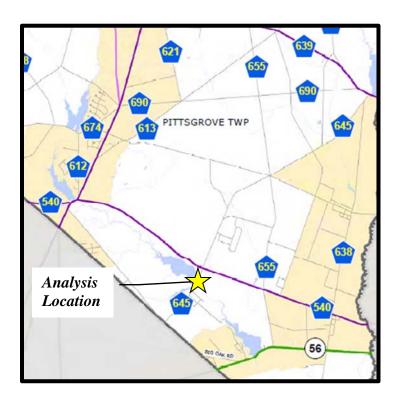
Traffic Intersection Analysis



Parvin Mill Road (C.R. 645)
Pittsgrove Township, Salem County, New Jersey

December 8, 2017

Prepared for: County of Salem

Prepared by: Remington & Vernick Engineers

Justin DiBiase, PE, PTOE 51 Haddonfield Road, Suite 260

Cherry Hill, NJ 08002 File #: 1700F001



DISCLAIMER

The preparation of this report has been financed in part by the U.S. Department of Transportation, Federal Transit Administration and Federal Highway Administration. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents of its use thereof.

TABLE OF CONTENTS

	INTRODUCTION	
II.	EXISTING CONDITIONS	2
	EXISTING TRAFFIC CONDITIONS	
	CRASH HISTORY AND EVALUATIONS	
	SPEED LIMIT ANALYSIS	
VI.	RECOMMENDATIONS	8
	TABLES	
Tab	le 1 – Existing Peak Hour Traffic Volumes	3
Tab	le 2 – Crash Summary	4
Tab	le 3 – Existing Speed Data	6

FIGURES

Figure 1 – Location Map	2
Figure 2 – Existing Speed Data	7
Figure 3 – Concept Plan	

LIST OF APPENDICES

Appendix A	. – Photos
------------	------------

Appendix A – Photos
Appendix B – Speed & Volume Data
Appendix C – Speed Limit Analysis
Appendix D – Tax Map
Appendix E – NJDOT Straight Line Diagram

I. INTRODUCTION

Remington & Vernick Engineers has been retained by Salem County to study, analyze and develop an improvement plan for Parvin Mill Road in Pittsgrove Township, Salem County, New Jersey. The overall limits of the project include Parvin Mill Road, County Road #645, at the Parvin State Park Entrance in Pittsgrove Township located approximately 1,300 feet south of Almond Road, County Road #540. This work is associated with the larger Intersection & Road Analyses for Salem County.

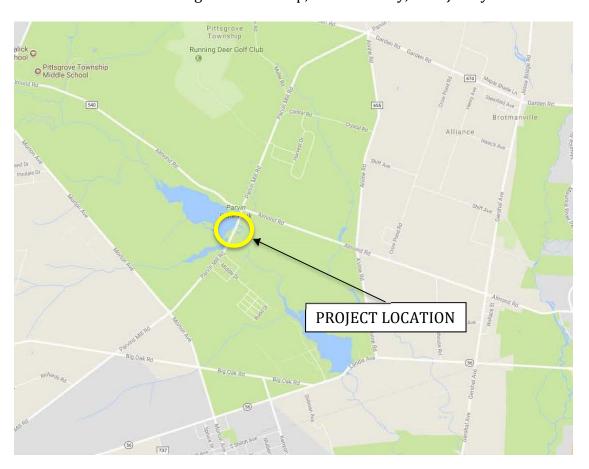
This study is intended to evaluate potential improvements including modifications of existing signage, striping, and pavement markings, and safety/equipment upgrades within the roadway's exiting right-of-way. Figure 1 shows the location of the study intersection. The main objective of this report was to analyze existing conditions, traffic patterns, and improvement alternatives along the roadway and to provide a recommended course of action. In order to complete this study, the following data was collected and utilized during the course of this traffic study:

- Peak period traffic counts and speed data via radar data collection.
- Three years of traffic crash reports within the project limits from the New Jersey State Police Department
- Physical inventory of existing pavement condition, roadway/shoulder widths, signage, guide rail, and parking availability.
- NJDOT Straight Line Diagrams, aerial photographs, and photos from the project area.



