Achen Commercial Development

(Paseo del Norte / San Pedro – SE Corner)

Traffic Impact Study

June 1, 2007

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Presented to:

Transportation Development Division
City of Albuquerque

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Achen Commercial Development
(Paseo del Norte / San Pedro Dr. - SE Corner)
TRAFFIC IMPACT STUDY

STUDY PURPOSE

The study is being conducted in conjunction with a request for approval of a commercial development plan for the property located at the southeast corner of Paseo del Norte / San Pedro Rd. The purpose 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 facility. This report is being prepared to meet the requirements of the City of Albuquerque Transportation Development Section in association with the development of the proposed project associated with this site plan.

STUDY PROCEDURES

There was no scoping meeting held for this project study. A telephone conversation was held with Tony Loyd to determine the scope of study.

The basic procedure followed is described as follows:

1) Calculate the generated trips for the proposed commercial development consisting of a proposed 5,000 S.F. walk-in bank, a 10,000 S.F. High Turnover Sit-Down Restaurant, and an additional 6,600 S.F. of commercial retail center.
2) Calculate trip distribution for the newly generated trips by this development. The commercial trips shall be distributed based on 2009 DASZ population data within a two-mile radius of the proposed site.
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.
4) Perform AM Peak Hour and PM Peak Hour turning movement traffic counts at the intersection of Palomas Ave. / Louisiana Blvd.
5) Utilized historic annual growth rate from recent Traffic Impact Study for Palomas Plaza.
6) Determine 2009 NO BUILD intersection volumes by growing the data from the existing traffic counts at the calculated historic growth rate to the analysis year, then add in traffic volumes generated by nearby recently approved undeveloped projects.
7) Add in data from Trip Assignments Maps and Tables to the 2009 NO BUILD Volumes to obtain 2009 BUILD Volumes for this project.

8) Provide signalized and unsignalized intersection analyses for the intersection of Palomas Ave. / Louisiana Blvd. and the proposed driveway accessing this development.

PREVIOUS RELATED TRAFFIC IMPACT STUDIES

Data incorporated into this Traffic Impact Study were obtained from the previous Traffic Impact Studies:

1) *Lowe's Site Replat TIS (Updated) - June 5, 2003 by BHI*
2) *Palomas Plaza (San Pedro / Palomas) TIS – June 28, 2005*

The 2009 NO BUILD Volumes used in this report incorporated projected trips generated from the above listed approved development (Phase 2) where applicable.

GENERAL AREA CHARACTERISTICS

Surrounding land uses include an public and private schools , a church, and proposed commercial uses. This project is located within a relatively active development area.

AREA STREET NETWORK

Paseo del Norte is classified as a Principal Arterial roadway on the Long Range Roadway Plan for the Albuquerque Metropolitan Area. It is currently a paved urban six-lane facility with raised medians and curbs and gutters on both sides of the street. The posted speed limit on Paseo del Norte from I-25 to Wyoming varies from 40 to 45 M.P.H.

Louisiana Blvd. is classified as a Minor Arterial roadway on the Long Range Roadway Plan for the Albuquerque Metropolitan Area. It is a rural-type two lane paved roadway north of Paseo del Norte with no raised medians. The Paseo del Norte reconstruction project (1999) included the reconstruction of Louisiana Blvd. as a four lane divided urban roadway from Paseo del Norte to Holly Ave. Louisiana Blvd. will transition to a two-lane roadway north of Holly Ave.

San Pedro Drive is classified as a Collector roadway on the Long Range Roadway Plan for the Albuquerque Metropolitan Area. It is a rural-type two lane paved roadway north of Paseo del Norte with no raised medians. The Paseo del Norte reconstruction project (1999) included the reconstruction of San Pedro Dr. as a four lane divided urban roadway from Paseo del Norte to Holly Ave. San Pedro Dr. will transition to a two-lane roadway north of Holly Ave.

EXISTING TRAFFIC VOLUMES

2004 Average Weekday Traffic Volumes (AWDT) for major streets in the site plan area are shown on Page A-3 in Appendix A.

Traffic volumes for the intersection of Palomas Ave. / Lousiana Blvd. were recently counted by the consulting engineer performing this study.

EXISTING LEVELS OF SERVICE

The Highway Capacity Manual 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
LOS C	20.1 to 35.0"	Significant number of vehicles stop
LOS D	35.1 to 55.0"	Many vehicles stop.
LOS E	55.1 to 80.0"	Limit of acceptable delay.
LOS F	> 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 also.

There were no signalized intersection analyses in this study.

Unsignalized intersection levels-of-service are defined by average contol delay as per the following table:

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

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

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

The following table summarizes the existing geometry and the existing AM Peak Hour and PM Peak Hour levels-of-service of the unsignalized intersection analyzed in this study:

* * * * * * * * * *

Existing Geometry (Palomas Ave. / Lousiana Blvd.)

Approach	Left Turn Lanes	Thru/Lefts	Thru Lanes	Thru/Rights	Right Turn Lanes
EB Palomas Ave.	1	0	0	0	1
WB N/A	0	0	0	0	0
NB Louisiana Blvd.	1	0	2	0	0
SB Louisiana Blvd.	0	0	1	1	0

	2005 Existing	
	AM	PM
Palomas Ave. / Louisiana Blvd.		
Minor Street (Palomas Ave)		
EB Left	F - *	C - 18
EB Right	F - 50	B - 10
Major Street (Louisiana Blvd.)		
NB Left	C - 16	A - 8

PROPOSED DEVELOPMENT

The development plan is a proposed approximately 5 acre Commercial use consisting of an approximately 5,000 S.F. walk-in bank, a 10,000 S.F. High Turnover Sit-Down Restaurant, and an additional 6,600 S.F. of commercial retail center. The land uses utilized for this analysis should be representative of the type of uses that will result from the proposed development. Should the development occur in such a manner that the actual number of trips generated significantly exceed that projected in this study, the City of Albuquerque may require an updated Traffic Impact Study.

Access is provided into the proposed facility via a driveway accessing Palomas Ave. The proposed driveway accessing Palomas Ave. is designated as Driveway "A" in this study.

TRIP GENERATION

Projected trips were calculated from data in the Institute of Transportation Engineers Trip Generation report (7th Edition, 2003). Trips for the development were determined based on land uses projected to be associated with the zone change request for this property.

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

Achen Commercial Development (Paseo del Norte / San Pedro)

Trip Generation Data

	USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
	Summary Sheet	Units					
	Walk-In Bank (911)	5.00	2,100	54	54	105	105
	Shopping Center (820)	6.60	1,160	19	12	50	54
	High Turnover (Sit-Down) Restaurant (932)	10.00	1,272	60	55	67	43
	Subtotal		**4,532**	**133**	**121**	**222**	**202**

(Also, see Pages A-4 thru A-7 in the Appendix of this report for Trip Generation Worksheets and Summary Table.)

TRIP DISTRIBUTION

Trips were distributed as follows:

Primary and Diverted Linked Trips:

Commercial Land Use

Primary and diverted linked trips for the both the commercial land use development were distributed proportionally to the 2009 projected population of Data Analysis Subzones within a 2-mile radius around the proposed development. Population data for the years 2000 and 2005 were taken from the 2025 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico, S-02-01 (April, 2003), 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 streets or route to the subject project. The trip distribution worksheets and associated map of subareas and data analysis subzones are shown on Pages A-8 thru A-9 in the Appendix. The resulting Trip Distribution model is demonstrated by the Trip Distribution Map on Pages A-10 in the Appendix.

TRIP ASSIGNMENT

Trip assignments are first made on a percentage basis derived from data established in the trip distribution determination process and logical routing. Those percentages are then applied to the projected trips to determine individual traffic movements. Percentage trip assignments are shown in the Appendix, Pages A-11 thru A-12. No adjustments for Pass-by Trips on this project were applied.

BACKGROUND TRAFFIC GROWTH

Background traffic growth rates were taken from the Traffic Impact Study for Palomas Plaza (San Pedro / Palomas) submitted by Bohannan-Huston, Inc. dated June 28, 2005.

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2009 BUILDOUT

The calculated annual growth rates were applied to the existing (2005) peak hour traffic counts furnished by the City of Albuquerque (or counted by the consultant) to establish the 2009 background traffic volumes. Generated trips from one other recently approved project were added to obtain the 2009 NO BUILD Volumes. To these volumes, the generated trips based on implementation of the proposed assumed land uses were added to obtain the 2009 BUILD volumes for the intersection analyses. See the Appendix for further information regarding turning movement counts. 2009 NO BUILD Volumes Map, Trips Generated Map, and 2009 BUILD Volumes Map are on Pages A-.

INTERSECTION CAPACITY ANALYSIS

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections in the Highway Capacity Manual, Special Report 209, Transportation Research Board, 2000, using HiCAP Version 2 for unsignalized intersections.

Capacity analyses were performed for the following traffic conditions.

⇒ 2009 without development of the subject property (NO BUILD)
⇒ 2009 with development as per the assumed land uses considering total implementation of the plan.

The results of the 2009 NO BUILD and the 2009 BUILD capacity analyses are summarized in the following sections - *Results and Discussion of Intersection Capacity Analyses*.

RESULTS OF UNSIGNALIZED INTERSECTION CAPACITY ANALYSES

IMPLEMENTATION YEAR (2009)

Palomas Ave. / Louisiana Blvd.

The results of the analysis of the unsignalized intersection of Palomas Ave. / Louisiana Blvd. are summarized in the following table:

	2005 Existing		2009 NO BUILD		2009 BUILD	
	AM	PM	AM	PM	AM	PM
Palomas Ave. / Louisiana Blvd.						
Minor Street (Palomas Ave.)						
EB Left	F - *	C – 18	F - *	C – 25	F - *	D - 26
EB Right	F – 50	B – 10	F - *	B - 11	F - *	B - 12
Major Street (Louisiana Blvd.)						
NB Left	C - 16	A - 8	C - 25	A - 9	D - 31	A - 9

The intersection of Palomas Ave. / Louisiana Blvd. operates at satisfactory levels-of-service during the PM Peak Hour, but is significantly congested during the AM Peak Hour due to the fact that there are two existing schools located on Palomas Ave. Hope Christian School (a private elementary, mid-high, and high school) and Edmund G. Ross Elementary School (a public elementary school) are both located on Palomas Ave. west of Louisiana Blvd. School at Hope starts about 8:00 am and school at Edmund G. Ross Elementary School begins about 8:20 am. The period of congestion at the intersection of Palomas Ave. / Louisiana Blvd. lasts about 45 minutes to one hour. Based on field observation, just prior to that period of time and just afterwards, there is dramatically less traffic at the intersection.

