TRUMBULL AVENUE SPEED STUDY







Trumbull Avenue Speed Study Final Report

Albuquerque, New Mexico



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City of Albuquerque

September 2017

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INTRODUCTION

The City of Albuquerque – Department of Municipal Development (Traffic Engineering Design Division) has requested that Souder, Miller & Associates conduct at speed study along Trumbull Avenue in southeast Albuquerque.

1.A. PROJECT PURPOSE

A speed study on Trumbull Avenue from Utah Street to Virginia Street was conducted to determine the following:

- Evaluate the 85th percentile speed along Trumbull Avenue at two (2) locations;
- Calculate average and daily peak hour traffic volumes along Trumbull Avenue.

As part of this study, an evaluation and cataloging of existing roadway conditions, collection of historical ADT, and crash data will be completed.

1.B. PROJECT DESCRIPTION

The study area will be a 0.12 (643.21 LF) mile section of Trumbull Avenue from Utah Street to Virginia Street. Figure 1.B.1. below displays the study location and Figure 1.B.2. on page 2 displays the project limits.



FIGURE 1.B.1. STUDY LOCATION





FIGURE 1.B.2. STUDY LIMITS

1.C. 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 what is a reasonable speed for them to drive at while traveling on a given roadway.

Among regulatory signage, speed limit signs arguably contain the most critical information that motorists need to be informed of while driving (next to stop signs, which are considered the highest impact regulatory sign). Drivers unfamiliar with a roadway often do not realize what characteristics the roadway has, and properly established speed limit signs give them the information they need to drive the roadway safely.

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
- The maximize public antagonism toward law enforcement, since the perception is that the police are enforcing a "speed trap"
- The create a bad image for a community in the eyes of tourists / visitors

1.D. 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 fasted 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



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 different amount than 100 vehicles, the 85^{th} percentile speed is determined by the following formula: 100/15 = # of vehicles surveyed/X (where x = the vehicle at the 85^{th} 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)÷2 = 112÷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:

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

 $X = \text{Individual score (speed)}$
 $N = \text{Sample size (number of scores)}$

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.

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

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 either side 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.

2. EXISTING CONDITIONS

2.A. COUNT LOCATIONS

The study area included two (2) volume and speed count locations which were at the following locations:

- Trumbull Avenue West near Utah Street;
- Trumbull Avenue East near Virginia Street.

Figure 2.1. on page 6 displays the approximate traffic count locations.

2.B. EXISTING CONDITIONS

Figure 2.2. on page 6 displays the existing typical section of Trumbull Avenue. Within the study limits approximately 20 driveways that provide access to residential homes and apartment houses. Also, it is to be noted, the speed limit within the study limits is 25 mph.



FIGURE 2.1. COUNT LOCATIONS

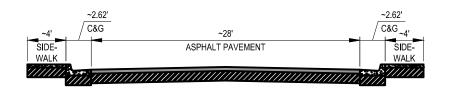


FIGURE 2.2. EXISTING TRUMBULL AVENUE TYPICAL SECTION



3. DATA

3.A. ADT

The ADT for the two (2) count locations are listed below in Table 3.A.1.

Table 3.A.1.				
Trumbull Ave	Trumbull Avenue ADT			
Count Location	EB	WB	ADT	
Trumbull Avenue West	988	1271	2259	
Trumbull Avenue East	994	1276	2270	
Average	991.0	1273.5	2264.5	

The Trumbull Avenue study area directional ADT ranges from 988 to 1276 vehicles per day.

3.B. PEAK HOUR TRAFFIC VOLUMES

The peak hour traffic volumes for the two (2) count locations are shown below in Table 3.B.1.

Table 3.B.1.					
Trumbull Avenue Peak Hour Traffic Volumes (vph)					
Count Location Peak Hour Eastbound (Peak Hour) Westbound (Peak Hour)					
Trumbull Avenue West	AM Peak	56 (8:00 AM - 9:00 AM)	75 (10:45 AM - 11:45 AM)		
	PM Peak	104 (4:15 PM - 5:15 PM)	118 (4:00 PM - 5:00 PM)		
Trumbull Avenue East	AM Peak	55 (10:45 AM - 11:45 AM)	77 (10:45 AM - 11:45 AM)		
	PM Peak	106 (4:30 PM - 5:30 PM)	128 (4:15 PM - 5:15 PM)		

The Trumbull Avenue study area peak hour traffic volumes range from 55 to 128 vehicles per hour.

3.C. SPEED STUDY RESULTS

The results of the speed study are displayed below in Table 3.C.1. through 3.C.2.

Table 3.C.1.					
	Trumbull Avenu	ie West Speed Study			
Speed	EB	WB	Total		
Average	19.9	21.6	20.9		
10 mph Pace	19.9 - 29.8 (63.4%)	20.1 - 30.0 (67.3%)	20.1 - 30.0 (65.6%)		
50th Percentile	22.2	23.2	22.7		
67th Percentile	24.1	25.5	24.8		
85th Percentile	27.5	28.7	28.3		

Table 3.C.2.						
	Trumbull Avenue East Speed Study					
Speed	EB	WB	Total			
Average	21.4	21.2	21.3			
10 mph Pace	20.1 - 30.0 (62.7%)	20.1 - 30.0 (67.3%)	20.1 - 30.0 (65.3%)			
50th Percentile	23.1	23.0	23.1			
67th Percentile	25.7	25.3	25.4			
85th Percentile	28.9	28.4	28.6			

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.

In relation to Trumbull Avenue, the speed limit is 25 mph, roadway conditions are consistent; controlled access, satisfactory pavement conditions, two travel lanes, and on-street parking. Table 3.C.3. displays that 33 percent of the average ADT of the two count locations recorded speeds greater than the posted speed limit of 25 mph.

Table 3.C.3.							
	Trumbull Avenue ADT ≥ 25 mph						
Speed (mph)	0 - 19.9	MPH	20 - 24.	9 MPH	≥ 25 N	1PH	Avg. ADT
Trumbull Avenue West	636.5	28%	914	40%	708.5	31%	2259
Trumbull Avenue East	618.5	27%	859	38%	791.5	35%	2269
Total	1255	28%	1773	39%	1500	33%	4528



3.D. CRASH DATA

Crash data was requested from the Albuquerque Police Department. The crash data requested showed there were 5 recorded crashes within the study area from 2014 to 2017.

Table 3.D.1.				
	Trumbull A	Avenue Crash Summ	nary	
Year	Location (Primary Street / Intersecting Street)	Cause of Crash	Crash Analysis	Crash Correct with Traffic Calming?
6/13/2014	Virginia Street / Trumbull Avenue	Driver inattention	From opposite direction / not stated	No
6/30/2014	Trumbull Avenue / Utah Avenue	Driver inattention	Both going straight / entering at angle	No
6/19/2015	Utah Street / Trumbull Avenue	Driver inattention / failed to yield to right of way	All others / entering at angle	No
2/9/2016	Trumbull Avenue / Virginia Street	Driver inattention	Vehicle parked in proper location	No
8/29/2016	Trumbull Avenue / Virginia Street	Driver inattention	From opposite direction / not stated	

4. U.S. LIMITS SPEED LIMITS 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 intersection 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 Trumbull Avenue and based on the data entered into http://www.uslimits.com for the above-listed categories. The output sheet is shown in Appendix A – U.S. Limits Output. The U.S. Limits Output recommended a speed limit of 25 mph that should only be reduced as a last measure after other treatments have been tried or ruled out.