Figure 1 - Location Map

Parvin Mill Road C.R. 645 at the Parvin State Park entrance Pittsgrove Township, Salem County, New Jersey



II. EXISTING CONDITIONS

In order to evaluate the safety and operations of the existing roadway and to develop recommendations for the intersection, RVE conducted a physical inventory of various features that may affect traffic flow and safety characteristics.

Parvin Mill Road is classified as a rural local road in Pittsgrove Township and provides access to several connecting State and County routes. The road has a posted speed limit of 30 miles per hour (MPH) for the length of roadway adjacent to the Parvin State Park Entrance. The road has two lanes (one lane in each direction) consisting of two 11-foot travel lanes separated by a solid double yellow line (no passing zone), and varying shoulder lengths of 1 foot along the southbound travel lane and 2 feet along the northbound travel lane. The pavement along the roadway is in poor condition and shows signs of wear with cracking throughout.



The road currently has guide rail running along the east side of the traveled way connecting to the bridge crossing Parvin Lake and running approximately 375' to the north and 1,200' to the south. Travelling south along Parvin Mill Road, the warranting obstructions for guide rail along the east side of the roadway include the lake, bridge abutment, and concrete culvert. There is a walking path that meanders on the west side of Parvin Mill Road and ultimately crosses the bridge via a concrete sidewalk and then connects to the parking lot.

The Parvin State Park Entrance located on Parvin Mill Road provides access to a 465-acre natural preserve located on the boundary of the New Jersey Pine Barrens. This entrance includes a boat dock, access to Parvin Lake, as well as hiking trails offering routes to Thundergust Lake and the Thundergust Lake day use area with picnic and playground areas. The parking area provides space for approximately 30 vehicles with 4 designated handicapped accessible spaces.

Signage along Parvin Mill Road includes advanced notice of recreation areas, No Stopping or Standing signs along the bridge, No Parking signs adjacent to the boat dock area, One Way/Do Not Enter signs at the entrance and exit of the parking area and various park signs providing lake and forestry information.

III. EXISTING TRAFFIC CONDITIONS

In order to study and evaluate the portion of Parvin Mill Road (CR 540), volume and speed classification counts were conducted by Salem County between September 19 and September 21, 2017, using radar data collection equipment. The radar detection was set up Parvin Mill Road between Parvin Mill Road (CR 540) and the county line in order to track vehicles approaching the study intersection. The traffic count data indicates that the morning system peak hour occurred between 7:00AM and 8:00 AM, and the evening system peak hour occurred between 4:00 PM and 5:00 PM. The measured Average Daily Traffic (ADT) of this section of roadway is 2,618. The existing peak hour traffic volumes are depicted in Table 1. The raw traffic count data is provided in Appendix B.

<u>Table 1 - Existing Peak Hour Traffic Volumes</u>

	Vol	ume
	AM	PM
Parvin Mill Road	210	267



IV. CRASH HISTORY AND EVALUATIONS

The reasons for analyzing traffic crash data are (1) to identify any crash patterns that may exist, (2) to determine the contributing factors to crashes with respect to drivers, roadway and vehicles, and (3) to develop countermeasures that will reduce the rate and severity of crashes.

A review of crash data was conducted to identify safety concerns that may exist along the roadway. The data was also used to identify crash patterns, from which contributing factors to crashes may be identified, leading to the identification of possible remedial actions.

During a three-year period between October 2014 and October 2017, the study intersection experienced ten (10) reported crashes. Table 2 summarizes the reported crashes by type of collision.

Table 2 - Crash Summary

Туре	Total # of Crashes	% of Total	# of Personal Injuries
Sideswipe	0	0%	0
Overtake	0	0%	0
Head On	1	10%	0
Left Turn	2	20%	2
Rear End	0	0%	0
Right Angle	0	0%	0
Parked Vehicle	1	10%	0
Bike / Other	6	60%	0
Total Within Scope	10	100%	2

The above-mentioned crash data has been organized and was taken directly from police reports prepared by the New Jersey State Police Department. Since the individual crash reports include personal information, they are not included with this report. The crash reports will remain on file for the duration of the study. However, the personal information related to each report are not included analysis.

