Terry O. Brown P.E.

Walgreen's Pharmacy

(Rio Bravo Blvd / Isleta Blvd)

Traffic Impact Study

October 05, 2011

F I N A L

Presented to:

Bernalillo County
Public Works Department

NM Dept. of Transportation
District 3

Prepared for:

Tim MacDonald
Bencor, Inc.
90 S. Cascade Ave #330
Colorado Springs, CO 80903

TERRY O. BROWN
NEW MEXICO
6407
LICENSED PROFESSIONAL ENGINEER

Terry O. Brown P.E.
P.O. Box 92051
Albuquerque, NM 87199
505 · 883 · 8807

WALGREEN'S PHARMACY (RIO BRAVO BLVD / ISLETA BLVD)
TRAFFIC IMPACT STUDY

TABLE OF CONTENTS

STUDY PURPOSE ____ *1*

STUDY PROCEDURES ____ *1*

PREVIOUS RELATED TRAFFIC IMPACT STUDIES ____ *2*

GENERAL AREA CHARACTERISTICS ____ *2*

AREA STREET NETWORK ____ *2*

EXISTING TRAFFIC VOLUMES ____ *3*

EXISTING TRANSIT SERVICE ____ *3*

BICYCLES ____ *4*

PROPOSED DEVELOPMENT ____ *4*

TRIP GENERATION ____ *4*

TRIP DISTRIBUTION ____ *5*

Commercial Land Uses ____ **5**

TRIP ASSIGNMENT ____ *5*

BACKGROUND TRAFFIC GROWTH ____ *5*

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2012 BUILDOUT ____ *6*

INTERSECTION CAPACITY ANALYSIS ____ *6*

RESULTS AND DISCUSSION OF INTERSECTION CAPACITY ANALYSES ____ *8*

Signalized Intersection Capacity Analyses ____ **8**

1. Rio Bravo Blvd. / Isleta Blvd. – Appendix Pages A-48 thru A-51 ____ 8
2. Rio Bravo Blvd. / 2nd St. – Appendix Pages A-52 thru A-55 ____ 10
3. Rio Bravo Blvd. / Prince St. – Appendix Pages A-56 thru A-59 ____ 12
4. Rio Bravo Blvd. / Del Rio Dr. – Appendix Pages A-60 thru A-63 ____ 14
5. Barcelona St. / Isleta Blvd – Appendix Pages A-64 thru A-67 ____ 16
6. Camino Del Valle / Isleta Blvd. – Appendix Pages A-68 thru A-71 ____ 18

2012 Unsignalized Intersection Capacity Analyses ____ **20**

7. Del Norte Dr. (Driveway "A") / Isleta Blvd. – Appendix Pages A-72 thru A-75 ____ 20
8. Rio Bravo Blvd / Driveway "B" – Appendix Pages A-76 thru A-79 ____ 20
9. Rio Bravo Blvd / Driveway "C" – Appendix Pages A-80 thru A-83 ____ 21

PLANNED CAPITAL PROGRAM IMPROVEMENTS ____ *22*

CONCLUSIONS ____ *22*

RECOMMENDATIONS ____ *22*

Appendix ____ *24*

WALGREEN'S PHARMACY (RIO BRAVO BLVD / ISLETA BLVD)

TRAFFIC IMPACT STUDY

STUDY PURPOSE

The study is being conducted in conjunction with a request for approval of a site development plan proposing a new Walgreen's Pharmacy as shown conceptually in the Appendix (Page A-4) of this report. 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 site development plan. It is anticipated that the project will be fully implemented by the year 2012. This study will consider the full implementation of the project in the year 2012. This study is being prepared to meet the requirements of the New Mexico Department of Transportation and Bernalillo County Public Works Department.

STUDY PROCEDURES

A scoping report was submitted to the New Mexico Department of Transportation staff along with Bernalillo County staff prior to beginning the study to discuss scope and methodology to be utilized within the report. The original scoping report recommended 2012 as the implementation year of the project. A horizon year will not be analyzed. The scoping report was approved by the New Mexico Department of Transportation and the Bernalillo County Public Works Department.

The resulting basic procedure used in this study is described as follows:

Generally speaking, an analysis of the transportation system was performed for the projected 2012 volumes.

1) Calculate the generated trips for this portion of the projected development in the targeted year of analysis (2012) based on full development.
2) Calculate trip distribution for the newly generated trips by this development. The commercial trips shall be distributed based on 2012 DASZ population data within a two-mile radius of the proposed site.
3) Calculate annual growth rates for background traffic based on the Mid-Region Council of Governments' 2006-2012 Traffic Flow Maps.
4) Acquire recent traffic counts for the intersections of Rio Bravo Blvd. / Isleta Blvd., Rio Bravo Blvd. / 2nd St., Rio Bravo Blvd. / Prince St., Rio Bravo Blvd. / Del Rio Dr., Barcelona St / Isleta Blvd, Camino del Valle / Isleta Blvd and the three existing driveways – one on Isleta Blvd and two on Rio Bravo Blvd.
5) Determine 2012 NO BUILD Volumes and 2022 NO BUILD Volumes by growing the existing turning movement counts to the year 2012 utilizing the growth factors derived from the MRCOG Maps.
6) Add data from Trip Assignments Maps and Tables to the 2012 NO BUILD Volumes to obtain 2012 BUILD Volumes and 2022 Volumes respectively for this project.
7) Provide signalized and / or unsignalized intersection analyses for the following intersections:

INTERSECTION	TYPE CONTROL	NO BUILD	BUILD
1) Rio Bravo Blvd. / Isleta Blvd.	Signalized	2012	2012
2) Rio Bravo Blvd. / 2nd St.	Signalized	2012	2012
3) Rio Bravo Blvd. / Prince St.	Signalized	2012	2012
4) Rio Bravo Blvd. / Del Rio Dr	Signalized	2012	2012
5) Barcelona / Isleta Blvd	Signalized	2012	2012
6) Camino del Valle / Isleta Blvd	Signalized	2012	2012
7) Driveway 'A' / Isleta Blvd	Unsignalized	2012	2012
8) Rio Bravo Blvd / Driveway 'B'	Unsignalized	2012	2012
9) Rio Bravo Blvd / Driveway 'C'	Unsignalized	2012	2012

PREVIOUS RELATED TRAFFIC IMPACT STUDIES

There are no other projects that have been proposed prior to this study of the Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd).

GENERAL AREA CHARACTERISTICS

The subject Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd) is located in an existing shopping center at the northwest corner of the intersection of Rio Bravo Blvd. / Isleta Blvd. The Vicinity Map in Appendix A on Page A-3 of this report depicts the location of the subject property. Existing zoning and land uses in the immediate site area are also shown on the Vicinity Map. Most of the properties are a mix of residential and commercial uses. Conceptual plans for the development of the Tract under consideration in this report are shown in the Appendix on Page A-4.

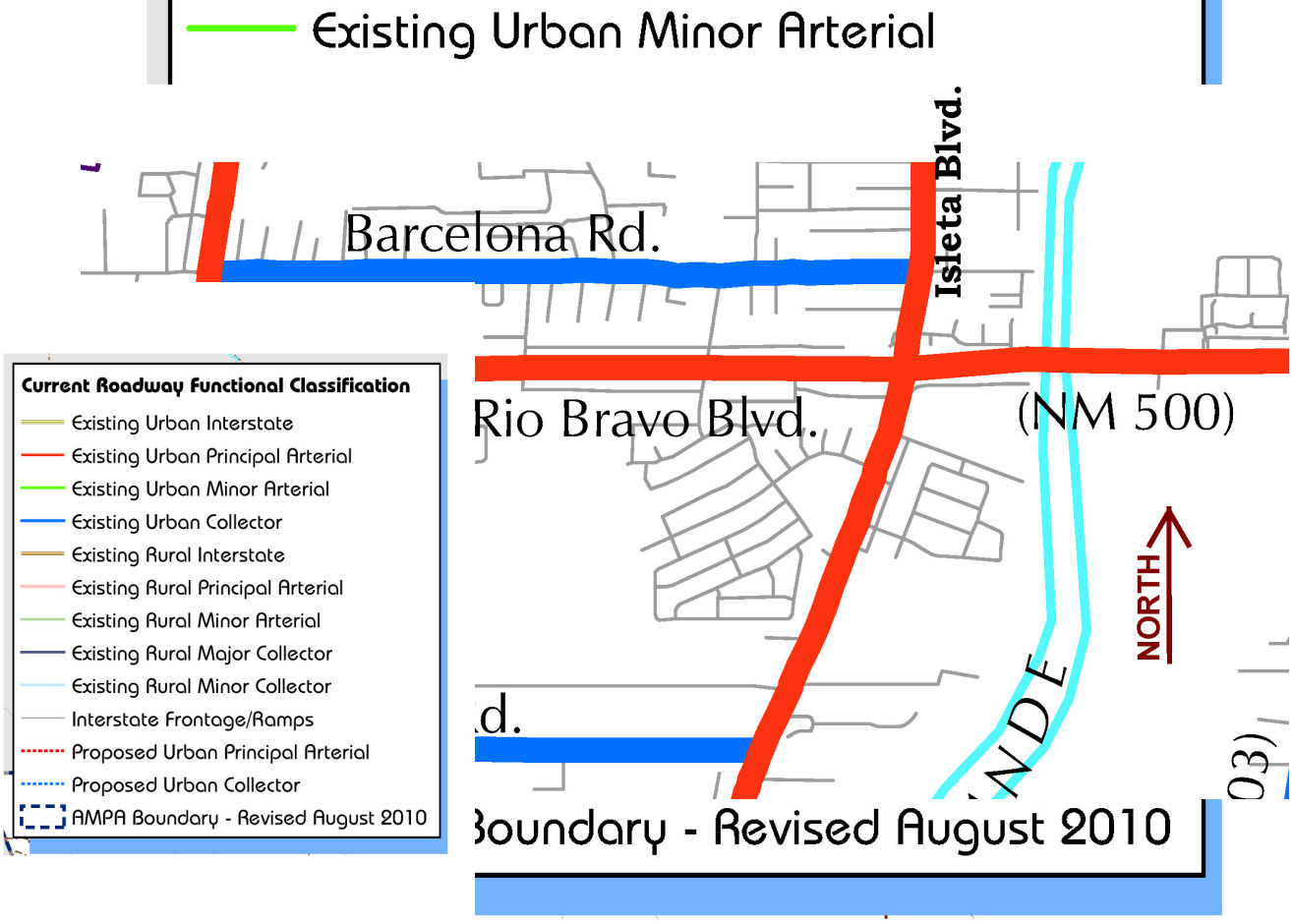
The subject property within the shopping center is currently vacant. The Conceptual plan on Page A-4 in Appendix A is being submitted for Site Development Plan approval for Subdivision purposes.

The subject project will have access from Isleta & Rio Bravo Blvds. via three existing driveways. Del Norte Dr. (Driveway 'A') / Isleta Blvd is a signalized, full access intersection. Rio Bravo Blvd / Driveway 'B' is an unsignalized, full access intersection. Rio Bravo Blvd / Driveway 'C' is an unsignalized, right-in, right-out only intersection.

AREA STREET NETWORK

Rio Bravo Blvd. and Isleta Blvd. are classified as urban principal arterial roadways on the Current Roadway Functional Classification System for the Albuquerque Metropolitan Planning Area. Rio Bravo Blvd is currently constructed with two lanes in each direction divided by a raised median. The posted speed limit on Rio Bravo Blvd. at Isleta Blvd. is 45 M.P.H. Isleta Blvd is constructed with two lanes in each direction and a two-way center left turn lane along the frontage of the existing shopping center. The posted speed limit is 40 M.P.H.

Other roadway classifications for streets included in this study are indicated on the following map (taken from the Current Roadway Functional Classification System for the Albuquerque Metropolitan Planning Area).



2

009 Average Weekday Traffic Volumes (AWDT) for major streets in the site plan area are shown on Appendix Page A-4a.

The following intersections were counted in 2011 by the consulting engineer:

Rio Bravo Blvd. / Isleta Blvd.
Rio Bravo Blvd. / 2nd St.
Rio Bravo Blvd. / Prince St.
Rio Bravo Blvd. / Del Rio Dr
Barcelona Dr / Isleta Blvd
Camino del Valle / Isleta Blvd
Del Norte Dr ('A') / Isleta Blvd
Rio Bravo Blvd. / Driveway 'B'
Rio Bravo Blvd. / Driveway 'C'

The counts are included at the back of the Appendix on Pages A-93 thru A-99.

EXISTING TRANSIT SERVICE

There is currently regularly scheduled bus route service on Isleta Blvd. (Route 51) that extends south to Rio Bravo Blvd and then east to Prince St. Route 51 operates weekdays from 5:30 am until 7:00 pm at approximately 30 to 45 minute intervals. The Rio Bravo - Sunport Route #222 operates on Rio Bravo Blvd. from Coors Blvd. east to the Albuquerque International Airport Monday through Friday with stops at 1 hour intervals from 6 am to 8 am and from 4 pm to 6 pm.

In addition, Prince St functions as the access to the Railrunner train station and Park & Ride. Bus Route information sheets are located on Pages A-100 thru A-101 in the Appendix of this report.

BICYCLES

The Long Range Bikeway System Map for the Albuquerque Area defines Isleta Blvd. north of Rio Bravo Blvd. to be a facility with a Bicycle Lane. Recent reconstruction of the intersection of Rio Bravo / Isleta Blvd. constructed the bicycle lane on Isleta Blvd. north of Rio Bravo Blvd. The Long Range Bikeway System Map also designates Rio Bravo Blvd. as a desirable or feasible corridor for a bicycle lane or a bicycle trail. Since several projects have been constructed recently on Rio Bravo Blvd. with neither a bicycle lane nor a bicycle trail, this study assumes that one is not required on Rio Bravo Blvd. at this time.

PROPOSED DEVELOPMENT

The subject property is currently vacant land within the shopping center at the northwest corner of Rio Bravo Blvd / Isleta Blvd. The proposed site plan for the commercial development is found on Page A-4 in the Appendix of this study. The proposed new self-standing Walgreen's Pharmacy store is expected to contain approximately 16,500 S.F. of retail commercial floor space to be developed as a Walgreen's Pharmacy. It currently exists within the main structure of the shopping center. The existing Walgreen's store will be vacated and relocated to the hard northwest corner of Rio Bravo Blvd. / Isleta Blvd. This study assumes that the old Walgreen's Pharmacy space in the main shopping center will be re-occupied with another similar retail commercial user.

TRIP GENERATION

Projected trips were calculated from data collected locally in the Albuquerque area for various existing Walgreen's stores with and without drive-up windows. It has been determined from that data that a Walgreen's Pharmacy store generates a significantly higher volume of traffic than that for a Pharmacy store in the ITE Trip Generation Manual.

The resulting number of trip generation rates calculated for the proposed development plan is summarized in the following table:

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)
Trip Generation Data (Based on Local Data)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Walgreen's (Local Data)	***16.50***	2,063	37	26	136	142
	1,000 S.F.					

Pass-by Trips – Trip generation rates and equations are based on volume counts taken at the driveways to the site being studied. In the case of a new development, particularly retail establishments, certain restaurants, banks, service stations, and convenience markets, trips are attracted from the passing traffic already on the adjacent streets – that is, traffic already passing the site. Thus, when forecasted trips based on the trip generation rates or equations are distributed to the adjacent streets, some reduction is made during the PM Peak Hour period to account for those trips already on the adjacent roadway that will be attracted to the proposed development. That is, the impact at the entrances and exits to the proposed sites should be based on trip generation rates or equations; impact on adjacent streets can be based on a reduced forecast to account for pass-by trips.

This study makes no adjustment to account for the pass-by trips.

The resulting number of trips is summarized in the Trip Generation Data Sheet on Appendix Pages A-5 of this report as well as in the table on the preceding page.

TRIP DISTRIBUTION

Primary and Diverted Linked Trips:

Trips were distributed as follows:

Commercial Land Uses

Primary and diverted linked trips for the commercial land use development were distributed proportionally to the 2012 projected population of Data Analysis Subzones within a two mile radius of the proposed development. Population data for the years 2004 and 2030 were taken from the 2030 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico, supplied by the Mid-Region Council of Governments (MRCOG). Population data from the years 2004 and 2030 was interpolated linearly to obtain 2012 population data to utilize for this analysis. Population Subzones were grouped based on the most likely major street(s) or route(s) to the subject development. The trip distribution worksheets and associated map of data analysis subzones is shown in the Appendix. The commercial Trip Distribution map can be found on Appendix Page A-6.

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 for commercial trips are shown in the Appendix on Pages A-12 thru A-14.

BACKGROUND TRAFFIC GROWTH

Background traffic growth rates were considered for the collective study area that was targeted for analysis based on data from the 2005, 2006, 2007, 2008 and 2009 Traffic Flow maps prepared by the Mid-Region Council of Governments.

Most of the Traffic Flow Data for the years 2005, 2006, 2007, 2008 and 2009 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 growth rate for each approach if that calculated rate appeared feasible. However, there may be 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 zero or a generic 3% if appropriate. Due to the potential for growth in the area, it was believed that a zero percent growth rate was inappropriate for this study. Therefore, a growth rate of 3.0% was often used if the linear regression analysis showed the growth rate to be negative. Additionally, if the R^2 value of the trend line was low, other means of establishing a probable growth rate from the data accumulated was considered. Historical Growth Rate Graphs with linear regression trendlines are shown in the Appendix on Pages A-16 through A-25. Additionally, the growth rate utilized for each approach to an intersection is printed at the top of the Turning Movement sheets for each intersection (Appendix Pages A-30 through A-47).

PROJECTED PEAK HOUR TURNING MOVEMENTS FOR 2012 BUILDOUT

The calculated growth rates were applied to the 2010 and 2011 peak hour traffic counts data to establish the background traffic volumes (2012 NO BUILD Volumes). Subsequently, the trips generated by this development were added to obtain the BUILD volumes for the intersection analyses. See Appendix Pages A-27 through A-47 for further information regarding turning movement counts.

INTERSECTION CAPACITY ANALYSIS

Intersection capacity analyses were performed in accordance with the procedures for signalized and unsignalized intersections utilized in the Synchro (Version 7, Build 755) Transportation System analysis software program as required by the New Mexico Department of Transportation. Synchro software deviates from the 2000 Highway Capacity Manual methods in several areas. The results obtained using Synchro software are generally deemed by the State to be close to those based on the 2000 Highway Capacity Manual in most cases. For signalized intersections, the operational method of analysis was used for both the 2012 NO BUILD and BUILD conditions. In addition to utilizing the operational analysis for the intersections, the 1985 planning method was also used to provide additional information at the intersection to help define critical lane volumes and to help analyze a solution. (The Highway Capacity Software does not include the planning analysis).

Generally speaking, the operational analyses utilized data obtained from the traffic count data furnished by the consulting engineer. The percent heavy commercial traffic was 3%. Peak Hour Factors (PHF) were taken from the AM or PM Peak Hour Traffic Count Data Sheet. If the volume of traffic for the 2012 NO BUILD and / or 2012 BUILD analysis increased significantly above that of the existing traffic count, then it was considered appropriate to increase the Peak Hour Factors for those movements by up to 0.02 or 0.03.

Capacity analyses were performed for the following traffic conditions.

2012 without development of the subject property (NO BUILD)
2012 with development as per the Conceptual Site Development Plan (BUILD)

The results of the 2012 NO BUILD and 2012 BUILD capacity analyses are summarized in the following sections - *Results and Discussion of Intersection Capacity Analyses*.

RESULTS AND DISCUSSION OF INTERSECTION CAPACITY ANALYSES

Signalized Intersection Capacity Analyses

1. Rio Bravo Blvd. / Isleta Blvd. – Appendix Pages A-48 thru A-51

The results of the implementation year analysis of the signalized intersection of Rio Bravo Blvd. / Isleta Blvd. are summarized in the following table:

Intersection: **#1 - Rio Bravo Blvd. / Isleta Blvd.**

	2012 AM Peak Hour			2012 PM Peak Hour		
	BASE GEOMETRY			BASE GEOMETRY		
	NO BUILD		BUILD	NO BUILD		BUILD
	Lanes	LOS-Delay	LOS-Delay	Lanes	LOS-Delay	LOS-Delay
Eastbound - Rio Bravo Blvd.						
L	1	B - 10.9	B - 10.9	1	B - 18.4	B - 18.7
T	2	C - 22.9	C - 23.0	2	C - 24.8	C - 25.2
R	1	A - 0.1	A - 0.1	1	A - 0.1	A - 0.1
Westbound - Rio Bravo Blvd.						
L	2	D - 47.1	D - 47.2	2	B - 16.1	B - 16.7
T	2	B - 13.2	B - 13.2	2	C - 21.8	C - 22.2
R	1	A - 0.2	A - 0.2	1	A - 0.3	A - 0.3
Northbound - Isleta Blvd.						
L	1	C - 25.3	C - 25.5	1	C - 26.0	C - 26.9
T	2	C - 30.4	C - 30.4	2	C - 32.3	C - 32.2
R	1	A - 0.4	A - 0.4	1	A - 0.1	A - 0.1
Southbound - Isleta Blvd.						
L	1	E - 58.2	E - 59.1	1	D - 41.7	D - 42.2
T	2	C - 27.3	C - 27.4	2	C - 32.8	C - 32.9
R	1	C - 22.1	C - 22.1	1	C - 23.6	C - 23.8
Intersection:		**C - 22.3**	**C - 22.4**		**C - 20.9**	**C - 21.3**

NOTE: > denotes a shared thru/right and / or thru/left turn lane.

This study demonstrates that this signalized intersection will operate at acceptable levels-of-service for the 2012 AM and PM Peak Hour NO BUILD and BUILD Conditions considered in this report and that the newly generated traffic from this development will have no significant adverse impact on this intersection.

The intersection of Rio Bravo Blvd. / Isleta Blvd. was recently reconstructed to optimize its capacity within the current right-of-way available. There are no further improvements that can be constructed at this intersection at this time.

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

Queueing Analysis Summary Sheet

Project: Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Intersection: **Rio Bravo Blvd / Isleta Blvd**

2012

Approach	Left Turns			Thru Movements			Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*112*	*225*	*2*	*910*	*Cont*	*1*	*62*	*150*
AM NO BUILD Queue	1	119	200	2	965	700	1	66	125
AM BUILD Queue	**1**	**119**	**200**	**2**	**967**	**700**	**1**	**68**	**150**
Existing Lane Length	*1*	*114*	*225*	*2*	*314*	*Cont*	*1*	*97*	*150*
PM NO BUILD Queue	1	121	225	2	333	300	1	103	200
PM BUILD Queue	**1**	**121**	**225**	**2**	**342**	**300**	**1**	**111**	**200**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*167*	*750*	*2*	*207*	*Cont*	*1*	*146*	*400*
AM NO BUILD Queue	1	177	275	2	219	200	1	155	250
AM BUILD Queue	**1**	**177**	**275**	**2**	**223**	**225**	**1**	**155**	**250**
Existing Lane Length	*1*	*417*	*750*	*2*	*791*	*Cont*	*1*	*305*	*400*
PM NO BUILD Queue	1	442	600	2	838	**625**	1	323	475
PM BUILD Queue	**1**	**442**	**600**	**2**	**855**	**650**	**1**	**323**	**475**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*72*	*100*	*2*	*190*	*Cont*	*1*	*346*	*100*
AM NO BUILD Queue	1	76	150	2	201	200	1	367	525
AM BUILD Queue	**1**	**80**	**150**	**2**	**201**	**200**	**1**	**367**	**525**
Existing Lane Length	*1*	*152*	*100*	*2*	*224*	*Cont*	*1*	*143*	*100*
PM NO BUILD Queue	1	161	275	2	237	225	1	152	250
PM BUILD Queue	**1**	**177**	**275**	**2**	**237**	**225**	**1**	**152**	**250**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*2*	*255*	*160*	*2*	*133*	*Cont*	*1*	*48*	*200*
AM NO BUILD Queue	2	266	250	2	139	150	1	50	100
AM BUILD Queue	**2**	**268**	**250**	**2**	**141**	**150**	**1**	**50**	**100**
Existing Lane Length	*2*	*253*	*160*	*2*	*253*	*Cont*	*1*	*135*	*200*
PM NO BUILD Queue	2	264	250	2	264	250	1	141	250
PM BUILD Queue	**2**	**273**	**250**	**2**	**272**	**250**	**1**	**141**	**250**

	AM	PM
Cycle Length:	140	140

NOTE: Queue lengths are in feet.

The northbound left turn lane should be lengthened to the degree possible by modifying the existing raised median between Rio Bravo Blvd. and La Mora Lane. Note that the cycle length for the Synchro run is optimized for an 80 second cycle length. The queue length is based on a 140 second cycle to be conservative and to allow for cycle length to be increased to 140 seconds if and when system is interconnected.

2. Rio Bravo Blvd. / 2nd St. – Appendix Pages A-52 thru A-55

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

Intersection: **#2 - Rio Bravo Blvd. / 2nd St.**

	2012 AM Peak Hour			2012 PM Peak Hour		
	BASE GEOMETRY			BASE GEOMETRY		
	NO BUILD		BUILD	NO BUILD		BUILD
	Lanes	LOS-Delay	LOS-Delay	Lanes	LOS-Delay	LOS-Delay
Eastbound - Rio Bravo Blvd.						
L	1	B - 14.2	B - 14.4	1	E - 63.9	E - 68.1
T	2	C - 25.5	C - 25.6	2	C - 34.0	C - 34.3
R	1	A - 7.7	A - 7.7	1	B - 13.1	B - 13.2
Westbound - Rio Bravo Blvd.						
L	1	B - 19.5	B - 19.7	1	C - 22.5	C - 22.7
T	2	C - 20.6	C - 20.7	2	D - 41.1	D - 42.5
R	1	B - 14.3	B - 14.3	1	B - 19.2	B - 19.8
Northbound - 2nd St.						
L	1	D - 47.2	D - 47.5	1	E - 67.7	E - 74.9
T	1	D - 50.3	D - 50.2	1	C - 29.1	C - 29.0
R	>	D - 50.3	D - 50.2	>	C - 29.1	C - 29.0
Southbound - 2nd St.						
L	1	D - 49.6	D - 49.5	1	D - 38.1	D - 38.0
T	1	E - 73.1	E - 73.1	1	F - 85.6	F - 86.2
R	>	E - 73.1	E - 73.1	>	F - 85.6	F - 86.2
Intersection:		**C - 29.7**	**C - 29.8**		**D - 47.8**	**D - 49.3**

NOTE: > denotes a shared thru/right and / or thru/left turn lane.

This study demonstrates that this signalized intersection will operate at acceptable levels-of-service for the 2012 AM and PM Peak Hour NO BUILD and BUILD Conditions considered in this report and that the newly generated traffic from this development will have no significant adverse impact on this intersection. Note that the southbound thru / right turn movement is projected to operate at LOS "F" during the 2012 PM Peak Hour NO BUILD and BUILD conditions. The projected delays are five or six seconds beyond LOS "E". The increase in daly for the movement due to this project is less than one second. Therefore, this report considers that the delays are acceptable. Also, this analysis has demonstrated that the impact of the Walgreen's development to the southbound thru / right turn movement is marginal.

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

Queueing Analysis Summary Sheet

Project: Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Intersection: **Rio Bravo Blvd / Second St**

2012

Approach	Left Turns			Thru Movements			Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*281*	*200*	*2*	*1,154*	*Cont*	*1*	*106*	*275*
AM NO BUILD Queue	1	298	425	2	1,223	875	1	112	200
AM BUILD Queue	**1**	**299**	**425**	**2**	**1,224**	**875**	**1**	**113**	**200**
Existing Lane Length	*1*	*112*	*200*	*2*	*496*	*Cont*	*1*	*24*	*275*
PM NO BUILD Queue	1	119	**200**	2	526	425	1	25	75
PM BUILD Queue	**1**	**123**	**225**	**2**	**532**	**425**	**1**	**33**	**75**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*46*	*400*	*2*	*395*	*Cont*	*1*	*54*	*180*
AM NO BUILD Queue	1	46	100	2	396	350	1	54	125
AM BUILD Queue	**1**	**46**	**100**	**2**	**398**	**350**	**1**	**54**	**125**
Existing Lane Length	*1*	*70*	*400*	*2*	*1,020*	*Cont*	*1*	*75*	*180*
PM NO BUILD Queue	1	70	150	2	1,021	750	1	75	150
PM BUILD Queue	**1**	**70**	**150**	**2**	**1,027**	**750**	**1**	**75**	**150**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*153*	*150*	*1*	*79*	*Cont*	*0*	*59*	*0*
AM NO BUILD Queue	1	177	275	1	91	175	0	68	150
AM BUILD Queue	**1**	**179**	**300**	**1**	**91**	**175**	**0**	**68**	**150**
Existing Lane Length	*1*	*234*	*150*	*1*	*74*	*Cont*	*0*	*108*	*0*
PM NO BUILD Queue	1	270	400	1	85	175	0	125	225
PM BUILD Queue	**1**	**278**	**400**	**1**	**85**	**175**	**0**	**125**	**225**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*79*	*175*	*1*	*75*	*Cont*	*0*	*53*	*0*
AM NO BUILD Queue	1	91	175	1	87	175	0	61	125
AM BUILD Queue	**1**	**91**	**175**	**1**	**87**	**175**	**0**	**62**	**125**
Existing Lane Length	*1*	*93*	*175*	*1*	*117*	*Cont*	*0*	*236*	*0*
PM NO BUILD Queue	1	107	200	1	135	225	0	272	400
PM BUILD Queue	**1**	**107**	**200**	**1**	**135**	**225**	**0**	**275**	**400**

	AM	PM
Cycle Length:	140	140

NOTE: Queue lengths are in feet.

The eastbound left turn lane can only be lengthened by about 100 feet since there is an existing median cut to the west. The northbound left turn lane is only impacted by the Walgreen's development by one vehicle queue length. Therefore, no recommendation is made.

3. Rio Bravo Blvd. / Prince St. – Appendix Pages A-56 thru A-59

The results of the implementation year analysis of the signalized intersection of Rio Bravo Blvd. / Prince St. are summarized in the following table:

Intersection: **#3 - Rio Bravo Blvd. / Prince St.**

	2012 AM Peak Hour			2012 PM Peak Hour		
	BASE GEOMETRY			BASE GEOMETRY		
	NO BUILD		BUILD	NO BUILD		BUILD
	Lanes	LOS-Delay	LOS-Delay	Lanes	LOS-Delay	LOS-Delay
Eastbound - Rio Bravo Blvd.						
L	1	A - 1.5	A - 1.5	1	A - 4.9	A - 5.0
T	2	A - 3.3	A - 3.3	2	A - 6.0	A - 6.0
R	1	A - 0.4	A - 0.4	1	A - 2.1	A - 2.0
Westbound - Rio Bravo Blvd.						
L	1	A - 7.1	A - 7.1	1	A - 4.5	A - 4.6
T	2	A - 7.8	A - 7.8	2	B - 11.2	B - 11.3
R	1	A - 5.3	A - 5.3	1	A - 4.5	A - 4.6
Northbound - Prince St.						
L	1	E - 58.2	E - 58.3	1	E - 57.4	E - 64.3
T	1	E - 61.9	E - 61.9	1	E - 61.6	E - 61.3
R	>	E - 61.9	E - 61.9	>	E - 61.6	E - 61.3
Southbound - Prince St.						
L	1	E - 59.8	E - 59.8	1	E - 60.9	E - 61.0
T	1	E - 64.1	E - 64.1	1	E - 64.0	E - 64.1
R	>	E - 64.1	E - 64.1	>	E - 64.0	E - 64.1
Intersection:		**A - 8.2**	**A - 8.2**		**B - 13.3**	**B - 14.3**

NOTE: > denotes a shared thru/right and / or thru/left turn lane.

Prince St. serves as the access to the area's Rail Runner / Park & Ride station. Therefore, there is considerable Sun Tran traffic utilizing this intersection.

This study demonstrates that this signalized intersection will operate at acceptable levels-of-service for the 2012 AM and PM Peak Hour NO BUILD and BUILD Conditions considered in this report and that the newly generated traffic from this development will not have a significant adverse impact on this intersection. No recommendation is made for this intersection.

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

Queueing Analysis Summary Sheet

Project: Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Intersection: **Rio Bravo Blvd / Prince St**

2012

Approach	Left Turns			Thru Movements				Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*180*	*425*	*2*	*1,329*	*Cont*		*1*	*23*	*160*
AM NO BUILD Queue	1	180	300	2	1,330	>1,000	*	1	23	75
AM BUILD Queue	**1**	**180**	**300**	**2**	**1,330**	**>1,000**	*	**1**	**24**	**75**
Existing Lane Length	*1*	*23*	*425*	*2*	*657*	*Cont*		*1*	*101*	*160*
PM NO BUILD Queue	1	23	75	2	657	**500**		1	101	**175**
PM BUILD Queue	**1**	**23**	**75**	**2**	**658**	**525**		**1**	**106**	**200**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*35*	*100*	*2*	*398*	*Cont*		*1*	*30*	*525*
AM NO BUILD Queue	1	35	75	2	398	350		1	30	75
AM BUILD Queue	**1**	**35**	**75**	**2**	**398**	**350**		**1**	**30**	**75**
Existing Lane Length	*1*	*85*	*100*	*2*	*1,349*	*Cont*		*1*	*16*	*525*
PM NO BUILD Queue	1	85	175	2	1,350	>1,000	*	1	16	50
PM BUILD Queue	**1**	**85**	**175**	**2**	**1,351**	**>1,000**	*	**1**	**16**	**50**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*54*	*120*	*1*	*1*	*Cont*		*0*	*73*	*0*
AM NO BUILD Queue	1	56	125	1	1	0		0	75	150
AM BUILD Queue	**1**	**57**	**125**	**1**	**1**	**0**		**0**	**75**	**150**
Existing Lane Length	*1*	*79*	*120*	*1*	*4*	*Cont*		*0*	*63*	*0*
PM NO BUILD Queue	1	81	**150**	1	4	25		0	65	125
PM BUILD Queue	**1**	**86**	**175**	**1**	**4**	**25**		**0**	**65**	**125**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*7*	*400*	*1*	*0*	*Cont*		*0*	*5*	*0*
AM NO BUILD Queue	1	7	25	1	0	0		0	5	25
AM BUILD Queue	**1**	**7**	**25**	**1**	**0**	**0**		**0**	**5**	**25**
Existing Lane Length	*1*	*27*	*400*	*1*	*3*	*Cont*		*0*	*36*	*0*
PM NO BUILD Queue	1	28	75	1	3	25		0	37	100
PM BUILD Queue	**1**	**28**	**75**	**1**	**3**	**25**		**0**	**37**	**100**

	AM	PM
Cycle Length:	140	140

NOTE: Queue lengths are in feet.

Due to the fact that the proposed Walgreen's Pharmacy has a minimal impact at the intersection of Rio Bravo / Prince St., this report does not make a recommendation for the intersection.

4. Rio Bravo Blvd. / Del Rio Dr. – Appendix Pages A-60 thru A-63

The results of the implementation year analysis of the signalized intersection of Rio Bravo Blvd. / Del Rio Dr. are summarized in the following table:

Intersection: **#4 - Rio Bravo Blvd. / Del Rio Dr.**

	2012 AM Peak Hour			2012 PM Peak Hour		
	BASE GEOMETRY			BASE GEOMETRY		
	NO BUILD		BUILD	NO BUILD		BUILD
	Lanes	LOS-Delay	LOS-Delay	Lanes	LOS-Delay	LOS-Delay
Eastbound - Rio Bravo Blvd.						
L	1	A - 3.2	A - 3.2	1	A - 6.3	A - 6.9
T	2	A - 8.9	A - 9.0	2	A - 6.4	A - 6.8
R	>	A - 8.9	A - 9.0	>	A - 6.4	A - 6.8
Westbound - Rio Bravo Blvd.						
L	1	A - 5.2	A - 5.3	1	A - 3.5	A - 3.7
T	2	A - 5.1	A - 5.2	2	A - 9.9	B - 10.5
R	>	A - 5.1	A - 5.2	>	A - 9.9	B - 10.5
Northbound - Del Rio Dr.						
L	>	E - 68.9	E - 69.0	>	E - 72.8	E - 71.4
T	1	E - 68.9	E - 69.0	1	E - 72.8	E - 71.4
R	>	E - 68.9	E - 69.0	>	E - 72.8	E - 71.4
Southbound - Del Rio Dr.						
L	>	E - 68.9	E - 60.2	>	E - 59.1	E - 58.6
T	1	E - 68.9	E - 60.2	1	E - 59.1	E - 58.6
R	>	E - 68.9	E - 60.2	>	E - 59.1	E - 58.6
Intersection:		**B - 13.2**	**B - 13.3**		**B - 13.3**	**B - 13.7**

NOTE: > denotes a shared thru/right and / or thru/left turn lane.

This study demonstrates that this signalized intersection will operate at acceptable levels-of-service for the 2012 AM and PM Peak Hour NO BUILD and BUILD Conditions considered in this report and that the newly generated traffic from this development will not have a significant adverse impact on this intersection. No recommendation is made for this intersection.

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

Queueing Analysis Summary Sheet

Project: Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Intersection: **Rio Bravo Blvd / Del Rio Dr**

2012

Approach	Left Turns			Thru Movements				Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*10*	*80*	*2*	*1,101*	*Cont*		*0*	*59*	*0*
AM NO BUILD Queue	1	10	50	2	1,134	825		0	61	125
AM BUILD Queue	**1**	**10**	**50**	**2**	**1,141**	**825**		**0**	**61**	**125**
Existing Lane Length	*1*	*13*	*80*	*2*	*553*	*Cont*		*0*	*38*	*0*
PM NO BUILD Queue	1	13	50	2	570	**450**		0	39	100
PM BUILD Queue	**1**	**13**	**50**	**2**	**596**	**475**		**0**	**39**	**100**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*1*	*11*	*120*	*2*	*331*	*Cont*		*0*	*8*	*0*
AM NO BUILD Queue	1	11	50	2	341	300		0	8	25
AM BUILD Queue	**1**	**12**	**50**	**2**	**346**	**300**		**0**	**8**	**25**
Existing Lane Length	*1*	*74*	*120*	*2*	*1,363*	*Cont*		*0*	*57*	*0*
PM NO BUILD Queue	1	76	150	2	1,404	>1,000	*	0	59	125
PM BUILD Queue	**1**	**82**	**150**	**2**	**1,431**	**>1,000**	*	**0**	**60**	**125**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*0*	*41*	*0*	*1*	*8*	*Cont*		*0*	*53*	*0*
AM NO BUILD Queue	0	42	100	1	8	25		0	55	125
AM BUILD Queue	**0**	**42**	**100**	**1**	**8**	**25**		**0**	**57**	**125**
Existing Lane Length	*0*	*45*	*0*	*1*	*8*	*Cont*		*0*	*40*	*0*
PM NO BUILD Queue	0	46	100	1	8	25		0	41	100
PM BUILD Queue	**0**	**46**	**100**	**1**	**8**	**25**		**0**	**47**	**100**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length		# Lanes	Vol.	Length
Existing Lane Length	*0*	*23*	*0*	*1*	*5*	*Cont*		*0*	*11*	*0*
AM NO BUILD Queue	0	24	75	1	5	25		0	11	50
AM BUILD Queue	**0**	**24**	**75**	**1**	**5**	**25**		**0**	**11**	**50**
Existing Lane Length	*0*	*20*	*0*	*1*	*17*	*Cont*		*0*	*19*	*0*
PM NO BUILD Queue	0	21	**50**	1	18	50		0	20	50
PM BUILD Queue	**0**	**22**	**75**	**1**	**18**	**50**		**0**	**20**	**50**

	AM	PM
Cycle Length:	140	140

NOTE: Queue lengths are in feet.

No recommendations are made for the intersection of Rio Bravo Blvd. / Del Rio Dr.

5. Barcelona St. / Isleta Blvd – Appendix Pages A-64 thru A-67

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

Intersection: **#5 - Barcelona St. / Isleta Blvd.**

	2012 AM Peak Hour			2012 PM Peak Hour		
	BASE GEOMETRY			BASE GEOMETRY		
	NO BUILD		BUILD	NO BUILD		BUILD
	Lanes	LOS-Delay	LOS-Delay	Lanes	LOS-Delay	LOS-Delay
Eastbound - Barcelona St.						
L	>	B - 14.1	B - 14.3	>	B - 15.8	B - 16.1
T	1	B - 14.1	B - 14.3	1	B - 15.8	B - 16.1
R	>	B - 14.1	B - 14.3	>	B - 15.8	B - 16.1
Westbound - Barcelona St.						
L	>	B - 13.1	B - 13.3	>	B - 15.0	B - 15.3
T	1	B - 13.1	B - 13.3	1	B - 15.0	B - 15.3
R	>	B - 13.1	B - 13.3	>	B - 15.0	B - 15.3
Northbound - Isleta Blvd.						
L	1	A - 6.8	A - 6.8	1	A - 6.8	A - 7.2
T	2	B - 11.5	B - 11.5	2	B - 12.0	B - 12.4
R	>	B - 11.5	B - 11.5	>	B - 12.0	B - 12.4
Southbound - Isleta Blvd.						
L	1	A - 6.5	A - 6.5	1	A - 6.1	A - 6.2
T	2	B - 11.9	B - 12.0	2	B - 12.5	B - 13.0
R	>	B - 11.9	B - 12.0	>	B - 12.5	B - 13.0
Intersection:		**B - 11.9**	**B - 12.0**		**B - 12.3**	**B - 12.7**

NOTE: > denotes a shared thru/right and / or thru/left turn lane.

This study demonstrates that this signalized intersection will operate at acceptable levels-of-service for the 2012 AM and PM Peak Hour NO BUILD and BUILD Conditions considered in this report and that the newly generated traffic from this development will not have a significant adverse impact on this intersection.

