

ALBANY SHAKER ROAD CORRIDOR STUDY

FINAL REPORT

Prepared for:



CDTTC
CAPITAL DISTRICT
TRANSPORTATION COMMITTEE

By:



In association with:



NOVEMBER 2018



Disclaimer

This report was funded in part through a grant from the Federal Highway Administration, U.S. Department of Transportation. The views and opinions of the authors [or agency] expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation. This report was prepared in cooperation with the Town of Colonie, Albany County, the Capital District Transportation Committee, the Capital District Regional Planning Commission, the Capital District Transportation Authority, and the New York State Department of Transportation. The contents do not necessarily reflect the official views or policies of these government agencies. The recommendations are conceptual in nature and are presented to characterize the types of improvements that are desirable, and that may be implemented as part of future land use and transportation improvement projects. All transportation concepts will require further engineering evaluation and review. Undertaking additional engineering or other follow up work will be based upon funding availability. The Albany Shaker Road Corridor Study will have a positive impact on affected Environmental Justice populations, as documented in the Appendix A.

Acknowledgments

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Thank you to the following:

Study Steering Committee

- Town of Colonie
- Albany County
- Capital District Transportation Committee

Study Advisory Committee

- NYSDOT Region 1 Staff – Audrey Burneson
- CDTA Staff – Michael Williams
- Albany County Airport Authority – Steve Iachetta
- Capital District Regional Planning Commission – Dan Harp
- Creighton Manning, CDTC, Town of Colonie and Albany County

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- Town of Colonie – Jack Cunningham, Joseph LaCivita and Bill Neeley
- Albany County – Bill Anslow and Jim Mearkle
- CDTC Staff – Chris O'Neill and David Jukins
- Creighton Manning Staff
- FHI Staff
- CHA Staff

The Contributing Public – Showed they cared about this important corridor by taking the time to spread the word about the study, attend and participate in the public information meetings and provide comments.

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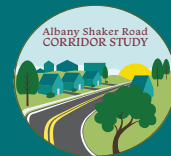
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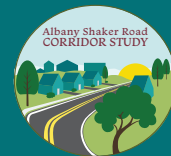


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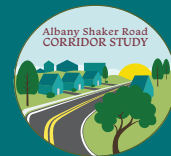
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CHAPTER 1

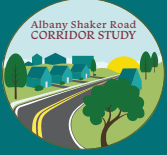
Introduction

Albany Shaker Road historically served as a farm to market road, which at that time, the farms were to the west and along Albany Shaker Road and the markets were in Downtown Albany along the Hudson River. Today Albany Shaker Road serves as a principal arterial road traveling in the east-west direction. As the Capital District has evolved over the past 100 plus years, the Town of Colonie has continued to be at the center of the region, and Albany Shaker Road has served as a regional connector. This road has a regional significance providing vital connections to the Adirondack Northway (I-87), neighboring residential communities, Corporate Woods, the City of Albany, The Crossings (park), the Town Library, Albany International Airport and the commercial Wolf Road area.

Study Approach

The Study included the involvement of two committees, a Study Steering Committee (SSC) was established to jointly manage the study and make critical decisions, and monitor the progress; and the Study Advisory Committee (SAC) that was formed to provide input and guidance during the life of the Study. Below is a description of each of the committees including their members:

- **Study Steering Committee (SSC)** – The SSC is made up of the Town of Colonie, Albany County and CDTC will be jointly responsible for study oversight.
 - Review and comment on materials before they are presented to the Advisory Committee or public
 - Monitor the study progress
 - Review and comment on presentations and study before they go public
- **Study Advisory Committee (SAC)** is made of representatives from the Town of Colonie, Albany County, CDTC, Albany County Airport Authority, Capital District Transit Authority (CDTA), Capital District Regional Planning Commission (CDRPC) and New York State Department of Transportation (NYSDOT). The purpose of the SAC was the following:
 - Provide input and guidance during the life of the Study
 - Meet with the consultant on, at minimum, five occasions as described below:
 - Confirm understanding of the scope of work and study area boundaries
 - Confirm study principles and objectives
 - Provide guidance on expected outcomes and measures of effectiveness
 - Provide oversight on the overall study process including the roles and responsibilities of the study partners



- Review and comment on public information materials
- Review and comment on recommendations
- Review and comment on study deliverables
- Serve as a two-way information conduit for groups they represent

The cross section of agencies and interests on these committees, combined with the open public process was intended to ensure that diverse views were represented, and that the plan is comprehensive and publicly supported.

The recommendations presented in this Study are intended to support the Town's and the County's efforts to improve the realistic multi-modal functionality and appearance of Albany Shaker Road and to support the community's vision. The recommendations are conceptual in nature and are presented to characterize the types of improvements that are desirable, and that may be implemented as part of future land use and transportation improvement projects. All transportation concepts will require further engineering evaluation and review. This report was prepared in cooperation with the SSC and SAC. The contents do not necessarily reflect the official views or policies of these government agencies. The concepts need to be investigated in more detail before any financial commitments can be made.

Study Objectives

At the outset of the Study, the SSC and SAC developed the following study objectives that were reviewed and refined with the committees and the public. These objectives establish the framework for this Study, and the resulting conclusions and recommendations.

The overall objectives of the Albany Shaker Road Corridor Study are to:

- Identify transportation and land-use recommendations that
 - Enhance the character of the corridor for all land-uses consistent with the existing zoning, including the adjacent residential, businesses and undeveloped parcels
 - Mitigate the traffic concerns taking into consideration the twenty-four hour traffic volumes and speeds
 - Address safety and quality of life concerns for adjoining residences and businesses, as well as pedestrians, bicyclists, and motor vehicle drivers.
 - Coordinate with the Town's Comprehensive Plan update project to allow for integration with the plan
- Conduct a public outreach approach that develops a mutual understanding of issues and builds consensus – this includes a process to engage the community in learning about the benefits and potential trade offs of complete streets designs along Albany Shaker Road and to seek and obtain public input on conceptual designs that balance the needs of all roadway users.



Study Area

The study area extends along Albany Shaker Road from Old Maxwell Road to Everett Road including the transportation corridor itself, along with the adjacent land and businesses. This 2.4 mile section of Albany County facility is an important corridor for all modes including, regional commuting between Albany and I-87 (The Northway) and points west, local transit, and also for short trips by foot, car or bicycle between local neighborhoods and businesses, The Crossings, the Shaker Elementary School, and other corridor businesses and services. The study area also extends to the north to include Maxwell Road, Old Niskayuna Road and Osborne Road. Within the study area, a detailed traffic simulation model was developed to help understand the operational trade-offs of various alternatives and the potential impacts of undeveloped land in and adjacent to the study area. Figure 1.1 below illustrates the study area.



Figure 1.1 - Study Area



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CHAPTER 2

Existing Conditions

Zoning and Land Use

Zoning along the corridor is primarily single family residential with the exception of the areas around Osborne Road, which is designated neighborhood Commercial Office Residential, and the Wolf Road and Everett Road corridors, which are both zoned Commercial Office Residential. In addition to these residential and commercial zones, a small segment of the corridor is zoned for Land Conservation.

Some parcels along the corridor do not conform to the existing zoning. These land uses are mostly inherited uses that existed before the zoning was changed for that property. Some of the non-conforming uses in the corridor include Constantine's farm, Albany Hindu Cultural Center, the elementary school, Afrim's sports facility, J.H. Maloy Inc.'s property, including their sand pit off of Osborne Road, and others.

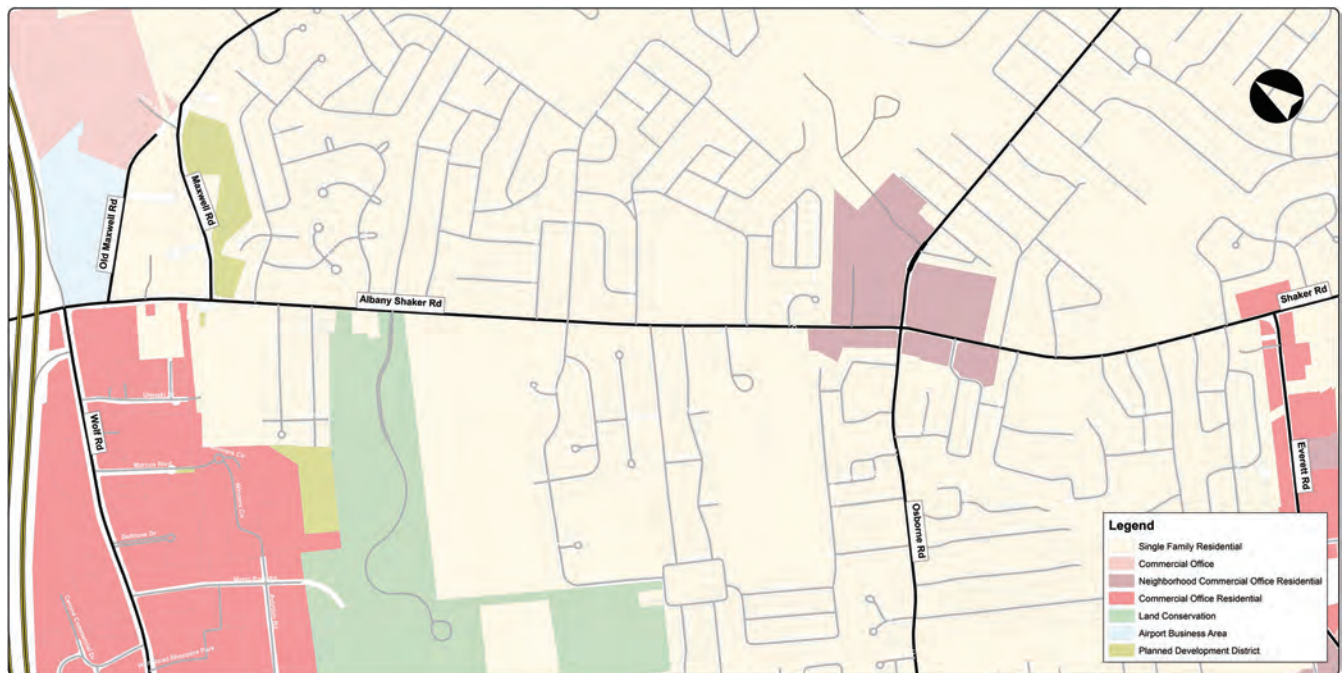


Figure 2.1 - Existing Zoning

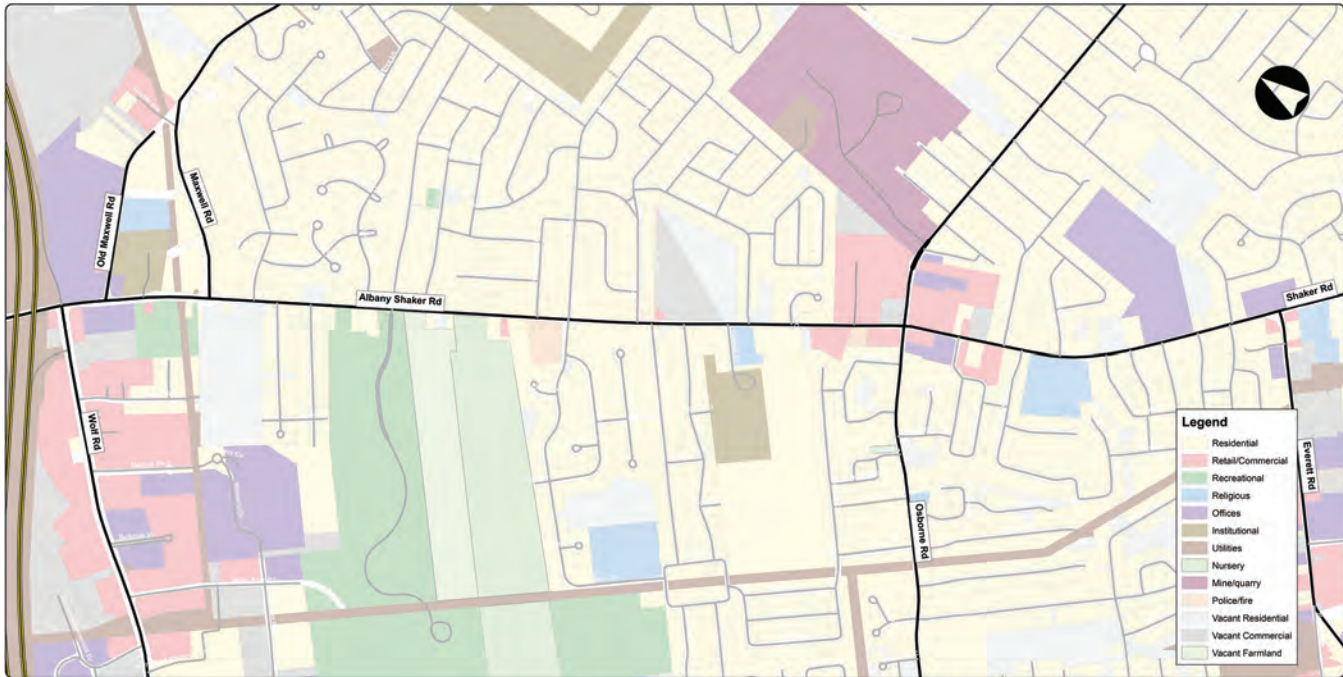
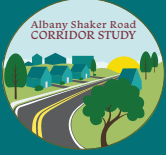