The data indicates the predominant crash type within the study limits were caused by objects outside the roadway at 60%. A total of two (2) personal injuries were recorded during the three-year review period. There were no fatal crashes during this timeframe.



Most of the crashes occurred during the daylight hours, in clear weather and on dry roadway conditions. These crashes can be attributed to wildlife entering the roadway or vehicles travelling off the roadway and colliding with an object.

Since the accident data reveals crashes caused by wildlife as a recurring problem in this area, we recommend the installation of additional signage to notify drivers of the surrounding habitats. This improvement will provide an advanced warning of the possible obstructions entering the roadway and advise drivers to travel with caution through the approaching area.

The preponderance of run-off-the-roadway crashes in this area can also be protected against with the installation of centerline rumble strips. This safety improvement should be installed in No Passing Zone (NPZ) areas so to minimize noise disturbance in residential areas.



V. SPEED LIMIT ANALYSIS

Speed data approaching the study intersection was collected using radar detection equipment between September 19 and 21, 2017. This data was used along with the crash data and the Federal Highway Administration's speed management software USLIMITS2 in order to determine an appropriate speed limit for this area. The raw speed data can be found in Appendix B and is summarized in Table 3 and Figure 2 below.

Table 3 - Existing Speed Data

Street	Posted Speed Limit	50th Percentile Speed	85th Percentile Speed	10 MPH Pace Speed
Parvin Mill Road Northbound	30	29	39	36-45
Parvin Mill Road Southbound	30	29	42	36-45

The speed data collected indicates a 10 MPH pace speed between 36-45 MPH, a 50^{th} percentile speed of 29 MPH, and an 85^{th} percentile speed of 39 & 42 MPH for northbound and southbound, respectively. Based on the collected data, the USLIMITS2 software indicated a speed limit of 30 MPH is acceptable. The results of the speed limit analysis can be seen in Appendix C.

Figure 2 - Existing Speed Data



VI. RECOMMENDATIONS

Based on the existing conditions, a concept plan has been developed in order to mitigate safety concerns along the roadway. The proposed improvements include installing additional signage along the roadway and better delineating a designated entrance/exit for the park. The purpose of these improvements is to provide additional warnings of the surrounding wildlife as well as improve safety while vehicles enter/exit the park. Due to the poor pavement condition along Parvin Mill Road, a road resurfacing is recommended. Additionally, to prevent against the oftenoccurring run-off-the-roadway crashes, we recommend the installation of centerline rumble strips for the length of the resurfacing.

Due to the lack of guide rail on the southbound approach to the bridge over Parvin Lake, we recommend installing guide rail to connect to the existing parapet at this location. The parapet is within the clear zone (10-12 feet from the edge of road) for the given classification of road and should be protected as such. The multi-use path on the westerly side of Parvin Mill Road will need to be adjusted to account for the new guide rail installation.

The improvement plan listed above includes improvements that aim to minimize the need for additional widening or full redesign/construction of the existing roadway. Since the crash data, existing speeds and design criteria along the roadway are in the generally acceptable range for this area and functional classification of road, roadway widening and added traffic calming measures should not be the primary focus for improvement. Based on the existing conditions, the improvement scenario has been developed to improve the safety for drivers along Parvin Mill Road and entering Parvin State Park.





FIGURE 3 CONCEPT PLAN

PARVIN MILL ROAD (C.R. 645)

PITTSGROVE TOWNSHIP, SALEM COUNTY, NEW JERSEY

REMINGTON & VERNICE ENGINEERS

232 KING'S HIGHWAY EAST HADDONFIELD, NJ 08033
(856) 795-9595, FAX (856) 795-1882, WEB SITE ADDRESS: WWW.RVE.COM
Certificate of Authorization: 24 GA 28003800 DATE: 9/18/2017 DWG. NO. 1700F001 SHEET 1 of 1

GRAPHIC SCALE



(IN FEET) 1 inch = 50 ft.

