0 3.0 3.0 3.0 3.0 2.0 2.622 1.173 934 2622 0.24 0.48 0.048 0.048 0.048 0.048 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0	Clearance Time (s)		5.0	5.0	5.0	5.0					1 10	3 5	
2622 1173 934 2622 021 021 028 0.68 0.649 0.28 0.65 0.67 0.65 5.1 7.8 8.0 7.8 1.15 1.79 0.95 0.87 0.0 1.2 0.4 5.9 14.9 8.8 7.2 A B A A A A A A A A A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A B A A A A B A A A A B A A A B A A A A B A A A B A A A B A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A B A A A B A A A B A A A B A A A B A A A B A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A A A A B A	Vehicle Extension (s)		3.0	3.0	3.0	3.0					30	0 0	5 6
0.21 0.48 0.48 0.48 0.48 0.28 0.65 0.67 0.65 0.67 0.65 0.67 0.65 0.67 0.65 0.67 0.65 0.67 0.65 0.67 0.67 0.67 0.67 0.67 0.67 0.67 0.67	Lane Grp Cap (vph)		2622	1173	934	2622					310	640	300
0.28 0.65 0.67 0.65 5.1 1.79 0.95 0.87 0.0 1.0 1.2 0.4 10.9	v/s Ratio Prot		0.21			0.48					9	9	ś
0.28 0.65 0.67 0.65 5.1 7.8 8.0 7.8 1.15 1.79 0.95 0.87 0.0 1.0 1.2 0.4 5.9 14.9 8.8 7.2 A B A A A 10.9 7.6 B A A A A A HUMBER	v/s Ratio Perm			0.48	c0.49						0.05	0.05	5
1.15 178 8.0 7.8 1.15 179 0.95 0.87 0.0 10 1.2 0.4 5.9 14.9 8 7.2 8 A B A A 10.9 7.6 0.0 0.02 HCM Level of Service B tity ratio 0.62 Sum of lost time (s) 8.0 titization 117.7% ICU Level of Service H	v/c Ratio		0.28	0.65	0.67	0.65					0.26	0.27	0.46
1.15 1.79 0.95 0.87 0.0 1.0 1.2 0.4 5.9 14.9 8.8 7.2 A B A A A 10.9 7.6 Delay 12.5 HCM Level of Service B (s) 120.0 Sum of lost time (s) B Hilpredia 117.7% ICU Level of Service H	Uniform Delay, d1		5.1	7.8	8.0	7.8					412	412	42.0
0.0 1.0 1.2 0.4 5.9 14.9 8.8 7.2 A B A A 10.9 7.6 Delay 12.5 HCM Level of Service B (s) 120.0 Sum of lost time (s) B Uilization 117.7% I/OU Level of Service H	Progression Factor		1.15	1.79	0.95	0.87					5	100	100
5.9 14.9 8.8 7.2 4 A B A A A 10.9 7.6 0.0 B A A A A B A B A A A B B A A A A B B A A A Consider the construction of the	Incremental Delay, d2		0.0	1.0	1.2	0.4					20	1	2 6
10.9	Delay (s)		5.9	14.9	8.8	7.2					43.2	42.5	A7.0
10.9 7.6 0.0 B A A A Delay 12.5 HCM Level of Service B (s) 120.0 Sum of lost time (s) 8.0 titization 117.7% ICU Level of Service H	Level of Service		∢	B	⋖	∢					9 0	2	
Delay 12.5 HCM Level of Service (s) 12.0 Sum of lost time (s) tilization 117.7% ICU Level of Service 15.0 15.0 Sum of lost time (s) 15.0 Sum of lost time (s) 15.0 Sum of lost time (s) 15.0 Sum of Service 15	Approach Delay (s)		10.9			7.6			00		۵	74.0	ר
Delay 12.5 HCM Level of Service ity ratio 0.62 Sum of lost time (s) 120.0 Sum of lost time (s) tilization 11.7% ICU Level of Service 15.	Approach LOS		8			<			8			9 0	
Delay 12.5 HCM Level of Service Ity ratio 0.82 Sum of lost time (s) Ilization 117.7% ICU Level of Service 15	Intersection Summary	SECTION AND ADDRESS.		No.		Take I	10000		thresas.	0.000) Market	1
ty ratio 0.52 (s) 120.0 Sum of lost time (s) (ilization 117.7% ICU Level of Service 15	HCM Average Control De	elay		12.5	I	CM Lev	al of Sei	vice		m			
(s) 120.0 Sum of lost time (s) 120.0 Sum of lost time (s) 1177% ICU Level of Service 15	Actuated Cycle Loogth /s) rano		0.62	Ċ								
	Intersection Capacity Util	ization	<u></u>	7.7%	'nΩ	Um or lo	of Serv	s) ice		0.E			
Confice Lane Care	Critical and Crain			15									

C-Min 23.1 0.19 0.52 39.4 0.0 D

0.65

0.67

Min 88.9 0.74 0.28 6.1 6.1 6.1

v/c Ratio

Min 88.9 0.74 0.69

Total Spiff (%)
Total Spiff (%)
Yellow Time (s)
All-Red Time (s)
Lead/Lag
Lead-Lag Optimize?
Recall Mode
Act Effct Green (s)
Actuated g/C Ratio

10.6 0.0 10.6 B

6.5 6.5 A

Control Delay Queue Delay Total Delay

Approach Delay

Approach LOS

0.0

C-Min 23.1 0.19 0.27

C-Min

Intersection LOS: B ICU Level of Service H

5: Alameda Blvd. & I-25 W. Ramp

Splits and Phases:

91 8

뮡 9

Intersection Capacity Utilization 117.7% Analysis Pertod (min) 15

Intersection Signal Delay: 11.3

Maximum v/c Ratio: 0.69

Control Type: Actuated-Coordinated

Natural Cycle: 60

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2: and 6:SBTL, Start of Green

2009 AM NO BUILD

I:\Mechenbier_Alameda\synchro\2009AN.sy7

Baseline I:\(\text{Mechenbier_Alameda\synchro\2009AN.sy7}\)

2009 AM NO BUILD

A - 62

5: Alameda Blvd. & I-25 W. Ramp Timings

8 6 6 6 8 8 6 6 6 0 4.0 4.0 4.0 4.0 0 21.0 21.0 21.0 27.0 32.0 32.0 6 70.9% 29.1% 29.1% 0 4.0 4.0 4.0 1.0 1.0 1.0 1.0

21.0 78.0 78.0 70.9% 7

21.0 21.0 78.0 78.0 70.9% 70.9% 7 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)

135 Perm

325 Perm

241 Perm WBL

Lane Group
Lane Configurations
Volume (vph)