Palomas Ave. / Driveway "A"

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

	2009 BUILD	
	AM	PM
Palomas Ave. / Driveway "A"		
Minor Street (Driveway "A")		
SB Left	B – 14	D - 30
SB Right	A - 10	B - 11
Major Street (Louisiana Blvd.)		
EB Left	A - 8	A - 8

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

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

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

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

CONCLUSIONS

This analysis was conducted using the following methodology: Trip Generation was established using the Institute of Transportation Engineers' (ITE's) Trip Generation Manual (7th Edition). Generated Trips were distributed proportionately based on the Population Data Analysis Subzones within a 2-mile radius of the site; Growth rate of background traffic volumes was established from a recent Traffic Impact Study for a neighboring project; and the intersection analyses were performed in accordance with the 2000 Highway Capacity Manual, Special Report 209. The Traffic Analysis showed a moderate increase in traffic congestion for the adjacent transportation network based on 100% buildout of the proposed project.

In summary, the proposed development of the Achen Commercial Development facility at the southeast corner of Paseo del Norte / San Pedro Rd. will present no significant adverse impact to the adjacent transportation system provided that the following recommendations are followed:

RECOMMENDATIONS

FROM IMPLEMENTATION YEAR (2009) ANALYSIS

- Design and construction of the proposed development should be such that adequate site distances are maintained at all proposed driveways and intersections, and at existing intersections contingent to this site.

Appendix

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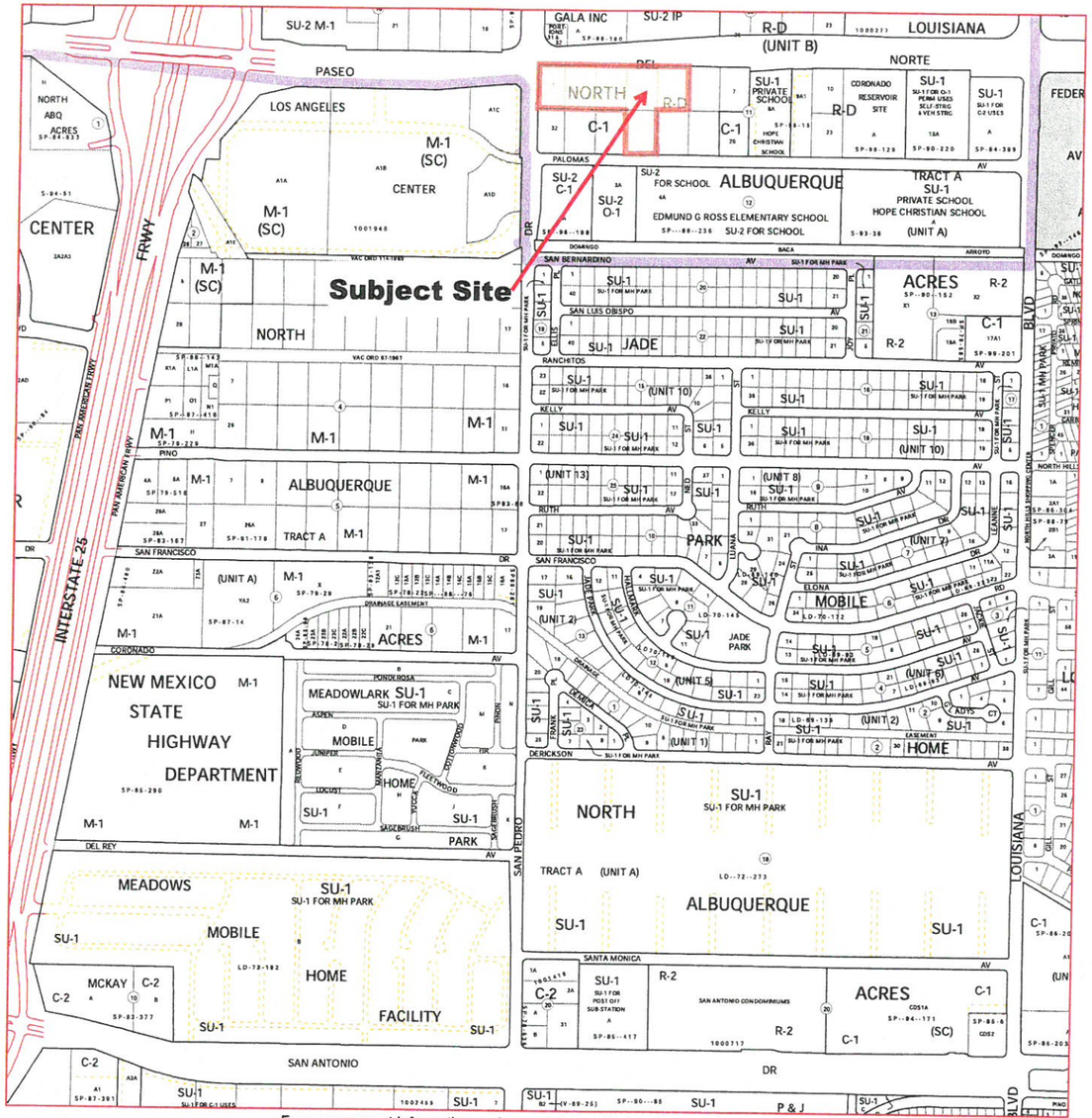
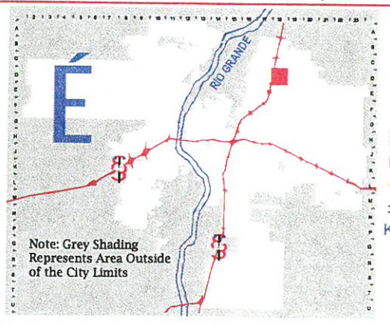
APPENDIX



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



Zone Atlas Page:

D-18-Z

Selected Symbols

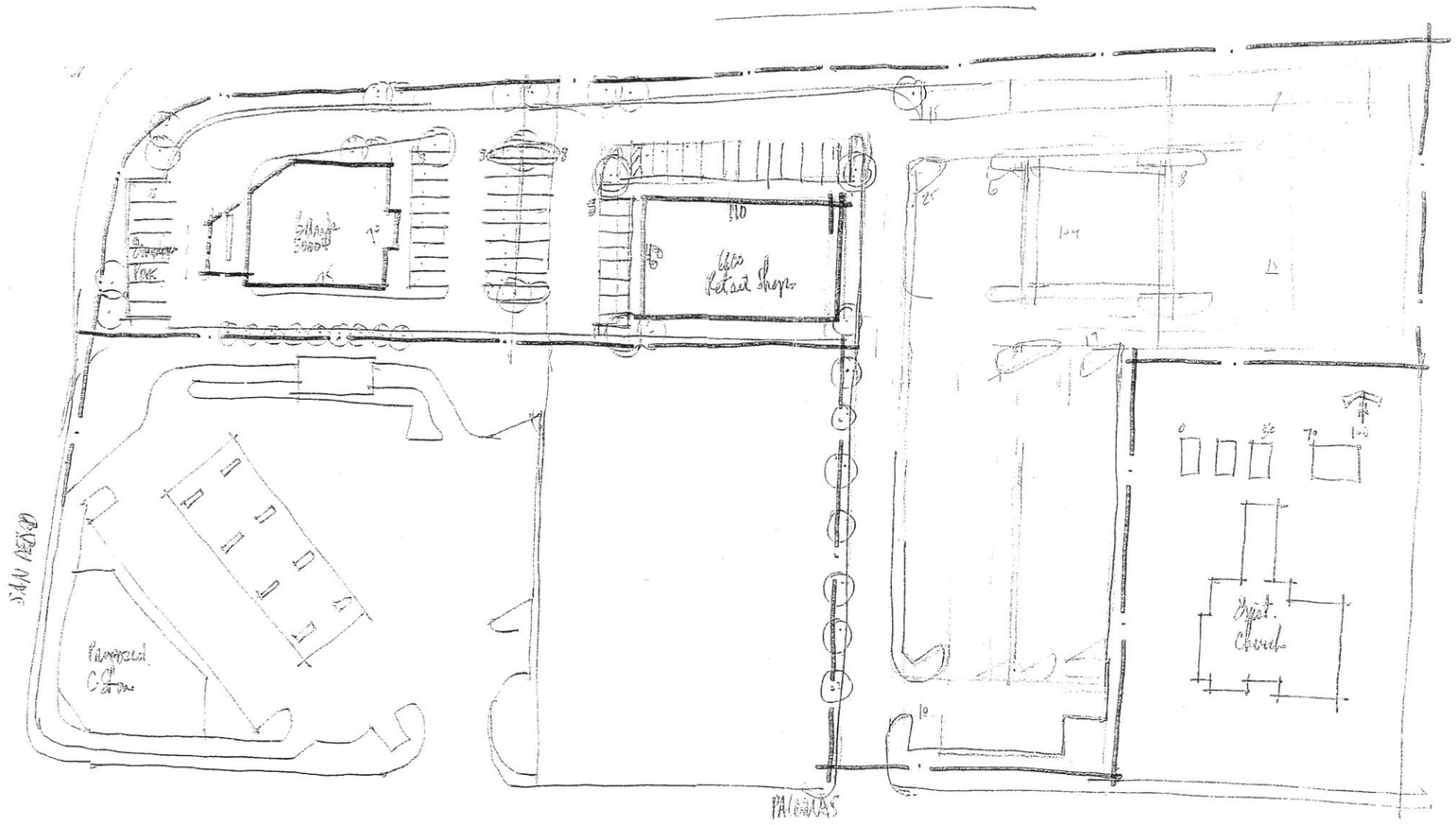
- Outside City Limits
- Sector Plans
- Design Overlay Zones
- City Historic Zone
- KKK H-1 Buffer Zone
- Ø Ø Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