Appendix A











Appendix B SPEED & VOLUME DATA

Salem County Engineers Office 110 Fifth Street, Suite 600 Salem New Jersey 08079

Telephone (856) 935 - 7510 ext. 8549

Site Code: 64500002 Station ID: Map #645A CR 645 Parvins Mill Rd Between CR 540 and the County Line Latitude: 0' 0.0000 Undefined

NorthBound	Lane																
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96		Pace	Number
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total	Speed	in Pace
09/19/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	41	19	3	2	0	0	0	0	0	0	0	0	0	0	65	31-40	25
16:00	40	25	11	0	1	0	0	0	0	0	0	0	0	0	77	36-45	36
17:00	32	13	7	0	0	0	0	0	0	0	0	0	0	0	52	35-44	20
18:00	28	12	5	1	0	0	0	0	0	0	0	0	0	0	46	34-43	17
19:00	20	3	1	0	0	0	0	0	0	0	0	0	0	0	24	1-10	6
20:00	14	5	1	0	0	0	0	0	0	0	0	0	0	0	20	31-40	7
21:00	10	3	1	1	0	0	0	0	0	0	0	0	0	0	15	36-45	4
22:00	7	3	0	0	0	0	0	0	0	0	0	0	0	0	10	31-40	4
23:00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5	35-44	2
Total	195	85	29	4	1	0	0	0	0	0	0	0	0	0	314		
Percent	62.1%	27.1%	9.2%	1.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak																	
Vol.																	
PM Peak	15:00	16:00	16:00	15:00	16:00										16:00		
Vol.	41	25	11	2	1										77		

Salem County Engineers Office 110 Fifth Street, Suite 600 Salem New Jersey 08079

Telephone (856) 935 - 7510 ext. 8549

Site Code: 64500002 Station ID: Map #645A CR 645 Parvins Mill Rd Between CR 540 and the County Line Latitude: 0' 0.0000 Undefined

NorthBound	Lane																
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96		Pace	Number
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total	Speed	in Pace
09/20/17	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	35-44	1
01:00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5	35-44	2
02:00	3	0	2	0	0	0	0	0	0	0	0	0	0	0	5	35-44	2
03:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	*	1
04:00	6	3	1	0	0	0	0	0	0	0	0	0	0	0	10	31-40	4
05:00	19	17	7	0	0	0	0	0	0	0	0	0	0	0	43	36-45	24
06:00	64	41	6	0	0	0	0	0	0	0	0	0	0	0	111	31-40	50
07:00	68	41	12	1	0	0	0	0	0	0	0	0	0	0	122	36-45	53
08:00	49	20	9	0	0	0	0	0	0	0	0	0	0	0	78	35-44	29
09:00	30	22	5	2	0	0	0	0	0	0	0	0	0	0	59	33-42	27
10:00	42	13	3	1	1	0	0	0	0	0	0	0	0	0	60	31-40	19
11:00	33	17	4	1	0	0	0	0	0	0	0	0	0	0	55	31-40	22
12 PM	28	5	3	1	0	0	0	0	0	0	0	0	0	0	37	31-40	9
13:00	37	10	1	0	0	0	0	0	0	0	0	0	0	0	48	31-40	15
14:00	32	14	3	1	0	0	0	0	0	0	0	0	0	0	50	31-40	19
15:00	35	28	7	0	1	0	0	0	0	0	0	0	0	0	71	36-45	35
16:00	41	30	14	1	0	0	0	0	0	0	0	0	0	0	86	36-45	44
17:00	34	25	9	0	0	0	0	0	0	0	0	0	0	0	68	36-45	34
18:00	34	13	4	0	0	0	0	0	0	0	0	0	0	0	51	31-40	18
19:00	18	10	1	0	0	0	0	0	0	0	0	0	0	0	29	31-40	13
20:00	24	7	1	1	0	0	0	0	0	0	0	0	0	0	33	31-40	10
21:00	17	9	0	0	0	0	0	0	0	0	0	0	0	0	26	31-40	11
22:00	7	4	0	0	0	0	0	0	0	0	0	0	0	0	11	31-40	5
23:00	4	1	1	0	0	0	0	0	0	0	0	0	0	0	6	36-45	2
Total	632	333	94	9	2	0	0	0	0	0	0	0	0	0	1070		
Percent	59.1%	31.1%	8.8%	0.8%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	06:00	07:00	09:00	10:00										07:00		
Vol	68	41	12	2	1										122		
PM Peak	16:00	16:00	16:00	12:00	15:00										16:00		
Vol.	41	30	14	1	1										86		