Figure 2.2 - Existing Land Use

Transportation Infrastructure

Physical Characteristics

Albany Shaker Road, an urban principal arterial, extends in an east-west direction through the Town of Colonie. The posted speed limit on Albany Shaker Road is 40-mph in the study area. In general, Albany Shaker Road is a two-lane roadway 32 feet wide, with one 11-foot wide travel lane and four to six foot wide shoulders in each direction. The roadway widens at the intersections of Osborne Road and Everett Road to accommodate turn lanes before transitioning back to one lane in each direction.

In general, Albany Shaker Road is curbed with closed drainage on both sides from Old Maxwell Road to Shaker Drive except for the segment between Emerick Lane and Hilton Court, which is curbed, with closed drainage on the north side only. East of Shaker Drive, Albany Shaker Road is curbed on the south side only.

Data published by the Capital District Transportation Committee (CDTC) from the latest pavement condition survey conducted from May to November of 2015 indicates that the pavement on Albany Shaker Road in the study area is in good to excellent condition (Rated 8 to 10).



Pedestrian and Bicyclist Facilities

The presence of shoulders within the corridor provides bicyclists the opportunity to travel through the study area without having to share the road in the travel lane. However, due to the speed of passing vehicles, bicyclists use the sidewalks. There are 5-foot wide sidewalks on both the sides of Albany Shaker Road from Wolf Road to Emerick Lane/The Crossings. From Emerick Lane/The Crossings to Osborne Road the sidewalk continues along just the north side. From the intersection of Osborne Road, the sidewalk is provided on the south side of the road to the Everett Road intersection. The 5-foot sidewalk width is the recommended minimum width for a pedestrian access route.



Albany Shaker Road near The Crossings

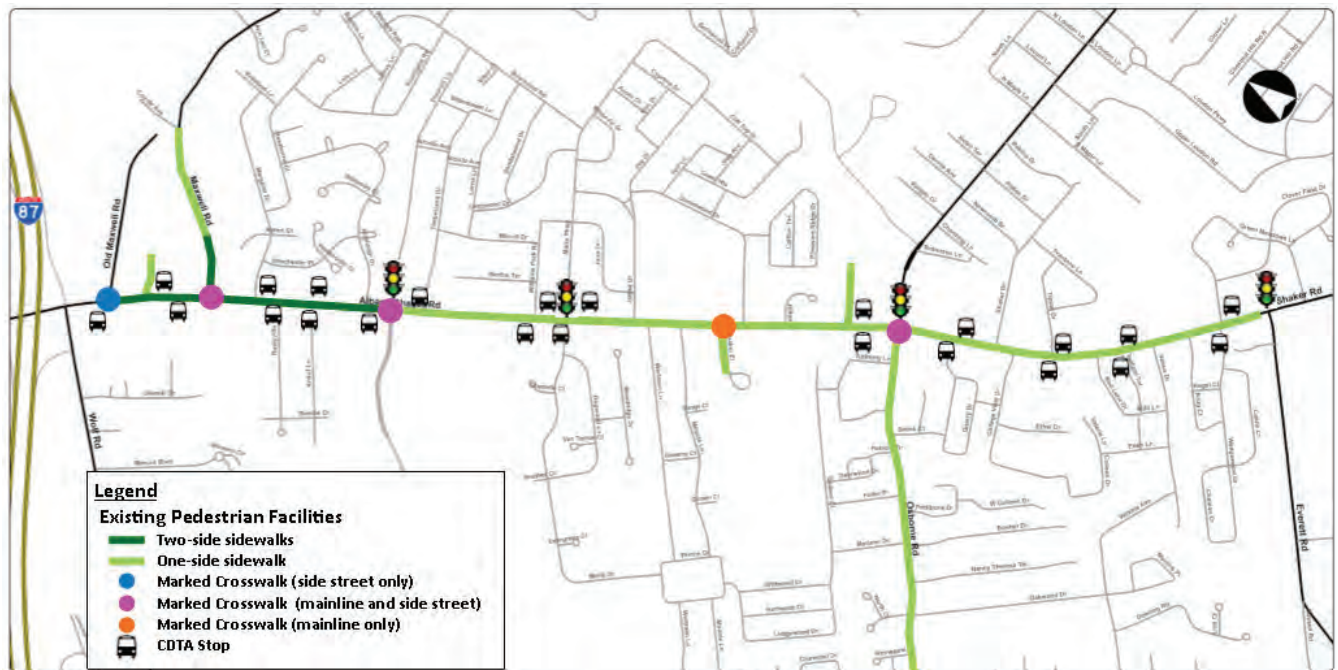


Figure 2.3 - Existing Pedestrian Facilities

Marked crosswalks are present at the following intersections:

- North leg of Old Maxwell Road
- All three approaches of the roundabout at Maxwell Road
- Three approaches at The Crossings/Emerick Lane intersection (north, south, and east legs) with push buttons and exclusive pedestrian phase
- West leg at Shaker Elementary
- West and south leg at Osborne Road intersection with push buttons



The Capital District Transportation Committee's regional long-range transportation plan, *New Visions 2040*, identifies the study area as a Tier 2 Pedestrian District, with Albany Shaker Road itself as a part of the region's adopted Bicycle and Pedestrian Priority Network.

CDTC staff described Tier 1 and Tier 2 Pedestrian Districts. Tier 1 Districts highlight areas that have population and employment density and met at least two of the following additional criteria: proximity to schools, shopping centers, hospitals, parks or trails and Environmental Justice population areas. Intersection density (the number of Intersections containing greater than 3 legs) was also used to identify and evaluate areas of street connectivity in relation to population and employment density. Tier 2 Districts consist of the remaining incorporated areas of all cities and villages that did not meet the criteria used to define Tier 1 Districts. (See: <http://www.cdtcmpo.org/page/57-project-programs/pedestrian/43-bicycle-and-pedestrian-priority-network>)

The CDTC Bicycle and Pedestrian Priority Network consists of two components – pedestrian districts and a linear network.

- Pedestrian districts were created to highlight and address the fact that pedestrian movement is more fluid than linear, and that investments in pedestrian infrastructure should be made where there are greater densities of people living or working and in closest proximity to pedestrian generating destinations.
- The linear network connects the pedestrian districts via major travel routes and makes connections to activity generators outside of designated districts. The basis for the linear network was that these longer routes are attractive to bicyclists and manageable to travel by bicycle, whereas walking would be less feasible.



Bicycle and pedestrian infrastructure improvement projects proposed on these networks will be prioritized for funding. A complete description of the Bicycle and Pedestrian Priority Network can be found in CDTC's Bicycle-Pedestrian White Paper. (http://www.cdtcmpo.org/images/new_visions/Bicycle-Pedestrian-White-Paper-September-2015.pdf)

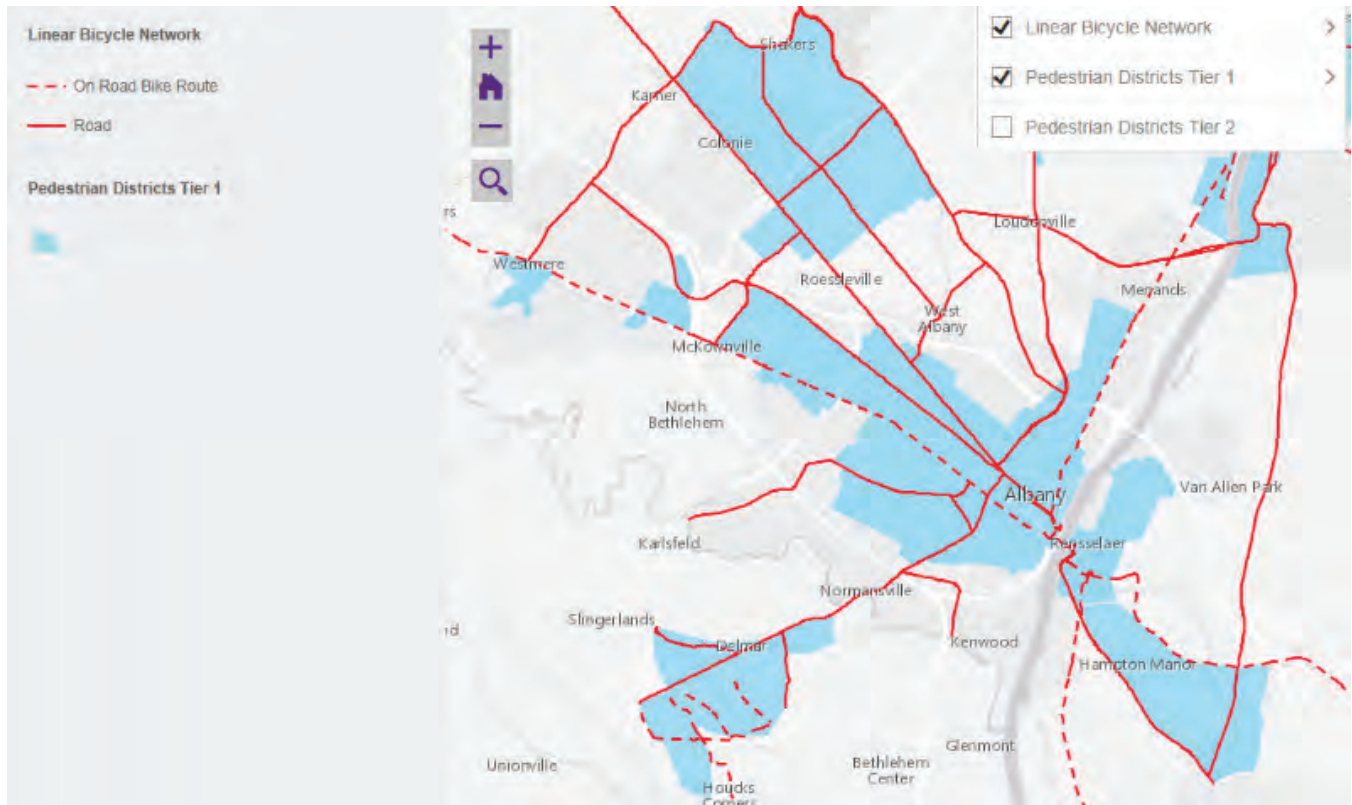
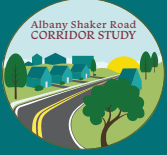


Figure 2.4 - CDTC Bicycle and Pedestrian Priority Network Map

<http://cdta.maps.arcgis.com/apps/MapTools/index.html?appid=25b0d9cee20341219784e3954d12fe85>