5. CONCLUSION

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, at least two (2) of the following threshold criteria must be met:

Figure 5.1.	
COA NTMP Traffic Calming Measures	
Description	Warranted?
Reported crashes in the past 3 years that could be corrected with traffic calming	No
Peak-hour traffic volume greater than 400 vehicles in one direction	No
25% of peak-hour traffic is non-local cut-through traffic	Not Studied
85th percentile speeds exceeds the posted speed limit by 5 mph or more	No

Based on the data collected, Trumbull Avenue DOES NOT meet any of the criteria outlined to warrant traffic calming.

Appendices

- Appendix A USLIMITS2 Speed Zoning Report
- Appendix B Volume and Speed Data
- Appendix C Crash Data
- Appendix D Neighborhood Traffic Calming Petition Form



Appendix A



USLIMITS2 Speed Zoning Report

Project Name: Trumbull Avenue Speed Study

Analyst: Thaddeus Yazzie

Basic Project Information

Project Number: 6254.69 Route Name: Trumbull Avenue

From: Utah Street To: Virginia Street State: New Mexico

County: Bernalillo County City: Albuquerque city

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .12 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: 20 Number of Signals: 0 Date: 08-25-2017

Crash Data Information

Crash Data Years: 3.00 Crash AADT: 2265 veh/day Total Number of Crashes: 5

Total Number of Injury Crashes: 0 Section Crash Rate: 1680 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: 28 mph 50th Percentile Speed: 23 mph

AADT: 2265 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: Not High

Project Description: Trumbull Avenue Speed Study from Utah Street to Virginia Street.

Recommended Speed Limit:



Note: The section crash rate of 1680 per 100 MVM is above the critical rate (1438). 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.

Appendix B



Special Speed Study Report: Trumbull (west)

Station ID: Trumbull (west)

Info Line 1 : East of Utah Info Line 2 : Albuquerque

GPS Lat/Lon:

DB File: DBFILE 061517 - 30.DB

Last Connected Device Type : Apollo

Version Number: 1.63 Serial Number: 21495

Number of Lanes: 1

Posted Speed Limit: 0.0 mph

Lane #1 Configuration

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

Lane #1 Special Speed Stud	y Data From: 00:00 - 06/13/2017	To: 23:59 - 06/14/2017
----------------------------	---------------------------------	------------------------

		#1 <i>0</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 60 -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
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
06/13/17	00:00	6	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Tue	01:00	2	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	11
	02:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	03:00	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	04:00	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	4
	05:00	5	6	8	2	1	0	0	0	0	0	0	0	0	0	0	0	22
	06:00	7	9	19	6	0	0	0	0	0	0	0	0	0	0	0	0	41
	07:00	13	9	19	13	1	0	0	0	0	0	0	0	0	0	0	0	55
	08:00	5	20	15	6	3	0	0	0	0	0	0	0	0	0	0	0	49
	09:00	7	19	18	6	1	1	0	0	0	0	0	0	0	0	0	0	52
	10:00	18	15	17	1	0	0	1	0	0	0	0	0	0	0	0	0	52
	11:00	21	28	17	3	0	0	0	0	0	0	0	0	0	0	0	0	69
	12:00	19	40	18	2	1	0	0	0	0	0	0	0	0	0	0	0	80
	13:00	28	30	23	6	0	0	0	0	0	0	0	0	0	0	0	0	87
	14:00	16	27	13	5	0	0	0	0	0	0	0	0	0	0	0	0	61
	15:00	28	36	24	5	2	0	0	0	0	0	0	0	0	0	0	0	95
	16:00	19	36	31	9	1	0	0	0	0	0	0	0	0	0	0	0	96
	17:00	24	52	28	10	2	0	0	0	0	0	0	0	0	0	0	0	116
	18:00	25	37	15	2	1	0	0	0	0	0	0	0	0	0	0	0	80
	19:00	32	23	13	1	1	0	0	0	0	0	0	0	0	0	0	0	70
	20:00	32	29	10	1	0	0	0	0	0	0	0	0	0	0	0	0	72
	21:00	20	25	12	2	0	0	0	0	0	0	0	0	0	0	0	0	59
	22:00	13	13	14	1	1	0	0	0	0	0	0	0	0	0	0	0	42
	23:00	10	11	9	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Daily ⁻	Total:	352	478	340	83	15	1	1	0	0	0	0	0	0	0	0	0	1270
Р	Percent:	28%	38%	27%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Percent :	28%	65%	92%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Ave	erage :	15	20	14	3	1	0	0	0	0	0	0	0	0	0	0	0	53

Average Speed 21.2 mph

50% Speed: 23.0 mph

67% Speed: 25.4 mph 85% Speed: 28.6 mph

10mph Pace: 20.1 - 30.0 (64.6%)

		#1 <i>0</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 60 -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
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
06/14/17	00:00	2	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	9
Wed	01:00	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	02:00	1	5	2	0	1	0	0	0	0	0	0	0	0	0	0	0	9
	03:00	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	04:00	0	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	5
	05:00	4	6	13	3	0	0	0	0	0	0	0	0	0	0	0	0	26
	06:00	7	15	9	2	0	0	0	0	0	0	0	0	0	0	0	0	33
	07:00	10	24	21	5	2	0	0	0	0	0	0	0	0	0	0	0	62
	08:00	7	13	17	7	1	0	0	0	0	0	0	0	0	0	0	0	45
	09:00	11	22	10	4	1	0	0	0	0	0	0	0	0	0	0	0	48
	10:00	18	26	20	4	1	0	0	0	0	0	0	0	0	0	0	0	69
	11:00	22	18	19	6	0	0	0	0	0	0	0	0	0	0	0	0	65
	12:00	14	27	19	3	1	0	0	0	0	0	0	0	0	0	0	0	64
	13:00	16	37	28	5	0	0	0	0	0	0	0	0	0	0	0	0	86
	14:00	20	29	17	6	0	0	0	0	0	0	0	0	0	0	0	0	72
	15:00	15	44	30	6	0	0	0	0	0	0	0	0	0	0	0	0	95
	16:00	18	59	33	6	1	0	0	1	0	0	0	0	0	0	0	0	118
	17:00	16	43	30	6	1	0	0	0	0	0	1	0	0	0	0	0	97
	18:00	19	41	24	3	0	0	0	0	0	0	0	0	0	0	0	0	87
	19:00	28	33	14	2	0	0	0	0	0	0	0	0	0	0	0	0	77
	20:00	19	19	14	2	0	0	0	0	0	0	0	0	0	0	0	0	54
	21:00	12	19	16	6	0	0	0	0	0	0	0	0	0	0	0	0	53
	22:00	8	25	19	8	0	0	0	0	0	0	0	0	0	0	0	0	60
	23:00	11	8	7	3	0	0	0	0	0	0	0	0	0	0	0	0	29
Daily T	otal :	282	523	366	89	10	0	0	1	0	0	1	0	0	0	0	0	1272
	ercent :	22%	41%	29%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Pe	ercent : erage :	22% 12	63% 22	92% 15	99% 4	100%	100%	100%	100% 0	100%	100%	100%	100%	100%	100%	100%	100% 0	53
Ave	naye .			Speed					eed: 2	0 3.4 mp		67%	Speed	: 25.8	mph	8	5% Spe	ed: 28.7