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

Queueing Analysis Summary Sheet

Project: Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Intersection: **Barcelona Rd / Isleta Blvd**

2012

Approach	Left Turns			Thru Movements			Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*0*	*47*	*0*	*1*	*4*	*Cont*	*0*	*86*	*0*
AM NO BUILD Queue	0	49	100	1	4	25	0	89	175
AM BUILD Queue	**0**	**49**	**100**	**1**	**4**	**25**	**0**	**93**	**175**
Existing Lane Length	*0*	*46*	*0*	*1*	*6*	*Cont*	*0*	*74*	*0*
PM NO BUILD Queue	0	48	100	1	6	25	0	77	**150**
PM BUILD Queue	**0**	**48**	**100**	**1**	**6**	**25**	**0**	**92**	**175**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*0*	*12*	*0*	*1*	*5*	*Cont*	*0*	*7*	*0*
AM NO BUILD Queue	0	12	50	1	5	25	0	7	25
AM BUILD Queue	**0**	**13**	**50**	**1**	**5**	**25**	**0**	**7**	**25**
Existing Lane Length	*0*	*14*	*0*	*1*	*7*	*Cont*	*0*	*8*	*0*
PM NO BUILD Queue	0	14	50	1	7	25	0	8	25
PM BUILD Queue	**0**	**17**	**50**	**1**	**7**	**25**	**0**	**8**	**25**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*40*	*150*	*2*	*382*	*Cont*	*0*	*5*	*0*
AM NO BUILD Queue	1	41	100	2	390	325	0	5	25
AM BUILD Queue	**1**	**44**	**100**	**2**	**400**	**350**	**0**	**5**	**25**
Existing Lane Length	*1*	*96*	*150*	*2*	*667*	*Cont*	*0*	*23*	*0*
PM NO BUILD Queue	1	98	**175**	2	681	**525**	0	23	75
PM BUILD Queue	**1**	**114**	**200**	**2**	**737**	**575**	**0**	**26**	**75**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*2*	*120*	*2*	*400*	*Cont*	*0*	*38*	*0*
AM NO BUILD Queue	1	2	0	2	412	350	0	39	100
AM BUILD Queue	**1**	**2**	**0**	**2**	**427**	**350**	**0**	**39**	**100**
Existing Lane Length	*1*	*11*	*120*	*2*	*645*	*Cont*	*0*	*43*	*0*
PM NO BUILD Queue	1	11	50	2	664	**525**	0	44	100
PM BUILD Queue	**1**	**11**	**50**	**2**	**717**	**550**	**0**	**44**	**100**

	AM	PM
Cycle Length:	140	140

NOTE: Queue lengths are in feet.

The northbound left turn lane is only marginally deficit in length. Therefore, no recommendation is made for this intersection.

6. Camino Del Valle / Isleta Blvd. – Appendix Pages A-68 thru A-71

The results of the implementation year analysis and the horizon year analysis of the signalized intersection of Camino del Valle / Isleta Blvd. are summarized in the following table:

Intersection: **#6 - Camino del Valle / Isleta Blvd.**

	2012 AM Peak Hour			2012 PM Peak Hour		
	BASE GEOMETRY			BASE GEOMETRY		
	NO BUILD		BUILD	NO BUILD		BUILD
	Lanes	LOS-Delay	LOS-Delay	Lanes	LOS-Delay	LOS-Delay
Eastbound - Camino del Valle						
L	1	B - 19.5	B - 19.5	1	B - 18.4	B - 18.7
T	1	B - 17.5	B - 17.6	1	B - 16.9	B - 17.1
R	>	B - 17.5	B - 17.6	>	B - 16.9	B - 17.1
Westbound - Camino del Valle						
L	>	B - 17.5	B - 17.5	>	B - 17.2	B - 17.4
T	1	B - 17.5	B - 17.5	1	B - 17.2	B - 17.4
R	>	B - 17.5	B - 17.5	>	B - 17.2	B - 17.4
Northbound - Isleta Blvd.						
L	1	A - 5.5	A - 5.5	1	A - 6.5	A - 6.6
T	1	B - 19.1	B - 19.2	1	B - 13.2	B - 13.4
R	>	B - 19.1	B - 19.2	>	B - 13.2	B - 13.4
Southbound - Isleta Blvd.						
L	1	A - 6.8	A - 6.8	1	A - 6.1	A - 6.1
T	1	A - 10.0	B - 10.1	1	B - 17.6	B - 18.0
R	>	A - 10.0	B - 10.1	>	B - 17.6	B - 18.0
Intersection:		**B - 16.3**	**B - 16.4**		**B - 15.6**	**B - 15.9**

NOTE: > denotes a shared thru/right and / or thru/left turn lane.

Isleta Blvd. in this area is currently being re-paved, but it is expected to return to the previous striping pattern, which includes a center two-way, left turn lane to the north and south of the intersection.

This study demonstrates that this signalized intersection will operate at acceptable levels-of-service for the 2012 AM and PM Peak Hour NO BUILD and BUILD Conditions considered in this report and that the newly generated traffic from this development will not have a significant adverse impact on this intersection.

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

Queueing Analysis Summary Sheet

Project: Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Intersection: **Cam. del Valle / Isleta Blvd**

2012

Approach	Left Turns			Thru Movements			Right Turns		
Eastbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*60*	*90*	*1*	*3*	*Cont*	*0*	*8*	*0*
AM NO BUILD Queue	1	62	125	1	3	25	0	8	25
AM BUILD Queue	**1**	**63**	**125**	**1**	**3**	**25**	**0**	**8**	**25**
Existing Lane Length	*1*	*58*	*90*	*1*	*10*	*Cont*	*0*	*38*	*0*
PM NO BUILD Queue	1	60	125	1	10	50	0	39	100
PM BUILD Queue	**1**	**63**	**125**	**1**	**10**	**50**	**0**	**39**	**100**
Westbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*0*	*1*	*0*	*1*	*2*	*Cont*	*0*	*3*	*0*
AM NO BUILD Queue	0	1	0	1	2	0	0	3	25
AM BUILD Queue	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**3**	**25**
Existing Lane Length	*0*	*12*	*0*	*1*	*7*	*Cont*	*0*	*42*	*0*
PM NO BUILD Queue	0	12	50	1	7	25	0	43	100
PM BUILD Queue	**0**	**12**	**50**	**1**	**7**	**25**	**0**	**43**	**100**
Northbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*7*	*999*	*2*	*563*	*Cont*	*0*	*2*	*0*
AM NO BUILD Queue	1	7	25	2	580	450	0	2	0
AM BUILD Queue	**1**	**7**	**25**	**2**	**582**	**475**	**0**	**2**	**0**
Existing Lane Length	*1*	*12*	*999*	*2*	*454*	*Cont*	*0*	*9*	*0*
PM NO BUILD Queue	1	12	50	2	468	375	0	9	25
PM BUILD Queue	**1**	**12**	**50**	**2**	**477**	**400**	**0**	**9**	**25**
Southbound	# Lanes	Vol.	Length	# Lanes	Vol.	Length	# Lanes	Vol.	Length
Existing Lane Length	*1*	*6*	*999*	*2*	*213*	*Cont*	*0*	*18*	*0*
AM NO BUILD Queue	1	6	25	2	219	200	0	19	50
AM BUILD Queue	**1**	**6**	**25**	**2**	**221**	**225**	**0**	**20**	**50**
Existing Lane Length	*1*	*23*	*999*	*2*	*517*	*Cont*	*0*	*25*	*0*
PM NO BUILD Queue	1	24	75	2	533	425	0	26	75
PM BUILD Queue	**1**	**24**	**75**	**2**	**542**	**425**	**0**	**29**	**75**

	AM	PM
Cycle Length:	140	140

NOTE: Queue lengths are in feet.

The "999" designation for the northbound and southbound left turn lane indicates that they are both continuous two-way left turn lanes along the center of Isleta Blvd. and extend indefinitely to the north and south of Camino del Valle. No recommendation is made for this intersection.

7. Del Norte Dr. (Driveway "A") / Isleta Blvd. – Appendix Pages A-72 thru A-75

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

	2012 NO BUILD		2012 BUILD	
	AM	AM	AM	PM
Driveway "A" / Isleta Blvd.				
Minor Street (Driveway "A")				
EB Left	**C – 15.9**	**D – 25.8**	**C – 16.8**	**E – 43.7**
EB Thru / Right	**B – 10.3**	**B – 10.6**	**B – 10.5**	**B – 10.5**
Minor Street (Kelsey Rd.)				
WB Left / Thru / Right	**B – 13.2**	**C – 20.5**	**B – 13.3**	**C – 20.5**
Major Street (Isleta Blvd.)				
NB Left	**A – 8.5**	**A – 9.4**	**A – 8.6**	**A – 9.6**
SB Left	**A – 8.4**	**A – 9.1**	**A – 8.4**	**A – 9.1**

Driveway "A" (Kelsey Rd.) is projected to operate at acceptable levels-of-service with acceptable delays for all conditions considered in this report. The eastbound left turn movement for Driveway "A" is considerably longer than the eastbound thru / right turn movement delay. Therefore, this report recommends striping the eastbound approach at Driveway "A" to create a new eastbound left turn lane and an eastbound thru / right turn lane. Minor modification to the existing median may be necessary.

The calculated eastbound left turn queue length (95th percentile) is a maximum of 107 feet during the 2012 PM Peak Hour BUILD condition.

* * * * * * * * * * *

8. Rio Bravo Blvd / Driveway "B" – Appendix Pages A-76 thru A-79

The results of the analysis of the unsignalized intersection of Rio Bravo Blvd./ Driveway "B" are summarized in the following table:

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Rio Bravo Blvd. / Driveway "B"				
Minor Street (Driveway "B")				
SB Left / Thru / Right	**B – 14.9**	**C – 22.6**	**C – 15.7**	**E – 36.4**
Minor Street (Driveway)				
NB Left / Thru / Right	**D – 28.2**	**E – 35.9**	**D – 29.1**	**E – 49.1**
Major Street (Rio Bravo Blvd.)				
EB Left	**A – 8.2**	**B – 11.1**	**A – 8.3**	**B – 11.4**
WB Left	**B – 12.5**	**A – 9.2**	**B – 12.5**	**A – 9.2**

Driveway “B” is projected to operate at acceptable levels-of-service with acceptable delays for all conditions considered in this report. Therefore, no recommendation is made for the intersection of Rio Bravo Blvd. / Driveway “B”.

* * * * * * * * * * *

9. Rio Bravo Blvd / Driveway “C” – Appendix Pages A-80 thru A-83

The results of the analysis of the unsignalized intersection of Rio Bravo Blvd./ Driveway “C” are summarized in the following table:

Driveway “C” is restricted to right-in, right-out only traffic.

	2012 NO BUILD		2012 BUILD	
	AM	PM	AM	PM
Rio Bravo Blvd / Driveway “C”				
Minor Street (Driveway “C”)				
SB Right	**A – 9.0**	**A – 9.7**	**A – 9.1**	**A – 9.8**
Major Street (Rio Bravo Blvd.)				
EB Left	**N/A**	**N/A**	**N/A**	**N/A**

* * * * * * * * * * *

All three driveways will be required to conform to the driveway design criteria established by the New Mexico Department of Transportation’s *State Access Management Manual*. The Manual establishes criteria for warrants for right turn deceleration lanes at driveways on Urban Multi-Lane Roadways. All three driveways will meet the warrant for a right turn deceleration lane both for the NO BUILD condition and upon buildout of this project. In this case, a westbound right turn deceleration lane already exists for Driveway “B” and “C”. There is no existing southbound right turn deceleration lane on Isleta Blvd. at Driveway “A”. Additionally, a southbound deceleration lane on Isleta Blvd. at Driveway “A” cannot be constructed without adversely impacting the parking requirements of the existing Bank of America parcel at the northwest corner of Driveway “A” / Isleta Blvd. Therefore, this study recommends that no right turn deceleration lane be required at Driveway “A”.

Left turn deceleration lanes are warranted at Driveway “A” and Driveway “B”. A left turn deceleration lane exists at both driveways. The eastbound left turn deceleration lane at Driveway “B” on Rio Bravo Blvd. is approximately 200 feet long plus transition. The northbound left turn deceleration lane on Isleta Blvd. at Driveway “A” is approximately 110 feet long plus transition.

* * * * * * * * * * *

It should be noted that Levels of Service (LOS) for unsignalized intersections cannot be compared directly with Levels of Service for signalized intersections.

LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Average Delay (secs)	Level-of-Service
≤ 10	A
> 10 and ≤ 20	B
> 20 and ≤ 35	C
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

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.

PLANNED CAPITAL PROGRAM IMPROVEMENTS

There are no planned capital improvement projects in the study area of the proposed Walgreen's Pharmacy store development that need to be considered in this report.

CONCLUSIONS

In summary, the proposed development plan for the Walgreen's Pharmacy will present no significant adverse impact to the adjacent transportation system provided that the following recommendations are implemented.

RECOMMENDATIONS

The planned project should be accessed generally as shown on the proposed site development plan on Pages A-2 and A-4 in the Appendix of this report via Driveway "A", a full access unsignalized intersection on Isleta Blvd. approximately 520 feet north of Rio Bravo Blvd. (centerline to centerline), Driveways "B", a full access unsignalized driveway on Rio Bravo Blvd. approximately 580 feet west of Isleta Blvd. (centerline to centerline), and Driveway "C", a right-in, right out only unsignalized driveway on Rio Bravo Blvd. approximately 320 feet west of Isleta Blvd. (centerline to centerline).

Rio Bravo Blvd. / **Isleta Blvd.** – lengthen the existing northbound left turn lane on Isleta Blvd. at Rio Bravo Blvd. by modifying the existing raised median on the south leg of Isleta Blvd. It appears that the northbound left turn lane can be lengthened from the existing length of 100 feet long to a length of 200 feet long plus transition.

Driveway "A" / **Isleta Blvd.** – stripe the eastbound approach on Driveway "A" so that there is an exclusive left turn lane and a thru / right turn lane.

All new construction of buildings, landscape, and street / intersection improvements should maintain adequate site distances at driveways and intersections to the extent feasible.

Appendix

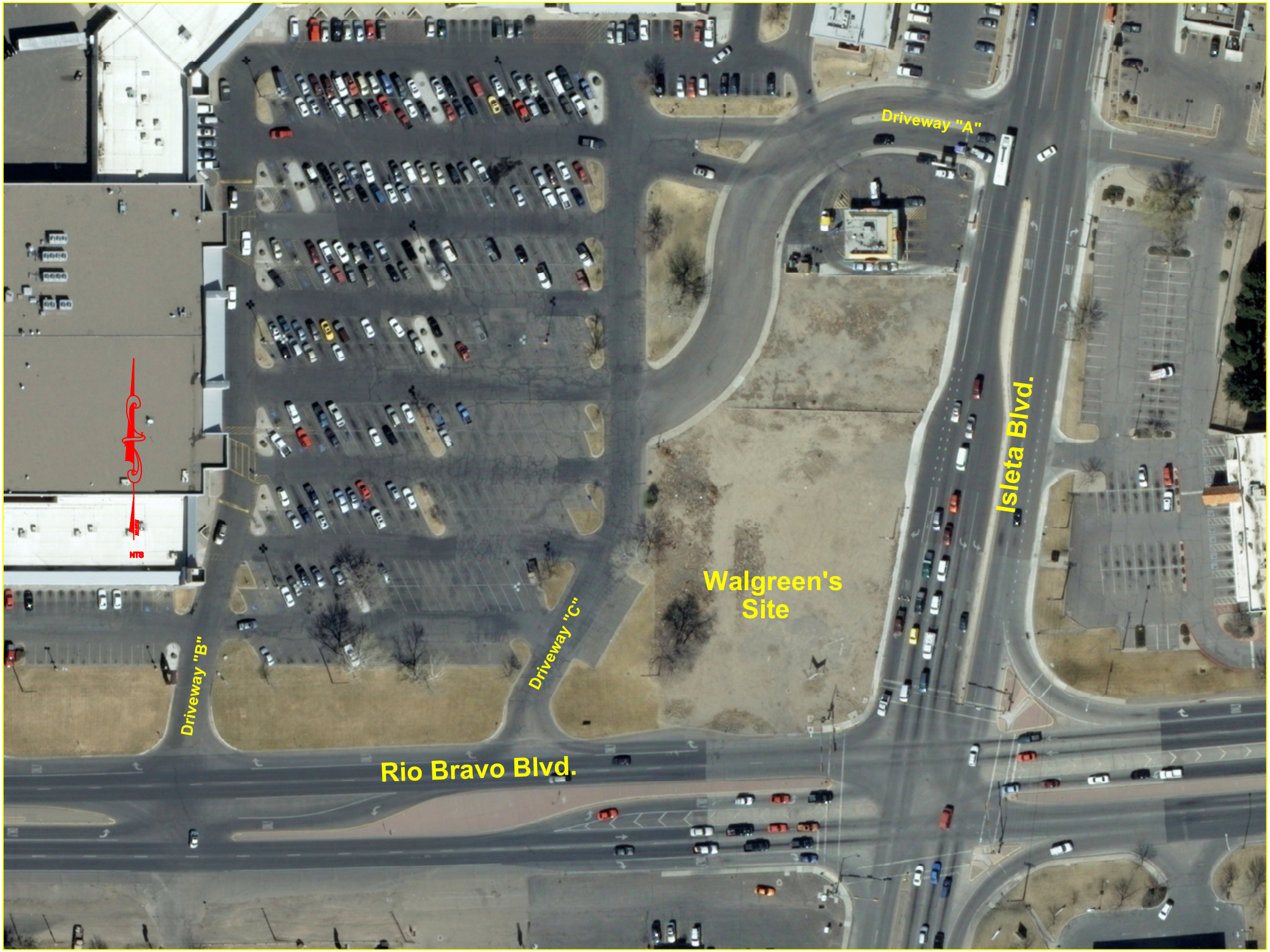
SITE INFORMATION	
Aerial Photos	A-1 thru A-2
Vicinity Map	A-3
Conceptual Site Plan	A-4
2010 Traffic Flow Map (from MRCOG)	A-4
Long Range Major Street Plan for the Albuquerque Metropolitan Area	A-4a
TRIP GENERATION	
Trip Generation Worksheets for Individual Land Uses	A-5
TRIP DISTRIBUTION	
Data Analysis Subzone Map – Commercial	A-6
Percentage Trip Assignments Worksheets – Commercial	A-7 thru A-11
Percentage Trip Distribution Map – Commercial	A-12
Trip Assignments (% Entering)	A-13
Trip Assignments (% Exiting)	A-14
BACKGROUND TRAFFIC GROWTH FACTORS	
Historic Growth Rate Summary & Tables	A-15 thru A-26
Growth Rate Map	A-26
TURNING MOVEMENTS	
2012 ANALYSIS	
Projected Turning Movements Summary Table	A-27 thru A-29
Projected Turning Movements Worksheet for Individual Intersections	A-30 thru A-47
SIGNALIZED INTERSECTION ANALYSES – 2012	
1 - Signalized Intersection Analyses (Rio Bravo Blvd. / Isleta Blvd.)	A-48 thru A-51
2 - Signalized Intersection Analyses (Rio Bravo Blvd. / 2nd St.)	A-52 thru A-55
3 - Signalized Intersection Analyses (Rio Bravo Blvd. / Prince St.)	A-56 thru A-59
4 - Signalized Intersection Analyses (Rio Bravo Blvd. / Del Rio Dr.)	A-60 thru A-63
5 - Signalized Intersection Analyses (Barcelona St / Isleta Blvd)	A-64 thru A-67
6 - Signalized Intersection Analyses (Camino del Valle / Isleta Blvd)	A-68 thru A-71
UNSIGNALIZED DRIVEWAY ANALYSES – 2012	
Unsignalized Intersection Analyses (Driveway 'A' / Isleta Blvd)	A-72 thru A-75
Unsignalized Intersection Analyses (Rio Bravo / Driveway 'B')	A-76 thru A-79
Unsignalized Intersection Analyses (Rio Bravo / Driveway 'C')	A-80 thru A-83
MISCELLANEOUS DATA	
Warrants for Deceleration Lanes	A-84 thru A-92
Traffic Count Data and Intersection Data	A-93 thru A-99
Sun Tran Route Schedules	A-100 thru A-101

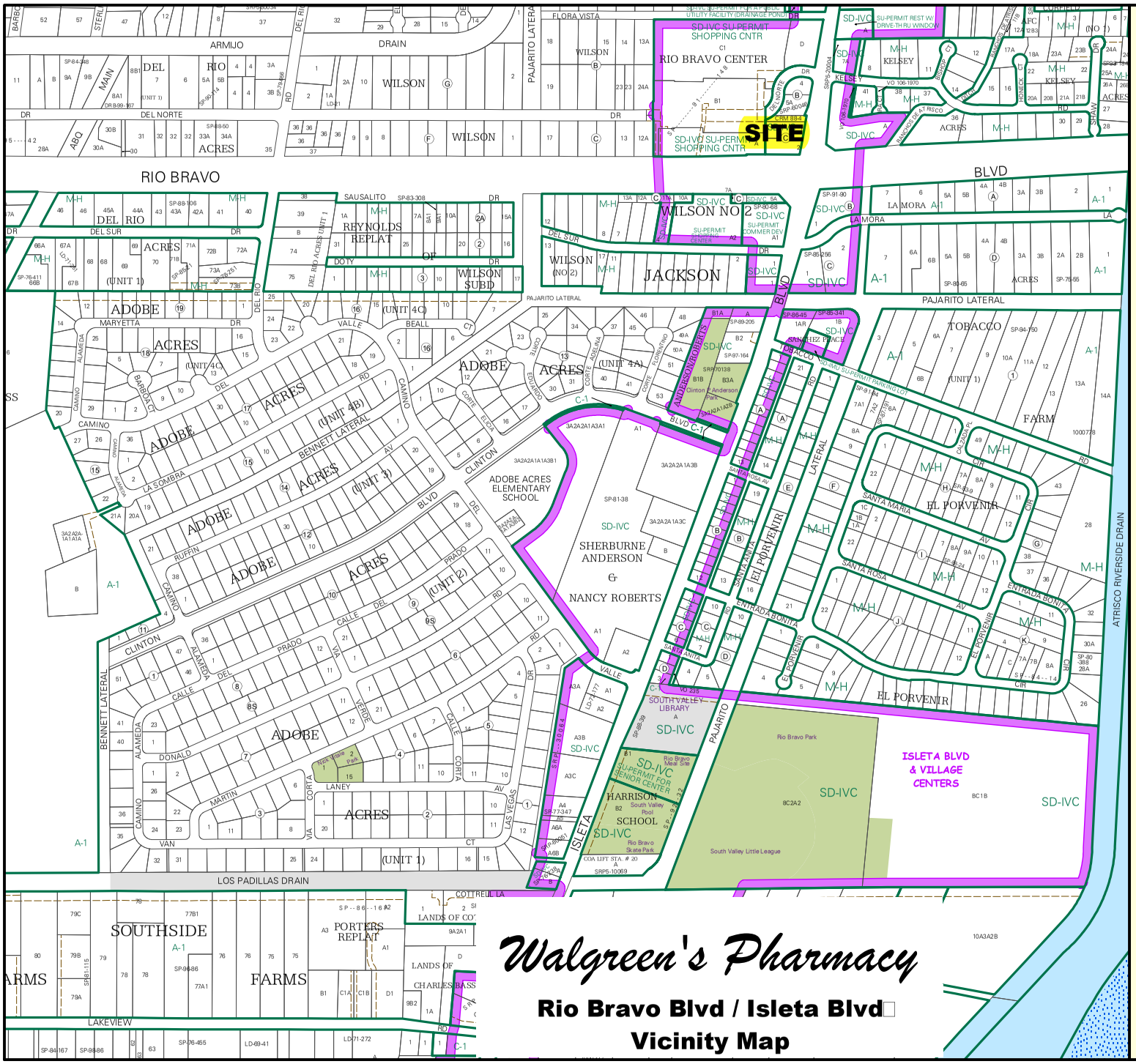
APPENDIX

Walgreen's Pharmacy

Rio Bravo Blvd / Isleta Blvd

Aerial Photo

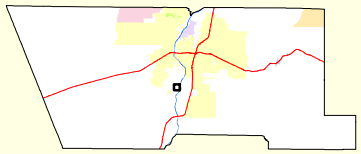

Driveway "A"
Isleta Blvd.
Walgreen's Site
Driveway "C"
Driveway "B"
Rio Bravo Blvd.
NTS



Walgreen's Pharmacy

Rio Bravo Blvd / Isleta Blvd

Vicinity Map



LEGAL DESCRIPTION

T9N

R2E

SEC 12

UNIFORM PROPERTY CODE

1-012-053

250 0 250 500 750 1,000

Feet

Map amended through January 2011

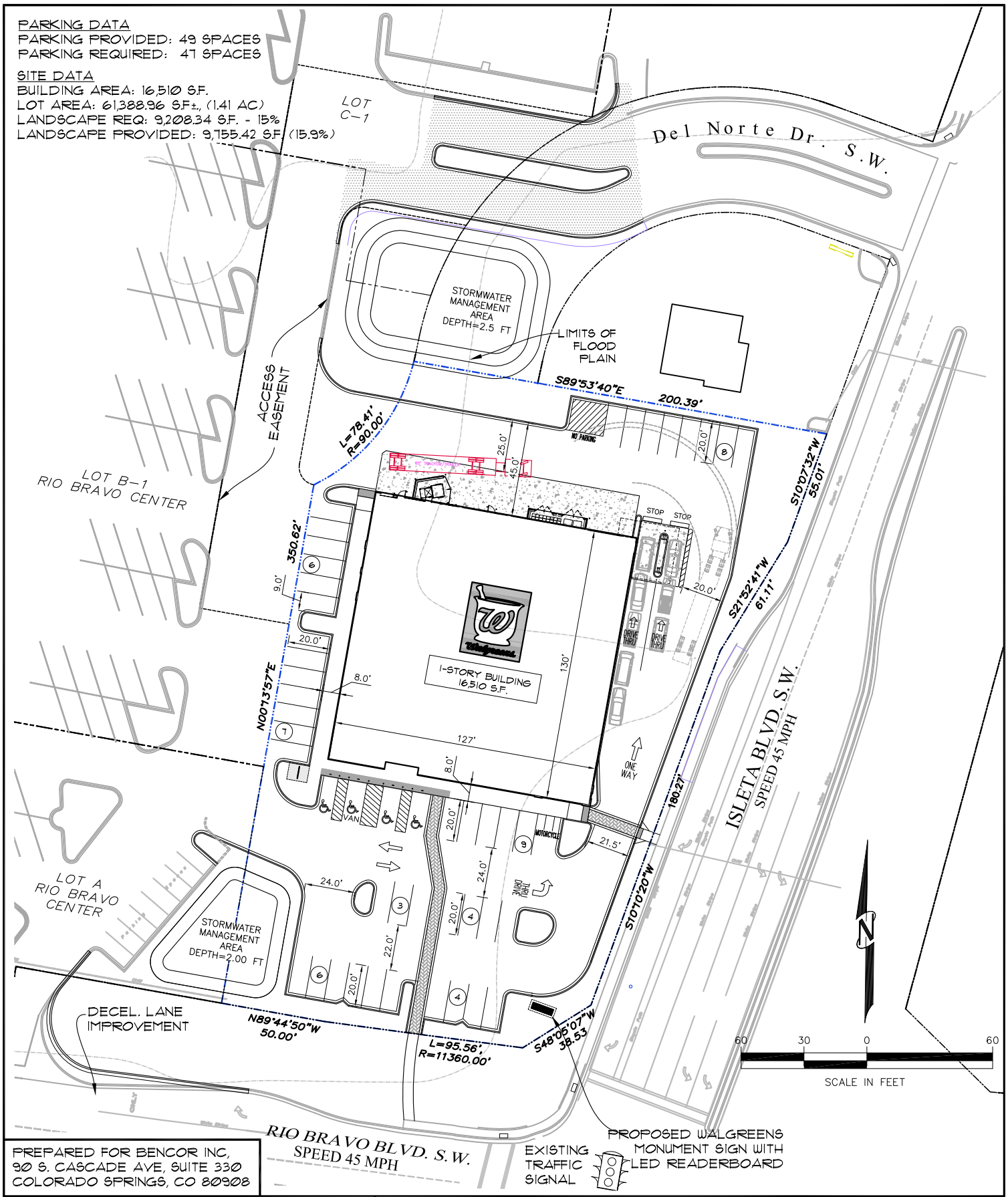
PUBLIC WORKS DIVISION
GIS PROGRAM

This information is for reference only. Bernalillo County assumes no liability for errors associated with the use of these data. Users are solely responsible for confirming data accuracy when necessary. Source data are from Bernalillo County and the City of Albuquerque. For current information visit www.bernco.gov.

P-12-Z

PARKING DATA
PARKING PROVIDED: 49 SPACES
PARKING REQUIRED: 47 SPACES

SITE DATA
BUILDING AREA: 16,510 S.F.
LOT AREA: 61,388.96 S.F.±, (1.41 AC)
LANDSCAPE REQ: 9,208.34 S.F. - 15%
LANDSCAPE PROVIDED: 9,755.42 S.F. (15.9%)



PREPARED FOR BENCOR INC,
90 S. CASCADE AVE, SUITE 330
COLORADO SPRINGS, CO 80908

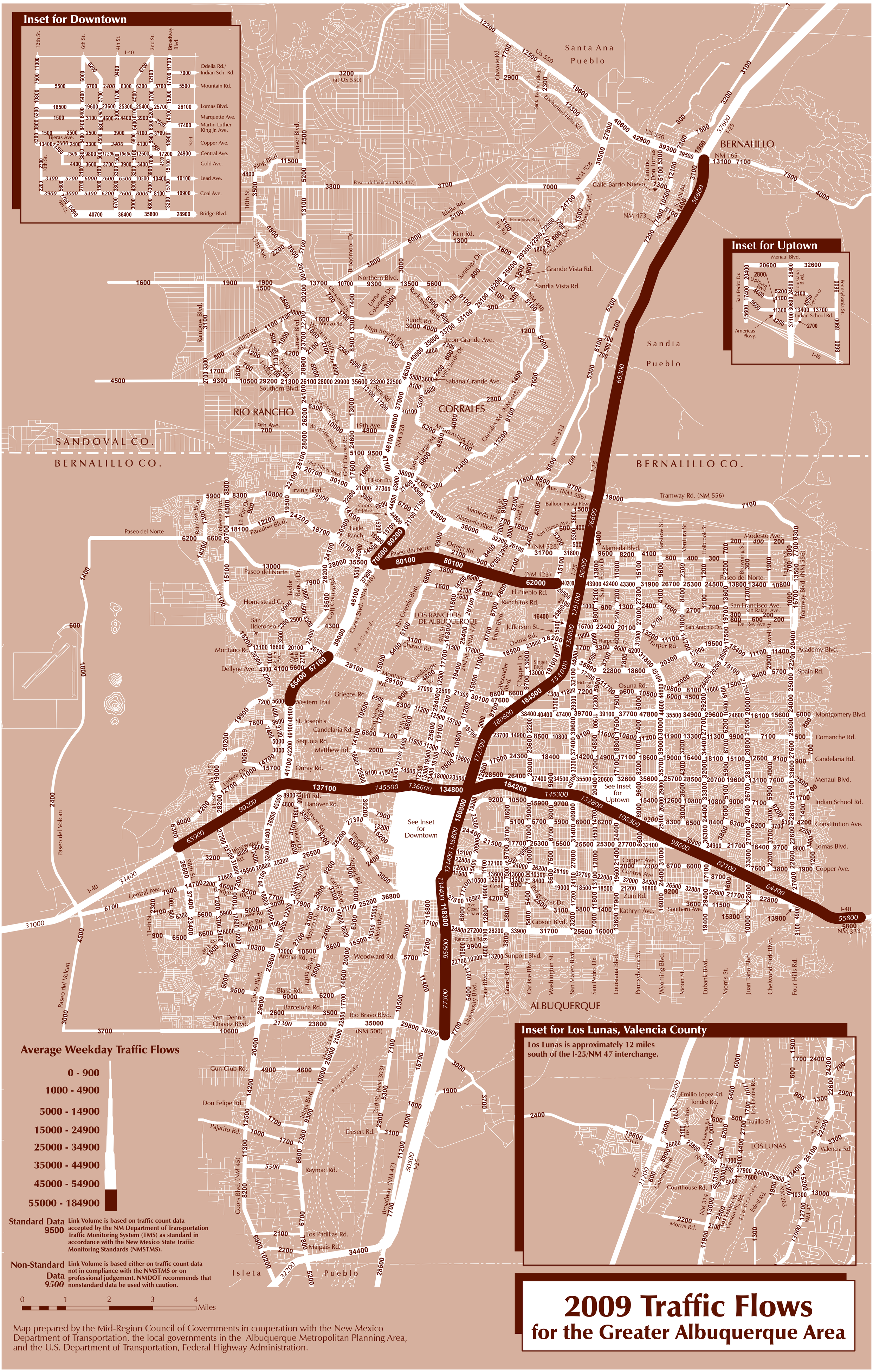
Khoury Engineering, Inc.
Civil Engineering – Land Development
1435 East 41st STreet
Tulsa, OK 74105
Tel 918.712.8768
Fax 918.712.1069

CONCEPTUAL SITE PLAN

Walgreens

NWC RIO BRAVO & ISLETA AVE.
ALBUQUERQUE, NEW MEXICO

REVISED DATE:
10-21-2010
10-29-2010
12-13-2010


Inset for Downtown
Inset for Uptown
Inset for Los Lunas, Valencia County
Average Weekday Traffic Flows
0 - 900
1000 - 4900
5000 - 14900
15000 - 24900
25000 - 34900
35000 - 44900
45000 - 54900
55000 - 184900
Standard Data 9500
Link Volume is based on traffic count data accepted by the NM Department of Transportation Traffic Monitoring System (TMS) as standard in accordance with the New Mexico State Traffic Monitoring Standards (NMSTMS).
Non-Standard Data 9500
Link Volume is based either on traffic count data not in compliance with the NMSTMS or on professional judgement. NMDOT recommends that nonstandard data be used with caution.
0 1 2 3 4 Miles
Santa Ana Pueblo
Sandia Pueblo
Isleta Pueblo
RIO RANCHO
CORRALES
BERNALILLO
ALBUQUERQUE
LOS RANCHOS DE ALBUQUERQUE
LOS LUNAS
SANDOVAL CO.
BERNALILLO CO.
See Inset for Downtown
See Inset for Uptown
Paseo del Norte
Paseo del Volcan
Unser Blvd.
Rio Grande
I-25
I-40
Coors Blvd.
Rio Grande Blvd.
Tramway Rd. (NM 556)
Osuna Rd.
Montgomery Blvd.
Comanche Rd.
Candelaria Rd.
Menaul Blvd.
Indian School Rd.
Constitution Ave.
Lomas Blvd.
Copper Ave.
Central Ave.
Gibson Blvd.
Southern Blvd.
Rio Bravo Blvd.
Isleta Blvd.
Broadway (NM 47)
Valencia Rd.
Los Lunas is approximately 12 miles south of the I-25/NM 47 interchange.
Map prepared by the Mid-Region Council of Governments in cooperation with the New Mexico Department of Transportation, the local governments in the Albuquerque Metropolitan Planning Area, and the U.S. Department of Transportation, Federal Highway Administration.
2009 Traffic Flows
for the Greater Albuquerque Area

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)
Trip Generation Data (Based on Local Data)

USE (ITE CODE)		24 HOUR TWO-WAY VOLUME	A. M. PEAK HOUR		P. M. PEAK HOUR	
		GROSS	ENTER	EXIT	ENTER	EXIT
	Units					
Walgreen's (Local Data)	***16.50***	2,063	37	26	136	142
	1,000 S.F.					

ITE Trip Generation Equations:

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

T = ***125*** **(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)

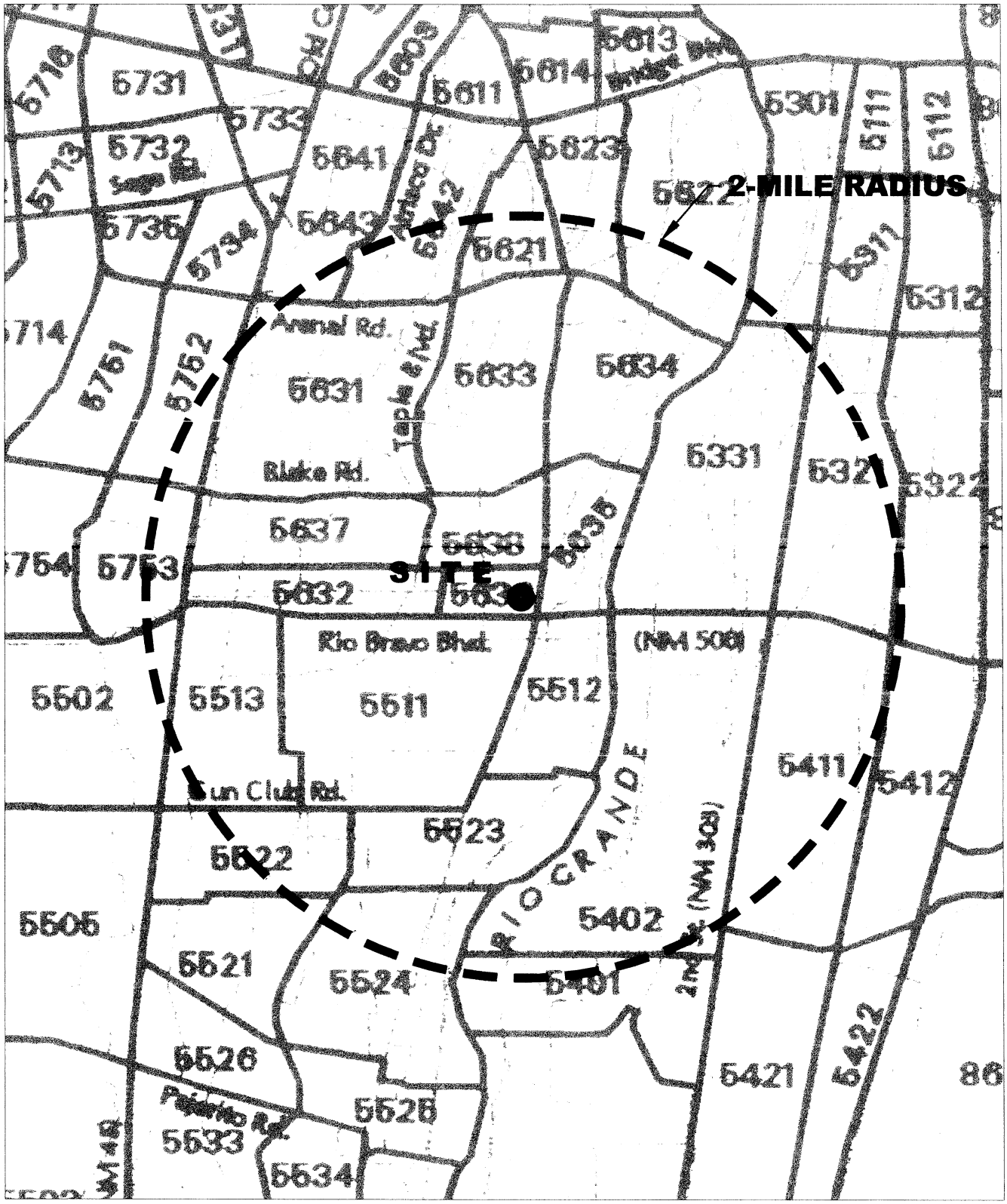
T = ***3.79*** **(X) +** ***0***
59% Enter, ***41%*** Exit

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

T = ***16.82*** **(X) +** ***0***
49% Enter, ***51%*** Exit

Comments:

Based on Local Data for Walgreen's



DATA ANALYSIS SUBZONE (DASZ) MAP

Walgreen's - Rio Bravo Blvd / Isleta Blvd

Trip Distribution Table

Walgreen's Pharmacy - Rio Bravo Blvd / Isleta Blvd

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

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

							(IN) Isleta Blvd North			(BE) Barcelona Dr East			(2N) Second St North		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	Population in Study	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	2012											
Boundary Specified on DASZ Map															
5321	65%	2	481	149	97	**0.43%**	0%	0.00%	0	0%	0.00%	0	47%	0.20%	46
5331	100%	345	932	526	526	**2.33%**	0%	0.00%	0	0%	0.00%	0	100%	2.33%	526
5401	15%	745	702	732	110	**0.49%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5402	100%	897	1218	996	996	**4.41%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5411	55%	1858	1847	1,855	1,020	**4.51%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5502	5%	775	2232	1,223	61	**0.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5511	100%	2325	2594	2,408	2,408	**10.66%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5512	100%	776	770	774	774	**3.43%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5513	95%	369	614	444	422	**1.87%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5522	55%	2172	2190	2,178	1,198	**5.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5523	100%	510	496	506	506	**2.24%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5524	40%	990	914	967	387	**1.71%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5621	55%	907	865	894	492	**2.18%**	100%	2.18%	492	0%	0.00%	0	0%	0.00%	0
5622	25%	2876	2668	2,812	703	**3.11%**	100%	3.11%	703	0%	0.00%	0	0%	0.00%	0
5623	30%	1397	1295	1,366	410	**1.81%**	100%	1.81%	410	0%	0.00%	0	0%	0.00%	0
5631	95%	2224	2115	2,190	2,081	**9.21%**	40%	3.68%	832	0%	0.00%	0	0%	0.00%	0
5632	100%	846	775	824	824	**3.65%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5633	100%	2571	2640	2,592	2,592	**11.47%**	100%	11.47%	2,592	0%	0.00%	0	0%	0.00%	0
5634	100%	2454	2341	2,419	2,419	**10.70%**	100%	10.70%	2,419	0%	0.00%	0	0%	0.00%	0
5635	100%	1007	1187	1,062	1,062	**4.70%**	60%	2.82%	637	40%	1.88%	425	0%	0.00%	0
5636	100%	288	286	287	287	**1.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5637	100%	873	809	853	853	**3.77%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5638	100%	807	846	819	819	**3.62%**	50%	1.81%	410	0%	0.00%	0	0%	0.00%	0
5641	5%	1554	1592	1,566	78	**0.35%**	50%	0.17%	39	0%	0.00%	0	0%	0.00%	0
5642	40%	1736	1694	1,723	689	**3.05%**	50%	1.52%	345	0%	0.00%	0	0%	0.00%	0
5752	20%	1313	2482	1,673	335	**1.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5753	35%	1310	1224	1,284	449	**1.99%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
				35,122	22,598	100.00%			**8,879**			**425**			**572**
									39.29%			1.88%			2.53%