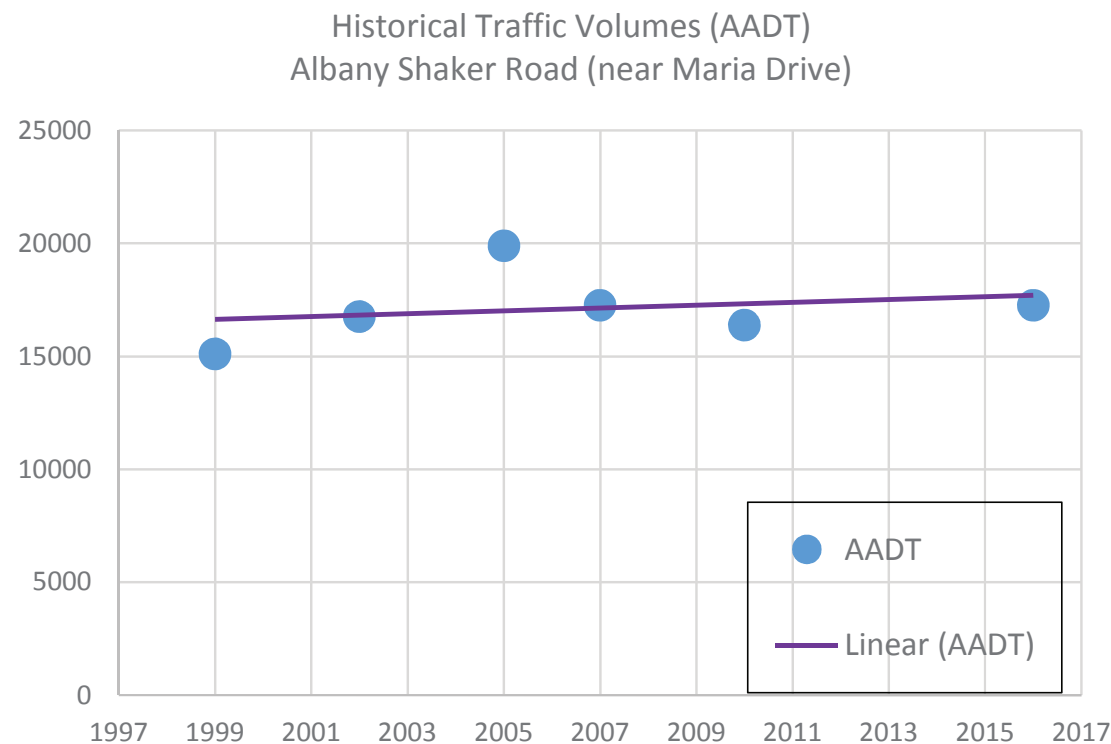


Traffic Characteristics

Historical Volumes

Historically, daily traffic volumes have remained relatively stable over the last 30 years for the corridor as shown in Chart 2.1 below. Although volumes may fluctuate from year to year, a regression analysis shows very little change over the long term.

Chart 2.1 - Historical Traffic Volumes (AADT)



Existing Volume and Speed

Automatic traffic recorders were installed at several locations along Albany Shaker Road during September and October 2016 to document traffic characteristics including daily traffic volumes, peak travel times, and travel speed information. Intersection turning movement counts, pedestrian counts, and delay counts were also conducted during September and October 2016 to facilitate the development of a traffic simulation model. The existing traffic data summarized in Table 2.1 shows that the existing traffic is comparable to the historical traffic volumes shown in Chart 2.1.

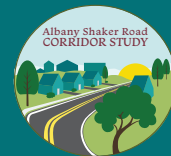


Table 2.1 - Traffic Volume and Speed Summary

	ALBANY SHAKER ROAD	
	(Near Twilight Terrace) Everett Road to Osborne Road	(Near Shaker El) Osborne Road to Maxwell Road
Volume		
AADT (vpd)	14,750	17,260
DHV (vph)	1,309	1,698
K	8.9%	9.8%
DDHV	923	929
% HV	2.15%	2.47%
Speed (mph)		
Average WB	34.6	34.8
EB	34.3	35.8
85 th Percentile WB	44.6	43.2
EB	43.4	44.5

AADT = Average Annual Daily Traffic; (vpd = vehicles per day)

DHV = Design Hour Volume; (vph – vehicles per hour)

K = Peak hour traffic as a percent of daily traffic volume

DDHV = Directional Design Hour Volume

% HV = Percent Heavy Vehicles

Based on information provided by Albany County

The data shows that the average annual daily traffic volume on Albany Shaker Road from Everett Road to Osborne Road is approximately 14,750 vehicles per day. In contrast, the west end of the study area from Osborne Road to Wolf Road carries 17,260 vehicles per day. Likewise, peak hour volumes are also higher on the west end of the study area.

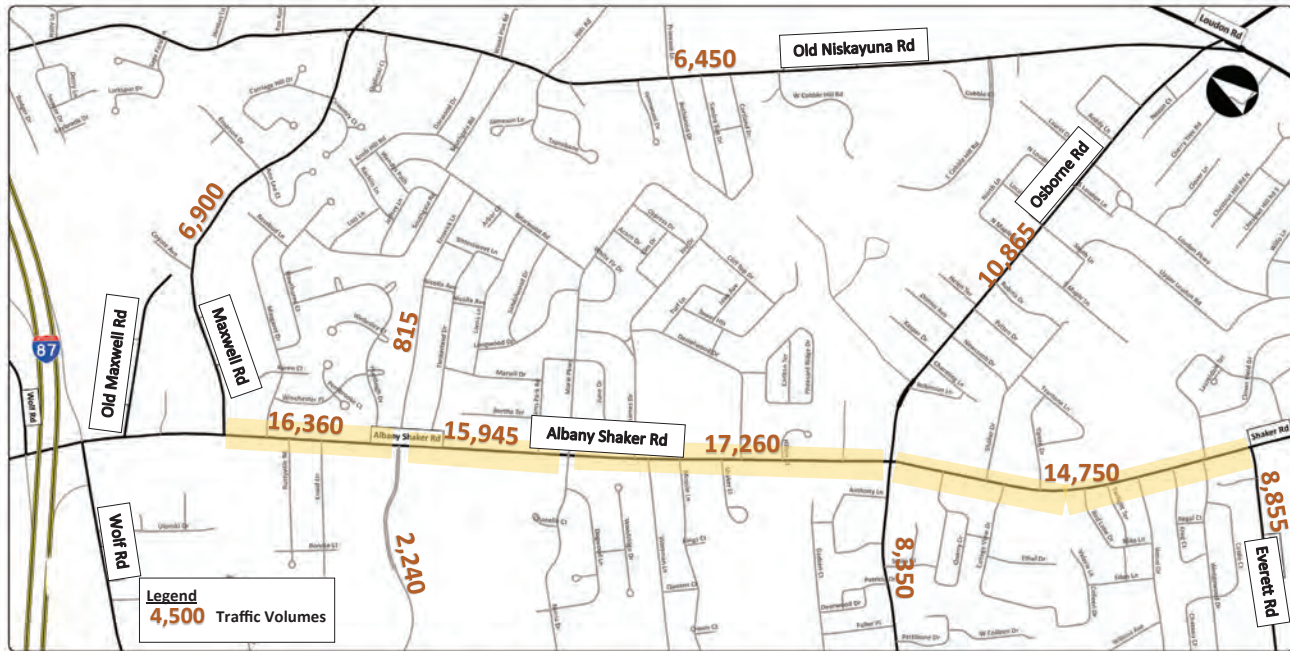
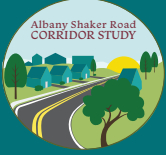


Figure 2.5 - Traffic Volume Figure

Charts 2.2 and 2.3 show the two-way traffic volumes for a typical weekday, Saturday and Sunday. As observed in the charts the peak travel times generally occur from 8:00 to 9:00 a.m. and 5:00 p.m. to 6:00 p.m. on a weekday. Saturday and Sunday volumes are typically less.

Chart 2.2 - Traffic Profile A

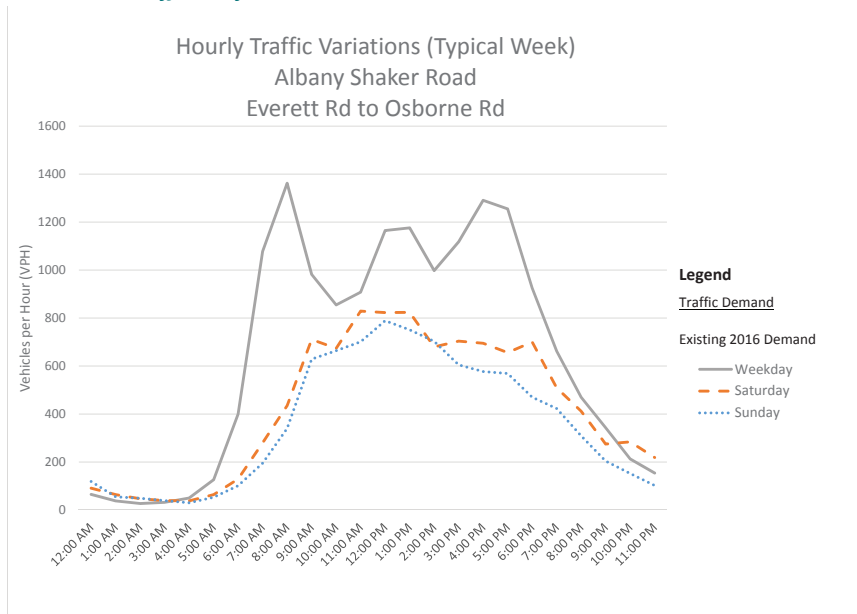
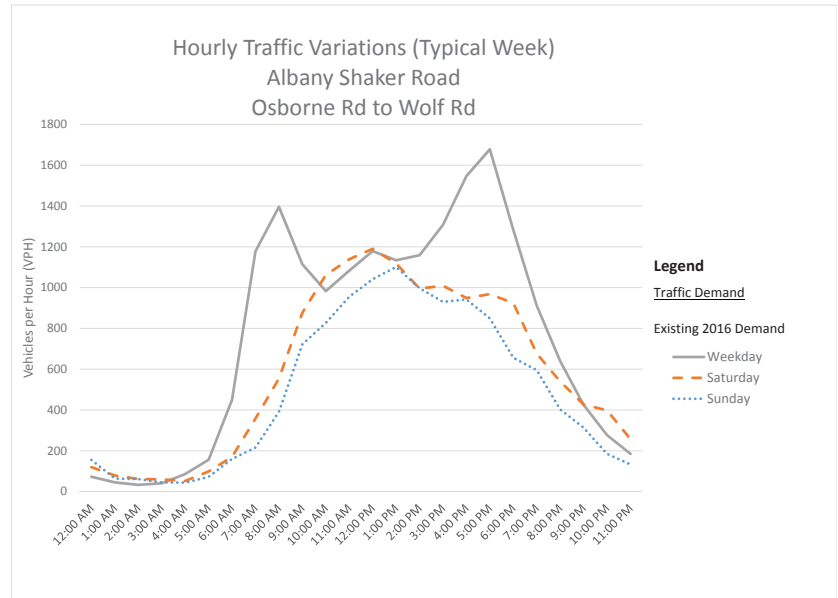




Chart 2.3 - Traffic Profile A



Charts 2.4 and 2.5 show the directional traffic volumes for a typical weekday and shows that eastbound traffic peaks during the morning as commuters are traveling from the Adirondack Northway (I-87), and westbound traffic peaks during the afternoon. It should be noted that there is a subtle midday peak in traffic in both directions, likely associated with individuals traveling during their lunch hour.