Salem County Engineers Office 110 Fifth Street, Suite 600

Salem New Jersey 08079

Telephone (856) 935 - 7510 ext. 8549

Site Code: 64500002 Station ID: Map #645A CR 645 Parvins Mill Rd Between CR 540 and the County Line

Latitude: 0' 0.0000 Undefined

NorthBound	l Lane																
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96		Pace	Number
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total	Speed	in Pace
09/21/17	4	1	1	0	0	0	0	0	0	0	0	0	0	0	6	36-45	2
01:00	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9	31-40	4
02:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	35-44	2
03:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	35-44	1
04:00	6	1	2	0	0	0	0	0	0	0	0	0	0	0	9	34-43	3
05:00	17	13	4	1	0	0	0	0	0	0	0	0	0	0	35	35-44	17
06:00	72	31	9	0	0	0	0	0	0	0	0	0	0	0	112	32-41	41
07:00	58	48	6	2	0	0	0	0	0	0	0	0	0	0	114	31-40	56
08:00	32	27	8	3	0	0	0	0	0	0	0	0	0	0	70	36-45	35
09:00	41	16	6	0	0	0	0	0	0	0	0	0	0	0	63	36-45	22
10:00	31	17	5	0	0	0	0	0	0	0	0	0	0	0	53	32-41	22
11:00	39	11	5	1	0	0	0	0	0	0	0	0	0	0	56	31-40	17
12 PM	36	12	1	2	0	0	0	0	0	0	0	0	0	0	51	31-40	17
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	346	183	47	9	0	0	0	0	0	0	0	0	0	0	585		
Percent	59.1%	31.3%	8.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	06:00	07:00	06:00	08:00											07:00		
Vol	72	48	9	3											114		
PM Peak	12:00	12:00	12:00	12:00											12:00		
Vol.	36	12	1	2											51		
Total	1173	601	170	22	3	0	0	0	0	0	0	0	0	0	1969		
Percent	59.6%	30.5%	8.6%	1.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile: 8 MPH 50th Percentile: 29 MPH 85th Percentile: 39 MPH 95th Percentile: 42 MPH

10 MPH Pace Speed: Stats 36-45 MPH Number in Pace : 771

Percent in Pace : 39.2% Number of Vehicles > 55 MPH: 0 Percent of Vehicles > 55 MPH: 0.0% Mean Speed(Average): 27 MPH

Salem County Engineers Office 110 Fifth Street, Suite 600 Salem New Jersey 08079

Telephone (856) 935 - 7510 ext. 8549

Site Code: 64500002 Station ID: Map #645A CR 645 Parvins Mill Rd Between CR 540 and the County Line Latitude: 0' 0.0000 Undefined