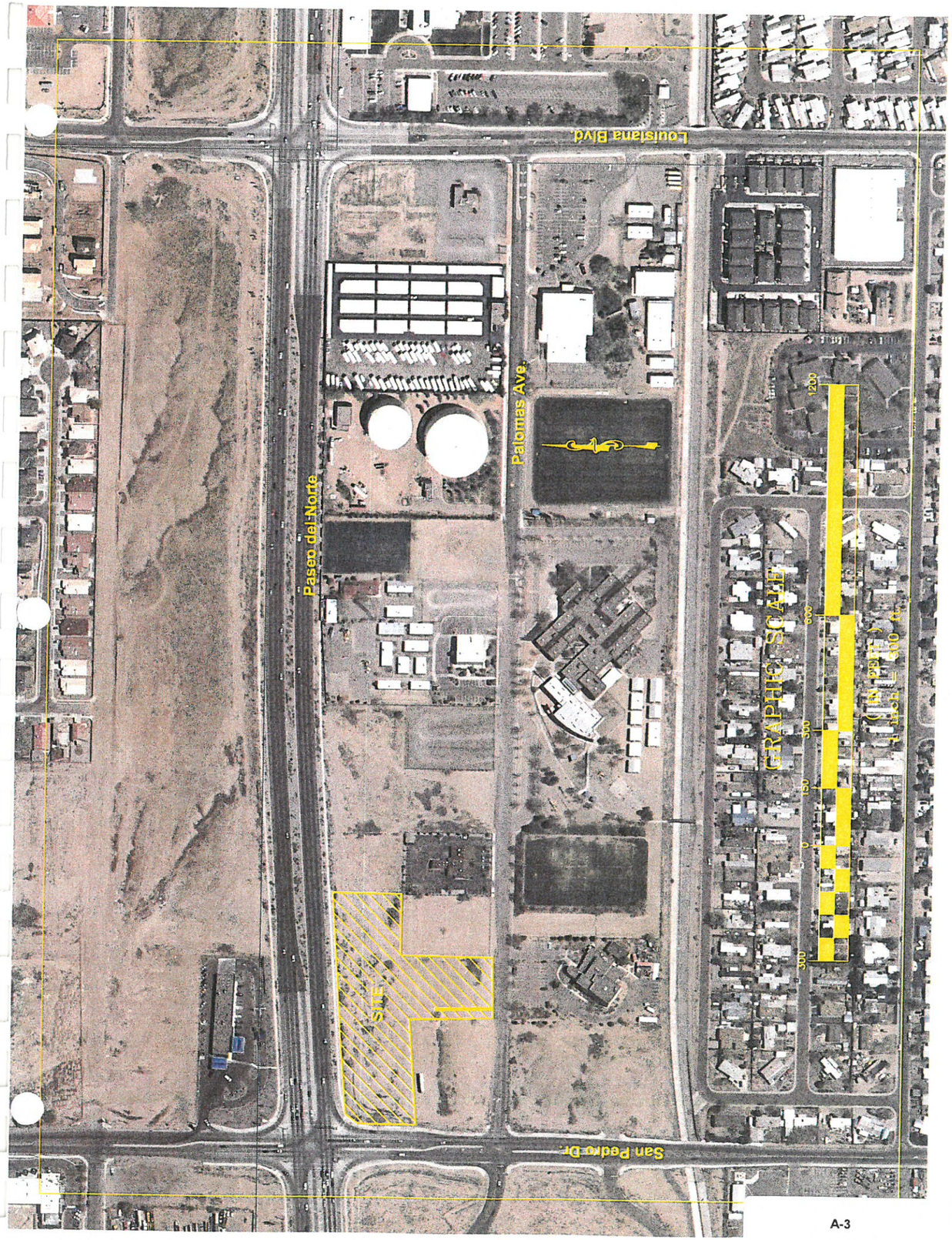
0 750 1,500 Feet

AGIS Albuquerque Geographic Information System

Map amended through: **Apr 22, 2005**

Achen Commercial Development


SAN PEDRO
PALOMAS
110
Retail Shops
Proposed C Store
Dist. Church


Louisiana Blvd
Paseo del Norte
Palomas Ave.
SITE
San Pedro Dr.
GRAPHIC SCALE
1200
600
300
150
0
300
600
1200
(IN FEET)
1 inch = 300 ft.

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)

Trip Generation Data

	USE (ITE CODE)		24 HR VOL	A. M. PEAK HR.		P. M. PEAK HR.	
	DESCRIPTION		*GROSS*	*ENTER*	*EXIT*	*ENTER*	*EXIT*
	Summary Sheet	Units					
	Walk-In Bank (911)	5.00	2,100	54	54	105	105
	Shopping Center (820)	6.60	1,160	19	12	50	54
	High Turnover (Sit-Down) Restaurant (932)	10.00	1,272	60	55	67	43
	Subtotal		**4,532**	**133**	**121**	**222**	**202**

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)
Trip Generation Data

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Walk-In Bank (911)	*5.00*	2,100	54	54	105	105
	1,000 S.F.					

ITE Trip Generation Equations:

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

T = *420* (X) + *0*
50% Enter, *50%* Exit

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

T = *21.49* (X) + *0*
50% Enter, *50%* 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 = *42.02* (X) + *0*
50% Enter, *50%* Exit

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)
Trip Generation Data

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Shopping Center (820)	*6.60*	1,160	19	12	50	54
	1,000 S.F.					

ITE Trip Generation Equations:

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

Ln(T) = *0.65* Ln(X) + *5.83*
50% Enter, *50%* Exit

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

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

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

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

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)
Trip Generation Data

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
High Turnover (Sit-Down) Restaurant (932)	*10.00* 1,000 S.F.	1,272	60	55	67	43

ITE Trip Generation Equations:

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

T = *127.15* (X) + *0*
50% Enter, *50%* Exit

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

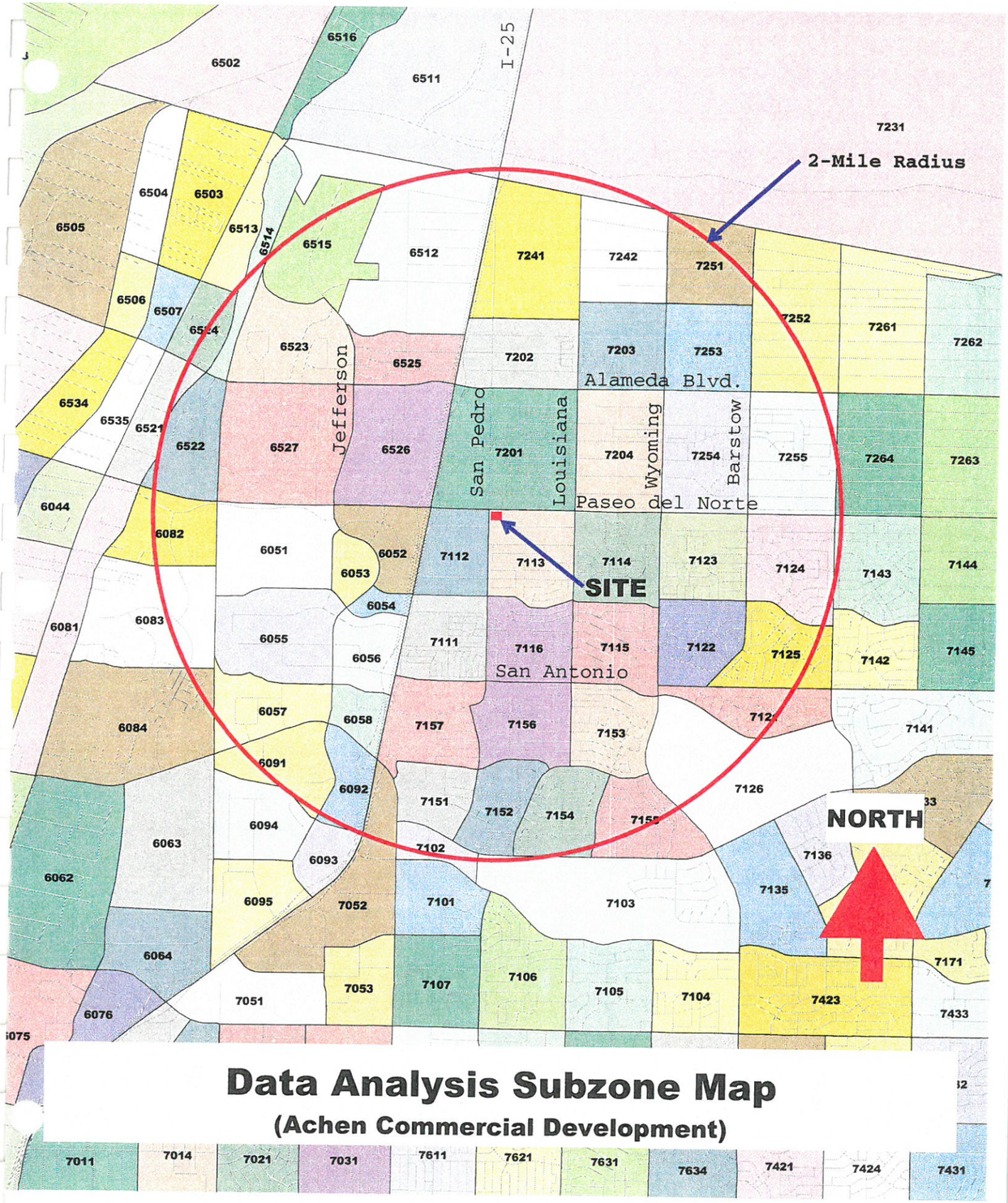
T = *11.52* (X) + *0*
52% Enter, *48%* Exit

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

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

Comments:
Tract No.

Based on ITE Trip Generation Manual - 7th Edition



Data Analysis Subzone Map

(Achen Commercial Development)

