

Manual on Uniform Traffic Control Devices

for Streets and Highways

2009 Edition

Including Revision 1 dated May 2012
and Revision 2 dated May 2012



DEPARTMENT OF
MUNICIPAL
DEVELOPMENT,
TRAFFIC
ENGINEERING
DIVISION

COA 6254.00

TRAFFIC ON-CALL
2015, TASK 9

EASTERN AVE, SE & CARDENAS DR, SE INTERSECTION ALL-WAY WARRANTS & SPEED STUDY



Souder, Miller & Associates
Engineering • Environmental • Surveying

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City of Albuquerque
Department of Municipal Development,
Traffic Engineering Division

COA No. 6254.00



December 2017



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All-Way Stop Control Warrants Study

Location: Eastern Ave, SE & Cardenas Dr, SE Intersection

City: City of Albuquerque

Council District: 6

Neighborhood Association: South San Pedro

Report Prepared by: Robert L. Luna, PE, PTOE; Souder, Miller & Associates

Counts Performed by: Mike Henderson Consulting, LLC.

Date of Counts: October 17, 2017

Major Street: Cardenas Dr, SE

Minor Street: Eastern Ave, SE

I. General

The City of Albuquerque (COA), Traffic Engineering Division (TED) contracted Souder, Miller & Associates (SMA), as part of the Traffic On-Call 2015, to conduct an all-way stop control analysis and speed study for the intersection at Cardenas Drive, SE and Eastern Avenue, SE. The intersection was requested for an all-way stop control study at the behest of the representative Councilor, Pat Davis and the South San Pedro Neighborhood Association.

For an existing intersection to be considered for the installation of either all-way stop control or a traffic signal, an engineering study of traffic conditions, pedestrian characteristics and geometric characteristics should be conducted. The study shall include analysis of warrant factors identified in the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD), 2009. Section 2B.07 Multi-Way Stop Applications of the MUTCD provides the guidance for installation of multi-way or all-way stop control signs. The guidance is as follows:

The decision to install multi-way stop control should be based on an engineering study.

The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

- A. *Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
- B. *Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*
- C. *Minimum volumes:*
 1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
 2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
 3. *If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.*



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D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

All-way Stop control signs will not be installed unless the engineering study indicates that installing this type of traffic control will improve the overall safety and/or operation of the intersection.

II. Purpose of Study

The purpose of this study is to determine if the intersection of Cardenas Drive, SE and Eastern Avenue, SE meets the minimum criteria for all-way stop control as outlined in Section 2B.07 of the Manual on Uniform Traffic Control Devices (MUTCD), 2009 edition. The study will also include a speed study along Cardenas Drive, SE.

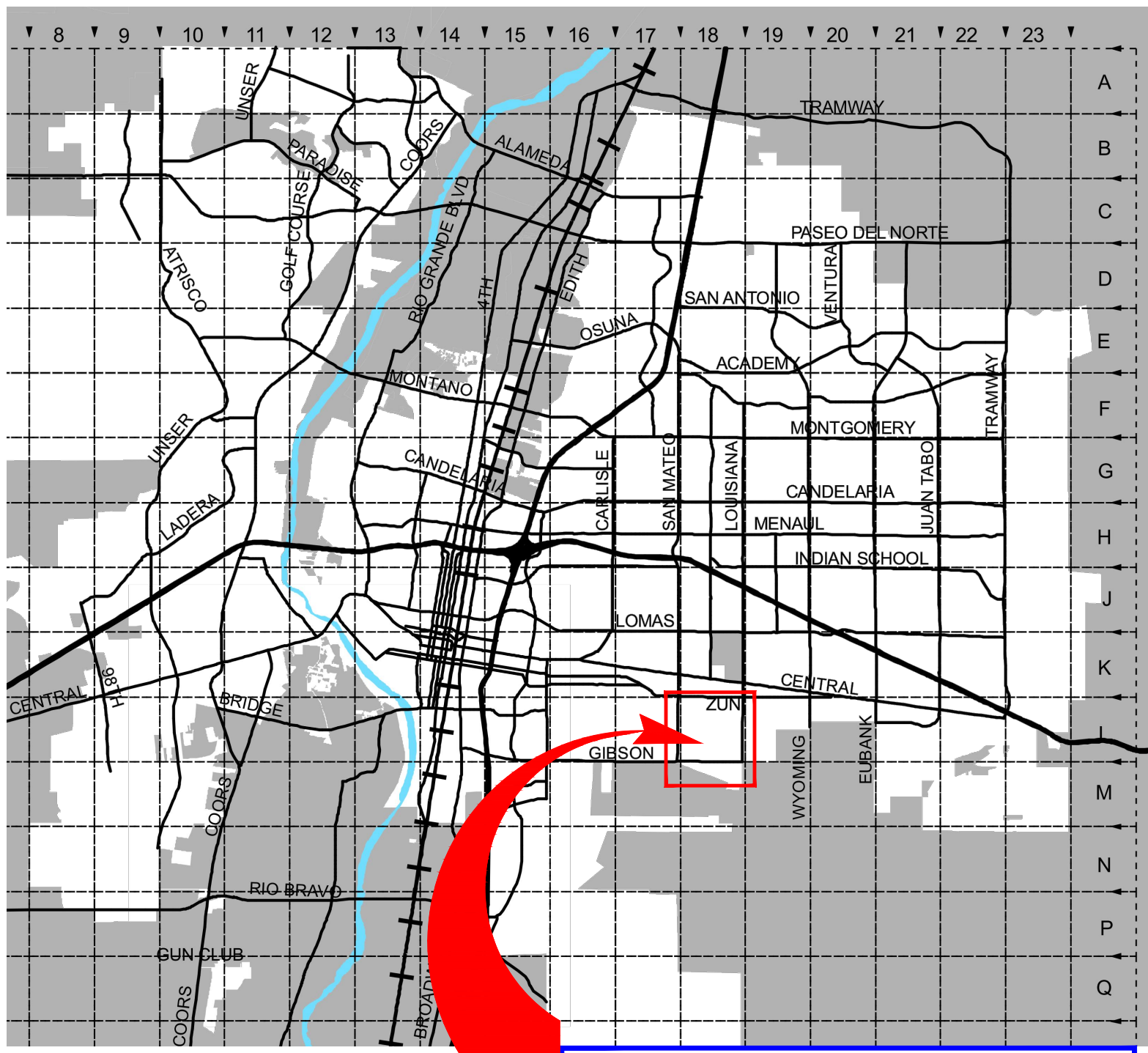
III. Project Location & Description

The intersection is in the southeastern section of the city and is situated in a residential area. It is bounded to south by Gibson Blvd, SE, San Mateo Blvd, SE to west, San Pedro Drive, SE to the east and Zuni Road, SE to the north. Both streets are classified as local streets per the functional classification map. Eastern Avenue, SE is an asphalt pavement facility with a typical width of approximately 28 feet from gutter pan lip to lip. Cardenas Drive, SE north of Eastern Avenue, SE has a typical width of approximately 28 feet from lip to lip. The width of Cardenas Drive, SE south of Eastern Avenue, SE has a typical width of approximately 40 feet from lip to lip. All roadway segments have standard curb, gutter and sidewalks with varying widths between 4 to 6 feet. The posted speed limit for both roadways is 25 MPH.

In the NW, SW and SE quadrants, adjacent to the intersection, are apartment complexes. Wilson Middle School is located in the NE quadrant. Exhibits III.1 and III.2 below identify the location and vicinity maps of the intersection.

Task 9 - Cardenas-Eastern All-Way Warrant Study

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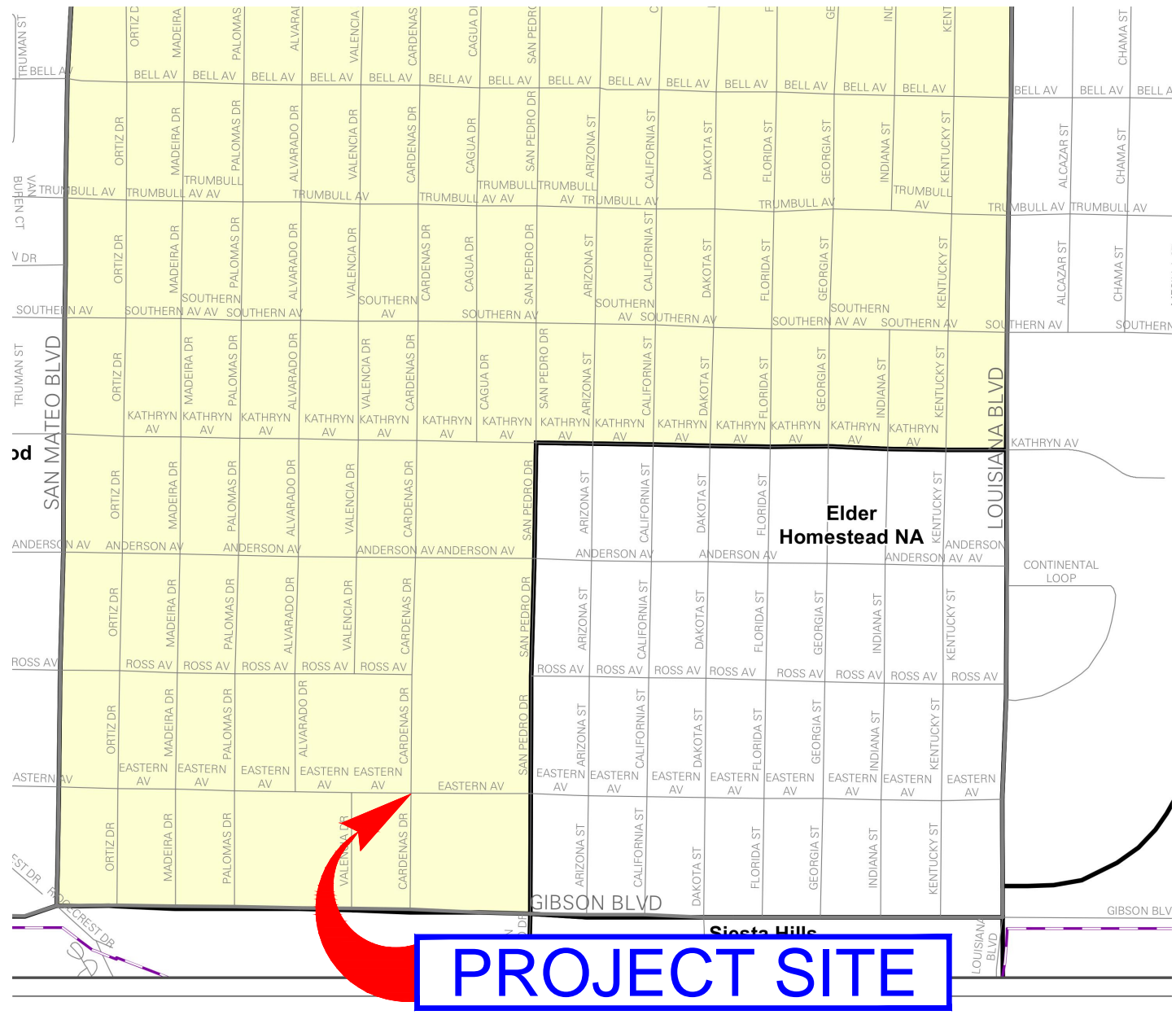
STUDY LOCATION



Exhibit III.1
COA LOCATION MAP

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**Exhibit III.2
 VICINITY MAP**



IV. Traffic Data

Traffic data was collected for this project by our subconsultant Mike Henderson Consulting, LLC, between the dates of Tuesday, October 17th and Wednesday, October 18th, 2017. The data collected were 48-hour average daily traffic (ADT) tube counts along Cardenas Drive, SE for both northbound and southbound traffic and 48-hour tube counts along Eastern Avenue, SE for both eastbound and westbound traffic. The 48-hour tube counts also included speed data. Our subconsultant also conducted a 12-hour turn movement analysis for vehicles and pedestrians at the intersection on Tuesday, October 17, 2017.

SMA also received crash data for the intersection from TED and MRCOG for the last three years including 2017.

These data sets are included in Appendix A.

V. Warrant Analysis

The All-Way Stop Control (AWSC) warrant analysis was performed for the intersection of Eastern Avenue, SE and Cardenas Drive, SE using Trafficware Warrants program for the current year condition. The following is a summary of the AWSC warrant analysis.

Condition A – Where traffic control signals are justified (MUTCD Section 4 Traffic Signal Warrants 1 – 9), the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal. As part of this condition, a signal warrant analysis was also completed using the Trafficware Warrants program. Below are the results for each warrant:

Warrant 1, Eight-Hour Vehicular Volume – **Not Met**

Warrant 2, Four-Hour Vehicular Volume – **Not Met**

Warrant 3, Peak Hour – **Not Met**

Warrant 4, Pedestrian Volume – **Not Met**

Warrant 5, School Crossing – **Not Met**

Warrant 6, Coordinated Signal System – **Not Met**

Warrant 7, Crash Experience – **Not Met**

Warrant 8, Roadway Network – **Not Met**

Warrant 9, Intersection Near a Grade Crossing – **Not Met**

Conclusion: Condition A is **Not Met** because none of the 9 signal warrants were met, nor that a traffic signal is not planned for this location.

Condition B – Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions, as well as right-angle collisions.

Crash data ranging from 2014 to 2017 was provided by the TED. The report identified a total of six (6) crashes for the four (4) years reported. However, for the 12-month criteria only two (2) crashes occurred within that time period. Even extending the period to 18-months, only one (1) additional crash occurred, totaling three (3) reported crashes. This number of crashes remains below the minimum accepted number of five (5) crashes.

Conclusion: - Condition B is **Not Met**.

Condition C – Minimum volumes:



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- 1) The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
- 2) The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but
- 3) If the 85th percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

Conclusion: - Condition C1, C2 or C3 were **Not Met**.