Protected Phases Permitted Phases

Turn Type

Detector Phases

SBR

Terry O. Brown, P.E. 10/8/2007

HCM Signalized Intersection Capacity Analysis 5: Alameda Blvd. & I-25 W. Ramp

Terry O. Brown, P.E. 10/8/2007

Movement	Select EBT EBR Well	NBR SBL 1900 1900 4.0 0.91 1.00 0.95 1610 0.95 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	SBT SBR 1986 1900 4.0 4.0 4.0 0.0 0.91 1.00 0.85 1.00 0.85 1.00 0.85 1.00 0.85 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.98 1.00 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0
FBL FBR WBL WBT WBR NBL NBT 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 100 0.95 1.00 0.95 1.00 100 0.85 1.00 0.95 1.00 100 0.85 1.00 0.23 1.00 100 0.85 1.00 0.23 1.00 100 0.85 1.00 0.23 1.00 100 0.85 1.00 0.23 1.00 100 0.85 1.00 0.23 1.00 100 0.85 1.00 0.22 0.92 0.92 100 0.85 1.00 0.00 0 100 0.85 0.80 0.80 0.80 100 0.05 0.69 0.69 0.69 100 0.05 0.69 0.69 100 0.04 0.85 0.89 100 0.05 0.05 0.05 100	EBL EBI EBR WBL WBT WBR NBL NBT 1900 1		
1900 1900 1900 1900 1900 1900 1900 1900	1900 1900 1900 1900 1900 1900 1900 1900		
1900 1900 1900 1900 1900 1900 1900 1900	1900 1900 1900 1900 1900 1900 1900 1900		
Holely 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00		
1.00 0.95 1.00 0.97 0.95 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	0.95 1.00 0.97 0.85 1.00 0.85 1.00 1.00 3539 1583 3433 3539 1.00 1.00 0.23 1.00 3539 1583 843 3539 0 965 718 241 951 0 0 0 0 1049 780 262 1034 0 0 0 0 0 0 779 0 0 0 0 0 1049 701 262 1034 0 0 0 0 1049 701 262 1034 0 0 0 1 Perm Perm R		
1.00 0.85 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	1.00 0.85 1.00 1.00 3539 1583 3433 3539 1.00 1.00 0.23 1.00 3539 1583 3433 3539 1.00 1.00 0.23 1.00 0 965 778 241 951 0 0 0 0 0.92 0.92 0.92 0.92 0.92 0.92 0 1049 780 262 1034 0 0 0 0 0 79 0 0 0 0 0 0 1049 701 262 1034 0 0 0 0 1049 7701 262 1034 0 0 0 0 1049 7701 262 1034 0 0 0 0 1049 7701 262 1034 0 0 0 0 0 1049 7701 262 1034 0 0 0 0 0 1049 7701 262 1034 0 0 0 0 0 0 1049 7701 262 1034 0 0 0 0 0 0 0 1049 7701 262 1034 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
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1539 1583 3433 3539 100 1.00 0.23 1.00 1509 1583 843 3539 1100 1.00 0.23 1.00 1100 1.00 0.23 1.00 1104 780 282 1034 0 0 0 0 104 780 282 1034 0 0 0 0 104 780 282 1034 0 0 0 0 104 701 262 1034 0 0 0 0 104 701 262 1034 0 0 0 0 105 0.69 0.69 0.69 0.69 10 0.69 0.69 0.69 0.69 10 0.69 0.69 0.69 0.69 10 0.60 0.29 10 0.43 0.64 0.31 10 0.43 0.64 0.45 0.42 10 0.60 0.50 0.50 0.44 10 0.60 0.50 0.69 10 0.60 0.50 0.69 10 0.60 0.50 0.69 10 0.60 0.50 0.42 10 0.60 0.50 0.42 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.42 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.50 0.60 10 0.60 0.60 10 0.60 0.60 10 0.60 0	3539 1583 3433 3539 1.00 1.00 0.23 1.00 3539 1583 843 3539 0 962 0.92 0.92 0.92 0.92 0.92 0.92 0 1049 780 262 1034 0 0 0 0 0 0 79 0 0 0 0 0 0 0 1049 701 262 1034 0 0 0 0 Perm Perm Rem Rem Rem Rem Rem Rem Rem Rem Rem Re		
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Control Cont	0 965 718 241 951 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
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hh) 0 1049 701 262 1034 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0) 0 0 79 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	
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A	Perm Perm 4 8 8 75.0 75.0 75.0 76.0 76.0 0.69 0.69 0.69	Perm 6 25.0 26.0 26.0 0.24 5.0 3.0 381	
9) 750 750 750 750 750 750 750 750 750 750	4 4 8 75.0 75.0 75.0 76.0 76.0 76.0 0.69 0.69 0.69	25.0 26.0 26.0 0.24 5.0 3.0 3.0 3.0	
\$\) \text{75.0} \text{75.0} \text{75.0} \text{75.0} \text{75.0} \text{75.0} \text{76.0} \text{110.0} \text{50.0} \text{50.0} \text{50.0} \text{76.0} \text{76.0} \text{110.0} \text{50.0} \text{50.0} \text{50.0} \text{50.0} \text{76.0} \text{110.0} \text{50.0} \text{50.0} \text{50.0} \text{50.0} \text{50.0} \text{50.0} \text{50.0} \text{50.0}	4 8 75.0 75.0 75.0 76.0 76.0 76.0 0.69 0.69 0.69	25.0 26.0 26.0 0.24 5.0 3.0 3.0 0.13	
15.0 75.0 75.0 75.0 75.0 75.0 75.0 75.0 7	75.0 75.0 75.0 76.0 76.0 76.0 0.69 0.69 0.69	25.0 26.0 0.24 5.0 3.0 381	3 1
76.0 76.0 76.0 76.0 76.0 76.0 76.0 76.0	s) 76.0 76.0 76.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	26.0 0.24 5.0 3.0 381	3
0.69 0.69 0.69 0.69 0.69 0.69 0.69 0.69	0.69 0.69 0.69	3.0 3.0 3.0 3.0 0.13	
2.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5		381	
2445 1094 582 2445 0.30 0.04 0.31 0.44 0.31 0.43 0.64 0.45 0.42 7.5 9.4 7.6 7.4 0.1 0.6 0.5 0.1 3.8 3.1 3.4 3.2 A A A A A A A A A A A A A A A A A A A	5.0 5.0 5.0	381	
2445 1094 582 2445 0.30 0.43 0.64 0.45 0.29 0.43 0.64 0.45 0.42 7.5 9.4 7.6 7.4 0.50 0.27 0.38 0.42 2 0.1 0.6 0.5 0.1 3.8 3.1 3.4 3.2 A A A A A A A A A A A A A A A A A A A	3.0 3.0 3.0	381	
0.30 0.40 0.40 0.40 0.40 0.40 0.40 0.40	2445 1094 582 24	0.13	
C0.44 0.31 C0.43 0.64 0.45 7.5 9.4 7.6 7.4 C0.50 0.27 0.38 0.42 C0.1 0.6 0.5 0.1 C0.3 0.27 0.38 0.42 C0.1 0.6 0.5 0.1 C0.3 0.27 0.38 0.42 C0.4 0.5 0.27 C0.5 0.27 0.38 0.42 C0.5 0.27 0.38 0.42 C0.6 0.5 0.1 C0.6 0.5 0.1 C0.6 0.5 0.1 C0.6 0.6 0.5 0.1 C0.6 0.6 0.6 0.6 0.6 C0.6 0.6 0.6 0.6 C0.6 0.6 0.6 0.6 C0.6 0.6	0:30	0.13	
7.5 9.4 7.6 7.4 0.50 0.27 0.38 0.42 2 0.1 0.6 0.5 0.1 3.8 3.1 3.4 3.2 A A A A A A A A A A A A A A A A A A A	c0.44 0.31	9	
7.5 9.4 7.6 7.4 0.50 0.27 0.38 0.42 2 0.1 0.6 0.5 0.1 3.8 3.1 3.4 3.2 A A A A A A A A A A A A A A A A A A A	0.43 0.64 0.45	D 54	
2 0.50 0.27 0.38 0.42 0.1 0.6 0.5 0.1 3.8 3.1 3.4 3.2 A A A A A A A A A A A A A A A A A A A	7.5 9.4 7.6	36.7	
2 0.1 0.6 0.5 0.1 3.8 3.1 3.4 3.2 A A A A A A A A A A A A A A A A A A A	0.50 0.27 0.38 (100	
3.8 3.1 3.4 3.2 A A A A 3.5 3.3 0.0 A A A A 1.0	0.1 0.6 0.5	5.4	
3.5 A A A A A A A A A A A A A A A A A A A	3.8 3.1 3.4	42.1	306 334
3.5 3.3 0.0 A A A A I Delay 10.5 HCM Level of Service 0.62 0.0 In (s) 110.0 Sum of lost time (s) 11	A A		
/ A A A A A A A A A A A A A A A A A A A	y (s) 3.5 3.3	3	
In Delay 10.5 HCM Level of Service acty ratio 0.62 Sum of lost time (s) 110.0 Sum of lost time (s) Utilization 72.4% ICU Level of Service	A		- C
i Delay 10.5 HCM Level of Service acty ratio 0.62 Sum of lost time (s) 110.0 Sum of lost time (s) Utilization 72.4% ICU Level of Service		CONSTRUCTOR CONTRACTOR	,
ocity ratio 0.62 in (s) 110.0 Sum of lost time (s) Utilization 72.4% ICU Level of Service	10.5 HCM Level of Service	8	
h (s) 110.0 Sum of lost time (s) Utilization 72.4% ICU Level of Service	0.62		
Unitality 72.4% ICU Level of Service	110.0 Sum of lost time (s)	8,0	
	Utilization 72.4% ICU Level of Service	0	
Cititing Part Carrier	75 (IIIII)		