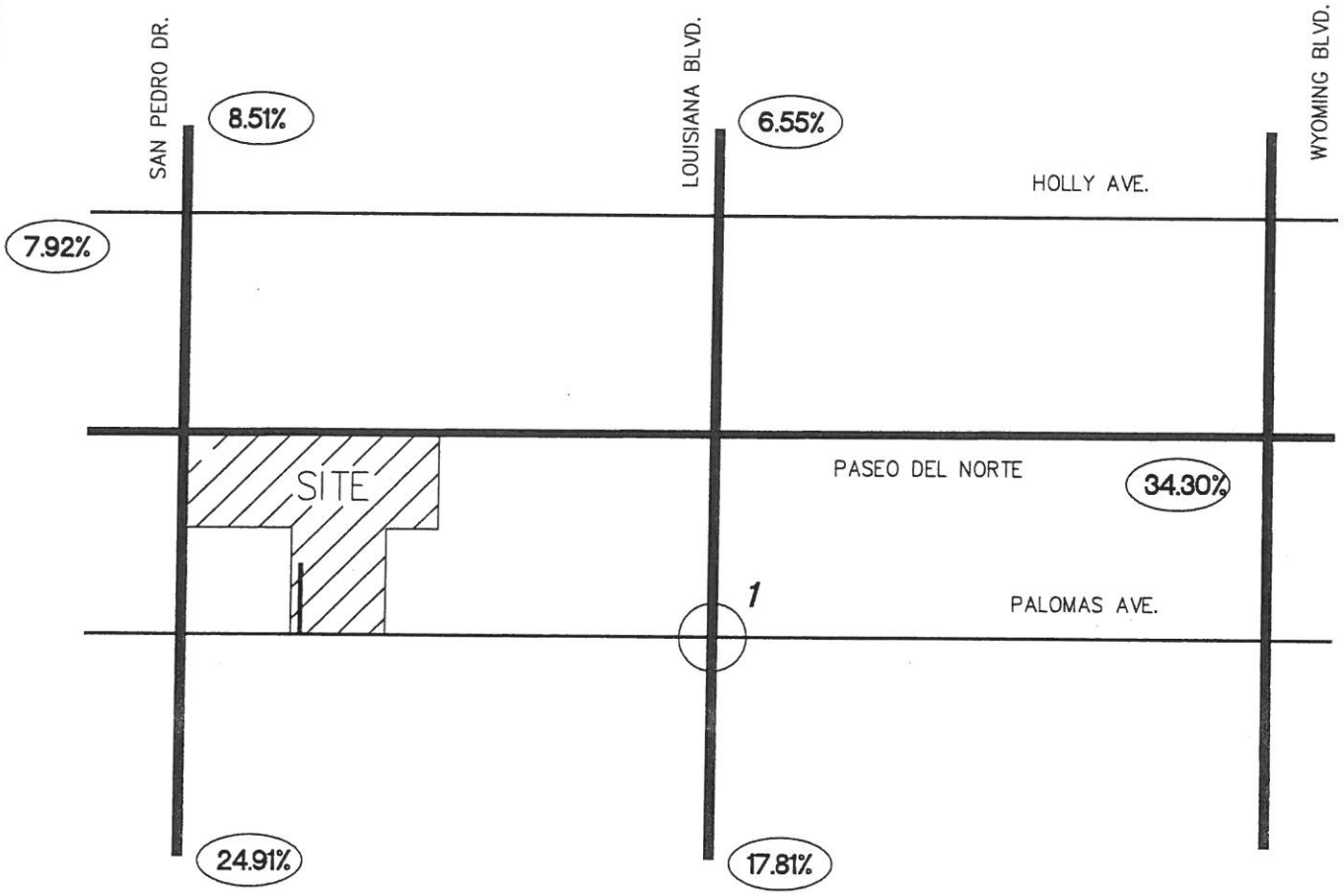
Trip Distribution Table

Achen Commercial Development (Paseo del Norte / San Pedro)

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

1995, 2005, & 2020 Data Taken from Middle Rio Grande Council of Governments' 2020 Socioeconomic Forecasts for Data Analysis Subzones in State Planning and Development District 3 (TR-125)

							(LN) Louisiana North			(PdNE) Paseo del Norte East			(LS) Louisiana South			(SS) San Pedro South)			(PdNW) Paseo del Norte West			(SN) San Pedro North		
DASZ #	% Sub Area in Study	2000 Population	2025 Population	Interpolated Population for the Year	Population in Study	Percent Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2000	2025	2009																				
Boundary Specified on DASZ Map																								
6051	100%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.00%	0	0%	0.00%	0
6052	100%	0	9	3	3	**0.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.01%	3	0%	0.00%	0
6053	100%	0	14	5	5	**0.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.01%	3	50%	0.01%	3	0%	0.00%	0
6054	100%	2	2	2	2	**0.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.01%	2	0%	0.00%	0	0%	0.00%	0
6055	100%	0	7	3	3	**0.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.01%	3	0%	0.00%	0	0%	0.00%	0
6056	100%	0	23	8	8	**0.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.02%	8	0%	0.00%	0	0%	0.00%	0
6057	100%	6	6	6	6	**0.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.02%	6	0%	0.00%	0	0%	0.00%	0
6058	100%	52	57	54	54	**0.17%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.17%	54	0%	0.00%	0	0%	0.00%	0
6082	60%	57	58	57	34	**0.10%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.10%	34	0%	0.00%	0
6083	40%	322	2404	1,072	429	**1.32%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	1.32%	429	0%	0.00%	0
6091	90%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.00%	0	50%	0.00%	0	0%	0.00%	0
6092	100%	6	0	4	4	**0.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.01%	4	0%	0.00%	0	0%	0.00%	0
6512	100%	3	379	138	138	**0.42%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.21%	69	50%	0.21%	69
6514	40%	101	207	139	56	**0.17%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.17%	56	0%	0.00%	0
6515	70%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.00%	0	50%	0.00%	0
6522	100%	0	0	0	0	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.00%	0	0%	0.00%	0
6523	100%	602	633	613	613	**1.88%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.94%	307	50%	0.94%	307
6524	40%	260	253	257	103	**0.32%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.16%	52	50%	0.16%	52
6525	100%	387	453	411	411	**1.26%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.63%	206	50%	0.63%	206
6526	100%	1330	1263	1,306	1,306	**4.01%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	2.01%	653	50%	2.01%	653
6527	100%	0	2	1	1	**0.00%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	80%	0.00%	1	20%	0.00%	0
7102	80%	494	463	483	386	**1.19%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	50%	0.59%	193	50%	0.59%	193	0%	0.00%	0
7111	100%	1176	1184	1,179	1,179	**3.62%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	3.62%	1,179	0%	0.00%	0	0%	0.00%	0
7112	100%	5	10	7	7	**0.02%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	100%	0.02%	7	0%	0.00%	0	0%	0.00%	0
7113	100%	893	1145	984	984	**3.02%**	0%	0.00%	0	0%	0.00%	0	30%	0.91%	295	70%	2.12%	689	0%	0.00%	0	0%	0.00%	0
7114	100%	1486	1408	1,458	1,458	**4.48%**	0%	0.00%	0	0%	0.00%	0	80%	3.58%	1,166	20%	0.90%	292	0%	0.00%	0	0%	0.00%	0
7115	100%	1541	1450	1,508	1,508	**4.63%**	0%	0.00%	0	0%	0.00%	0	50%	2.32%	754	50%	2.32%	754	0%	0.00%	0	0%	0.00%	0
7116	100%	1275	1372	1,310	1,310	**4.02%**	0%	0.00%	0	0%	0.00%	0	20%	0.80%	262	80%	3.22%	1,048	0%	0.00%	0	0%	0.00%	0
7121	80%	952	920	940	752	**2.31%**	0%	0.00%	0	40%	0.92%	301	20%	0.46%	150	40%	0.92%	301	0%	0.00%	0	0%	0.00%	0
7122	100%	1310	1269	1,295	1,295	**3.98%**	0%	0.00%	0	100%	3.98%	1,295	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7123	100%	1268	1729	1,434	1,434	**4.40%**	0%	0.00%	0	100%	4.40%	1,434	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7124	100%	1473	1491	1,479	1,479	**4.54%**	0%	0.00%	0	100%	4.54%	1,479	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7125	80%	1384	1297	1,353	1,082	**3.32%**	0%	0.00%	0	100%	3.32%	1,082	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7126	40%	0	1209	435	174	**0.53%**	0%	0.00%	0	40%	0.21%	70	20%	0.11%	35	40%	0.21%	70	0%	0.00%	0	0%	0.00%	0
7151	100%	1029	964	1,006	1,006	**3.09%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	70%	2.16%	704	30%	0.93%	302	0%	0.00%	0
7152	100%	1418	1324	1,384	1,384	**4.25%**	0%	0.00%	0	0%	0.00%	0	30%	1.28%	415	70%	2.98%	969	0%	0.00%	0	0%	0.00%	0
7153	100%	1420	1336	1,390	1,390	**4.27%**	0%	0.00%	0	20%	0.85%	278	80%	3.41%	1,112	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7154	100%	1262	1156	1,224	1,224	**3.76%**	0%	0.00%	0	0%	0.00%	0	100%	3.76%	1,224	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7155	50%	902	836	878	439	**1.35%**	0%	0.00%	0	80%	1.08%	351	20%	0.27%	88	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7156	100%	1525	1415	1,485	1,485	**4.56%**	0%	0.00%	0	0%	0.00%	0	20%	0.91%	297	80%	3.65%	1,188	0%	0.00%	0	0%	0.00%	0
7157	100%	736	1232	915	915	**2.81%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	70%	1.97%	641	30%	0.84%	275	0%	0.00%	0
7201	100%	1826	2475	2,060	2,060	**6.33%**	40%	2.53%	824	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	60%	3.80%	1,236
7202	100%	106	214	145	145	**0.45%**	40%	0.18%	58	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	60%	0.27%	87
7203	100%	294	1362	678	678	**2.08%**	70%	1.46%	475	30%	0.62%	203	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7204	100%	360	1666	830	830	**2.55%**	70%	1.78%	581	30%	0.76%	249	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7241	100%	0	647	233	233	**0.72%**	30%	0.21%	70	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	70%	0.50%	163
7242	100%	34	371	155	155	**0.48%**	80%	0.38%	124	20%	0.10%	31	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7251	70%	117	374	210	147	**0.45%**	0%	0.00%	0	100%	0.45%	147	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7252	40%	252	620	384	154	**0.47%**	0%	0.00%	0	100%	0.47%	154	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7253	100%	1109	1249	1,159	1,159	**3.56%**	0%	0.00%	0	100%	3.56%	1,159	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7254	100%	1631	1645	1,636	1,636	**5.02%**	0%	0.00%	0	100%	5.02%	1,636	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
7255	100%	894	2022	1,300	1,300	**3.99%**	0%	0.00%	0	100%	3.99%	1,300	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
				35,016	32,564	100.00%			**2,132** 6.55%			**11,169** 34.30%			**5,799** 17.81%			**8,113** 24.91%			**2,580** 7.92%			**2,772** 8.51%