Chart 2.4 - Traffic Profile B

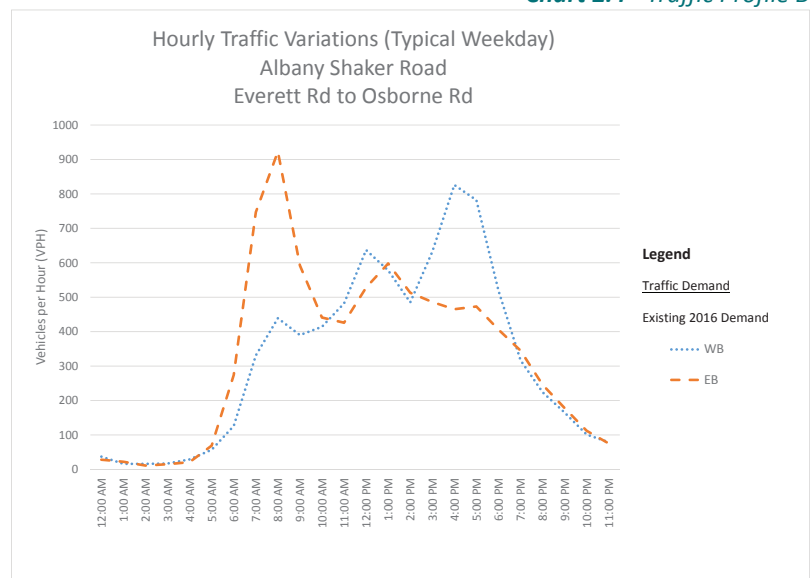




Chart 2.5 - Traffic Profile B

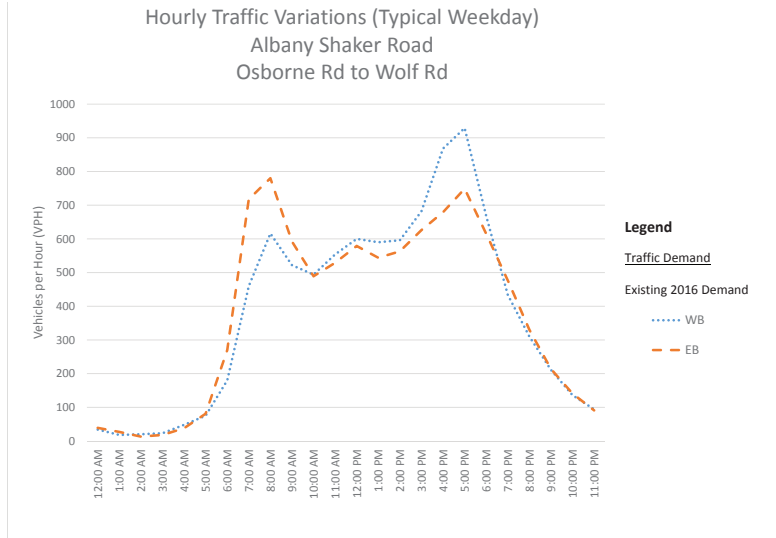
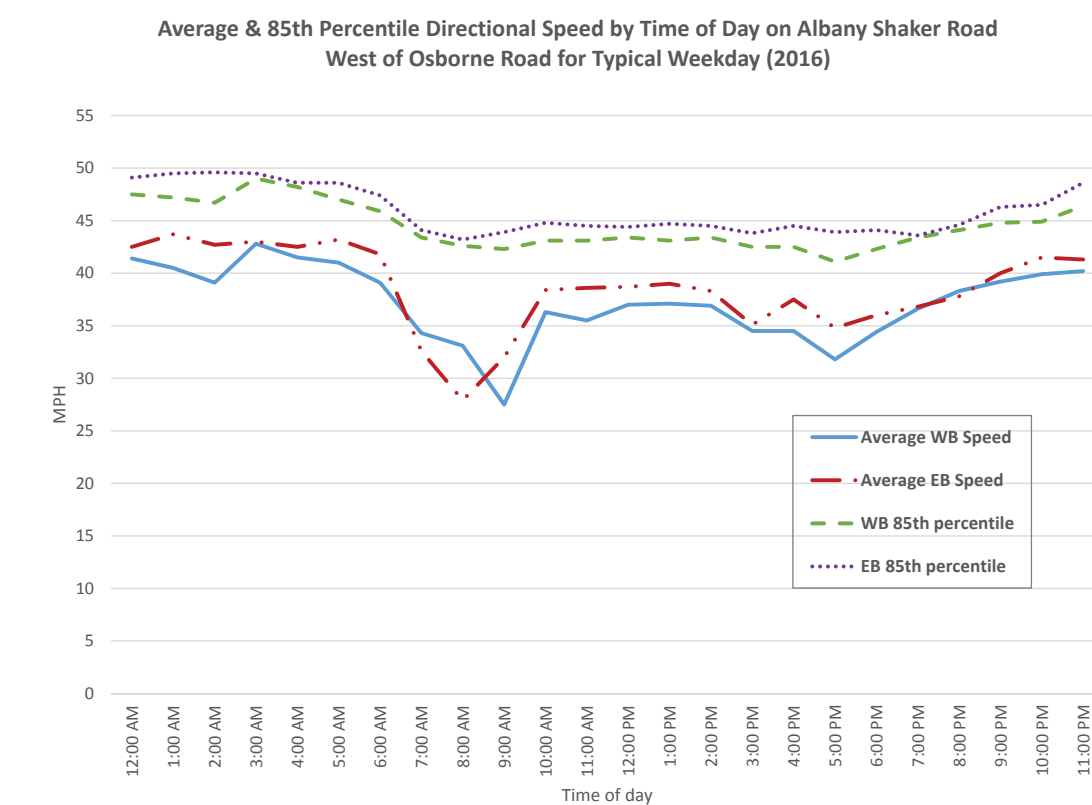


Chart 2.6 - Speed Profile





Operating speeds were also examined based on travel time runs in each direction and showed that it takes around five minutes to travel the corridor from end to end during off-peak periods. There is some delay at the traffic signals, but overall traffic moves very well along Albany Shaker Road. During the PM peak hour it takes roughly five to seven minutes to travel the corridor in the eastbound direction, as delays at the signals are more pronounced. Westbound travel times range from seven minutes to periods where it took more than 15 minutes with increased westbound traffic headed for the Northway (I-87).

The data shows that the 85th percentile speeds are 43 to 45-mph on Albany Shaker Road between Wolf Road and Osborne Road. The 85th percentile speed is the speed at or below which 85 percent of motorists travel and is often used to establish posted speed limits. An examination of speed characteristics over a single 24-hour weekday period illustrated on Chart 2.6 and shows that on average, speeds are the lowest during AM rush hour, sometimes less than 30-mph. The average speeds in the evening commute are between 32 to 38-mph. The 85th percentile speeds between 7:00 a.m. and 6:00 p.m. are between 42 to 45-mph and increases up to 50-mph for the rest of the 24-hour period.

Motor Vehicle Operations

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Level of Service criteria for the automobile-mode criteria are based on performance measures that are field measurable and perceivable by travelers. Intersection evaluations for the study intersections were conducted using Synchro 8 software, which

automates the procedures contained in the 2010 Highway Capacity Manual (HCM). Levels of service range from A to F, with LOS A conditions with very little delay, while LOS F represents conditions with very long delays. Tables 2.2 and 2.3 highlight the level of service criteria for signalized and unsignalized intersections, while Table 2.4 shows the results of the analysis.

Table 2.2 - Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Table 2.3 - Level of Service Criteria for Unsignalized Intersections

Level of Service	Control Delay per Vehicle (seconds)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

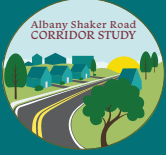


Table 2.4 - Level of Service for the Corridor

Intersection		Control	PM PEAK HOUR
			Existing Conditions
Albany Shaker Rd/Maxwell Rd		RA	
	Albany Shaker Rd EB	LT,T	A (4.1)
	Albany Shaker Rd WB	T,TR	A (4.5)
	Maxwell Rd SB	LR	A (8.4)
	Overall		A (4.9)
Albany Shaker Rd/The Crossings/Emerick La		S	
	Albany Shaker Rd EB	LTR	B (10.2)
	Albany Shaker Rd WB	LTR	B (14.1)
	The Crossings NB	LTR	D (43.1)
	Emerick La SB	LTR	D (35.6)
	Overall		B (15.3)
Albany Shaker Rd/Maria Dr/Marie Pkwy		S	
	Albany Shaker Rd EB	LTR	A (7.0)
	Albany Shaker Rd WB	LTR	A (9.6)
	Maria Dr NB	LTR	B (16.1)
	Marie Pkwy SB	LTR	B (16.2)
	Overall		A (9.4)
Albany Shaker Rd/Osborne Rd*		S	
	Albany Shaker Rd EB	L	D (41.4)
		TR	C (27.5)
	Albany Shaker Rd WB	L	C (33.2)
		T	F (199.6)
		R	B (10.1)
	Osborne Rd NB	L	D (41.9)
		TR	D (41.5)
	Osborne Rd SB	L	C (31.1)
		TR	E (67.0)
	Overall		F (83.9)
Albany Shaker Rd/Everett Rd		S	
	Albany Shaker Rd EB	LT	B (14.5)
		R	B (12.6)
	Albany Shaker Rd WB	L	B (19.8)
		T,TR	A (7.5)
	Everett Rd NB	L	C (20.4)
		T	B (14.1)
		R	B (11.6)
	Loudon Square Dwy SB	L	B (14.2)
		TR	B (14.2)
	Overall		B (13.9)
Albany Shaker Rd/Old Maxwell Rd		TW	
	Old Maxwell Rd SB	R	B (14.9)
Albany Shaker Rd/Shaker El		TW	
	Albany Shaker Rd WB	L	A (9.1)
	Shaker El NB	LR	E (42.7)

S, TW, RA = Traffic Signal, Two-Way Stop Control, Roundabout; EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound

L, T, R = Left-turn, Through, and/or Right-turn movements; X (YY) = Level of service (Average delay (sec/veh))

*Based on SimTraffic results



Based on the analysis of the existing conditions, the following observations are noted:

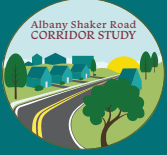
- The analysis shows good overall operations at signalized intersections of Marie Parkway and Everett Road with motorists experiencing average overall delays of approximately 10 to 14 seconds during the peak afternoon commuter period.
- The Osborne Road intersection operates at an overall LOS F during the PM peak hour. Long delays are experienced on Albany Shaker Road in the westbound direction between Osborne Road and Everett Road (through movement at LOS F) due to a high volume of westbound traffic accessing the corridor from Corporate Woods and Everett Road. The shared southbound through/right turn lane at the signalized Osborne Road intersection operates at LOS E during the PM peak hour.
- The unsignalized approach at the Old Maxwell Road intersection on Albany Shaker Road operate at LOS B during the PM peak hour with right-in-right-out movement.
- The unsignalized northbound approach at the Shaker El intersection on Albany Shaker Road operate at LOS E during the PM peak hour.
- All movements at the roundabout located at Maxwell Road operate at LOS A with average vehicle delay less than four seconds.
- A review of the Albany Shaker Road/The Crossings/Emerick Lane intersection indicates that the side street approaches operate at LOS D while the mainline approaches of Albany Shaker Road, operate at LOS B during the PM peak hour. It is noted that increased pedestrian activity at The Crossings associated with nice weather will increase vehicular delay on Albany Shaker Road since the exclusive pedestrian phase is activated more frequently, which extends the average traffic signal cycle length at this location. In addition, during peak Crossings arrival times, the westbound vehicles turning left to go into the park block the westbound through traffic.
- It is also noted that extended vehicle delays in the westbound direction are experienced on Albany Shaker Road during the PM peak hour when traffic related incidents occur on other regional roadways like the Adirondack Northway (I-87) and US Route 9.



Marie Parkway/Maria Drive Intersection



Maxwell Road Roundabout



Bicycle Level of Service and Intersection Pedestrian Facilities Analysis

Bicycle comfort and intersection pedestrian facilities assessments were completed using CDTC Linkage Study methods to assign values according to how amenable the facilities are to bicycle and pedestrian travel.