Condition D – Where no single criterion is satisfied, but where Criteria B, C1, C2 are all satisfied to 80 percent of the minimum values. Criterion C3 is excluded from this condition.

Conclusion: - Condition D is **Not Met** at 80% for minimum values.

The detailed warrant analysis reports are included in Appendix B.

VI. Speed Study

As part of this study, a speed analysis was completed along Cardenas Drive, SE from Gibson Blvd, SE to Ross Avenue, SE. See Exhibit VI.1 for the Speed Study Limits.

The purpose of the speed study was to determine the following:

- Evaluate the 85th percentile speed along Cardenas Drive, SE, north and south of Eastern Avenue, SE;
- Calculate the average and daily peak hour traffic volumes along Cardenas.



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Exhibit VI.1
SPEED STUDY LIMITS



VI.1 Background of Speed Limits

Speed limits are established on roadways of virtually all classifications, from interstate freeways to low volume local streets. The primary purpose of speed limits is to give motorists clear instruction as to reasonable speeds while traveling on a given roadway.

Among regulatory signage, speed limit signs provide critical information that motorists need to be informed of while driving (Stop signs, are considered the highest impact regulatory sign). Drivers unfamiliar with a roadway may not react appropriately to necessary speed reductions. Properly established speed limits signs provide drivers advanced information that promotes safe driving.

The NMDOT has guidelines for analyzing and establishing posted speed limits; the following text is based on one such example:

Realistic posted speed limits are of public importance for many reasons:

- They invite public compliance by conforming to the behavior or the driving majority
- They give clear reminders of safe and reasonable speeds to non-conforming violators
- They offer the most effective tool for law enforcement of safe driving
- They will minimize public antagonism toward law enforcement that results from unreasonable regulations

Improperly, or artificially low, posted speed limits can cause problems for state and local agencies for several reasons:

- They do not encourage voluntary compliance, since they do not reflect the behavior of the majority
- They make the behavior of the majority unlawful
- They maximize public antagonism toward law enforcement, since the perception is that the police are enforcing a “speed trap”
- They create a bad image for a community in the eyes of tourists / visitors

VI.2 Setting Speed Limits

In accordance with Section 66-7-303 of the New Mexico Criminal and Traffic Law Manual, the speed limit on state highways shall be set by the Cabinet Secretary of the Department of Transportation, based on an engineering survey and traffic investigation that includes the following parameters.

- Spot speed studies (typically consisting of 100 vehicles)
- Roadway geometry/number of lanes
- Roadside environment and characteristics
- Building setbacks (if within a commercial business district)
- Driveway and intersection spacing/density
- Historical crash data for the roadway study area

Many speed limits are established using the theory of 85th percentile. Out of the (typically) 100 vehicles surveyed, beginning with the fastest vehicle speed recorded, the 15th vehicle from that speed is determined to show where the 85th percentile speed is. This is assuming that most drivers (85%) drive within reasonable limits. The posted speed limit can be established and is usually the 5 – mph increment just below the 85th percentile speed. For example, if the 85th percentile speed



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has been determined by an engineering survey to be 57 mph, the posted speed would be 55 mph. This method of posting speed limits allows for a reasonable posted speed limit that can be enforced by local agencies, without creating a speed trap.

For surveys with a differing amount, greater or less than 100 vehicles, the 85th percentile speed is determined by the following formula: $100/15 = \# \text{ of vehicles surveyed}/X$ (where x = the vehicle at the 85th percentile). For example, a 50 vehicle survey would result in:

$$\frac{100}{15} = \frac{50}{x}$$

Where $x = 7.5$, or the 8th vehicle in the survey

Other methods are frequently used to further analyze the posting of speed limits – these are the mode, median, and geometric mean:

- Mode is the most frequently clocked vehicle speed in a given survey. For example, in a 100 vehicle survey where 12 vehicles were clocked traveling 55 mph and no other speed was observed as frequently, the mode is 55 mph.
- Median is the numerical midpoint of a given survey. For example, in a survey of 100 vehicles, the speeds of the 50th and 51st vehicles are added and divided by 2 to obtain the median speed. If the 50th vehicle of such a survey was traveling at 56 mph and the 51st vehicle was also traveling at 56 mph, the resulting median would be $(56 + 56) \div 2 = 112 \div 2 = 56$ mph
- Geometric mean is described as follows: “an average of a set of numbers that is calculated by multiplying all the numbers (“n”), and taking the nth root of the total.”

Formula for Geometric Mean:

$$\text{Geometric Mean} = ((X_1)(X_2) \dots \dots (X_n))^{1/N}$$

X = Individual score (speed)

N = Sample size (number of scores)

Geometric Mean Example:

Sample speeds = 51, 52, 55, 58, and 60 mph

Step 1:

N = 5, the total number of values, $\frac{1}{N} = 0.2$

Step 2:

Determine geometric mean using the formula.

$$\text{Geometric Mean} = ((51)(52)(55)(58)(60))^{0.2} = 55.09 \text{ mph}$$

In most cases, the geometric mean of a speed study will be of similar value of the median, often within 1 to 2 mph of the median. In the above example, the median speed would be the third vehicle surveyed (55 mph), and the geometric mean is 55.09 mph.

VI.3 Speed Data Locations

Count Locations

The study area included two (2) volume and speed count locations along Cardenas Drive, SE:

- Mid-block between Eastern Avenue, SE and Ross Avenue, SE;
- Mid-block between Eastern Avenue and Gibson Blvd, SE.



VI.4 Traffic Data Analysis

ADT

The ADT for the two (2) count locations are listed below in Table VI.1:

Cardenas Drive, SE ADT			
Count Location	NB	SB	ADT
Cardenas Drive (North)	653	569	1222
Cardenas Drive (South)	462	468	930
Average	558	519	1076

Table VI.1

The Cardenas Drive, SE study area directional ADT ranges from 462 to 653 vehicles per day (vpd).

Peak Hour Traffic Volumes

The peak hour traffic volumes for the two (2) count locations are shown below in Table VI.2:

Cardenas Drive, SE Peak Hour Traffic Volumes (vph)			
Count Location	Peak Hour	Northbound (Peak Hour)	Southbound (Peak Hour)
Cardenas Drive (North)	AM Peak	108 (7:45 AM – 8:45 AM)	48 (7:45 AM – 8:45 PM)
	PM Peak	77 (2:30 PM – 3:30 PM)	53 (2:45 PM – 3:45 PM)
Cardenas Drive (South)	AM Peak	56 (7:45 AM – 8:45 AM)	50 (7:15 AM – 8:15 AM)
	PM Peak	61 (4:15 PM – 5:15 PM)	56 (3:00 PM – 4:00 PM)

Table VI.2

The Cardenas Drive, SE study area peak hour traffic volumes range from 50 to 108 vehicles per hour (vph).

Speed Study Results

The results of the speed study for Cardenas Drive, SE are shown below in Tables VI.3 and VI.4:

Cardenas Drive, SE North Speed Study			
Speed	NB	SB	Total
Average	15.2 mph	15.9 mph	15.5 mph
10 mph Pace	15.0 – 24.9 (37.8%)	15.0 – 24.9 (41.7%)	15.0 – 24.9 (40.3%)
50 th Percentile	14.9 mph	16.7 mph	15.8 mph
67 th Percentile	20.6 mph	21.5 mph	21.1 mph
85 th Percentile	24.3 mph	24.7 mph	24.5 mph

Table VI.3

Cardenas Drive, SE South Speed Study			
Speed	NB	SB	Total
Average	22.2 mph	22.1 mph	22.2 mph
10 mph Pace	20.1 – 30.0 (61.5%)	20.1 – 30.0 (61.7%)	20.1 – 30.0 (61.6%)
50 th Percentile	23.9 mph	23.9 mph	24.0 mph
67 th Percentile	26.8 mph	26.8 mph	26.8 mph
85 th Percentile	29.7 mph	29.4 mph	29.6 mph

Table VI.4



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When considering whether to establish a new posted speed limit or not, surveying the existing traffic speeds is crucial to determining a reasonable posted speed limit.

Before a posted speed limit can be adjusted, an analysis must be conducted to ascertain whether or not the speed limit can be adjusted without resulting in further increases of motorists' travel speeds. Motorists usually drive at speeds which they perceive as safe, based on the observable roadway conditions. A flat and straight roadway may result in a different travel speed than the posted speed limit due to the driver's observation of the roadway condition.

Along Cardenas Drive, SE the speed limit is 25 mph and the roadway conditions are consistent; controlled access, satisfactory pavement conditions, two travel lanes, and on-street parking. Table VI.5 displays that 33 percent of the average ADT of the two count locations recorded speeds greater than the posted speed limit of 25 mph.

Cardenas Drive, SE ADT ≥ 25 mph							
Speed (mph)	0 – 19.9 mph		20 – 24.9 mph		≥ 25 mph		Avg. ADT
Cardenas Drive, SE (North)	758	62%	312	26%	151.5	25%	1221
Cardenas Drive, SE (South)	240.5	26%	283	30%	406	44%	929
Total	998.5	46%	595	28%	557.5	26%	2150

Table VI.5

Crash Data

Crash data from the Albuquerque Police Department was requested by TED and provided to SMA. The crash collision diagram shown in Exhibit VI.2 below indicates the crashes reported.

Task 9 - Cardenas-Eastern All-Way Warrant Study



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COLLISION DIAGRAM LEGEND

VEHICLE TYPE		COLLISION TYPE		SEVERITY	
	AUTOMOBILE		REAR END		PDO
	PEDESTRIAN		HEAD ON		INJURY
	UNINVOLVED		ANGLE		FATAL
VEHICLE MOVEMENT			SIDESWIPE, OPPOSITE DIRECTION		COLLISION WITH FIXED OBJECT
	TURN (RT OR LT)		SIDESWIPE, SAME DIRECTION		
	BACKING		OUT OF CONTROL		
				ROAD SURFACE	LIGHTING
				C DRY, CLEAR	DAY
				W WET	NIGHT
				S SNOWY, ICY	



**Exhibit VI.2
 COLLISION DIAGRAM**



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The crashes shown cannot be corrected with traffic calming measure as most are angle crashes and narrow approaches associated with on-street parking.

U.S. Limits Speed Management Program

U.S. Limits is an FHWA sponsored program used to analyze speed limits. This program calculates a recommended speed limit based on the criteria given, which is listed on the website as follows:

- Density of surrounding development (e.g. high density, low density, or rural);
- Frequency of roadside access (e.g. number of residential driveways, commercial, industrial, shopping, and special activity properties, and the number and type of intersecting roads);
- Road function (e.g. traffic movement vs. access to abutting properties);
- Road characteristics (e.g. paved width, divided or undivided, lane width, number and lanes, and sight restrictions);
- Road conditions and important high speed road characteristics (e.g. interchange spacing, AADT, and shoulders);
- Existing vehicle operating speeds;
- Adjoining speed limits and;
- Any special conditions that may exist on the road section (e.g. adverse alignment, pedestrian and roadside activities, high crash rates, etc.).

This analysis was used for Cardenas Drive, SE and based on the data entered into <http://www.uslimits.com> for the above-listed categories. The collected speed data and USLIMITS2 output sheet is shown in Appendix C – Speed Analysis.

The speed analysis, using the FHWA website U.S. Limits, recommended maintaining a posted speed limit of 25 mph.

VII. Conclusions

Based on the traffic data collected (volume, speed, and turn movements) on October 17-18, 2017 and the crash data provided by TED, the intersection of Eastern Avenue, SE and Cardenas Drive, SE did not meet the all-way stop control or traffic signal warrant criteria based on the analysis conducted.

All-Way Stop Control Conditions Summary		
Condition A	Interim Measure for Signal (Warrants)	Not Met
Condition B	Five or more crashes in 12-month period	Not Met
Condition C:	Minimum Volumes:	Not Met
Condition C1	Major Street Combined Volumes > 300 vph for any 8 hrs	Not Met
Condition C2	Minor Street Combined vehicles, peds & bike volumes for same 8 hrs	Not Met
Condition C3	85 th percentile approach speed for major > 40 mph & 70% of C1 & C2	Not Met
Condition D	Where Conditions A – C are not met, but 80% of B, C1 & C2 are satisfied	Not Met

Table VII.1



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After evaluating the volume and speed data within the project area, it is concluded that 33% of the traffic is exceeding 25 mph and the 85th percentile speed of traffic is not exceeding the posted speed limit by 5 mph or more at the count locations. In order to meet criteria for traffic calming measures as outlined in the City of Albuquerque's Neighborhood Traffic Management Program (NTMP), at least two (2) of the following threshold criteria must be met:

COA NTMP Traffic Calming Warrants Summary	
Description	Warrant Met?
Reported crashes in the past 3 years that could be corrected with traffic calming	Not Met
Peak-hour traffic volume greater than 400 vehicles in one direction	Not Met
25% of peak-hour traffic is non-local cut-through traffic	Not Studied
85 th percentile speeds exceed the posted speed limit by 5 mph or more	Not Met

Table VII.2

Based on the volume and speed data collected, Cardenas Drive, SE **DOES NOT** meet any of the criteria outlined to warrant traffic calming measures.

Therefore based on the results of no AWSC conditions analysis and the speeding/traffic calming warrants summaries, it is recommended that **no changes** be made to the current traffic control configuration at the intersection of Eastern Avenue, SE and Cardenas Drive, SE. Should there continue to be a perceived concern of speeding or excessive crashes at this location it is suggested that law enforcement be called to monitor the location periodically.