Lane #3 Configuration

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

		Lan	e #3	Speci	al Sp	eed S	Study	Data	Fron	n: 00 :	00 - 0	06/13/	2017	To:	23:59	- 06/	14/201	17
Date	Time	#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
06/13/17	00:00	8	8	2 2 2 2	0	0	0	43.3	0	0	04.9	09.9	0	0	04.9	09.9	0	18
Tue	01:00	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
rue	01:00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	03:00	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	8
	04:00	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	8
	05:00	6	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	21
	06:00	8	10	9	2	0	1	0	0	0	0	0	0	0	0	0	0	30
	07:00	5	11	9	1	0	0	0	0	0	0	0	0	0	0	0	0	26
	08:00	12	31	9	4	0	0	0	0	0	0	0	0	0	0	0	0	56
	09:00	15	11	9	3	1	0	0	0	0	0	0	0	0	0	0	0	39
	10:00	17	15	7	1	0	0	0	0	0	0	0	0	0	0	0	0	40
	11:00	19	20	6	0	0	0	0	0	0	0	0	0	0	0	0	0	45
	12:00	23	20	10	2	0	0	0	0	0	0	0	0	0	0	0	0	55
	13:00	15	30	13	1	0	0	0	0	0	0	0	0	0	0	0	0	59
	14:00	17	23	12	2	1	0	1	0	0	0	0	0	0	0	0	0	56
	15:00	16	33	20	1	0	0	0	0	0	0	0	0	0	0	0	0	70
	16:00	19	27	17	2	0	0	0	0	0	0	0	0	0	0	0	0	65
	17:00	21	37	22	3	0	0	0	0	0	0	0	0	0	0	0	0	83
	18:00	22	35	15	4	1	0	0	0	0	0	0	0	0	0	0	0	77
	19:00	29	29	11	4	0	0	0	0	0	0	0	0	0	0	0	0	73
	20:00	27	12	10	1	0	0	0	0	0	0	0	0	0	0	0	0	50
	21:00	18	16	11	1	0	0	0	0	0	0	0	0	0	0	0	0	46
	22:00	14	15	5	1	1	0	0	0	0	0	0	0	0	0	0	0	36
	23:00	13	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Daily ¹	Total:	335	412	206	36	4			0	0	0	0	0	0		0		995
-	Percent:	34%	41%	21%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. P	ercent:	34%	75%	96%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Ave	erage :	14	17	9	2	0	0	0	0	0	0	0	0	0	0	0	0	42
		Α	Average Speed 19.8 mph 50% Speed: 22.1 mph 67% Speed: 24.0 mph 85% Speed: 27.4 10mph Pace: 19.9 - 29.8 (62.2%)															

	#1 <i>O</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 60 -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
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
6/14/17 00:00	5	,	9 4	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Wed 01:00	C		7 0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	1	;	3 0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	2	: ;	3 0	2	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	1	;	5 1	1	0	0	0	0	0	0	0	0	0	0	0	0	8
05:00	2	: 8	3 4	1	0	0	0	0	0	0	0	0	0	0	0	0	15
06:00	12	1	1 13	1	0	0	0	0	0	0	0	0	0	0	0	0	37
07:00	S	1	5 5	1	1	0	0	0	0	0	0	0	0	0	0	0	31
08:00	14	. 12	2 11	2	0	1	0	0	0	0	0	0	0	0	0	0	40
09:00	15	10	6 4	1	0	0	0	0	0	0	0	0	0	0	0	0	36
10:00	13	19	9	0	0	0	0	0	0	0	0	0	0	0	0	0	41
11:00	16	2	2 8	1	0	0	0	0	0	0	0	0	0	0	0	0	47
12:00	25	2	1 12	3	0	0	0	0	0	0	0	0	0	0	0	0	61
13:00	g	20	3 12	2	1	0	0	0	0	0	0	0	0	0	0	0	50
14:00	13	20	3 14	1	0	0	0	0	0	0	0	0	0	0	0	0	54
15:00	19	20) 27	2	0	0	0	0	0	0	0	0	0	0	0	0	68
16:00	17	44	1 21	7	0	0	0	0	0	0	0	0	0	0	0	0	89
17:00	22	39	9 28	5	0	0	0	0	0	0	0	0	0	0	0	0	94
18:00	33	2	5 10	2	0	0	0	0	0	0	0	0	0	0	0	1	71
19:00	16	2	3 10	3	0	0	0	0	0	0	0	1	0	0	0	0	53
20:00	26	20) 12	0	0	0	0	0	0	0	0	0	0	0	0	0	58
21:00	13	19	9 1	1	0	0	0	0	0	0	0	0	0	0	0	1	35
22:00	13	1	7 9	1	0	0	0	0	0	0	0	0	0	0	0	0	40
23:00	8		5 3	1	0	0	0	0	0	0	0	0	0	0	0	0	17
Daily Total:	304	41	218	38	2	1	0	0	0	0	0	1	0	0	0	2	981
Percent :				4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :				99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :			e Spee	2 20.1	mph	5	0 0% Sp	0 eed: 2	2.3 mp	0 h		Speed					41 ed: 27.7

Station: Trumbull (west)

#3 #7 #9 #10 #11 #12 #13 #14 #15 #2 #4 #5 #6 #8 #16 0 - 20 - 25 - 30 -35 - 40 - 45 - 50 - 55 - 60 - 65 -70 -75 - 80 - 85 -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 Date Time Total

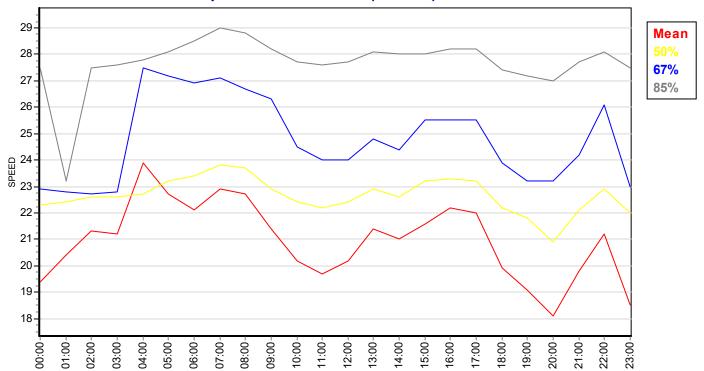
Centurion Special Speed Study Report Printed: 06/15/17 Page 5