Trip Distribution Table

Walgreen's Pharmacy - Rio Bravo Blvd / Isleta Blvd

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

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

							(PN) Prince St North			(RE) Rio Bravo Blvd East			(PS) Prince St South		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	**2012**											
Boundary Specified on DASZ Map															
5321	65%	2	481	149	97	**0.43%**	5%	0.02%	5	48%	0.21%	47	0%	0.00%	0
5331	100%	345	932	526	526	**2.33%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5401	15%	745	702	732	110	**0.49%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5402	100%	897	1218	996	996	**4.41%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5411	55%	1858	1847	1,855	1,020	**4.51%**	0%	0.00%	0	5%	0.23%	51	80%	3.61%	816
5502	5%	775	2232	1,223	61	**0.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5511	100%	2325	2594	2,408	2,408	**10.66%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5512	100%	776	770	774	774	**3.43%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5513	95%	369	614	444	422	**1.87%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5522	55%	2172	2190	2,178	1,198	**5.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5523	100%	510	496	506	506	**2.24%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5524	40%	990	914	967	387	**1.71%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5621	55%	907	865	894	492	**2.18%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5622	25%	2876	2668	2,812	703	**3.11%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5623	30%	1397	1295	1,366	410	**1.81%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5631	95%	2224	2115	2,190	2,081	**9.21%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5632	100%	846	775	824	824	**3.65%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5633	100%	2571	2640	2,592	2,592	**11.47%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5634	100%	2454	2341	2,419	2,419	**10.70%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5635	100%	1007	1187	1,062	1,062	**4.70%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5636	100%	288	286	287	287	**1.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5637	100%	873	809	853	853	**3.77%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5638	100%	807	846	819	819	**3.62%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5641	5%	1554	1592	1,566	78	**0.35%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5642	40%	1736	1694	1,723	689	**3.05%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5752	20%	1313	2482	1,673	335	**1.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5753	35%	1310	1224	1,284	449	**1.99%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
				35,122	22,598	100.00%			**5**			**98**			**816**
									0.02%			0.43%			3.61%

Trip Distribution Table

Walgreen's Pharmacy - Rio Bravo Blvd / Isleta Blvd

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

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

							(2S) Second St South			(IS) Isleta Blvd South			(CW) Calle del Valle West		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	2012											
Boundary Specified on DASZ Map															
5321	65%	2	481	149	97	**0.43%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5331	100%	345	932	526	526	**2.33%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5401	15%	745	702	732	110	**0.49%**	100%	0.49%	110	0%	0.00%	0	0%	0.00%	0
5402	100%	897	1218	996	996	**4.41%**	100%	4.41%	996	0%	0.00%	0	0%	0.00%	0
5411	55%	1858	1847	1,855	1,020	**4.51%**	15%	0.68%	153	0%	0.00%	0	0%	0.00%	0
5502	5%	775	2232	1,223	61	**0.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5511	100%	2325	2594	2,408	2,408	**10.66%**	0%	0.00%	0	25%	2.66%	602	15%	1.60%	361
5512	100%	776	770	774	774	**3.43%**	0%	0.00%	0	0%	0.00%	0	10%	0.34%	77
5513	95%	369	614	444	422	**1.87%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5522	55%	2172	2190	2,178	1,198	**5.30%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5523	100%	510	496	506	506	**2.24%**	0%	0.00%	0	100%	2.24%	506	0%	0.00%	0
5524	40%	990	914	967	387	**1.71%**	0%	0.00%	0	100%	1.71%	387	0%	0.00%	0
5621	55%	907	865	894	492	**2.18%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5622	25%	2876	2668	2,812	703	**3.11%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5623	30%	1397	1295	1,366	410	**1.81%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5631	95%	2224	2115	2,190	2,081	**9.21%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5632	100%	846	775	824	824	**3.65%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5633	100%	2571	2640	2,592	2,592	**11.47%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5634	100%	2454	2341	2,419	2,419	**10.70%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5635	100%	1007	1187	1,062	1,062	**4.70%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5636	100%	288	286	287	287	**1.27%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5637	100%	873	809	853	853	**3.77%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5638	100%	807	846	819	819	**3.62%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5641	5%	1554	1592	1,566	78	**0.35%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5642	40%	1736	1694	1,723	689	**3.05%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5752	20%	1313	2482	1,673	335	**1.48%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5753	35%	1310	1224	1,284	449	**1.99%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
				35,122	22,598	100.00%			**1,259**			**1,495**			**439**
									5.57%			6.62%			1.94%

Trip Distribution Table

Walgreen's Pharmacy - Rio Bravo Blvd / Isleta Blvd

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

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

							(DS) Del Rio Dr South			(RW) Rio Bravo Blvd West			(DN) Del Rio Dr North		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	**Population in Study**	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	2012											
Boundary Specified on DASZ Map															
5321	65%	2	481	149	97	**0.43%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5331	100%	345	932	526	526	**2.33%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5401	15%	745	702	732	110	**0.49%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5402	100%	897	1218	996	996	**4.41%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5411	55%	1858	1847	1,855	1,020	**4.51%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5502	5%	775	2232	1,223	61	**0.27%**	0%	0.00%	0	100%	0.27%	61	0%	0.00%	0
5511	100%	2325	2594	2,408	2,408	**10.66%**	40%	4.26%	963	20%	2.13%	482	0%	0.00%	0
5512	100%	776	770	774	774	**3.43%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5513	95%	369	614	444	422	**1.87%**	0%	0.00%	0	100%	1.87%	422	0%	0.00%	0
5522	55%	2172	2190	2,178	1,198	**5.30%**	0%	0.00%	0	100%	5.30%	1,198	0%	0.00%	0
5523	100%	510	496	506	506	**2.24%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5524	40%	990	914	967	387	**1.71%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5621	55%	907	865	894	492	**2.18%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5622	25%	2876	2668	2,812	703	**3.11%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5623	30%	1397	1295	1,366	410	**1.81%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5631	95%	2224	2115	2,190	2,081	**9.21%**	0%	0.00%	0	40%	3.68%	832	0%	0.00%	0
5632	100%	846	775	824	824	**3.65%**	0%	0.00%	0	10%	0.36%	82	10%	0.36%	82
5633	100%	2571	2640	2,592	2,592	**11.47%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5634	100%	2454	2341	2,419	2,419	**10.70%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5635	100%	1007	1187	1,062	1,062	**4.70%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5636	100%	288	286	287	287	**1.27%**	0%	0.00%	0	0%	0.00%	0	20%	0.25%	57
5637	100%	873	809	853	853	**3.77%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5638	100%	807	846	819	819	**3.62%**	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0
5641	5%	1554	1592	1,566	78	**0.35%**	0%	0.00%	0	50%	0.17%	39	0%	0.00%	0
5642	40%	1736	1694	1,723	689	**3.05%**	0%	0.00%	0	50%	1.52%	345	0%	0.00%	0
5752	20%	1313	2482	1,673	335	**1.48%**	0%	0.00%	0	100%	1.48%	335	0%	0.00%	0
5753	35%	1310	1224	1,284	449	**1.99%**	0%	0.00%	0	100%	1.99%	449	0%	0.00%	0
				35,122	22,598	100.00%			**963**			**4,245**			**140**
									4.26%			18.78%			0.62%

Trip Distribution Table

Walgreen's Pharmacy - Rio Bravo Blvd / Isleta Blvd

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

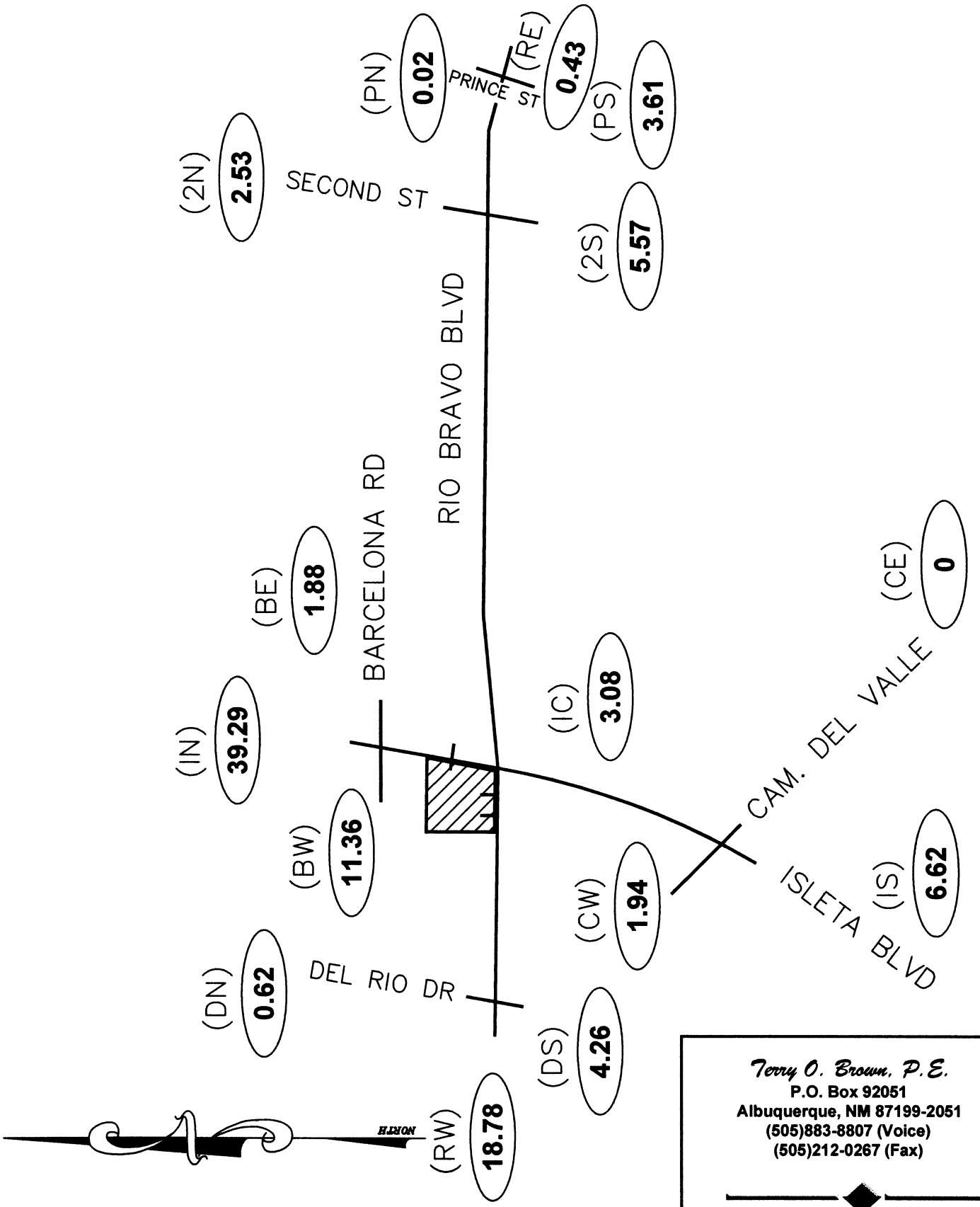
2004 and 2030 Data Taken from Mid-Region Council of Governments' 2030 Socioeconomic
2030 Socioeconomic Forecasts by Data Analysis Subzones for the Mid-Region of New Mexico

							(BW) Barcelona Rd West			(IC) Isleta Blvd Central		
DASZ #	% Sub Area in Study	2004 Population	2030 Population	Interpolated Population for the Year	Population in Study	**Percent Population**	% Utilizing	% Population Utilizing	Population	% Utilizing	% Population Utilizing	Population
		2004	**2030**	**2012**								
Boundary Specified on DASZ Map												
5321	65%	2	481	149	97	**0.43%**	0%	0.00%	0	0%	0.00%	0
5331	100%	345	932	526	526	**2.33%**	0%	0.00%	0	0%	0.00%	0
5401	15%	745	702	732	110	**0.49%**	0%	0.00%	0	0%	0.00%	0
5402	100%	897	1218	996	996	**4.41%**	0%	0.00%	0	0%	0.00%	0
5411	55%	1858	1847	1,855	1,020	**4.51%**	0%	0.00%	0	0%	0.00%	0
5502	5%	775	2232	1,223	61	**0.27%**	0%	0.00%	0	0%	0.00%	0
5511	100%	2325	2594	2,408	2,408	**10.66%**	0%	0.00%	0	0%	0.00%	0
5512	100%	776	770	774	774	**3.43%**	0%	0.00%	0	90%	3.08%	697
5513	95%	369	614	444	422	**1.87%**	0%	0.00%	0	0%	0.00%	0
5522	55%	2172	2190	2,178	1,198	**5.30%**	0%	0.00%	0	0%	0.00%	0
5523	100%	510	496	506	506	**2.24%**	0%	0.00%	0	0%	0.00%	0
5524	40%	990	914	967	387	**1.71%**	0%	0.00%	0	0%	0.00%	0
5621	55%	907	865	894	492	**2.18%**	0%	0.00%	0	0%	0.00%	0
5622	25%	2876	2668	2,812	703	**3.11%**	0%	0.00%	0	0%	0.00%	0
5623	30%	1397	1295	1,366	410	**1.81%**	0%	0.00%	0	0%	0.00%	0
5631	95%	2224	2115	2,190	2,081	**9.21%**	20%	1.84%	416	0%	0.00%	0
5632	100%	846	775	824	824	**3.65%**	80%	2.92%	659	0%	0.00%	0
5633	100%	2571	2640	2,592	2,592	**11.47%**	0%	0.00%	0	0%	0.00%	0
5634	100%	2454	2341	2,419	2,419	**10.70%**	0%	0.00%	0	0%	0.00%	0
5635	100%	1007	1187	1,062	1,062	**4.70%**	0%	0.00%	0	0%	0.00%	0
5636	100%	288	286	287	287	**1.27%**	80%	1.02%	230	0%	0.00%	0
5637	100%	873	809	853	853	**3.77%**	100%	3.77%	853	0%	0.00%	0
5638	100%	807	846	819	819	**3.62%**	50%	1.81%	410	0%	0.00%	0
5641	5%	1554	1592	1,566	78	**0.35%**	0%	0.00%	0	0%	0.00%	0
5642	40%	1736	1694	1,723	689	**3.05%**	0%	0.00%	0	0%	0.00%	0
5752	20%	1313	2482	1,673	335	**1.48%**	0%	0.00%	0	0%	0.00%	0
5753	35%	1310	1224	1,284	449	**1.99%**	0%	0.00%	0	0%	0.00%	0
				35,122	22,598	100.00%			**2,568**			**697**
									11.36%			3.08%

Walgreen's Pharmacy

(Rio Bravo Blvd / Isleta Blvd)

Trip Distribution Map (%)

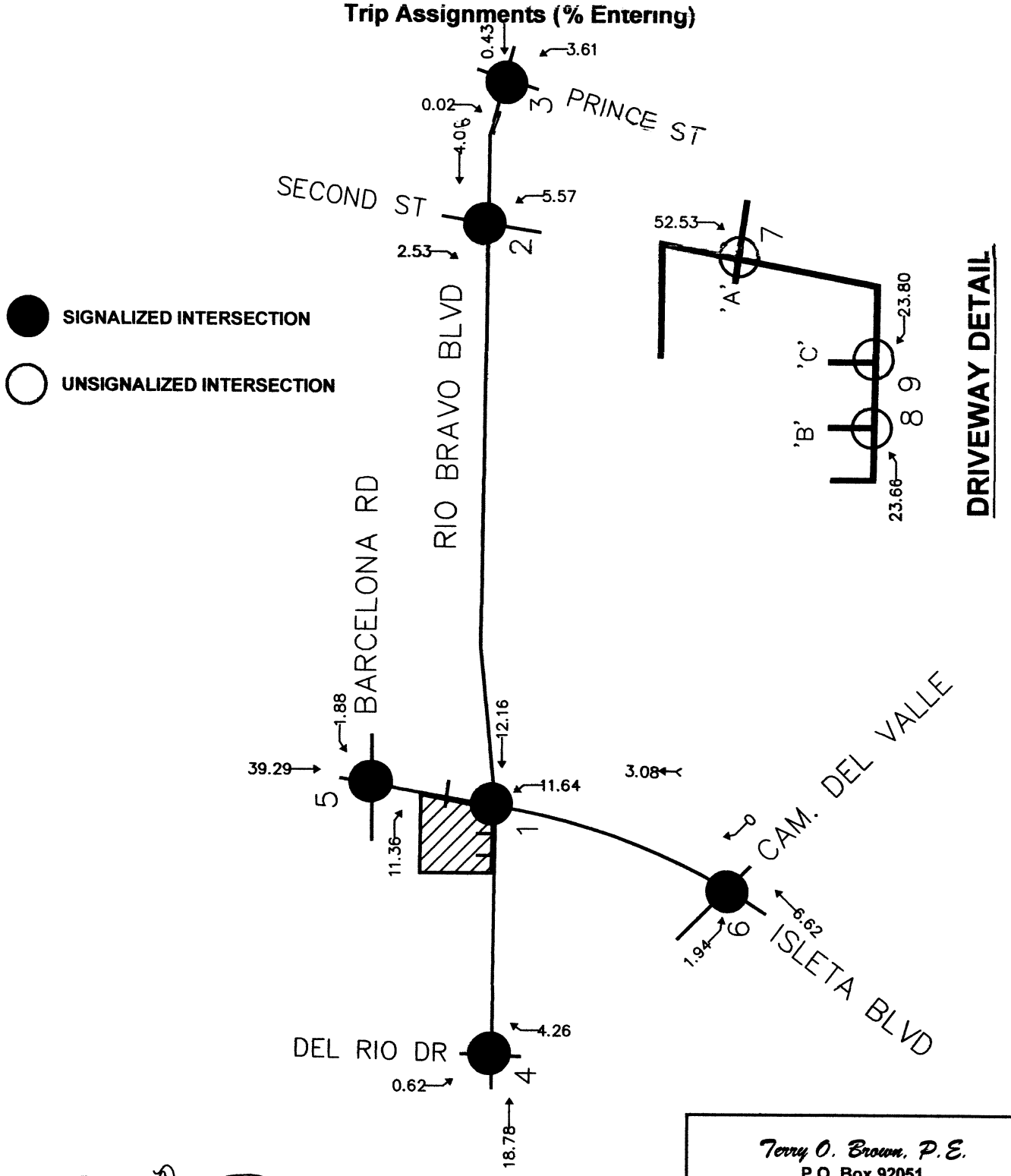


Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Walgreen's Pharmacy

(Rio Bravo Blvd / Isleta Blvd)

Trip Assignments (% Entering)

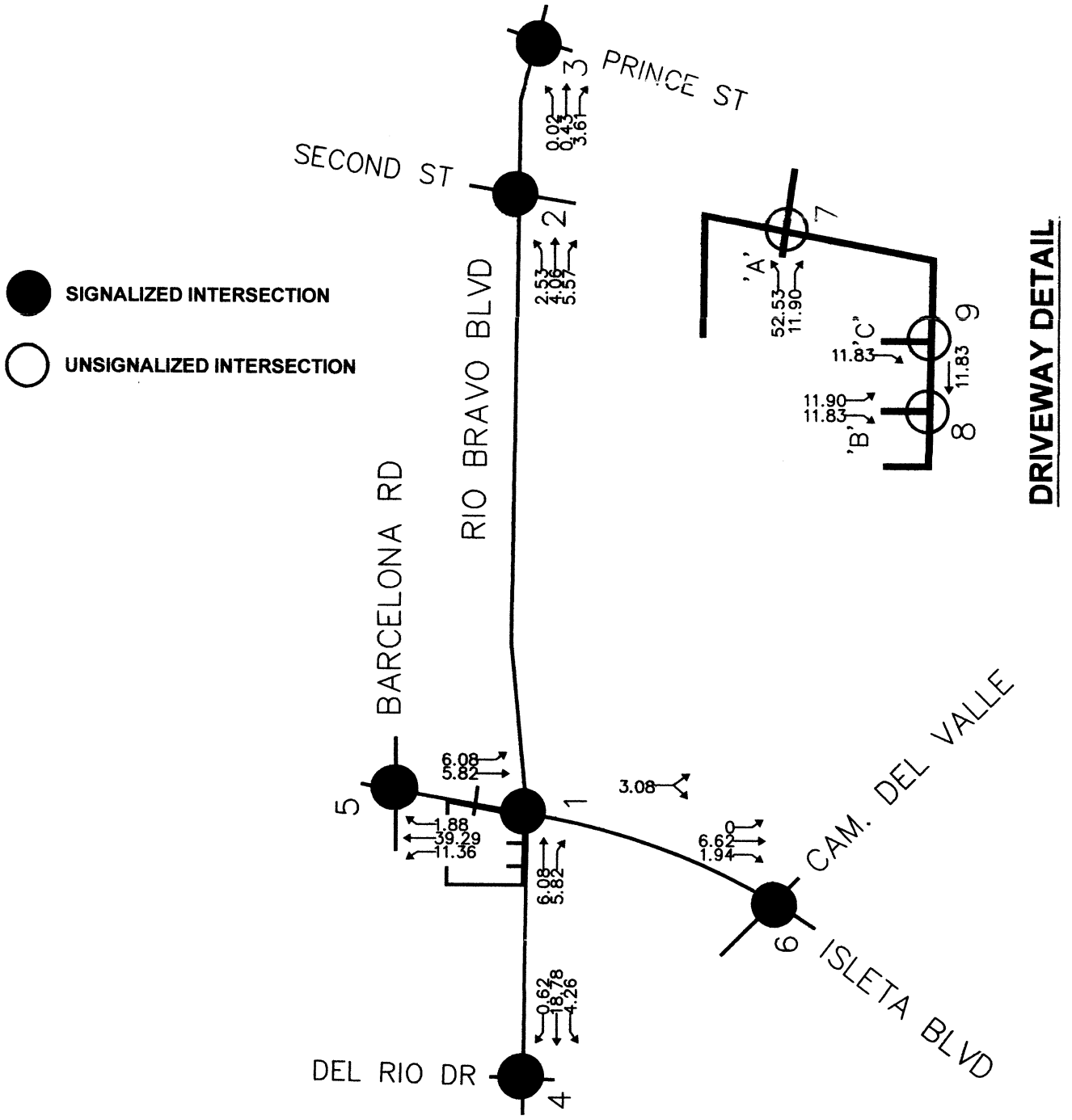


Terry O. Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199-2051
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Walgreen's Pharmacy

(Rio Bravo Blvd / Isleta Blvd)

Trip Assignments (% Exiting)



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

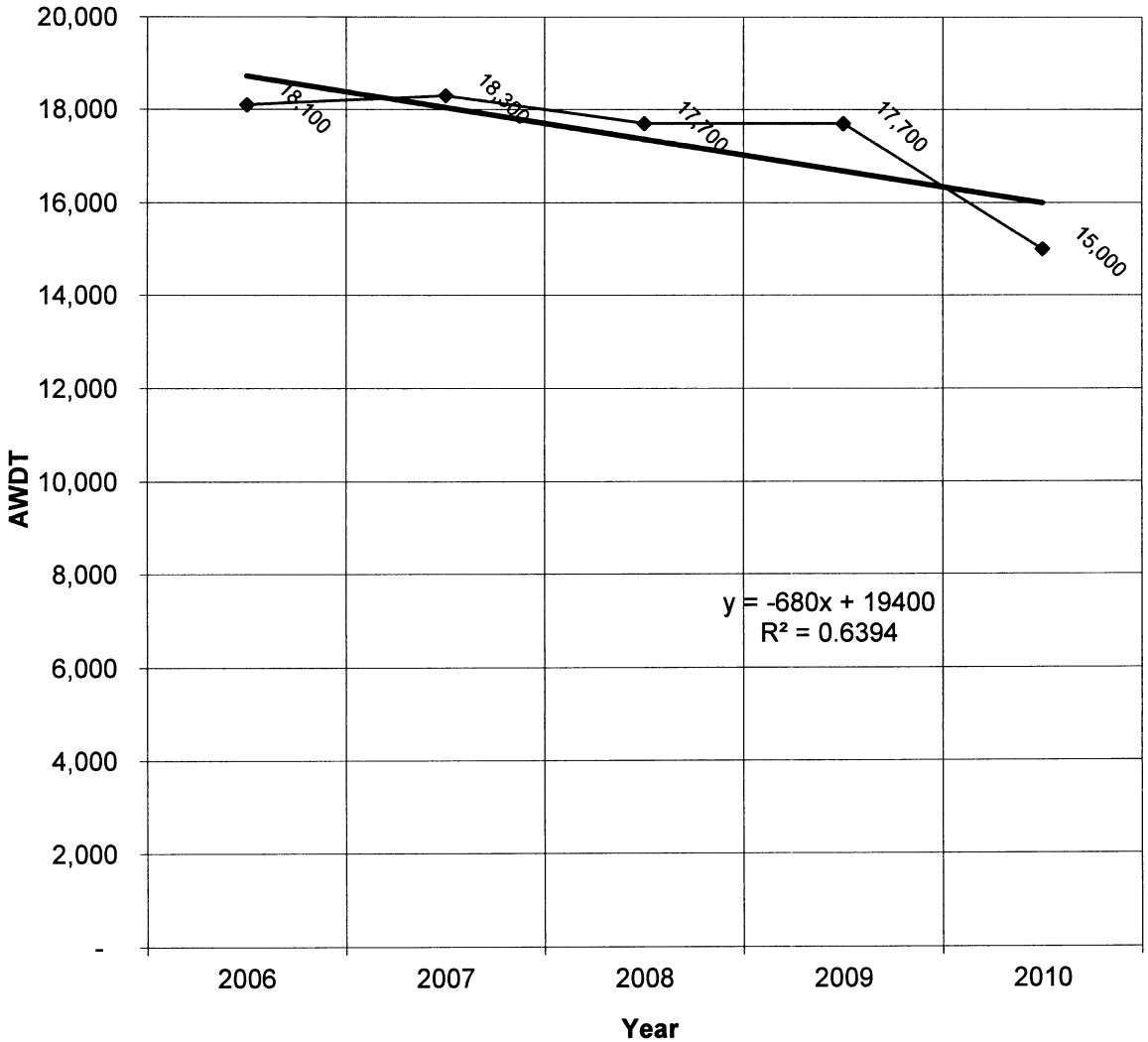
Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Historic Growth Rate Table

Traffic Flows from MRCOG Map

	2006	2007	2008	2009	2010
Isleta Blvd North of Barcelona Rd	18,100	18,300	17,700	17,700	15,000
Isleta Blvd btwn Barcelona & Rio Bravo	20,900	21,200	22,800	22,800	22,400
Rio Bravo Blvd East of Isleta Blvd	35,000	35,700	35,600	35,000	35,200
2nd St North of Rio Bravo Blvd	7,200	7,100	5,600	10,500	9,000
Rio Bravo Blvd East of 2nd St	28,300	29,200	29,900	29,800	28,100
2nd St South of Rio Bravo Blvd	5,000	5,000	7,100	7,100	8,600
Isleta Blvd South of Cam. del Valle	23,700	24,000	25,000	25,000	20,700
Isleta btwn Cam. del Valle & Rio Bravo	25,400	25,700	21,000	21,000	22,000
Rio Bravo Blvd West of Isleta Blvd	22,400	23,700	23,800	23,800	20,900
Barcelona Rd West of Isleta Blvd	3,000	3,100	3,500	3,500	3,400

Historic Growth Chart Isleta Blvd North of Barcelona Rd (2006-2010)

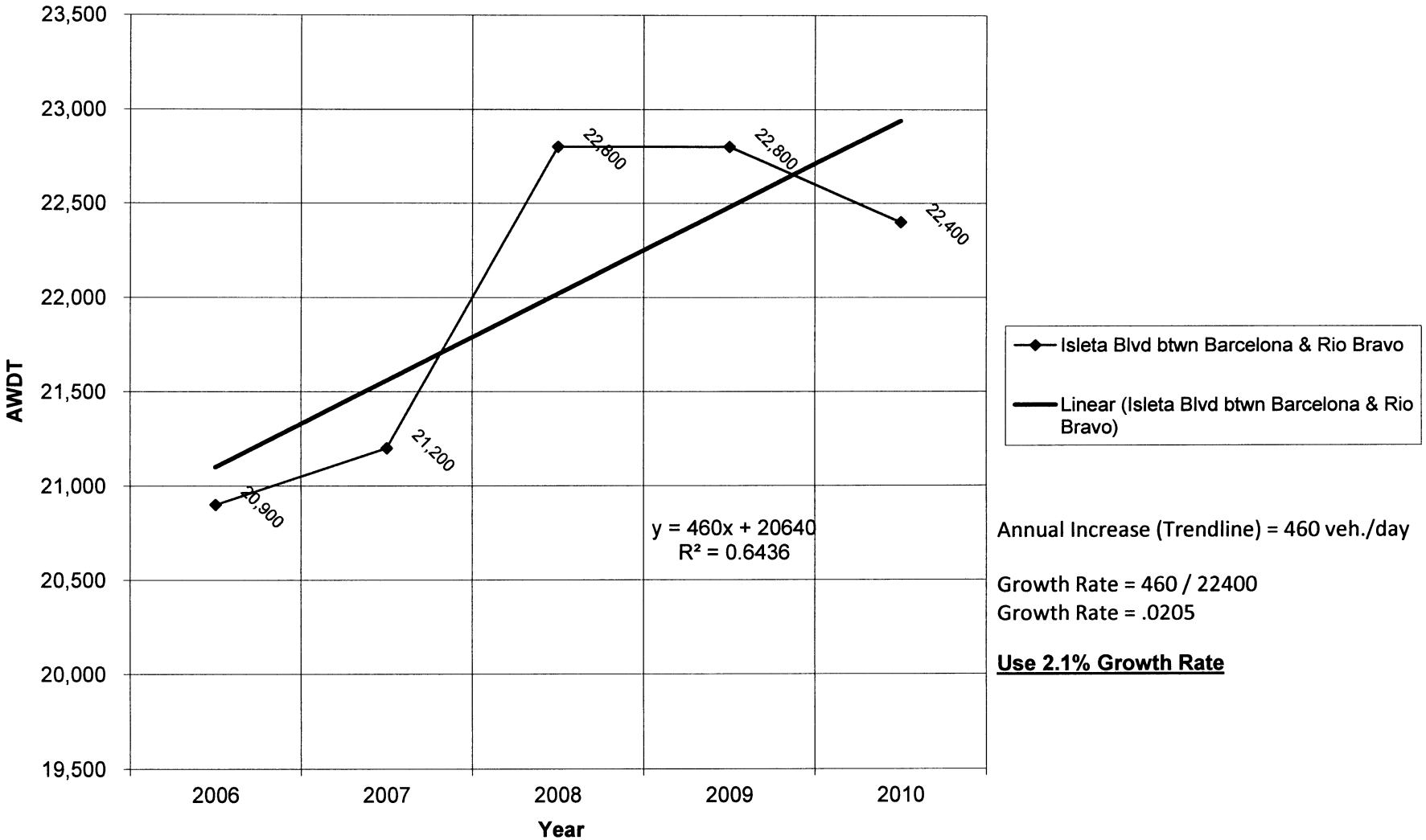


Growth Rate is negative - DO NOT USE

Use 3% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Isleta Blvd btwn Barcelona & Rio Bravo (2006-2010)



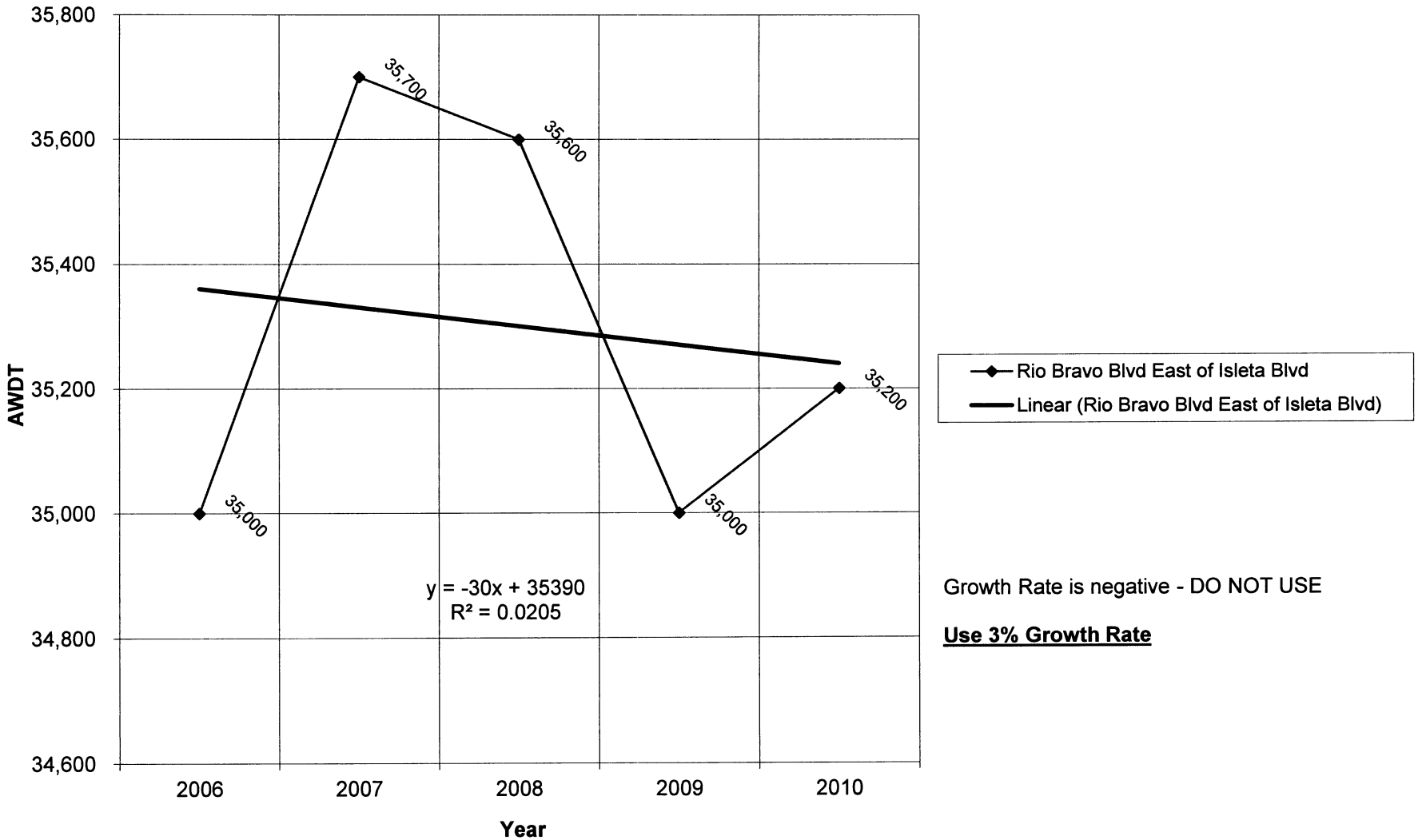
Annual Increase (Trendline) = 460 veh./day

Growth Rate = 460 / 22400
Growth Rate = .0205

Use 2.1% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Rio Bravo Blvd East of Isleta Blvd (2006-2010)

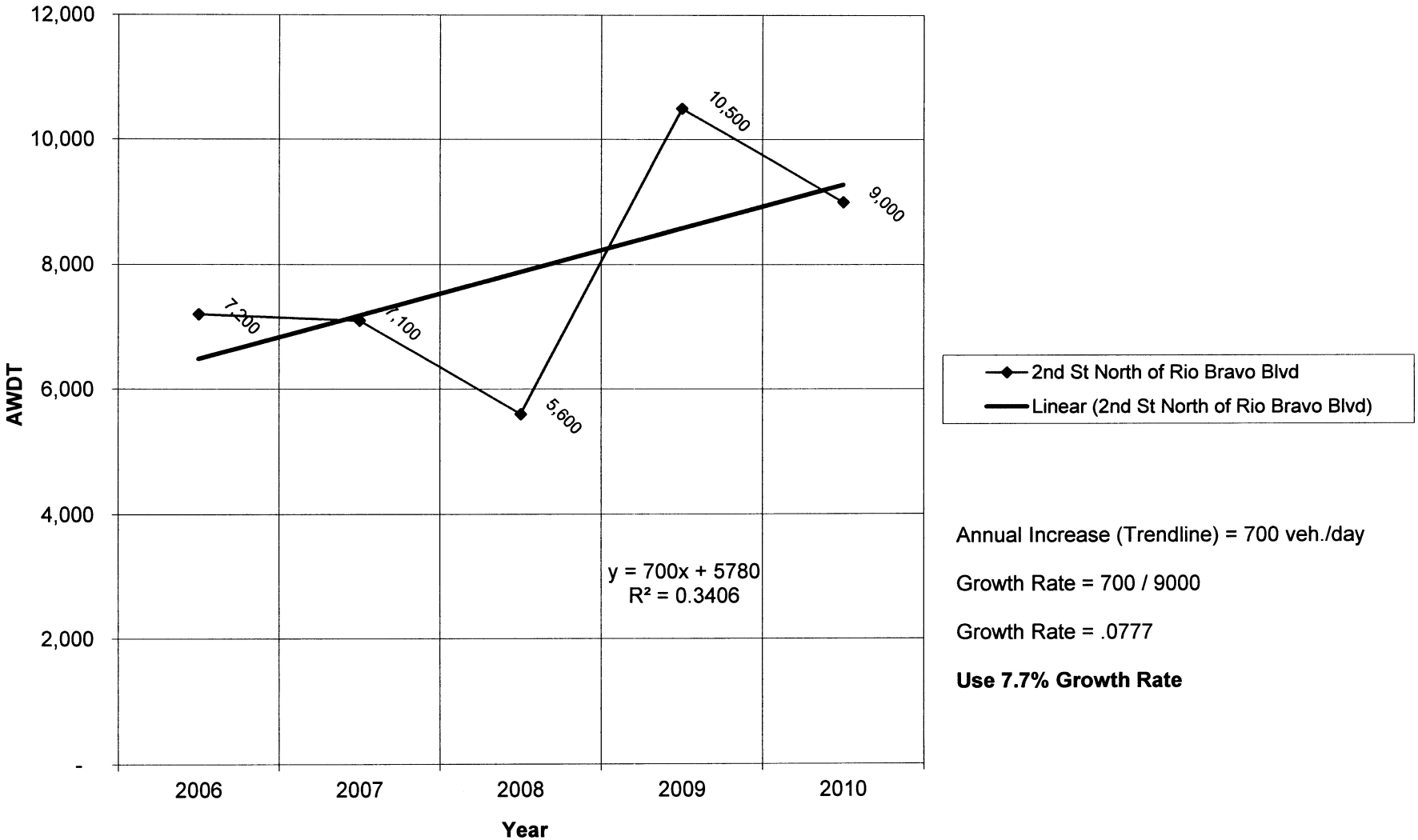


Growth Rate is negative - DO NOT USE

Use 3% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart 2nd St North of Rio Bravo Blvd (2006-2010)



Annual Increase (Trendline) = 700 veh./day

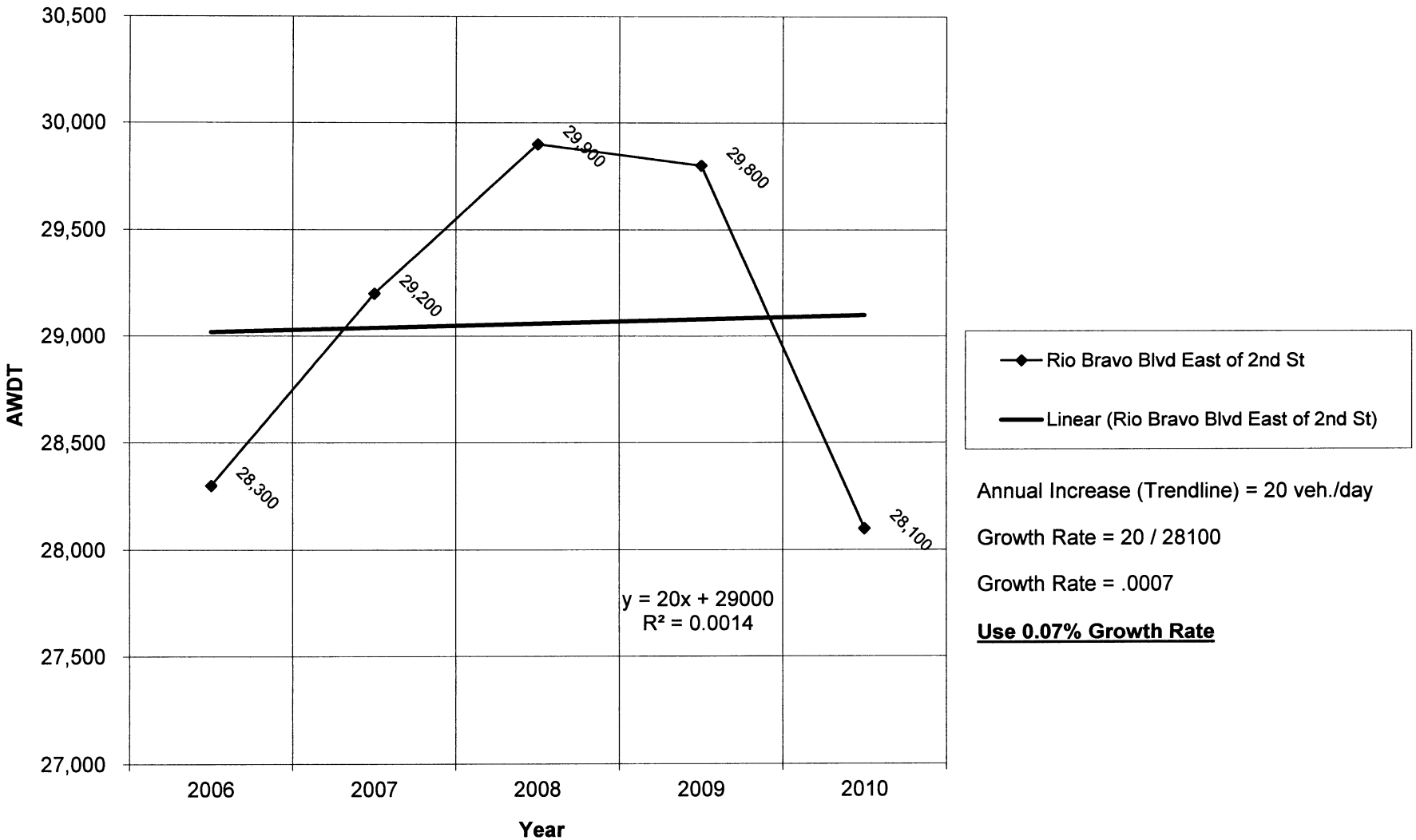
Growth Rate = 700 / 9000

Growth Rate = .0777

Use 7.7% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Rio Bravo Blvd East of 2nd St (2006-2010)