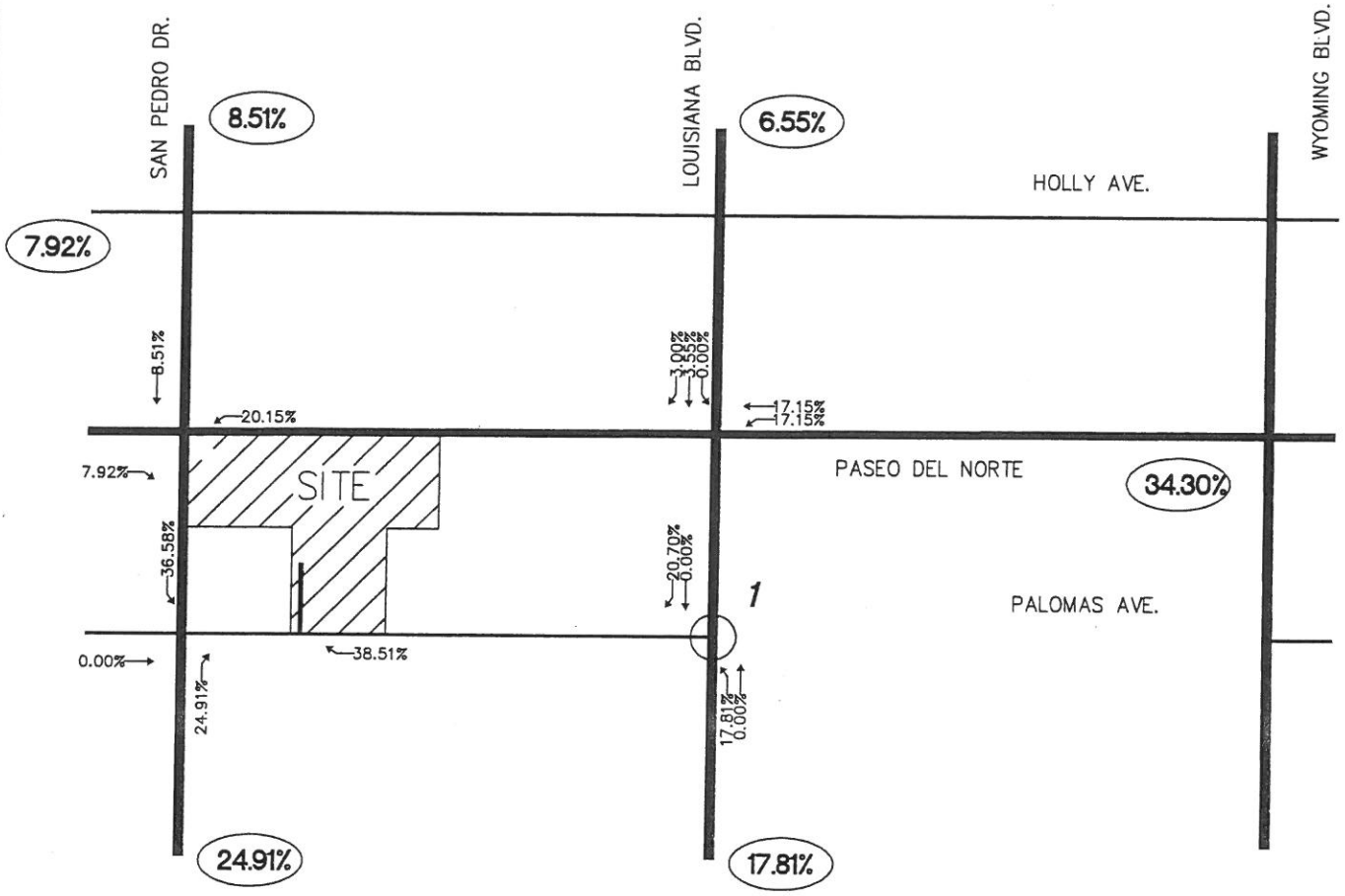
NORTH

NOT TO SCALE

Achen Commercial Development

(SE CORNER PASEO DEL NORTE / SAN PEDRO RD.)

TRIP DISTRIBUTION MAP



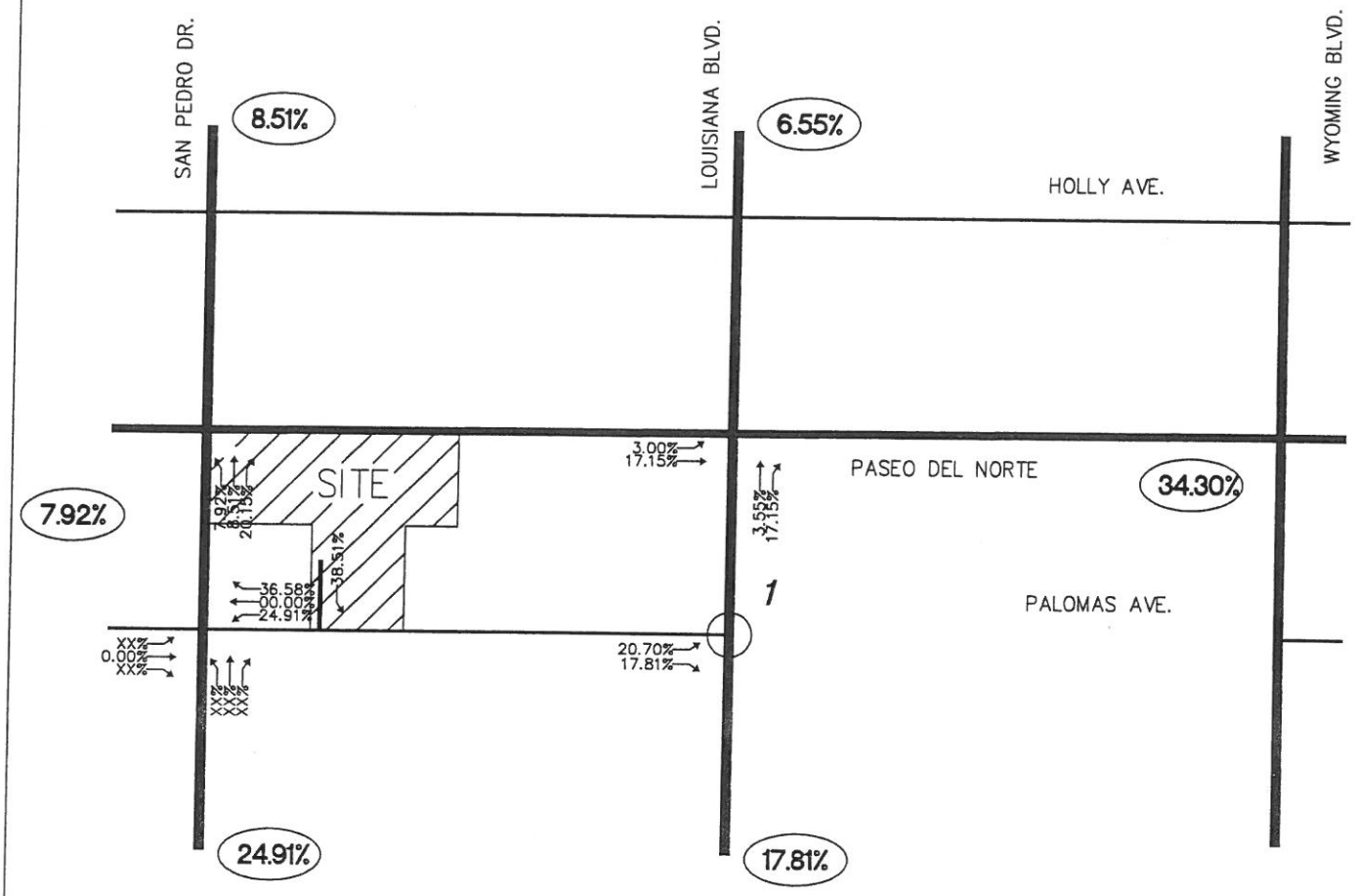
NORTH

NOT TO SCALE

Achen Commercial Development

(SE CORNER PASEO DEL NORTE / SAN PEDRO RD.)

TRIP ASSIGNMENTS MAP (% ENTERING)



NORTH

NOT TO SCALE

Achen Commercial Development

(SE CORNER PASEO DEL NORTE / SAN PEDRO RD.)

TRIP ASSIGNMENTS MAP (% EXITING)

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2009) - 100% Development

INTERSECTION: **Summary**

Palomas Ave. / Louisiana Blvd.

(1)

3.0% Truck

	0.50			0.90			0.75			0.70			PHF
	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Louisiana Blvd.)			Southbound (Louisiana Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	65	0	194	0	0	0	175	278	0	0	324	523	
2009 (NO BUILD - A.M.)	*78*	*0*	*233*	*0*	*0*	*0*	*210*	*334*	*0*	*0*	*389*	*628*	
2009 (BUILD - A.M.)	***103***	***0***	***255***	***0***	***0***	***0***	***234***	***334***	***0***	***0***	***389***	***656***	

	0.61			0.90			0.86			0.80			PHF
	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Louisiana Blvd.)			Southbound (Louisiana Blvd.)			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	81	1	62	0	0	0	42	242	0	0	254	75	
2009 (NO BUILD - P.M.)	*97*	*1*	*74*	*0*	*0*	*0*	*50*	*290*	*0*	*0*	*305*	*90*	
2009 (BUILD - P.M.)	***139***	***1***	***110***	***0***	***0***	***0***	***90***	***290***	***0***	***0***	***305***	***136***	

Palomas Ave. / Driveway "A"

(2)

3.0% Truck

	0.85			0.85			0.85			0.85			PHF
	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Driveway "A")			Southbound (Driveway "A")			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	149	0	0	100	0	0	0	0	0	0	0	
2009 (NO BUILD - A.M.)	*0*	*179*	*0*	*0*	*120*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2009 (BUILD - A.M.)	***82***	***179***	***0***	***0***	***120***	***51***	***0***	***0***	***0***	***47***	***0***	***74***	

	0.85			0.85			0.85			0.85			PHF
	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Driveway "A")			Southbound (Driveway "A")			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Existing (2005)	0	322	0	0	125	0	0	0	0	0	0	0	
2009 (NO BUILD - P.M.)	*0*	*386*	*0*	*0*	*150*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	
2009 (BUILD - P.M.)	***137***	***386***	***0***	***0***	***150***	***85***	***0***	***0***	***0***	***78***	***0***	***124***	

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)

Projected Turning Movements Worksheet

Palomas Ave. / Louisiana Blvd.