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Appendices

- Appendix A – Traffic & Crash Data
- Appendix B – Warrant Analysis Output
- Appendix C – USLIMITS2 Speed Analysis Report



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Appendix A

Mike Henderson Consulting, LLC

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Collected by: MH17

File Name : Cardenas & Eastern
Site Code :
Start Date : 10/17/2017
Page No : 1

Groups Printed- Car - Truck

Start Time	Eastern Ave Eastbound				Eastern Ave Westbound				Cardenas Dr Northbound				Cardenas Dr Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	0	5	0	5	2	2	0	4	0	2	2	4	2	5	1	8	21
06:45	1	5	3	9	0	1	2	3	0	5	0	5	2	3	2	7	24
Total	1	10	3	14	2	3	2	7	0	7	2	9	4	8	3	15	45
07:00	5	11	0	16	4	5	1	10	2	3	1	6	1	6	0	7	39
07:15	3	12	2	17	2	8	4	14	0	2	0	2	2	4	0	6	39
07:30	5	11	1	17	3	15	4	22	0	4	2	6	1	3	4	8	53
07:45	6	14	1	21	0	19	15	34	4	5	1	10	2	9	4	15	80
Total	19	48	4	71	9	47	24	80	6	14	4	24	6	22	8	36	211
08:00	11	7	4	22	4	7	17	28	1	24	4	29	2	13	3	18	97
08:15	10	7	0	17	0	12	6	18	0	6	4	10	0	5	2	7	52
08:30	4	16	3	23	1	11	3	15	0	4	4	8	3	6	3	12	58
08:45	4	12	0	16	0	11	4	15	0	7	0	7	2	6	2	10	48
Total	29	42	7	78	5	41	30	76	1	41	12	54	7	30	10	47	255
09:00	2	12	0	14	1	7	2	10	3	4	1	8	5	0	1	6	38
09:15	2	12	0	14	1	13	2	16	0	4	1	5	2	7	2	11	46
09:30	2	7	1	10	0	4	4	8	0	1	1	2	0	5	1	6	26
09:45	4	11	0	15	1	6	0	7	0	1	1	2	4	0	3	7	31
Total	10	42	1	53	3	30	8	41	3	10	4	17	11	12	7	30	141
10:00	1	14	1	16	0	8	3	11	0	1	1	2	3	0	0	3	32
10:15	1	10	0	11	1	6	1	8	2	2	0	4	3	1	1	5	28
10:30	7	15	2	24	0	18	2	20	1	0	2	3	2	5	0	7	54
10:45	4	13	2	19	1	17	2	20	2	4	3	9	4	1	3	8	56
Total	13	52	5	70	2	49	8	59	5	7	6	18	12	7	4	23	170
11:00	6	22	2	30	0	11	2	13	2	2	0	4	3	3	0	6	53
11:15	2	17	3	22	1	10	3	14	0	2	2	4	1	3	3	7	47
11:30	5	16	0	21	1	6	1	8	1	3	2	6	2	4	5	11	46
11:45	5	14	7	26	0	7	1	8	1	3	1	5	1	4	2	7	46
Total	18	69	12	99	2	34	7	43	4	10	5	19	7	14	10	31	192
12:00	3	22	1	26	1	7	2	10	2	4	0	6	0	4	2	6	48
12:15	4	17	2	23	1	8	2	11	1	1	0	2	1	3	6	10	46
12:30	2	13	0	15	1	12	3	16	3	3	1	7	2	1	3	6	44
12:45	4	15	1	20	2	9	3	14	1	3	4	8	4	3	1	8	50
Total	13	67	4	84	5	36	10	51	7	11	5	23	7	11	12	30	188

Mike Henderson Consulting, LLC

5301 Camino Sandia NE
Albuquerque, NM 87111
(505) 275-5706

Collected by: MH17

File Name : Cardenas & Eastern
Site Code :
Start Date : 10/17/2017
Page No : 2

Groups Printed- Car - Truck

Start Time	Eastern Ave Eastbound				Eastern Ave Westbound				Cardenas Dr Northbound				Cardenas Dr Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
13:00	1	13	1	15	1	10	3	14	0	6	1	7	2	2	1	5	41
13:15	3	16	2	21	0	7	5	12	3	3	3	9	3	3	1	7	49
13:30	2	8	2	12	3	12	1	16	2	2	3	7	4	2	1	7	42
13:45	3	18	4	25	1	14	1	16	1	4	1	6	2	3	1	6	53
Total	9	55	9	73	5	43	10	58	6	15	8	29	11	10	4	25	185
14:00	5	17	0	22	2	10	3	15	3	6	1	10	7	5	3	15	62
14:15	4	13	0	17	2	13	3	18	2	5	1	8	1	9	1	11	54
14:30	6	27	3	36	3	11	5	19	0	5	0	5	1	3	3	7	67
14:45	6	28	2	36	0	16	6	22	3	7	4	14	4	2	5	11	83
Total	21	85	5	111	7	50	17	74	8	23	6	37	13	19	12	44	266
15:00	9	20	3	32	0	16	10	26	1	11	1	13	3	6	7	16	87
15:15	7	21	3	31	0	9	11	20	2	11	4	17	6	6	3	15	83
15:30	2	19	3	24	2	10	3	15	3	6	1	10	5	2	2	9	58
15:45	2	29	1	32	2	15	4	21	0	5	1	6	0	4	1	5	64
Total	20	89	10	119	4	50	28	82	6	33	7	46	14	18	13	45	292
16:00	10	19	4	33	0	11	5	16	5	5	3	13	3	6	4	13	75
16:15	7	19	3	29	1	15	5	21	2	7	4	13	5	5	1	11	74
16:30	4	29	2	35	3	13	5	21	0	11	4	15	5	3	4	12	83
16:45	10	19	2	31	5	12	6	23	2	10	4	16	2	5	2	9	79
Total	31	86	11	128	9	51	21	81	9	33	15	57	15	19	11	45	311
17:00	7	25	1	33	3	21	5	29	2	8	8	18	1	4	2	7	87
17:15	7	16	5	28	2	8	3	13	0	6	4	10	2	4	3	9	60
17:30	2	17	2	21	2	14	2	18	2	1	4	7	0	6	5	11	57
17:45	5	24	3	32	3	12	1	16	3	4	5	12	5	3	3	11	71
Total	21	82	11	114	10	55	11	76	7	19	21	47	8	17	13	38	275
18:00	1	17	5	23	2	18	2	22	1	1	5	7	5	6	2	13	65
18:15	3	25	4	32	0	12	4	16	3	4	3	10	5	5	1	11	69
Grand Total	209	769	91	1069	65	519	182	766	66	228	103	397	125	198	110	433	2665
Apprch %	19.6	71.9	8.5		8.5	67.8	23.8		16.6	57.4	25.9		28.9	45.7	25.4		
Total %	7.8	28.9	3.4	40.1	2.4	19.5	6.8	28.7	2.5	8.6	3.9	14.9	4.7	7.4	4.1	16.2	
Car	205	746	89	1040	64	500	177	741	65	227	99	391	118	196	100	414	2586
% Car	98.1	97	97.8	97.3	98.5	96.3	97.3	96.7	98.5	99.6	96.1	98.5	94.4	99	90.9	95.6	97
Truck	4	23	2	29	1	19	5	25	1	1	4	6	7	2	10	19	79
% Truck	1.9	3	2.2	2.7	1.5	3.7	2.7	3.3	1.5	0.4	3.9	1.5	5.6	1	9.1	4.4	3

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Collected by: MH17

File Name : Cardenas & Eastern
Site Code :
Start Date : 10/17/2017
Page No : 3

Start Time	Eastern Ave Eastbound				Eastern Ave Westbound				Cardenas Dr Northbound				Cardenas Dr Southbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45																	
07:45	6	14	1	21	0	19	15	34	4	5	1	10	2	9	4	15	80
08:00	11	7	4	22	4	7	17	28	1	24	4	29	2	13	3	18	97
08:15	10	7	0	17	0	12	6	18	0	6	4	10	0	5	2	7	52
08:30	4	16	3	23	1	11	3	15	0	4	4	8	3	6	3	12	58
Total Volume	31	44	8	83	5	49	41	95	5	39	13	57	7	33	12	52	287
% App. Total	37.3	53	9.6		5.3	51.6	43.2		8.8	68.4	22.8		13.5	63.5	23.1		
PHF	.705	.688	.500	.902	.313	.645	.603	.699	.313	.406	.813	.491	.583	.635	.750	.722	.740
Car	31	40	8	79	5	46	40	91	5	39	13	57	7	33	11	51	278
% Car	100	90.9	100	95.2	100	93.9	97.6	95.8	100	100	100	100	100	100	91.7	98.1	96.9
Truck	0	4	0	4	0	3	1	4	0	0	0	0	0	0	1	1	9
% Truck	0	9.1	0	4.8	0	6.1	2.4	4.2	0	0	0	0	0	0	8.3	1.9	3.1
Peak Hour Analysis From 09:45 to 13:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:30																	
10:30	7	15	2	24	0	18	2	20	1	0	2	3	2	5	0	7	54
10:45	4	13	2	19	1	17	2	20	2	4	3	9	4	1	3	8	56
11:00	6	22	2	30	0	11	2	13	2	2	0	4	3	3	0	6	53
11:15	2	17	3	22	1	10	3	14	0	2	2	4	1	3	3	7	47
Total Volume	19	67	9	95	2	56	9	67	5	8	7	20	10	12	6	28	210
% App. Total	20	70.5	9.5		3	83.6	13.4		25	40	35		35.7	42.9	21.4		
PHF	.679	.761	.750	.792	.500	.778	.750	.838	.625	.500	.583	.556	.625	.600	.500	.875	.938
Car	18	66	9	93	2	52	8	62	5	8	6	19	10	12	4	26	200
% Car	94.7	98.5	100	97.9	100	92.9	88.9	92.5	100	100	85.7	95.0	100	100	66.7	92.9	95.2
Truck	1	1	0	2	0	4	1	5	0	0	1	1	0	0	2	2	10
% Truck	5.3	1.5	0	2.1	0	7.1	11.1	7.5	0	0	14.3	5.0	0	0	33.3	7.1	4.8
Peak Hour Analysis From 14:00 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	7	19	3	29	1	15	5	21	2	7	4	13	5	5	1	11	74
16:30	4	29	2	35	3	13	5	21	0	11	4	15	5	3	4	12	83
16:45	10	19	2	31	5	12	6	23	2	10	4	16	2	5	2	9	79
17:00	7	25	1	33	3	21	5	29	2	8	8	18	1	4	2	7	87
Total Volume	28	92	8	128	12	61	21	94	6	36	20	62	13	17	9	39	323
% App. Total	21.9	71.9	6.2		12.8	64.9	22.3		9.7	58.1	32.3		33.3	43.6	23.1		
PHF	.700	.793	.667	.914	.600	.726	.875	.810	.750	.818	.625	.861	.650	.850	.563	.813	.928
Car	27	92	8	127	11	60	21	92	6	36	18	60	12	16	9	37	316
% Car	96.4	100	100	99.2	91.7	98.4	100	97.9	100	100	90.0	96.8	92.3	94.1	100	94.9	97.8
Truck	1	0	0	1	1	1	0	2	0	0	2	2	1	1	0	2	7
% Truck	3.6	0	0	0.8	8.3	1.6	0	2.1	0	0	10.0	3.2	7.7	5.9	0	5.1	2.2

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Collected by: MH17

File Name : Cardenas & Eastern
Site Code :
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Page No : 1

Groups Printed- Bikes

Start Time	Eastern Ave Eastbound					Eastern Ave Westbound					Cardenas Dr Northbound					Cardenas Dr Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	1	1	4
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	1	1	6
07:00	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	3
07:30	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	4
07:45	0	0	0	3	3	0	0	0	4	4	0	0	0	0	0	0	0	0	1	1	8
Total	0	0	0	5	5	0	0	0	7	7	0	0	0	2	2	0	0	0	3	3	17
08:00	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	4
08:15	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	4
08:30	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	4
08:45	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	4
Total	0	0	0	4	4	0	0	0	2	2	0	0	0	7	7	0	0	0	3	3	16
09:00	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	4
09:15	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	3
09:30	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	4
09:45	0	0	0	1	1	0	0	0	1	1	0	0	0	2	2	0	0	0	0	0	4
Total	0	0	0	2	2	0	0	0	5	5	0	0	0	6	6	0	0	0	2	2	15
10:00	0	0	0	0	0	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0	4
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	4
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
10:45	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	3	3	0	0	0	9	9	0	0	0	0	0	12
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	1	1	5
11:15	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	3
11:45	0	0	0	1	1	0	0	0	1	1	0	0	0	5	5	0	0	0	1	1	8
Total	0	1	0	2	3	0	0	0	1	1	0	0	0	10	10	0	0	0	3	3	17
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
12:15	0	1	0	0	1	0	1	0	0	1	0	0	0	2	2	0	0	0	0	0	4
12:30	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
12:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2
Total	0	2	0	0	2	0	1	0	1	2	0	0	0	3	3	0	0	0	2	2	9
13:00	0	0	0	0	0	0	0	0	1	1	0	0	0	3	3	0	0	0	0	0	4
13:15	0	0	0	0	0	0	0	0	1	1	0	0	0	4	4	0	0	0	0	0	5
13:30	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	5
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	5
Total	0	0	0	2	2	0	0	0	3	3	0	0	0	13	13	0	0	0	1	1	19

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File Name : Cardenas & Eastern
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Groups Printed- Bikes