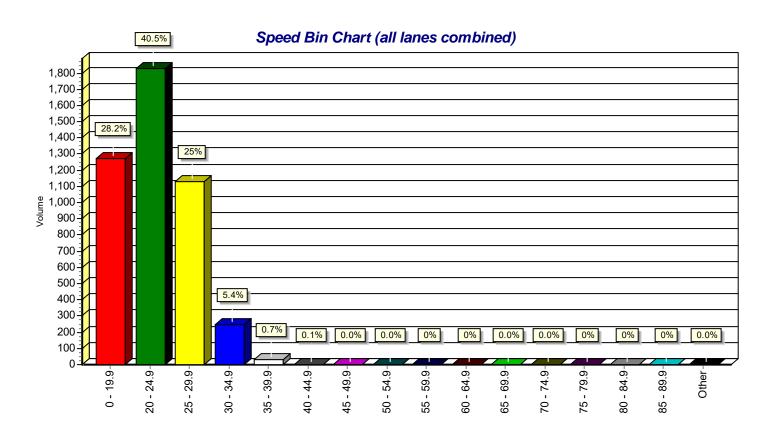
Special Speed Study Summary: Trumbull (west)

	#1 <i>O</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 <i>60</i> -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
Description	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
Grand Total #1:	634	1001	706	172	25	1	1	1	0	0	1	0	0	0	0	0	2542
Percent :	25%	39%	28%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	25%	64%	92%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	13	21	15	4	1	0	0	0	0	0	0	0	0	0	0	0	54
ADT = 1271	A	verage	Speed	21.6	mph	5	0% Sp	eed: 2	3.2 mp	h		Speed oh Pace					ed: 28.7 mph
											101116)	J. 20.1		(01.07	~)	
Grand Total #3:	639	827	424	74	6	2	1	0	0	0	0	1	0	0	0	2	1976
Percent :	32%	42%	21%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	32%	74%	96%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	13	17	9	2	0	0	0	0	0	0	0	0	0	0	0	0	41
ADT = 988	A	verage	Speed	19.9	mph	5	0% Sp	eed: 2	2.2 mp	h		Speed		•		•	ed: 27.5 mph
											10mp	oh Pace	e: 19.9	- 29.8	(63.4%	5)	
Comb. Total :	1273	1828	1130	246	31								0				4518
Percent :	28%	40%	25%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	28%	69%	94%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	27	38	24	5	1	0	0	0	0	0	0	0	0	0	0	0	95
ADT = 2259	A	verage	Speed	20.9	mph	5	0% Sp	eed: 2	2.7 mp	h		Speed oh Pace		•			ed: 28.3 mph

Trumbull (west) Charts For Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Speed Percent vs. Time (all lanes)





Centurion Special Speed Study Report Printed: 06/15/17 Page 7

Special Speed Study Report: Trumbull (east)

Station ID: Trumbull (east)

Info Line 1 : West of Virginia Info Line 2 : Albuquerque

GPS Lat/Lon:

Average:

15

15

3

DB File: TRUM EAST.DB

Last Connected Device Type : Apollo Version Number : 1.62

Serial Number:

Number of Lanes: 1

Posted Speed Limit: 0.0 mph

Lane #1 Configuration

# Di	ir. Information	Vehicle Sensors	Sensor Spacing	Loop Length	Comment
1	Westbound	Ax-Ax	4 0 ft	6.0 ft	

		Lan	e #1	Speci	al Sp	eed S	Study	Data	Fron	n: 00:	00 - 0)6/13/	2017	To:	23:59	9 - 06/	14/201	17
Data	T:	#1 <i>0</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 60 -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	T- / /
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
06/13/17	00:00	5	4	4	0	0	0	0	0	0	0		0	0	0	0	0	13
Tue	01:00	1	7	2	1	0	0	0	0	0	0		0	0	0	0	0	11
	02:00	0	3	1	0	0	0	0	0	0			0	0	0	0	0	4
	03:00	4	3	3	0	0	0	0	0	0	0		0	0	0	0	0	10
	04:00	1	1	1	0	0	1	0	0	0	0		0	0	0	0	0	4
	05:00	2	7	7	3	0	0	0	0	0	0	0	0	0	0	0	0	19
	06:00	7	9	20	5	0	0	0	0	0	0		0	0	0	0	0	41
	07:00	7	21	17	7	0	1	0	0	0	0		0	0	0	0	0	53
	08:00	7	20	17	2	2	0	1	1	0	0		0	0	0	0	0	50
	09:00	9	22	17	1	1	1	0	0	0	0		0	0	0	0	0	51
	10:00	23	15	12	3	0	0	0	0	0	0	0	0	0	0	0	0	53
	11:00	17	27	17	5	0	0	0	0	0	0		0	0	0	0	0	66
	12:00	25	35	21	1	0	0	0	0	0			0	0	0	0	0	82
	13:00	30	34	16	5	0	0	0	0	0	0		0	0	0	0	0	85
	14:00	21	18	16	7	0	0	0	0	0	0		0	0	0	0	0	62
	15:00	28	37	25	4	3	0	0	0	0	0	0	0	0	0	0	0	97
	16:00	18	38	34	3	2	0	0	0	0	0	0	0	0	0	0	0	95
	17:00	22	42	36	12	0	0	0	0	0	0		0	0	0	0	0	112
	18:00	16	38	28	3	0	0	0	0	0			0	0	0	0	0	85
	19:00	26	27	18	1	1	0	0	0	0	0	0	0	0	0	0	0	73
	20:00	31	30	8	0	0	0	0	0	0	0	0	0	0	0	0	0	69
	21:00	22	22	12	1	0	0	0	0	0	0	0	0	0	0	0	0	57
	22:00	14	17	15	1	0	0	0	0	0	0		0	0	0	0	0	47
	23:00	13	13	5	0	0	0	0	0	0	0	0	0	0	0	0	0	31
-	Total:	349	490	352	65	9	3	1	1	0	0	0	0	0	0	0	0	1270
	ercent:	27%	39%	28%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. P	ercent:	27%	66%	94%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Average Speed 21.1 mph 50% Speed: 22.9 mph 67% Speed: 25.2 mph 85% Speed: 28.3 mph 10mph Pace: 19.9 - 29.8 (66.4%)

Centurion Special Speed Study Report Printed: 06/15/17 Page

0

0

		#1 <i>O</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 60 -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
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
06/14/17	00:00	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	10
Wed	01:00	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6
	02:00	2	2	4	1	0	0	0	0	0	0	0	0	0	0	0	0	9
	03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	04:00	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	5
	05:00	1	7	11	3	0	0	0	0	0	0	0	0	0	0	0	0	22
	06:00	8	13	11	1	0	0	0	0	0	0	0	0	0	0	0	0	33
	07:00	6	20	23	8	1	0	0	0	0	0	0	0	0	0	0	0	58
	08:00	9	12	16	3	1	1	0	0	0	0	0	0	0	0	0	0	42
	09:00	10	19	16	3	1	0	0	0	0	0	0	0	0	0	0	0	49
	10:00	21	27	20	2	0	0	0	0	0	0	0	0	0	0	0	0	70
	11:00	17	17	26	6	0	0	0	0	0	0	0	0	0	0	0	0	66
	12:00	15	33	17	1	0	0	0	0	0	0	0	0	0	0	0	0	66
	13:00	15	31	36	6	0	0	0	0	0	0	0	0	0	0	0	0	88
	14:00	26	32	14	6	0	0	0	0	0	0	0	0	0	0	0	0	78
	15:00	24	34	29	9	0	0	0	0	0	0	0	0	0	0	0	0	96
	16:00	32	57	29	2	1	0	0	0	0	0	0	0	0	0	0	0	121
	17:00	25	48	26	5	0	0	0	0	0	0	0	0	0	0	0	0	104
	18:00	22	39	19	1	0	0	0	0	0	0	0	0	0	0	0	0	81
	19:00	31	28	13	2	0	0	0	0	0	0	0	0	0	0	0	0	74
	20:00	23	19	10	1	0	0	0	0	0	0	0	0	0	0	0	0	53
	21:00	20	19	13	0	1	0	0	0	0	0	0	0	0	0	0	0	53
	22:00	15	28	16	6	0	0	0	0	0	0	0	0	0	0	0	0	65
	23:00	7	12	10	1	0	0	0	0	0	0	0	0	0	0	0	0	30
Daily 1	Total:	334	508	364	69	5	1	0	0	0	0	0	0	0	0	0	0	1281
	ercent:	26%	40%	28%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	ercent:	26%	66%	94%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	F0
AV	erage :														53 ed: 28.			