INTERSECTION: E-W Street: **Palomas Ave.** (1)

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

Year of Existing Counts 2005

Implementation Year **2009**

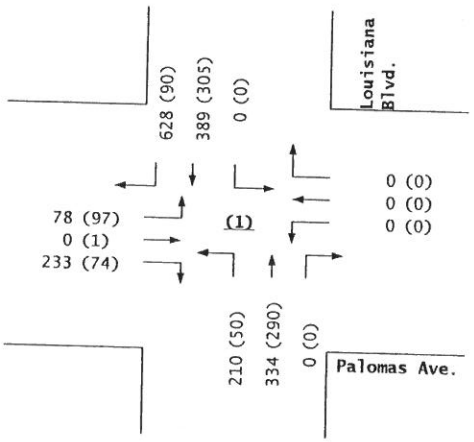
Growth Rates 5.00% 5.00% 5.00% 5.00%

	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Louisiana Blvd.)			Southbound (Louisiana Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	65	0	194	0	0	0	175	278	0	0	324	523
Background Traffic Growth	13	0	39	0	0	0	35	56	0	0	65	105
Subtotal (NO BUILD - A.M.)	***78***	***0***	***233***	***0***	***0***	***0***	***210***	***334***	***0***	***0***	***389***	***628***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*17.81%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*20.70%*
Percent Commercial Trips Generated(Exiting)	*20.70%*	*0.00%*	*17.81%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	25	0	22	0	0	0	24	0	0	0	0	28
Total AM Peak Hour BUILD Volumes	**103**	**0**	**255**	**0**	**0**	**0**	**234**	**334**	**0**	**0**	**389**	**656**

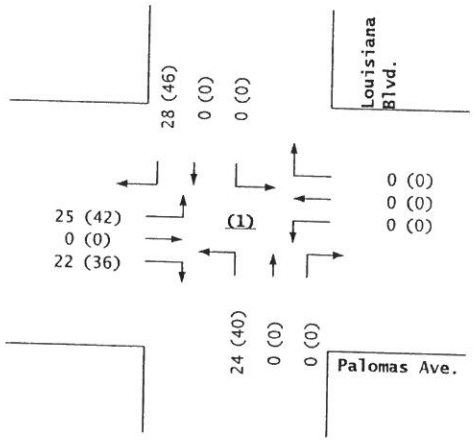
	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Louisiana Blvd.)			Southbound (Louisiana Blvd.)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	81	1	62	0	0	0	42	242	0	0	254	75
Background Traffic Growth	16	0	12	0	0	0	8	48	0	0	51	15
Subtotal (NO BUILD - P.M.)	***97***	***1***	***74***	***0***	***0***	***0***	***50***	***290***	***0***	***0***	***305***	***90***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*17.81%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*20.70%*
Percent Commercial Trips Generated(Exiting)	*20.70%*	*0.00%*	*17.81%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	42	0	36	0	0	0	40	0	0	0	0	46
Total PM Peak Hour BUILD Volumes	**139**	**1**	**110**	**0**	**0**	**0**	**90**	**290**	**0**	**0**	**305**	**136**

	Entering	Exiting		
Number of Commercial Trips Generated	**133**	**121**	A.M.	100% Commercial Development
	222	**202**	P.M.	

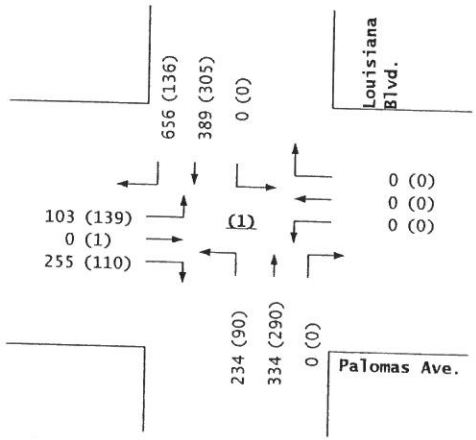
2009
NO BUILD



Trips



2009
BUILD



Palomas Ave. / Louisiana Blvd.

Achen Commercial Development (Paseo del Norte / San Pedro Dr.)

Projected Turning Movements Worksheet

Palomas Ave. / Driveway "A"

INTERSECTION: E-W Street: **Palomas Ave.** (2)

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

Year of Existing Counts 2005

Implementation Year **2009**

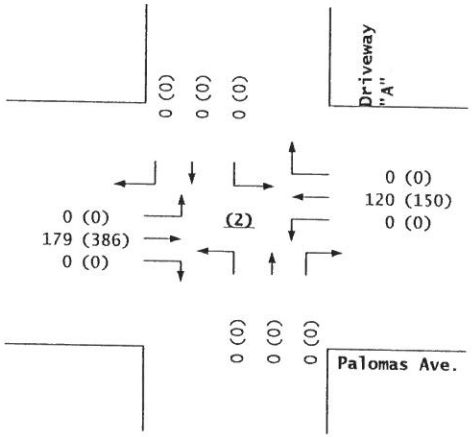
Growth Rates 5.00% 5.00% 5.00% 5.00%

	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Driveway "A")			Southbound (Driveway "A")		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	149	0	0	100	0	0	0	0	0	0	0
Background Traffic Growth	0	30	0	0	20	0	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***179***	***0***	***0***	***120***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*61.49%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*38.51%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*38.51%*	*0.00%*	*61.49%*
Total Trips Generated	82	0	0	0	0	51	0	0	0	47	0	74
Total AM Peak Hour BUILD Volumes	**82**	**179**	**0**	**0**	**120**	**51**	**0**	**0**	**0**	**47**	**0**	**74**

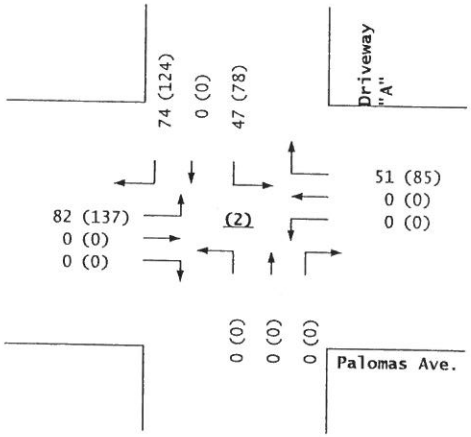
	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Driveway "A")			Southbound (Driveway "A")		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	322	0	0	125	0	0	0	0	0	0	0
Background Traffic Growth	0	64	0	0	25	0	0	0	0	0	0	0
Subtotal (NO BUILD - P.M.)	***0***	***386***	***0***	***0***	***150***	***0***	***0***	***0***	***0***	***0***	***0***	***0***
Percent Commercial Trips Generated(Entering)	*61.49%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*38.51%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*38.51%*	*0.00%*	*61.49%*
Total Trips Generated	137	0	0	0	0	85	0	0	0	78	0	124
Total PM Peak Hour BUILD Volumes	**137**	**386**	**0**	**0**	**150**	**85**	**0**	**0**	**0**	**78**	**0**	**124**

	Entering	Exiting		
Number of Commercial Trips Generated	**133**	**121**	A.M.	100% Commercial Development
	222	**202**	P.M.	

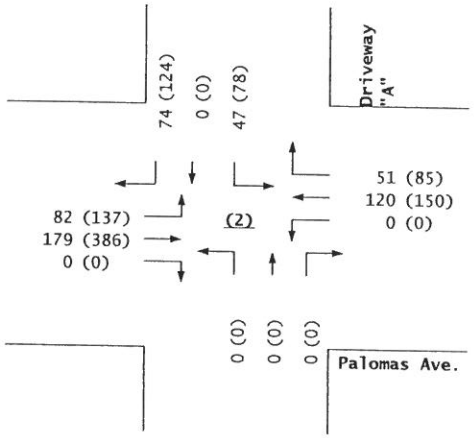
2009
NO BUILD



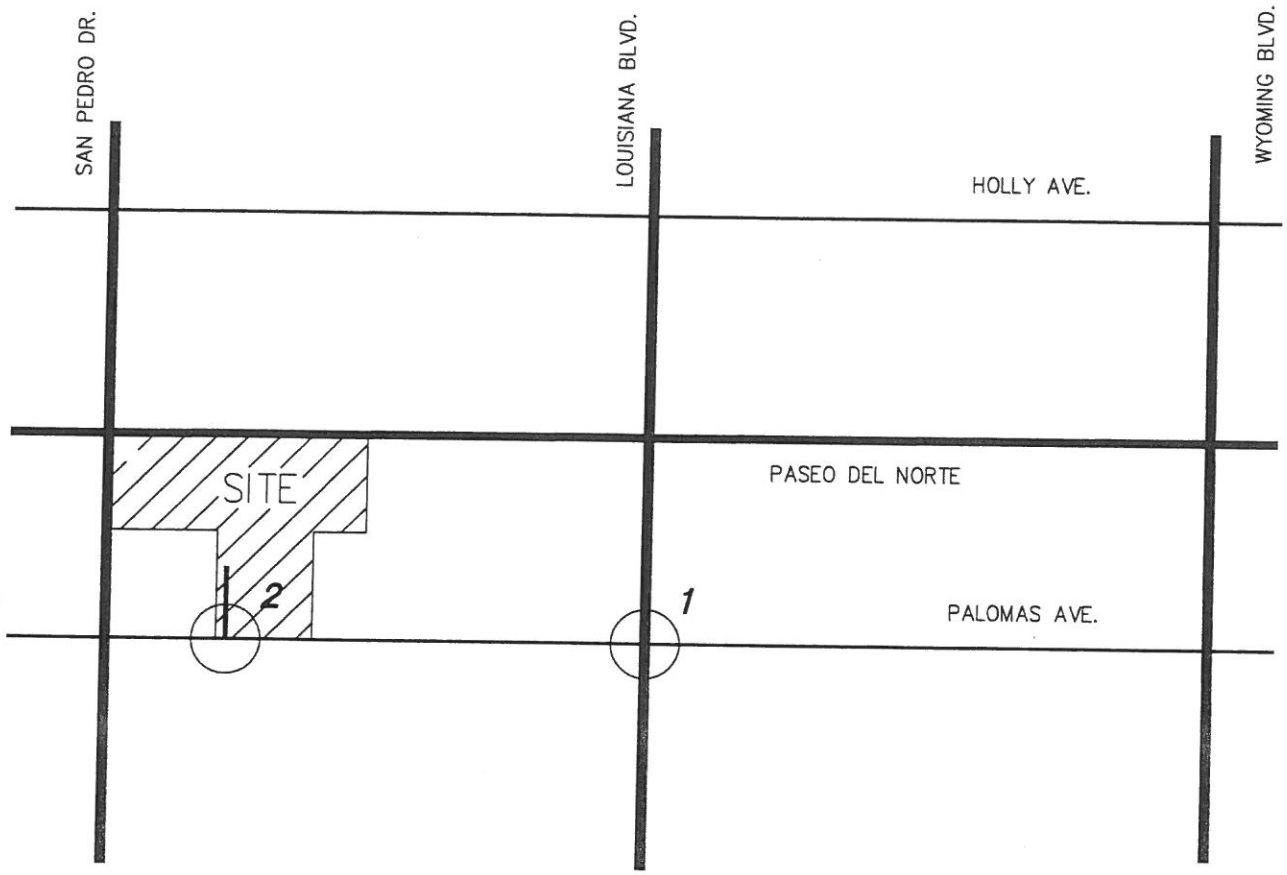
Trips



2009
BUILD

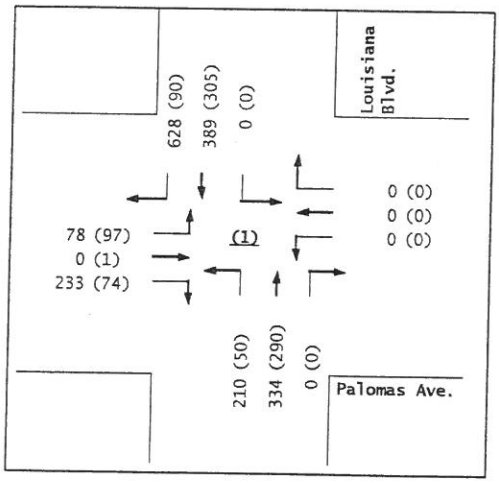


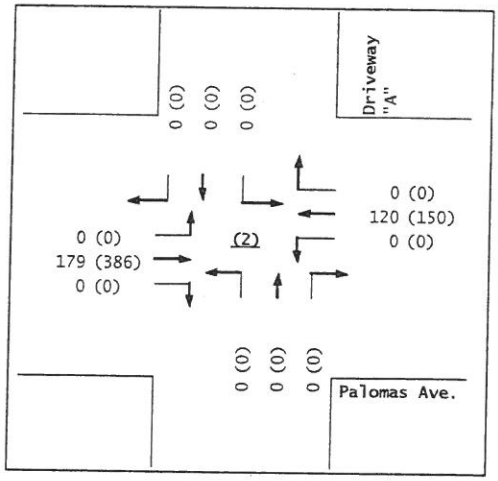
Palomas Ave. / Driveway "A"