Annual Increase (Trendline) = 20 veh./day

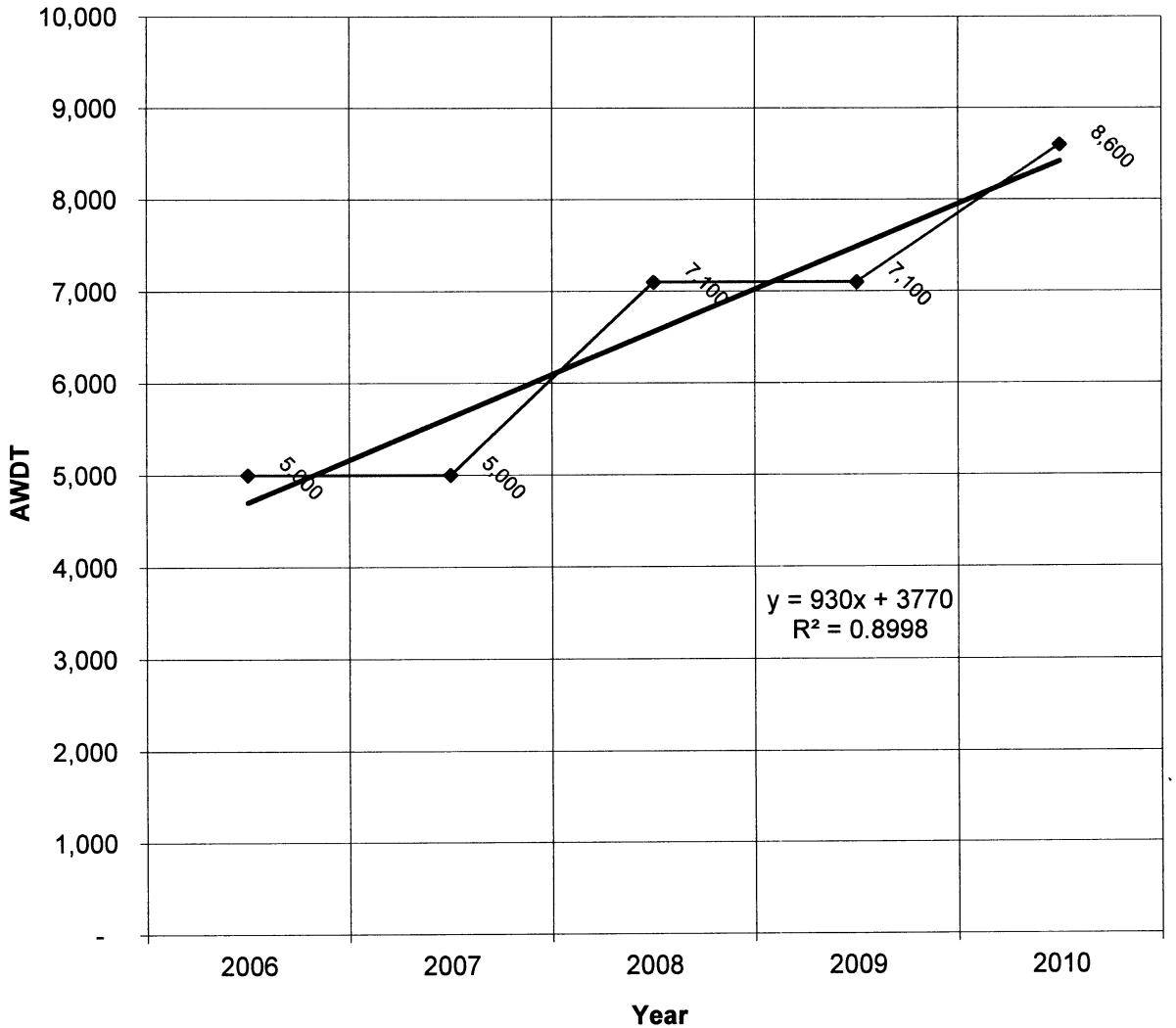
Growth Rate = 20 / 28100

Growth Rate = .0007

Use 0.07% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart 2nd St South of Rio Bravo Blvd (2006-2010)



2nd St South of Rio Bravo Blvd

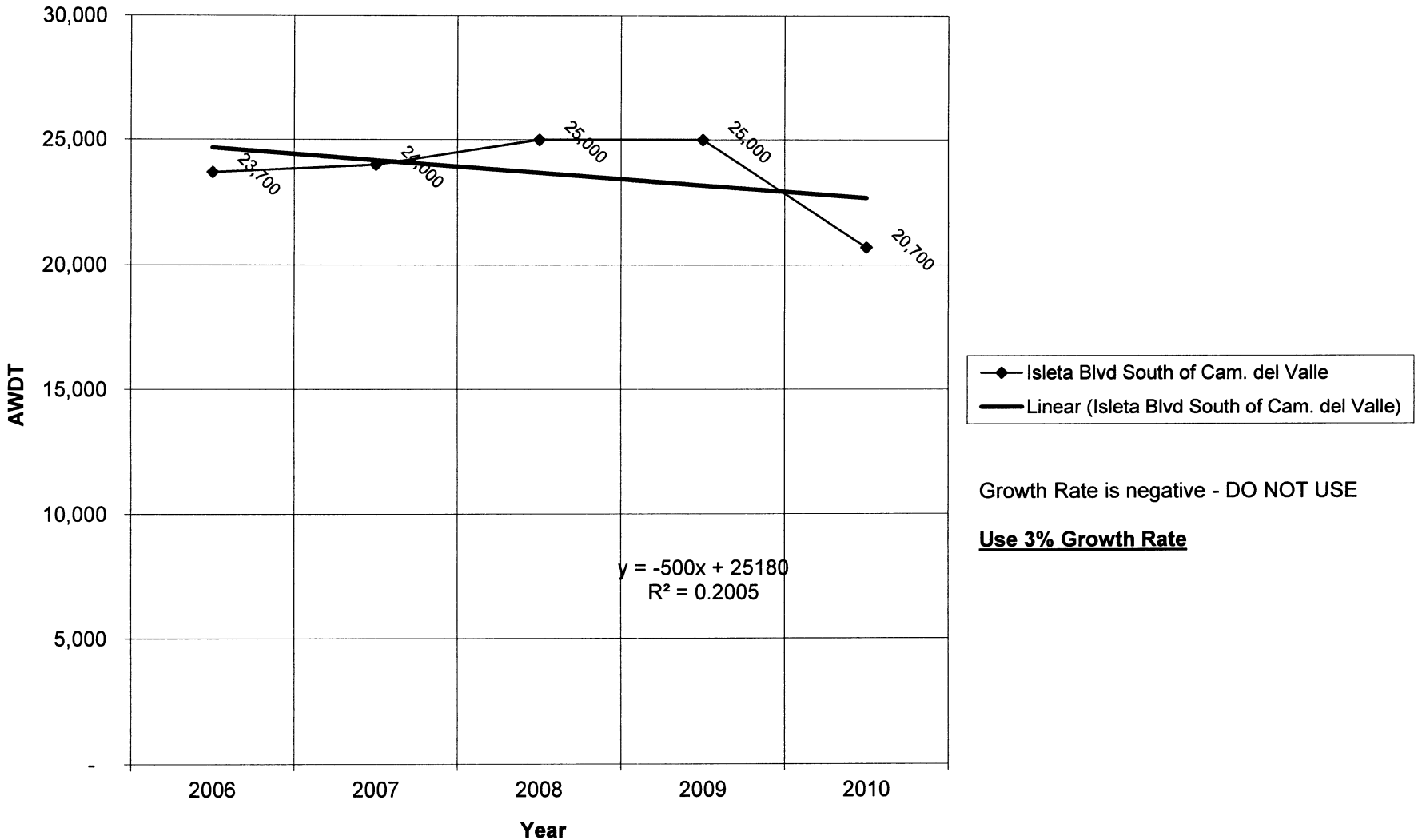
Linear (2nd St South of Rio Bravo Blvd)

Annual Increase (Trendline) = 930 veh./day
Growth Rate = 930 / 8600
Growth Rate = .1081

Use 10.81% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Isleta Blvd South of Cam. del Valle (2006-2010)

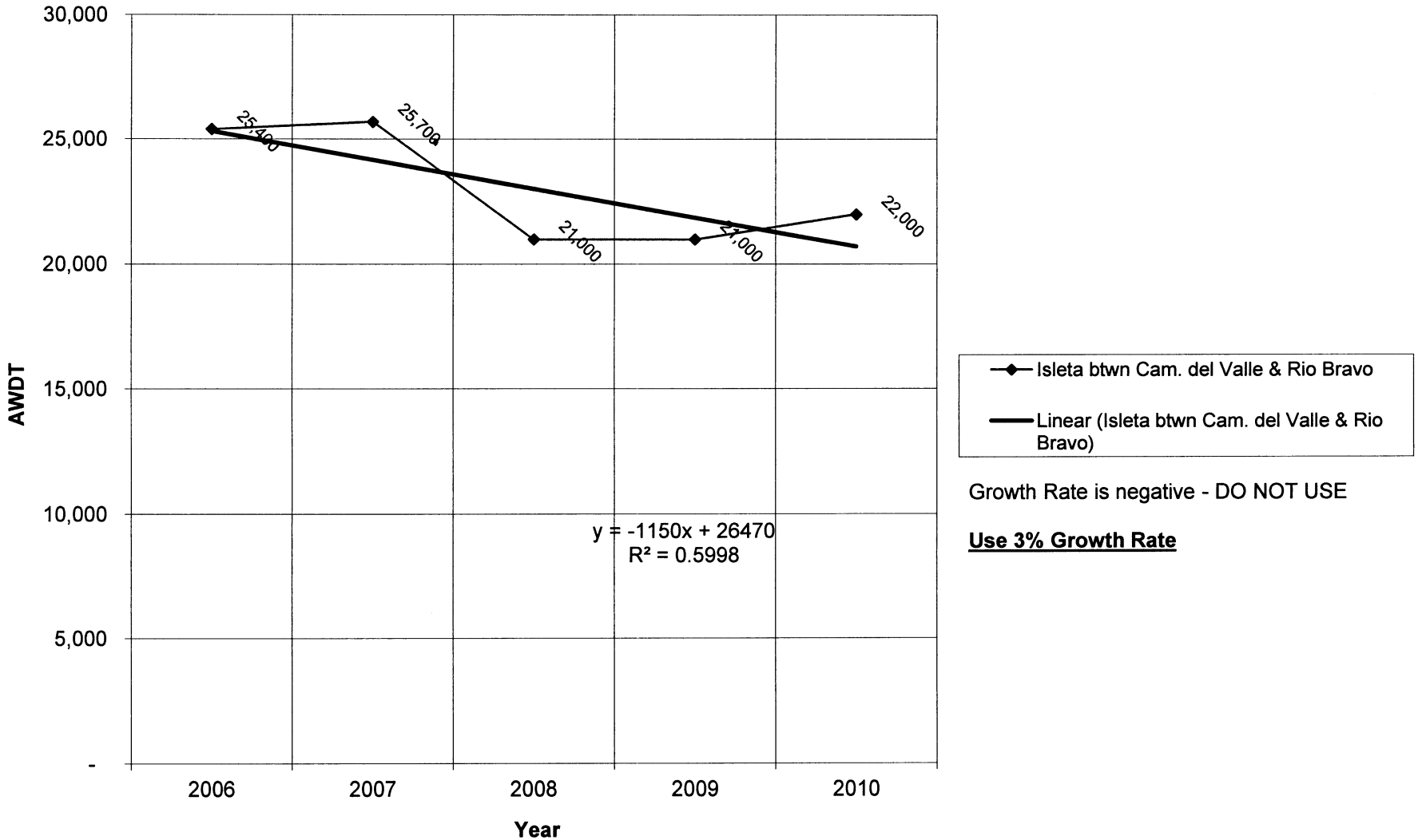


Growth Rate is negative - DO NOT USE

Use 3% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Isleta btwn Cam. del Valle & Rio Bravo (2006-2010)

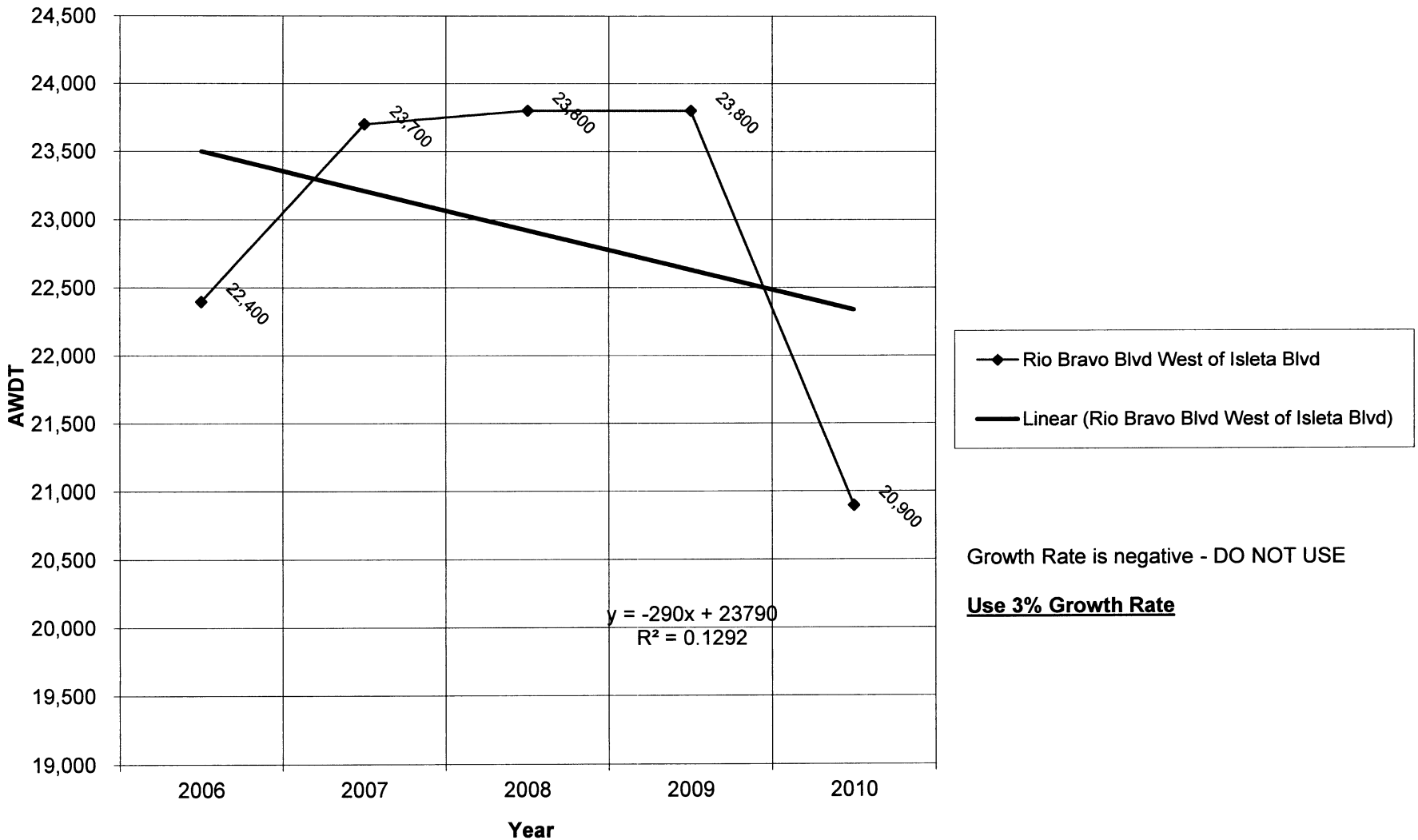


Growth Rate is negative - DO NOT USE

Use 3% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Rio Bravo Blvd West of Isleta Blvd (2006-2010)

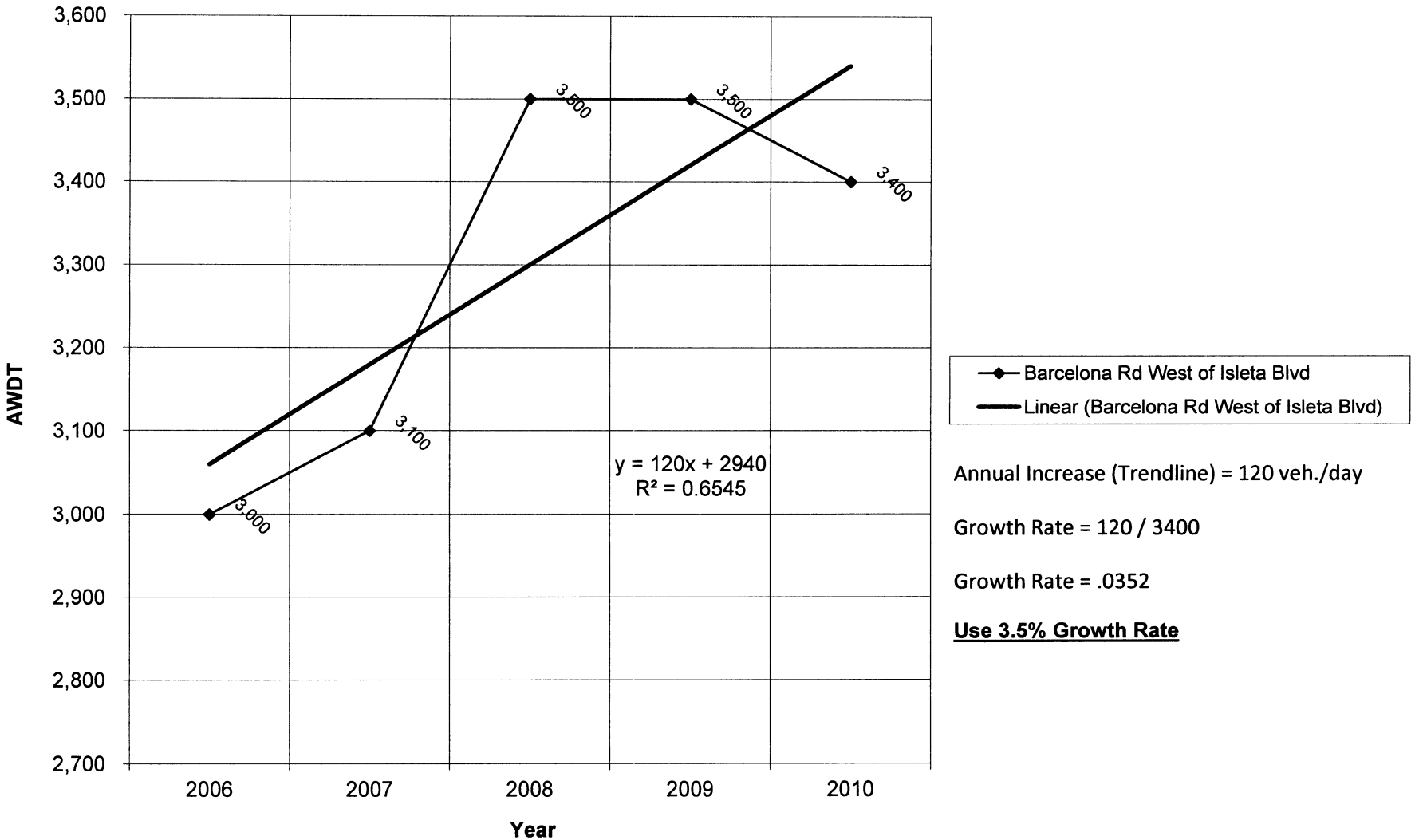


Growth Rate is negative - DO NOT USE

Use 3% Growth Rate

Walgreens_Growth.xls

Historic Growth Chart Barcelona Rd West of Isleta Blvd (2006-2010)



Annual Increase (Trendline) = 120 veh./day

Growth Rate = 120 / 3400

Growth Rate = .0352

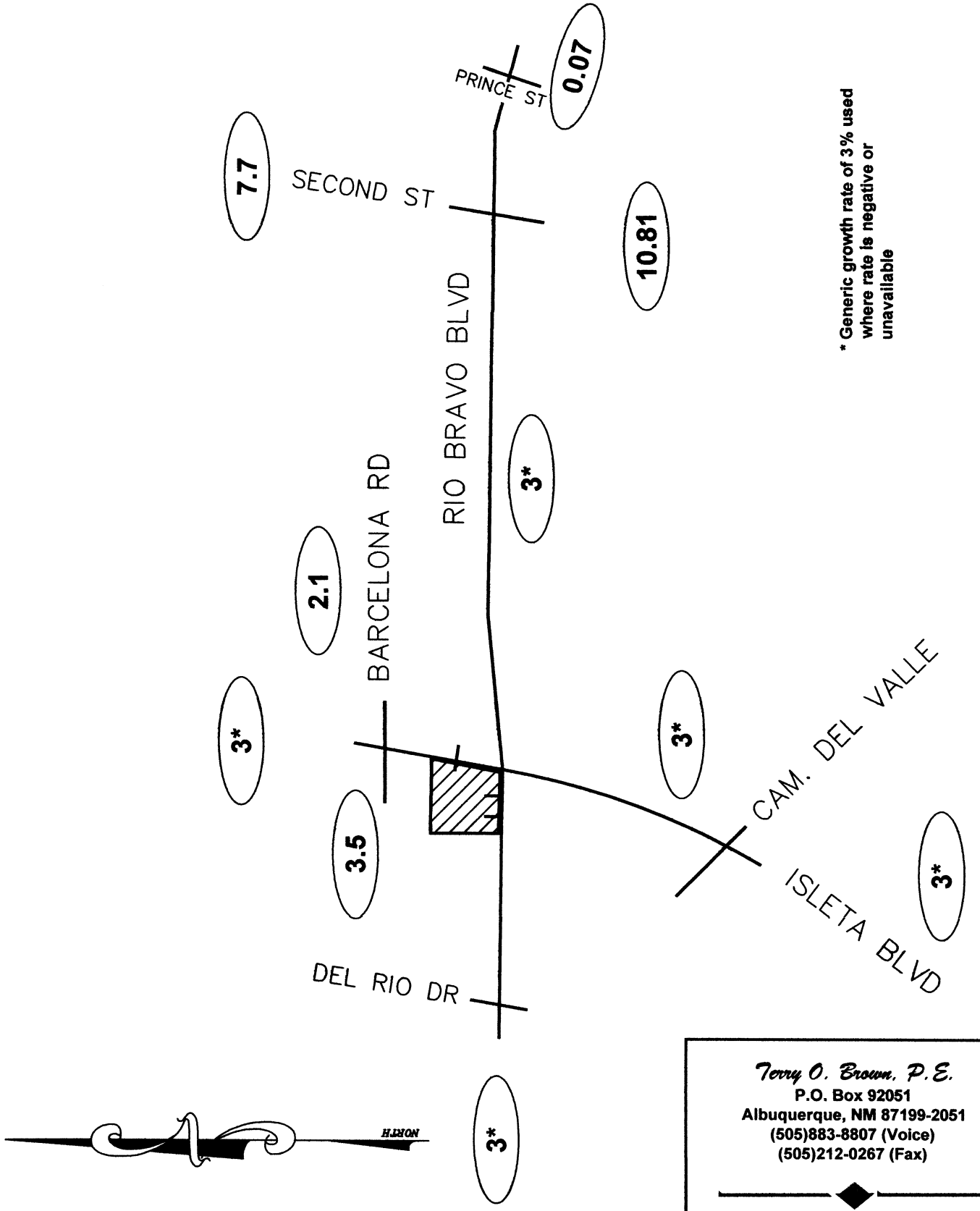
Use 3.5% Growth Rate

Walgreens_Growth.xls

Walgreen's Pharmacy

(Rio Bravo Blvd / Isleta Blvd)

Growth Rate Map (%)



* Generic growth rate of 3% used where rate is negative or unavailable

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

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2012) - 100% Development

INTERSECTION: Summary

Rio Bravo Blvd / Isleta Blvd

(1)

3.0% Truck

	0.84			0.81			0.87			0.93		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	115	937	64	172	213	150	74	196	356	260	136	49
2012 (NO BUILD - A.M.)	*119*	*965*	*66*	*177*	*219*	*155*	*76*	*201*	*367*	*266*	*139*	*50*
2012 (BUILD - A.M.)	***119***	***967***	***68***	***177***	***223***	***155***	***80***	***201***	***367***	***268***	***141***	***50***

	0.94			0.92			0.95			0.95		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	117	323	100	430	815	314	157	231	147	258	258	138
2012 (NO BUILD - P.M.)	*121*	*333*	*103*	*442*	*838*	*323*	*161*	*237*	*152*	*264*	*264*	*141*
2012 (BUILD - P.M.)	***121***	***342***	***111***	***442***	***855***	***323***	***177***	***237***	***152***	***273***	***272***	***141***

Rio Bravo Blvd / Second St

(2)

3.0% Truck

	0.94			0.81			0.83			0.75		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Second St)			Southbound (Second St)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	289	1,189	109	46	395	54	170	88	65	85	81	57
2012 (NO BUILD - A.M.)	*298*	*1,223*	*112*	*46*	*396*	*54*	*186*	*96*	*72*	*91*	*87*	*61*
2012 (BUILD - A.M.)	***299***	***1,224***	***113***	***46***	***398***	***54***	***188***	***96***	***72***	***91***	***87***	***62***

	0.96			0.94			0.77			0.90		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Second St)			Southbound (Second St)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	115	511	25	70	1,021	75	259	82	120	100	126	254
2012 (NO BUILD - P.M.)	*119*	*526*	*25*	*70*	*1,021*	*75*	*285*	*90*	*131*	*107*	*135*	*272*
2012 (BUILD - P.M.)	***123***	***532***	***33***	***70***	***1,027***	***75***	***293***	***90***	***131***	***107***	***135***	***275***

Rio Bravo Blvd / Prince St

(3)

3.0% Truck

	0.92			0.89			0.86			0.75		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Prince St)			Southbound (Prince St)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	180	1,329	23	35	398	30	54	1	73	7	0	5
2012 (NO BUILD - A.M.)	*180*	*1,330*	*23*	*35*	*398*	*30*	*56*	*1*	*75*	*7*	*0*	*5*
2012 (BUILD - A.M.)	***180***	***1,330***	***24***	***35***	***398***	***30***	***57***	***1***	***75***	***7***	***0***	***5***

	0.91			0.91			0.83			0.83		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Prince St)			Southbound (Prince St)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	23	657	101	85	1,349	16	79	4	63	27	3	36
2012 (NO BUILD - P.M.)	*23*	*657*	*101*	*85*	*1,350*	*16*	*81*	*4*	*65*	*28*	*3*	*37*
2012 (BUILD - P.M.)	***23***	***658***	***106***	***85***	***1,351***	***16***	***86***	***4***	***65***	***28***	***3***	***37***

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2012) - 100% Development

INTERSECTION: **Summary**

Rio Bravo Blvd / Del Rio Dr

(4)

3.0% Truck

	0.79			0.92			0.80			0.75		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Del Rio Dr)			Southbound (Del Rio Dr)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	10	1,101	59	11	331	8	41	8	53	23	5	11
2012 (NO BUILD - A.M.)	*10*	*1,134*	*61*	*11*	*341*	*8*	*42*	*8*	*55*	*24*	*5*	*11*
2012 (BUILD - A.M.)	***10***	***1,141***	***61***	***12***	***346***	***8***	***42***	***8***	***57***	***24***	***5***	***11***

	0.93			0.91			0.75			0.82		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Del Rio Dr)			Southbound (Del Rio Dr)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	13	553	38	74	1,363	57	45	8	40	20	17	19
2012 (NO BUILD - P.M.)	*13*	*570*	*39*	*76*	*1,404*	*59*	*46*	*8*	*41*	*21*	*18*	*20*
2012 (BUILD - P.M.)	***13***	***596***	***39***	***82***	***1,431***	***60***	***46***	***8***	***47***	***22***	***18***	***20***

Barcelona Rd / Isleta Blvd

(5)

3.0% Truck

	0.84			0.75			0.89			0.84		PHF
	Eastbound (Barcelona Rd)			Westbound (Barcelona Rd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	47	4	86	12	5	7	40	382	5	2	400	38
2012 (NO BUILD - A.M.)	*49*	*4*	*89*	*12*	*5*	*7*	*41*	*390*	*5*	*2*	*412*	*39*
2012 (BUILD - A.M.)	***49***	***4***	***93***	***13***	***5***	***7***	***44***	***400***	***5***	***2***	***427***	***39***

	0.93			0.75			0.98			0.91		PHF
	Eastbound (Barcelona Rd)			Westbound (Barcelona Rd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	46	6	74	14	7	8	96	667	23	11	645	43
2012 (NO BUILD - P.M.)	*48*	*6*	*77*	*14*	*7*	*8*	*98*	*681*	*23*	*11*	*664*	*44*
2012 (BUILD - P.M.)	***48***	***6***	***92***	***17***	***7***	***8***	***114***	***737***	***26***	***11***	***717***	***44***

Cam. del Valle / Isleta Blvd

(6)

3.0% Truck

	0.75			0.75			0.89			0.77		PHF
	Eastbound (Cam. del Valle)			Westbound (Cam. del Valle)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	60	3	8	1	2	3	7	563	2	6	213	18
2012 (NO BUILD - A.M.)	*62*	*3*	*8*	*1*	*2*	*3*	*7*	*580*	*2*	*6*	*219*	*19*
2012 (BUILD - A.M.)	***63***	***3***	***8***	***1***	***2***	***3***	***7***	***582***	***2***	***6***	***221***	***20***

	0.85			0.75			0.97			0.94		PHF
	Eastbound (Cam. del Valle)			Westbound (Cam. del Valle)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	58	10	38	12	7	42	12	454	9	23	517	25
2012 (NO BUILD - P.M.)	*60*	*10*	*39*	*12*	*7*	*43*	*12*	*468*	*9*	*24*	*533*	*26*
2012 (BUILD - P.M.)	***63***	***10***	***39***	***12***	***7***	***43***	***12***	***477***	***9***	***24***	***542***	***29***

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements SUMMARY

PROPOSED DEVELOPMENT (2012) - 100% Development

INTERSECTION: Summary

Driveway 'A' / Isleta Blvd

(7)

3.0% Truck

	0.75			0.75			0.93			0.93		PHF
	Eastbound (Driveway 'A')			Westbound (Driveway 'A')			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	19	1	27	9	0	8	21	448	7	30	436	21
2012 (NO BUILD - A.M.)	20	1	28	9	0	8	21	457	7	31	445	21
2012 (BUILD - A.M.)	**34**	**1**	**31**	**9**	**0**	**8**	**21**	**457**	**7**	**31**	**445**	**46**

	0.86			0.91			0.95			0.95		PHF
	Eastbound (Driveway 'A')			Westbound (Driveway 'A')			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	68	3	122	25	3	23	102	643	19	16	641	87
2012 (NO BUILD - P.M.)	70	3	126	26	3	24	104	657	19	16	654	89
2012 (BUILD - P.M.)	**145**	**3**	**143**	**26**	**3**	**24**	**104**	**657**	**19**	**16**	**654**	**160**

Rio Bravo Blvd / Driveway 'B'

(8)

3.0% Truck

	0.84			0.84			0.85			0.85		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'B')			Southbound (Driveway 'B')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	38	1,084	35	10	327	2	11	6	21	2	2	9
2012 (NO BUILD - A.M.)	39	1,117	36	10	337	2	11	6	22	2	2	9
2012 (BUILD - A.M.)	**48**	**1,117**	**36**	**10**	**337**	**2**	**11**	**6**	**22**	**5**	**2**	**12**

	0.94			0.94			0.85			0.85		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'B')			Southbound (Driveway 'B')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	66	525	26	91	1,078	22	58	6	46	23	5	75
2012 (NO BUILD - P.M.)	68	541	27	94	1,110	23	60	6	47	24	5	77
2012 (BUILD - P.M.)	**100**	**541**	**27**	**94**	**1,110**	**23**	**60**	**6**	**47**	**41**	**5**	**94**

Rio Bravo Blvd / Driveway 'C'

(9)

3.0% Truck

	0.84			0.84			0.85			0.85		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'C')			Southbound (Driveway 'C')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	0	1,084	0	0	327	31	0	0	0	0	0	5
2012 (NO BUILD - A.M.)	0	1,117	0	0	337	32	0	0	0	0	0	5
2012 (BUILD - A.M.)	**0**	**1,117**	**0**	**0**	**337**	**41**	**0**	**0**	**0**	**0**	**0**	**8**

	0.94			0.94			0.85			0.85		PHF
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'C')			Southbound (Driveway 'C')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing (2011)	0	525	0	0	1,078	127	0	0	0	0	0	73
2012 (NO BUILD - P.M.)	0	541	0	0	1,110	131	0	0	0	0	0	75
2012 (BUILD - P.M.)	**0**	**541**	**0**	**0**	**1,110**	**163**	**0**	**0**	**0**	**0**	**0**	**92**

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Rio Bravo Blvd / Isleta Blvd

INTERSECTION: E-W Street: **Rio Bravo Blvd** (1)

N-S Street: **Isleta Blvd**

Year of Existing Counts 2010

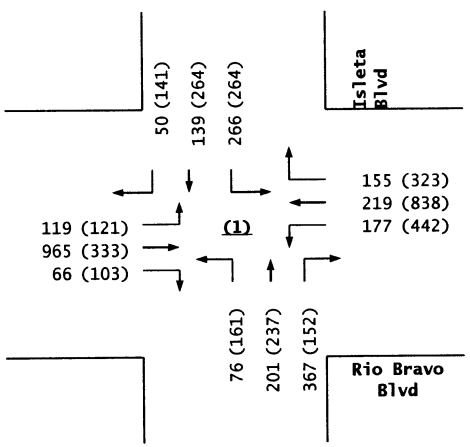
Implementation Year **2012**

	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
Growth Rates	3.00%			3.00%			3.00%			2.10%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	112	910	62	167	207	146	72	190	346	255	133	48
Background Traffic Growth	7	55	4	10	12	9	4	11	21	11	6	2
Subtotal (NO BUILD - A.M.)	***119***	***965***	***66***	***177***	***219***	***155***	***76***	***201***	***367***	***266***	***139***	***50***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***12.16%***	*0.00%*	***11.64%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	***6.08%***	***5.82%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***6.08%***	***5.82%***	*0.00%*
Total Trips Generated	0	2	2	0	4	0	4	0	0	2	2	0
Total AM Peak Hour BUILD Volumes	**119**	**967**	**68**	**177**	**223**	**155**	**80**	**201**	**367**	**268**	**141**	**50**

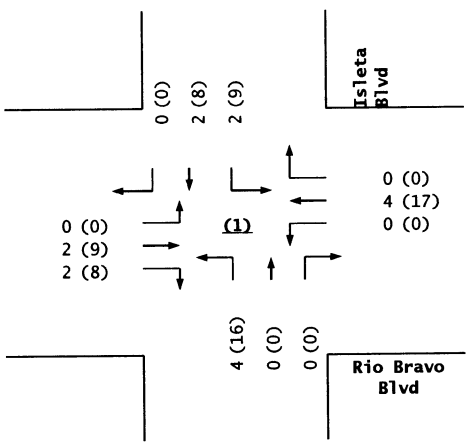
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	114	314	97	417	791	305	152	224	143	253	253	135
Background Traffic Growth	7	19	6	25	47	18	9	13	9	11	11	6
Subtotal (NO BUILD - P.M.)	***121***	***333***	***103***	***442***	***838***	***323***	***161***	***237***	***152***	***264***	***264***	***141***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***12.16%***	*0.00%*	***11.64%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	***6.08%***	***5.82%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***6.08%***	***5.82%***	*0.00%*
Total Trips Generated	0	9	8	0	17	0	16	0	0	9	8	0
Total PM Peak Hour BUILD Volumes	**121**	**342**	**111**	**442**	**855**	**323**	**177**	**237**	**152**	**273**	**272**	**141**

	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

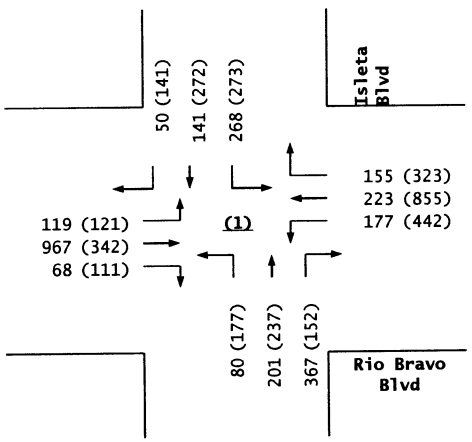
2012
NO BUILD



Trips



2012
BUILD



Rio Bravo Blvd / Isleta Blvd

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Rio Bravo Blvd / Second St

INTERSECTION: E-W Street: **Rio Bravo Blvd** (2)

N-S Street: **Second St**

Year of Existing Counts 2010

Implementation Year **2012**

	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Second St)			Southbound (Second St)		
Growth Rates	3.00%			0.07%			7.70%			7.70%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	281	1,154	106	46	395	54	153	79	59	79	75	53
Background Traffic Growth	17	69	6	0	1	0	24	12	9	12	12	8
Subtotal (NO BUILD - A.M.)	***298***	***1,223***	***112***	***46***	***396***	***54***	***177***	***91***	***68***	***91***	***87***	***61***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***4.06%***	*0.00%*	***5.57%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***2.53%***
Percent Commercial Trips Generated(Exiting)	***2.53%***	***4.06%***	***5.57%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	1	1	1	0	2	0	2	0	0	0	0	1
Total AM Peak Hour BUILD Volumes	**299**	**1,224**	**113**	**46**	**398**	**54**	**179**	**91**	**68**	**91**	**87**	**62**

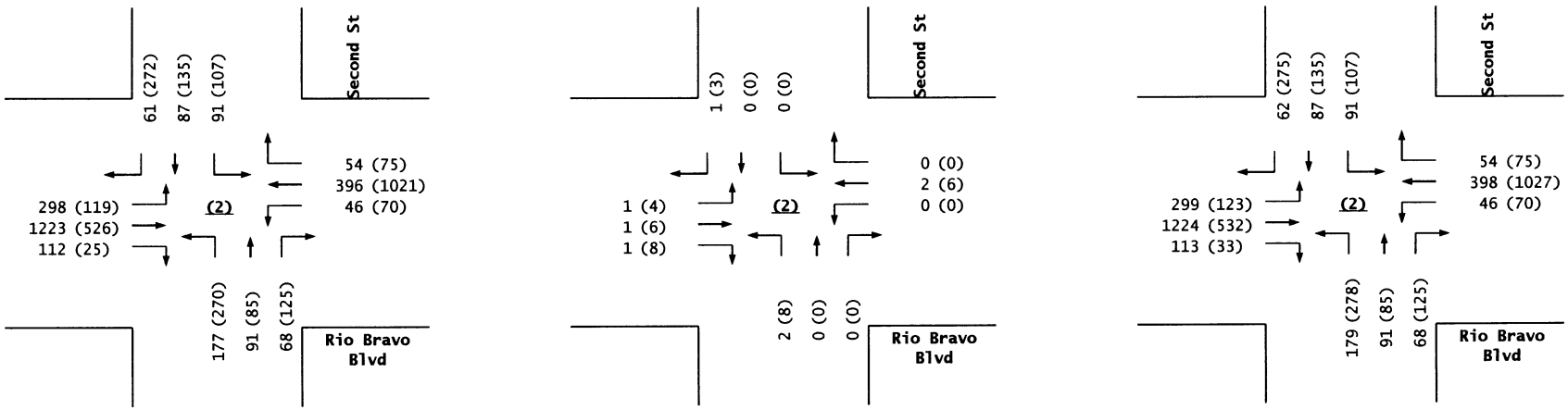
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Second St)			Southbound (Second St)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	112	496	24	70	1,020	75	234	74	108	93	117	236
Background Traffic Growth	7	30	1	0	1	0	36	11	17	14	18	36
Subtotal (NO BUILD - P.M.)	***119***	***526***	***25***	***70***	***1,021***	***75***	***270***	***85***	***125***	***107***	***135***	***272***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***4.06%***	*0.00%*	***5.57%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***2.53%***
Percent Commercial Trips Generated(Exiting)	***2.53%***	***4.06%***	***5.57%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	4	6	8	0	6	0	8	0	0	0	0	3
Total PM Peak Hour BUILD Volumes	**123**	**532**	**33**	**70**	**1,027**	**75**	**278**	**85**	**125**	**107**	**135**	**275**

	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

2012
NO BUILD

Trips

2012
BUILD



Rio Bravo Blvd / Second St

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Rio Bravo Blvd / Prince St

INTERSECTION: E-W Street: **Rio Bravo Blvd** (3)

N-S Street: **Prince St**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Prince St)			Southbound (Prince St)		
Growth Rates	0.07%			0.07%			3.00%			3.00%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	180	1,329	23	35	398	30	54	1	73	7	0	5
Background Traffic Growth	0	1	0	0	0	0	2	0	2	0	0	0
Subtotal (NO BUILD - A.M.)	***180***	***1,330***	***23***	***35***	***398***	***30***	***56***	***1***	***75***	***7***	***0***	***5***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.43%***	*0.00%*	***3.61%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.02%***
Percent Commercial Trips Generated(Exiting)	***0.02%***	***0.43%***	***3.61%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	1	0	0	0	1	0	0	0	0	0
Total AM Peak Hour BUILD Volumes	**180**	**1,330**	**24**	**35**	**398**	**30**	**57**	**1**	**75**	**7**	**0**	**5**