Lane #3 Configuration

# Di	r. Information	Vehicle Sensors	Sensor Spacing	Loop Length	Comment
3.	Eastbound	Ax-Ax	4.0 ft	6.0 ft	

		Lan	e #3	Speci	al Sp	eed S	Study	Data	Fron	n: 00 :	00 - 0	06/13/	2017	To:	23:59	- 06/	14/201	17
Date	Time	#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
06/13/17	00:00	8	8	0	1	0	0	0	0	0	04.3	03.3	0	0	04.3	03.3	0	17
Tue	01:00	1	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	7
Tue	02:00	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	03:00	4	2	3	0	1	0	0	0	0	0	0	0	0	0	0	0	10
	04:00	4	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	05:00	10	8	5	1	0	0	0	0	0	0	0	0	0	0	0	0	24
	06:00	5	11	10	3	0	1	0	0	0	0	0	0	0	0	0	0	30
	07:00	9	8	11	5	1	0	0	0	0	0	0	0	0	0	0	0	34
	08:00	14	23	10	7	1	0	0	0	0	0	0	0	0	0	0	0	55
	09:00	14	7	12	3	0	0	0	0	0	0	0	0	0	0	0	0	36
	10:00	20	15	7	1	0	1	0	0	0	0	0	0	0	0	0	0	44
	11:00	17	19	7	4	0	0	0	0	0	0	0	0	0	0	0	0	47
	12:00	24	18	7	2	1	0	0	0	0	0	0	0	0	0	0	0	52
	13:00	19	25	12	6	0	0	0	0	0	0	0	0	0	0	0	0	62
	14:00	18	16	13	4	3	0	0	0	0	0	0	0	0	0	0	0	54
	15:00	18	28	16	4	0	0	0	0	0	0	0	0	0	0	0	0	66
	16:00	16	15	24	6	0	0	0	0	0	0	0	0	0	0	0	0	61
	17:00	23	18	31	5	2	0	0	0	0	0	0	1	0	0	0	0	80
	18:00	13	38	21	7	2	1	0	0	0	0	0	0	0	0	0	0	82
	19:00	19	33	21	5	0	1	0	0	0	0	0	0	0	0	0	0	79
	20:00	19	23	8	3	0	0	0	0	0	0	0	0	0	0	0	0	53
	21:00	11	17	10	5	0	0	0	0	0	0	0	0	0	0	0	0	43
	22:00	12	10	10	3	0	1	0	0	0	0	0	0	0	0	0	0	36
	23:00	11	5	5	1	0	0	0	0	0	0	0	0	0	0	0	0	22
Daily ⁻	Total:	312	352	250	77	11	5	0	0	0	0	0	1	0	0	0	0	1008
	ercent:	31%	35%	25%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	ercent:	31%	66%	91%	98%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Ave	erage :		13 15 10 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 41 Average Speed 20.9 mph 50% Speed: 22.7 mph 67% Speed: 25.3 mph 85% Speed: 28.8 r 10mph Pace: 20.1 - 30.0 (59.7%)															

		#1 <i>O</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 60 -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
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
06/14/17	00:00	5	4	5	2	0	0	0	0	0	0	0	0	0	0	0	0	16
Wed	01:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7
	02:00	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
	03:00	1	4	1	0	1	0	0	0	0	0	0	0	0	0	0	0	7
	04:00	0	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	7
	05:00	4	7	4	2	0	0	0	0	0	0	0	0	0	0	0	0	17
	06:00	5	16	11	3	0	1	0	0	0	0	0	0	0	0	0	0	36
	07:00	8	10	11	3	0	0	1	0	0	0	0	0	0	0	0	0	33
	08:00	8	10	17	4	0	0	0	0	0	0	0	0	0	0	0	0	39
	09:00	12	13	8	2	0	0	0	0	0	0	0	0	0	0	0	0	35
	10:00	10	20	9	2	0	0	0	0	0	0	0	0	0	0	0	0	41
	11:00	10	23	10	2	0	1	0	0	0	0	0	0	0	0	0	0	46
	12:00	23	27	12	3	2	0	0	0	0	0	0	0	0	0	0	0	67
	13:00	4	20	17	3	1	0	0	1	0	0	0	0	0	0	0	0	46
	14:00	20	22	12	4	0	0	0	0	0	0	0	0	0	0	0	0	58
	15:00	16	15	27	7	0	1	1	0	0	0	0	0	0	0	0	0	67
	16:00	18	23	35	10	1	0	0	0	0	0	0	0	0	0	0	0	87
	17:00	12	34	38	15	1	0	0	0	0	0	0	0	0	0	0	0	100
	18:00	11	34	15	7	1	0	0	0	0	0	0	0	0	0	0	0	68
	19:00	12	21	11	5	1	0	0	0	0	0	0	0	0	0	0	0	50
	20:00	30	23	9	1	0	0	0	0	0	0	0	0	0	0	0	0	63
	21:00	13	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	28
	22:00	14	17	9	1	0	0	0	0	0	0	0	0	0	0	0	0	41
	23:00	5	5	4	2	0	0	0	0	0	0	0	0	0	0	0	0	16
-	Total:	242	368	273	82	8	3	2	1	0	0	0	0	0	0	0	0	979
P Cum. P	ercent:	25%	38%	28%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	ercent : erage :	25% 10	62% 15	90% 11	99%	99% 0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100% 0	39
	.9			Speed					eed: 2			67%	Speed oh Pace	: 26.0	mph	8	5% Spe	ed: 28.9

#3 #7 #9 #10 #11 #12 #13 #14 #15 #2 #4 #5 #6 #8 #16 0 - 20 - 25 - 30 -35 - 40 - 45 - 50 - 55 - 60 - 65 -70 -75 - 80 - 85 -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 Date Time Total