NORTH

NOT TO SCALE

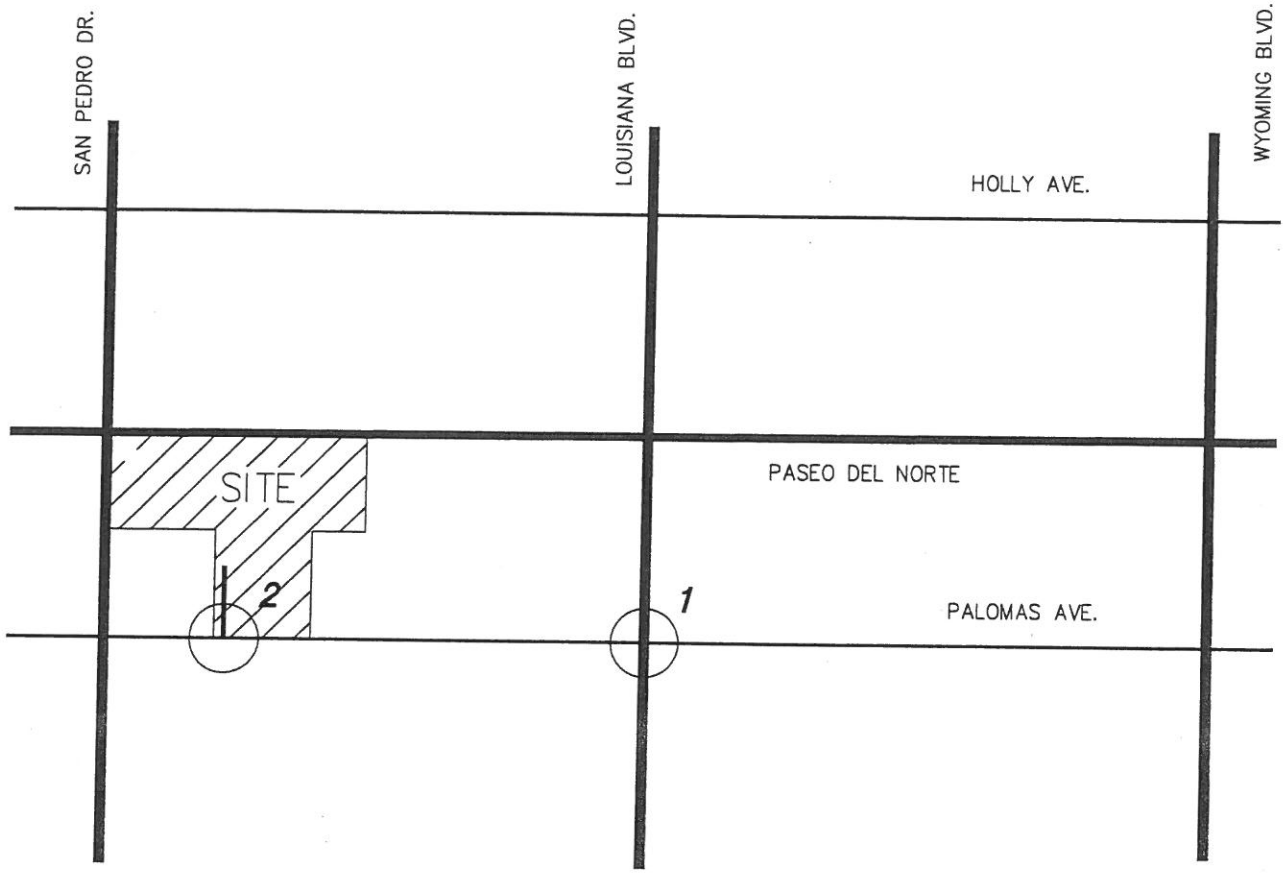




Achen Commercial Development

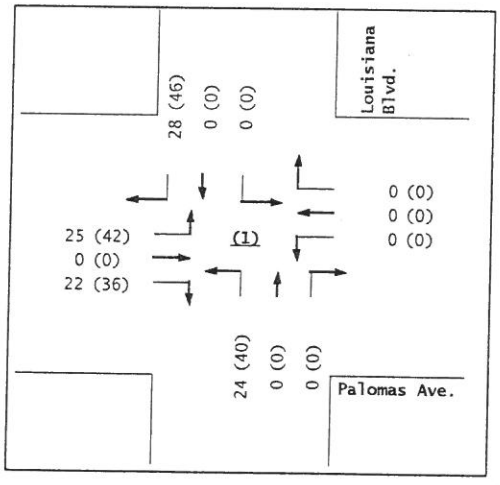
(SE CORNER PASEO DEL NORTE / SAN PEDRO RD.)

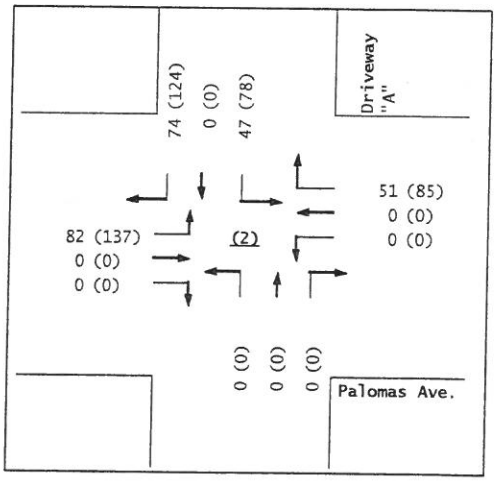
2009 NO BUILD VOLUMES



NORTH

NOT TO SCALE





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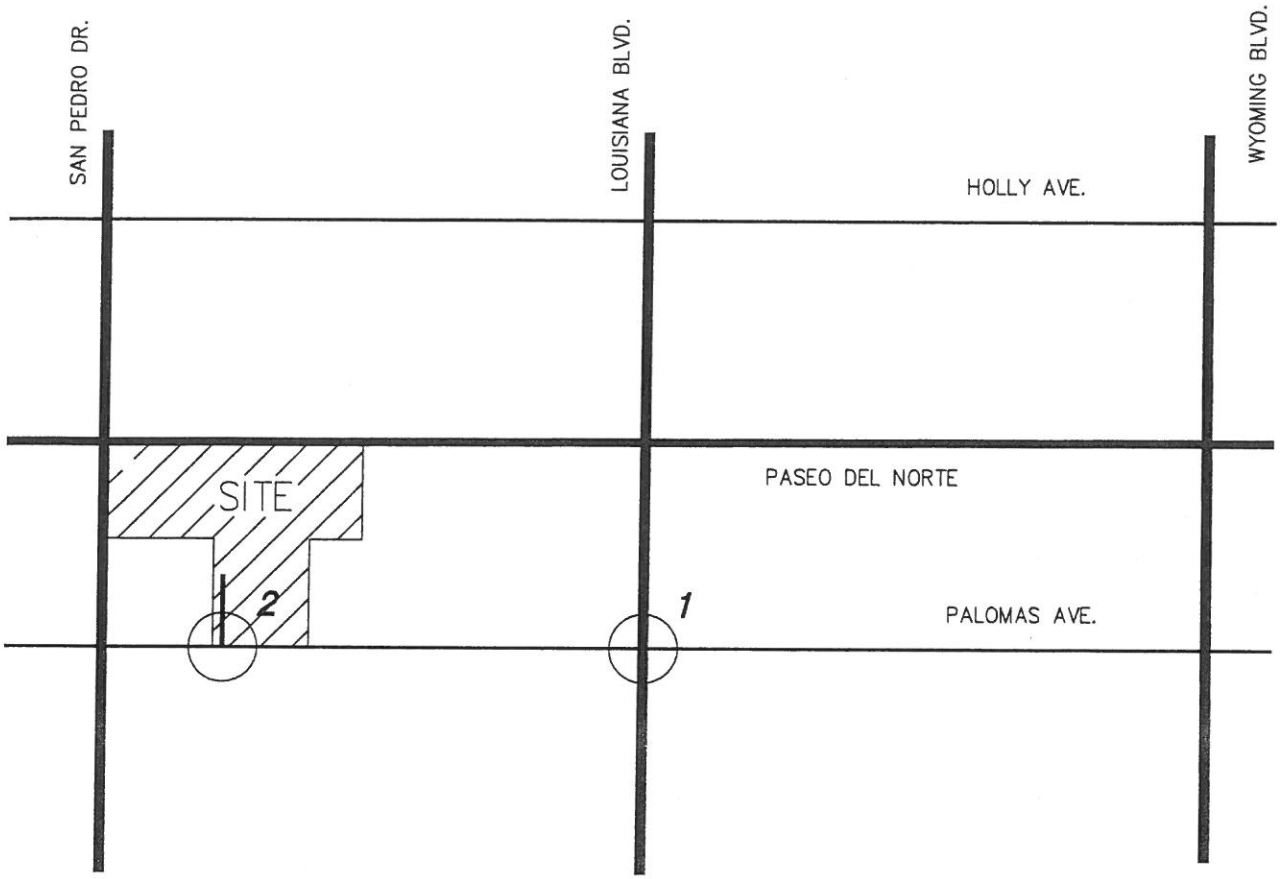
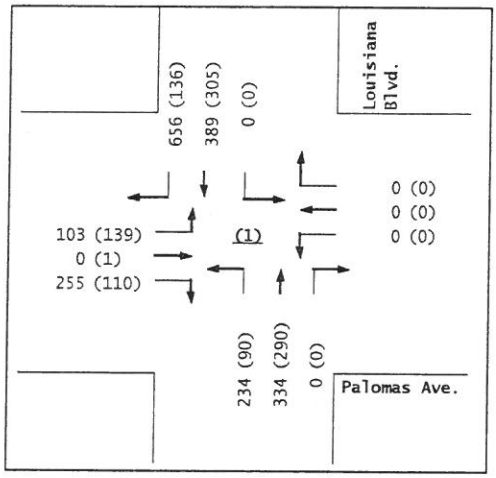
(SE CORNER PASEO DEL NORTE / SAN PEDRO RD.)