26.0 0.24 0.30 7.7 7.7 A

26.0 0.24 0.55 40.7 40.7

43.9

5.5 0.0 5.5

Min 76.0 0.69 0.66 3.0 3.0 3.0 A

Min 76.0 0.69 0.43 4.0 4.0 4.0 4.0 A 3.6 A

Control Delay Queue Delay Total Delay LOS

v/c Ratio

C-Min 26.0 0.24 0.54

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

Min 76.0 0.69 0.42

Min 76.0 0.69 0.46

5: Alameda Blvd. & I-25 W. Ramp 78 \$ ଜୁ 78 \$ Splits and Phases:

Intersection LOS: B ICU Level of Service C

Intersection Signal Delay: 10.1 Intersection Capacity Utilization 72.4% Analysis Period (min) 15

Control Type: Actuated-Coordinated

Natural Cycle: 60

Maximum v/c Ratio: 0.66

Actuated Cycle Length: 110 Offset: 84 (76%), Referenced to phase 2: and 6:SBTL, Start of Green

Intersection Summary

Approach Delay Approach LOS

Cycle Length: 110

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2009 PM NO BUILD

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5: Alameda Blvd. & I-25 W. Ramp

SBR 166

SBT

SBL

WBT

EBR

Lane Group Lane Configurations

Volume (vph)

Turn Type

Protected Phases Permitted Phases

Detector Phases

867

138 Perm

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HCM Signalized Intersection Capacity Analysis 5: Alameda Blvd. & I-25 W. Ramp

Terry O. Brown, P.E. 10/9/2007

	1	1	<i>></i>	1	ţ	4	1	←	*	۶	-	*
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NRI	TON	DON	0	100	000
Lane Configurations		\$	R	K	**				VON	100	100	YOU
ideal Flow (vphpl)	1900	90:	1900	1900	1900	1900	1900	1000	1000	1001	+ 50	- 5
Total Lost time (s)		4.0	4.0	4.0	4.0		2	2	3	8 4	3 5	3 ;
Lane Util. Factor		0 95	20	0.07	200					0.4	4.0	4.0
Fr		100	0.85	500	0 0					0.91	0.91	100
Fit Protected		8 8	3 5	9 6	3 6					8	90.	0.85
Satd Flow (prot)		3 6	3 5	0.50	00.1					0.95	0.98	8
Fit Permitted		4000	200	2433	3239					1610	3323	1583
Satd. Flow (nerm)		35.00	1,500	1254	1.00					0.95	0.98	1.00
Volume (voh)	6	2000	202	407	9000					1610	3323	1583
the DHE	9 0	3 2	90	573	1626	0	0	0	0	138	98	166
	20.0	0.32	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Aug. Flow (vpr)	> 0	11	942	623	1767	0	0	0	0	150	102	180
l ana Grana Flora (mat)	0 0	ì	000	0	0	0	0	0	0	0	0	35
Time Gloup Flow (vpil)		5	218	623	1767	0	0	0	0	81	171	146
Control of the control		•	Pem	Perm						Perm		Perm
Document Plases		4			8						9	
A THINKED PRIASES		i	4	8						9		9
Actuated Green, G (s)		76.0	76.0	76.0	76.0					14.0	14.0	14.0
Effective Green, g (s)		77.0	77.0	77.0	77.0					15.0	15.0	17.0
Actuated g/C Ratio		0.77	0.77	0.77	0.77					0.15	1,5	1
Clearance Time (s)		5.0	5.0	5.0	5.0					2	, r	2
Vehicle Extension (s)		3.0	3.0	3.0	3.0					30	0 6	9 6
Lane Grp Cap (vph)		2725	1219	996	2725					242	400	200
v/s Ratio Prot		0.22			0.50					74.7	0	23
v/s Ratio Perm			c0.51	0.50						20.0	30	5
v/c Ratio		0.28	0.67	0.64	0.65					200	0.00	20.03
Uniform Delay, d1		3.4	5.4	5.3	5.3					38.0	30.04	30.05
Progression Factor		0.51	1.47	0.47	0.43					5 5	5 6	2.0
Incremental Delay, d2		0.0	1.0	0.9	0.3					2 6	3 5	3 :
Delay (s)		1.8	9.0	3.4	2.6					41.7	6 0	- 4
Level of Service		<	<	<	4						2	2.0
Approach Delay (s)		5.7			2.8			00		ב	7 6	כ
Approach LOS		٧			<			₹ 4			2	
Intersection Summary		550	E CANAL	THE STATE OF		2000000	STEELINGS	STATE OF		SHEET IN	٠ ا	
HCM Average Control Delay	<u>ک</u> ر		7.9	Ī	CM Lev	HCM Level of Service	vice		×			
Activated Circle 1 and 1	ano		0.66									
Actualed Cycle Length (s)	arite	÷	100.0	ភ ទ	of jo min	Sum of lost time (s)	(s		8.0			
Analysis Period (min)	5	2	15	2	C Level	ICU Level of Service	g Q		I			
c Critical Lane Group												