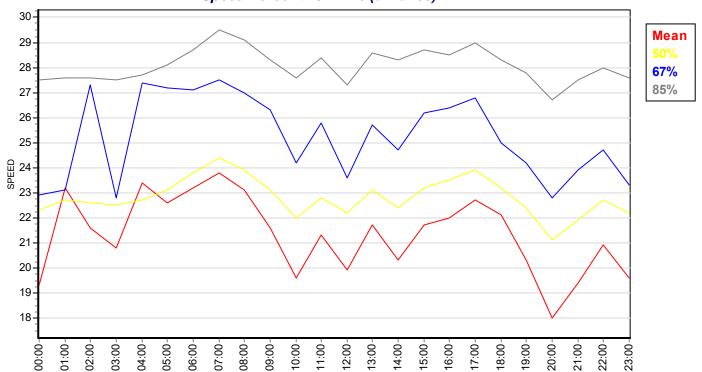
Centurion Special Speed Study Report Printed: 06/15/17 Page 5

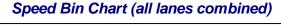
Special Speed Study Summary: Trumbull (east)

	#1 <i>O</i> -	#2 20 -	#3 25 -	#4 30 -	#5 35 -	#6 40 -	#7 45 -	#8 50 -	#9 55 -	#10 <i>60</i> -	#11 65 -	#12 70 -	#13 75 -	#14 80 -	#15 85 -	#16	
Description	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
Grand Total #1:	683	998	716	134	14	4	1	1	0	0	0	0	0	0	0	0	2551
Percent :	27%	39%	28%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	27%	66%	94%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	14	21	15	3	0	0	0	0	0	0	0	0	0	0	0	0	53
ADT = 1275	A	verage	Speed	21.2	mph	5	0% Sp	eed: 2	3.0 mp	h		Speed					ed: 28.4 mph
											10mp	h Pace	e: 20.1	- 30.0	(67.3%	b)	
Grand Total #3:	554	720	523	159	19	8	2	1	0	0	0	1	0	0	0	0	1987
Percent :	28%	36%	26%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	28%	64%	90%	98%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	12	15	11	3	0	0	0	0	0	0	0	0	0	0	0	0	41
ADT = 993	A	verage	Speed	21.4	mph	5	0% Sp	eed: 2	3.1 mp	h		Speed oh Pace		•		•	ed: 28.9 mph
Comb. Total :	1237	1718	1239	293	33	12	3		0	0	0		0	0	0	0	4538
Percent :	27%	38%	27%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Cum. Percent :	27%	65%	92%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Average :	26	36	26	6	1	0	0	0	0	0	0	0	0	0	0	0	95
ADT = 2269	A	verage	Speed	21.3	mph	5	0% Sp	eed: 2	3.1 mp	h		Speed oh Pace		•			ed: 28.6 mph

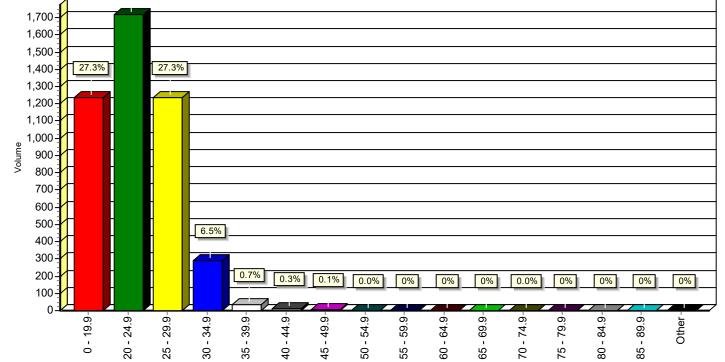
Trumbull (east) Charts For Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017







37.9%



Centurion Special Speed Study Report Printed: 06/15/17 Page 7

Basic Volume Report: Trumbull (west)

Station ID: Trumbull (west)

Info Line 1 : East of Utah Info Line 2 : Albuquerque

GPS Lat/Lon:

DB File: DBFILE 061517 - 30.DB

Last Connected Device Type: Apollo

Version Number: 1.63 Serial Number: 21495

Number of Lanes: 1

Posted Speed Limit: 0.0 mph

Lane #1	Configu	ıration

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

Lane #1 Basic Volume Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Date	Time	:00	:15	:30	:45	Total
06/13/17	00:00	5	6	0	4	15
Tue	01:00	2	4	4	1	11
	02:00	1	0	2	1	4
	03:00	2	1	3	2	8
	04:00	0	0	4	0	4
	05:00	3	5	8	6	22
	06:00	5	10	12	14	41
	07:00	11	20	14	10	55
	08:00	11	9	16	13	49
	09:00	18	10	9	15	52
	10:00	18	13	17	4	52
	11:00	17	21	17	14	69
	12:00	27	12	18	23	80
	13:00	22	20	23	22	87
	14:00	9	18	15	19	61
	15:00	16	23	28	28	95
	16:00	22	25	26	23	96
	17:00	26	32	30	28	116
	18:00	15	22	26	17	80
	19:00	19	20	13	18	70
	20:00	20	15	24	13	72
	21:00	16	17	11	15	59
	22:00	15	11	13	3	42
	23:00	6	13	7	4	30
Day Total	:				-	1270

AM Total: 382 (30.1%) Peak AM Hour: 11:00 = 69 (5.4%) Peak AM Factor: 0.821 Average Period: 13.2 PM Total: 888 (69.9%) Peak PM Hour: 17:00 = 116 (9.1%) Peak PM Factor: 0.906 Average Hour: 52.9

Centurion Basic Volume Report Printed: 06/15/17 Page 1

Date	Time	:00	:15	:30	: 4 5	Total
06/14/17	00:00	2	2	3	2	9
Wed	01:00	0	4	1	1	6
	02:00	3	1	3	2	9
	03:00	0	1	1	1	3
	04:00	0	0	3	2	5
	05:00	3	8	4	11	26
	06:00	6	13	7	7	33
	07:00	13	19	15	15	62
	08:00	5	15	9	16	45
	09:00	17	9	10	12	48
	10:00	21	19	7	22	69
	11:00	19	18	16	12	65
	12:00	17	12	24	11	64
	13:00	23	22	23	18	86
	14:00	19	15	12	26	72
	15:00	20	22	24	29	95
	16:00	27	27	30	34	118
	17:00	27	24	21	25	97
	18:00	21	19	25	22	87
	19:00	17	20	15	25	77
	20:00	15	9	16	14	54
	21:00	15	14	15	9	53
	22:00	23	12	10	15	60
	23:00	8	9	9	3	29
Day Total					_	1272

 AM Total :
 380 (29.9%)
 Peak AM Hour : 10:45 =
 75 (5.9%)
 Peak AM Factor : 0.852
 Average Period :
 13.3

 PM Total :
 892 (70.1%)
 Peak PM Hour : 16:00 =
 118 (9.3%)
 Peak PM Factor : 0.868
 Average Hour :
 53.0