Southbound	l Lane																
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96		Pace	Number
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total	Speed	in Pace
09/19/17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	89	30	15	6	2	0	0	0	0	0	0	0	0	0	142	36-45	45
16:00	107	34	16	12	3	0	0	0	0	0	0	0	0	0	172	33-42	50
17:00	97	22	16	11	2	0	0	0	0	0	0	0	0	0	148	36-45	38
18:00	58	23	11	9	2	0	0	0	0	0	0	0	0	0	103	36-45	34
19:00	43	10	2	8	0	0	0	0	0	0	0	0	0	0	63	31-40	16
20:00	47	12	8	2	0	0	0	0	0	0	0	0	0	0	69	35-44	20
21:00	12	10	0	8	0	1	0	0	0	0	0	0	0	0	31	31-40	12
22:00	17	2	2	0	0	0	0	0	0	0	0	0	0	0	21	1-10	5
23:00	15	4	5	1	0	0	0	0	0	0	0	0	0	0	25	36-45	9
Total	485	147	75	57	9	1	0	0	0	0	0	0	0	0	774		
Percent	62.7%	19.0%	9.7%	7.4%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak																	
Vol.																	
PM Peak	16:00	16:00	16:00	16:00	16:00	21:00									16:00		
Vol.	107	34	16	12	3	1									172		

Salem County Engineers Office 110 Fifth Street, Suite 600 Salem New Jersey 08079

Telephone (856) 935 - 7510 ext. 8549

Site Code: 64500002 Station ID: Map #645A CR 645 Parvins Mill Rd Between CR 540 and the County Line Latitude: 0' 0.0000 Undefined

Southbound	Lane																
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96		Pace	Number
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total	Speed	in Pace
09/20/17	9	1	0	2	0	0	0	0	0	0	0	0	0	0	12	1-10	3
01:00	3	1	0	0	1	2	0	0	0	0	0	0	0	0	7	50-59	3
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	*	1
03:00	3	0	2	0	0	0	0	0	0	0	0	0	0	0	5	35-44	2
04:00	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7	31-40	3
05:00	9	3	4	3	2	0	0	0	0	0	0	0	0	0	21	36-45	7
06:00	18	7	6	6	4	0	0	0	0	0	0	0	0	0	41	36-45	13
07:00	43	15	10	15	5	0	0	0	0	0	0	0	0	0	88	36-45	25
08:00	41	17	10	14	1	1	0	0	0	0	0	0	0	0	84	36-45	27
09:00	49	17	8	9	0	1	0	0	0	0	0	0	0	0	84	34-43	25
10:00	31	10	7	1	0	0	0	0	0	0	0	0	0	0	49	36-45	17
11:00	53	11	3	6	0	0	0	0	0	0	0	0	0	0	73	31-40	19
12 PM	51	13	5	8	3	0	0	0	0	0	0	0	0	0	80	31-40	20
13:00	69	6	10	2	1	0	0	0	0	0	0	0	0	0	88	1-10	20
14:00	51	16	13	10	0	0	0	0	0	0	0	0	0	0	90	36-45	29
15:00	87	31	12	12	1	1	0	0	0	0	0	0	0	0	144	36-45	43
16:00	103	43	27	6	2	0	0	0	0	0	0	0	0	0	181	36-45	70
17:00	71	31	16	8	9	2	0	0	0	0	0	0	0	0	137	36-45	47
18:00	60	22	7	3	3	0	0	0	0	0	0	0	0	0	95	31-40	31
19:00	73	19	8	2	2	0	0	0	0	0	0	0	0	0	104	31-40	29
20:00	46	17	5	7	0	0	0	0	0	0	0	0	0	0	75	31-40	24
21:00	20	8	7	1	1	0	0	0	0	0	0	0	0	0	37	36-45	15
22:00	16	10	2	2	0	0	0	0	0	0	0	0	0	0	30	35-44	12
23:00	5	4	2	0	1	0	1	0	0	0	0	0	0	0	13	36-45	6
Total	919	304	164	117	36	7	1_	0	0	0	0	0	0	0	1548		
Percent	59.4%	19.6%	10.6%	7.6%	2.3%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	08:00	07:00	07:00	07:00	01:00									07:00		
Vol.	53	17	10	15	5_	2									88		
PM Peak	16:00	16:00	16:00	15:00	17:00	17:00	23:00								16:00		
Vol.	103	43	27	12	9	2	1								181		