C-Min 15.0 0.15 0.66 42.4 0.0 D

C-Min 15.0 0.15 0.33 40.5 40.5 D

Min 77.0 0.77 0.66 5.5 5.5 A

Min 77.0 0.77 0.70 5.8 0.0 5.8 5.8

Min 77.0 0.28 0.28 2.1 2.1 4.1 A

Control Delay Queue Delay Total Delay LOS

C-Min 15.0 0.15 0.34 39.0 0.0 39.0 29.0 20.0

Min 77.0 0.65 3.3 0.6 3.9 A A 3.4 A

4.0 4.0 21.0 21.0 24.0 24.0 24.0% 24.0% 4.0 4.0

4 4 8 8 6 4.0 4.0 4.0 4.0 4.0 4.0 21.0 21.0 21.0 21.0 21.0 2 76.0 76.0 76.0 76.0 24.0 2 76.0% 76.0% 76.0% 24.0% 24.0 4.0 4.0 4.0 4.0 4.0 1.0 1.0 1.0 1.0 1.0

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

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

Recall Mode

5: Alameda Bivd. & I-25 W. Ramp 76 s 200 Splits and Phases:

Intersection LOS: A ICU Level of Service H

Control Type: Actuated-Coordinated Maximum vic Ratio: 0.70 Intersection Signal Delay: 7.7 Intersection Capacity Utilization 120.6% Analysis Period (min) 15

Offset: 88 (88%), Referenced to phase 2: and 6:SBTL, Start of Green

Actuated Cycle Length: 100

Natural Cycle: 60

Cycle Length: 100

Intersection Summary

Approach Delay Approach LOS

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2009 AM BUILD

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HCM Signalized Intersection Capacity Analysis Terry O. Brown, P.E. 10/8/2007

6: Alameda Blvd. & I-25 E. Ramp

Timings

6: Alameda Bivd. & I-25 E. Ramp

Terry O. Brown, P.E. 10/8/2007

1900

1900

0.92

0.92

0.92 77 3247

113 0.92 123

0.92 1210

0.92 000

0.92 704

176

256

0.92

193

현 붓

562

1327

704

191

튑

1900 4.0 1.00 1.00 1.85 1.00 1.583 1.89 1.89 1.82 205 205 63

0.91 1.00 0.95 1610 1610 1033 0.92 1123

1.00 0.96 3247 0.96

0.95 0.99 1.00 3490 3490

4.0 0.95 1.00 1.00 3539 1.00 3539

1.00 0.95 0.14 0.14

0.92

SBT SBR

SBL

NBT

EBR WBL 1900

EBL

1 EBT

1900 WBT WBR

1900

The state of the s				•	-					
Lane Group	EBL	EBT	WBT	NBL	NBT	ARK	SPECIAL SERVICES		Company of section 19 and 19 and 19	
Lane Configurations	M-	+	42	K		×				Movement
Volume (vph)	176	648	1113	1033	7	183				Lane Configurations
lurn lype	Perm			Perm		Parm				Ideal Flow (vphpl)
Protected Phases		4	œ		2	5				Total Lost time (s)
Permitted Phases	4			2	!	2				Lane Util. Factor
Detector Phases	4	4	80	2	2	10				FA
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0				Fit Protected
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0	210				Satd. Flow (prot)
l otal Split (s)	79.0	79.0	79.0	41.0	410	410				Flt Permitted
l otal Split (%)	65.8%	65.8% (34 2%				Satd. Flow (perm)
Yellow Time (s)	4.0	4.0	4.0		40	40				Volume (voh)
All-Red Time (s)	1.0	1.0	1.0	1.0		0				Peak-hour factor. Pr
Lead/Lag										Adj. Flow (vph)
Lead-Lag Optimize?										RTOR Reduction (vi
Recall Mode	Min	Min	Min	C-Min	C-Min	C-Min				Lane Group Flow (v)
ACI ETICI Green (s)	75.0	75.0	75.0		37.0	37.0				Tum Type
Actuated g/C Ratio	0.62	0.62	0.62	0.31	0.31	0.31				Protected Phases
Control Delen	1.19	0.32	0.61	1.13	1.08dI	0.33				Permitted Phases
Control Delay	153.0	11.3	14.9	121.0	39.2	5.6				Actuated Green, G (
Total Delay	0.0	0.0	0.0	0.0	0.0	0.0				Effective Green, g (s
i otal Delay	153.0	11.3	14.9	121.0	39.2	5.6				Actuated g/C Ratio
Approprie	4	0	æ	L	۵	٧				Clearance Time (s)
Approach Delay		41.5	14.9		67.0					Vehicle Extension (s
Appropriate CO3		٥	c		ш					Lane Grp Cap (vph)
Intersection Summary	産業が機	THE PARTY OF	SHEE	CHARGONIC	STEEL STEEL	Topotone	SECONDISCOLUMNICAL SECONDARY	UNITED STATES AND ADDRESS AND		v/s Ratio Prot

Intersection LOS: D ICU Level of Service H intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 3 (3%), Referenced to phase 2:NBTL and 6:, Start of Green Analysis Period (min) 15 dl Defacto Left Lane. Recode with 1 though lane as a left lane. Intersection Capacity Utilization 117.7% Control Type: Actuated-Coordinated Intersection Signal Delay: 41.6 Maximum v/c Ratio: 1.19

6: Alameda Blvd. & I-25 E. Ramp 79 \$ 67 Splits and Phases:

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0.0 A

8.0 H

Analysis Period (min)

15
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

C Critical Lane Group

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

43.0 1.17 120.0 117.7%

Actuated Cycle Length (s) Intersection Capacity Utilization

Intersection Summary HCM Average Control Delay HCM Volume to Capacity ratio

0.04 0.13 29.9 1.00 0.5 0.5 C

3.1

1.00 82.3 23.8

0.61 13.6 1.00 0.5 14.1 B B

0.32 10.5 1.03 0.1 10.9 B

Incremental Delay, d2

Progression Factor Uniform Delay, d1

v/s Ratio Perm

v/c Ratio

Approach Delay (s)

Approach LOS

Delay (s) Level of Service

22.5 0.90 131.8 152.0

36.0 37.0 0.31 5.0 3.0 488

36.0 37.0 0.31 5.0 3.0

36.0 37.0 0.31 5.0 3.0 496

74.0 75.0 0.62 5.0 3.0 2181 0.38

74.0 75.0 0.62 5.0 3.0 2212 0.20

160

74.0 75.0 0.62

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6: Alameda Blvd. & I-25 E. Ramp

Timings

C-Min 50 3 0.46 0.41 18.4 0.0 NBR 288 Perm C-Min 50.3 0.46 0.38 22.9 NBT 0.0 C-Min 50.3 0.46 0.60 29.8 0.0 29.8 C NBL 807 WBT 15.2 0.0 15.2 EBT 0.65 18.0 0.2 18.2 B 25.6 C Ť Min 51.7 0.92 50.9 0.0 50.9 38 Permitted Phasses
Detector Phases
Minimum hidal (s)
Minimum Split (s)
Total Split (%)
Yellow Time (s)
Yellow Time (s)
Lead/Lag
Lead-Lag Optimize?
Recall Mode
Act Effor Green (s)
Actuated g/C Ratio Lane Configurations Turn Type Protected Phases Total Delay LOS Approach Delay Control Delay Queue Delay Approach LOS Volume (vph) v/c Ratio

Intersection Summary Cycle Length: 110

Actuated Cycle Length: 110 Offset: 9 (8%), Referenced to phase 2:NBTL and 6; Start of Green Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 23.2 Intersection Capacity Utilization 72.4% Analysis Period (min) 15

Intersection LOS: C ICU Level of Service C

Splits and Phases: 6: Alameda Blvd. & I-25 E. Ramp

67 \$

HCM Signalized Intersection Capacity Analysis 6: Alameda Bivd. & I-25 E. Ramp

Terry O. Brown, P.E. 10/8/2007

The state of the s	1	†	1	1	ţ	1	1	-	1	1	-	>
Movernent	EBH.	EBT	EBR	EBR WBL WBT	WBT	WBR	NBN	MAT	DON	Igo	Tuo	200
Lane Configurations	y _	\$			AA		4	4	100	200	000	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	190	1001	1001	100	000	000
l otal Lost time (s)	4.0	4.0			4.0		40	2	200	36	3	3
Lane Util. Factor	100	0.95			0.95		0.91	0.91	100			
	8	1.00			96.0		1.00	1.00	0.85			
FIL Protected	0.95	1.00			9.		0.95	0.96	100			
Said. Flow (prot)	1770	3539			3392		1610	3263	1583			
Safd Flow (norm)	0.37	1.00			1.00		0.95	96.0	1.00			
Volume (unb)	000	9539	1		3392		1610	3263	1583			
Pook hour footor Dill	467	966	0	0	382	147	807	116	288	0	0	ľ
Adi Flow (unb)	332	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
RTOR Reduction (vph)	250	500	0	0 0	418	9	877	126	313	0	0	0
Lane Group Flow (vph)	320	1083	0	0	533	> c	730	0 2	48	0 0	0 0	0
Turn Type	Perm					,		5	207		9	2
Protected Phases		4			40		5	c	E			
Permitted Phases	4)		0	ď	c			
Actuated Green, G (s)	50.7	50.7			50.7		49.3	49.3	40.3			
Effective Green, g (s)	51.7	51.7			51.7		50.3	50.3	50.3			
Actuated g/C Ratio	0.47	0.47			0.47		0.46	0.46	0.46			
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0	5.0			
Venicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	322	1663			1594		736	1492	724			
	20.47	5.5			0.16		1	!				
	0 00	0.65			0	-	50.27	0.17	0.17			
Uniform Delay, d1	29.0	22.3			40.00		0.60	0.38	0.37			
Progression Factor	0.78	0.75			200		1 00	9.0				
Incremental Delay, d2	45.8	0.8			0.1		2 6	3 6	3.			
Delay (s)	68.4	17.5			18.5		25.8	20.3	20.9			
Level of Service	ш	8			В		C	C	2			
Approach Delay (s)		29.1			18.5			22.3)		0	
Approach LOS		ပ			20			ပ			٩	
Intersection Summary	W. C. C.			MOTEST	STREET	SHOWER PARTY.		gallean	OTA STORY	AT WATER	- Indiana	
HCM Average Control Delay HCM Volume to Capacity ratio	lay ratio		24.5	운	HCM Level of Service	of Ser	vice		O			
Actuated Cycle Length (s) Intersection Capacity Utilization Analysis Period (min)	zation	7.	110.0 72.4% 15	S S	Sum of lost time (s) ICU Level of Service	t time (s of Servi	⊕ 93		8 C			
c Critical Lane Group												

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189 Perm

NBT

RE 1062

WBT ₹₽ 1137

EBT

Lane Configurations

Volume (vph)

Furn Type

24.0 24.0 34.0 34.0%

21.0

21.0

21.0

0.99

21.0 66.0 86.0%

Minimum Initial (s)

Detector Phases

Minimum Split (s)

Protected Phases Permitted Phases 66.0% 66.0% 1.0

Total Split (s)
Total Split (%)
Yellow Time (s)

34.0% 34.0% 3 4.0 4.0 1.0 1.0

HCM Signalized Intersection Capacity Analysis 6: Alameda Bivd. & I-25 E. Ramp

10/9/2007

Terry O. Brown, P.E. 10/9/2007

1900 SBT 906 SBL 1900 4.0 1.00 1.00 1.00 1.00 1.583 NBT \$ 061 N N 1990 WBR 900 EBR WBL WBT 1900 1900 1 EBT \$26 Lane Configurations

1900

0.92 1.00 0.96 3247 0.96 3247 4.0 0.91 1.00 0.95 1610 0.95 1062 0.92 1154 113 0.92 123 0.92 0.92 4.0 0.95 1.00 1.00 3539 1.00 669 0.92 727 3539 1770 0.13 246 4.0 1.00 0.95 0.95 0.92 33 RTOR Reduction (vph) Peak-hour factor, PHF Satd. Flow (perm) Volume (vph) Ideal Flow (vphpt) Total Lost time (s) Flt Protected Satd. Flow (prot) Lane Util. Factor Adj. Flow (vph) Fit Permitted