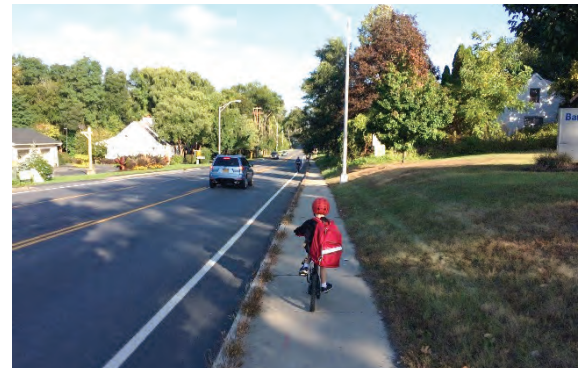
The pedestrian analysis is directly related accommodations available and reversely to the number of lanes crossed. The better the accommodations better the score, more lanes to cross, lesser the score. The pedestrian scoring and grades are summarized in Tables 2.5 and 2.6 and on Figure 2.6, and show that the Everett Road intersection grades of F and others range from B to E.

Table 2.5 - Pedestrian Intersection Facilities Analysis Inputs

Amenity	Score if Present
Partial ped head	1
Full ped head	2
Stop sign	1
Partial crosswalk	1
Full crosswalk	2
Median / median island	1
No shoulders	1
All curb ramp	2
Partial curb ramps	1
Partial sidewalk	1
Full sidewalk	2
Number of Lanes Traversed	Score if True
5	0
4	1
3	2
2	3
Total Possible	13



Unloading bicycle off CDTA bus near Osborne Road



Child biking to Shaker Elementary School for Bike to School Day

**Table 2.6 - Pedestrian Scores**

Grade	Score
A	12-14
B	10-11
C	8-9
D	5-7
E	3-4
F	1-2

Table 2.7 - BLOS Grade/Score

Grade	Score
A	≤ 1.5
B	≤ 2.5
C	≤ 3.5
D	≤ 4.5
E	≤ 5.5
F	>5.5

The Bicycle level of service (BLOS) in the corridor was estimated based on a model developed by Landis¹, and consistent with previous CDTC linkage study methodologies. The model reflects bicyclist's perceived safety and comfort with respect to motor vehicle traffic while traveling along a roadway and is useful for evaluating bicycling conditions in a shared roadway environment. The most recent version of the Highway Capacity Manual 2010 includes a BLOS measure² adapted from an earlier version of the Landis model using similar attributes. Various roadway characteristics such as travel lane and shoulder widths, motor vehicle speeds and volumes, including the amount of heavy vehicle traffic, and the condition of the pavement are used in the tested traveler-perception model to calculate a BLOS score. The resulting scores generally range from 0.5 to 6.5 and are broken down into ranges corresponding to LOS A to F, with F representing a roadway with the highest level of discomfort and perceived danger to cyclists.

*Bicycle rack outside Lanie's Cafe
at Kimberly Square*

¹ Landis, Bruce W. et. Al. "Real-Time Human Perceptions: Toward a Bicycle Level of Service" Transportation Research Board 1578, Transportation Research Board (TRB), Washington DC, 1997

² Highway Capacity Manual, pp 15-36 to 15-38. Bicycle Mode, TRB, Washington DC, 2010

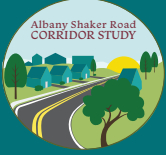


Table 2.9 summarizes the inputs and resulting BLOS ratings for Albany Shaker Road, and shows that bicyclists generally experience BLOS D while riding in the corridor. Based on the field observations, the bikers in the corridor have been witnessed riding on the curb/shoulders and even sidewalks at times. In general, the corridor has acceptable LOS for bicycles. There are bike racks at certain locations like outside Lanie's Café in Kimberly Square, which shows the bicycle usage in the corridor.

The exception to Table 2.9 is the segment from Collegeview Drive to Hilton Court. This segment has narrow shoulders therefore decreasing the BLOS of "E."



Bicyclists using curb and shoulder in the corridor

Table 2.8 - Albany Shaker Road Pedestrian Crossing Accommodations Scoring Summary

Albany Shaker Road Intersection with	Number of Lanes Traversed	Amenities	Score	Grade
Old Maxwell Road	5	3	3	E
Maxwell Road	2	8	11	B
The Crossings/Emerick Lane	2	6	9	C
Maria Drive	2	3	6	D
Osborne Road	3	5	7	D
Everett Road	4	1	2	F

Table 2.9 - Albany Shaker Road Bicycle Level of Service Summary Ratings Estimates

From	To	Lanes per Directions	% Heavy Vehicles	Posted Speed Limit	Traffic Volumes	Travel Lane Width (ft.)	Shoulder Width (ft.)	BLOS Grade
Maxwell Road	Osborne Road	1	2.47	40	17,260	11	5	D
Osborne Road	Maxwell Road	1	2.47	40	17,260	11	5	D
Maria Drive	Everett Road	1	2.16	40	14,750	11	5	D
Everett Road	Maria Drive	1	2.16	40	14,750	11	5	D



Figure 2.6 - Intersection Pedestrian Facilities and Bicycle LOS Analysis

Transit

The Capital District Transportation Authority (CDTA) Route 737 provides bus service along this section of Albany Shaker Road. Route 737 is a commuter route that provides peak hour service between British American Boulevard in Colonie and Downtown Albany. As such, buses run on 30-minute headways from 7-9 am and 3-6pm with limited midday service. The route beginning on British American Boulevard follows Albany Shaker Road east to Everett Road where it turns south to I-90. After briefly travelling on I-90, buses travel through Corporate Woods and return to Albany Shaker Road before making their way into downtown Albany via Northern and Henry Johnson Boulevards and Washington Avenue. Within the 2.4-mile long study area, there are 14 eastbound bus stops and 13 westbound bus stops.

Most of the bus stops are designated by a sign on a stand-alone signpost or on an existing utility pole. There are no bus stop locations with shelters or benches within the corridor. Based on data provided by the CDTA, Figure 2.7 shows the average daily ridership for each bus stop along the corridor. The figure shows that the bus stop located at Osborne Road has the highest ridership in the eastbound direction with equally high activity in the westbound direction. The stop located at the William K. Sanford Library has the highest overall boarding and alighting activity in the westbound direction. Most of the bus stops are paired stops (meaning stops in both directions)



with the exception of Albany Shaker Road & Times Union due to its proximity to Wolf Road. Since there are only four signalized intersections in the corridor, most of the bus stops are located at unsignalized intersections. All of the bus stops within the study area are considered nearside stops (meaning the bus stops before traveling through the intersection). Bus stops create pedestrian crossing demand and bus stop placement and design should consider pedestrian crossing needs.

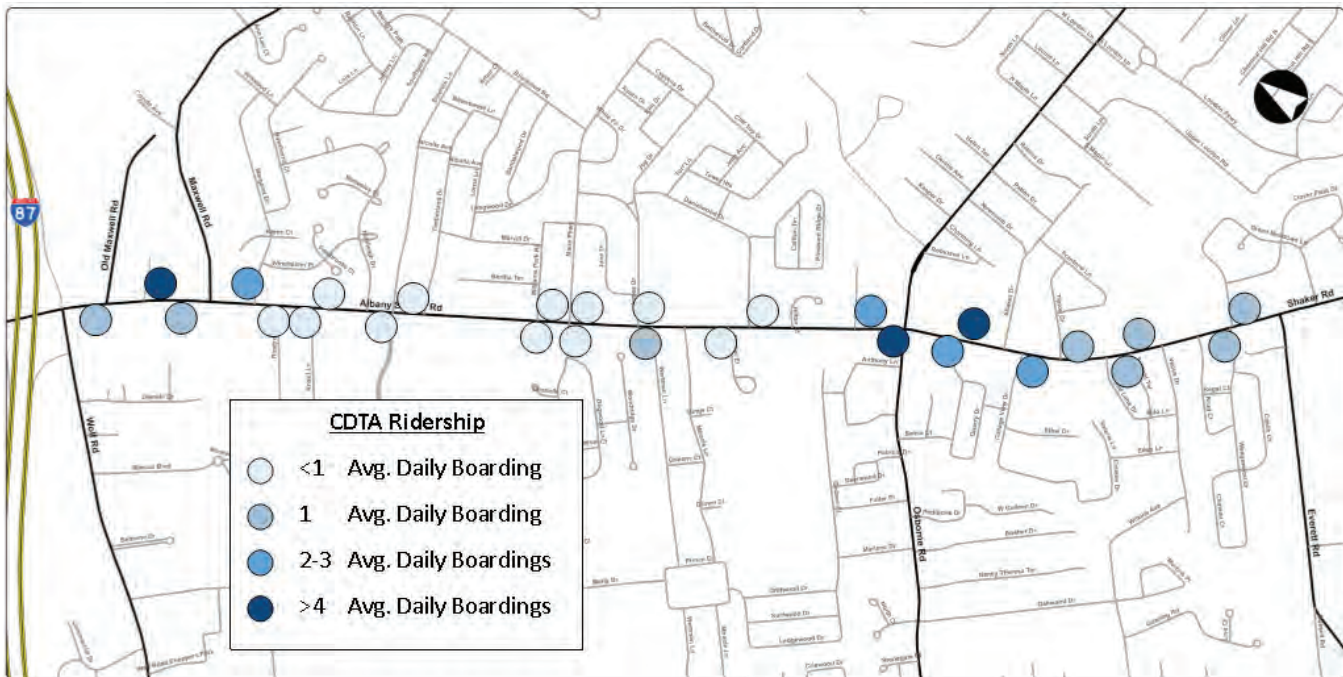


Figure 2.7 - Existing Transit Stops and Ridership Summary

According to TCRP Report 19, Guidelines for the Location and Design of Bus Stops, bus stop spacing in suburban areas is typically 1000 feet, and can range 600 to 2500 feet. Accordingly, there may be opportunities to consolidate bus stops in the study area and coordinate them with improved pedestrian crossing opportunities.

Safety Performance

Crash data was provided by the CDTC for the most recent five years of available data (January 1, 2012 to December 31, 2016), for the segment of Albany Shaker Road between Old Maxwell Road and Everett Road. Table 2.10 summarizes the available data obtained and they are illustrated on Figure 2.8.



Table 2.10 - Summary of Available Crash Data (January 1, 2012 to December 31, 2016)

Type	Crashes
Vehicle	338
Other Object	16
Bicycle	3
Animal	2
Unknown	1
Pedestrian	0
Total	360

The data shows that 360 crashes occurred in the 2.4-mile corridor over the five-year study period, with three (3) bicycle related crashes and no pedestrian related crashes. Of the 360 crashes, 114 occurred at four signalized intersections and the remainder occurred along the roadway segments and at unsignalized driveways and intersections. Figure 2.8 shows that the crashes are concentrated in the eastern portion of the corridor with the majority occurring in the vicinity of Osborne Road. Likewise, the intersection of Albany Shaker Road and Maxwell Road also has a high number of crashes.