Centurion Basic Volume Report Printed: 06/15/17 Page 2

Lane #3 Configuration

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

Lane #3 Basic Volume Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Date	Time	:00	:15	:30	:45	Total
06/13/17	00:00	4	4	2	8	18
Tue	01:00	3	2	2	2	9
	02:00	0	1	3	1	5
	03:00	1	3	3	1	8
	04:00	1	1	3	3	8
	05:00	2	3	8	8	21
	06:00	5	6	13	6	30
	07:00	5	5	12	4	26
	08:00	10	15	16	15	56
	09:00	4	17	9	9	39
	10:00	10	9	6	15	40
	11:00	8	10	17	10	45
	12:00	19	12	10	14	55
	13:00	19	12	12	16	59
	14:00	19	12	10	15	56
	15:00	11	21	23	15	70
	16:00	12	17	17	19	65
	17:00	19	22	23	19	83
	18:00	19	16	21	21	77
	19:00	12	19	21	21	73
	20:00	8	13	17	12	50
	21:00	12	11	12	11	46
	22:00	12	9	7	8	36
	23:00	5	7	5	3	20
Day Total	:				_	995

AM Total : 305 (30.7%) Peak AM Hour : 08:00 = 56 (5.6%) Peak AM Factor : 0.824 Average Period : 10.4 PM Total : 690 (69.3%) Peak PM Hour : 16:45 = 83 (8.3%) Peak PM Factor : 0.902 Average Hour : 41.5

Date	Time	:00	:15	:30	:45	Total
06/14/17	00:00	4	4	6	4	18
Wed	01:00	2	1	3	1	7
	02:00	2	0	2	0	4
	03:00	1	1	2	3	7
	04:00	0	1	2	5	8
	05:00	2	3	3	7	15
	06:00	5	10	11	11	37
	07:00	5	9	9	8	31
	08:00	8	11	11	10	40
	09:00	7	7	11	11	36
	10:00	11	12	9	9	41
	11:00	9	12	14	12	47
	12:00	17	12	18	14	61
	13:00	13	15	9	13	50
	14:00	11	12	16	15	54
	15:00	15	13	21	19	68
	16:00	17	23	22	27	89
	17:00	32	17	21	24	94
	18:00	17	17	17	20	71
	19:00	12	11	15	15	53
	20:00	16	12	14	16	58
	21:00	12	9	8	6	35
	22:00	10	13	10	7	40
	23:00	4	7	2	4	17
Day Total	:				_	981

 AM Total :
 291 (29.7%)
 Peak AM Hour : 11:00 =
 47 (4.8%)
 Peak AM Factor : 0.839
 Average Period :
 10.2

 PM Total :
 690 (70.3%)
 Peak PM Hour : 16:15 =
 104 (10.6%)
 Peak PM Factor : 0.812
 Average Hour :
 40.9

Basic Volume Summary: Trumbull (west)

Grand Total For Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Lane	Total Count	# Of Days	ADT	Avg. Period	Avg. Hour	AM Total & Percent	PM Total & Percent
#1.	2542 (56.3%)	2.00	1271	13.2	53.0	762 (30.0%)	1780 (70.0%)
#3.	1976 (43.7%)	2.00	988	10.3	41.2	596 (30.2%)	1380 (69.8%)
ALL	4518	2.00	2259	23.5	94.2	1358 (30.1%)	3160 (69.9%)

Lane	Peak AM H	lour	Date	Peak AM Factor	r Peak PM Hour		lour	Date	Peak PM Factor	
#1.	10:45 =	75	06/14/2017	0.852		16:00 =	118	06/14/2017	0.868	
#3.	08:00 =	56	06/13/2017	0.824		16:15 =	104	06/14/2017	0.812	

Basic Volume Report: Trumbull (east)

Station ID: Trumbull (east)

Info Line 1 : West of Virginia Info Line 2 : Albuquerque

GPS Lat/Lon:

DB File: TRUM EAST.DB

Last Connected Device Type : Apollo

Version Number : 1.62 Serial Number :

Seriai Number :

Number of Lanes: 1

Posted Speed Limit: 0.0 mph

Lane #1	Configu	ıration

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

Lane #1 Basic Volume Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Date	Time	:00	:15	:30	: 4 5	Total
06/13/17	00:00	4	5	1	3	13
Tue	01:00	2	4	4	1	11
	02:00	1	0	2	1	4
	03:00	2	1	5	2	10
	04:00	0	0	4	0	4
	05:00	2	4	7	6	19
	06:00	5	11	12	13	41
	07:00	11	17	15	10	53
	08:00	9	11	17	13	50
	09:00	17	12	9	13	51
	10:00	16	14	15	8	53
	11:00	17	19	18	12	66
	12:00	29	12	19	22	82
	13:00	21	20	20	24	85
	14:00	10	18	16	18	62
	15:00	21	21	28	27	97
	16:00	21	26	23	25	95
	17:00	25	31	28	28	112
	18:00	17	21	28	19	85
	19:00	19	23	12	19	73
	20:00	14	17	23	15	69
	21:00	15	16	12	14	57
	22:00	16	12	14	5	47
	23:00	8	12	7	4	31
Day Total	:				_	1270

AM Total: 375 (29.5%) Peak AM Hour: 11:00 = 66 (5.2%) Peak AM Factor: 0.868 Average Period: 13.2 PM Total: 895 (70.5%) Peak PM Hour: 17:00 = 112 (8.8%) Peak PM Factor: 0.903 Average Hour: 52.9

Date	Time	:00	:15	:30	:45	Total
06/14/17	00:00	2	3	3	2	10
Wed	01:00	1	4	0	1	6
	02:00	3	1	3	2	9
	03:00	0	1	1	0	2
	04:00	0	0	3	2	5
	05:00	3	5	4	10	22
	06:00	6	12	8	7	33
	07:00	10	19	13	16	58
	08:00	5	11	10	16	42
	09:00	17	9	9	14	49
	10:00	22	19	7	22	70
	11:00	18	19	18	11	66
	12:00	14	14	27	11	66
	13:00	23	21	24	20	88
	14:00	21	17	15	25	78
	15:00	19	22	27	28	96
	16:00	24	29	32	36	121
	17:00	31	25	19	29	104
	18:00	21	18	24	18	81
	19:00	17	21	15	21	74
	20:00	19	10	12	12	53
	21:00	20	13	16	4	53
	22:00	26	12	10	17	65
	23:00	11	7	9	3	30
Day Total					_	1281

AM Total : 372 (29.0%) Peak AM Hour : 10:45 = 77 (6.0%) Peak AM Factor : 0.875 Average Period : 13.3 PM Total : 909 (71.0%) Peak PM Hour : 16:15 = 128 (10.0%) Peak PM Factor : 0.889 Average Hour : 53.4

Lane #3 Configuration

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

Lane #3 Basic Volume Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Date	Time	:00	:15	:30	:45	Total
06/13/17	00:00	4	3	2	8	17
Tue	01:00	1	3	0	3	7
	02:00	0	1	3	1	5
	03:00	1	3	4	2	10
	04:00	1	1	4	3	9
	05:00	2	3	9	10	24
	06:00	6	6	13	5	30
	07:00	7	4	15	8	34
	08:00	8	17	14	16	55
	09:00	4	16	8	8	36
	10:00	11	11	6	16	44
	11:00	11	11	14	11	47
	12:00	17	11	10	14	52
	13:00	19	12	12	19	62
	14:00	15	13	9	17	54
	15:00	10	21	20	15	66
	16:00	11	16	14	20	61
	17:00	18	23	22	17	80
	18:00	21	19	22	20	82
	19:00	13	21	26	19	79
	20:00	13	9	18	13	53
	21:00	10	10	13	10	43
	22:00	11	9	7	9	36
	23:00	4	9	4	5	22
Day Total	:					1008