Salem County Engineers Office

110 Fifth Street, Suite 600 Salem New Jersey 08079

Telephone (856) 935 - 7510 ext. 8549

Site Code: 64500002 Station ID: Map #645A CR 645 Parvins Mill Rd Between CR 540 and the County Line Latitude: 0' 0.0000 Undefined

Southbound	Lane														Latitude.	0.0000	Ondenned
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96		Pace	Number
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total	Speed	in Pace
09/21/17	7	2	2	0	0	0	0	0	0	0	0	0	0	0	11	36-45	4
01:00	3	3	0	2	0	0	0	0	0	0	0	0	0	0	8	35-44	3
02:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	*	1
03:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	39-48	1
04:00	2	3	0	0	0	0	0	0	0	0	0	0	0	0	5	36-45	3
05:00	10	3	4	1	3	0	0	0	0	0	0	0	0	0	21	36-45	7
06:00	14	14	8	2	0	0	0	0	0	0	0	0	0	0	38	36-45	22
07:00	32	20	13	11	7	0	0	0	0	0	0	0	0	0	83	36-45	33
08:00	50	22	20	8	0	0	0	0	0	0	0	0	0	0	100	36-45	42
09:00	41	19	5	7	0	0	0	0	0	0	0	0	0	0	72	31-40	25
10:00	37	14	6	5	3	0	0	0	0	0	0	0	0	0	65	36-45	20
11:00	41	13	6	6	2	0	0	0	0	0	0	0	0	0	68	36-45	19
12 PM	50	9	10	5	2	0	0	0	0	0	0	0	0	0	76	36-45	19
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	291	122	74	48	17	0	0	0	0	0	0	0	0	0	552		
Percent	52.7%	22.1%	13.4%	8.7%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	07:00	07:00										08:00		
Vol.	50	22	20	11	7										100		
PM Peak	12:00	12:00	12:00	12:00	12:00										12:00		
Vol.	50	9	10	5	2										76		
Total	1695	573	313	222	62	8	1	0	0	0	0	0	0	0	2874		
Percent	59.0%	19.9%	10.9%	7.7%	2.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile: 8 MPH
50th Percentile: 29 MPH
85th Percentile: 42 MPH
95th Percentile: 48 MPH

Stats 10 MPH Pace Speed: 36-45 MPH Number in Pace: 886

Percent in Pace : 30.8%

Number of Vehicles > 55 MPH : 9

Percent of Vehicles > 55 MPH : 0.3%

Mean Speed(Average) : 28 MPH

Appendix C SPEED LIMIT ANALYSIS

USLIMITS2 Speed Zoning Report

Project Name: Parvin Mill Road

Analyst: SPB

Basic Project Information

Project Number: 1700F001 Route Name: Parvin Mill Road

From: To:

State: New Jersey County: Salem County City: Pittsgrove Township

Route Type: Road Section in Undeveloped Area

Route Status: Existing

Roadway Information

Section Length: 1 mile(s) Statutory Speed Limit: 30 mph

Adverse Alignment: No

Divided/Undivided: Undivided

Number of Lanes: 2 Roadside Hazard Rating: 4 Transition Zone: No Date: 11-28-2017

Crash Data Information

Crash Data Years: 3.00
Crash AADT: 2618 veh/day
Total Number of Crashes: 10
Total Number of Injury Crashes: 2
Section Crash Rate: 349 per 100 MVM
Section Injury Crash Rate: 70 per 100 MVM
Crash Rate Average for Similar Roads: 142
Injury Rate Average for Similar Roads: 50