Start Time	Eastern Ave Eastbound					Eastern Ave Westbound					Cardenas Dr Northbound					Cardenas Dr Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	1	1	5
14:15	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1	5
14:30	0	0	0	0	0	0	0	0	1	1	0	0	0	5	5	0	0	0	2	2	8
14:45	0	0	0	1	1	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	5
Total	0	0	0	2	2	0	0	0	3	3	0	0	0	14	14	0	0	0	4	4	23
15:00	0	0	0	2	2	0	0	0	18	18	0	0	0	2	2	0	0	0	6	6	28
15:15	0	0	0	0	0	0	0	0	1	1	0	0	0	3	3	0	0	0	1	1	5
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
15:45	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	0	1	1	4
Total	0	0	0	2	2	0	0	0	20	20	0	0	0	8	8	0	0	0	8	8	38
16:00	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	3
16:15	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	3
16:30	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	5
16:45	0	0	0	2	2	0	0	0	2	2	0	0	0	2	2	0	0	0	1	1	7
Total	0	0	0	4	4	0	0	0	4	4	0	0	0	5	5	0	0	0	5	5	18
17:00	0	0	0	0	0	0	0	0	1	1	0	0	0	6	6	0	0	0	0	0	7
17:15	0	0	0	4	4	0	0	0	1	1	0	0	0	2	2	0	0	0	2	2	9
17:30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3	3	4
17:45	0	0	0	3	3	0	0	0	1	1	0	0	0	3	3	0	0	0	0	0	7
Total	0	0	0	7	7	0	0	0	4	4	0	0	0	11	11	0	0	0	5	5	27
18:00	0	0	0	1	1	0	0	0	0	0	0	0	0	4	4	0	0	0	2	2	7
18:15	0	0	0	1	1	0	0	0	1	1	0	0	0	5	5	0	0	0	1	1	8
Grand Total	0	3	0	32	35	0	1	0	54	55	0	0	0	102	102	0	0	0	40	40	232
Apprch %	0	8.6	0	91.4		0	1.8	0	98.2		0	0	0	100		0	0	0	100		
Total %	0	1.3	0	13.8	15.1	0	0.4	0	23.3	23.7	0	0	0	44	44	0	0	0	17.2	17.2	

Crash Date	Agency Case Number	Crash Intersecting Street	Crash Primary Street	Crash Analysis	Contributing Factors
10/4/2017	170097093	CARDENAS DR SE	EASTERN AVE SE	00 - FROM OPPOSITE DIR/NOT STATED	Speed too fast for conditions
8/10/2017	170077261	EASTERN AVE SE	CARDENAS DR SE	16 - BOTH GOING STRAIGHT/FROM OPP DIR	Disregarded traffic signal, Driver inattention, Failed to yield right of way
6/19/2016	160056094	EASTERN AVE SE	CARDENAS DR SE	01 - BOTH GOING STRAIGHT/ENTERING AT ANGLE	Avoid no contact vehicle, Disregarded traffic signal, Excessive Speed, Passed stop sign, Speed too fast for conditions
2/13/2016	160013977	CARDENAS DR SE	EASTERN AVE SE	28 - ONE CAR/FORWARD FROM PARKED POS	Under influence of alcohol
9/2/2015	150080603	EASTERN AVE SE	CARDENAS DR SE	00 - FROM OPPOSITE DIR/NOT STATED	Driver inattention
9/25/2014	140088179	CARDENAS DR SE	EASTERN AVE SE	02 - ONE RIGHT TURN/ENTERING AT ANGLE	Driver inattention

Special Speed Study Report: Cardenas Dr (North)

Station ID : Cardenas Dr (North)

Info Line 1 : Between Southern & Ross
 Info Line 2 : Albuquerque

GPS Lat/Lon :

DB File : N OF EASTRN.DB

Last Connected Device Type : Apollo

Version Number : 1.66

Serial Number :

Number of Lanes : 1

Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Vehicle Sensors	Sensor Spacing	Loop Length	Comment
1.	Northbound		Ax-Ax	4.0 ft	6.0 ft	

Lane #1 Special Speed Study Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/17/20	00:00	3	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Tue	01:00	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5
	02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	04:00	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	05:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	06:00	4	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	10
	07:00	43	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	48
	08:00	78	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	86
	09:00	16	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	25
	10:00	14	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	25
	11:00	12	8	6	2	0	0	0	0	0	0	0	0	0	0	0	0	28
	12:00	21	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	30
	13:00	9	15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	27
	14:00	33	13	2	3	0	0	0	0	0	0	0	0	0	0	0	0	51
	15:00	60	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67
	16:00	45	22	5	1	0	0	0	0	0	0	0	0	0	0	0	0	73
	17:00	32	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	41
	18:00	23	5	1	0	0	0	0	0	0	0	0	0	0	0	0	1	30
	19:00	9	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	19
	20:00	10	6	6	0	0	0	1	0	0	0	0	0	0	0	0	0	23
	21:00	5	3	4	1	1	0	0	0	0	0	0	0	0	0	0	0	14
	22:00	5	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11
	23:00	7	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	17
Daily Total :		434	141	52	16	1	0	1	0	0	0	0	0	0	0	0	1	646
Percent :		67%	22%	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		67%	89%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		18	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	27

Average Speed	14.7 mph	50% Speed : 13.4 mph	67% Speed : 19.9 mph
			85% Speed : 23.9 mph
		10mph Pace: 6.5 - 16.4 (42.4%)	

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/18/20	00:00	3	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Wed	01:00	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
	02:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	03:00	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	7
	04:00	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	05:00	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	06:00	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	7
	07:00	38	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	46
	08:00	81	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	93
	09:00	12	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	22
	10:00	9	8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	23
	11:00	20	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	31
	12:00	16	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	30
	13:00	12	9	3	1	0	0	0	0	0	0	0	0	0	0	0	0	25
	14:00	36	8	3	1	0	0	0	0	0	0	0	0	0	0	0	0	48
	15:00	55	12	8	1	0	0	0	0	0	0	0	0	0	0	0	0	76
	16:00	30	13	10	0	1	0	0	0	0	0	0	0	0	0	0	0	54
	17:00	33	11	1	4	0	0	0	0	0	0	0	0	0	0	0	0	49
	18:00	16	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	31
	19:00	7	10	5	1	0	0	0	0	0	0	0	0	0	0	0	0	23
	20:00	8	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	20
	21:00	6	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	16
	22:00	3	10	1	0	1	0	0	0	0	0	0	0	0	0	0	0	15
	23:00	10	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Daily Total :		407	170	66	14	2	0	0	0	0	0	0	0	0	0	0	0	659
Percent :		62%	26%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		62%	88%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		17	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	28

Average Speed	15.5 mph	50% Speed :	15.2 mph	67% Speed :	21.1 mph	85% Speed :	24.5 mph
				10mph Pace:	15.0 - 24.9 (38.1%)		

Lane #3 Configuration

#	Dir.	Information	Vehicle Sensors	Sensor Spacing	Loop Length	Comment
3.		Southbound	Ax-Ax	4.0 ft	6.0 ft	

Lane #3 Special Speed Study Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/17/20	00:00	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Tue	01:00	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
	02:00	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
	03:00	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	04:00	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	05:00	2	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	9
	06:00	9	6	3	2	0	0	0	0	0	0	0	0	0	0	0	0	20
	07:00	23	9	1	2	0	0	0	0	0	0	0	0	0	0	0	0	35
	08:00	26	17	0	1	0	0	0	0	0	0	0	0	0	0	0	0	44
	09:00	20	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	33
	10:00	12	9	0	1	1	0	0	0	0	0	0	0	0	0	0	0	23
	11:00	13	14	2	1	0	0	0	0	0	0	0	0	0	0	0	0	30
	12:00	27	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	37
	13:00	19	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	28
	14:00	19	14	8	0	0	0	0	1	0	0	0	0	0	0	0	0	42
	15:00	34	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	40
	16:00	29	11	3	1	1	0	0	0	0	0	0	0	0	0	0	0	45
	17:00	27	12	2	2	0	0	0	0	0	0	0	0	0	0	0	0	43
	18:00	35	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	44
	19:00	14	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	23
	20:00	9	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15
	21:00	5	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	14
	22:00	8	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	15
	23:00	6	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Daily Total :		347	161	46	17	2	0	0	1	0	0	0	0	0	0	0	0	574
Percent :		60%	28%	8%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		60%	89%	97%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		14	7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	24

Average Speed 15.7 mph 50% Speed : 16.3 mph 67% Speed : 21.3 mph 85% Speed : 24.4 mph
 10mph Pace: 15.0 - 24.9 (42.2%)

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/18/20	00:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Wed	01:00	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	02:00	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	03:00	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
	04:00	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	05:00	3	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	10
	06:00	7	2	4	1	0	0	0	0	0	0	0	0	0	0	0	0	14
	07:00	25	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	32
	08:00	27	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	43
	09:00	11	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	21
	10:00	11	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	24
	11:00	21	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	35
	12:00	27	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	40
	13:00	17	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	33
	14:00	21	11	6	0	0	0	0	0	0	0	0	0	0	0	0	0	38
	15:00	34	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	47
	16:00	23	13	5	1	0	0	0	0	0	0	0	0	0	0	0	0	42
	17:00	26	9	4	0	0	1	0	0	0	0	0	0	0	0	0	0	40
	18:00	19	6	5	1	0	0	0	0	0	0	0	0	0	0	0	0	31
	19:00	19	7	7	1	0	0	0	0	0	0	0	0	0	0	0	0	34
	20:00	10	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	16
	21:00	8	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	14
	22:00	6	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	12
	23:00	4	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Daily Total :		328	152	76	6	0	2	0	0	0	0	0	0	0	0	0	0	564
Percent :		58%	27%	13%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		58%	85%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		14	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	23

Average Speed	16.0 mph	50% Speed :	17.1 mph	67% Speed :	21.7 mph	85% Speed :	24.9 mph
				10mph Pace: 15.0 - 24.9 (41.3%)			

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16		
	0 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70 -	75 -	80 -	85 -			
Date	Time	19.9	24.9	29.9	34.9	39.9	44.9	49.9	54.9	59.9	64.9	69.9	74.9	79.9	84.9	89.9	Other	Total

Special Speed Study Summary: Cardenas Dr (North)

Description	#1 0 - 19.9	#2 20 - 24.9	#3 25 - 29.9	#4 30 - 34.9	#5 35 - 39.9	#6 40 - 44.9	#7 45 - 49.9	#8 50 - 54.9	#9 55 - 59.9	#10 60 - 64.9	#11 65 - 69.9	#12 70 - 74.9	#13 75 - 79.9	#14 80 - 84.9	#15 85 - 89.9	#16 Other	Total															
Grand Total #1:	841	311	118	30	3	0	1	0	0	0	0	0	0	0	0	1	1305															
Percent :	64%	24%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																
Cum. Percent :	64%	88%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%																
Average :	18	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	27															
ADT = 652	<table style="width: 100%; border: 1px solid black;"> <tr> <td>Average Speed</td> <td>15.2 mph</td> <td>50% Speed :</td> <td>14.9 mph</td> <td>67% Speed :</td> <td>20.6 mph</td> <td>85% Speed :</td> <td>24.3 mph</td> </tr> <tr> <td colspan="8">10mph Pace: 15.0 - 24.9 (37.8%)</td> </tr> </table>																Average Speed	15.2 mph	50% Speed :	14.9 mph	67% Speed :	20.6 mph	85% Speed :	24.3 mph	10mph Pace: 15.0 - 24.9 (37.8%)							
Average Speed	15.2 mph	50% Speed :	14.9 mph	67% Speed :	20.6 mph	85% Speed :	24.3 mph																									
10mph Pace: 15.0 - 24.9 (37.8%)																																
Grand Total #3:	675	313	122	23	2	2	0	1	0	0	0	0	0	0	0	0	1138															
Percent :	59%	28%	11%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																
Cum. Percent :	59%	87%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%																
Average :	14	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	24															
ADT = 569	<table style="width: 100%; border: 1px solid black;"> <tr> <td>Average Speed</td> <td>15.9 mph</td> <td>50% Speed :</td> <td>16.7 mph</td> <td>67% Speed :</td> <td>21.5 mph</td> <td>85% Speed :</td> <td>24.7 mph</td> </tr> <tr> <td colspan="8">10mph Pace: 15.0 - 24.9 (41.7%)</td> </tr> </table>																Average Speed	15.9 mph	50% Speed :	16.7 mph	67% Speed :	21.5 mph	85% Speed :	24.7 mph	10mph Pace: 15.0 - 24.9 (41.7%)							
Average Speed	15.9 mph	50% Speed :	16.7 mph	67% Speed :	21.5 mph	85% Speed :	24.7 mph																									
10mph Pace: 15.0 - 24.9 (41.7%)																																
Comb. Total :	1516	624	240	53	5	2	1	1	0	0	0	0	0	0	0	1	2443															
Percent :	62%	26%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																
Cum. Percent :	62%	88%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%																
Average :	32	13	5	1	0	0	0	0	0	0	0	0	0	0	0	0	51															
ADT = 1221	<table style="width: 100%; border: 1px solid black;"> <tr> <td>Average Speed</td> <td>15.5 mph</td> <td>50% Speed :</td> <td>15.8 mph</td> <td>67% Speed :</td> <td>21.1 mph</td> <td>85% Speed :</td> <td>24.5 mph</td> </tr> <tr> <td colspan="8">10mph Pace: 15.0 - 24.9 (40.3%)</td> </tr> </table>																Average Speed	15.5 mph	50% Speed :	15.8 mph	67% Speed :	21.1 mph	85% Speed :	24.5 mph	10mph Pace: 15.0 - 24.9 (40.3%)							
Average Speed	15.5 mph	50% Speed :	15.8 mph	67% Speed :	21.1 mph	85% Speed :	24.5 mph																									
10mph Pace: 15.0 - 24.9 (40.3%)																																

Special Speed Study Report: Cardenas Dr (South)

Station ID : Cardenas Dr (South)

Info Line 1 : Between Gibson and Southern
Info Line 2 : Albuquerque

GPS Lat/Lon :

DB File : S OF EASTRN1NB.DB

Last Connected Device Type : Apollo

Version Number : 1.62

Serial Number : 97001

Number of Lanes : 1

Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Vehicle Sensors	Sensor Spacing	Loop Length	Comment
1.		Northbound	Ax-Ax	4.0 ft	6.0 ft	