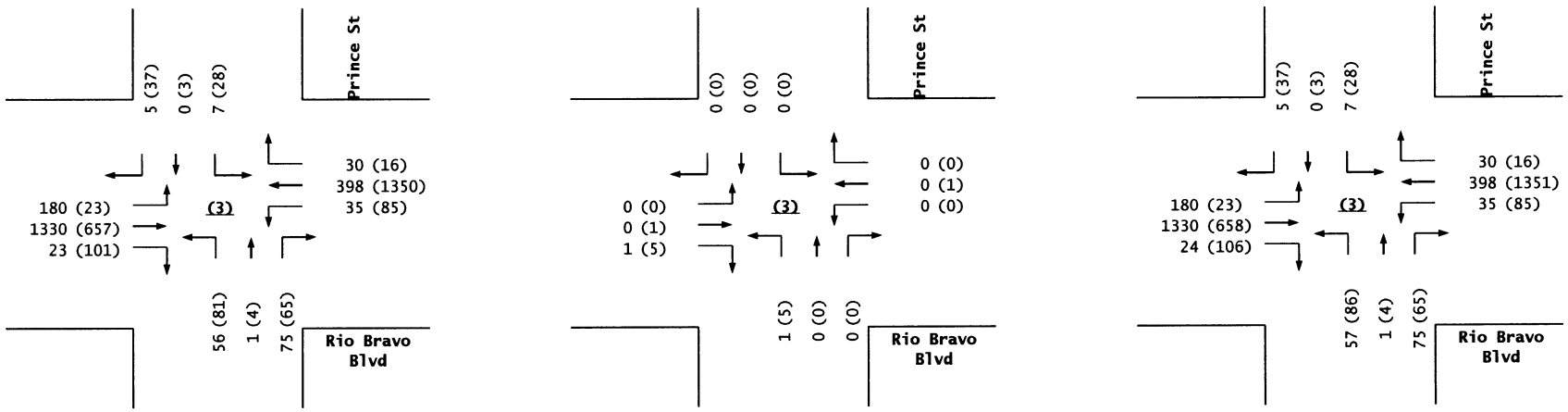
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Prince St)			Southbound (Prince St)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	23	657	101	85	1,349	16	79	4	63	27	3	36
Background Traffic Growth	0	0	0	0	1	0	2	0	2	1	0	1
Subtotal (NO BUILD - P.M.)	***23***	***657***	***101***	***85***	***1,350***	***16***	***81***	***4***	***65***	***28***	***3***	***37***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.43%***	*0.00%*	***3.61%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***0.02%***
Percent Commercial Trips Generated(Exiting)	***0.02%***	***0.43%***	***3.61%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	1	5	0	1	0	5	0	0	0	0	0
Total PM Peak Hour BUILD Volumes	**23**	**658**	**106**	**85**	**1,351**	**16**	**86**	**4**	**65**	**28**	**3**	**37**

	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

2012
NO BUILD

Trips

2012
BUILD



Rio Bravo Blvd / Prince St

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Rio Bravo Blvd / Del Rio Dr

INTERSECTION: E-W Street: **Rio Bravo Blvd** (4)

N-S Street: **Del Rio Dr**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Del Rio Dr)			Southbound (Del Rio Dr)		
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	10	1,101	59	11	331	8	41	8	53	23	5	11
Background Traffic Growth	0	33	2	0	10	0	1	0	2	1	0	0
Subtotal (NO BUILD - A.M.)	***10***	***1,134***	***61***	***11***	***341***	***8***	***42***	***8***	***55***	***24***	***5***	***11***
Percent Commercial Trips Generated(Entering)	*0.00%*	***18.78%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***4.26%***	***0.62%***	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	***4.26%***	***18.78%***	***0.62%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	7	0	1	5	0	0	0	2	0	0	0
Total AM Peak Hour BUILD Volumes	**10**	**1,141**	**61**	**12**	**346**	**8**	**42**	**8**	**57**	**24**	**5**	**11**

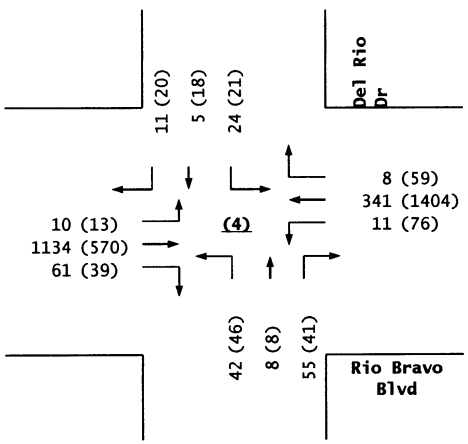
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Del Rio Dr)			Southbound (Del Rio Dr)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	13	553	38	74	1,363	57	45	8	40	20	17	19
Background Traffic Growth	0	17	1	2	41	2	1	0	1	1	1	1
Subtotal (NO BUILD - P.M.)	***13***	***570***	***39***	***76***	***1,404***	***59***	***46***	***8***	***41***	***21***	***18***	***20***
Percent Commercial Trips Generated(Entering)	*0.00%*	***18.78%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***4.26%***	***0.62%***	*0.00%*	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	***4.26%***	***18.78%***	***0.62%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	26	0	6	27	1	0	0	6	1	0	0
Total PM Peak Hour BUILD Volumes	**13**	**596**	**39**	**82**	**1,431**	**60**	**46**	**8**	**47**	**22**	**18**	**20**

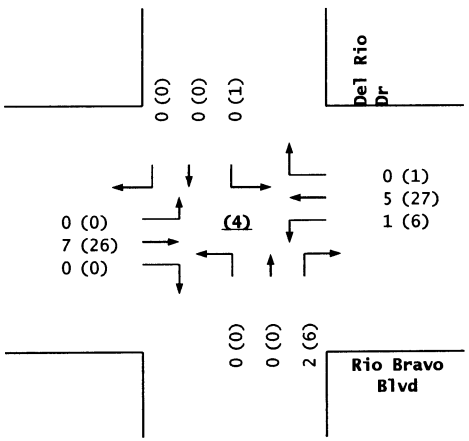
	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

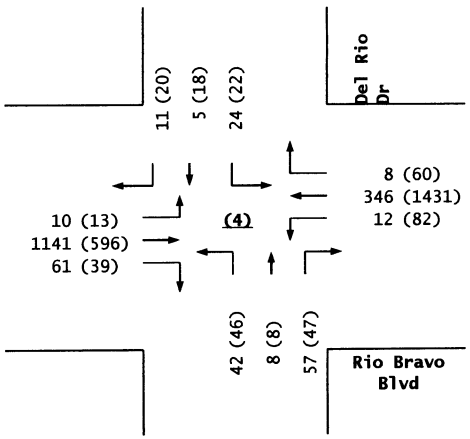
2012
NO BUILD

Trips

2012
BUILD







Rio Bravo Blvd / Del Rio Dr

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Barcelona Rd / Isleta Blvd

INTERSECTION: E-W Street: **Barcelona Rd** (5)

N-S Street: **Isleta Blvd**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Barcelona Rd)			Westbound (Barcelona Rd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
Growth Rates	3.50%			3.00%			2.10%			3.00%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	47	4	86	12	5	7	40	382	5	2	400	38
Background Traffic Growth	2	0	3	0	0	0	1	8	0	0	12	1
Subtotal (NO BUILD - A.M.)	***49***	***4***	***89***	***12***	***5***	***7***	***41***	***390***	***5***	***2***	***412***	***39***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***11.36%***	***1.88%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***39.29%***	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***11.36%***	***39.29%***	***1.88%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	4	1	0	0	3	10	0	0	15	0
Total AM Peak Hour BUILD Volumes	**49**	**4**	**93**	**13**	**5**	**7**	**44**	**400**	**5**	**2**	**427**	**39**

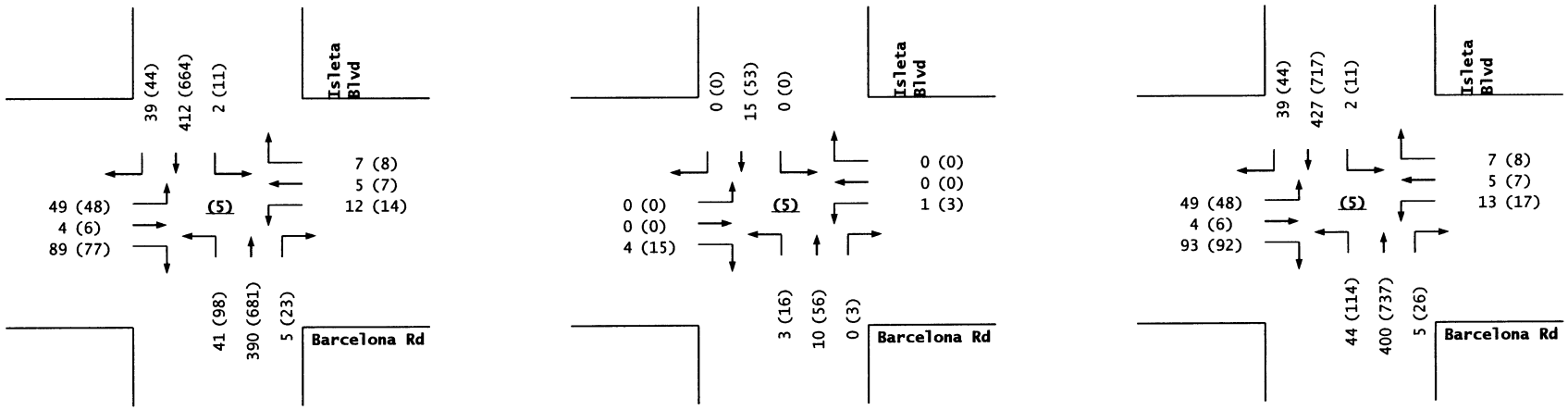
	Eastbound (Barcelona Rd)			Westbound (Barcelona Rd)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	46	6	74	14	7	8	96	667	23	11	645	43
Background Traffic Growth	2	0	3	0	0	0	2	14	0	0	19	1
Subtotal (NO BUILD - P.M.)	***48***	***6***	***77***	***14***	***7***	***8***	***98***	***681***	***23***	***11***	***664***	***44***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	***11.36%***	***1.88%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***39.29%***	*0.00%*
Percent Commercial Trips Generated(Exiting)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***11.36%***	***39.29%***	***1.88%***	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	0	0	15	3	0	0	16	56	3	0	53	0
Total PM Peak Hour BUILD Volumes	**48**	**6**	**92**	**17**	**7**	**8**	**114**	**737**	**26**	**11**	**717**	**44**

	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

2012
NO BUILD

Trips

2012
BUILD



Barcelona Rd / Isleta Blvd

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Cam. del Valle / Isleta Blvd

INTERSECTION: E-W Street: **Cam. del Valle** (6)

N-S Street: **Isleta Blvd**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Cam. del Valle)			Westbound (Cam. del Valle)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	60	3	8	1	2	3	7	563	2	6	213	18
Background Traffic Growth	2	0	0	0	0	0	0	17	0	0	6	1
Subtotal (NO BUILD - A.M.)	***62***	***3***	***8***	***1***	***2***	***3***	***7***	***580***	***2***	***6***	***219***	***19***
Percent Commercial Trips Generated(Entering)	***1.94%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***6.62%***	*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%*	*0.00%*	***6.62%***	***1.94%***
Total Trips Generated	1	0	0	0	0	0	0	2	0	0	2	1
Total AM Peak Hour BUILD Volumes	**63**	**3**	**8**	**1**	**2**	**3**	**7**	**582**	**2**	**6**	**221**	**20**

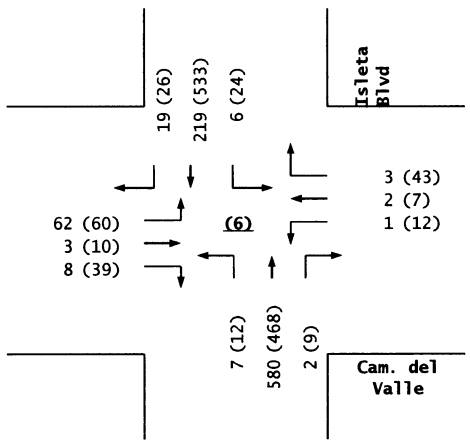
	Eastbound (Cam. del Valle)			Westbound (Cam. del Valle)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	58	10	38	12	7	42	12	454	9	23	517	25
Background Traffic Growth	2	0	1	0	0	1	0	14	0	1	16	1
Subtotal (NO BUILD - P.M.)	***60***	***10***	***39***	***12***	***7***	***43***	***12***	***468***	***9***	***24***	***533***	***26***
Percent Commercial Trips Generated(Entering)	***1.94%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***6.62%***	*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%*	*0.00%*	***6.62%***	***1.94%***
Total Trips Generated	3	0	0	0	0	0	0	9	0	0	9	3
Total PM Peak Hour BUILD Volumes	**63**	**10**	**39**	**12**	**7**	**43**	**12**	**477**	**9**	**24**	**542**	**29**

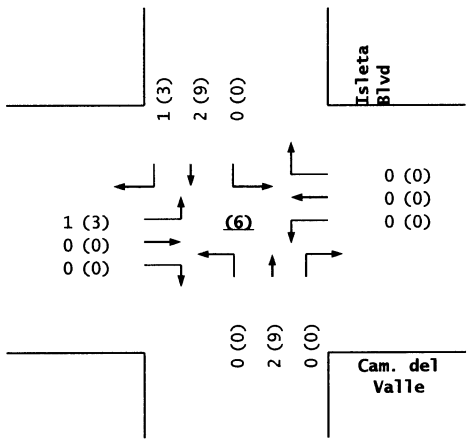
	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

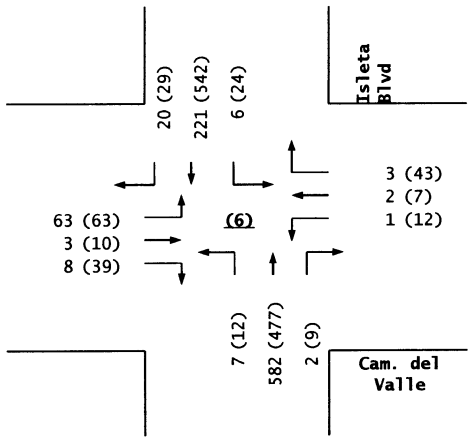
2012
NO BUILD

Trips

2012
BUILD







Cam. del Valle / Isleta Blvd

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Driveway 'A' / Isleta Blvd

INTERSECTION: E-W Street: **Driveway 'A'** (7)

N-S Street: **Isleta Blvd**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Driveway 'A')			Westbound (Driveway 'A')			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
Growth Rates	3.00%			3.00%			2.10%			2.10%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	19	1	27	9	0	8	21	448	7	30	436	21
Background Traffic Growth	1	0	1	0	0	0	0	9	0	1	9	0
Subtotal (NO BUILD - A.M.)	***20***	***1***	***28***	***9***	***0***	***8***	***21***	***457***	***7***	***31***	***445***	***21***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***52.53%***
Percent Commercial Trips Generated(Exiting)	***52.53%***	*0.00%*	***11.90%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	14	0	3	0	0	0	0	0	0	0	0	19
Total AM Peak Hour BUILD Volumes	**34**	**1**	**31**	**9**	**0**	**8**	**21**	**457**	**7**	**31**	**445**	**40**

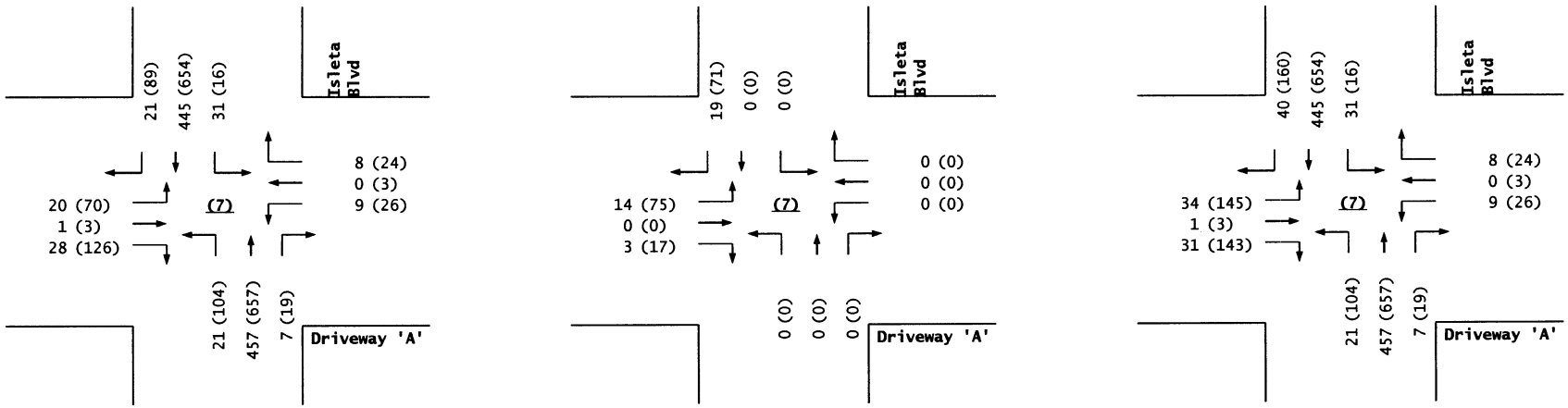
	Eastbound (Driveway 'A')			Westbound (Driveway 'A')			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	68	3	122	25	3	23	102	643	19	16	641	87
Background Traffic Growth	2	0	4	1	0	1	2	14	0	0	13	2
Subtotal (NO BUILD - P.M.)	***70***	***3***	***126***	***26***	***3***	***24***	***104***	***657***	***19***	***16***	***654***	***89***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***52.53%***
Percent Commercial Trips Generated(Exiting)	***52.53%***	*0.00%*	***11.90%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*
Total Trips Generated	75	0	17	0	0	0	0	0	0	0	0	71
Total PM Peak Hour BUILD Volumes	**145**	**3**	**143**	**26**	**3**	**24**	**104**	**657**	**19**	**16**	**654**	**160**

	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

2012
NO BUILD

Trips

2012
BUILD



Driveway 'A' / Isleta Blvd

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Rio Bravo Blvd / Driveway 'B'

INTERSECTION: E-W Street: **Rio Bravo Blvd** (8)

N-S Street: **Driveway 'B'**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'B')			Southbound (Driveway 'B')		
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	38	1,084	35	10	327	2	11	6	21	2	2	9
Background Traffic Growth	1	33	1	0	10	0	0	0	1	0	0	0
Subtotal (NO BUILD - A.M.)	***39***	***1,117***	***36***	***10***	***337***	***2***	***11***	***6***	***22***	***2***	***2***	***9***
Percent Commercial Trips Generated(Entering)	***23.66%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*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%*	***11.90%***	*0.00%*	***11.83%***
Total Trips Generated	9	0	0	0	0	0	0	0	0	3	0	3
Total AM Peak Hour BUILD Volumes	**48**	**1,117**	**36**	**10**	**337**	**2**	**11**	**6**	**22**	**5**	**2**	**12**

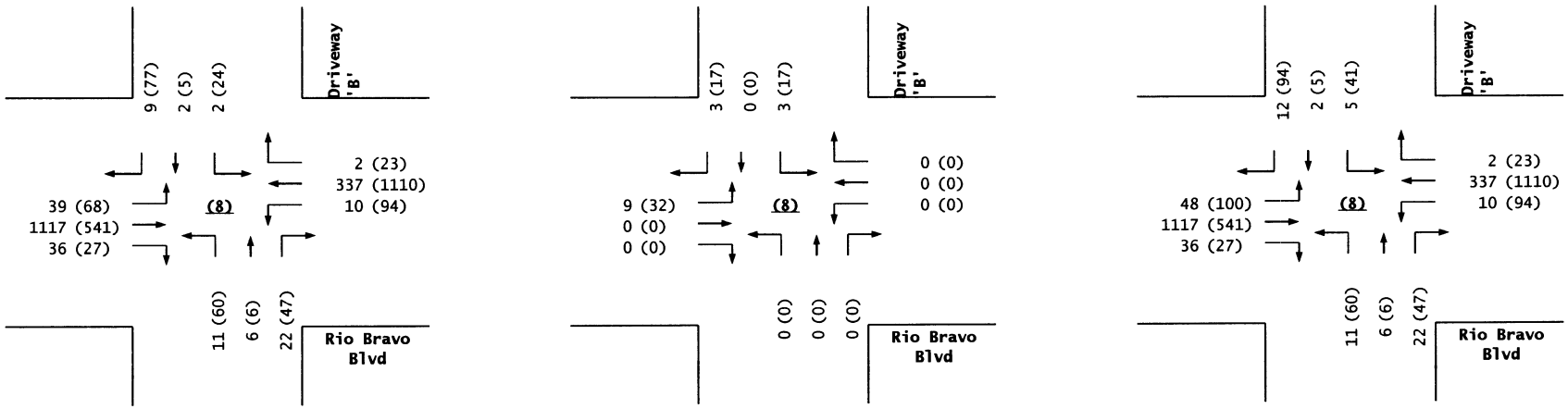
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'B')			Southbound (Driveway 'B')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	66	525	26	91	1,078	22	58	6	46	23	5	75
Background Traffic Growth	2	16	1	3	32	1	2	0	1	1	0	2
Subtotal (NO BUILD - P.M.)	***68***	***541***	***27***	***94***	***1,110***	***23***	***60***	***6***	***47***	***24***	***5***	***77***
Percent Commercial Trips Generated(Entering)	***23.66%***	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*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%*	***11.90%***	*0.00%*	***11.83%***
Total Trips Generated	32	0	0	0	0	0	0	0	0	17	0	17
Total PM Peak Hour BUILD Volumes	**100**	**541**	**27**	**94**	**1,110**	**23**	**60**	**6**	**47**	**41**	**5**	**94**

	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

2012
NO BUILD

Trips

2012
BUILD



Rio Bravo Blvd / Driveway 'B'

Walgreen's Pharmacy (Rio Bravo Blvd / Isleta Blvd)

Projected Turning Movements Worksheet

Rio Bravo Blvd / Driveway 'C'

INTERSECTION: E-W Street: **Rio Bravo Blvd** (9)

N-S Street: **Driveway 'C'**

Year of Existing Counts 2011

Implementation Year **2012**

	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'C')			Southbound (Driveway 'C')		
Growth Rates	3.00%			3.00%			3.00%			3.00%		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	1,084	0	0	327	31	0	0	0	0	0	5
Background Traffic Growth	0	33	0	0	10	1	0	0	0	0	0	0
Subtotal (NO BUILD - A.M.)	***0***	***1,117***	***0***	***0***	***337***	***32***	***0***	***0***	***0***	***0***	***0***	***5***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***23.80%***	*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%*	*0.00%*	*0.00%*	***11.83%***
Total Trips Generated	0	0	0	0	0	9	0	0	0	0	0	3
Total AM Peak Hour BUILD Volumes	**0**	**1,117**	**0**	**0**	**337**	**41**	**0**	**0**	**0**	**0**	**0**	**8**

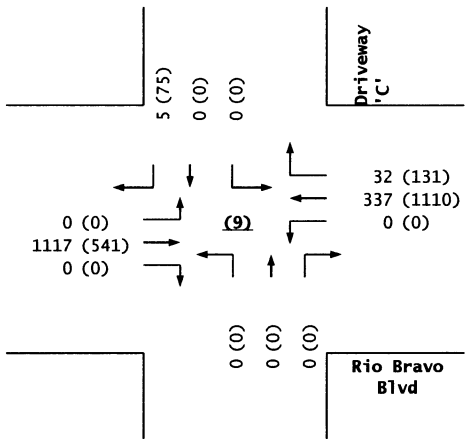
	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Driveway 'C')			Southbound (Driveway 'C')		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes	0	525	0	0	1,078	127	0	0	0	0	0	73
Background Traffic Growth	0	16	0	0	32	4	0	0	0	0	0	2
Subtotal (NO BUILD - P.M.)	***0***	***541***	***0***	***0***	***1,110***	***131***	***0***	***0***	***0***	***0***	***0***	***75***
Percent Commercial Trips Generated(Entering)	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	***23.80%***	*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%*	*0.00%*	*0.00%*	***11.83%***
Total Trips Generated	0	0	0	0	0	32	0	0	0	0	0	17
Total PM Peak Hour BUILD Volumes	**0**	**541**	**0**	**0**	**1,110**	**163**	**0**	**0**	**0**	**0**	**0**	**92**

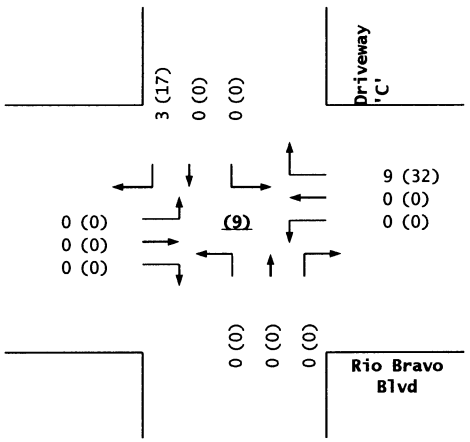
	Entering	Exiting		
Number of Commercial Trips Generated	**37**	**26**	A.M.	100% Commercial Development
	136	**142**	P.M.	

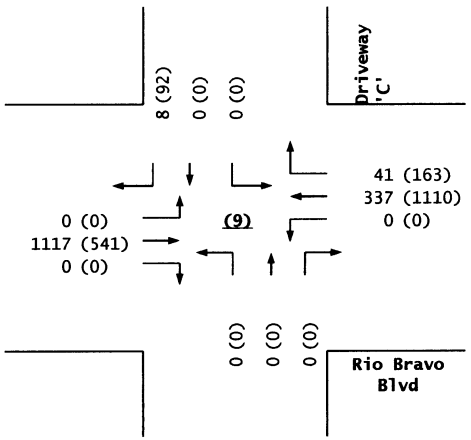
2012
NO BUILD

Trips

2012
BUILD







Rio Bravo Blvd / Driveway 'C'

Timings
1: Rio Bravo Blvd & Isleta Blvd

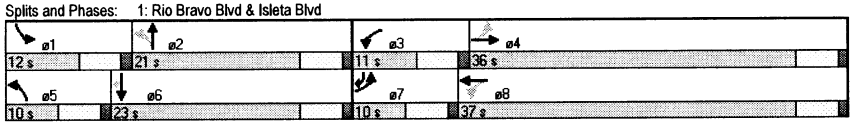
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	965	66	177	219	155	76	201	367	266	139	50
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	21.0		10.0	21.0		10.0	21.0		10.0	21.0	10.0
Total Split (s)	10.0	36.0	0.0	11.0	37.0	0.0	10.0	21.0	0.0	12.0	23.0	10.0
Total Split (%)	12.5%	45.0%	0.0%	13.8%	46.3%	0.0%	12.5%	26.3%	0.0%	15.0%	28.8%	12.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	Min	Max		Min	Max		Min	Min		Min	Min	Min
Act Effct Green (s)	36.0	31.0	74.2	38.0	32.0	74.2	15.1	10.1	74.2	7.0	12.1	22.2
Actuated g/C Ratio	0.49	0.42	1.00	0.51	0.43	1.00	0.20	0.14	1.00	0.09	0.16	0.30
v/c Ratio	0.25	0.78	0.05	0.90	0.18	0.12	0.31	0.48	0.27	0.89	0.26	0.11
Control Delay	9.7	23.8	0.1	55.8	13.7	0.2	22.6	33.0	0.4	65.1	28.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	23.8	0.1	55.8	13.7	0.2	22.6	33.0	0.4	65.1	28.1	6.4
LOS	A	C	A	E	B	A	C	C	A	E	C	A
Approach Delay		21.0			23.5			13.2			47.3	
Approach LOS		C			C			B			D	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 74.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 23.7 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Rio Bravo Blvd & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
1: Rio Bravo Blvd & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	965	66	177	219	155	76	201	367	266	139	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Flt Permitted	0.59	1.00	1.00	0.12	1.00	1.00	0.66	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1080	3505	1568	231	3505	1568	1213	3505	1568	3400	3505	1568
Peak-hour factor, PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.87	0.87	0.87	0.93	0.93	0.93
Adj. Flow (vph)	142	1149	79	219	270	191	87	231	422	286	149	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	42
Lane Group Flow (vph)	142	1149	79	219	270	191	87	231	422	286	149	12
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Actuated Green, G (s)	36.0	31.0	74.1	38.0	32.0	74.1	15.1	10.1	74.1	7.0	12.1	17.1
Effective Green, g (s)	36.0	31.0	74.1	38.0	32.0	74.1	15.1	10.1	74.1	7.0	12.1	17.1
Actuated g/C Ratio	0.49	0.42	1.00	0.51	0.43	1.00	0.20	0.14	1.00	0.09	0.16	0.23
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	570	1466	1568	242	1514	1568	284	478	1568	321	572	468
v/s Ratio Prot	0.02	0.33		c0.07	0.08		0.02	c0.07		c0.08	0.04	0.00
v/s Ratio Perm	0.10		0.05	c0.39		0.12	0.04		c0.27			0.01
v/c Ratio	0.25	0.78	0.05	0.90	0.18	0.12	0.31	0.48	0.27	0.89	0.26	0.03
Uniform Delay, d1	10.7	18.6	0.0	13.7	13.0	0.0	24.7	29.6	0.0	33.2	27.1	22.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	4.3	0.1	33.4	0.3	0.2	0.6	0.8	0.4	25.0	0.2	0.0
Delay (s)	10.9	22.9	0.1	47.1	13.2	0.2	25.3	30.4	0.4	58.2	27.3	22.1
Level of Service	B	C	A	D	B	A	C	C	A	E	C	C
Approach Delay (s)		20.3			20.5			12.7			44.8	
Approach LOS		C			C			B			D	

Intersection Summary

HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Timings
1: Rio Bravo Blvd & Isleta Blvd

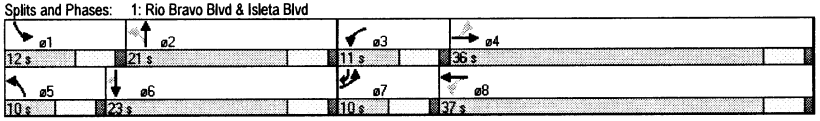
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	967	68	177	223	155	80	201	367	268	141	50
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	21.0		10.0	21.0		10.0	21.0		10.0	21.0	10.0
Total Split (s)	10.0	36.0	0.0	11.0	37.0	0.0	10.0	21.0	0.0	12.0	23.0	10.0
Total Split (%)	12.5%	45.0%	0.0%	13.8%	46.3%	0.0%	12.5%	26.3%	0.0%	15.0%	28.8%	12.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	Min	Max		Min	Max		Min	Min		Min	Min	Min
Act Effct Green (s)	36.0	31.0	74.2	38.0	32.0	74.2	15.1	10.1	74.2	7.0	12.1	22.2
Actuated g/C Ratio	0.49	0.42	1.00	0.51	0.43	1.00	0.20	0.14	1.00	0.09	0.16	0.30
v/c Ratio	0.25	0.79	0.05	0.90	0.18	0.12	0.33	0.48	0.27	0.90	0.27	0.11
Control Delay	9.7	23.9	0.1	55.8	13.8	0.2	23.0	33.0	0.4	66.1	28.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	23.9	0.1	55.8	13.8	0.2	23.0	33.0	0.4	66.1	28.1	6.4
LOS	A	C	A	E	B	A	C	C	A	E	C	A
Approach Delay		21.0			23.4			13.3			47.9	
Approach LOS		C			C			B			D	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 74.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 23.8 — Intersection LOS: C
Intersection Capacity Utilization 66.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Rio Bravo Blvd & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
1: Rio Bravo Blvd & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	967	68	177	223	155	80	201	367	268	141	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Flt Permitted	0.58	1.00	1.00	0.12	1.00	1.00	0.66	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1075	3505	1568	231	3505	1568	1209	3505	1568	3400	3505	1568
Peak-hour factor, PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.87	0.87	0.87	0.93	0.93	0.93
Adj. Flow (vph)	142	1151	81	219	275	191	92	231	422	288	152	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	42
Lane Group Flow (vph)	142	1151	81	219	275	191	92	231	422	288	152	12
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Actuated Green, G (s)	36.0	31.0	74.1	38.0	32.0	74.1	15.1	10.1	74.1	7.0	12.1	17.1
Effective Green, g (s)	36.0	31.0	74.1	38.0	32.0	74.1	15.1	10.1	74.1	7.0	12.1	17.1
Actuated g/C Ratio	0.49	0.42	1.00	0.51	0.43	1.00	0.20	0.14	1.00	0.09	0.16	0.23
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	568	1466	1568	242	1514	1568	283	478	1568	321	572	468
v/s Ratio Prot	0.02	0.33		c0.07	0.08		0.02	c0.07		c0.08	0.04	0.00
v/s Ratio Perm	0.10		0.05	c0.39		0.12	0.04		c0.27			0.01
v/c Ratio	0.25	0.79	0.05	0.90	0.18	0.12	0.33	0.48	0.27	0.90	0.27	0.03
Uniform Delay, d1	10.7	18.7	0.0	13.8	13.0	0.0	24.8	29.6	0.0	33.2	27.1	22.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	4.3	0.1	33.4	0.3	0.2	0.7	0.8	0.4	25.9	0.3	0.0
Delay (s)	10.9	23.0	0.1	47.2	13.2	0.2	25.5	30.4	0.4	59.1	27.4	22.1
Level of Service	B	C	A	D	B	A	C	C	A	E	C	C
Approach Delay (s)		20.4			20.4			12.8			45.3	
Approach LOS		C			C			B			D	

Intersection Summary

HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

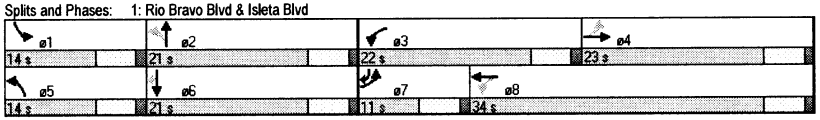
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	333	103	442	838	323	161	237	152	264	264	141
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	21.0		10.0	21.0		10.0	21.0		10.0	21.0	10.0
Total Split (s)	11.0	23.0	0.0	22.0	34.0	0.0	14.0	21.0	0.0	14.0	21.0	11.0
Total Split (%)	13.8%	28.8%	0.0%	27.5%	42.5%	0.0%	17.5%	26.3%	0.0%	17.5%	26.3%	13.8%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		Min	C-Max		Min	Min		Min	Min	Min
Act Effct Green (s)	29.2	21.6	80.0	44.6	32.0	80.0	20.2	11.5	80.0	8.9	11.7	24.3
Actuated g/C Ratio	0.36	0.27	1.00	0.56	0.40	1.00	0.25	0.14	1.00	0.11	0.15	0.30
v/c Ratio	0.42	0.37	0.07	0.75	0.65	0.22	0.51	0.50	0.10	0.73	0.54	0.26
Control Delay	15.9	26.4	0.1	20.6	22.9	0.3	26.0	34.6	0.1	47.0	35.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	26.4	0.1	20.6	22.9	0.3	26.0	34.6	0.1	47.0	35.4	5.5
LOS	B	C	A	C	C	A	C	C	A	D	D	A
Approach Delay		19.2			17.7			22.5			33.7	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 21.8 — Intersection LOS: C
Intersection Capacity Utilization 66.6% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Rio Bravo Blvd & Isleta Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	333	103	442	838	323	161	237	152	264	264	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Flt Permitted	0.28	1.00	1.00	0.40	1.00	1.00	0.54	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	523	3505	1568	743	3505	1568	993	3505	1568	3400	3505	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	129	354	110	480	911	351	169	249	160	278	278	148
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	106
Lane Group Flow (vph)	129	354	110	480	911	351	169	249	160	278	278	42
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Actuated Green, G (s)	29.2	21.6	80.0	44.6	32.0	80.0	20.2	11.5	80.0	8.9	11.7	19.3
Effective Green, g (s)	29.2	21.6	80.0	44.6	32.0	80.0	20.2	11.5	80.0	8.9	11.7	19.3
Actuated g/C Ratio	0.36	0.27	1.00	0.56	0.40	1.00	0.25	0.14	1.00	0.11	0.15	0.24
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	308	946	1568	641	1402	1568	333	504	1568	378	513	476
v/s Ratio Prot	0.04	0.10		c0.17	0.26		0.06	0.07		c0.08	c0.08	0.01
v/s Ratio Perm	0.11		0.07	c0.25		c0.22	0.07		0.10			0.02
v/c Ratio	0.42	0.37	0.07	0.75	0.65	0.22	0.51	0.49	0.10	0.74	0.54	0.09
Uniform Delay, d1	17.4	23.7	0.0	11.3	19.5	0.0	24.7	31.6	0.0	34.4	31.7	23.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	1.1	0.1	4.8	2.3	0.3	1.2	0.8	0.1	7.3	1.2	0.1
Delay (s)	18.4	24.8	0.1	16.1	21.8	0.3	26.0	32.3	0.1	41.7	32.8	23.6
Level of Service	B	C	A	B	C	A	C	C	A	D	C	C
Approach Delay (s)		18.8			15.9			21.6			34.4	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Timings
1: Rio Bravo Blvd & Isleta Blvd

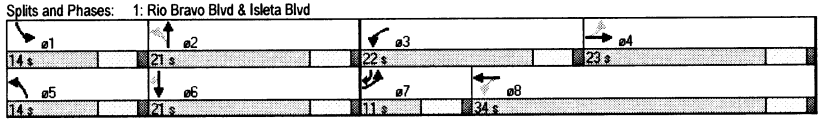
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	342	111	442	855	323	177	237	152	273	272	141
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	21.0		10.0	21.0		10.0	21.0		10.0	21.0	10.0
Total Split (s)	11.0	23.0	0.0	22.0	34.0	0.0	14.0	21.0	0.0	14.0	21.0	11.0
Total Split (%)	13.8%	28.8%	0.0%	27.5%	42.5%	0.0%	17.5%	26.3%	0.0%	17.5%	26.3%	13.8%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	Min	C-Max		Min	C-Max		Min	Min		Min	Min	Min
Act Effct Green (s)	28.9	21.4	80.0	44.4	31.9	80.0	20.4	11.6	80.0	9.0	11.8	24.4
Actuated g/C Ratio	0.36	0.27	1.00	0.56	0.40	1.00	0.26	0.14	1.00	0.11	0.15	0.30
v/c Ratio	0.43	0.39	0.08	0.76	0.66	0.22	0.56	0.49	0.10	0.75	0.55	0.26
Control Delay	16.4	26.7	0.1	21.3	23.2	0.3	27.5	34.3	0.1	48.3	35.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	26.7	0.1	21.3	23.2	0.3	27.5	34.3	0.1	48.3	35.4	6.6
LOS	B	C	A	C	C	A	C	C	A	D	D	A
Approach Delay		19.4			18.1			23.0			34.6	
Approach LOS		B			B			C			C	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 22.3 — Intersection LOS: C
Intersection Capacity Utilization 67.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Rio Bravo Blvd & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
1: Rio Bravo Blvd & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	342	111	442	855	323	177	237	152	273	272	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	3505	1568	3400	3505	1568
Flt Permitted	0.27	1.00	1.00	0.39	1.00	1.00	0.53	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	503	3505	1568	726	3505	1568	970	3505	1568	3400	3505	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	129	364	118	480	929	351	186	249	160	287	286	148
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	96
Lane Group Flow (vph)	129	364	118	480	929	351	186	249	160	287	286	52
Turn Type	pm+pt		Free	pm+pt		Free	pm+pt		Free	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	4		Free	8		Free	2		Free			6
Actuated Green, G (s)	28.9	21.4	80.0	44.4	31.9	80.0	20.4	11.6	80.0	9.0	11.8	19.3
Effective Green, g (s)	28.9	21.4	80.0	44.4	31.9	80.0	20.4	11.6	80.0	9.0	11.8	19.3
Actuated g/C Ratio	0.36	0.27	1.00	0.55	0.40	1.00	0.25	0.14	1.00	0.11	0.15	0.24
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	299	938	1568	634	1398	1568	333	508	1568	383	517	476
v/s Ratio Prot	0.04	0.10		c0.17	0.27		0.06	0.07		c0.08	c0.08	0.01
v/s Ratio Perm	0.12		0.08	c0.25		c0.22	0.08		0.10			0.02
v/c Ratio	0.43	0.39	0.08	0.76	0.66	0.22	0.56	0.49	0.10	0.75	0.55	0.11
Uniform Delay, d1	17.7	23.9	0.0	11.5	19.7	0.0	24.8	31.5	0.0	34.4	31.7	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.2	0.1	5.2	2.5	0.3	2.0	0.7	0.1	7.8	1.3	0.1
Delay (s)	18.7	25.2	0.1	16.7	22.2	0.3	26.9	32.2	0.1	42.2	32.9	23.8
Level of Service	B	C	A	B	C	A	C	C	A	D	C	C
Approach Delay (s)		18.9			16.3			21.9			34.8	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay 21.3 — HCM Level of Service C
HCM Volume to Capacity ratio 0.65
Actuated Cycle Length (s) 80.0 — Sum of lost time (s) 10.0
Intersection Capacity Utilization 67.9% — ICU Level of Service C
Analysis Period (min) 15
c Critical Lane Group

Timings
2: Rio Bravo Blvd & Second St

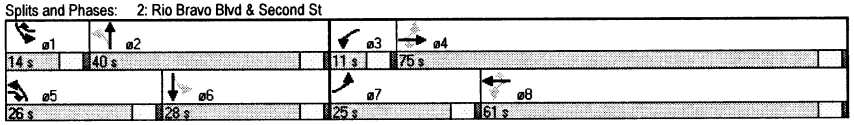
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	298	1223	112	46	396	54	186	96	91	87
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	25.0	75.0	26.0	11.0	61.0	14.0	26.0	40.0	14.0	28.0
Total Split (%)	17.9%	53.6%	18.6%	7.9%	43.6%	10.0%	18.6%	28.6%	10.0%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	87.1	75.7	99.8	71.7	65.3	79.3	42.9	29.0	27.7	18.8
Actuated g/C Ratio	0.62	0.54	0.71	0.51	0.47	0.57	0.31	0.21	0.20	0.13
v/c Ratio	0.56	0.69	0.10	0.29	0.30	0.08	0.71	0.54	0.45	0.78
Control Delay	17.3	27.0	1.4	16.7	22.3	14.9	50.7	47.2	42.2	73.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	27.0	1.4	16.7	22.3	14.9	50.7	47.2	42.2	73.4
LOS	B	C	A	B	C	B	D	D	D	E
Approach Delay		23.5			20.9			49.0		61.5
Approach LOS		C			C			D		E

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 130 (93%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 30.4 — Intersection LOS: C
Intersection Capacity Utilization 73.2% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Rio Bravo Blvd & Second St