Traffic Information

85th Percentile Speed: 41 mph 50th Percentile Speed: 29 mph

AADT: 2618 veh/day

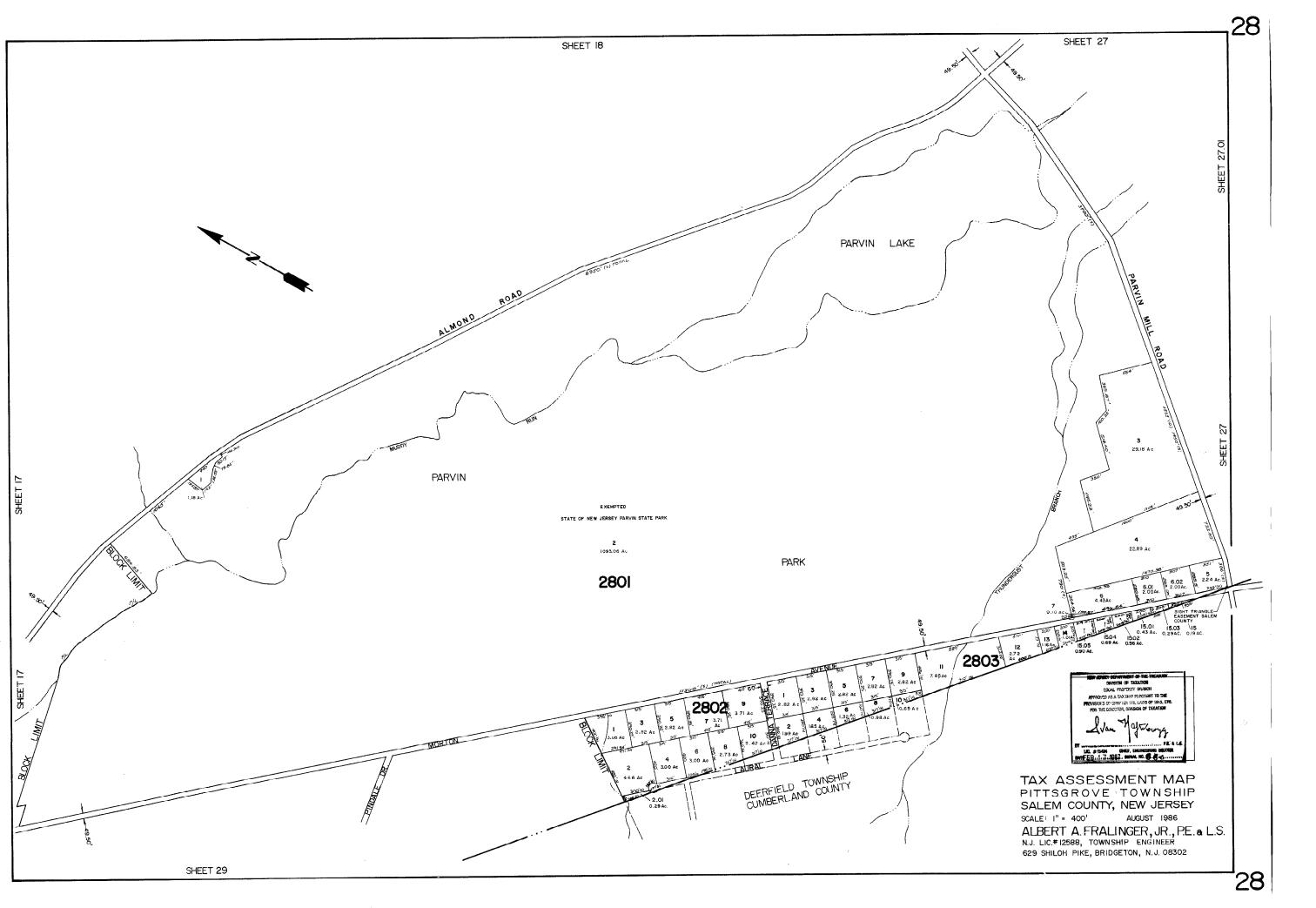
Project Description: Analysis at the entrance of Parvin State Park along Parvin Mill Road (C.R. 645)

Recommended Speed Limit:



Note: The section crash rate of 349 per 100 MVM is above the critical rate (341). The injury crash rate for the section of 70 per 100 MVM is more than 30 percent above the average for similar roads (50) but below the critical rate (175). 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 D



Appendix E NJDOT STRAIGHT LINE DIAGRAM