Lane #1 Special Speed Study Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/17/20	00:00	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6
Tue	01:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	06:00	2	7	3	1	1	0	0	0	0	0	0	0	0	0	0	0	14
	07:00	8	8	4	3	0	0	0	0	0	0	0	0	0	0	0	0	23
	08:00	10	12	24	6	3	0	0	0	0	0	0	0	0	0	0	0	55
	09:00	5	5	6	1	0	0	0	0	0	0	0	0	0	0	0	0	17
	10:00	10	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	18
	11:00	3	5	4	5	0	1	0	0	0	0	0	0	0	0	0	0	18
	12:00	9	5	5	6	0	0	0	0	0	0	0	0	0	0	0	0	25
	13:00	5	9	11	2	0	0	0	0	0	0	0	0	0	0	0	0	27
	14:00	11	18	5	3	0	0	0	0	0	0	0	0	0	0	0	0	37
	15:00	12	14	14	4	0	0	0	0	0	0	0	0	0	0	0	0	44
	16:00	13	15	20	6	1	0	0	0	0	0	0	0	0	0	0	0	55
	17:00	9	17	13	5	0	0	0	0	0	0	0	0	0	0	0	0	44
	18:00	14	10	2	1	2	0	0	0	0	0	0	0	0	0	0	0	29
	19:00	5	6	3	1	0	1	0	0	0	0	0	0	0	0	0	0	16
	20:00	6	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	14
	21:00	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	6
	22:00	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	23:00	2	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	9
Daily Total :		134	145	136	48	9	2	0	0	0	0	0	0	0	0	0	0	474
Percent :		28%	31%	29%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		28%	59%	88%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		6	6	6	2	0	0	0	0	0	0	0	0	0	0	0	0	20

Average Speed 21.7 mph 50% Speed : 23.5 mph 67% Speed : 26.6 mph 85% Speed : 29.2 mph
10mph Pace: 20.1 - 30.0 (59.3%)

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/18/20	00:00	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Wed	01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	02:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	03:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	04:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	05:00	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	06:00	1	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	8
	07:00	4	10	9	5	0	0	0	0	0	0	0	0	0	0	0	0	28
	08:00	10	11	15	5	3	0	0	0	0	0	0	0	0	0	0	0	44
	09:00	5	5	7	1	2	0	0	0	0	0	0	0	0	0	0	0	20
	10:00	5	7	11	1	1	0	0	0	0	0	0	0	0	0	0	0	25
	11:00	2	8	3	2	0	0	0	0	0	0	0	0	0	0	0	0	15
	12:00	6	9	7	3	0	0	0	0	0	0	0	0	0	0	0	0	25
	13:00	10	5	5	4	1	0	0	0	0	0	0	0	0	0	0	0	25
	14:00	9	12	8	5	0	0	0	0	0	0	0	0	0	0	0	0	34
	15:00	12	20	16	5	0	0	0	0	0	0	0	0	0	0	0	0	53
	16:00	6	8	17	10	1	0	0	0	0	0	0	0	0	0	0	0	42
	17:00	6	10	9	6	0	0	0	0	0	0	0	0	0	0	0	0	31
	18:00	7	5	8	3	0	0	0	0	0	0	0	0	0	0	0	0	23
	19:00	1	7	6	2	0	0	0	0	0	0	0	0	0	0	0	0	16
	20:00	1	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	15
	21:00	5	6	3	0	1	0	0	0	0	0	0	0	0	0	0	0	15
	22:00	2	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	9
	23:00	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Daily Total :		99	146	139	57	9	0	0	0	0	0	0	0	0	0	0	0	450
Percent :		22%	32%	31%	13%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		22%	54%	85%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		4	6	6	2	0	0	0	0	0	0	0	0	0	0	0	0	18

Average Speed	22.8 mph	50% Speed :	24.2 mph	67% Speed :	27.1 mph	85% Speed :	29.8 mph
				10mph Pace:	20.1 - 30.0 (63.3%)		

Lane #3 Configuration

#	Dir.	Information	Vehicle Sensors	Sensor Spacing	Loop Length	Comment
3.		Southbound	Ax-Ax	4.0 ft	6.0 ft	

Lane #3 Special Speed Study Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/17/20	00:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Tue	01:00	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4
	02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	04:00	1	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	05:00	1	3	5	1	1	0	0	0	0	0	0	0	0	0	0	0	11
	06:00	1	7	3	2	3	0	0	0	0	0	0	0	0	0	0	0	16
	07:00	11	10	10	6	1	0	0	0	0	0	0	0	0	0	0	0	38
	08:00	9	13	21	4	0	0	0	0	0	0	0	0	0	0	0	0	47
	09:00	5	4	7	1	0	0	0	0	0	0	0	0	0	0	0	0	17
	10:00	6	2	5	2	0	0	0	0	0	0	0	0	0	0	0	0	15
	11:00	8	8	5	2	1	0	0	0	0	0	0	0	0	0	0	0	24
	12:00	9	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	20
	13:00	6	8	8	3	0	0	0	0	0	0	0	0	0	0	0	0	25
	14:00	7	9	9	6	0	0	0	0	0	0	0	0	0	0	0	0	31
	15:00	11	5	11	2	1	0	0	0	0	0	0	0	0	1	0	0	31
	16:00	9	7	12	4	1	0	0	0	0	0	0	0	0	0	0	0	33
	17:00	12	12	11	3	0	0	0	0	0	0	0	0	0	0	0	0	38
	18:00	9	13	11	2	1	1	0	0	0	0	0	0	0	0	0	0	37
	19:00	4	3	5	1	2	0	0	0	0	0	0	0	0	0	0	0	15
	20:00	7	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	16
	21:00	1	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	7
	22:00	4	4	5	2	0	0	0	0	0	0	0	0	0	0	0	0	15
	23:00	1	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	7

Daily Total :	123	121	155	45	11	1	0	0	0	0	0	0	0	0	1	0	0	457
Percent :	27%	26%	34%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	27%	53%	87%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	5	5	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	18

Average Speed 22.3 mph	50% Speed : 24.0 mph	67% Speed : 27.0 mph
85% Speed : 29.6 mph		
10mph Pace: 20.1 - 30.0 (60.4%)		

Date	Time	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	Total
		0 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	Other	
10/18/20	00:00	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Wed	01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	02:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	04:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
	05:00	1	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	8
	06:00	2	3	4	1	2	0	0	0	0	0	0	0	0	0	0	1	13
	07:00	4	16	12	6	2	0	0	0	0	0	0	0	0	0	0	0	40
	08:00	8	15	11	9	1	0	0	0	0	0	0	0	0	0	0	0	44
	09:00	6	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	13
	10:00	4	8	6	1	1	0	0	0	0	0	0	0	0	0	0	0	20
	11:00	7	9	5	2	0	0	0	0	0	0	0	0	0	0	0	0	23
	12:00	13	16	9	0	0	0	0	0	0	0	0	0	0	0	0	0	38
	13:00	19	7	11	1	0	0	0	0	0	0	0	0	0	0	0	0	38
	14:00	4	8	7	2	0	0	0	0	0	0	0	0	0	0	0	0	21
	15:00	12	21	19	4	0	0	0	0	0	0	0	0	0	0	0	0	56
	16:00	13	6	12	3	1	0	0	0	0	0	0	0	0	0	0	0	35
	17:00	8	13	11	2	0	0	0	0	0	0	0	0	0	0	0	0	34
	18:00	4	5	5	3	0	0	0	0	0	0	0	0	0	0	0	0	17
	19:00	5	9	10	2	1	0	0	0	0	0	0	0	0	0	0	0	27
	20:00	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	21:00	4	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	12
	22:00	3	4	2	0	0	1	0	0	0	0	0	0	0	0	0	0	10
	23:00	0	2	6	1	0	0	0	0	0	0	0	0	0	0	0	0	9
Daily Total :		125	154	145	43	9	1	0	0	0	0	0	0	0	0	0	1	478
Percent :		26%	32%	30%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :		26%	58%	89%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :		5	6	6	2	0	0	0	0	0	0	0	0	0	0	0	0	19

Average Speed	21.9 mph	50% Speed :	23.7 mph	67% Speed :	26.5 mph	85% Speed :	29.2 mph
				10mph Pace:	20.1 - 30.0 (62.6%)		

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16		
	0 -	20 -	25 -	30 -	35 -	40 -	45 -	50 -	55 -	60 -	65 -	70 -	75 -	80 -	85 -			
Date	Time	19.9	24.9	29.9	34.9	39.9	44.9	49.9	54.9	59.9	64.9	69.9	74.9	79.9	84.9	89.9	Other	Total

Special Speed Study Summary: Cardenas Dr (South)

Description	#1 0 - 19.9	#2 20 - 24.9	#3 25 - 29.9	#4 30 - 34.9	#5 35 - 39.9	#6 40 - 44.9	#7 45 - 49.9	#8 50 - 54.9	#9 55 - 59.9	#10 60 - 64.9	#11 65 - 69.9	#12 70 - 74.9	#13 75 - 79.9	#14 80 - 84.9	#15 85 - 89.9	#16 Other	Total															
Grand Total #1:	233	291	275	105	18	2	0	0	0	0	0	0	0	0	0	0	924															
Percent :	25%	31%	30%	11%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																
Cum. Percent :	25%	57%	86%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%																
Average :	5	6	6	2	0	0	0	0	0	0	0	0	0	0	0	0	19															
ADT = 462	<table style="width: 100%; border: 1px solid black; background-color: #e0f0e0;"> <tr> <td>Average Speed</td> <td>22.2 mph</td> <td>50% Speed :</td> <td>23.9 mph</td> <td>67% Speed :</td> <td>26.8 mph</td> <td>85% Speed :</td> <td>29.7 mph</td> </tr> <tr> <td colspan="8">10mph Pace: 20.1 - 30.0 (61.5%)</td> </tr> </table>																Average Speed	22.2 mph	50% Speed :	23.9 mph	67% Speed :	26.8 mph	85% Speed :	29.7 mph	10mph Pace: 20.1 - 30.0 (61.5%)							
Average Speed	22.2 mph	50% Speed :	23.9 mph	67% Speed :	26.8 mph	85% Speed :	29.7 mph																									
10mph Pace: 20.1 - 30.0 (61.5%)																																
Grand Total #3:	248	275	300	88	20	2	0	0	0	0	0	0	0	1	0	1	935															
Percent :	27%	29%	32%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																
Cum. Percent :	27%	56%	88%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%																
Average :	5	6	6	2	0	0	0	0	0	0	0	0	0	0	0	0	19															
ADT = 467	<table style="width: 100%; border: 1px solid black; background-color: #e0f0e0;"> <tr> <td>Average Speed</td> <td>22.1 mph</td> <td>50% Speed :</td> <td>23.9 mph</td> <td>67% Speed :</td> <td>26.8 mph</td> <td>85% Speed :</td> <td>29.4 mph</td> </tr> <tr> <td colspan="8">10mph Pace: 20.1 - 30.0 (61.7%)</td> </tr> </table>																Average Speed	22.1 mph	50% Speed :	23.9 mph	67% Speed :	26.8 mph	85% Speed :	29.4 mph	10mph Pace: 20.1 - 30.0 (61.7%)							
Average Speed	22.1 mph	50% Speed :	23.9 mph	67% Speed :	26.8 mph	85% Speed :	29.4 mph																									
10mph Pace: 20.1 - 30.0 (61.7%)																																
Comb. Total :	481	566	575	193	38	4	0	0	0	0	0	0	0	1	0	1	1859															
Percent :	26%	30%	31%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%																
Cum. Percent :	26%	56%	87%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%																
Average :	10	12	12	4	1	0	0	0	0	0	0	0	0	0	0	0	39															
ADT = 929	<table style="width: 100%; border: 1px solid black; background-color: #e0f0e0;"> <tr> <td>Average Speed</td> <td>22.2 mph</td> <td>50% Speed :</td> <td>24.0 mph</td> <td>67% Speed :</td> <td>26.8 mph</td> <td>85% Speed :</td> <td>29.6 mph</td> </tr> <tr> <td colspan="8">10mph Pace: 20.1 - 30.0 (61.6%)</td> </tr> </table>																Average Speed	22.2 mph	50% Speed :	24.0 mph	67% Speed :	26.8 mph	85% Speed :	29.6 mph	10mph Pace: 20.1 - 30.0 (61.6%)							
Average Speed	22.2 mph	50% Speed :	24.0 mph	67% Speed :	26.8 mph	85% Speed :	29.6 mph																									
10mph Pace: 20.1 - 30.0 (61.6%)																																

Basic Volume Report: Cardenas Dr (North)

Station ID : Cardenas Dr (North)

Info Line 1 : Between Southern & Ross

Info Line 2 : Albuquerque

GPS Lat/Lon :

DB File : N OF EASTRN.DB

Last Connected Device Type : Apollo

Version Number : 1.66

Serial Number :

Number of Lanes : 1

Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
1.	Northbound		Normal	Veh.	No	

Lane #1 Basic Volume Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	:00	:15	:30	:45	Total
10/17/201	00:00	3	2	1	2	8
Tue	01:00	0	2	0	3	5
	02:00	0	0	0	0	0
	03:00	0	0	0	0	0
	04:00	0	2	2	1	5
	05:00	1	1	1	0	3
	06:00	1	1	1	7	10
	07:00	9	5	12	22	48
	08:00	42	21	8	15	86
	09:00	8	7	5	5	25
	10:00	4	4	8	9	25
	11:00	7	6	7	8	28
	12:00	10	4	7	9	30
	13:00	10	10	3	4	27
	14:00	13	11	15	12	51
	15:00	24	22	9	12	67
	16:00	18	17	17	21	73
	17:00	17	11	3	10	41
	18:00	4	10	9	7	30
	19:00	8	4	3	4	19
	20:00	6	7	6	4	23
	21:00	3	8	1	2	14
	22:00	2	2	3	4	11
	23:00	4	5	3	5	17

Day Total : 646

AM Total :	243 (37.6%)	Peak AM Hour : 07:30 =	97 (15.0%)	Peak AM Factor : 0.577	Average Period :	6.7
PM Total :	403 (62.4%)	Peak PM Hour : 14:30 =	73 (11.3%)	Peak PM Factor : 0.760	Average Hour :	26.9