HCM Signalized Intersection Capacity Analysis
2: Rio Bravo Blvd & Second St

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	298	1223	112	46	396	54	186	96	72	91	87	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1726		1752	1731	
Flt Permitted	0.39	1.00	1.00	0.13	1.00	1.00	0.24	1.00		0.63	1.00	
Satd. Flow (perm)	719	3505	1568	247	3505	1568	438	1726		1163	1731	
Peak-hour factor, PHF	0.94	0.94	0.94	0.81	0.81	0.81	0.83	0.83	0.83	0.75	0.75	0.75
Adj. Flow (vph)	317	1301	119	57	489	67	224	116	87	121	116	81
RTOR Reduction (vph)	0	0	38	0	0	0	0	21	0	0	18	0
Lane Group Flow (vph)	317	1301	81	57	489	67	224	182	0	121	179	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	87.1	75.7	94.8	71.8	65.4	74.3	42.9	29.0		27.7	18.8	
Effective Green, g (s)	87.1	75.7	94.8	71.8	65.4	74.3	42.9	29.0		27.7	18.8	
Actuated g/C Ratio	0.62	0.54	0.68	0.51	0.47	0.53	0.31	0.21		0.20	0.13	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	571	1895	1118	195	1637	888	313	358		268	232	
v/s Ratio Prot	c0.07	c0.37	0.01	0.01	0.14	0.00	c0.10	0.11		0.03	0.10	
v/s Ratio Perm	0.28		0.04	0.14		0.04	c0.12			0.06		
v/c Ratio	0.56	0.69	0.07	0.29	0.30	0.08	0.72	0.51		0.45	0.77	
Uniform Delay, d1	13.1	23.5	7.7	19.6	23.1	16.1	39.6	49.2		48.4	58.5	
Progression Factor	1.00	1.00	1.00	0.95	0.87	0.89	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	2.1	0.0	0.8	0.5	0.0	7.6	1.1		1.2	14.6	
Delay (s)	14.2	25.5	7.7	19.5	20.6	14.3	47.2	50.3		49.6	73.1	
Level of Service	B	C	A	B	C	B	D	D		D	E	
Approach Delay (s)		22.3			19.8			48.7			64.2	
Approach LOS		C			B			D			E	

Intersection Summary

HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Timings
2: Rio Bravo Blvd & Second St

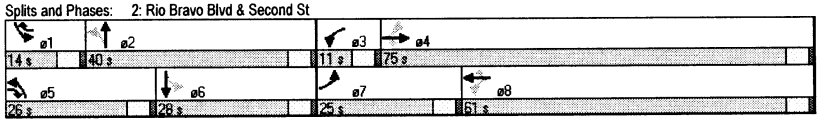
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	299	1224	113	46	398	54	188	96	91	87
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	25.0	75.0	26.0	11.0	61.0	14.0	26.0	40.0	14.0	28.0
Total Split (%)	17.9%	53.6%	18.6%	7.9%	43.6%	10.0%	18.6%	28.6%	10.0%	20.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	86.8	75.5	99.7	71.4	65.1	79.0	43.2	29.2	27.9	18.9
Actuated g/C Ratio	0.62	0.54	0.71	0.51	0.46	0.56	0.31	0.21	0.20	0.14
v/c Ratio	0.56	0.69	0.10	0.30	0.30	0.08	0.72	0.53	0.45	0.79
Control Delay	17.5	27.1	1.4	16.9	22.4	14.9	51.0	46.9	41.9	73.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	27.1	1.4	16.9	22.4	14.9	51.0	46.9	41.9	73.0
LOS	B	C	A	B	C	B	D	D	D	E
Approach Delay		23.6			21.0			49.1		61.3
Approach LOS		C			C			D		E

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 130 (93%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 30.5 — Intersection LOS: C
Intersection Capacity Utilization 73.4% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 2: Rio Bravo Blvd & Second St



HCM Signalized Intersection Capacity Analysis
2: Rio Bravo Blvd & Second St

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	299	1224	113	46	398	54	188	96	72	91	87	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1726		1752	1729	
Flt Permitted	0.39	1.00	1.00	0.13	1.00	1.00	0.23	1.00		0.63	1.00	
Satd. Flow (perm)	716	3505	1568	246	3505	1568	432	1726		1163	1729	
Peak-hour factor, PHF	0.94	0.94	0.94	0.81	0.81	0.81	0.83	0.83	0.83	0.75	0.75	0.75
Adj. Flow (vph)	318	1302	120	57	491	67	227	116	87	121	116	83
RTOR Reduction (vph)	0	0	39	0	0	0	0	21	0	0	19	0
Lane Group Flow (vph)	318	1302	81	57	491	67	227	182	0	121	180	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	86.9	75.6	94.8	71.5	65.2	74.1	43.1	29.2		27.8	18.9	
Effective Green, g (s)	86.9	75.6	94.8	71.5	65.2	74.1	43.1	29.2		27.8	18.9	
Actuated g/C Ratio	0.62	0.54	0.68	0.51	0.47	0.53	0.31	0.21		0.20	0.13	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	568	1893	1118	193	1632	886	314	360		268	233	
v/s Ratio Prot	c0.07	c0.37	0.01	0.01	0.14	0.00	c0.10	0.11		0.03	0.10	
v/s Ratio Perm	0.28		0.04	0.14		0.04	c0.12			0.06		
v/c Ratio	0.56	0.69	0.07	0.30	0.30	0.08	0.72	0.51		0.45	0.77	
Uniform Delay, d1	13.2	23.6	7.7	19.8	23.2	16.2	39.5	49.0		48.3	58.5	
Progression Factor	1.00	1.00	1.00	0.95	0.87	0.88	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	2.1	0.0	0.9	0.5	0.0	8.0	1.1		1.2	14.6	
Delay (s)	14.4	25.6	7.7	19.7	20.7	14.3	47.5	50.2		49.5	73.1	
Level of Service	B	C	A	B	C	B	D	D		D	E	
Approach Delay (s)		22.3			19.9			48.8			64.2	
Approach LOS		C			B			D			E	

Intersection Summary

HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Timings
2: Rio Bravo Blvd & Second St

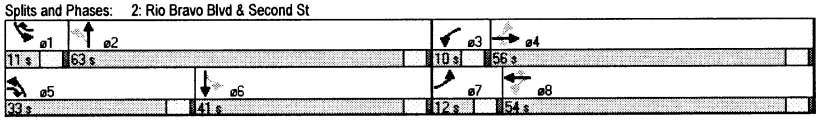
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	119	526	25	70	1021	75	285	90	107	135
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	12.0	56.0	33.0	10.0	54.0	11.0	33.0	63.0	11.0	41.0
Total Split (%)	8.6%	40.0%	23.6%	7.1%	38.6%	7.9%	23.6%	45.0%	7.9%	29.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	59.2	51.6	84.6	54.5	49.3	60.3	68.1	57.1	41.1	35.1
Actuated g/C Ratio	0.42	0.37	0.60	0.39	0.35	0.43	0.49	0.41	0.29	0.25
v/c Ratio	0.84	0.42	0.03	0.25	0.88	0.12	0.92	0.40	0.34	0.96
Control Delay	70.2	34.5	4.0	20.9	41.6	17.6	68.2	23.9	27.5	76.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	34.5	4.0	20.9	41.6	17.6	68.2	23.9	27.5	76.9
LOS	E	C	A	C	D	B	E	C	C	E
Approach Delay		39.7			38.8			48.9		66.6
Approach LOS		D			D			D		E

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 18 (13%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 46.1 — Intersection LOS: D
Intersection Capacity Utilization 91.1% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Rio Bravo Blvd & Second St



HCM Signalized Intersection Capacity Analysis
2: Rio Bravo Blvd & Second St

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	526	25	70	1021	75	285	90	131	107	135	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1681		1752	1660	
Flt Permitted	0.08	1.00	1.00	0.36	1.00	1.00	0.10	1.00		0.58	1.00	
Satd. Flow (perm)	143	3505	1568	667	3505	1568	184	1681		1077	1660	
Peak-hour factor, PHF	0.96	0.96	0.96	0.94	0.94	0.94	0.77	0.77	0.77	0.90	0.90	0.90
Adj. Flow (vph)	124	548	26	74	1086	80	370	117	170	119	150	302
RTOR Reduction (vph)	0	0	11	0	0	0	0	38	0	0	52	0
Lane Group Flow (vph)	124	548	15	74	1086	80	370	249	0	119	400	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	59.3	51.7	79.7	54.5	49.3	55.3	68.1	57.1		41.1	35.1	
Effective Green, g (s)	59.3	51.7	79.7	54.5	49.3	55.3	68.1	57.1		41.1	35.1	
Actuated g/C Ratio	0.42	0.37	0.57	0.39	0.35	0.39	0.49	0.41		0.29	0.25	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	148	1294	949	300	1234	675	403	686		345	416	
v/s Ratio Prot	c0.05	0.16	0.00	0.01	c0.31	0.01	c0.18	0.15		0.01	0.24	
v/s Ratio Perm	0.31		0.01	0.09		0.05	c0.26			0.09		
v/c Ratio	0.84	0.42	0.02	0.25	0.88	0.12	0.92	0.36		0.34	0.96	
Uniform Delay, d1	32.1	33.0	13.1	27.6	42.6	26.9	42.3	28.8		37.5	51.8	
Progression Factor	1.00	1.00	1.00	0.80	0.78	0.71	1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.8	1.0	0.0	0.4	7.7	0.1	25.4	0.3		0.6	33.9	
Delay (s)	63.9	34.0	13.1	22.5	41.1	19.2	67.7	29.1		38.1	85.6	
Level of Service	E	C	B	C	D	B	E	C		D	F	
Approach Delay (s)		38.6			38.5			50.9			75.7	
Approach LOS		D			D			D			E	

Intersection Summary

HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Timings
2: Rio Bravo Blvd & Second St

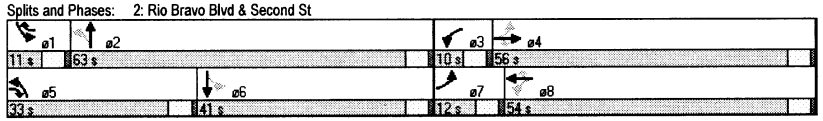
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	123	532	33	70	1027	75	293	90	107	135
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	12.0	56.0	33.0	10.0	54.0	11.0	33.0	63.0	11.0	41.0
Total Split (%)	8.6%	40.0%	23.6%	7.1%	38.6%	7.9%	23.6%	45.0%	7.9%	29.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	59.1	51.4	84.4	54.2	49.0	60.0	68.3	57.3	41.3	35.3
Actuated g/C Ratio	0.42	0.37	0.60	0.39	0.35	0.43	0.49	0.41	0.30	0.25
v/c Ratio	0.86	0.43	0.04	0.25	0.89	0.12	0.95	0.40	0.34	0.97
Control Delay	72.8	34.7	3.6	21.0	42.9	18.1	73.4	23.9	27.4	77.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	34.7	3.6	21.0	42.9	18.1	73.4	23.9	27.4	77.5
LOS	E	C	A	C	D	B	E	C	C	E
Approach Delay		40.0			40.0			52.1		67.1
Approach LOS		D			D			D		E

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 18 (13%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 47.4 — Intersection LOS: D
Intersection Capacity Utilization 92.1% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Rio Bravo Blvd & Second St



HCM Signalized Intersection Capacity Analysis
2: Rio Bravo Blvd & Second St

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	532	33	70	1027	75	293	90	131	107	135	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1681		1752	1659	
Flt Permitted	0.08	1.00	1.00	0.36	1.00	1.00	0.10	1.00		0.58	1.00	
Satd. Flow (perm)	143	3505	1568	659	3505	1568	183	1681		1077	1659	
Peak-hour factor, PHF	0.96	0.96	0.96	0.94	0.94	0.94	0.77	0.77	0.77	0.90	0.90	0.90
Adj. Flow (vph)	128	554	34	74	1093	80	381	117	170	119	150	306
RTOR Reduction (vph)	0	0	15	0	0	0	0	38	0	0	53	0
Lane Group Flow (vph)	128	554	19	74	1093	80	381	249	0	119	403	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	59.2	51.5	79.5	54.2	49.0	55.0	68.3	57.3		41.3	35.3	
Effective Green, g (s)	59.2	51.5	79.5	54.2	49.0	55.0	68.3	57.3		41.3	35.3	
Actuated g/C Ratio	0.42	0.37	0.57	0.39	0.35	0.39	0.49	0.41		0.29	0.25	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	1289	946	296	1227	672	403	688		347	418	
v/s Ratio Prot	c0.05	0.16	0.00	0.01	0.31	0.01	c0.19	0.15		0.01	0.24	
v/s Ratio Perm	c0.32		0.01	0.09		0.05	c0.27			0.09		
v/c Ratio	0.86	0.43	0.02	0.25	0.89	0.12	0.95	0.36		0.34	0.96	
Uniform Delay, d1	32.3	33.2	13.2	27.8	43.0	27.1	43.1	28.7		37.4	51.7	
Progression Factor	1.00	1.00	1.00	0.80	0.79	0.73	1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.8	1.0	0.0	0.4	8.3	0.1	30.9	0.3		0.6	34.5	
Delay (s)	68.1	34.3	13.2	22.7	42.5	19.8	74.0	29.0		38.0	86.2	
Level of Service	E	C	B	C	D	B	E	C		D	F	
Approach Delay (s)		39.3			39.8			54.7			76.2	
Approach LOS		D			D			D			E	

Intersection Summary

HCM Average Control Delay	49.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

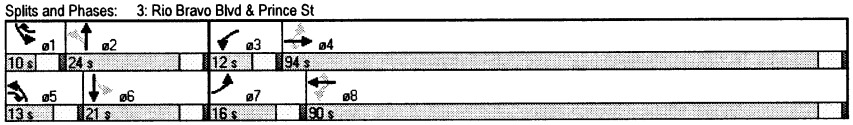
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	180	1330	23	35	398	30	56	1	7	1
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	16.0	94.0	13.0	12.0	90.0	10.0	13.0	24.0	10.0	21.0
Total Split (%)	11.4%	67.1%	9.3%	8.6%	64.3%	7.1%	9.3%	17.1%	7.1%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	109.2	100.0	112.7	103.1	96.9	106.9	16.5	8.9	11.2	6.2
Actuated g/C Ratio	0.78	0.71	0.80	0.74	0.69	0.76	0.12	0.06	0.08	0.04
v/c Ratio	0.27	0.58	0.02	0.15	0.18	0.03	0.41	0.49	0.08	0.10
Control Delay	2.0	3.4	0.1	4.9	8.1	1.6	62.3	21.6	53.4	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	3.4	0.1	4.9	8.1	1.6	62.3	21.6	53.4	39.3
LOS	A	A	A	A	A	A	E	C	D	D
Approach Delay		3.2			7.4			38.9		46.8
Approach LOS		A			A			D		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 6.7 — Intersection LOS: A
Intersection Capacity Utilization 63.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Rio Bravo Blvd & Prince St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	1330	23	35	398	30	56	1	75	7	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1571		1752	1603	
Flt Permitted	0.47	1.00	1.00	0.14	1.00	1.00	0.52	1.00		0.70	1.00	
Satd. Flow (perm)	868	3505	1568	264	3505	1568	967	1571		1291	1603	
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86	0.75	0.75	0.75
Adj. Flow (vph)	196	1446	25	39	447	34	65	1	87	9	1	7
RTOR Reduction (vph)	0	0	5	0	0	9	0	81	0	0	7	0
Lane Group Flow (vph)	196	1446	20	39	447	25	65	7	0	9	1	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	109.2	100.0	107.7	103.0	96.9	101.9	16.6	8.9		11.2	6.2	
Effective Green, g (s)	109.2	100.0	107.7	103.0	96.9	101.9	16.6	8.9		11.2	6.2	
Actuated g/C Ratio	0.78	0.71	0.77	0.74	0.69	0.73	0.12	0.06		0.08	0.04	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	735	2504	1262	259	2426	1197	158	100		120	71	
v/s Ratio Prot	c0.02	c0.41	0.00	0.01	0.13	0.00	c0.02	0.00		0.00	0.00	
v/s Ratio Perm	0.19		0.01	0.10		0.02	c0.03			0.00		
v/c Ratio	0.27	0.58	0.02	0.15	0.18	0.02	0.41	0.07		0.07	0.02	
Uniform Delay, d1	3.9	9.7	3.8	6.8	7.6	5.3	56.5	61.6		59.6	64.0	
Progression Factor	0.35	0.26	0.11	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.8	0.0	0.3	0.2	0.0	1.7	0.3		0.3	0.1	
Delay (s)	1.5	3.3	0.4	7.1	7.8	5.3	58.2	61.9		59.8	64.1	
Level of Service	A	A	A	A	A	A	E	E		E	E	
Approach Delay (s)		3.0			7.6			60.4			61.8	
Approach LOS		A			A			E			E	

Intersection Summary

HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

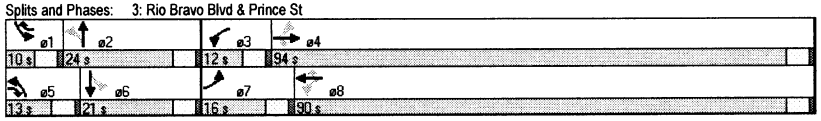
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	180	1330	24	35	398	30	57	1	7	1
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	16.0	94.0	13.0	12.0	90.0	10.0	13.0	24.0	10.0	21.0
Total Split (%)	11.4%	67.1%	9.3%	8.6%	64.3%	7.1%	9.3%	17.1%	7.1%	15.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	109.2	100.0	112.7	103.1	96.9	106.9	16.5	8.9	11.2	6.2
Actuated g/C Ratio	0.78	0.71	0.80	0.74	0.69	0.76	0.12	0.06	0.08	0.04
v/c Ratio	0.27	0.58	0.02	0.15	0.18	0.03	0.42	0.49	0.08	0.10
Control Delay	2.0	3.4	0.2	4.9	8.1	1.6	62.5	21.6	53.4	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	3.4	0.2	4.9	8.1	1.6	62.5	21.6	53.4	39.3
LOS	A	A	A	A	A	A	E	C	D	D
Approach Delay		3.2			7.4			39.1		46.8
Approach LOS		A			A			D		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 6.8 — Intersection LOS: A
Intersection Capacity Utilization 63.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Rio Bravo Blvd & Prince St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	1330	24	35	398	30	57	1	75	7	1	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1571		1752	1603	
Flt Permitted	0.47	1.00	1.00	0.14	1.00	1.00	0.52	1.00		0.70	1.00	
Satd. Flow (perm)	868	3505	1568	264	3505	1568	967	1571		1291	1603	
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.86	0.86	0.86	0.75	0.75	0.75
Adj. Flow (vph)	196	1446	26	39	447	34	66	1	87	9	1	7
RTOR Reduction (vph)	0	0	6	0	0	9	0	81	0	0	7	0
Lane Group Flow (vph)	196	1446	20	39	447	25	66	7	0	9	1	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	109.2	100.0	107.7	103.0	96.9	101.9	16.6	8.9		11.2	6.2	
Effective Green, g (s)	109.2	100.0	107.7	103.0	96.9	101.9	16.6	8.9		11.2	6.2	
Actuated g/C Ratio	0.78	0.71	0.77	0.74	0.69	0.73	0.12	0.06		0.08	0.04	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	735	2504	1262	259	2426	1197	158	100		120	71	
v/s Ratio Prot	c0.02	c0.41	0.00	0.01	0.13	0.00	c0.02	0.00		0.00	0.00	
v/s Ratio Perm	0.19		0.01	0.10		0.02	c0.03			0.00		
v/c Ratio	0.27	0.58	0.02	0.15	0.18	0.02	0.42	0.07		0.07	0.02	
Uniform Delay, d1	3.9	9.7	3.8	6.8	7.6	5.3	56.5	61.6		59.6	64.0	
Progression Factor	0.35	0.26	0.11	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.8	0.0	0.3	0.2	0.0	1.8	0.3		0.3	0.1	
Delay (s)	1.5	3.3	0.4	7.1	7.8	5.3	58.3	61.9		59.8	64.1	
Level of Service	A	A	A	A	A	A	E	E		E	E	
Approach Delay (s)		3.0			7.6			60.4			61.8	
Approach LOS		A			A			E			E	

Intersection Summary

HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Rio Bravo Blvd & Prince St

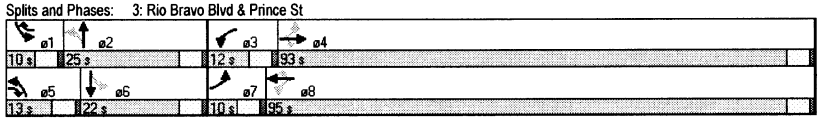
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	23	657	101	85	1350	16	51	4	28	3
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	10.0	93.0	13.0	12.0	95.0	10.0	13.0	25.0	10.0	22.0
Total Split (%)	7.1%	66.4%	9.3%	8.6%	67.9%	7.1%	9.3%	17.9%	7.1%	15.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	104.3	98.3	111.0	106.8	99.6	109.6	17.1	9.5	11.8	6.8
Actuated g/C Ratio	0.74	0.70	0.79	0.76	0.71	0.78	0.12	0.07	0.08	0.05
v/c Ratio	0.10	0.29	0.09	0.17	0.60	0.01	0.38	0.46	0.27	0.40
Control Delay	3.3	6.2	0.5	4.3	11.6	2.5	59.9	22.6	57.6	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	6.2	0.5	4.3	11.6	2.5	59.9	22.6	57.6	29.6
LOS	A	A	A	A	B	A	E	C	E	C
Approach Delay		5.4			11.1			38.4		41.1
Approach LOS		A			B			D		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 11.7 — Intersection LOS: B
Intersection Capacity Utilization 63.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Rio Bravo Blvd & Prince St



HCM Signalized Intersection Capacity Analysis
3: Rio Bravo Blvd & Prince St

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	657	101	85	1350	16	51	4	65	28	3	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1585		1752	1591	
Flt Permitted	0.13	1.00	1.00	0.35	1.00	1.00	0.53	1.00		0.70	1.00	
Satd. Flow (perm)	243	3505	1568	644	3505	1568	971	1585		1297	1591	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	25	722	111	93	1484	18	61	5	78	34	4	45
RTOR Reduction (vph)	0	0	27	0	0	3	0	73	0	0	43	0
Lane Group Flow (vph)	25	722	84	93	1484	15	61	10	0	34	6	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	104.2	98.3	105.9	106.8	99.6	104.6	17.1	9.5		11.9	6.9	
Effective Green, g (s)	104.2	98.3	105.9	106.8	99.6	104.6	17.1	9.5		11.9	6.9	
Actuated g/C Ratio	0.74	0.70	0.76	0.76	0.71	0.75	0.12	0.07		0.09	0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	2461	1242	548	2494	1228	161	108		126	78	
v/s Ratio Prot	0.00	0.21	0.00	c0.01	c0.42	0.00	c0.02	0.01		0.01	0.00	
v/s Ratio Perm	0.07		0.05	0.12		0.01	c0.03			0.01		
v/c Ratio	0.10	0.29	0.07	0.17	0.60	0.01	0.38	0.10		0.27	0.08	
Uniform Delay, d1	7.0	7.8	4.4	4.4	10.1	4.5	55.9	61.2		59.8	63.5	
Progression Factor	0.68	0.73	0.47	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.0	0.1	1.1	0.0	1.5	0.4		1.2	0.4	
Delay (s)	4.9	6.0	2.1	4.5	11.2	4.5	57.4	61.6		60.9	64.0	
Level of Service	A	A	A	A	B	A	E	E		E	E	
Approach Delay (s)		5.5			10.7			59.8			62.7	
Approach LOS		A			B			E			E	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Timings
3: Rio Bravo Blvd & Prince St

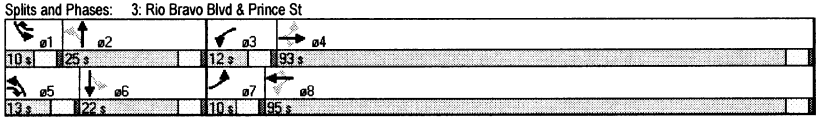
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Volume (vph)	23	658	106	85	1351	16	86	4	28	3
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+pt	
Protected Phases	7	4	5	3	8	1	5	2	1	6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	5	3	8	1	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	10.0	21.0	10.0	10.0	21.0	10.0	21.0
Total Split (s)	10.0	93.0	13.0	12.0	95.0	10.0	13.0	25.0	10.0	22.0
Total Split (%)	7.1%	66.4%	9.3%	8.6%	67.9%	7.1%	9.3%	17.9%	7.1%	15.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?										
Recall Mode	Min	C-Max	Min	Min	C-Max	Min	Min	Min	Min	Min
Act Effct Green (s)	103.9	98.0	111.0	106.4	99.2	109.2	17.8	9.8	11.8	6.8
Actuated g/C Ratio	0.74	0.70	0.79	0.76	0.71	0.78	0.13	0.07	0.08	0.05
v/c Ratio	0.10	0.29	0.09	0.17	0.60	0.01	0.63	0.45	0.27	0.40
Control Delay	3.3	6.3	0.4	4.3	11.8	2.5	72.3	22.1	57.6	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	6.3	0.4	4.3	11.8	2.5	72.3	22.1	57.6	29.6
LOS	A	A	A	A	B	A	E	C	E	C
Approach Delay		5.4			11.2			50.0		41.1
Approach LOS		A			B			D		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 13.0 — Intersection LOS: B
Intersection Capacity Utilization 65.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Rio Bravo Blvd & Prince St



HCM Signalized Intersection Capacity Analysis
3: Rio Bravo Blvd & Prince St

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	658	106	85	1351	16	86	4	65	28	3	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568	1752	1585		1752	1591	
Flt Permitted	0.13	1.00	1.00	0.35	1.00	1.00	0.50	1.00		0.70	1.00	
Satd. Flow (perm)	242	3505	1568	642	3505	1568	928	1585		1297	1591	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	25	723	116	93	1485	18	104	5	78	34	4	45
RTOR Reduction (vph)	0	0	28	0	0	3	0	73	0	0	43	0
Lane Group Flow (vph)	25	723	88	93	1485	15	104	10	0	34	6	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	103.9	98.0	106.0	106.5	99.3	104.3	17.8	9.8		11.8	6.8	
Effective Green, g (s)	103.9	98.0	106.0	106.5	99.3	104.3	17.8	9.8		11.8	6.8	
Actuated g/C Ratio	0.74	0.70	0.76	0.76	0.71	0.74	0.13	0.07		0.08	0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	243	2454	1243	545	2486	1224	165	111		126	77	
v/s Ratio Prot	0.00	0.21	0.00	c0.01	c0.42	0.00	c0.04	0.01		0.01	0.00	
v/s Ratio Perm	0.07		0.05	0.12		0.01	c0.04			0.01		
v/c Ratio	0.10	0.29	0.07	0.17	0.60	0.01	0.63	0.09		0.27	0.08	
Uniform Delay, d1	7.1	7.9	4.4	4.5	10.3	4.6	56.7	60.9		59.9	63.6	
Progression Factor	0.68	0.72	0.46	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3	0.0	0.1	1.1	0.0	7.6	0.4		1.2	0.4	
Delay (s)	5.0	6.0	2.0	4.6	11.3	4.6	64.3	61.3		61.0	64.1	
Level of Service	A	A	A	A	B	A	E	E		E	E	
Approach Delay (s)		5.5			10.9			63.0			62.8	
Approach LOS		A			B			E			E	

Intersection Summary

HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Timings
4: Rio Bravo Blvd & Del Rio Dr

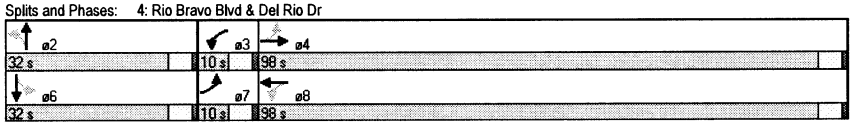
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	10	1134	11	341	42	8	24	5
Turn Type	pm+pt		pm+pt		Perm		Perm	
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	10.0	98.0	10.0	98.0	32.0	32.0	32.0	32.0
Total Split (%)	7.1%	70.0%	7.1%	70.0%	22.9%	22.9%	22.9%	22.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	Min	C-Min	Min	C-Min	Min	Min	Min	Min
Act Effct Green (s)	110.3	104.6	110.3	104.6		14.7		14.7
Actuated g/C Ratio	0.79	0.75	0.79	0.75		0.10		0.10
v/c Ratio	0.02	0.58	0.05	0.15		0.70		0.42
Control Delay	3.2	9.6	3.5	5.6		63.0		54.8
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	3.2	9.6	3.5	5.6		63.0		54.8
LOS	A	A	A	A		E		D
Approach Delay		9.5		5.5		63.0		54.8
Approach LOS		A		A		E		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 13.3 — Intersection LOS: B
Intersection Capacity Utilization 48.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Rio Bravo Blvd & Del Rio Dr



HCM Signalized Intersection Capacity Analysis
4: Rio Bravo Blvd & Del Rio Dr

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1134	61	11	341	8	42	8	55	24	5	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.93			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1752	3478		1752	3492			1680			1724	
Flt Permitted	0.53	1.00		0.13	1.00			0.86			0.63	
Satd. Flow (perm)	971	3478		246	3492			1477			1125	
Peak-hour factor, PHF	0.79	0.79	0.79	0.92	0.92	0.92	0.80	0.80	0.80	0.75	0.75	0.75
Adj. Flow (vph)	13	1435	77	12	371	9	52	10	69	32	7	15
RTOR Reduction (vph)	0	2	0	0	1	0	0	31	0	0	11	0
Lane Group Flow (vph)	13	1510	0	12	379	0	0	100	0	0	43	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	110.3	104.6		110.3	104.6			14.7			14.7	
Effective Green, g (s)	110.3	104.6		110.3	104.6			14.7			14.7	
Actuated g/C Ratio	0.79	0.75		0.79	0.75			0.10			0.10	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	797	2599		255	2609			155			118	
v/s Ratio Prot	0.00	c0.43		c0.00	0.11							
v/s Ratio Perm	0.01			0.04				c0.07			0.04	
v/c Ratio	0.02	0.58		0.05	0.15			0.64			0.37	
Uniform Delay, d1	3.2	7.9		5.1	5.0			60.1			58.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	1.0		0.1	0.1			8.8			1.9	
Delay (s)	3.2	8.9		5.2	5.1			68.9			60.2	
Level of Service	A	A		A	A			E			E	
Approach Delay (s)		8.8			5.1			68.9			60.2	
Approach LOS		A			A			E			E	

Intersection Summary

HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
4: Rio Bravo Blvd & Del Rio Dr

Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	10	1141	12	346	42	8	24	5
Turn Type	pm+pt		pm+pt		Perm		Perm	
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	10.0	98.0	10.0	98.0	32.0	32.0	32.0	32.0
Total Split (%)	7.1%	70.0%	7.1%	70.0%	22.9%	22.9%	22.9%	22.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	Min	C-Min	Min	C-Min	Min	Min	Min	Min
Act Effct Green (s)	110.2	104.5	110.2	104.5		14.8		14.8
Actuated g/C Ratio	0.79	0.75	0.79	0.75		0.11		0.11
v/c Ratio	0.02	0.59	0.05	0.15		0.70		0.42
Control Delay	3.2	9.7	3.6	5.6		62.5		54.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	3.2	9.7	3.6	5.6		62.5		54.6
LOS	A	A	A	A		E		D
Approach Delay		9.7		5.6		62.5		54.6
Approach LOS		A		A		E		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 13.4 — Intersection LOS: B
Intersection Capacity Utilization 48.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Rio Bravo Blvd & Del Rio Dr

ø2	ø3	ø4
32 s	10 s	98 s
ø6	ø7	ø8
32 s	10 s	98 s

HCM Signalized Intersection Capacity Analysis
4: Rio Bravo Blvd & Del Rio Dr

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1141	61	12	346	8	42	8	57	24	5	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.93			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	
Satd. Flow (prot)	1752	3478		1752	3493			1679			1724	
Flt Permitted	0.52	1.00		0.13	1.00			0.86			0.63	
Satd. Flow (perm)	966	3478		243	3493			1478			1117	
Peak-hour factor, PHF	0.79	0.79	0.79	0.92	0.92	0.92	0.80	0.80	0.80	0.75	0.75	0.75
Adj. Flow (vph)	13	1444	77	13	376	9	52	10	71	32	7	15
RTOR Reduction (vph)	0	2	0	0	1	0	0	32	0	0	11	0
Lane Group Flow (vph)	13	1519	0	13	384	0	0	101	0	0	43	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	110.2	104.5		110.2	104.5			14.8			14.8	
Effective Green, g (s)	110.2	104.5		110.2	104.5			14.8			14.8	
Actuated g/C Ratio	0.79	0.75		0.79	0.75			0.11			0.11	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	792	2596		253	2607			156			118	
v/s Ratio Prot	0.00	c0.44		c0.00	0.11							
v/s Ratio Perm	0.01			0.04				c0.07			0.04	
v/c Ratio	0.02	0.59		0.05	0.15			0.65			0.37	
Uniform Delay, d1	3.2	8.0		5.2	5.1			60.1			58.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	1.0		0.1	0.1			8.9			1.9	
Delay (s)	3.2	9.0		5.3	5.2			69.0			60.2	
Level of Service	A	A		A	A			E			E	
Approach Delay (s)		8.9			5.2			69.0			60.2	
Approach LOS		A			A			E			E	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
4: Rio Bravo Blvd & Del Rio Dr

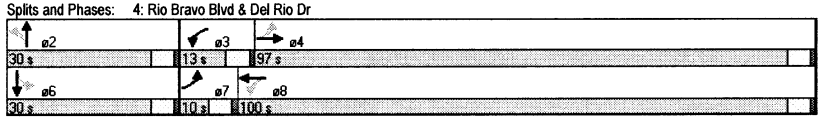
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	13	570	76	1404	46	8	21	18
Turn Type	pm+pt		pm+pt		Perm		Perm	
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	10.0	97.0	13.0	100.0	30.0	30.0	30.0	30.0
Total Split (%)	7.1%	69.3%	9.3%	71.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	Min	C-Min	Min	C-Min	Min	Min	Min	Min
Act Effct Green (s)	108.3	102.6	110.6	103.7		15.6		15.6
Actuated g/C Ratio	0.77	0.73	0.79	0.74		0.11		0.11
v/c Ratio	0.06	0.26	0.14	0.62		0.73		0.42
Control Delay	3.9	6.9	3.6	10.7		71.3		50.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	3.9	6.9	3.6	10.7		71.3		50.6
LOS	A	A	A	B		E		D
Approach Delay		6.8		10.3		71.3		50.6
Approach LOS		A		B		E		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 13.6 — Intersection LOS: B
Intersection Capacity Utilization 65.5% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Rio Bravo Blvd & Del Rio Dr



HCM Signalized Intersection Capacity Analysis
4: Rio Bravo Blvd & Del Rio Dr

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	570	39	76	1404	59	46	8	41	21	18	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1752	3471		1752	3484			1696			1730	
Flt Permitted	0.12	1.00		0.38	1.00			0.79			0.80	
Satd. Flow (perm)	214	3471		707	3484			1367			1414	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.75	0.75	0.75	0.82	0.82	0.82
Adj. Flow (vph)	14	613	42	84	1543	65	61	11	55	26	22	24
RTOR Reduction (vph)	0	3	0	0	2	0	0	21	0	0	14	0
Lane Group Flow (vph)	14	652	0	84	1606	0	0	106	0	0	58	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	108.2	102.5		110.6	103.7			15.6			15.6	
Effective Green, g (s)	108.2	102.5		110.6	103.7			15.6			15.6	
Actuated g/C Ratio	0.77	0.73		0.79	0.74			0.11			0.11	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	228	2541		610	2581			152			158	
v/s Ratio Prot	0.00	0.19		c0.01	c0.46							
v/s Ratio Perm	0.04			0.10				c0.08			0.04	
v/c Ratio	0.06	0.26		0.14	0.62			0.70			0.37	
Uniform Delay, d1	6.2	6.2		3.3	8.7			59.9			57.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.2		0.1	1.1			12.9			1.4	
Delay (s)	6.3	6.4		3.5	9.9			72.8			59.1	
Level of Service	A	A		A	A			E			E	
Approach Delay (s)		6.4			9.6			72.8			59.1	
Approach LOS		A			A			E			E	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Timings
4: Rio Bravo Blvd & Del Rio Dr

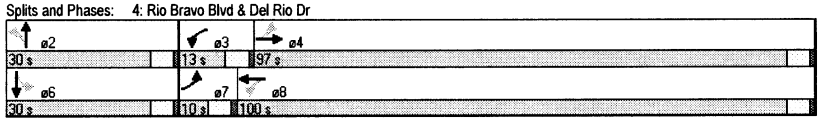
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	13	596	82	1431	46	8	22	18
Turn Type	pm+pt		pm+pt		Perm		Perm	
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	21.0	10.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	10.0	97.0	13.0	100.0	30.0	30.0	30.0	30.0
Total Split (%)	7.1%	69.3%	9.3%	71.4%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Recall Mode	Min	C-Min	Min	C-Min	Min	Min	Min	Min
Act Effct Green (s)	107.4	101.6	110.0	102.9		16.3		16.3
Actuated g/C Ratio	0.77	0.73	0.79	0.74		0.12		0.12
v/c Ratio	0.06	0.27	0.15	0.64		0.73		0.42
Control Delay	4.2	7.3	3.8	11.4		69.1		50.9
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	4.2	7.3	3.8	11.4		69.1		50.9
LOS	A	A	A	B		E		D
Approach Delay		7.3		11.0		69.1		50.9
Approach LOS		A		B		E		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 14.1 — Intersection LOS: B
Intersection Capacity Utilization 66.5% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Rio Bravo Blvd & Del Rio Dr



HCM Signalized Intersection Capacity Analysis
4: Rio Bravo Blvd & Del Rio Dr

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	596	39	82	1431	60	46	8	47	22	18	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1752	3473		1752	3484			1690			1731	
Flt Permitted	0.11	1.00		0.37	1.00			0.80			0.79	
Satd. Flow (perm)	201	3473		683	3484			1379			1387	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.75	0.75	0.75	0.82	0.82	0.82
Adj. Flow (vph)	14	641	42	90	1573	66	61	11	63	27	22	24
RTOR Reduction (vph)	0	3	0	0	2	0	0	24	0	0	13	0
Lane Group Flow (vph)	14	680	0	90	1637	0	0	111	0	0	60	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	107.5	101.7		109.9	102.9			16.3			16.3	
Effective Green, g (s)	107.5	101.7		109.9	102.9			16.3			16.3	
Actuated g/C Ratio	0.77	0.73		0.79	0.74			0.12			0.12	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	219	2523		590	2561			161			161	
v/s Ratio Prot	0.00	0.20		c0.01	c0.47							
v/s Ratio Perm	0.05			0.11				c0.08			0.04	
v/c Ratio	0.06	0.27		0.15	0.64			0.69			0.37	
Uniform Delay, d1	6.7	6.5		3.5	9.3			59.4			57.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.3		0.1	1.2			12.0			1.4	
Delay (s)	6.9	6.8		3.7	10.5			71.4			58.6	
Level of Service	A	A		A	B			E			E	
Approach Delay (s)		6.8			10.2			71.4			58.6	
Approach LOS		A			B			E			E	

Intersection Summary

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Timings
5: Barcelona St & Isleta Blvd

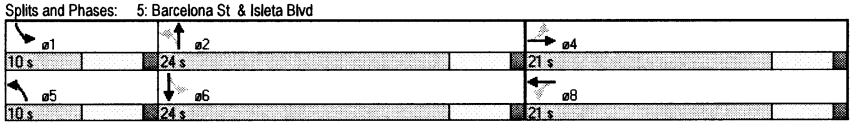
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	49	4	12	5	41	390	2	412
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	24.0	10.0	24.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	18.2%	43.6%	18.2%	43.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		7.7		7.7	16.8	11.7	16.8	11.7
Actuated g/C Ratio		0.19		0.19	0.42	0.29	0.42	0.29
v/c Ratio		0.46		0.11	0.10	0.43	0.00	0.52
Control Delay		11.4		12.7	5.4	12.8	5.0	13.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		11.4		12.7	5.4	12.8	5.0	13.3
LOS		B		B	A	B	A	B
Approach Delay		11.4		12.7		12.1		13.3
Approach LOS		B		B		B		B

Intersection Summary

Cycle Length: 55
Actuated Cycle Length: 39.8
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 12.5 — Intersection LOS: B
Intersection Capacity Utilization 38.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Barcelona St & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
5: Barcelona St & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	4	89	12	5	7	41	390	5	2	412	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.96		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1660			1731		1752	3498		1752	3460	
Flt Permitted		0.87			0.83		0.45	1.00		0.49	1.00	
Satd. Flow (perm)		1474			1478		823	3498		913	3460	
Peak-hour factor, PHF	0.84	0.84	0.84	0.75	0.75	0.75	0.89	0.89	0.89	0.84	0.84	0.84
Adj. Flow (vph)	58	5	106	16	7	9	46	438	6	2	490	46
RTOR Reduction (vph)	0	85	0	0	7	0	0	2	0	0	13	0
Lane Group Flow (vph)	0	84	0	0	25	0	46	442	0	2	523	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.7			7.7		16.8	11.7		16.8	11.7	
Effective Green, g (s)		7.7			7.7		16.8	11.7		16.8	11.7	
Actuated g/C Ratio		0.19			0.19		0.43	0.30		0.43	0.30	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		287			288		470	1036		497	1025	
v/s Ratio Prot							c0.01	0.13		0.00	c0.15	
v/s Ratio Perm		c0.06			0.02		0.03			0.00		
v/c Ratio		0.29			0.09		0.10	0.43		0.00	0.51	
Uniform Delay, d1		13.6			13.0		6.7	11.2		6.5	11.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.1		0.1	0.3		0.0	0.4	
Delay (s)		14.1			13.1		6.8	11.5		6.5	11.9	
Level of Service		B			B		A	B		A	B	
Approach Delay (s)		14.1			13.1			11.0			11.9	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	39.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
5: Barcelona St & Isleta Blvd

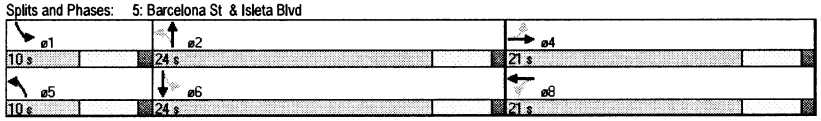
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	49	4	13	5	44	400	2	427
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	24.0	10.0	24.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	18.2%	43.6%	18.2%	43.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		7.8		7.8	17.1	12.0	17.1	12.0
Actuated g/C Ratio		0.19		0.19	0.43	0.30	0.43	0.30
v/c Ratio		0.46		0.11	0.11	0.44	0.00	0.53
Control Delay		11.2		12.8	5.5	12.9	5.0	13.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		11.2		12.8	5.5	12.9	5.0	13.5
LOS		B		B	A	B	A	B
Approach Delay		11.2		12.8		12.2		13.5
Approach LOS		B		B		B		B