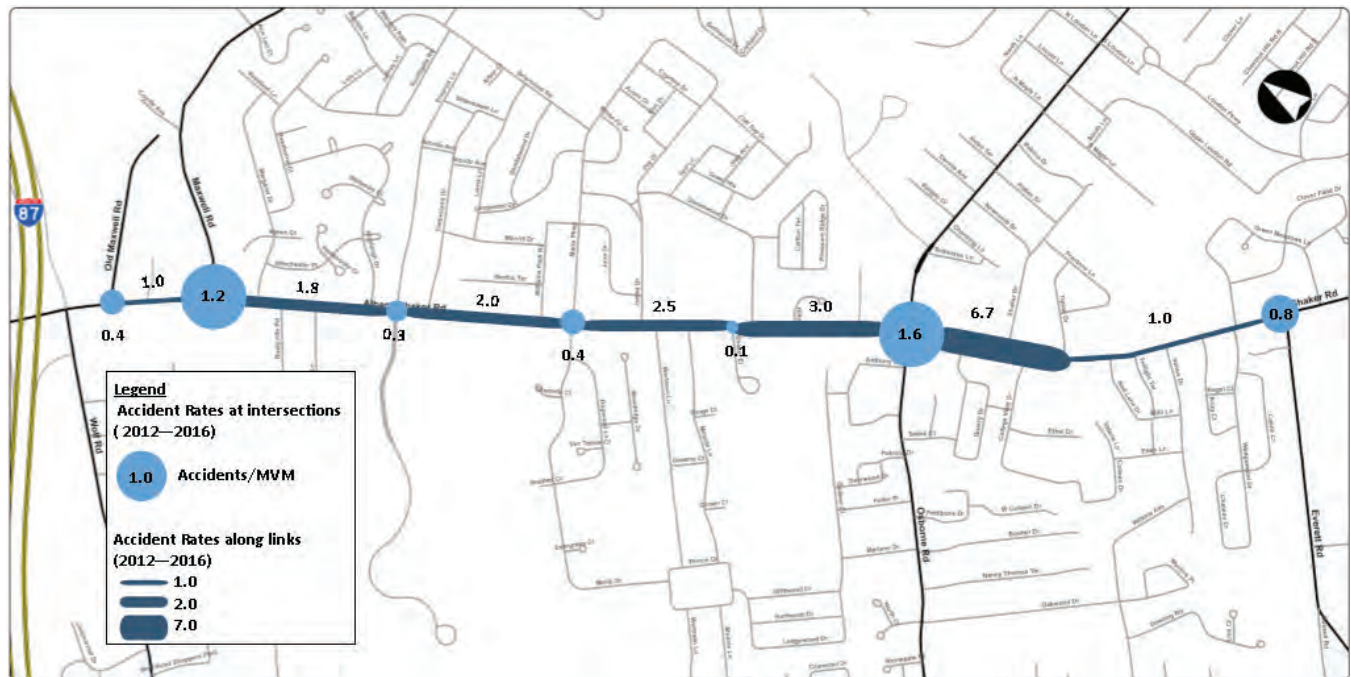


Figure 2.8 - Study Area Crash Concentrations (2012 – 2016)

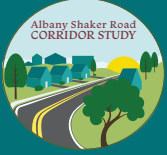


Table 2.11 compares the crash rates for the corridor with the statewide average crash rates for similar facilities.

Table 2.11 - Summary of Crash Rates

Location	Number of Crashes	Crash Rate	State-wide Crash Rate
Intersection Crashes (Crashes/MEV)			
Everett Road	27	0.81	0.50
Osborne Road	66	1.56	0.50
Shaker El	3	0.09	0.14
Marie Parkway	13	0.41	0.50
Emerick Lane	8	0.25	0.50
Maxwell Road	41	0.27	N/A*
Old Maxwell Road	16	1.20	0.05
Segment Crashes (Crashes/MVM)			
Everett Road to Tipton Drive	9	0.96	2.29
Tipton Drive to Osborne Road	63	6.69	2.29
Osborne Road to Shaker El	34	3.00	2.29
Shaker El to Marie Parkway	28	2.47	2.29
Marie Parkway to Emerick Lane	23	2.07	2.29
Emerick Lane to Maxwell Road	22	2.07	2.29
Maxwell Road to Old Maxwell Road	7	1.02	2.29

ACC/MVM = Accidents per Million Vehicle Miles
 ACC/MEV = Accidents per Million Entering Vehicles
 *Not available

The table shows that crash rates are above the statewide average at the intersections of Albany Shaker Road and Everett Road, Osborne Road, and Old Maxwell Road. Likewise, segment crash rates are also higher than average from Tipton Drive to Shaker El.

Appendix E contains a breakdown of the detailed crash data. Further review of the crash data showed a number of characteristics summarized below.

- Of the 360 crashes, 119 (33%) involved injury. There were no fatalities in the corridor.
- Analysis of the three bicycle crashes show that one crash was attributed to failure to yield right of way and one to pedestrian/bike confusion/error. The remaining crash had unknown contributing factors. Two of the bicycle crashes occurred in the segment between Osborne Road and Everett Road.



- The majority of the crashes 299/360 (83%) occurred during good weather (clear or cloudy), and with dry pavement 271/360 (75%) indicating weather is not a major contributing factor.
- In terms of the apparent contributing factors, the data shows that the largest portion 111/360 (31%) involved failure to yield right of way followed by 86/360 (24%) involving driver inattention. Following too closely was also a contributing factor accounting for 50/360 (14%) of crashes.
- 64% of the crashes occur outside of the peak travel periods (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM)
- The data shows that there was a concentration of rear end crashes 117/360 (33%) and right angle crashes 80/360 (22%).
- All other categories (animal action, pavement slippery, reaction to uninvolved vehicle, unsafe lane change) reported less than ten occurrences. Forty nine (49) of the crashes were categorized as unknown.
- The relatively high number of crashes involving driver behavior suggests that education and enforcement should be considered when evaluating potential corrective measures, in addition to the complete streets infrastructure improvements in this Study.
- A crash pattern identified at Maxwell Road roundabout and Osborne Road intersection were crashes attributed by failure to yield right of way or driver inattention. These intersections have more crashes than other intersections in the corridor.
- The western segment between Osborne Road, Tipton Drive, and Everett Road have a high concentration of crashes attributed to stopped or slow moving traffic or turning movements.

Lighting

Lighting is present along Albany Shaker Road with overhead cobra style lighting. The segment between Old Maxwell Road and Hilton Court, there are lights on utility poles along the south side of Albany Shaker Road. Additional cobra style lighting is provided on the north side of Albany Shaker Road at the intersection of Maxwell Road in order to illuminate the roundabout. Likewise, there are additional cobra style lights in the segment between Hilton Court and Shaker Drive near the Osborne Road intersection. There are cobra lights in the segment from Shaker Drive to Everett Road, mostly on the south side of Albany Shaker Road. Most are on utility poles and some are on lampposts.



Lighting along Albany Shaker Road



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CHAPTER 3

Public Outreach

To this point, the description of the corridor has been data based, but one of the primary objectives of this Study was to understand the issues that the public experiences and is concerned with, including the public's perception of the character and how it can be enhanced. The involvement of the public in this Study is a critical component to its success. The approach to the public involvement was two (2) public workshops to receive input, as well as to inform citizens, staff, stakeholders, and other agencies about the Study. The final step in the public involvement process was a third presentation to the public that the Town of Colonie Board and representatives from the County Legislature also attended.

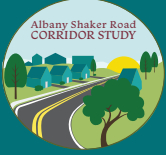
The comments received via the website and during the public meetings have been summarized and included in the appendices of the study. These comments have all been considered in the development of the study and in many cases resulted in changes to the study.

Two public meetings were conducted with the following goals:

- Public Information Meeting #1:
 - Inform the public about the corridor study,
 - Obtain input from the public on existing needs/concerns,
 - Provide the public with an understanding of existing conditions and potential traffic from future development,
 - Obtain ideas for improvements that should be considered as the Study progresses.
- Public Information Meeting #2:
 - Review the alternatives under consideration and the initial assessment of their effectiveness,
 - Obtain other potential solutions for consideration.
- Public Information Meeting #3:
 - Review the recommendations and implementation strate

Public Interest: Early in the public involvement process it became apparent that the public consisted of two primary interest groups:

- The people that live on or immediately adjacent to the corridor. Their primary interests were related to quality of life on the corridor; and
- The people that live near the corridor, but are frequent drivers on the corridor. Their primary interests were related to the traffic operation of the corridor.



In addition to the meeting outreach, information was shared and comments received via the study website: <https://albanyshakercolonie.com>

Summary of Public Meeting #1

The first public involvement meeting for the Albany Shaker Road Corridor Study was held on Tuesday, June 13, 2017, at the Shaker Road Loudonville Fire Department. The meeting was well attended with over 115 residents, stakeholders, and study advisory committee members present. The meeting included a power point presentation followed by breakout discussions at several workstations. See Appendix C for the PowerPoint presentation and a detailed summary of the meeting.

A Corridor map was used as “Where do you live” to mark up the location of the meeting attendees to show an approximate location of their home/office. This map shows that the meeting was well attended and had an overall representation of the corridor. See Figure 3.1 for this map.

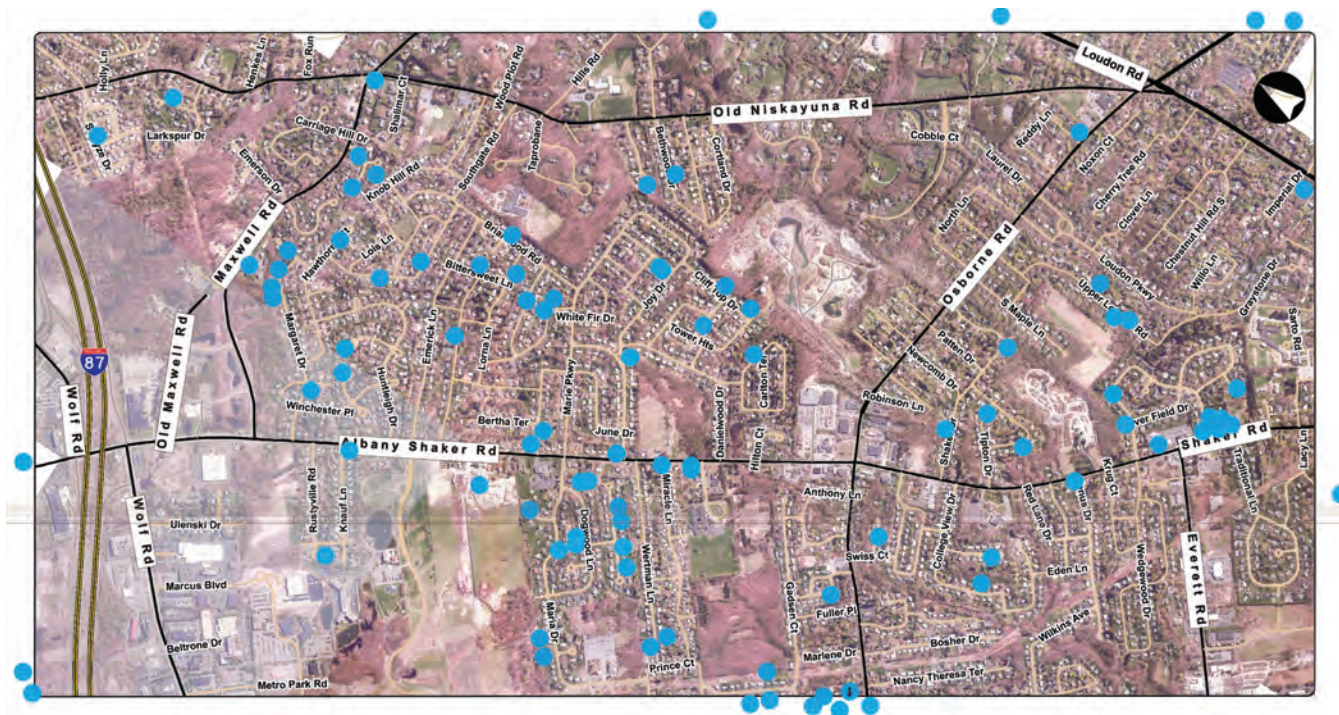


Figure 3.1 - “Where Do You Live” map



Meeting attendees had several opportunities to provide input, ask questions, and offer comments. This included an open forum question/comment session throughout the presentation, “Poll everywhere” – text enabled responses from public for specific questions, written comment forms, and poster stations where attendees were asked to provide or locate their concerns/needs/priorities. Post-it notes, aerial map mark-ups, and meeting/facilitator notes were used to record the public input received. Attendees were also given the study website address www.albanyshakercolonie.com and encouraged to review the material on the website and provide comments via the website email.

During the presentation, the public was invited to provide their input on specific questions via text message and be able to see the responses in real time on the screen using “Poll Everywhere”. Some of the questions were open-ended while some had multiple-choice options to pick. The results of the “Poll Everywhere” survey showed that the majority of the attendees do not think that Albany Shaker Road is not a complete street, they are concerned with the congestion and if accommodations were available they would walk more. In addition, the attendees identified The Crossings as a concern.

Summary of Public Meeting #2

The second public meeting for the Albany Shaker Road Corridor Study was held on Thursday, November 16, 2017, at the Shaker Road Loudonville Fire Department to receive input on alternatives. Over 35 residents, stakeholders, and study advisory committee members attended the meeting. The meeting included a presentation, a series of live questions and several workstations. See Appendix C for a full summary of the meeting and meeting materials. The purpose of the meeting was to review the different transportation improvement alternatives considered and recommended with the public, and obtain input from the public on those alternatives.