Date	Time	:00	:15	:30	:45	Total
10/18/2017	00:00	6	0	0	3	9
Wed	01:00	2	0	1	0	3
	02:00	1	1	2	0	4
	03:00	3	2	2	0	7
	04:00	1	4	2	1	8
	05:00	1	2	2	0	5
	06:00	1	1	3	2	7
	07:00	7	9	8	22	46
	08:00	45	27	14	7	93
	09:00	5	8	5	4	22
	10:00	6	5	4	8	23
	11:00	8	6	9	8	31
	12:00	7	8	5	10	30
	13:00	6	8	6	5	25
	14:00	8	5	16	19	48
	15:00	24	18	15	19	76
	16:00	9	10	12	23	54
	17:00	19	12	6	12	49
	18:00	7	7	9	8	31
	19:00	8	3	9	3	23
	20:00	2	8	6	4	20
	21:00	3	2	6	5	16
	22:00	3	5	3	4	15
	23:00	2	3	5	4	14

Day Total : 659

AM Total :	258 (39.2%)	Peak AM Hour : 07:45 =	108 (16.4%)	Peak AM Factor : 0.600	Average Period :	6.9
PM Total :	401 (60.8%)	Peak PM Hour : 14:30 =	77 (11.7%)	Peak PM Factor : 0.802	Average Hour :	27.5

Lane #3 Configuration

#	Dir. Information	Volume Mode	Volume Sensors	Divide By 2	Comment
3.	Southbound	Normal	Veh.	No	

Lane #3 Basic Volume Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	:00	:15	:30	:45	Total
10/17/201	00:00	1	1	1	3	6
Tue	01:00	0	1	1	3	5
	02:00	1	1	1	1	4
	03:00	1	2	0	1	4
	04:00	1	1	1	2	5
	05:00	2	3	3	1	9
	06:00	2	3	8	7	20
	07:00	7	7	7	14	35
	08:00	14	6	14	10	44
	09:00	5	12	7	9	33
	10:00	3	4	9	7	23
	11:00	6	6	9	9	30
	12:00	8	10	8	11	37
	13:00	6	7	8	7	28
	14:00	13	11	9	9	42
	15:00	14	14	7	5	40
	16:00	17	9	9	10	45
	17:00	8	12	11	12	43
	18:00	13	12	12	7	44
	19:00	4	5	8	6	23
	20:00	4	4	4	3	15
	21:00	4	4	3	3	14
	22:00	5	4	2	4	15
	23:00	2	3	3	2	10

Day Total : 574

AM Total :	218 (38.0%)	Peak AM Hour : 07:45 =	48 (8.4%)	Peak AM Factor : 0.857	Average Period :	6.0
PM Total :	356 (62.0%)	Peak PM Hour : 17:45 =	49 (8.5%)	Peak PM Factor : 0.721	Average Hour :	23.9

Date	Time	:00	:15	:30	:45	Total
10/18/2017	00:00	1	0	1	1	3
Wed	01:00	1	1	0	1	3
	02:00	0	2	3	1	6
	03:00	1	3	1	0	5
	04:00	0	2	0	3	5
	05:00	1	1	5	3	10
	06:00	1	2	6	5	14
	07:00	5	7	11	9	32
	08:00	12	11	8	12	43
	09:00	4	4	6	7	21
	10:00	6	3	7	8	24
	11:00	8	8	9	10	35
	12:00	16	7	6	11	40
	13:00	9	9	5	10	33
	14:00	8	10	9	11	38
	15:00	15	16	11	5	47
	16:00	7	8	14	13	42
	17:00	10	11	10	9	40
	18:00	4	8	13	6	31
	19:00	7	8	10	9	34
	20:00	8	3	3	2	16
	21:00	2	1	7	4	14
	22:00	0	6	5	1	12
	23:00	2	4	4	6	16

Day Total : 564

AM Total :	201 (35.6%)	Peak AM Hour : 07:30 =	43 (7.6%)	Peak AM Factor : 0.896	Average Period :	5.9
PM Total :	363 (64.4%)	Peak PM Hour : 14:45 =	53 (9.4%)	Peak PM Factor : 0.828	Average Hour :	23.5

Basic Volume Summary: Cardenas Dr (North)

Grand Total For Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Lane	Total Count	# Of Days	ADT	Avg. Period	Avg. Hour	AM Total & Percent	PM Total & Percent
#1.	1305 (53.4%)	2.00	653	6.8	27.2	501 (38.4%)	804 (61.6%)
#3.	1138 (46.6%)	2.00	569	5.9	23.7	419 (36.8%)	719 (63.2%)
ALL	2443	2.00	1222	12.7	50.9	920 (37.7%)	1523 (62.3%)

Lane	Peak AM Hour	Date	Peak AM Factor	Peak PM Hour	Date	Peak PM Factor
#1.	07:45 = 108	10/18/2017	0.600	14:30 = 77	10/18/2017	0.802
#3.	07:45 = 48	10/17/2017	0.857	14:45 = 53	10/18/2017	0.828

Basic Volume Report: Cardenas Dr (South)

Station ID : Cardenas Dr (South)
 Info Line 1 : Between Gibson and Southern
 Info Line 2 : Albuquerque
 GPS Lat/Lon :
 DB File : S OF EASTRN1NB.DB

Last Connected Device Type : Apollo
 Version Number : 1.62
 Serial Number : 97001
 Number of Lanes : 1
 Posted Speed Limit : 0.0 mph

Lane #1 Configuration

#	Dir.	Information	Volume Mode	Volume Sensors	Divide By 2	Comment
1.	Northbound		Normal	Veh.	No	

Lane #1 Basic Volume Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	:00	:15	:30	:45	Total
10/17/2017	00:00	2	2	0	2	6
Tue	01:00	0	1	0	1	2
	02:00	0	0	0	1	1
	03:00	0	3	0	0	3
	04:00	0	0	1	0	1
	05:00	0	0	1	1	2
	06:00	1	3	5	5	14
	07:00	6	2	7	8	23
	08:00	28	12	8	7	55
	09:00	8	5	2	2	17
	10:00	3	4	3	8	18
	11:00	3	6	6	3	18
	12:00	8	3	7	7	25
	13:00	6	9	6	6	27
	14:00	10	8	5	14	37
	15:00	12	18	10	4	44
	16:00	12	12	15	16	55
	17:00	18	11	6	9	44
	18:00	7	11	5	6	29
	19:00	7	3	4	2	16
	20:00	3	7	1	3	14
	21:00	1	4	0	1	6
	22:00	2	1	4	1	8
	23:00	3	2	2	2	9

Day Total : 474

AM Total :	160 (33.8%)	Peak AM Hour : 07:45 =	56 (11.8%)	Peak AM Factor : 0.500	Average Period :	4.9
PM Total :	314 (66.2%)	Peak PM Hour : 16:15 =	61 (12.9%)	Peak PM Factor : 0.847	Average Hour :	19.8

Date	Time	:00	:15	:30	:45	Total
10/18/201	00:00	3	0	0	2	5
Wed	01:00	1	0	0	0	1
	02:00	0	1	1	0	2
	03:00	1	1	0	1	3
	04:00	0	1	1	0	2
	05:00	0	0	3	1	4
	06:00	0	2	4	2	8
	07:00	5	6	7	10	28
	08:00	22	13	4	5	44
	09:00	5	8	1	6	20
	10:00	7	6	5	7	25
	11:00	4	3	4	4	15
	12:00	5	3	6	11	25
	13:00	6	6	8	5	25
	14:00	7	3	10	14	34
	15:00	12	16	10	15	53
	16:00	10	10	14	8	42
	17:00	9	9	5	8	31
	18:00	5	4	9	5	23
	19:00	5	7	2	2	16
	20:00	3	6	5	1	15
	21:00	3	3	4	5	15
	22:00	3	2	2	2	9
	23:00	0	1	2	2	5

Day Total : 450

AM Total :	157 (34.9%)	Peak AM Hour : 07:30 =	52 (11.6%)	Peak AM Factor : 0.591	Average Period :	4.7
PM Total :	293 (65.1%)	Peak PM Hour : 15:00 =	53 (11.8%)	Peak PM Factor : 0.828	Average Hour :	18.8

Lane #3 Configuration

#	Dir. Information	Volume Mode	Volume Sensors	Divide By 2	Comment
3.	Southbound	Normal	Veh.	No	

Lane #3 Basic Volume Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Date	Time	:00	:15	:30	:45	Total
10/17/201	00:00	0	0	1	1	2
Tue	01:00	0	0	1	3	4
	02:00	0	0	0	1	1
	03:00	0	0	0	0	0
	04:00	2	1	2	2	7
	05:00	2	2	6	1	11
	06:00	3	1	7	5	16
	07:00	11	9	8	10	38
	08:00	23	5	12	7	47
	09:00	2	7	7	1	17
	10:00	2	2	7	4	15
	11:00	4	6	6	8	24
	12:00	7	6	3	4	20
	13:00	5	4	7	9	25
	14:00	6	11	9	5	31
	15:00	10	8	6	7	31
	16:00	10	8	5	10	33
	17:00	8	10	10	10	38
	18:00	13	8	10	6	37
	19:00	4	2	6	3	15
	20:00	6	3	2	5	16
	21:00	4	1	1	1	7
	22:00	3	5	6	1	15
	23:00	0	2	3	2	7

Day Total : 457

AM Total :	182 (39.8%)	Peak AM Hour : 07:15 =	50 (10.9%)	Peak AM Factor : 0.543	Average Period :	4.8
PM Total :	275 (60.2%)	Peak PM Hour : 17:15 =	43 (9.4%)	Peak PM Factor : 0.827	Average Hour :	19.0

Date	Time	:00	:15	:30	:45	Total
10/18/2017	00:00	1	2	1	1	5
Wed	01:00	0	0	0	0	0
	02:00	0	2	1	0	3
	03:00	1	0	0	0	1
	04:00	1	0	0	3	4
	05:00	1	1	4	2	8
	06:00	1	2	5	5	13
	07:00	8	13	11	8	40
	08:00	9	15	9	11	44
	09:00	5	0	4	4	13
	10:00	4	1	10	5	20
	11:00	4	6	7	6	23
	12:00	12	4	10	12	38
	13:00	5	12	7	14	38
	14:00	2	7	6	6	21
	15:00	29	12	7	8	56
	16:00	4	7	9	15	35
	17:00	12	8	9	5	34
	18:00	4	5	6	2	17
	19:00	6	6	8	7	27
	20:00	4	0	2	1	7
	21:00	1	4	5	2	12
	22:00	0	2	5	3	10
	23:00	1	5	2	1	9
Day Total :						478

AM Total :	174 (36.4%)	Peak AM Hour : 08:00 =	44 (9.2%)	Peak AM Factor : 0.733	Average Period :	5.0
PM Total :	304 (63.6%)	Peak PM Hour : 15:00 =	56 (11.7%)	Peak PM Factor : 0.483	Average Hour :	19.9

Basic Volume Summary: Cardenas Dr (South)

Grand Total For Data From: 00:00 - 10/17/2017 To: 23:59 - 10/18/2017

Lane	Total Count	# Of Days	ADT	Avg. Period	Avg. Hour	AM Total & Percent	PM Total & Percent
#1.	924 (49.7%)	2.00	462	4.8	19.3	317 (34.3%)	607 (65.7%)
#3.	935 (50.3%)	2.00	468	4.9	19.5	356 (38.1%)	579 (61.9%)
ALL	1859	2.00	930	9.7	38.8	673 (36.2%)	1186 (63.8%)

Lane	Peak AM Hour	Date	Peak AM Factor	Peak PM Hour	Date	Peak PM Factor
#1.	07:45 = 56	10/17/2017	0.500	16:15 = 61	10/17/2017	0.847
#3.	07:15 = 50	10/17/2017	0.543	15:00 = 56	10/18/2017	0.483



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Appendix B

Warrants Summary Report

3: Cardenas & Eastern

Intersection Information

	Major Street	Minor Street
Street Name	Cardenas	Eastern
Direction	NB/SB	EB/WB
Number of Lane:	1	1
Approach Speed	25	25

Warrant	Met?	Notes
Warrant 1, Eight-Hour Vehicular Volume		
	No	
Condition A or B Met?	No	0 Hours met (8 required)
Condition A and B Met?	No	0 Hours met (8 required)
Warrant 2, Four-Hour Vehicular Volume		
	No	0 Hours met (4 required)
Warrant 3, Peak Hour		
	No	
Condition A Met?	No	0 Hours met (1 required)
Condition B Met?	No	0 Hours met (1 required)
Warrant 4, Pedestrian Volume		
	No	
Condition A Met?	No	0 Hours met (4 required)
Condition B Met?	No	0 Hours met (1 required)
Warrant 5, School Crossing		
	No	

Warrant 6, Coordinated Signal System

No

Warrant 7, Crash Experience

No

Traffic Volume Condi No 0 Hours met (8 required)

Ped Condition? No 0 Hours met (8 required)

Warrant 8, Roadway Network

No

Warrant 9, Intersection Near a Grade Crossing

No

AWSC Warrant, Multiway Stop Application

No

Condition A Met? No

Condition B Met? No

Condition C Met? No

Warrant 1: Eight-hour Vehicular Volume

3: Cardenas & Eastern

Intersection Information

Major Street Name: Cardenas

Major Street Direction: NB/SB

Minor Street Direction: EB/WB

WARRANT 1 MET? No

Details:

Condition A Met? No 0 Hours met (8 required)

Condition B Met? No 0 Hours met (8 required)

Hour	Major Street Vehicles (Total of Both Approaches)	High Volume Minor Approach Vehicles	100% Standard Met? Cond. A OR Cond. B		80% Standard Met? Cond. A AND Cond. B	
			Condition A 100% Column	Condition B 100% Column	Condition A 80% Column	Condition B 80% Column
00:00 to 01:00	48	0	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No		
00:15 to 01:15	36	0	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No		
00:30 to 01:30	24	0	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No		
00:45 to 01:45	12	0	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No		