Intersection Summary

Cycle Length: 55
Actuated Cycle Length: 40.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 12.6 — Intersection LOS: B
Intersection Capacity Utilization 39.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Barcelona St & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
5: Barcelona St & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	4	93	13	5	7	44	400	5	2	427	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.91			0.96		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1658			1732		1752	3498		1752	3461	
Flt Permitted		0.88			0.84		0.43	1.00		0.49	1.00	
Satd. Flow (perm)		1477			1486		793	3498		903	3461	
Peak-hour factor, PHF	0.84	0.84	0.84	0.75	0.75	0.75	0.89	0.89	0.89	0.84	0.84	0.84
Adj. Flow (vph)	58	5	111	17	7	9	49	449	6	2	508	46
RTOR Reduction (vph)	0	89	0	0	7	0	0	2	0	0	13	0
Lane Group Flow (vph)	0	85	0	0	26	0	49	453	0	2	541	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.8			7.8		17.1	12.0		17.1	12.0	
Effective Green, g (s)		7.8			7.8		17.1	12.0		17.1	12.0	
Actuated g/C Ratio		0.20			0.20		0.43	0.30		0.43	0.30	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		289			290		462	1052		496	1041	
v/s Ratio Prot							c0.01	0.13		0.00	c0.16	
v/s Ratio Perm		c0.06			0.02		0.03			0.00		
v/c Ratio		0.29			0.09		0.11	0.43		0.00	0.52	
Uniform Delay, d1		13.7			13.1		6.7	11.2		6.5	11.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.1		0.1	0.3		0.0	0.4	
Delay (s)		14.3			13.3		6.8	11.5		6.5	12.0	
Level of Service		B			B		A	B		A	B	
Approach Delay (s)		14.3			13.3			11.0			12.0	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	39.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
5: Barcelona St & Isleta Blvd

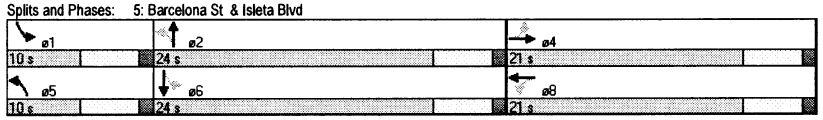
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	48	6	14	7	98	681	11	664
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	24.0	10.0	24.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	18.2%	43.6%	18.2%	43.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		7.6		7.6	20.2	15.1	20.2	15.1
Actuated g/C Ratio		0.18		0.18	0.47	0.35	0.47	0.35
v/c Ratio		0.43		0.14	0.26	0.58	0.03	0.63
Control Delay		13.0		14.2	6.3	13.6	4.6	14.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		13.0		14.2	6.3	13.6	4.6	14.2
LOS		B		B	A	B	A	B
Approach Delay		13.0		14.2		12.7		14.1
Approach LOS		B		B		B		B

Intersection Summary

Cycle Length: 55
Actuated Cycle Length: 43.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 13.4 — Intersection LOS: B
Intersection Capacity Utilization 46.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Barcelona St & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
5: Barcelona St & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	6	77	14	7	8	98	681	23	11	664	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.92			0.96		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1667			1732		1752	3488		1752	3472	
Flt Permitted		0.86			0.84		0.28	1.00		0.32	1.00	
Satd. Flow (perm)		1464			1487		521	3488		589	3472	
Peak-hour factor, PHF	0.93	0.93	0.93	0.75	0.75	0.75	0.98	0.98	0.98	0.91	0.91	0.91
Adj. Flow (vph)	52	6	83	19	9	11	100	695	23	12	730	48
RTOR Reduction (vph)	0	68	0	0	9	0	0	4	0	0	8	0
Lane Group Flow (vph)	0	73	0	0	30	0	100	714	0	12	770	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.6			7.6		20.2	15.1		20.2	15.1	
Effective Green, g (s)		7.6			7.6		20.2	15.1		20.2	15.1	
Actuated g/C Ratio		0.18			0.18		0.47	0.35		0.47	0.35	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		260			264		393	1231		417	1225	
v/s Ratio Prot							c0.03	0.20		0.00	c0.22	
v/s Ratio Perm		c0.05			0.02		0.09			0.01		
v/c Ratio		0.28			0.11		0.25	0.58		0.03	0.63	
Uniform Delay, d1		15.2			14.8		6.5	11.3		6.1	11.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.2		0.3	0.7		0.0	1.0	
Delay (s)		15.8			15.0		6.8	12.0		6.1	12.5	
Level of Service		B			B		A	B		A	B	
Approach Delay (s)		15.8			15.0			11.3			12.4	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	42.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
5: Barcelona St & Isleta Blvd

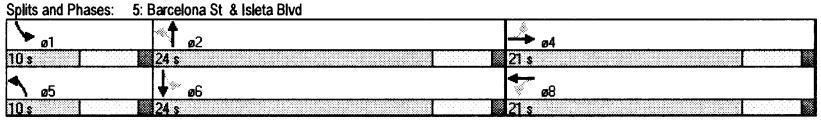
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	48	6	17	7	114	737	11	717
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	24.0	10.0	24.0
Total Split (%)	38.2%	38.2%	38.2%	38.2%	18.2%	43.6%	18.2%	43.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		8.0		8.0	20.9	15.9	20.9	15.9
Actuated g/C Ratio		0.18		0.18	0.47	0.36	0.47	0.36
v/c Ratio		0.45		0.15	0.32	0.62	0.03	0.67
Control Delay		12.3		14.3	7.3	14.3	4.9	15.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		12.3		14.3	7.3	14.3	4.9	15.0
LOS		B		B	A	B	A	B
Approach Delay		12.3		14.3		13.4		14.9
Approach LOS		B		B		B		B

Intersection Summary

Cycle Length: 55
Actuated Cycle Length: 44.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 49.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: Barcelona St & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
5: Barcelona St & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	6	92	17	7	8	114	737	26	11	717	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.91			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1660			1735		1752	3487		1752	3475	
Flt Permitted		0.87			0.84		0.25	1.00		0.28	1.00	
Satd. Flow (perm)		1473			1488		464	3487		522	3475	
Peak-hour factor, PHF	0.93	0.93	0.93	0.75	0.75	0.75	0.98	0.98	0.98	0.91	0.91	0.91
Adj. Flow (vph)	52	6	99	23	9	11	116	752	27	12	788	48
RTOR Reduction (vph)	0	81	0	0	9	0	0	4	0	0	8	0
Lane Group Flow (vph)	0	76	0	0	34	0	116	775	0	12	828	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.0			8.0		21.0	15.9		21.0	15.9	
Effective Green, g (s)		8.0			8.0		21.0	15.9		21.0	15.9	
Actuated g/C Ratio		0.18			0.18		0.48	0.36		0.48	0.36	
Clearance Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		268			271		371	1260		392	1256	
v/s Ratio Prot							c0.04	0.22		0.00	c0.24	
v/s Ratio Perm		c0.05			0.02		0.11			0.01		
v/c Ratio		0.28			0.13		0.31	0.61		0.03	0.66	
Uniform Delay, d1		15.5			15.1		6.7	11.5		6.2	11.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.2		0.5	0.9		0.0	1.3	
Delay (s)		16.1			15.3		7.2	12.4		6.2	13.0	
Level of Service		B			B		A	B		A	B	
Approach Delay (s)		16.1			15.3			11.7			12.9	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

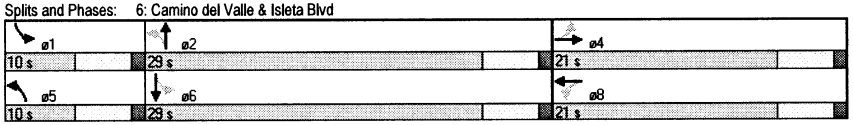
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	62	3	1	2	7	580	6	219
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	29.0	10.0	29.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	16.7%	48.3%	16.7%	48.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	8.4	8.4		8.4	26.9	21.8	26.9	21.8
Actuated g/C Ratio	0.17	0.17		0.17	0.53	0.43	0.53	0.43
v/c Ratio	0.36	0.05		0.03	0.01	0.82	0.02	0.39
Control Delay	23.9	12.5		14.7	4.3	24.1	4.5	11.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	12.5		14.7	4.3	24.1	4.5	11.6
LOS	C	B		B	A	C	A	B
Approach Delay		22.1		14.7		23.9		11.4
Approach LOS		C		B		C		B

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 50.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 20.0 — Intersection LOS: B
Intersection Capacity Utilization 49.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Camino del Valle & Isleta Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	62	3	8	1	2	3	7	580	2	6	219	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.89			0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1642			1709		1752	1844		1752	1822	
Flt Permitted	0.75	1.00			0.97		0.55	1.00		0.20	1.00	
Satd. Flow (perm)	1388	1642			1667		1012	1844		371	1822	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.89	0.89	0.89	0.77	0.77	0.77
Adj. Flow (vph)	83	4	11	1	3	4	8	652	2	8	284	25
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	0	0	5	0
Lane Group Flow (vph)	83	6	0	0	5	0	8	654	0	8	304	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.4	8.4			8.4		26.9	21.8		26.9	21.8	
Effective Green, g (s)	8.4	8.4			8.4		26.9	21.8		26.9	21.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.53	0.43		0.53	0.43	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	232	274			278		616	799		338	790	
v/s Ratio Prot		0.00					0.00	c0.35		c0.00	0.17	
v/s Ratio Perm	c0.06				0.00		0.01			0.01		
v/c Ratio	0.36	0.02			0.02		0.01	0.82		0.02	0.38	
Uniform Delay, d1	18.6	17.5			17.5		5.5	12.5		6.7	9.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.0			0.0		0.0	6.5		0.0	0.3	
Delay (s)	19.5	17.5			17.5		5.5	19.1		6.8	10.0	
Level of Service	B	B			B		A	B		A	B	
Approach Delay (s)		19.2			17.5			18.9			9.9	
Approach LOS		B			B			B			A	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
6: Camino del Valle & Isleta Blvd

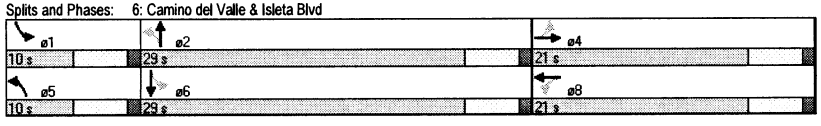
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	63	3	1	2	7	582	6	221
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	29.0	10.0	29.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	16.7%	48.3%	16.7%	48.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	8.5	8.5		8.5	27.0	21.9	27.0	21.9
Actuated g/C Ratio	0.17	0.17		0.17	0.53	0.43	0.53	0.43
v/c Ratio	0.36	0.05		0.03	0.01	0.82	0.02	0.39
Control Delay	23.9	12.5		14.7	4.4	24.2	4.5	11.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	12.5		14.7	4.4	24.2	4.5	11.6
LOS	C	B		B	A	C	A	B
Approach Delay		22.2		14.7		24.0		11.5
Approach LOS		C		B		C		B

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 50.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 20.1 — Intersection LOS: C
Intersection Capacity Utilization 49.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Camino del Valle & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
6: Camino del Valle & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	3	8	1	2	3	7	582	2	6	221	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.89			0.93		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1642			1709		1752	1844		1752	1822	
Flt Permitted	0.75	1.00			0.97		0.54	1.00		0.20	1.00	
Satd. Flow (perm)	1388	1642			1668		1003	1844		368	1822	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.89	0.89	0.89	0.77	0.77	0.77
Adj. Flow (vph)	84	4	11	1	3	4	8	654	2	8	287	26
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	0	0	5	0
Lane Group Flow (vph)	84	6	0	0	5	0	8	656	0	8	308	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.5	8.5			8.5		27.0	21.9		27.0	21.9	
Effective Green, g (s)	8.5	8.5			8.5		27.0	21.9		27.0	21.9	
Actuated g/C Ratio	0.17	0.17			0.17		0.53	0.43		0.53	0.43	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	234	276			281		612	800		337	790	
v/s Ratio Prot		0.00					0.00	c0.36		c0.00	0.17	
v/s Ratio Perm	c0.06				0.00		0.01			0.01		
v/c Ratio	0.36	0.02			0.02		0.01	0.82		0.02	0.39	
Uniform Delay, d1	18.6	17.5			17.5		5.5	12.6		6.8	9.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.0			0.0		0.0	6.6		0.0	0.3	
Delay (s)	19.5	17.6			17.5		5.5	19.2		6.8	10.1	
Level of Service	B	B			B		A	B		A	B	
Approach Delay (s)		19.2			17.5			19.0			10.0	
Approach LOS		B			B			B			A	

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
6: Camino del Valle & Isleta Blvd

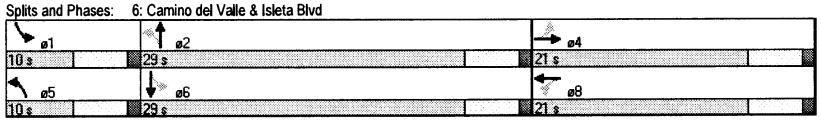
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	60	10	12	7	12	468	24	533
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	29.0	10.0	29.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	16.7%	48.3%	16.7%	48.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	8.2	8.2		8.2	25.0	19.9	25.0	19.9
Actuated g/C Ratio	0.17	0.17		0.17	0.52	0.41	0.52	0.41
v/c Ratio	0.32	0.19		0.27	0.03	0.65	0.06	0.79
Control Delay	23.1	10.1		11.4	4.4	16.3	4.5	21.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	10.1		11.4	4.4	16.3	4.5	21.8
LOS	C	B		B	A	B	A	C
Approach Delay		17.3		11.4		16.0		21.0
Approach LOS		B		B		B		C

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 48.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 18.2 — Intersection LOS: B
Intersection Capacity Utilization 48.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Camino del Valle & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
6: Camino del Valle & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	39	12	7	43	12	468	9	24	533	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.91		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1625			1655		1752	1840		1752	1832	
Flt Permitted	0.70	1.00			0.93		0.24	1.00		0.35	1.00	
Satd. Flow (perm)	1298	1625			1548		445	1840		641	1832	
Peak-hour factor, PHF	0.85	0.85	0.85	0.75	0.75	0.75	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	71	12	46	16	9	57	12	482	9	26	567	28
RTOR Reduction (vph)	0	38	0	0	47	0	0	1	0	0	3	0
Lane Group Flow (vph)	71	20	0	0	35	0	12	490	0	26	592	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.2	8.2			8.2		25.0	19.9		25.0	19.9	
Effective Green, g (s)	8.2	8.2			8.2		25.0	19.9		25.0	19.9	
Actuated g/C Ratio	0.17	0.17			0.17		0.52	0.41		0.52	0.41	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	276			263		369	760		450	756	
v/s Ratio Prot		0.01					0.00	0.27		c0.01	c0.32	
v/s Ratio Perm	c0.05				0.02		0.01			0.02		
v/c Ratio	0.32	0.07			0.13		0.03	0.64		0.06	0.78	
Uniform Delay, d1	17.6	16.8			17.0		6.5	11.3		6.0	12.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1			0.2		0.0	1.9		0.1	5.3	
Delay (s)	18.4	16.9			17.2		6.5	13.2		6.1	17.6	
Level of Service	B	B			B		A	B		A	B	
Approach Delay (s)		17.7			17.2			13.0			17.1	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Timings
6: Camino del Valle & Isleta Blvd

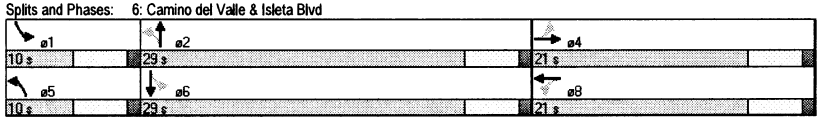
Terry O. Brown, PE
8/14/2011

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	63	10	12	7	12	477	24	542
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	21.0	21.0	21.0	10.0	21.0	10.0	21.0
Total Split (s)	21.0	21.0	21.0	21.0	10.0	29.0	10.0	29.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	16.7%	48.3%	16.7%	48.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	8.3	8.3		8.3	25.4	20.3	25.4	20.3
Actuated g/C Ratio	0.17	0.17		0.17	0.52	0.41	0.52	0.41
v/c Ratio	0.34	0.18		0.26	0.03	0.66	0.06	0.80
Control Delay	23.4	10.1		11.4	4.4	16.5	4.5	22.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	10.1		11.4	4.4	16.5	4.5	22.5
LOS	C	B		B	A	B	A	C
Approach Delay		17.6		11.4		16.2		21.8
Approach LOS		B		B		B		C

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 49
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 18.6 — Intersection LOS: B
Intersection Capacity Utilization 49.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Camino del Valle & Isleta Blvd



HCM Signalized Intersection Capacity Analysis
6: Camino del Valle & Isleta Blvd

Terry O. Brown, PE
8/14/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	10	39	12	7	43	12	477	9	24	542	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.91		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1625			1655		1752	1840		1752	1831	
Flt Permitted	0.70	1.00			0.93		0.23	1.00		0.34	1.00	
Satd. Flow (perm)	1298	1625			1549		427	1840		625	1831	
Peak-hour factor, PHF	0.85	0.85	0.85	0.75	0.75	0.75	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	74	12	46	16	9	57	12	492	9	26	577	31
RTOR Reduction (vph)	0	38	0	0	47	0	0	1	0	0	3	0
Lane Group Flow (vph)	74	20	0	0	35	0	12	500	0	26	605	0
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	8.3	8.3			8.3		25.4	20.3		25.4	20.3	
Effective Green, g (s)	8.3	8.3			8.3		25.4	20.3		25.4	20.3	
Actuated g/C Ratio	0.17	0.17			0.17		0.52	0.42		0.52	0.42	
Clearance Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	277			264		361	767		444	763	
v/s Ratio Prot		0.01					0.00	0.27		c0.01	c0.33	
v/s Ratio Perm	c0.06				0.02		0.01			0.02		
v/c Ratio	0.33	0.07			0.13		0.03	0.65		0.06	0.79	
Uniform Delay, d1	17.8	17.0			17.1		6.6	11.4		6.0	12.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.1			0.2		0.0	2.0		0.1	5.7	
Delay (s)	18.7	17.1			17.4		6.6	13.4		6.1	18.0	
Level of Service	B	B			B		A	B		A	B	
Approach Delay (s)		18.0			17.4			13.2			17.6	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	48.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	1	28	9	1	8	21	457	7	31	445	21
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	27	1	37	12	1	11	23	491	8	33	478	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								1			1	
Upstream signal (ft)								567			880	
pX, platoon unblocked	0.98	0.98		0.98	0.98	0.98				0.98		
vC, conflicting volume	859	1101	251	880	1104	246	501			499		
vC1, stage 1 conf vol	556	556		537	537							
vC2, stage 2 conf vol	302	544		344	568							
vCu, unblocked vol	813	1060	251	835	1064	187	501			446		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	100	95	97	100	99	98			97		
cM capacity (veh/h)	356	317	746	349	317	803	1052			1081		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	27	39	24	23	246	246	8	33	319	182
Volume Left	27	0	12	23	0	0	0	33	0	0
Volume Right	0	37	11	0	0	0	8	0	0	23
cSH	356	713	463	1052	1700	1700	1700	1081	1700	1700
Volume to Capacity	0.07	0.05	0.05	0.02	0.14	0.14	0.00	0.03	0.19	0.11
Queue Length 95th (ft)	6	4	4	2	0	0	0	2	0	0
Control Delay (s)	15.9	10.3	13.2	8.5	0.0	0.0	0.0	8.4	0.0	0.0
Lane LOS	C	B	B	A				A		
Approach Delay (s)	12.6		13.2	0.4				0.5		
Approach LOS	B		B							

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	34	1	31	9	1	8	21	457	7	31	445	46
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	45	1	41	12	1	11	23	491	8	33	478	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								1			1	
Upstream signal (ft)								567			880	
pX, platoon unblocked	0.98	0.98		0.98	0.98	0.98				0.98		
vC, conflicting volume	872	1114	264	884	1131	246	528			499		
vC1, stage 1 conf vol	570	570		537	537							
vC2, stage 2 conf vol	302	544		348	595							
vCu, unblocked vol	827	1074	264	839	1091	187	528			446		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	100	94	97	100	99	98			97		
cM capacity (veh/h)	350	314	731	346	310	803	1028			1081		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	45	43	24	23	246	246	8	33	319	209
Volume Left	45	0	12	23	0	0	0	33	0	0
Volume Right	0	41	11	0	0	0	8	0	0	49
cSH	350	702	459	1028	1700	1700	1700	1081	1700	1700
Volume to Capacity	0.13	0.06	0.05	0.02	0.14	0.14	0.00	0.03	0.19	0.12
Queue Length 95th (ft)	11	5	4	2	0	0	0	2	0	0
Control Delay (s)	16.8	10.5	13.3	8.6	0.0	0.0	0.0	8.4	0.0	0.0
Lane LOS	C	B	B	A				A		
Approach Delay (s)	13.7		13.3	0.4				0.5		
Approach LOS	B		B							

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

Terry O. Brown, PE
8/15/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	3	126	26	3	24	104	657	19	16	654	89
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	81	3	147	29	3	26	109	692	20	17	688	94
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								1			1	
Upstream signal (ft)								567			880	
pX, platoon unblocked	0.91	0.91	0.90	0.91	0.91	0.97	0.90			0.97		
vC, conflicting volume	1362	1699	391	1437	1726	346	782			712		
vC1, stage 1 conf vol	769	769		911	911							
vC2, stage 2 conf vol	593	931		526	816							
vCu, unblocked vol	1064	1435	87	1146	1465	272	524			648		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	98	83	85	98	96	88			98		
cM capacity (veh/h)	253	209	851	195	194	703	924			902		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	81	150	58	109	346	346	20	17	459	323
Volume Left	81	0	29	109	0	0	0	17	0	0
Volume Right	0	147	26	0	0	0	20	0	0	94
cSH	253	795	290	924	1700	1700	1700	902	1700	1700
Volume to Capacity	0.32	0.19	0.20	0.12	0.20	0.20	0.01	0.02	0.27	0.19
Queue Length 95th (ft)	33	17	18	10	0	0	0	1	0	0
Control Delay (s)	25.8	10.6	20.5	9.4	0.0	0.0	0.0	9.1	0.0	0.0
Lane LOS	D	B	C	A				A		
Approach Delay (s)	15.9		20.5	1.3				0.2		
Approach LOS	C		C							

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

Terry O. Brown, PE
8/15/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	145	3	143	26	3	24	104	657	19	16	654	160
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.91	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	169	3	166	29	3	26	109	692	20	17	688	168
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								Raised			Raised	
Median storage veh)								1			1	
Upstream signal (ft)								567			880	
pX, platoon unblocked	0.88	0.88	0.87	0.88	0.88	0.97	0.87			0.97		
vC, conflicting volume	1399	1737	428	1456	1801	346	857			712		
vC1, stage 1 conf vol	806	806		911	911							
vC2, stage 2 conf vol	593	931		546	891							
vCu, unblocked vol	1051	1433	45	1116	1506	272	537			648		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	33	98	81	85	98	96	88			98		
cM capacity (veh/h)	253	207	881	196	186	703	888			902		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	169	170	58	109	346	346	20	17	459	398
Volume Left	169	0	29	109	0	0	0	17	0	0
Volume Right	0	166	26	0	0	0	20	0	0	168
cSH	253	825	290	888	1700	1700	1700	902	1700	1700
Volume to Capacity	0.67	0.21	0.20	0.12	0.20	0.20	0.01	0.02	0.27	0.23
Queue Length 95th (ft)	107	19	18	11	0	0	0	1	0	0
Control Delay (s)	43.7	10.5	20.5	9.6	0.0	0.0	0.0	9.1	0.0	0.0
Lane LOS	E	B	C	A				A		
Approach Delay (s)	27.1		20.5	1.3				0.2		
Approach LOS	D		C							

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		

Terry O. Brown, PE
8/15/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	1117	36	10	337	2	11	6	22	2	2	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	46	1330	43	12	401	2	13	7	26	2	2	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)					560							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	404			1373			1680	1871	686	1212	1890	201
vC1, stage 1 conf vol							1444	1444		425	425	
vC2, stage 2 conf vol							236	427		787	1465	
vCu, unblocked vol	375			1373			1666	1859	686	1192	1878	170
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			98			89	95	93	99	98	99
cM capacity (veh/h)	1160			491			113	147	387	222	139	832

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	46	887	486	12	201	201	2	46	15
Volume Left	46	0	0	12	0	0	0	13	2
Volume Right	0	0	43	0	0	0	2	26	11
cSH	1160	1700	1700	491	1700	1700	1700	200	379
Volume to Capacity	0.04	0.52	0.29	0.02	0.12	0.12	0.00	0.23	0.04
Queue Length 95th (ft)	3	0	0	2	0	0	0	21	3
Control Delay (s)	8.2	0.0	0.0	12.5	0.0	0.0	0.0	28.2	14.9
Lane LOS	A			B				D	B
Approach Delay (s)	0.3			0.4				28.2	14.9
Approach LOS								D	B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Terry O. Brown, PE
8/15/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	1117	36	10	337	2	11	6	22	5	2	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	57	1330	43	12	401	2	13	7	26	6	2	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)					560							
pX, platoon unblocked	0.99						0.99	0.99		0.99	0.99	0.99
vC, conflicting volume	404			1373			1705	1893	686	1234	1912	201
vC1, stage 1 conf vol							1465	1465		425	425	
vC2, stage 2 conf vol							240	427		809	1487	
vCu, unblocked vol	379			1373			1693	1882	686	1217	1902	174
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			88	95	93	97	98	98
cM capacity (veh/h)	1158			491			109	143	387	214	134	828

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	57	887	486	12	201	201	2	46	22
Volume Left	57	0	0	12	0	0	0	13	6
Volume Right	0	0	43	0	0	0	2	26	14
cSH	1158	1700	1700	491	1700	1700	1700	195	360
Volume to Capacity	0.05	0.52	0.29	0.02	0.12	0.12	0.00	0.24	0.06
Queue Length 95th (ft)	4	0	0	2	0	0	0	22	5
Control Delay (s)	8.3	0.0	0.0	12.5	0.0	0.0	0.0	29.1	15.7
Lane LOS	A			B				D	C
Approach Delay (s)	0.3			0.4				29.1	15.7
Approach LOS								D	C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

Terry O. Brown, PE
8/15/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	68	541	27	94	1110	23	60	6	47	24	5	77
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	72	576	29	100	1181	24	71	7	55	28	6	91
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)					560							
pX, platoon unblocked	0.81						0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	1205			604			1619	2140	302	1872	2130	590
vC1, stage 1 conf vol							735	735		1381	1381	
vC2, stage 2 conf vol							884	1405		491	749	
vCu, unblocked vol	798			604			1305	1945	302	1616	1932	43
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			90			60	94	92	77	96	89
cM capacity (veh/h)	663			963			176	112	691	125	132	827

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	72	384	221	100	590	590	24	133	125
Volume Left	72	0	0	100	0	0	0	71	28
Volume Right	0	0	29	0	0	0	24	55	91
cSH	663	1700	1700	963	1700	1700	1700	245	328
Volume to Capacity	0.11	0.23	0.13	0.10	0.35	0.35	0.01	0.54	0.38
Queue Length 95th (ft)	9	0	0	9	0	0	0	74	43
Control Delay (s)	11.1	0.0	0.0	9.2	0.0	0.0	0.0	35.9	22.6
Lane LOS	B			A				E	C
Approach Delay (s)	1.2			0.7				35.9	22.6
Approach LOS								E	C

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Terry O. Brown, PE
8/15/2011

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	100	541	27	94	1110	23	60	6	47	41	5	94
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	106	576	29	100	1181	24	71	7	55	48	6	111
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)					560							
pX, platoon unblocked	0.81						0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	1205			604			1707	2208	302	1940	2198	590
vC1, stage 1 conf vol							803	803		1381	1381	
vC2, stage 2 conf vol							904	1405		559	817	
vCu, unblocked vol	791			604			1408	2025	302	1695	2013	34
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.6	6.6	7.0
tC, 2 stage (s)							6.6	5.6		6.6	5.6	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			90			52	92	92	58	95	87
cM capacity (veh/h)	665			963			146	89	691	114	119	836

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	106	384	221	100	590	590	24	133	165
Volume Left	106	0	0	100	0	0	0	71	48
Volume Right	0	0	29	0	0	0	24	55	111
cSH	665	1700	1700	963	1700	1700	1700	207	273
Volume to Capacity	0.16	0.23	0.13	0.10	0.35	0.35	0.01	0.64	0.60
Queue Length 95th (ft)	14	0	0	9	0	0	0	95	90
Control Delay (s)	11.4	0.0	0.0	9.2	0.0	0.0	0.0	49.1	36.4
Lane LOS	B			A				E	E
Approach Delay (s)	1.7			0.7				49.1	36.4
Approach LOS								E	E

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1117	337	32	0	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	0	1330	401	38	0	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh)		1	1			
Upstream signal (ft)			300			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	439				1066	201
vC1, stage 1 conf vol					401	
vC2, stage 2 conf vol					665	
vCu, unblocked vol	352				1000	105
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1157				354	895

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	665	665	201	201	38	6
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	38	6
cSH	1700	1700	1700	1700	1700	895
Volume to Capacity	0.39	0.39	0.12	0.12	0.02	0.01
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.0
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.0
Approach LOS						A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1117	337	41	0	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	0	1330	401	49	0	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh)		1	1			
Upstream signal (ft)			300			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	450				1066	201
vC1, stage 1 conf vol					401	
vC2, stage 2 conf vol					665	
vCu, unblocked vol	364				1001	107
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1145				354	894

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	665	665	201	201	49	9
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	49	9
cSH	1700	1700	1700	1700	1700	894
Volume to Capacity	0.39	0.39	0.12	0.12	0.03	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.1
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.1
Approach LOS						A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	541	1110	131	0	75
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.85	0.85
Hourly flow rate (vph)	0	576	1181	139	0	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh)		1	1			
Upstream signal (ft)			300			
pX, platoon unblocked	0.80				0.80	0.80
vC, conflicting volume	1320				1469	590
vC1, stage 1 conf vol					1181	
vC2, stage 2 conf vol					288	
vCu, unblocked vol	892				1078	0
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	90
cM capacity (veh/h)	597				280	861

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	288	288	590	590	139	88
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	139	88
cSH	1700	1700	1700	1700	1700	861
Volume to Capacity	0.17	0.17	0.35	0.35	0.08	0.10
Queue Length 95th (ft)	0	0	0	0	0	9
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.7
Approach LOS						A

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	42.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	541	1110	163	0	92
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.85	0.85
Hourly flow rate (vph)	0	576	1181	173	0	108
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		Raised	Raised			
Median storage veh)		1	1			
Upstream signal (ft)			300			
pX, platoon unblocked	0.79				0.79	0.79
vC, conflicting volume	1354				1469	590
vC1, stage 1 conf vol					1181	
vC2, stage 2 conf vol					288	
vCu, unblocked vol	923				1067	0
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	87
cM capacity (veh/h)	578				283	857

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	288	288	590	590	173	108
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	173	108
cSH	1700	1700	1700	1700	1700	857
Volume to Capacity	0.17	0.17	0.35	0.35	0.10	0.13
Queue Length 95th (ft)	0	0	0	0	0	11
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.8
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.8
Approach LOS						A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Data Entry Sheet

Determination of Warrants for Deceleration Lanes

NM DOT State Access Management Manual Criteria

Driveway 'A' / Isleta Blvd

Project Information:

Project Name:	**Walgreen's Pharmacy**
Project Location:	**Rio Bravo Blvd / Isleta Blvd**
Implemenation Year:	**2012**
Project Environment:	**Urban** **Multi-Lane**

Street Information:

Major Street Name:	**Isleta Blvd**
Minor Street Name:	**Driveway 'A'**

Intersection Information:

	Orientation	Prevailing Speed	No. Lanes Each Direction
Driveway 'A'	**Eastbound**	**25**	**N/A**
Isleta Blvd	**North-South**	**40**	**2**

Determine Case:

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

Isleta Blvd is Case	**2**
Speed Category	**35 to 40**

SB Right Turn Volumes		**SB Thru Volumes**
2012 AM Pk. Hr. NO BUILD	21	445
2012 AM Pk. Hr. BUILD	40	445
2012 PM Pk. Hr. NO BUILD	89	654
2012 PM Pk. Hr. BUILD	160	654

NB Left Turn Volumes		**NB Thru Volumes**
2012 AM Pk. Hr. NO BUILD	21	457
2012 AM Pk. Hr. BUILD	21	457
2012 PM Pk. Hr. NO BUILD	104	657
2012 PM Pk. Hr. BUILD	104	657

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

Determination of Warrants for Auxiliary Lanes

Project Name: **Walgreen's Pharmacy**
Name of Highway: **Isleta Blvd**
Name of Cross Street: **Driveway 'A'**

Determination of Warrants for: **Eastbound Driveway**

Implementation Year Volumes - **2012** **Posted Speed Limit:** **40**

Right Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Right Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	**2012**	21	254	223		N/A		-	N/A	N/A
AM Peak Hour BUILD	**2012**	40	170	223	✓	325	1.00	-	**325**	**10.5:1**
PM Peak Hour NO BUILD	**2012**	89	1	327	✓	325	1.00	-	**325**	**10.5:1**
PM Peak Hour BUILD	**2012**	160	1	327	✓	325	1.00	-	**325**	**10.5:1**

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

Left Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Left Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	**2012**	21	222	229	✓	325	1.00	25	**350**	**10.5:1**
AM Peak Hour BUILD	**2012**	21	222	229	✓	325	1.00	25	**350**	**10.5:1**
PM Peak Hour NO BUILD	**2012**	104	1	329	✓	325	1.00	125	**450**	**10.5:1**
PM Peak Hour BUILD	**2012**	104	1	329	✓	325	1.00	125	**450**	**10.5:1**

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

* **Lane Length Requirements based on Table 18.K-1 (Deceleration and Acceleraion Lengths)**
** **Enter Grade Adjustment Factor from Table 18.K-2 or other criteria.**
*** **Lane Storage Length is Based on a calculated 3-minute queue based on average arrival rate per minute.**
= Volume/Hr. divided by 60 times three (rounded) times 25 feet per vehicle.
Lane Storage Length for right turn decel lanes is zero unless there is a stop condition.

Notes and Comments:

1. This warrant sheet is for eastbound Driveway 'A' at 100% Development of the Project

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

Data Entry Sheet

Determination of Warrants for Deceleration Lanes

NM DOT State Access Management Manual Criteria

Driveway "B" / Rio Bravo Blvd

Project Information:

Project Name:	**Walgreen's Pharmacy**
Project Location:	**Rio Bravo Blvd / Isleta Blvd**
Implemenation Year:	**2012**
Project Environment:	**Urban** **Multi-Lane**

Street Information:

Major Street Name:	**Rio Bravo Blvd**
Minor Street Name:	**Driveway "B"**

Intersection Information:

	Orientation	Prevailing Speed	No. Lanes Each Direction
Driveway "B"	**Southbound**	**25**	**N/A**
Rio Bravo Blvd	**East-West**	**45**	**2**

Determine Case:

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

Rio Bravo Blvd is Case	**2**
Speed Category	**45 to 55**

WB Right Turn Volumes		**WB Thru Volumes**
2012 AM Pk. Hr. NO BUILD	2	337
2012 AM Pk. Hr. BUILD	2	337
2012 PM Pk. Hr. NO BUILD	23	1110
2012 PM Pk. Hr. BUILD	23	1110

EB Leftt Turn Volumes		**EB Thru Volumes**
2012 AM Pk. Hr. NO BUILD	39	1117
2012 AM Pk. Hr. BUILD	48	1117
2012 PM Pk. Hr. NO BUILD	68	541
2012 PM Pk. Hr. BUILD	100	541

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

Determination of Warrants for Auxiliary Lanes

Project Name: **Walgreen's Pharmacy**
Name of Highway: **Rio Bravo Blvd**
Name of Cross Street: **Driveway "B"**

Determination of Warrants for: Southbound Driveway

Implementation Year Volumes - **2012** **Posted Speed Limit:** **45**

Right Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Right Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	**2012**	2	9,999	169		N/A		-	**N/A**	**N/A**
AM Peak Hour BUILD	**2012**	2	9,999	169		N/A		-	**N/A**	**N/A**
PM Peak Hour NO BUILD	**2012**	23	162	555	✓	400	1.00	-	**400**	**12.5:1**
PM Peak Hour BUILD	**2012**	23	162	555	✓	400	1.00	-	**400**	**12.5:1**

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

Left Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Left Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	**2012**	39	20	559	✓	400	1.00	50	**450**	**12.5:1**
AM Peak Hour BUILD	**2012**	48	1	559	✓	400	1.00	50	**450**	**12.5:1**
PM Peak Hour NO BUILD	**2012**	68	1	271	✓	400	1.00	75	**475**	**12.5:1**
PM Peak Hour BUILD	**2012**	100	1	271	✓	400	1.00	125	**525**	**12.5:1**

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

* **Lane Length Requirements based on Table 18.K-1 (Deceleration and Acceleraion Lengths)**
** **Enter Grade Adjustment Factor from Table 18.K-2 or other criteria.**
*** **Lane Storage Length is Based on a calculated 3-minute queue based on average arrival rate per minute.**
= Volume/Hr. divided by 60 times three (rounded) times 25 feet per vehicle.
Lane Storage Length for right turn decel lanes is zero unless there is a stop condition.

Notes and Comments:

1. This warrant sheet is for the southbound Driveway "B" at 100% Development of the Project

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

Data Entry Sheet

Determination of Warrants for Deceleration Lanes

NM DOT State Access Management Manual Criteria

Driveway "C" / Rio Bravo Blvd

Project Information:

Project Name:	**Walgreen's Pharmacy**
Project Location:	**Rio Bravo Blvd / Isleta Blvd**
Implemenation Year:	**2012**
Project Environment:	**Urban** **Multi-Lane**

Street Information:

Major Street Name:	**Rio Bravo Blvd**
Minor Street Name:	**Driveway "C"**

Intersection Information:

	Orientation	Prevailing Speed	No. Lanes Each Direction
Driveway "C"	**Southbound**	**25**	**N/A**
Rio Bravo Blvd	**East-West**	**45**	**2**

Determine Case:

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

Rio Bravo Blvd is Case	**2**
Speed Category	**45 to 55**

WB Right Turn Volumes		**WB Thru Volumes**
2012 AM Pk. Hr. NO BUILD	32	337
2012 AM Pk. Hr. BUILD	41	337
2012 PM Pk. Hr. NO BUILD	131	1110
2012 PM Pk. Hr. BUILD	163	1110

EB Leftt Turn Volumes		**EB Thru Volumes**
2012 AM Pk. Hr. NO BUILD	0	1117
2012 AM Pk. Hr. BUILD	0	1117
2012 PM Pk. Hr. NO BUILD	0	541
2012 PM Pk. Hr. BUILD	0	541

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

Determination of Warrants for Auxiliary Lanes

Project Name: **Walgreen's Pharmacy**
Name of Highway: **Rio Bravo Blvd**
Name of Cross Street: **Driveway "C"**

Determination of Warrants for: Southbound Driveway

Implementation Year Volumes - **2012** **Posted Speed Limit:** **45**

Right Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Right Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	2012	32	126	169	✓	400	1.00	-	400	12.5:1
AM Peak Hour BUILD	2012	41	88	169	✓	400	1.00	-	400	12.5:1
PM Peak Hour NO BUILD	2012	131	1	555	✓	400	1.00	-	400	12.5:1
PM Peak Hour BUILD	2012	163	1	555	✓	400	1.00	-	400	12.5:1

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

Left Turn Deceleration Lane - Implementation Year Volumes

Condition	Year	Projected Left Turn Volume	Warrant Volume in thru Lane	Projected Volume in thru Lane	✓ if Met	Lane Length (Deceleration)*	Adjustment Factor for Grade**	Lane Length (Storage)***	Total Lane Length	Taper Ratio
AM Peak Hour NO BUILD	2012	-	-	559		N/A		N/A	N/A	N/A
AM Peak Hour BUILD	2012	-	-	559		N/A		N/A	N/A	N/A
PM Peak Hour NO BUILD	2012	-	-	271		N/A		N/A	N/A	N/A
PM Peak Hour BUILD	2012	-	-	271		N/A		N/A	N/A	N/A

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

* **Lane Length Requirements based on Table 18.K-1 (Deceleration and Acceleraion Lengths)**
** **Enter Grade Adjustment Factor from Table 18.K-2 or other criteria.**
*** **Lane Storage Length is Based on a calculated 3-minute queue based on average arrival rate per minute.**
= Volume/Hr. divided by 60 times three (rounded) times 25 feet per vehicle.
Lane Storage Length for right turn decel lanes is zero unless there is a stop condition.