0.92

0.92 000

0.92

189 0.92 205 144 62

654

577

61.0 62.0 0.62 5.0 3.0 2164 0.39 1351 61.0 62.0 0.62 5.0 3.0 2194 0.21 62.0 193 61.0 Lane Group Flow (vph) Actuated Green, G (s) Effective Green, g (s) Clearance Time (s) Vehicle Extension (s) Actuated g/C Ratio Protected Phases Permitted Phases Furn Type

C-Min 30.0 0.30 0.33 5.4 5.4 5.4

0.0

4.8 0.0 4.8 4.13

139.5

Min 62.0 0.62 0.62 13.2 13.2 8 8 13.2 B

30.0 0.30 1.14dl 34.8 0.0 34.8

30.0 0.30 1.19

Min 62.0 0.62 0.33

Lead/Lag Lead-Lag Optimize?

All-Red Time (s)

Act Effct Green (s) Actuated g/C Ratio

Recall Mode

Control Delay

v/c Ratio

Queue Delay Fotal Delay

29.0 30.0 0.30 5.0 3.0 475

29.0 30.0 0.30 5.0 3.0

29.0 30.0 5.0 3.0 483

0.62 11.8 11.00 0.6 0.6 12.3 B 12.3 B 0.33 9.1 0.47 0.1 4.4 A A 39.4 D 153 c0.78 1.26 19.0 158.6 Incremental Delay, d2 Lane Grp Cap (vph) v/s Ratio Prot Progression Factor Uniform Delay, d1 v/s Ratio Perm v/c Ratio Delay (s)

0.20 1.14d! 30.7

c0.36

1.19

0.04 0.13 25.5 1.00 0.6 C

3.7

106.4

Approach Delay (s)

Approach LOS

ICU Level of Service H Intersection LOS: D

Defacto Left Lane. Recode with 1 though lane as a left lane.

Intersection Signal Delay: 43.1 Intersection Capacity Utilization 120.6%

Analysis Period (min) 15

6: Alameda Blvd. & I-25 E. Ramp

Splits and Phases:

1

Actuated Cycle Length: 100 Offset: 8 (8%), Referenced to phase 2:NBTL and 6:, Start of Green

Intersection Summary

Approach Delay

So

Approach LOS

Cycle Length: 100

Natural Cycle: 45 Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

evel of Service

HCM Level of Service Sum of lost time (s) ICU Level of Service 43.7 1.24 100.0 120.6% Actuated Cycle Length (s) Intersection Capacity Utilization HCM Average Control Delay HCM Volume to Capacity ratio Intersection Summary Analysis Period (min)

8.0 H

Defacto Left Lane. Recode with 1 though lane as a left lane. dl Defacto Left Lane c Critical Lane Group

2009 AM BUILD

!: Mechenbier_Alameda\synchro\2009AB.sy7

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A - 68

2009 AM BUILD

Terry O. Brown, P.E. Timings 6: Alameda Blvd. & I-25 E. Ramp

										10/9/2007
	1	†	1	•	+	*				
Lane Group	EBL	EBT	WBT	NBL	NBT	- CHN	AND DESIGNATION	HESTOTE	Section 6	
Lane Configurations	<u>}</u>	ŧ	45	*	424	*		100		TOTAL CONTRACTOR
Volume (vph)	296	1017	403	827	116	288				
lum lype	Perm			Perm		Parm				
Protected Phases		4	8		2	5				
Permitted Phases	4		•	0	٧	c				
Detector Phases	4	P	α	4 C	•	7 (
Minimum Initial (s)	40	7	2 0	۷ ۲	7 :	7				
Minimum Split (e)	5 6	2 6	0.4.0	4.0	4.0	4.0				
Total Salis (a)	21.0	71.0	0.12	21.0	21.0	21.0				
ordi opiit (S)		61.0	61.0	39.0	39.0	39.0				
otal Split (%)	61.0%	61.0%	61.0%	30 0%	30 Og	20.00				
Yellow Time (s)		V			6 .	23.03				
All-Red Time (c)	9 0	2 4	2.0	4.0	4.0	4.0				
Lead/I an			0.	1.0	1.0	1.0				
Lead-Lag Optimize?										
Recall Mode	Min	Min	Min	194	2					
Act Effct Green (s)	48.1	40.1	40 4		- 4	E S				
Actuated of Datio		- 6	100	43.5	43.9	43.9				
Wo Datio	0.40	0.48	0.48	9.4	0.44	0.44				
We Ivano	0.93	0 65	0.36	0.64	0.40	0.42				
Control Delay	48.8	15.9	13.4	30.0	22.3	18.3				
Cueue Delay	0.0	0.2	0.0	0.0	0.0	0				
rofal Delay	48.8	16.0	13.4	30.0	22.3	18.0				
SOI	۵	60	α	C		2				
Approach Delay		23.4	13.4)	240	۵				
Approach LOS		O	8		O					
furthermore and a second	- Terraphotomical									

Intersection Summary Cycle Length: 100

Actuated Cycle Length: 100 Offset: 32 (32%), Referenced to phase 2:NBTL and 6:, Start of Green Natural Cycle: 55

Intersection LOS: C ICU Level of Service D Control Type: Actuated-Coordinated Maximum v/c Ratio; 0.93 Intersection Signal Delay: 21.9 Intersection Capacity Utilization 74.1% Analysis Period (min) 15 Splits and Phases: 6: Alameda Blvd, & I-25 E. Ramp ₽ 8 19 Baseline I:\Mechenbier_Alameda\synchro\2009PB.sy7