A Corridor map was used as “Where do you live” to mark up the location of the meeting attendees to show an approximate location of their home/office and an overall representation of the corridor, similar to that done in the previous meeting. See Appendix C for this map and other posters presented during the meeting.

The meeting presentation started with the Study goals, a brief recap of the first public meeting, and effort that has been completed to date. This effort includes the following: trip generation, traffic volumes forecast, build analysis and transportation improvement alternatives that were considered, and recommendations for each intersection in the study area, as well as for the corridor overall.



Meeting attendees had several opportunities to provide input, ask questions, and offer comments. This included an open forum question/comment session throughout the presentation, “Poll everywhere” – text enabled responses from public for specific questions, written comment forms, and transportation alternatives poster stations where attendees were asked to provide their input. Post-it notes and meeting/facilitator notes were used to record the public input received. Attendees were also given the study website address www.albanyshakercolonie.com and encouraged to review the material on the website and provide comments via the website email. The public input received during this meeting is integrated in the development and evaluation of the alternatives in Chapter 5.

Based on the public feedback, and input from the SSC and SAC, below (in no particular order) are the issues/concerns identified, which became the focus for the mitigation measures developed:

- Traffic volumes, congestion from traffic and the travel speeds in the corridor
- Safety for pedestrians, bicycles and vehicular traffic, particularly at the higher crash locations.
- Side street or parallel street traffic volumes and speeds
- The Crossings (The Town Park) – the traffic associated with peak use times and events
- The lack of pedestrian and bicycle accommodations, particularly for crossing Albany Shaker Road and for bicycles at intersections
- Access to and from side streets and driveways

Summary of Public Meeting #3

The original scope of work for the Study did not include a third public meeting, but a presentation to the Town of Colonie Board. However, the Study Steering Committee recommended a third public information meeting with representatives from the Town Board and County Legislature to review the recommendations with representatives from the major stakeholders present. The third public meeting was held on Thursday, September 6, 2018, at the Shaker Road Loudonville Fire Department to receive input on the recommendations. Over 110 residents, stakeholders, and study advisory committee members attended the meeting. The meeting included an open house format for the public to review the details of the recommendations, followed by a presentation and time for comments and questions. See Appendix C for a summary of the meeting.

The purpose of the meeting was to review the recommended transportation mitigation measures with the public, and obtain input from the public on those recommendations.

The meeting presentation started with the Study goals and a brief recap of the first two public meetings and effort completed in the interim.



Meeting attendees had several opportunities to provide input, ask questions, and offer comments. Post-it notes and meeting/facilitator notes were used to record the public input received. Attendees were also given comment forms and the project website address www.albanyshakercolonie.com and encouraged to review the material on the website and provide comments via the website email.

Below is a summary of comments/concerns from the meeting:

- The project limits did not extend past Everett Road (toward Albany)
- Addressing the safety at Shaker Elementary School intersection with Albany Shaker Road
- The potential for additional development in the corridor
- Accommodations for bicyclist
- Side/parallel street speeds and potential solutions to mitigate
- Other streets without pedestrian accommodations (Osborne Road and Maxwell Road were mentioned several times)

Other Public Outreach:

- Meeting was held with Town Officials, County Legislators, and the Study Steering Committee on July 18, 2018
- Provided the Town of Colonie Comprehensive Plan Committee an update on August 8, 2018



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CHAPTER 4

Future Conditions

For a better understanding of the potential future traffic volumes in the corridor, all the vacant parcels were identified in and around the corridor that would impact the traffic on Albany Shaker Road. All the developments that are in the planning phase and approved, but not yet built, or built after the traffic counts were conducted were included in the future conditions analysis. Table 4.1 shows the list of developments there were included in the future traffic conditions. These pending projects and vacant parcels are illustrated in Figure 4.1.

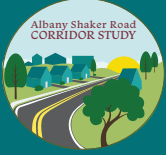
Background

CDTC maintains a travel demand model for the four county region (Albany, Rensselaer, Saratoga and Schenectady), which is called the STEP Model (Systematic Transportation Planning and Evaluation Model). The STEP Model is based on population, housing and employment data and estimates traffic volumes based on demand. These estimated traffic volumes are compared against actual traffic counts to validate the model. Each vehicle trip in the model simulation chooses a path based on the best travel time available, and as congestion increases, trips divert to alternate routes if the alternate route travel time is less. CDTC STEP Model utilizes Visum software developed by the PTV Group. The model includes 1,000 traffic analysis zones that cover the entire four counties. The network includes all federal aid highways in the four counties, as well as selected streets not on the federal aid system. The network consists of over 11,100 directional links and over 4,300 nodes.

Traffic volume forecasts were prepared for the year 2030 to examine the operational characteristics of the Alternatives. CDTC's STEP Model was used to develop the forecasts, accounting for regional growth, specific nearby pending projects and vacant parcels using the existing zoning, with the exception of Parcel #4 which was evaluated as multi-family residential.

Traffic Assignment Results

The trips corresponding to pending projects and vacant parcels were generated using the Institute of Transportation Engineering Trip Generation Forecasts and were incorporated into the 2030 STEP Model. The CDTC STEP Model was run assuming the Exit 4 Connector and Maxwell Road Connection to Aviation Drive projects were constructed with and without the trips generated from the pending projects and vacant parcels. The proposed mitigation measures were incorporated into the CDTC STEP Model to evaluate the implications to the overall transportation network.



The STEP Model indicates that the Exit 4 Connector Project, by providing additional capacity on I-87, will divert some traffic from Albany Shaker Road west of Maxwell Road, and from Maxwell Road north of Albany Shaker Road. New development on Wolf Road and new development west of the Northway would result in relatively small traffic increases on Albany Shaker Road east of Maxwell Road. New development along Albany Shaker Road east of Maxwell would cause some of the through traffic to divert to parallel routes, especially in the westbound direction. Below are some important findings from the STEP Model:

- Based on the model, 40% of the traffic on Albany Shaker Road during the evening peak travel period is through traffic
- The Model indicated that when new trips are added, some of the through traffic diverts to other routes or times of the day (before and/or after the peak hour)
- Traffic volumes in the corridor are anticipated to increase by average of 5% if development is based on existing zoning
- Likely increase in traffic due to development will progress slowly over time and will not have immediate impact

The rate of development of vacant parcels in the corridor over the past 20 years has been relatively slow, and the traffic volumes in the corridor (Chart 2.1) reflect relatively small growth rates over the past 20 years .

Through traffic – is traffic that has origins **and** destinations outside the study area. In this case they use Albany Shaker Road as a commuter route.

The traveling public has many forums to be educated on the traffic conditions and people make informed decisions with this information. The public uses traffic apps such as Google Maps, 511NY and Waze or the TV and radio to understand where congestion is occurring and how to avoid it.

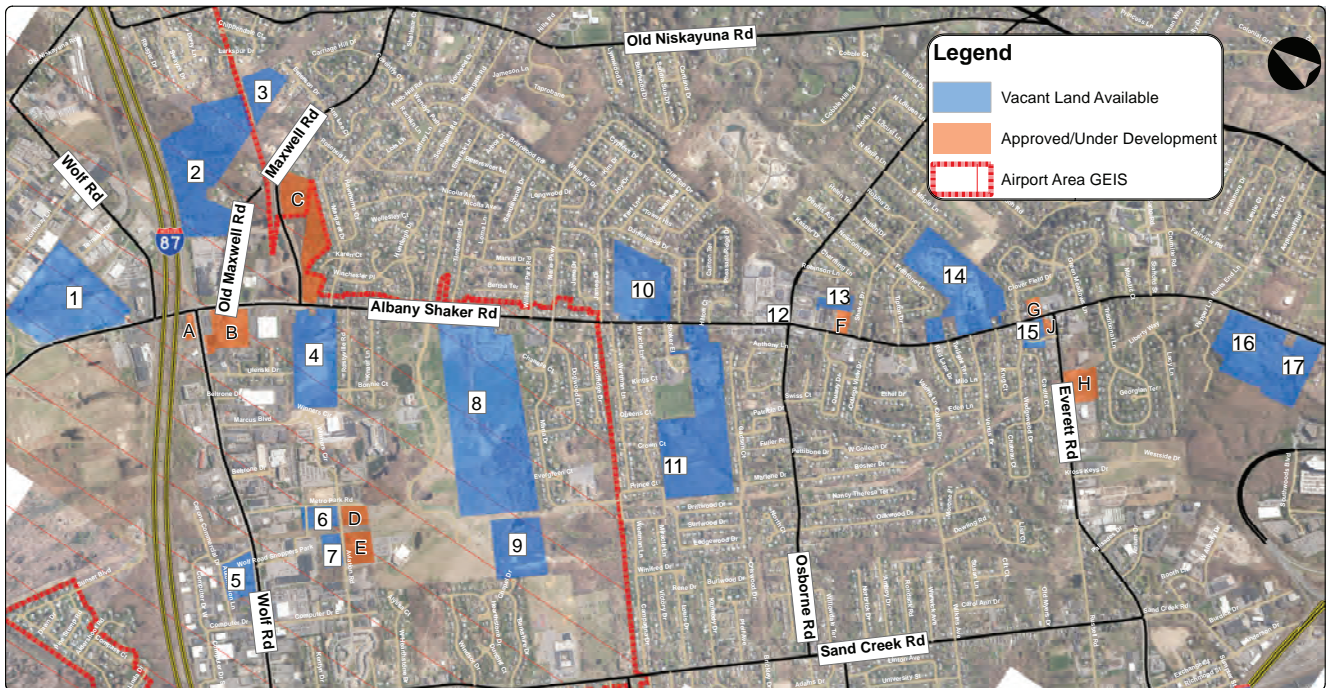


Figure 4.1 - Vacant Parcels map

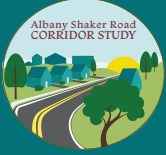


Table 4.1 - Existing and Future Level of Service Comparison for the Corridor

Vacant Land Available			
ID	Site Name	Parcel Size (Acres)	Zoning
1	Engels Farm	38	Airport Business Area
2	Behind Times Union	43	Commercial Office
3	Knorr's Property	12.3	Single Family Residential
4	Maxwell Rd Ext	20	Single Family Residential
5	144 Wolf Road	6.41	Commercial Office
6	7 Metro Park Rd	4.24	Commercial Office
7	Off Aviation Rd	3.5	Commercial Office
8	Constantine's	78.5	Single Family Residential
9	Behind Constantine's	16	Single Family Residential
10	Foegtli Farms	21	Single Family Residential
11	Dennis' Farm	45	Single Family Residential
12	Brownfield Site	0.94	Neighborhood Commercial Office Residential
13	Behind Drug Store	2.7	Neighborhood Commercial Office Residential
14	Malloy's property	31.2	Single Family Residential
15	Behind Everett Rd Stewart's	3.52	Single Family Residential
16	Picotte Property	19.5	Single Family Residential
17	Elsworth Property (lake)	13	Single Family Residential
18	798 Albany Shaker Rd (near Hilton)	42.02	Commercial Office
Approved / Under Development			
ID	Site Name	Parcel Size (Acres)	Zoning
A	Gas Station	1.23	Commercial Office Residential
B	Office & Hotel site	8	Commercial Office Residential
C	Maxwell Village	16	Planned Development District
D	Multi-family Residential	2.75	Commercial Office Residential
E	Multi-family Residential	4.79	Commercial Office Residential
F	Proposed Retail	1.7	Neighborhood Commercial Office Residential
G	Office	1.22	Commercial Office Residential
H	Medical Office	5.38	Commercial Office Residential
I	Meadowdale Estates	58.33	Multi-family Residential
J	Stewart's Expansion	3.97	Commercial Office Residential

LOS analysis

The same traffic analysis procedures that were applied for the existing conditions in Chapter 2 were applied here to assess and compare the estimated future operational effects of the anticipated development of pending projects and vacant parcels using existing zoning (exception is Parcel #4, which was evaluated using multi-family residential (200 units)). The intersection evaluations for the study intersections were conducted using Synchro 8 software, which automates the procedures contained in the 2010 Highway Capacity Manual (HCM). Where peak hour analysis is applicable, the analysis focuses on the PM peak hour as the highest traffic volume time.