Notes and Comments:

1. This warrant sheet is for the southbound Driveway "C" at 100% Development of the Project

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

Table 17.B-1
Criteria For Deceleration Lanes On
URBAN TWO-LANE HIGHWAYS

Turning Volume[1] (vph)	LEFT-TURN DECELERATION LANE			RIGHT-TURN DECELERATION LANE		
	Minimum Directional Volume in the Through Lane (vphpl)[2]			Minimum Directional Volume in the Through Lane (vphpl)[2]		
	≤30 mph	35 to 40 mph	45 to 55 mph	≤30 mph	35 to 40 mph	45 to 55 mph
<5	**Not Required**	**Not Required**	**Not Required**	**Not Required**	**Not Required**	**Not Required**
5	**510**	**450**	**330**	**1,080**	**610**	**360**
10	**390**	**330**	**210**	**700**	**400**	**240**
15	**320**	**250**	**150**	**500**	**280**	**170**
20	**270**	**200**	**120**	**380**	**210**	**140**
25	**230**	**160**	**100**	**300**	**180**	**120**
30	**200**	**130**	**Required**	**250**	**160**	**110**
35	**170**	**110**	**Required**	**220**	**150**	**100**
40	**150**	**Required**	**Required**	**200**	**140**	**Required**
45	**130**	**Required**	**Required**	**190**	**Required**	**Required**
≥46	**Required**	**Required**	**Required**	**Required**	**Required**	**Required**
	Left-turn Decelerataion Lanes are Required on Urban Two-lane Highways for the following Left-turn Volumes: • ≤30 mph : 46 vph or more • 35 to 40 mph : 36 vph or more • 45 to 55 mph : 26 vph or more			***Right-turn Decelerataion Lanes are Required on Urban Two-lane Highways for the following Right-turn Volumes:*** • ≤30 mph : 46 vph or more • 35 to 40 mph : 41 vph or more • 45 to 55 mph : 36 vph or more		

Notes:

1. *Use linear interpolation for turning volumes between 5 and 45 vph.*
2. *The directional volume in the through lane includes through vehicles and turning vehicles.*

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

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

Notes:

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

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

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

Traffic Count Data Sheet

Year Counts Taken: **2010**

E-W Street **Rio Bravo Blvd.**
N-S Street: **Isleta Blvd.**
SIGNALIZED

Speed Limit (Rio Bravo Blvd.)= **35** MPH
Speed Limit (Isleta Blvd.)= **35** MPH
Date of Count: 7/7/10

Begin Time	End Time	Eastbound (Rio Bravo Blvd.)			Westbound (Rio Bravo Blvd.)			Northbound (Isleta Blvd.)			Southbound (Isleta Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	~~13~~	~~196~~	~~13~~	~~28~~	~~67~~	~~23~~	~~4~~	~~29~~	~~97~~	~~49~~	~~23~~	~~5~~
7:15 AM	7:30 AM	**23**	**250**	**15**	**26**	**47**	**29**	**17**	**31**	**108**	**64**	**37**	**10**
7:30 AM	7:45 AM	**33**	**268**	**20**	**47**	**65**	**49**	**13**	**57**	**105**	**66**	**37**	**14**
7:45 AM	8:00 AM	**32**	**203**	**16**	**52**	**52**	**36**	**23**	**56**	**79**	**64**	**35**	**15**
8:00 AM	8:15 AM	**24**	**189**	**11**	**42**	**43**	**32**	**19**	**46**	**54**	**61**	**24**	**9**
8:15 AM	8:30 AM	~~19~~	~~145~~	~~21~~	~~43~~	~~58~~	~~45~~	~~26~~	~~52~~	~~76~~	~~51~~	~~39~~	~~9~~
8:30 AM	8:45 AM	~~34~~	~~158~~	~~14~~	~~58~~	~~85~~	~~42~~	~~21~~	~~42~~	~~71~~	~~54~~	~~38~~	~~15~~
8:45 AM	9:00 AM	~~32~~	~~143~~	~~16~~	~~39~~	~~83~~	~~64~~	~~17~~	~~56~~	~~60~~	~~61~~	~~71~~	~~24~~
AM Peak Hour Volumes		**112**	**910**	**62**	**167**	**207**	**146**	**72**	**190**	**346**	**255**	**133**	**48**
% of Total Traffic		4.2%	34.4%	2.3%	6.3%	7.8%	5.5%	2.7%	7.2%	13.1%	9.6%	5.0%	1.8%
% Directional			40.9%			19.6%			23.0%			16.5%	
AM Peak Hour Factor			***0.84***			***0.81***			***0.87***			***0.93***	

Begin Time	End Time	Eastbound (Rio Bravo Blvd.)			Westbound (Rio Bravo Blvd.)			Northbound (Isleta Blvd.)			Southbound (Isleta Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~50~~	~~89~~	~~18~~	~~87~~	~~148~~	~~47~~	~~37~~	~~60~~	~~54~~	~~60~~	~~65~~	~~39~~
4:15 PM	4:30 PM	~~29~~	~~84~~	~~15~~	~~91~~	~~213~~	~~59~~	~~52~~	~~57~~	~~47~~	~~55~~	~~71~~	~~41~~
4:30 PM	4:45 PM	~~22~~	~~68~~	~~33~~	~~70~~	~~131~~	~~77~~	~~53~~	~~68~~	~~43~~	~~59~~	~~66~~	~~34~~
4:45 PM	5:00 PM	**28**	**76**	**29**	**113**	**193**	**68**	**36**	**62**	**38**	**50**	**63**	**40**
5:00 PM	5:15 PM	**24**	**69**	**26**	**89**	**183**	**67**	**36**	**51**	**27**	**70**	**62**	**35**
5:15 PM	5:30 PM	**39**	**79**	**21**	**103**	**233**	**77**	**38**	**54**	**43**	**58**	**62**	**33**
5:30 PM	5:45 PM	**23**	**90**	**21**	**112**	**182**	**93**	**42**	**57**	**35**	**75**	**66**	**27**
5:45 PM	6:00 PM	~~22~~	~~79~~	~~41~~	~~96~~	~~163~~	~~54~~	~~48~~	~~49~~	~~64~~	~~60~~	~~42~~	~~30~~
PM Peak Hour Volumes		**114**	**314**	**97**	**417**	**791**	**305**	**152**	**224**	**143**	**253**	**253**	**135**
% of Total Traffic		3.6%	9.8%	3.0%	13.0%	24.7%	9.5%	4.8%	7.0%	4.5%	7.9%	7.9%	4.2%
% Directional			16.4%			47.3%			16.2%			20.0%	
PM Peak Hour Factor			***0.94***			***0.92***			***0.95***			***0.95***	

Traffic Count Data Sheet

Year Counts Taken: **2010**

E-W Street **Rio Bravo Blvd.**
N-S Street: **2nd St.**
SIGNALIZED

Speed Limit (Rio Bravo Blvd.)= **35** MPH
Speed Limit (2nd St.)= **35** MPH
Date of Count: 7/6/10

Begin Time	End Time	Eastbound (Rio Bravo Blvd.)			Westbound (Rio Bravo Blvd.)			Northbound (2nd St.)			Southbound (2nd St.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	**65**	**286**	**33**	**6**	**95**	**9**	**34**	**21**	**17**	**11**	**23**	**12**
7:15 AM	7:30 AM	**74**	**321**	**17**	**7**	**92**	**15**	**30**	**10**	**10**	**18**	**8**	**6**
7:30 AM	7:45 AM	**81**	**265**	**23**	**11**	**90**	**18**	**45**	**22**	**21**	**18**	**23**	**15**
7:45 AM	8:00 AM	**61**	**282**	**33**	**22**	**118**	**12**	**44**	**26**	**11**	**32**	**21**	**20**
8:00 AM	8:15 AM	~~58~~	~~192~~	~~14~~	~~4~~	~~99~~	~~6~~	~~37~~	~~13~~	~~11~~	~~34~~	~~12~~	~~12~~
8:15 AM	8:30 AM	~~51~~	~~222~~	~~24~~	~~8~~	~~122~~	~~17~~	~~35~~	~~23~~	~~15~~	~~23~~	~~24~~	~~13~~
8:30 AM	8:45 AM	~~52~~	~~242~~	~~14~~	~~9~~	~~111~~	~~18~~	~~43~~	~~19~~	~~11~~	~~27~~	~~13~~	~~23~~
8:45 AM	9:00 AM	~~47~~	~~192~~	~~30~~	~~11~~	~~110~~	~~12~~	~~40~~	~~21~~	~~14~~	~~28~~	~~18~~	~~17~~
AM Peak Hour Volumes		**281**	**1154**	**106**	**46**	**395**	**54**	**153**	**79**	**59**	**79**	**75**	**53**
% of Total Traffic		11.1%	45.5%	4.2%	1.8%	15.6%	2.1%	6.0%	3.1%	2.3%	3.1%	3.0%	2.1%
% Directional			60.8%			19.5%			11.5%			8.2%	
AM Peak Hour Factor			*0.94*			*0.81*			*0.83*			*0.71*	

Begin Time	End Time	Eastbound (Rio Bravo Blvd.)			Westbound (Rio Bravo Blvd.)			Northbound (2nd St.)			Southbound (2nd St.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	**15**	**131**	**4**	**19**	**277**	**11**	**65**	**15**	**16**	**21**	**17**	**55**
4:15 PM	4:30 PM	**20**	**138**	**5**	**18**	**273**	**20**	**61**	**15**	**24**	**19**	**38**	**57**
4:30 PM	4:45 PM	**40**	**116**	**9**	**14**	**254**	**23**	**71**	**25**	**39**	**25**	**36**	**63**
4:45 PM	5:00 PM	**37**	**111**	**6**	**19**	**216**	**21**	**37**	**19**	**29**	**28**	**26**	**61**
5:00 PM	5:15 PM	~~28~~	~~116~~	~~10~~	~~19~~	~~161~~	~~34~~	~~39~~	~~23~~	~~18~~	~~18~~	~~23~~	~~47~~
5:15 PM	5:30 PM	~~9~~	~~103~~	~~12~~	~~14~~	~~251~~	~~10~~	~~41~~	~~15~~	~~22~~	~~25~~	~~32~~	~~54~~
5:30 PM	5:45 PM	~~19~~	~~149~~	~~14~~	~~12~~	~~316~~	~~16~~	~~61~~	~~16~~	~~7~~	~~26~~	~~24~~	~~46~~
5:45 PM	6:00 PM	~~20~~	~~94~~	~~6~~	~~15~~	~~238~~	~~20~~	~~47~~	~~24~~	~~9~~	~~14~~	~~19~~	~~34~~
PM Peak Hour Volumes		**112**	**496**	**24**	**70**	**1020**	**75**	**234**	**74**	**108**	**93**	**117**	**236**
% of Total Traffic		4.2%	18.7%	0.9%	2.6%	38.4%	2.8%	8.8%	2.8%	4.1%	3.5%	4.4%	8.9%
% Directional			23.8%			43.8%			15.6%			16.8%	
PM Peak Hour Factor			*0.96*			*0.94*			*0.77*			*0.90*	

Traffic Count Data Sheet

Year Counts Taken: **2011**

E-W Street **Rio Bravo Blvd**
N-S Street: **Prince St**

Speed Limit (Rio Bravo Blvd)= **45** MPH
Speed Limit (Prince St)= **30** MPH
Date of Count: 7/12/11

Begin Time	End Time	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Prince St)			Southbound (Prince St)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	**11**	**284**	**8**	**7**	**99**	**5**	**15**	**0**	**22**	**0**	**0**	**1**
7:15 AM	7:30 AM	**3**	**366**	**5**	**4**	**86**	**10**	**12**	**1**	**23**	**6**	**0**	**3**
7:30 AM	7:45 AM	**1**	**361**	**4**	**13**	**109**	**8**	**17**	**0**	**10**	**0**	**0**	**1**
7:45 AM	8:00 AM	**3**	**318**	**6**	**11**	**104**	**7**	**10**	**0**	**18**	**1**	**0**	**0**
8:00 AM	8:15 AM	~~11~~	~~242~~	~~15~~	~~9~~	~~106~~	~~4~~	~~9~~	~~0~~	~~26~~	~~1~~	~~0~~	~~0~~
8:15 AM	8:30 AM	~~7~~	~~240~~	~~14~~	~~15~~	~~115~~	~~2~~	~~14~~	~~0~~	~~16~~	~~7~~	~~0~~	~~3~~
8:30 AM	8:45 AM	~~5~~	~~279~~	~~15~~	~~10~~	~~106~~	~~3~~	~~15~~	~~0~~	~~19~~	~~2~~	~~0~~	~~1~~
8:45 AM	9:00 AM	~~7~~	~~212~~	~~10~~	~~12~~	~~130~~	~~4~~	~~16~~	~~0~~	~~15~~	~~1~~	~~0~~	~~2~~
AM Peak Hour Volumes		**18**	**1329**	**23**	**35**	**398**	**30**	**54**	**1**	**73**	**7**	**0**	**5**
% of Total Traffic		0.9%	67.4%	1.2%	1.8%	20.2%	1.5%	2.7%	0.1%	3.7%	0.4%	0.0%	0.3%
% Directional			69.4%			23.5%			6.5%			0.6%	
AM Peak Hour Factor			***0.92***			***0.89***			***0.86***			***0.33***	

Begin Time	End Time	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Prince St)			Southbound (Prince St)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~9~~	~~146~~	~~18~~	~~18~~	~~300~~	~~2~~	~~20~~	~~1~~	~~9~~	~~3~~	~~0~~	~~7~~
4:15 PM	4:30 PM	**7**	**151**	**32**	**30**	**358**	**10**	**13**	**1**	**9**	**10**	**1**	**9**
4:30 PM	4:45 PM	**5**	**186**	**23**	**16**	**309**	**2**	**21**	**2**	**16**	**6**	**2**	**10**
4:45 PM	5:00 PM	**4**	**149**	**25**	**22**	**356**	**3**	**23**	**1**	**20**	**4**	**0**	**11**
5:00 PM	5:15 PM	**7**	**171**	**21**	**17**	**326**	**1**	**22**	**0**	**18**	**7**	**0**	**6**
5:15 PM	5:30 PM	~~5~~	~~143~~	~~21~~	~~27~~	~~365~~	~~3~~	~~16~~	~~0~~	~~21~~	~~5~~	~~0~~	~~10~~
5:30 PM	5:45 PM	~~7~~	~~163~~	~~26~~	~~18~~	~~275~~	~~43~~	~~18~~	~~1~~	~~8~~	~~5~~	~~0~~	~~10~~
5:45 PM	6:00 PM	~~1~~	~~2~~	~~9~~	~~9~~	~~71~~	~~0~~	~~2~~	~~1~~	~~4~~	~~1~~	~~2~~	~~10~~
PM Peak Hour Volumes		**23**	**657**	**101**	**85**	**1349**	**16**	**79**	**4**	**63**	**27**	**3**	**36**
% of Total Traffic		0.9%	26.9%	4.1%	3.5%	55.2%	0.7%	3.2%	0.2%	2.6%	1.1%	0.1%	1.5%
% Directional			32.0%			59.4%			6.0%			2.7%	
PM Peak Hour Factor			***0.91***			***0.91***			***0.83***			***0.83***	

Traffic Count Data Sheet

Year Counts Taken: **2011**

E-W Street **Rio Bravo Blvd**
N-S Street: **Del Rio Rd**

Speed Limit (Rio Bravo Blvd)= **45** MPH
Speed Limit (Del Rio Rd)= **25** MPH
Date of Count: 7/27/11

Begin Time	End Time	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Del Rio Rd)			Southbound (Del Rio Rd)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	~~2~~	~~221~~	~~8~~	~~3~~	~~57~~	~~3~~	~~6~~	~~0~~	~~9~~	~~4~~	~~0~~	~~0~~
7:15 AM	7:30 AM	**0**	**281**	**17**	**2**	**74**	**3**	**4**	**4**	**13**	**4**	**0**	**4**
7:30 AM	7:45 AM	**4**	**339**	**25**	**3**	**90**	**2**	**12**	**1**	**17**	**7**	**3**	**3**
7:45 AM	8:00 AM	**4**	**262**	**8**	**2**	**80**	**2**	**21**	**1**	**10**	**6**	**1**	**3**
8:00 AM	8:15 AM	**2**	**219**	**9**	**4**	**87**	**1**	**4**	**2**	**13**	**6**	**1**	**1**
8:15 AM	8:30 AM	~~1~~	~~171~~	~~5~~	~~2~~	~~105~~	~~9~~	~~3~~	~~3~~	~~8~~	~~6~~	~~2~~	~~1~~
8:30 AM	8:45 AM	~~2~~	~~190~~	~~4~~	~~2~~	~~107~~	~~5~~	~~7~~	~~6~~	~~10~~	~~10~~	~~3~~	~~1~~
8:45 AM	9:00 AM	~~4~~	~~188~~	~~2~~	~~7~~	~~108~~	~~8~~	~~8~~	~~3~~	~~4~~	~~8~~	~~1~~	~~3~~
AM Peak Hour Volumes		**10**	**1101**	**59**	**11**	**331**	**8**	**41**	**8**	**53**	**23**	**5**	**11**
% of Total Traffic		0.6%	66.3%	3.6%	0.7%	19.9%	0.5%	2.5%	0.5%	3.2%	1.4%	0.3%	0.7%
% Directional			70.4%			21.1%			6.1%			2.3%	
AM Peak Hour Factor			*0.79*			*0.92*			*0.80*			*0.75*	

Begin Time	End Time	Eastbound (Rio Bravo Blvd)			Westbound (Rio Bravo Blvd)			Northbound (Del Rio Rd)			Southbound (Del Rio Rd)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~3~~	~~163~~	~~7~~	~~12~~	~~260~~	~~18~~	~~12~~	~~1~~	~~12~~	~~6~~	~~2~~	~~3~~
4:15 PM	4:30 PM	~~2~~	~~160~~	~~7~~	~~20~~	~~279~~	~~10~~	~~8~~	~~0~~	~~6~~	~~5~~	~~2~~	~~2~~
4:30 PM	4:45 PM	~~8~~	~~150~~	~~2~~	~~15~~	~~311~~	~~11~~	~~11~~	~~2~~	~~8~~	~~7~~	~~4~~	~~3~~
4:45 PM	5:00 PM	**4**	**147**	**11**	**19**	**342**	**18**	**10**	**2**	**12**	**5**	**4**	**4**
5:00 PM	5:15 PM	**3**	**108**	**15**	**19**	**316**	**7**	**9**	**3**	**9**	**9**	**2**	**3**
5:15 PM	5:30 PM	**3**	**148**	**3**	**20**	**374**	**18**	**6**	**3**	**7**	**3**	**5**	**9**
5:30 PM	5:45 PM	**3**	**150**	**9**	**16**	**331**	**14**	**20**	**0**	**12**	**3**	**6**	**3**
5:45 PM	6:00 PM	~~5~~	~~144~~	~~11~~	~~11~~	~~297~~	~~13~~	~~10~~	~~1~~	~~12~~	~~4~~	~~4~~	~~5~~
PM Peak Hour Volumes		**13**	**553**	**38**	**74**	**1363**	**57**	**45**	**8**	**40**	**20**	**17**	**19**
% of Total Traffic		0.6%	24.6%	1.7%	3.3%	60.7%	2.5%	2.0%	0.4%	1.8%	0.9%	0.8%	0.8%
% Directional			26.9%			66.5%			4.1%			2.5%	
PM Peak Hour Factor			*0.93*			*0.91*			*0.73*			*0.82*	

Traffic Count Data Sheet

Year Counts Taken: **2011**

E-W Street **Barcelona St**
N-S Street: **Isleta Blvd**

Speed Limit (Barcelona St)= **30** MPH
Speed Limit (Isleta Blvd)= **40** MPH
Date of Count: 7/13/11

Begin Time	End Time	Eastbound (Barcelona St)			Westbound (Barcelona St)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	~~5~~	~~0~~	~~13~~	~~6~~	~~0~~	~~1~~	~~7~~	~~57~~	~~1~~	~~0~~	~~56~~	~~1~~
7:15 AM	7:30 AM	~~5~~	~~0~~	~~19~~	~~4~~	~~0~~	~~1~~	~~4~~	~~67~~	~~0~~	~~0~~	~~68~~	~~3~~
7:30 AM	7:45 AM	**11**	**2**	**26**	**4**	**1**	**4**	**10**	**107**	**1**	**1**	**117**	**13**
7:45 AM	8:00 AM	**18**	**0**	**17**	**1**	**2**	**0**	**13**	**106**	**1**	**0**	**115**	**10**
8:00 AM	8:15 AM	**15**	**2**	**24**	**2**	**1**	**2**	**6**	**98**	**1**	**0**	**98**	**7**
8:15 AM	8:30 AM	**3**	**0**	**19**	**5**	**1**	**1**	**11**	**71**	**2**	**1**	**70**	**8**
8:30 AM	8:45 AM	~~6~~	~~1~~	~~17~~	~~5~~	~~1~~	~~2~~	~~7~~	~~74~~	~~3~~	~~1~~	~~96~~	~~3~~
8:45 AM	9:00 AM	~~6~~	~~1~~	~~18~~	~~2~~	~~0~~	~~2~~	~~13~~	~~100~~	~~0~~	~~1~~	~~110~~	~~4~~
AM Peak Hour Volumes		**47**	**4**	**86**	**12**	**5**	**7**	**40**	**382**	**5**	**2**	**400**	**38**
% of Total Traffic		4.6%	0.4%	8.4%	1.2%	0.5%	0.7%	3.9%	37.2%	0.5%	0.2%	38.9%	3.7%
% Directional			13.3%			2.3%			41.5%			42.8%	
AM Peak Hour Factor			***0.84***			***0.67***			***0.89***			***0.84***	

Begin Time	End Time	Eastbound (Barcelona St)			Westbound (Barcelona St)			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
4:15 PM	4:30 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
4:30 PM	4:45 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
4:45 PM	5:00 PM	**13**	**2**	**18**	**3**	**1**	**0**	**27**	**166**	**6**	**0**	**158**	**11**
5:00 PM	5:15 PM	**9**	**1**	**19**	**3**	**3**	**1**	**20**	**173**	**7**	**4**	**158**	**14**
5:15 PM	5:30 PM	**15**	**2**	**17**	**7**	**1**	**4**	**25**	**168**	**6**	**5**	**178**	**10**
5:30 PM	5:45 PM	**9**	**1**	**20**	**1**	**2**	**3**	**24**	**160**	**4**	**2**	**151**	**8**
5:45 PM	6:00 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
PM Peak Hour Volumes		**46**	**6**	**74**	**14**	**7**	**8**	**96**	**667**	**23**	**11**	**645**	**43**
% of Total Traffic		2.8%	0.4%	4.5%	0.9%	0.4%	0.5%	5.9%	40.7%	1.4%	0.7%	39.3%	2.6%
% Directional			7.7%			1.8%			47.9%			42.6%	
PM Peak Hour Factor			***0.93***			***0.60***			***0.98***			***0.91***	

Traffic Count Data Sheet

Walgreen's (Rio Bravo Blvd. / Isleta Blvd.)

Year Counts Taken: **2011**

E-W Street **Camino del Valle**

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

SIGNALIZED

Speed Limit (Camino del Valle)= **25** MPH

Speed Limit (Isleta Blvd.)= **35** MPH

Date of Count: 7/13/11

Begin Time	End Time	Eastbound (Camino del Valle)			Westbound (Camino del Valle)			Northbound (Isleta Blvd.)			Southbound (Isleta Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	~~9~~	~~0~~	~~2~~	~~1~~	~~1~~	~~1~~	~~0~~	~~133~~	~~1~~	~~1~~	~~33~~	~~1~~
7:15 AM	7:30 AM	**20**	**0**	**1**	**0**	**1**	**0**	**1**	**148**	**0**	**1**	**39**	**1**
7:30 AM	7:45 AM	**21**	**1**	**2**	**0**	**1**	**1**	**2**	**157**	**1**	**1**	**37**	**8**
7:45 AM	8:00 AM	**11**	**1**	**3**	**1**	**0**	**0**	**2**	**145**	**0**	**1**	**71**	**5**
8:00 AM	8:15 AM	**8**	**1**	**2**	**0**	**0**	**2**	**2**	**113**	**1**	**3**	**66**	**4**
8:15 AM	8:30 AM	~~11~~	~~2~~	~~1~~	~~1~~	~~0~~	~~2~~	~~3~~	~~119~~	~~0~~	~~2~~	~~59~~	~~3~~
8:30 AM	8:45 AM	~~8~~	~~0~~	~~4~~	~~0~~	~~0~~	~~2~~	~~1~~	~~111~~	~~1~~	~~1~~	~~48~~	~~2~~
8:45 AM	9:00 AM	~~10~~	~~1~~	~~3~~	~~1~~	~~0~~	~~0~~	~~1~~	~~115~~	~~2~~	~~2~~	~~49~~	~~3~~
AM Peak Hour Volumes		**60**	**3**	**8**	**1**	**2**	**3**	**7**	**563**	**2**	**6**	**213**	**18**
% of Total Traffic		6.8%	0.3%	0.9%	0.1%	0.2%	0.3%	0.8%	63.5%	0.2%	0.7%	24.0%	2.0%
% Directional			8.0%			0.7%			64.6%			26.7%	
AM Peak Hour Factor			*0.74*			*0.75*			*0.89*			*0.77*	

Begin Time	End Time	Eastbound (Camino del Valle)			Westbound (Camino del Valle)			Northbound (Isleta Blvd.)			Southbound (Isleta Blvd.)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	~~14~~	~~1~~	~~7~~	~~2~~	~~0~~	~~13~~	~~4~~	~~117~~	~~1~~	~~3~~	~~119~~	~~6~~
4:15 PM	4:30 PM	~~11~~	~~2~~	~~9~~	~~3~~	~~1~~	~~12~~	~~3~~	~~111~~	~~2~~	~~6~~	~~116~~	~~9~~
4:30 PM	4:45 PM	~~12~~	~~1~~	~~13~~	~~5~~	~~1~~	~~18~~	~~2~~	~~105~~	~~1~~	~~4~~	~~122~~	~~6~~
4:45 PM	5:00 PM	**15**	**2**	**14**	**4**	**2**	**15**	**3**	**119**	**1**	**6**	**129**	**7**
5:00 PM	5:15 PM	**16**	**0**	**11**	**5**	**1**	**12**	**1**	**109**	**2**	**9**	**118**	**6**
5:15 PM	5:30 PM	**15**	**3**	**6**	**1**	**2**	**8**	**1**	**120**	**2**	**2**	**141**	**7**
5:30 PM	5:45 PM	**12**	**5**	**7**	**2**	**2**	**7**	**7**	**106**	**4**	**6**	**129**	**5**
5:45 PM	6:00 PM	~~11~~	~~2~~	~~9~~	~~3~~	~~1~~	~~8~~	~~3~~	~~101~~	~~5~~	~~4~~	~~136~~	~~5~~
PM Peak Hour Volumes		**58**	**10**	**38**	**12**	**7**	**42**	**12**	**454**	**9**	**23**	**517**	**25**
% of Total Traffic		4.8%	0.8%	3.1%	1.0%	0.6%	3.5%	1.0%	37.6%	0.7%	1.9%	42.8%	2.1%
% Directional			8.8%			5.1%			39.4%			46.8%	
PM Peak Hour Factor			*0.85*			*0.73*			*0.97*			*0.94*	

Traffic Count Data Sheet

Year Counts Taken: **2011**

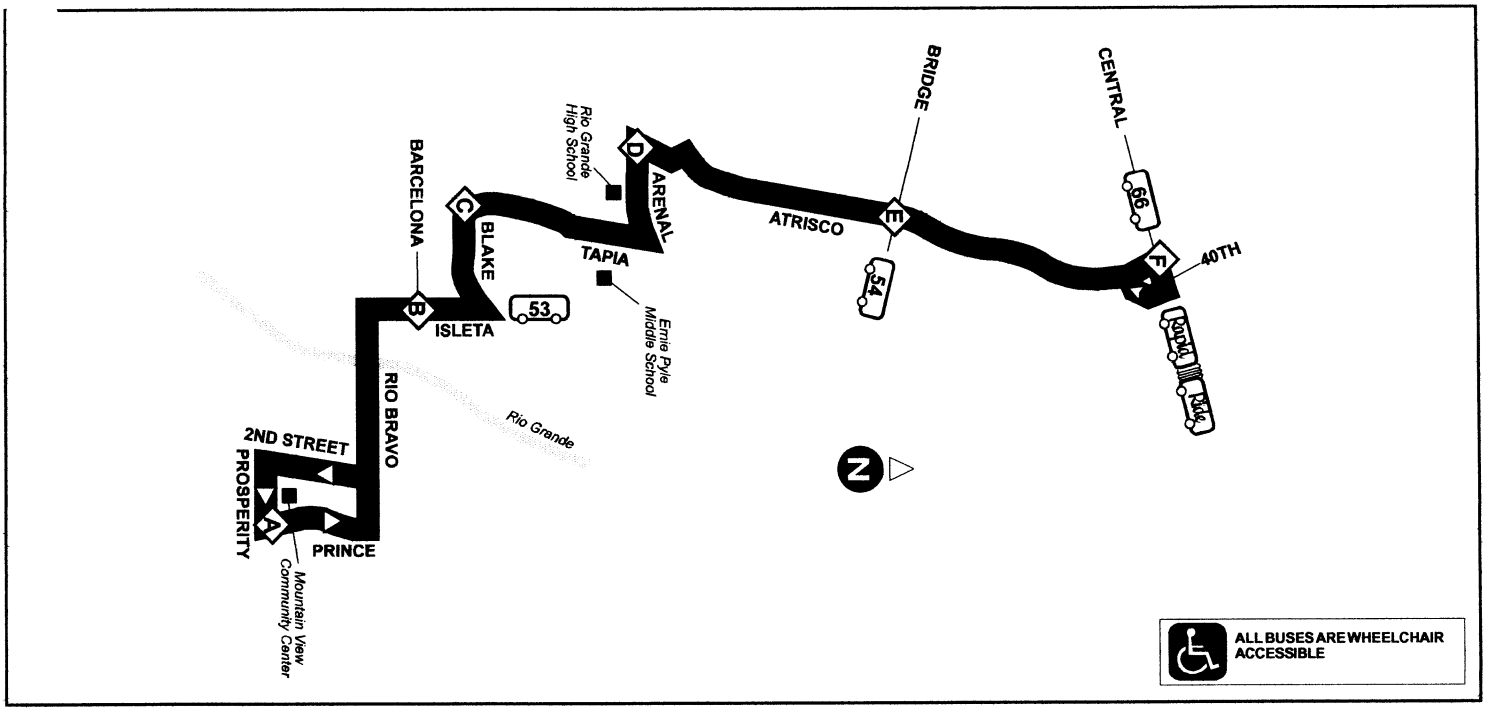
E-W Street **Driveway 'A'**
N-S Street: **Isleta Blvd**

Speed Limit (Driveway 'A')= **25** MPH
Speed Limit (Isleta Blvd)= **40** MPH
Date of Count: 7/14/11

Begin Time	End Time	Eastbound (Driveway 'A')			Westbound (Driveway 'A')			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
		L	T	R	L	T	R	L	T	R	L	T	R
7:00 AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	7:30 AM	3	1	8	3	0	2	5	83	2	3	111	3
7:30 AM	7:45 AM	7	0	9	2	0	1	2	139	2	1	117	5
7:45 AM	8:00 AM	4	0	6	4	0	3	7	124	2	13	114	7
8:00 AM	8:15 AM	5	0	4	0	0	2	7	102	1	13	94	6
8:15 AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
AM Peak Hour Volumes		**19**	**1**	**27**	**9**	**0**	**8**	**21**	**448**	**7**	**30**	**436**	**21**
% of Total Traffic		1.9%	0.1%	2.6%	0.9%	0.0%	0.8%	2.0%	43.6%	0.7%	2.9%	42.5%	2.0%
% Directional			4.6%			1.7%			46.3%			47.4%	
AM Peak Hour Factor			*0.73*			*0.61*			*0.83*			*0.91*	

Begin Time	End Time	Eastbound (Driveway 'A')			Westbound (Driveway 'A')			Northbound (Isleta Blvd)			Southbound (Isleta Blvd)		
		L	T	R	L	T	R	L	T	R	L	T	R
4:00 PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	4:45 PM	19	0	32	8	0	6	31	0	4	9	0	18
4:45 PM	5:00 PM	16	2	30	9	1	4	26	158	4	1	153	27
5:00 PM	5:15 PM	17	1	20	5	1	8	27	142	6	3	167	22
5:15 PM	5:30 PM	16	0	40	3	1	5	18	170	5	3	153	20
5:30 PM	5:45 PM	19	1	24	2	0	3	33	173	4	2	168	24
5:45 PM	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak Hour Volumes		**68**	**4**	**114**	**19**	**3**	**20**	**104**	**643**	**19**	**9**	**641**	**93**
% of Total Traffic		3.9%	0.2%	6.6%	1.1%	0.2%	1.2%	6.0%	37.0%	1.1%	0.5%	36.9%	5.4%
% Directional			10.7%			2.4%			44.1%			42.8%	
PM Peak Hour Factor			*0.83*			*0.75*			*0.91*			*0.96*	

Route 51/Ruta 51 - Atrisco/Rio Bravo Eff. 12/19/2009



Route 51 - Weekdays Northbound

MOUNTAIN VIEW COMMUNITY CENTER (A)	ISLETA & BARCELONA (B)	BLAKE & TAPIA (C)	ATRISCO & ARENAL (D)	ATRISCO & BRIDGE (E)	CENTRAL & ATRISCO (F)
531a	537a	541a	545a	549a	555a
636a	642a	646a	650a	654a	700a
741a	748a	752a	756a	800a	807a
846a	853a	857a	901a	905a	912a
951a	958a	1002a	1006a	1010a	1017a
1056a	1103a	1107a	1111a	1115a	1122a
1201p	1208p	1212p	1216p	1220p	1227p
106p	113p	117p	122p	126p	133p
211p	218p	222p	227p	231p	238p
316p	323p	327p	332p	336p	343p
421p	428p	432p	437p	441p	448p
526p	532p	536p	540p	544p	550p
631p	637p	641p	645p	649p	655p

Route 51 - Weekdays Southbound

CENTRAL & ATRISCO (F)	ATRISCO & BRIDGE (E)	ATRISCO & ARENAL (D)	BLAKE & TAPIA (C)	ISLETA & BARCELONA (B)	MOUNTAIN VIEW COMMUNITY CENTER (A)
605a	612a	616a	620a	624a	631a
710a	717a	721a	725a	729a	736a
815a	822a	826a	830a	834a	841a
920a	927a	931a	935a	939a	946a
1025a	1032a	1036a	1040a	1044a	1051a
1130a	1137a	1141a	1145a	1149a	1156a
1235p	1242p	1246p	1250p	1254p	101p
140p	147p	151p	156p	200p	207p
245p	252p	256p	301p	305p	312p
350p	357p	401p	406p	410p	417p
455p	502p	506p	510p	514p	521p
600p	607p	611p	615p	619p	626p

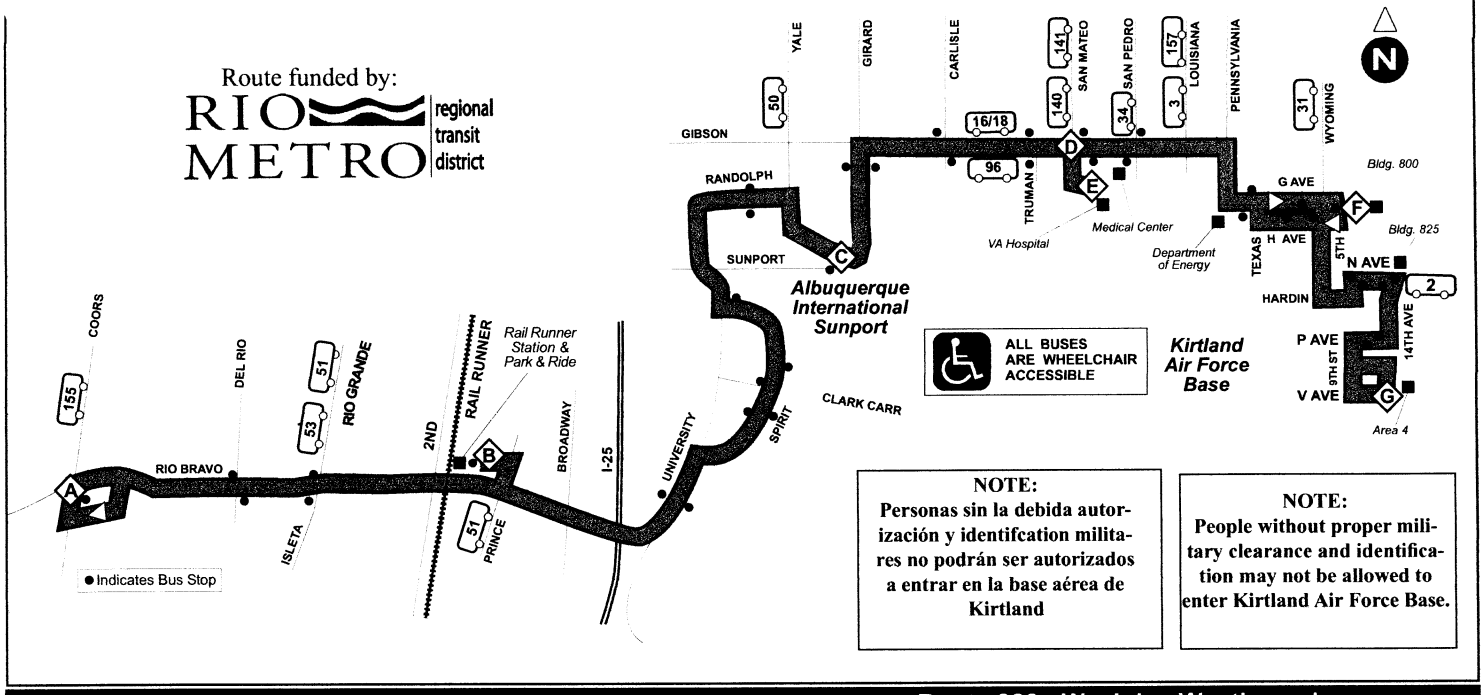
Route 51 - Saturday Northbound

MOUNTAIN VIEW COMMUNITY CENTER (A)	ISLETA & BARCELONA (B)	BLAKE & TAPIA (C)	ATRISCO & ARENAL (D)	ATRISCO & BRIDGE (E)	CENTRAL & ATRISCO (F)
....	.....	.....	.....	551a	558a
631a	638a	642a	646a	650a	657a
736a	743a	747a	751a	755a	802a
841a	848a	852a	856a	900a	907a
945a	952a	956a	1001a	1005a	1012a
1050a	1057a	1101a	1106a	1110a	1117a
1155a	1202p	1206p	1211p	1215p	1222p
100p	107p	111p	116p	120p	127p
208p	214p	218p	222p	226p	232p
313p	319p	323p	327p	331p	337p
418p	424p	428p	432p	436p	442p
523p	529p	533p	537p	541p	547p
628p	634p	638p	642p	646p	652p

Route 51 - Saturday Southbound

CENTRAL & ATRISCO (F)	ATRISCO & BRIDGE (E)	ATRISCO & ARENAL (D)	BLAKE & TAPIA (C)	ISLETA & BARCELONA (B)	MOUNTAIN VIEW COMMUNITY CENTER (A)
600a	607a	611a	615a	619a	626a
705a	712a	716a	720a	724a	731a
810a	817a	821a	825a	829a	836a
915a	922a	926a	930a	934a	941a
1020a	1027a	1031a	1035a	1039a	1046a
1125a	1132a	1136a	1140a	1144a	1151a
1230p	1237p	1241p	1245p	1249p	1256p
135p	142p	146p	151p	155p	202p
240p	247p	251p	256p	300p	307p
345p	352p	356p	401p	405p	412p
450p	457p	501p	505p	509p	516p
555p	602p	606p	610p	614p	621p

Route 222/Ruta 222 — Effective 3/22/2010
Rio Bravo - Sunport - Kirtland



NOTE:
Personas sin la debida autorización y identifcation militares no podrán ser autorizados a entrar en la base aérea de Kirtland

NOTE:
People without proper military clearance and identification may not be allowed to enter Kirtland Air Force Base.

Route 222 - Weekday Eastbound

COORS & RIO BRAVO (A)	RAIL RUNNER STATION ARRIVE (B)	RAIL RUNNER STATION DEPART	AIRPORT (C)	GIBSON & SAN MATEO (D)	V.A. HOSPITAL (E)	BUILDING 800 (F)	AREA 4 (G)	
....	....	6:04a	6:16a	....	6:23a	....	....	VA
....	....	6:04a	....	....	....	6:28a	6:36a	KAFB
5:46a	5:58a	6:04a	....	....	....	6:28a	....	KAFB
....	....	7:15a	....	....	....	7:39a	7:47a	KAFB
6:57a	7:09a	7:15a	7:27a	....	7:34a	....	....	VA
8:09a	8:21a	8:27a	8:44a	....	....	....	....	
12:54p	1:06p	1:12p	1:29p	....	1:36p	....	....	
2:16p	2:28p	2:34p	2:51p	....	2:58p	....	....	
4:06p	4:18p	4:18p	4:33p	4:40p	....	....	4:59p	
5:21p	5:33p	5:33p	5:48p	5:55p	....	6:04p	....	
6:37p	6:49p	6:55p	7:12p	....	....	....	....	

Be sure to board the bus which will stop where you need to get off!

VA: These buses serve the stops on:
- *University*
- *Spirit Dr*
- *Airport*
- *Girard*
- *Gibson & Carlisle*
- *Gibson & Truman*
- *San Mateo & Gibson and*
- *ends at the VA Medical Center (San Mateo side).*

They do not stop on Randolph Rd. or Kirtland Air Force Base.

KAFB: These buses serve only the stops on:
- *Randolph Rd.*
- *Gibson & Valencia and*
- *Kirtland Air Force Base.*

As shown in the schedule, only one continues to Area 4 at 636a.

Route 222 - Weekday Westbound

AREA 4 (G)	BUILDING 800 (F)	GIBSON & SAN MATEO (D)	V.A. HOSPITAL (E)	AIRPORT (C)	RAIL RUNNER STATION ARRIVE (B)	RAIL RUNNER STATION DEPART	COORS & RIO BRAVO (A)	
....	....	....	....	5:39a	5:58a	....	....	
....	6:35a	6:44a	....	6:53a	7:09a	7:15a	7:27a	
....	....	....	7:51a	8:02a	8:21a	8:27a	8:39a	
....	....	....	12:36p	12:47p	1:06p	1:12p	1:24p	
....	....	....	1:58p	2:09p	2:28p	2:34p	2:46p	
....	....	....	4:02p	4:13p	4:29p	....	....	VA
3:52p	4:00p	....	....	....	4:28p	4:35p	4:47p	KAFB
....	....	....	5:12p	5:23p	5:41p	....	....	VA
5:03p	5:11p	....	....	....	5:41p	5:48p	6:01p	KAFB
....	6:12p	6:21p	....	6:30p	6:49p	6:55p	7:08p	KAFB

As in the AM peak, two buses meet the PM peak trains:

VA: These buses serve stops at:
- *VA Medical Center (San Mateo side)*
- *For service from Gibson & San Mateo, use stop at VA or Truman*
- *Gibson & Truman*
- *Gibson & Carlisle*
- *Girard*
- *Airport*
- *Spirit Dr. and*
- *University.*

They do not stop on Randolph Rd.

KAFB: These buses serve only the stops on:
- *Kirtland Air Force Base*
- *Gibson & San Pedro and*
- *Randolph Rd.*