AM Total: 318 (31.5%) Peak AM Hour : 08:00 = 55 (5.5%) Peak AM Factor: 0.809 Average Period : 10.5 PM Total: 690 (68.5%) Peak PM Hour : 16:45 = 83 (8.2%) Peak PM Factor: 0.798 Average Hour: 42.0

Printed: 06/15/17 Page 3 Centurion Basic Volume Report

Date	Time	:00	:15	:30	:45	Total
06/14/17	00:00	3	4	5	4	16
Wed	01:00	2	1	3	1	7
	02:00	2	0	2	0	4
	03:00	1	1	2	3	7
	04:00	0	0	2	5	7
	05:00	2	3	6	6	17
	06:00	5	10	10	11	36
	07:00	7	10	9	7	33
	08:00	8	12	7	12	39
	09:00	8	7	8	12	35
	10:00	12	12	9	8	41
	11:00	8	10	17	11	46
	12:00	15	12	25	15	67
	13:00	13	14	9	10	46
	14:00	12	11	16	19	58
	15:00	15	10	21	21	67
	16:00	17	21	25	24	87
	17:00	34	23	18	25	100
	18:00	19	13	14	22	68
	19:00	8	12	15	15	50
	20:00	19	9	17	18	63
	21:00	12	10	6	0	28
	22:00	9	15	9	8	41
	23:00	4	6	2	4	16
Day Total:					_	979

AM Total : 288 (29.4%) Peak AM Hour : 11:00 = 46 (4.7%) Peak AM Factor : 0.676 Average Period : 10.2 PM Total : 691 (70.6%) Peak PM Hour : 16:30 = 106 (10.8%) Peak PM Factor : 0.779 Average Hour : 40.8

Basic Volume Summary: Trumbull (east)

Grand Total For Data From: 00:00 - 06/13/2017 To: 23:59 - 06/14/2017

Lane	Total Count	# Of Days	ADT	Avg. Period	Avg. Hour	AM Total & Percent	PM Total & Percent
#1.	2551 (56.2%)	2.00	1276	13.3	53.1	747 (29.3%)	1804 (70.7%)
#3.	1987 (43.8%)	2.00	994	10.3	41.4	606 (30.5%)	1381 (69.5%)
ALL	4538	2.00	2270	23.6	94.5	1353 (29.8%)	3185 (70.2%)

Lane	Peak AM Hour		Date	Peak AM Factor	•	Peak PM F	lour	Date	Peak PM Factor	
#1.	10:45 =	77	06/14/2017	0.875		16:15 =	128	06/14/2017	0.889	
#3.	08:00 =	55	06/13/2017	0.809		16:30 =	106	06/14/2017	0.779	

Appendix C



Agency Case Number	Crash Analysis	Crash Date	Crash Intersecting Street	Crash Primary Street	Contributing Factors
140058777	01 - BOTH GOING STRAIGHT/ENTERING AT ANGLE	6/30/2014	UTAH AVE	TRUMBULL AVE SE	None
140058777	01 - BOTH GOING STRAIGHT/ENTERING AT ANGLE	6/30/2014	UTAH AVE	TRUMBULL AVE SE	Driver inattention
160012877	01 - VEH PARKED IN PROPER LOC	2/9/2016	VIRGINIA ST SE	TRUMBULL AVE SE	None
160012877	01 - VEH PARKED IN PROPER LOC	2/9/2016	VIRGINIA ST SE	TRUMBULL AVE SE	Driver inattention
160080285	00 - FROM OPPOSITE DIR/NOT STATED	8/29/2016	UTAH ST SE	TRUMBULL AVE SE	Driver inattention
160080285	00 - FROM OPPOSITE DIR/NOT STATED	8/29/2016	UTAH ST SE	TRUMBULL AVE SE	Driver inattention
140052840	00 - FROM OPPOSITE DIR/NOT STATED	6/13/2014	TRUMBULL AVE SE	VIRGINIA ST SE	None
140052840	00 - FROM OPPOSITE DIR/NOT STATED	6/13/2014	TRUMBULL AVE SE	VIRGINIA ST SE	Driver inattention
AP150054661	07 - ALL OTHERS/ENTERING AT ANGLE	6/19/2015	TRUMBULL AVE SE	UTAH ST SE	None
AP150054661	07 - ALL OTHERS/ENTERING AT ANGLE	6/19/2015	TRUMBULL AVE SE	UTAH ST SE	Driver inattention, Failed to yield right of way

Appendix D



NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM NTMP





This document includes the petition that must be completed by at least two-thirds of the affected households for the street segment. The map above is what the COA has determined to be the affected area. This must be filled out and sent back to Traffic Engineering within 2-3 weeks to be considered for traffic calming.

REQUEST DATE: 10/24/16 **RETURN DATE: 12/5/16**

NEIGHBORHOOD TRAFFIC CALMING PETITION FORM

9249

OTY OF ALBUQUERQUE—NTMP * * * NEIGHBORHOOD TRAFFIC CALMING PETITION * * *

	Section I Date: National Part Date: National
	Representatives from the
	Traffic Engineering Division (600 Second NW, Albuquerque, NM 87103 or STEP@cabq.gov)
l.	Name (print) Name (print) Address Telephone Email Signature
	Name (print) Address Telephone Email Societive. Wes Gill Owner 8315 Durnbull SE 363-6511 Was Dill
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NEIGHBORHOOD TRAFFIC CALMING PETITION FORM

QTY OF ALBUQUERQUE—NTMP * * * NEIGHBORHOOD TRAFFIC CALMING PETITION * * *

Section Date: Insert Date sent to NB GHBORHOOD CONTACT>
Representatives from the
Section II (ONLY ONE SIGNATURE PER ADDRESS)
Name (print) Name (print) Name (print) Address Para B415 Trvmian Apt. B ABANM 87108 Email Restarto Violata Senatura Address Restarto Violata Senatura Restarto Violata Restarto Viola
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NEIGHBORHOOD TRAFFIC CALMING PETITION FORM

CITY OF ALBUQUERQUE—NTMP * * * NEIGHBORHOOD TRAFFIC CALMING PETITION * * *

	INL	GIBONIOOD INATTIC CALIVII	INGFEITION	
Section I Date: NSERT DATE SE	NT TO NEIGHBORHOOD CONTA	aī>		
Representatives fro	om the INSERT RE	QUESTING NEIGHBORHOOD> ne	iahborhood, on	EXT APPLICATION DATE: requested
initiation of a NTM considered to be in the application nei with the applicatio	IP Study. Based on ava the affected area. An ghborhood support is n and sign the petition	ailable data, the households and prinitial assessment of available da required. Two-thirds of the shown below. The completed petition solw. Albuguerque, NM 87103 or S	oroperties identified i ata has been conduct n households/proper should be submitted t	n the attached Exhibit 1 are ed, and to continue processing ties on Exhibit 1 must agree
Section II		(ONLY ONE SIGNATURE PER AL	DDRESS)	
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LAURA A. Name (print)	FONG 83	SIS TRYMBULE SE	Email	Sgnature Jany Castin
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