06:30 to 07:30		45		47		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

06:45 to 07:45		47		59		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

07:00 to 08:00		60		80		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

07:15 to 08:15		94		98		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

07:30 to 08:30		103		102		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

07:45 to 08:45		109		95		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

08:00 to 09:00		101		78		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

08:15 to 09:15		68		70		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

08:30 to 09:30		67		67		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

08:45 to 09:45		55		54		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

09:00 to 10:00		47		53		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

09:15 to 10:15		38		55		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

09:30 to 10:30		31		52		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

09:45 to 10:45		33		66		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

10:00 to 11:00	41	70	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

10:15 to 11:15	46	84	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

10:30 to 11:30	48	95	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

10:45 to 11:45	55	92	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

11:00 to 12:00	50	99	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

11:15 to 12:15	52	95	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

11:30 to 12:30	53	96	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

11:45 to 12:45	49	90	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

12:00 to 13:00	53	84	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

12:15 to 13:15	53	73	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

12:30 to 13:30	57	71	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

12:45 to 13:45	58	68	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

13:00 to 14:00	54	73	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

13:15 to 14:15	67	80	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No		
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No		
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes		
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes		

13:30 to 14:30		70		76		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

13:45 to 14:45		68		100		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

14:00 to 15:00		81		111		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

14:15 to 15:15		85		121		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

14:30 to 15:30		98		135		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

14:45 to 15:45		105		123		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

15:00 to 16:00		91		119		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

15:15 to 16:15	88		120	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

15:30 to 16:30	80		118	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

15:45 to 16:45	88		129	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

16:00 to 17:00	102		128	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

16:15 to 17:15	101		128	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

16:30 to 17:30	96		127	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	Yes			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

16:45 to 17:45	87		113	No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No			
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No			
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes			
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes			

17:00 to 18:00		85		114		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

17:15 to 18:15		80		104		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

17:30 to 18:30		82		108		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

17:45 to 18:45		64		87		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	Yes					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	Yes					

18:00 to 19:00		41		55		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

18:15 to 19:15		21		32		No	No	No	No
Condition A	Volume >= 100% column (500)?	No	Volume >= 100% column (750)?	No					
	Volume >= 80% column (400)?	No	Volume >= 80% column (600)?	No					
Condition B	Volume >= 100% column (750)?	No	Volume >= 100% column (75)?	No					
	Volume >= 80% column (600)?	No	Volume >= 80% column (60)?	No					

Warrant 2: Four-hour Vehicular Volume

3: Cardenas & Eastern

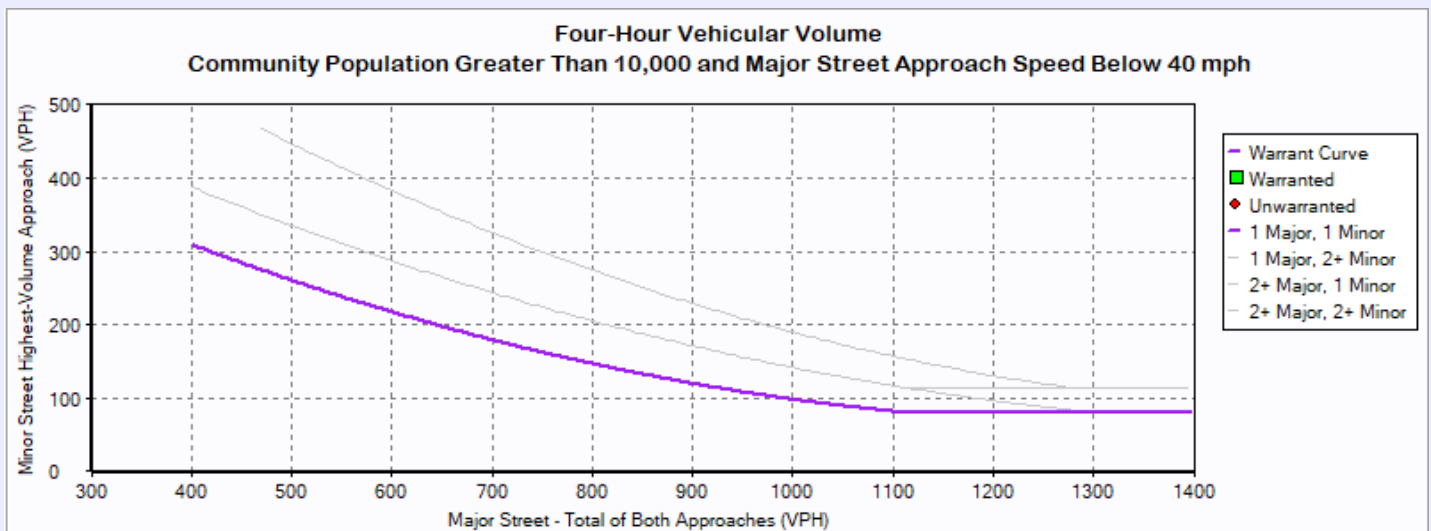
Intersection Information

	Major Street	Minor Street
Street Name	Cardenas	Eastern
Direction	NB/SB	EB/WB
Number of Lanes	1	1
Approch Speed	25	25

Warrant 2 Met? **No**

Details:

Notes	0 Hours met (4 required)
Low population	No



Hourly Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
00:00:00 - 01:00:00	48.00	0.00
01:00:00 - 02:00:00	0.00	0.00
02:00:00 - 03:00:00	0.00	0.00
03:00:00 - 04:00:00	0.00	0.00
04:00:00 - 05:00:00	0.00	0.00
05:00:00 - 06:00:00	0.00	0.00
06:00:00 - 07:00:00	24.00	14.00
07:00:00 - 08:00:00	60.00	80.00
08:00:00 - 09:00:00	101.00	78.00
09:00:00 - 10:00:00	47.00	53.00
10:00:00 - 11:00:00	41.00	70.00
11:00:00 - 12:00:00	50.00	99.00
12:00:00 - 13:00:00	53.00	84.00
13:00:00 - 14:00:00	54.00	73.00
14:00:00 - 15:00:00	81.00	111.00
15:00:00 - 16:00:00	91.00	119.00
16:00:00 - 17:00:00	102.00	128.00
17:00:00 - 18:00:00	85.00	114.00
18:00:00 - 19:00:00	41.00	55.00
19:00:00 - 20:00:00	0.00	0.00
20:00:00 - 21:00:00	0.00	0.00
21:00:00 - 22:00:00	0.00	0.00
22:00:00 - 23:00:00	0.00	0.00
23:00:00 - 00:00:00	0.00	0.00

Warranted Volumes

Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)

Warrant 3: Peak Hour

3: Cardenas & Eastern

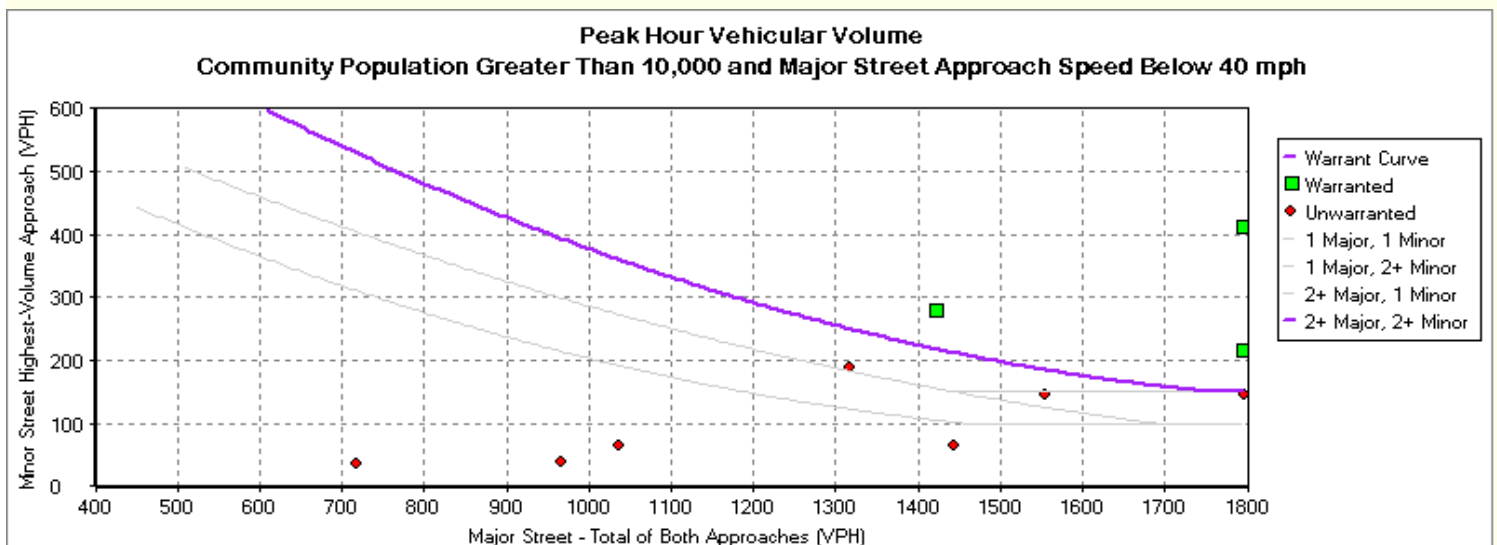
Intersection Information

	Major Street	Minor Street
Street Name	Cardenas	Eastern
Direction	NB/SB	EB/WB
Number of Lanes	1	1
Approach Speed	25	25

Warrant 3 Met? **No**

Details

Low Population?	No		
Condition A Met?	No	Condition B Met?	No
Notes	0 Hours met (1 required)	Notes	0 Hours met (1 required)
Minor Approach Time Delay Condition Met?	Not Met		
Minor Approach Volume Condition Met?	Met		
Total Entering Intersection Volume Condition Met?	Not Met		



Hour	Major Street Total All Approaches (vph)	Minor Street Highest Volume Approach (vph)
0:00	48	0
6:30	45	47
7:30	103	102
8:30	67	67
9:30	31	52
10:30	48	95
11:30	53	96
12:30	57	71
13:30	70	76
14:30	98	135
15:30	80	118
16:30	96	127
17:30	82	108

Warrant 4: Pedestrian Volume

3: Cardenas & Eastern

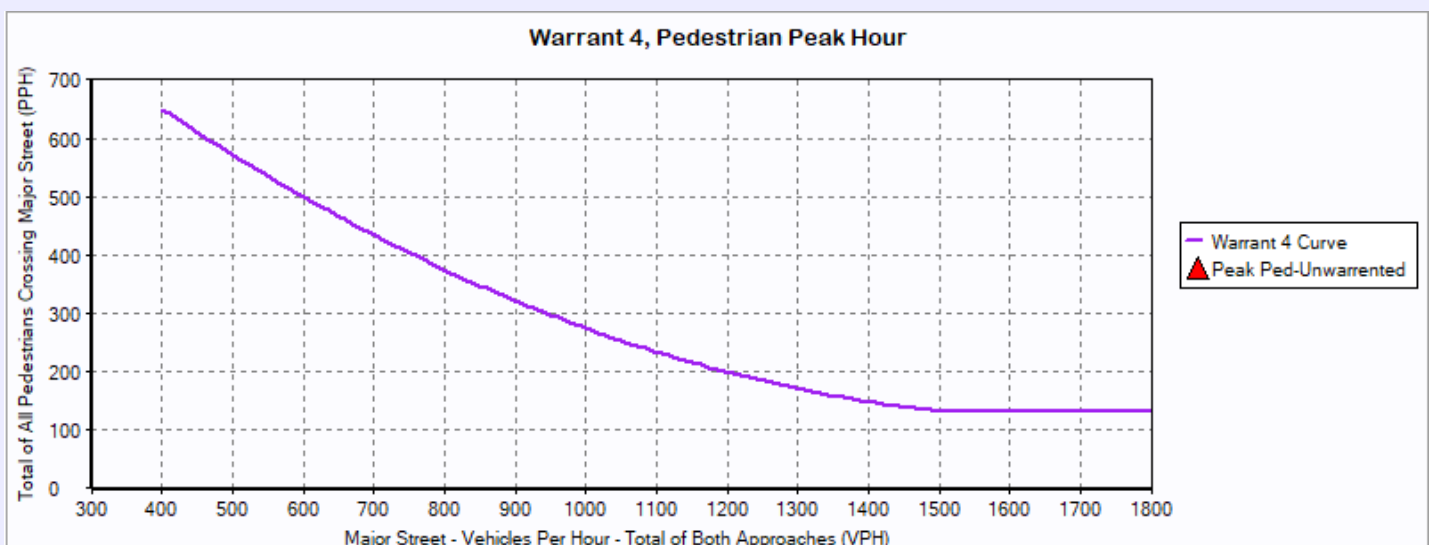
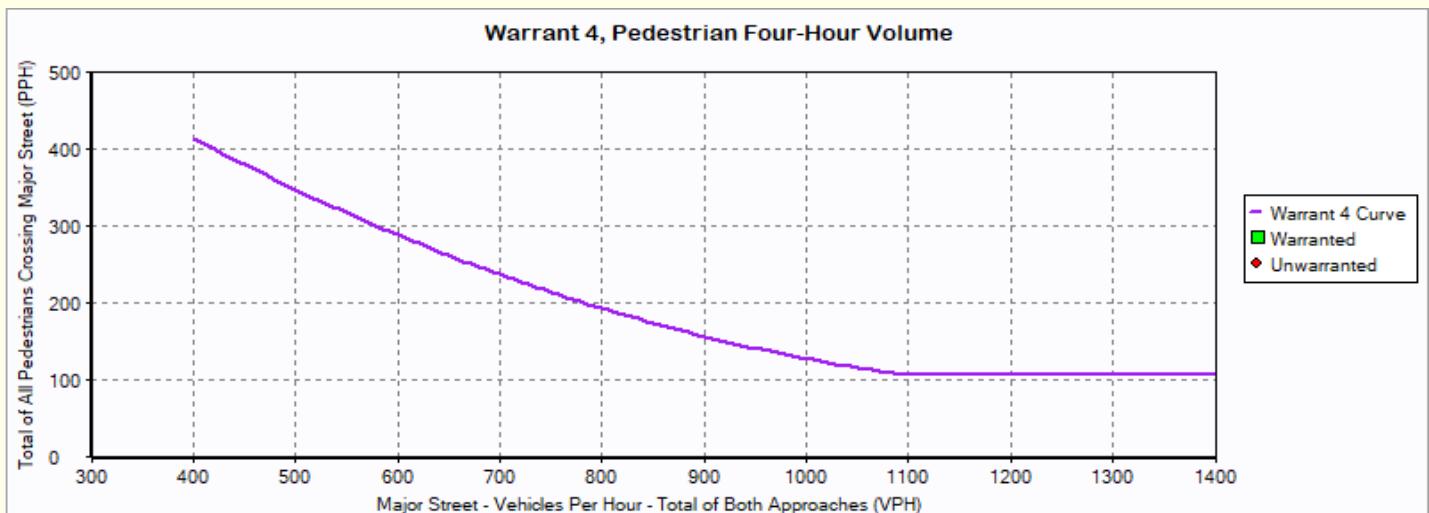
Intersection Information