HCM Signalized Intersection Capacity Analysis 6: Alameda Blvd. & I-25 E. Ramp

Temy O. Brown, P.E. 10/9/2007

1900 1900 1900 1900 1900 1900 1900 1900	EBL EBT EBR
1900 1900 1900 1900 1900 1900 1900 1900	*
0.95 0.91 0.91 1.00 0.96 0.96 1.00 0.95 1.00 0.95 1.00 0.95 0.96 1.00 0.95 0.95 1.00 0.95 0.96 1.00 0.95 0.96 1.00 0.95 0.96 1.00 0.95 0.96 1.00 0.95 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	1900 1900 1900
0.96 1.00 1.00 0.85 3397 1610 3263 1583 1.00 0.95 0.96 1.00 3397 1610 3263 1583 403 147 827 161 288 0 0 0.92 0.92 0.92 0.92 0.92 0.92 438 160 899 126 0.9 0.0 553 0 450 575 266 0 0 553 0 450 47 0 47 0 0 553 0 450 126 313 0 0 0 553 0 450 126 209 8 2 2 2 42.9 42.9 48.1 43.9 43.9 43.9 0.48 0.44 0.44 0.44 0.44 0.44 0.44 0.44	0
1.00 0.05 0.96 1.00 3397 1610 3263 1583 1.00 0.95 0.96 1.00 3397 1610 3263 1583 403 147 827 161 288 0 0 438 0.92 0.92 0.92 0.92 0.92 438 16 899 126 0.92 0.92 553 0 450 575 266 0 0 553 0 450 575 266 0 0 648 44 0.44 0.44 0.44 50 48 1 43.9 43.9 43.9 648 0.44 0.44 0.44 0.44 50 3.0 3.0 3.0 16.1 2.18 19.1 18.9 1.00 1.00 1.00 1.00 0.1 4.3 0.8 1.6 16.2 26.2 19.9 20.5 B C CM Level of Service CM Level of Service CM Level of Service CM Level of Service	1.00
3397 1610 3263 1583 403 147 627 116 288 0 0 0.92 0.92 0.92 0.92 0.92 438 160 899 126 313 0 0 553 0 450 575 266 0 0 8	
3397 1610 3263 1583 403 147 827 116 288 0 0 0.92 0.92 0.92 0.92 0.92 438 160 899 126 313 0 0 0 553 0 450 575 266 0 0 8	
403 147 827 116 288 0 0 0 0.92 0.92 0.92 0.92 0.92 45 160 899 126 313 0 0 0 553 0 450 575 266 0 0 47.1 42.9 42.9 42.9 48.1 43.9 43.9 43.9 6.48 0.44 0.44 0.44 5.0 5.0 5.0 5.0 5.0 1634 0.64 0.40 0.38 160 1.00 1.00 1.00 0.1 4.3 0.8 1.6 16.2 2.62 19.9 20.5	`
0.92 0.92 0.92 0.92 0.92 0.92 438 160 899 126 313 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
438 160 889 126 313 0 0 0 553 0 450 575 266 0 0 0 0 47 0 0 0 0 47 0 0 0 0 0 0 0 0 0	1105 0.5
## 553 0 450 575 266 0 0 ## Perm 2 2 25 26 0 0 ## 1 42.9 42.9 42.9 ## 1 42.9 42.9 42.9 ## 1 43.9 43.9 43.9 ## 1 43.9 43.9 43.9 ## 1 43.9 43.9 43.9 ## 1 43.9 43.9 43.9 ## 1 43.9 43.9 43.9 ## 1 43.9 43.9 ## 1 43.9 43.9 ## 1 43.0 5.0 ## 1 43.0 5.0 ## 1 43.0 1.0 ## 1 18.9 ## 1 18.9 ## 1 10.0 ## 1 10.0 ## 1 10.0 ## 1 10.0 ## 1 10.0 ## 2 22.2 ## 2 22.2 ## 2 22.2 ## 2 22.2 ## 2 22.2 ## 3 0.8 ## 3 0.8 ## 3 0.8 ## 3 0.8 ## 4 0.4 ## 3 0.8 ## 5 0.0 #	9
8 Perm 2 266 0 0 0 430 970 266 0 0 0 0 430 970 266 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	322 1105 0
2 2 2 2 2 3 43.9 42.9 42.9 42.9 43.9 43.9 43.9 44.0 0.44 0.44 0.44 0.44 0.44 0.44 0.	Perm
2.9 42.9 2.9 42.9 43.9 43.9 43.9 43.9 43.9 43.9 43.9 43	4
2.9 42.9 42.9 3.9 43.9 43.9 3.0 43.9 43.9 5.0 6.44 0.44 0.44 5.0 7 1432 695 64 0.40 0.38 64 0.40 0.38 63 0.10 1.00 64 0.40 0.38 65 22 0.5 6 22.2 6 0 0	
3.9 43.9 43.9 44 0.44 0.44 0.44 0.44 0.44 3.0 3.0 3.0 07 1432 695 07 1432 695 07 1432 695 07 1432 695 07 1432 695 07 1432 695 07 1432 695 08 1.6 1.8 19.1 18.9 08 1.6 1.8 0.8 1.6 1.8 0.8 1.6 1.8 0.8 1.6 1.8 0.8 1.6 1.8 0.8 1.6 1.8 0.8 0.5 1.8 0.8	
44 0.44 0.44 3.0 5.0 5.0 5.0 3.0 3.0 3.0 07 1432 695 07 1432 695 08 0.18 0.17 08 1.00 1.00 0.10 1.00 1.3 0.8 1.6 0.2 19.9 20.5 0.8 0.5 0.9 0.5	48.1 48.1
5.0 5.0 5.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 2.8 0.18 0.17 6.8 19.1 18.9 00 1.00 1.00 1.3 0.8 1.6 5.2 19.9 20.5 C 22.2 C 22.2	
28 0.18 0.17 1432 695 28 0.18 0.17 1432 695 28 0.18 0.17 18.9 00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	3.0 3.0
07 1432 695 28 0.18 0.17 64 0.40 0.38 64 0.40 0.38 1.8 19.1 18.9 00 1.00 1.00 1.3 0.8 1.6 1.2 19.9 20.5 C B C C 22.2 C B C C 22.2 C D C C	۲
28 0.18 0.17 64 0.40 0.38 19.1 18.9 00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	
64 0.40 0.38 1.8 19.1 18.9 0.00 1.00 1.3 0.8 1.6 5.2 19.9 20.5 C B C C 22.2 C B C C	
1.8 19.1 18.9 00 1.00 1.00 1.3 10.8 1.6 5 2 8 C 22.2 C C C B B B C C C C C C C C C C C C C C	
00 1.00 1.00 1.30 1.5 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6	
1.3 0.8 1.6 5.2 19.9 20.5 C 22.2 C C C C C C C C C C C C C C C C C C C	_
3.2 19.9 20.5 C B C 22.2 C C B C	
C 22.2 C C C C C C C C C C C C C C C C C C C	62.9 15.4 E B
22.2 C C 8 0 0	
2 0 8 0 D	26.1
0	
	HCM Average Control Delay 22.8 HCM Volume to Capacity ratio
	12
	15