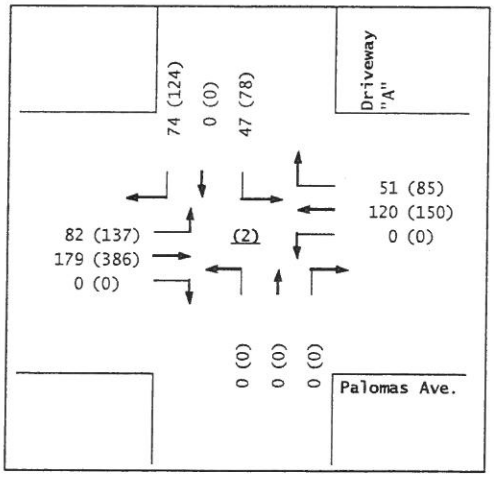
Trips Generated Volumes



NORTH

NOT TO SCALE





Achen Commercial Development

(SE CORNER PASEO DEL NORTE / SAN PEDRO RD.)

2009 BUILD VOLUMES

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	tob	Jurisdiction/Date	City of Albuque 9/9/2005
Agency or Company	Terry O. Brown	Major Street	Louisiana Blvd.
Analysis Period/Year	AM Peak 2005	Minor Street	Palomas Ave.
Comment	2005 AM Peak Hour Existing Conditions		

Input Data

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

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	175	278			324	523				65		194
PHF	0.75	0.75			0.70	0.70				0.50		0.50
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	233	371			463	747				130		388
Flare storage (# of vehs)												
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	388	438	0.885	9	50.2	F	181.8
	2	L	130	67	1.943	12	574.6	F	
	3								F
NB		(1)	233	567	0.412	2	15.7	C	
SB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	tob
Agency or Company	Terry O. Brown
Analysis Period/Year	AM Peak 2009
Comment	2009 AM Peak Hour NO BUILD Conditions

Site Information

Jurisdiction/Date	City of Albuque 9/9/2005
Major Street	Louisiana Blvd.
Minor Street	Palomas Ave.

Input Data

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

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	210	334			389	628				78		233
PHF	0.75	0.75			0.70	0.70				0.50		0.50
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	280	445			556	897				156		466
Flare storage (# of vehs)												
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	466	364	1.278	21	175.6	F	723.1
	2	L	156	28	5.615	19	2358.6	F	
	3								F
NB		(1)	280	457	0.613	4	24.6	C	
SB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information ***Site Information***

Analyst	tob		Jurisdiction/Date	City of Albuque 9/11/2005
Agency or Company	Terry O. Brown		Major Street	Louisiana Blvd.
Analysis Period/Year	AM Peak	2009	Minor Street	Palomas Ave.
Comment	2009 AM Peak Hour BUILD Conditions			

Input Data

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

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	234	334			389	656				103		255
PHF	0.75	0.75			0.70	0.70				0.50		0.50
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	312	445			556	937				206		510
Flare storage (# of vehs)												
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	510	354	1.442	27	243.3	F	1609.7
	2	L	206	18	11.192	26	4992.6	F	
	3								F
NB		(1)	312	441	0.708	5	30.6	D	
SB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	tob
Agency or Company	Terry O. Brown
Analysis Period/Year	PM Peak 2005
Comment	2005 PM Peak Hour Existing Conditions

Site Information

Jurisdiction/Date	City of Albuque 9/9/2005
Major Street	Louisiana Blvd.
Minor Street	Palomas Ave.

Input Data

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

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	42	242			254	75				81		62
PHF	0.86	0.86			0.80	0.80				0.61		0.61
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	49	281			318	94				133		102
Flare storage (# of vehs)												
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	102	798	0.128	0	10.2	B	14.6
	2	L	133	410	0.324	1	17.9	C	
	3								B
NB		(1)	49	1137	0.043	0	8.3	A	
SB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	tob	Jurisdiction/Date	City of Albuque 9/9/2005
Agency or Company	Terry O. Brown	Major Street	Louisiana Blvd.
Analysis Period/Year	PM Peak 2009	Minor Street	Palomas Ave.
Comment	2009 PM Peak Hour NO BUILD Conditions		

Input Data

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

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	50	290			305	90				97		74
PHF	0.86	0.86			0.80	0.80				0.61		0.61
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	58	337			381	113				159		121
Flare storage (# of vehs)												
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	121	750	0.161	1	10.7	B	18.6
	2	L	159	340	0.468	2	24.6	C	
	3								C
NB		(1)	58	1059	0.055	0	8.6	A	
SB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	tob	Jurisdiction/Date	City of Albuque 9/11/2005
Agency or Company	Terry O. Brown	Major Street	Louisiana Blvd.
Analysis Period/Year	PM Peak 2009	Minor Street	Palomas Ave.
Comment	2009 PM Peak Hour BUILD Conditions		

Site Information

Input Data

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

	NB			SB			WB			EB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	90	290			305	136				139		110
PHF	0.86	0.86			0.80	0.80				0.61		0.61
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	105	337			381	170				228		180
Flare storage (# of vehs)												
Median storage (# of vehs)										1		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
WB	1								
	2								
	3								
EB	1	R	180	719	0.250	1	11.7	B	19.7
	2	L	228	393	0.580	4	26.0	D	
	3								C
NB		(1)	105	1008	0.104	0	9.0	A	
SB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information | ***Site Information***

Analyst	tob	Jurisdiction/Date	City of Albuque 9/9/2005
Agency or Company	Terry O. Brown	Major Street	Palomas Ave.
Analysis Period/Year	AM Peak 2009	Minor Street	Driveway "A"
Comment	2009 AM Peak Hour BUILD Conditions		

Input Data

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

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	82	179			120	51				47		74
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	96	211			141	60				55		87
Flare storage (# of vehs)												
Median storage (# of vehs)												

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1								
	2								
	3								
SB	1	R	87	870	0.100	0	9.6	A	11.4
	2	L	55	444	0.124	0	14.2	B	
	3								B
EB		(1)	96	1365	0.071	0	7.8	A	
WB		(4)							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	tob	Jurisdiction/Date	City of Albuque 9/9/2005
Agency or Company	Terry O. Brown	Major Street	Palomas Ave.
Analysis Period/Year	PM Peak 2009	Minor Street	Driveway "A"
Comment	2009 PM Peak Hour BUILD Conditions		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	T			TR						R		
Lane 2	L									L		
Lane 3												
Lane 4												
Lane 5												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	137	386			150	85				78		124
PHF	0.85	0.85			0.85	0.85				0.85		0.85
Percent of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	161	454			176	100				92		146
Flare storage (# of vehs)												
Median storage (# of vehs)												

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) 0.25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1								
	2								
	3								
SB	1	R	146	810	0.180	1	10.4	B	18.0
	2	L	92	234	0.394	2	30.1	D	
	3								C
EB		(1)	161	1281	0.126	0	8.2	A	
WB		(4)							

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Traffic Count Data Sheet

Year Counts Taken: **2005**

Achen Commercial Development (Paseo del Norte / San Pedro)

E-W Street **Palomas Ave.**

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

UNSIGNALIZED

Speed Limit (Palomas Ave.)= **25** MPH

Speed Limit (Louisiana Blvd.)= **30** MPH

Date of Count: **9/9/05**

Begin Time	End Time	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Louisiana Blvd.)			Southbound (Louisiana Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	11	0	14	0	0	0	18	70	0	0	70	72
7:15 AM	7:30 AM	9	0	18	0	0	0	20	71	0	0	68	91
7:30 AM	7:45 AM	4	0	39	0	0	0	58	78	0	0	112	183
7:45 AM	8:00 AM	9	0	49	0	0	0	71	82	0	0	79	161
8:00 AM	8:15 AM	43	0	88	0	0	0	26	47	0	0	65	88
8:15 AM	8:30 AM	21	0	19	0	0	0	13	57	0	0	61	11
8:30 AM	8:45 AM	18	0	18	0	0	0	11	66	0	0	66	14
8:45 AM	9:00 AM	14	0	17	0	0	0	10	66	0	0	58	15
AM Peak Hour Volumes		**65**	**0**	**194**	**0**	**0**	**0**	**175**	**278**	**0**	**0**	**324**	**523**
% of Total Traffic		4.2%	0.0%	12.4%	0.0%	0.0%	0.0%	11.2%	17.8%	0.0%	0.0%	20.8%	33.5%
% Directional			16.6%			0.0%			29.1%			54.3%	
AM Peak Hour Factor			*0.49*			*#DIV/0!*			*0.74*			*0.72*	

Begin Time	End Time	Eastbound (Palomas Ave.)			Westbound (Palomas Ave.)			Northbound (Louisiana Blvd.)			Southbound (Louisiana Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	33	1	25	0	0	0	15	68	0	0	75	28
4:15 PM	4:30 PM	22	0	19	0	0	0	7	61	0	0	63	16
4:30 PM	4:45 PM	13	0	8	0	0	0	12	64	0	0	61	16
4:45 PM	5:00 PM	13	0	10	0	0	0	8	49	0	0	55	15
5:00 PM	5:15 PM	10	0	10	0	0	0	9	44	0	0	60	18
5:15 PM	5:30 PM	16	0	9	0	0	0	10	55	0	0	55	22
5:30 PM	5:45 PM	11	0	9	0	0	0	6	50	0	0	52	14
5:45 PM	6:00 PM	9	0	10	0	0	0	7	52	0	0	54	11
PM Peak Hour Volumes		**81**	**1**	**62**	**0**	**0**	**0**	**42**	**242**	**0**	**0**	**254**	**75**
% of Total Traffic		10.7%	0.1%	8.2%	0.0%	0.0%	0.0%	5.5%	32.0%	0.0%	0.0%	33.6%	9.9%
% Directional			19.0%			0.0%			37.5%			43.5%	
PM Peak Hour Factor			*0.61*			*#DIV/0!*			*0.86*			*0.80*	