	Major Street	Minor Street
Street Name	Cardenas	Eastern
Direction	NB/SB	EB/WB
Number of Lane:	1	1
Approch Speed	25	25

WARRANT 4 MET ? No

Details

Pedestrian Four Hour Volume Warrant Met?	No	
Pedestrian Peak Hour Warrant Met?	No	Notes 0 Hours met (4 required)
Speed Limit or 85th Percentile Speed on Major Street > 35mph, or Intersection lies within an Isolated Community with Population < 10,000?	No	



Warrant 5: School Crossing

3: Cardenas & Eastern

Intersection Information

Major Street Name Cardenas

Major Street Direction NB/SB

WARRANT 5 MET? **No**

Details:

Time Period Interval for Students Crossing (min) 0

Number of Students Crossing in Time Period 0

Number of Adequate Gaps in Time Period 0

Other Remedial Measures Attempted? **No**

Adjacent Signal on NB approach? **No**

Distance to signal on NB Approach (ft) -

Adjacent Signal on SB approach? **No**

Distance to signal on SB Approach (ft) -

Will New Signal Restrict Progressive Traffic? **No**

Warrant 6: Coordinated Signal System

3: Cardenas & Eastern

Intersection Information

Major Street Name Cardenas
Major Street Direction NB/SB

WARRANT 6 MET? **No**

Details:

Approach Direction & Name	Acceptable Platooning?	Adjacent Coordinating Signal?	Adjacent Intersection Distance
SB Approach (Cardenas)	Yes	No	N/A
NB Approach (Cardenas)	Yes	No	N/A
WB Approach (Eastern)	Yes	No	N/A
EB Approach (Eastern)	Yes	No	N/A

Unacceptable Platooning?
(At least one approach)

No

Distance to Closest Signal
(Must be N/A or > 1000)

N/A

Warrant 7: Crash Experience

3: Cardenas & Eastern

Intersection Information

Major Street Name Cardenas
 Major Street Direction NB/SB
 Minor Street Direction EB/WB

WARRANT 7 MET? **No**

Details:

Low Population?	No	Traffic Volume Condition Met?	No
Major Street Speed Limit	25		0 Hours Met (8 Required)
Major Street 85th-% tile Speed	0.00	Ped Volume Condition Met?	No
			0 Hours Met (8 Required)
Qualifying Crashes		3	
Adequate Alternative Trials?		No	

Hour	Traffic Volumes				Pedestrian Volumes			
	Major Street Vehicles	Minor Street Vehicles	80% Standard Met? A or B		Eastbound Ped Volumes		Westbound Ped Volumes	
			Condition A	Condition B	Peds	> 80?	Peds	> 80?
00:00 to 01:00	48	0	No	No	0	No	0	No
00:15 to 01:15	36	0	No	No	0	No	0	No
00:30 to 01:30	24	0	No	No	0	No	0	No
00:45 to 01:45	12	0	No	No	0	No	0	No
06:30 to 07:30	45	0	No	No	0	No	0	No
06:45 to 07:45	47	0	No	No	0	No	0	No
07:00 to 08:00	60	0	No	No	0	No	0	No
07:15 to 08:15	94	0	No	No	0	No	0	No

07:30 to 08:30	103	0	No	No	0	No	0	No
07:45 to 08:45	109	0	No	No	0	No	0	No
08:00 to 09:00	101	0	No	No	0	No	0	No
08:15 to 09:15	68	0	No	No	0	No	0	No
08:30 to 09:30	67	0	No	No	0	No	0	No
08:45 to 09:45	55	0	No	No	0	No	0	No
09:00 to 10:00	47	0	No	No	0	No	0	No
09:15 to 10:15	38	0	No	No	0	No	0	No
09:30 to 10:30	31	0	No	No	0	No	0	No
09:45 to 10:45	33	0	No	No	0	No	0	No
10:00 to 11:00	41	0	No	No	0	No	0	No
10:15 to 11:15	46	0	No	No	0	No	0	No
10:30 to 11:30	48	0	No	No	0	No	0	No
10:45 to 11:45	55	0	No	No	0	No	0	No
11:00 to 12:00	50	0	No	No	0	No	0	No
11:15 to 12:15	52	0	No	No	0	No	0	No
11:30 to 12:30	53	0	No	No	0	No	0	No
11:45 to 12:45	49	0	No	No	0	No	0	No

12:00 to 13:00	53	0	No	No	0	No	0	No
12:15 to 13:15	53	0	No	No	0	No	0	No
12:30 to 13:30	57	0	No	No	0	No	0	No
12:45 to 13:45	58	0	No	No	0	No	0	No
13:00 to 14:00	54	0	No	No	0	No	0	No
13:15 to 14:15	67	0	No	No	0	No	0	No
13:30 to 14:30	70	0	No	No	0	No	0	No
13:45 to 14:45	68	0	No	No	0	No	0	No
14:00 to 15:00	81	0	No	No	0	No	0	No
14:15 to 15:15	85	0	No	No	0	No	0	No
14:30 to 15:30	98	0	No	No	0	No	0	No
14:45 to 15:45	105	0	No	No	0	No	0	No
15:00 to 16:00	91	0	No	No	0	No	0	No
15:15 to 16:15	88	0	No	No	0	No	0	No
15:30 to 16:30	80	0	No	No	0	No	0	No
15:45 to 16:45	88	0	No	No	0	No	0	No
16:00 to 17:00	102	0	No	No	0	No	0	No
16:15 to 17:15	101	0	No	No	0	No	0	No

16:30 to 17:30	96	0	No	No	0	No	0	No
16:45 to 17:45	87	0	No	No	0	No	0	No
17:00 to 18:00	85	0	No	No	0	No	0	No
17:15 to 18:15	80	0	No	No	0	No	0	No
17:30 to 18:30	82	0	No	No	0	No	0	No
17:45 to 18:45	64	0	No	No	0	No	0	No
18:00 to 19:00	41	0	No	No	0	No	0	No
18:15 to 19:15	21	0	No	No	0	No	0	No

Warrant 8: Roadway Network

3: Cardenas & Eastern

Intersection Information

Major Street Name	Cardenas
Major Street Direction	NB/SB
Minor Street Direction	EB/WB

WARRANT 8 MET? (A or B) No

Details:

	Growth Rates % (per year)			
	NB	SB	EB	WB
L	0.00	0.00	0.00	0.00
T	0.00	0.00	0.00	0.00
R	0.00	0.00	0.00	0.00

<u>Condition A, Total Entering Volume</u>		<u>Condition B, Non-normal Business Day</u>	
		<u>Existing</u>	<u>Future</u>
Existing Peak Hour	323	Highest Hour	0
Years	0.00	Second Highest Hour	0
Future Peak Hour	323	Third Highest Hour	0
Warrant 1 in 5 Years?	No	Fourth Highest Hour	0
Warrant 2 in 5 Years?	No	Fifth Highest Hour	0
Warrant 3 in 5 Years?	No	Yearly Growth Rate (%)	0.00
		Years	0.00

Condition A Met? No

Condition B Met? No

Warrant 9: Intersection Near a Grade Crossing

3: Cardenas & Eastern

Intersection Information

	Major Street	Minor Street
Street Name	Cardenas	Eastern
Direction	NB/SB	EB/WB
Number of Lane:	1	1
Approach Speed	25	25

WARRANT 9 MET ? No

Details

Note **No approach with a railroad grade crossing**

Minor street approach having a grade crossing

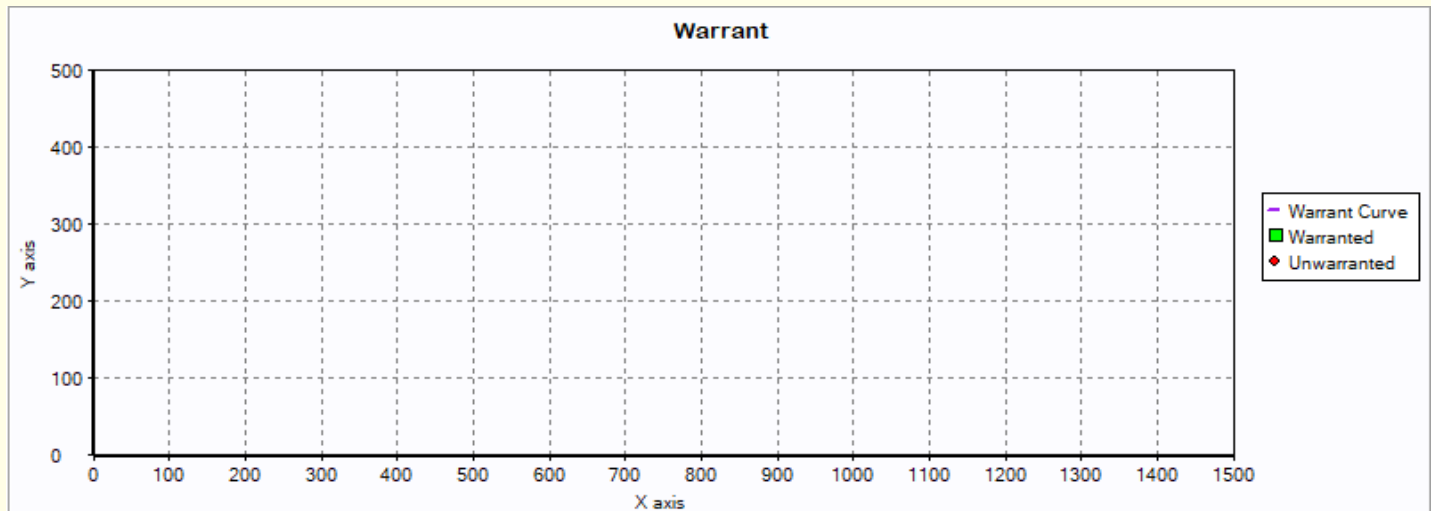
Distance from the center of the track to the stop or yield line Interpolated

Number of occurrences of rail traffic per day Adjustment Factor

Percentage of high-occupancy buses crossing the track (%) Adjustment Factor

Percentage of tractor-trailer trucks crossing the track (%) Adjustment Factor

The rail traffic arrival times are unknown, the highest traffic volume hour of the day is used



Hour	Major Street Total of Both Approaches (vph)	Minor Street Adjusted Volume Crossing Tracks (vph)

All-Way Stop Control Warrant: Multiway Stop Applications

3: Cardenas & Eastern

Intersection Information

Major Street Name: Cardenas
 Major Street Direction: NB/SB
 Minor Street Direction: EB/WB

AWSC WARRANT MET? No

Details:

Condition A Met?	No	Qualifying Crashes	3
Condition B Met?	No	Major Street 85th %-tile Speed	0.00
Condition C Met?	No	Major Street Speed Limit	25
Notes: 0 Hours Met (8 Required)			

Hour	Traffic Volumes		Bicycle Volumes		Ped Volumes		Condition C		
	Major Street	Minor Street	North Bound Bicycle Volumes	East Bound Bicycle Volumes	North Bound Ped Volumes	East Bound Ped Volumes	Major Street Veh Vol > 210	Minor Street Avg(Veh + Ped + Bicycle) > 200	Minor Street Delay > 30



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Appendix C

USLIMITS2 Speed Zoning Report

Project Name: Traffic On-Call, Task 9 - Eastern-Cardenas All-Way Study

Analyst: SMA

Date: 12-08-2017

Basic Project Information

Project Number: COA 6254.00
Route Name: Cardenas Dr, SE
From: Gibson Blvd, SE
To: Zuni Rd, SE
State: New Mexico
County: Bernalillo County
City: Albuquerque city
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information

Section Length: .13 mile(s)
Statutory Speed Limit: 25 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Undivided
Number of Through Lanes: 2
Area Type: Residential-Subdivision
Number of Driveways: 7
Number of Signals: 0

Crash Data Information

Crash Data Years: 3.00
Crash AADT: 930 veh/day
Total Number of Crashes: 5
Total Number of Injury Crashes: 0
Section Crash Rate: 3777 per 100 MVM
Section Injury Crash Rate: 0 per 100 MVM
Crash Rate Average for Similar Roads: 366
Injury Rate Average for Similar Roads: 101

Traffic Information

85th Percentile Speed: 30 mph
50th Percentile Speed: 24 mph
AADT: 930 veh/day
On Street Parking and Usage: High
Pedestrian / Bicyclist Activity: High

Project Description: All-Way Stop Control & Speed Safety Study for the intersection of Eastern Ave, SE and Cardenas Dr, SE.

Recommended Speed Limit: **25**

Note: The section crash rate of 3777 per 100 MVM is above the critical rate (2099). A comprehensive crash study should be undertaken to identify engineering and traffic control deficiencies and appropriate corrective actions. The speed limit should only be reduced as a last measure after all other treatments have either been tried or ruled out.



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