2009 PM BUILD

I:Mechenbier_Alameda\synchro\2009PB.sy7

2009 PM BUILD

Traffic Count Data Sheet

1 10000		1000				- I STORE INGILIE	Name						
real counts raken;	IKen:	7007		E-W Stree	E-W Street ALAMEDA	DA			Speed	Speed Limit (Al AMFDA)=	AFDA)=	35	MDLI
				N-S Street: 2ND ST	: 2ND ST				Spee	Speed Limit (2ND, ST)=	ST)=	45	I DE
						UNSIG	UNSIGNALIZED		-	Date o	Date of Count:	9/18/07	<u> </u>
Begin	End	East	Eastbound (ALAM	MEDA)	Westl	Westbound (ALAMEDA	(MEDA)	Nort	Northbound (2ND	ID ST)	Spires	Courthbound (JMD	F
ıme	Time		-	œ		-	2	-	_	5	1000	IZ) DIIDOGI	0
7:00 AM	7:15 AM	7	402	26	73	ZO	2	26	- 1	2 8	7	_	~
7:15 AM	7:30 AM	9	396	5.	18	101		B	\$ 3	28	59	99	Ð
7:30 AM	7:45 AM	6	426	99	2 6		8	4	۵۱	90	20	21	4
7.45 AM	8-DO AM	9	440	33	2	114	13	54	73	104	31	62	9
8:00 AM	8-15 AM	2 2	257	3	2 3	142	9	41	100	102	12	65	15
8:15 AM	9.30 AM	2	700	46	20	180	9	46	65	106	15	44	12
8:30 AM	0.45 ANA	٦	AA2	999	59	470	4	32	99	<i>£</i> 9	13	22	00
0.00 AIM	WIN 04.0	Ф	414	44	24	180	#	34	43	43	#	37	16
0.40 AW	S.UU AIM	Ф	355	49	49	181	6	54	44	99	49	41	25
AIM FEAK HOUF VOIUMES	volumes	44	1597	196	74	537	36	182	299	402	78	222	27
% of Total Traffic		1.2%	43.1%	5.3%	2.0%	14.5%	1.0%	4.9%	8.1%	10.9%	2 1%	, e O e	5 6
% Urrectional			49.6%			17.5%			23.8%		2.1.70	0.0%	1.0%
AM Peak Hour Factor	ctor		0.92			0.70			23.0%			9.1%	
						6.50			0.91			0.85	
Begin	E i	Eastb	Eastbound (ALAMEDA	MEDA)	Westb	Westbound (ALAMEDA)	MEDA)	North	Northbound (2ND	D ST)	South	Southbound (2ND	TO C
- IIIIe	ıme	_	<u> </u>	œ		F	Ω	-	-		-	and a	5
4:00 PM	4:15 PM	28	250	53	47	302	200	74	- 3	۷ (- :		2
4:15 PM	4:30 PM	26	241	50	74	202	27		64	23	-	54	6
4:30 PM	4:45 PM	31	255	25.0	46	250	0 0	200	6/	16	9	09	1
4:45 PM	5:00 PM	29	259	45	25	204	0 3	7)	98	20	12	89	13
5:00 PM	5:15 PM	20	400	54	3	107	=	ŝ	9/	27	16	85	19
5:15 PM	5:30 PM	24	173	10	1	+04	æ !	99	44	13	#	99	40
5:30 PM	5.45 DM	40	27.6	400	76	586	45	7.0	62	14	6	09	12
5.45 PM	B.OO.BM	10	414	43	74	345	23	79	88	19	7	54	46
MI DOCK INC.	0.00	₽ :	RAH	41	99	324	49	29	±±	46	80	43	14
rim reak mour volumes	oinmes	114	1005	203	197	1398	65	300	325	98	49	267	52
% of lotal Iranic		2.8%	24.7%	2.0%	4.9%	34.4%	1.6%	7.4%	8.0%	2.1%	1.2%	66%	1 3%
% Directional			32.6%			40.9%			17.5%			%1.6	2
LIM FEAK HOUF FACTOR	io		0.97			0.90			0 03			2	

ALAMEDA 2ND ST 2007 CNT.xls

Horizon II Development (Alameda Blvd. / Horizon Blvd.) Projected Turning Movements Worksheet

Alameda Bivd. / Horizon Bivd.

INTERSECTION:

E-W Street: Alameda Blvd. N-S Street:

(4)

Year of Existing Counts

Implementation Year

2004

Horizon Blvd.

2008

Growth Rates

Existing Volumes Background Traffic Growth Subtotal Horizon Trip Re-Assignments Subtotal (NO BUILD - A.M.) Percent Office Trips Generated(Entering) Percent Office Trips Generated(Exiting) Total Trips Generated Total AM Peak Hour BUILD Volumes

5,		7.00%			7.00%			3.00%			3.00%	
ļ		ind (Alamed	a Blvd.)	Westbo	und (Alamed	da Blvd.)	Northbo	und (Horizo	n Blvd.)	Southbo	und (Horizo	n Rlvd)
	Left I	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru I	Right
	58	1,521	0	0	977	103	0	0	0	16:	0	7
	<u>16</u>	<u>426</u>	0	0	274	29	0	0	0	2	0	1
	74	1,947	0	0	1,251	132	0	0	0	18	0	
	0	0	0	0	0	-30	0	0	0	-18	0	0
	74	1,947	0	0	1,251	102	0	0	0	0	0	8
	15.28%	0.00%	0.00%	0.00%	24.73%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
1	0.00%	4.73%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.28%
L	33	1	0	0	53	86	0	0	0	0	0.0078	2
1	107	1,948	0	0	1,304	188	0	0	0	0	0	10

Existing Volumes Background Traffic Growth Subtotal Horizon Trip Re-Assignments Subtotal (NO BUILD - P.M.) Percent Office Trips Generated(Entering) Percent Office Trips Generated(Exiting) Total Trips Generated Total PM Peak Hour BUILD Volumes

		and (Alamed		Westbo	und (Alamed	da Bivd.)	Northbo	ound (Horizo	n Bivd.)	Southbo	und (Horizo	n Blvd.)
ļ	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru I	Right
-	41	896	0	0	2,102	69	0	0	0	138	01	57
	11	<u>251</u>	<u>0</u>	Ō	<u>589</u>	<u>19</u>	0	<u>0</u>	0	17	0!	7
	52	1,147	0	0	2,691	88	0	0	0	155	01	64
1	0	0	0	0	0	-20	0	0	0	-155	0	0
	52	1,147	. 0	0	2,691	68	0	0	0	0	0	64
1	15.28%	0.00%	0.00%	0.00%	24.73%	40.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	4.73%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.28%
L	6	91	0	0	10	16	0	0	0	0	0	10
5	58	1,156	0	0	2,701	84	0	0	0	0	0	74

Number of Office Trips Generated

Entering Exiting 29 216

A.M. P.M. 196

100% Office Development

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

Eastboun		a Blvd.)	Westbou	and (Alameda	Blvd.)	Northbou	ınd (Horizo	n Blvd.)	Southbou	ınd (Horizo	n Blvd.)
70	1840	0	0	1,182	125	0	0	0	17	0	8
50	1,084	0	0	2,543	83	0	0	0	150	0	62