Table 4.2 - Level of Service for the Corridor

Intersection		Control	PM PEAK HOUR	PM PEAK HOUR	
			Existing Conditions	2030	
Albany Shaker Rd/Maxwell Rd		RA			
Albany Shaker Rd EB	LT,T		A (4.1)	A (6.3)	
Albany Shaker Rd WB	T,TR		A (4.5)	A (6.1)	
Maxwell Rd NB	LTR		--	A (7.8)	
Maxwell Rd SB	LR/LTR		A (8.4)	B (11.9)	
	Overall		A (4.9)	A (7.4)	
Albany Shaker Rd/The Crossings/Emerick La		S			
Albany Shaker Rd EB	LTR		C (21.7)	C (24.6)	
Albany Shaker Rd WB	LTR		B (12.0)	B (12.7)	
The Crossings NB	LTR		D (49.0)	D (48.5)	
Emerick La SB	LTR		D (41.0)	D (41.1)	
	Overall		B (19.6)	C (21.2)	
Albany Shaker Rd/Maria Dr/Marie Pkwy		S			
Albany Shaker Rd EB	LTR		A (7.0)	A (7.2)	
Albany Shaker Rd WB	LTR		A (9.6)	A (9.4)	
Maria Dr NB	LTR		B (16.1)	B (15.8)	
Marie Pkwy SB	LTR		B (16.2)	B (15.8)	
	Overall		A (9.4)	A (9.3)	
Albany Shaker Rd/Osborne Rd*		S			
Albany Shaker Rd EB	L		D (41.1)	D (40.4)	
	TR		C (28.0)	C (33.8)	
Albany Shaker Rd WB	L		C (34.0)	D (35.9)	
	T		F (207.1)	F (253.2)	
	R		B (10.3)	B (10.4)	
Osborne Rd NB	L		D (41.8)	D (53.7)	
	TR		D (42.7)	D (43.1)	
Osborne Rd SB	L		C (31.4)	D (33.2)	
	TR		E (70.3)	F (91.0)	
	Overall			F (86.9)	F (105.1)
Albany Shaker Rd/Everett Rd			S		
Albany Shaker Rd EB	LT		B (14.5)	B (17.7)	
	R		B (12.6)	B (15.8)	
Albany Shaker Rd WB	L		B (19.8)	C (24.0)	
	T,TR		A (7.5)	B (10.0)	
Everett Rd NB	L		C (20.4)	C (23.5)	
	T		B (14.1)	B (13.0)	
	R		B (11.6)	B (10.5)	
Loudon Square Dwy SB	L		B (14.2)	B (13.5)	
	TR		B (14.2)	B (13.6)	
	Overall			B (13.9)	B (16.5)
Albany Shaker Rd/Old Maxwell Rd			TW		
Old Maxwell Rd SB	R		B (14.9)	B (13.9)	
Albany Shaker Rd/Shaker El		TW			
Albany Shaker Rd WB	L		A (9.1)	A (9.3)	
Shaker El NB	LR		E (42.7)	F (57.7)	

S, TW, RA = Traffic Signal, Two-Way Stop Control, Roundabout; EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound

L, T, R = Left-turn, Through, and/or Right-turn movements; X (Y.Y) = Level of service (Average delay (sec/veh))

*Based on SimTraffic results



The notable drop in level of service (LOS) in 2030 occurs at the intersection of Albany Shaker Road and Shaker El. The Shaker EL northbound movement drops from LOS E to F, with an anticipated increase in average vehicle delay of approximately 15 seconds. At this location, mitigation measures are identified in the next section of the report to alleviate the forecasted increase in delay. Otherwise, the corridor is projected to operate relatively well at least through the year 2030.



CHAPTER 5

Alternatives Evaluations

Corridor Issues and Improvement Evaluation Approach

Based on the public feedback, and input from the SSC and SAC, transportation improvements were developed to address concerns identified, or to enhance the character of the corridor. In many instances, the concerns were related to safety and quality of life. Below (in no particular order) are the issues/concerns identified during the study process, which became the focus for the mitigation measures developed:

- Traffic volumes, congestion from traffic and the travel speeds in the corridor
- Safety for pedestrians, bicycles and vehicular traffic, particularly at the higher crash locations
- Side street or parallel street traffic volumes and speeds
- The Crossings (The Town Park) – the traffic associated with peak use times and events
- The lack of pedestrian and bicycle accommodations, particularly for crossing Albany Shaker Road and for bicycles at intersections
- Access to and from side streets and driveways

The descriptions below summarize the mitigation measures evaluated to address the six issues/concerns listed above:

- Reduction of posted speed limit on Albany Shaker Road of 5 to 10 mph
- Installation of traffic calming features on side streets to discourage or slow down through traffic
- Enforcement on Albany Shaker Road and side streets to keep drivers traveling at or below the posted speed limit
- Improved and/or alternative access to The Crossings
- Additional sidewalks along Albany Shaker Road, considering two primary options:
 - Continuous sidewalks on both sides of Albany Shaker Road from The Crossings to Everett Road
 - Continuous sidewalk on one side of Albany Shaker Road from The Crossings to Everett Road

Balance alleviating congestion with enhancing the character of the corridor. With single family residential being the primary land-use along the corridor, increasing traffic capacity may have a negative impact on the livability of the corridor.



- Improved pedestrian crossings along the Albany Shaker Road corridor at the following locations:
 - The Crossings/Emerick Lane
 - Maria Drive/Marie Parkway
 - Shaker El
 - Osborne Road
 - Everett Road
- Safety improvements at locations with the higher concentrations of crashes, which for this corridor are at the intersections below:
 - Everett Road intersection
 - Osborne Road intersection and the Albany Shaker Road approaches to the Osborne Road intersection
 - Maxwell Road intersection
- Installation of a raised median on Albany Shaker Road between Maxwell Road and Wolf Road
- Median center turn lane

The same procedures that were applied for the traffic operational analysis for the existing conditions in Chapter 2 and background traffic analysis in Chapter 4 were applied here to assess and compare the estimated future operational effects of the different alternatives. The intersection evaluations for the study intersections were conducted using Synchro 8 software, which automates the procedures contained in the 2010 Highway Capacity Manual (HCM). Where peak hour analysis is applicable, the analysis focuses on the PM peak hour as the highest traffic volume time. Similar to the approach in Chapter 2, the assessment of the above mitigation measures includes other criteria considering the multi-modal nature of this corridor. Each alternative was evaluated using the following criteria:

- Intersection operation- HCM procedures used in Chapter 2
- Safety – considering FHWA crash reduction factors

Livability Consideration

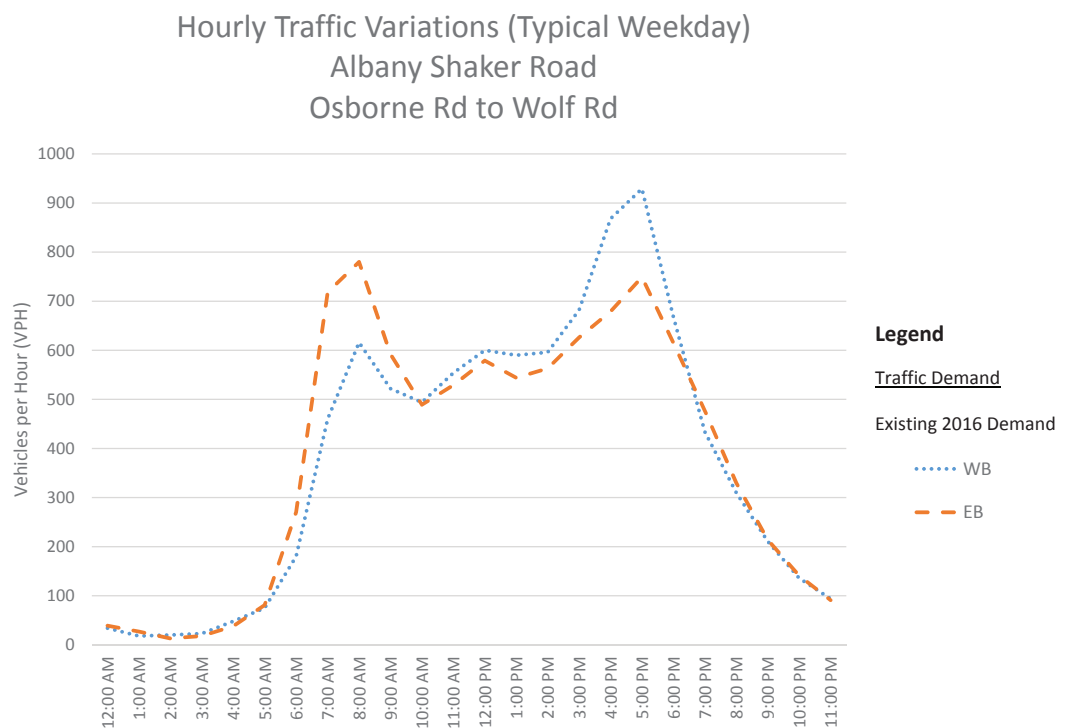
Based on the study objectives, feedback from the Town Comprehensive plan update process and CDTC's New Visions 2040 principles, increasing capacity to address traffic congestion does not result in the desired outcome. Decreasing congestion by increasing capacity has a negative impact on the livability of the corridor, and in the case of Albany Shaker Road will continue to accommodate the almost 40% of through traffic that travels the corridor with origins and destinations not in the corridor. In addition, improvements that reduce peak hour congestion by increasing peak hour capacity often result in higher travel speeds outside of the peak travel periods. Understanding that the intersections control the capacity of the corridor, the mitigation measures are focused on addressing the safety at these locations and improved capacity through efficiency within the existing pavement width. The specific safety proposals are described in the Safety Improvements section.



- Bicycle Accommodations – BLOS approach used in Chapter 2
- Pedestrian Accommodations – PLOS used in Chapter 2
- Livability consideration – following the CDTC guidelines in Appendix B (see Livability Consideration text box)
- Cost – order of magnitude conceptual level construction costs

Chart 5.1 below illustrates the typical hourly traffic volume variations in the Albany Shaker Road corridor; the important takeaway from this chart is that practical capacity threshold in each direction of a one lane road is 1,250 vehicles per hour. This capacity threshold is approached during the two peak travel periods in the peak direction. The remainder of the day adequate capacity exists to accommodate the existing and anticipated future traffic demands.

Chart 5.1 - Hourly Traffic Variations





Below is a summary of the proposed mitigation measures and an assessment of each. The assessment includes a measure of effectiveness graphic to illustrate how the mitigation measure addresses the criteria established in Chapter 2 to assess the corridor. Below is a description of how to interpret the graphic:

- For the evaluation of Safety, Pedestrian and Bicycle Accessibility, Congestion/Operation and Livability the following approach was used:



Similar to existing conditions



Less favorable than existing conditions



Improvement over existing condition

- For cost, the assessment is more quantitative:



Circle empty – less than \$250,000



Circle one quarter full- \$250,000 to \$750,000



Circle half full- \$750,000 to \$1,500,000



Circle three quarters full- \$1,500,000 to \$3,000,000



Circle full – Greater than \$3,000,000



Speed Limit Reduction

The majority of the public and members of the committees supported the idea to lower the posted from 40 mph to 30 mph. Speed is an important characteristic of a corridor, as speed limit reduction measures are part of the Complete Streets elements that can improve safety and quality of life consistent with the goals of this Study. <http://nacto.org/publication/urban-street-design-guide/design-controls/design-speed/>

Over the length of the corridor (2.4 miles) a reduction in travel speed of 10 mph (40 mph to 30 mph) will result in an additional 72 seconds during free flow.

The FHWA Methods and Practices for Setting Speed Limits notes that the 85th percentile speed method is the most commonly used approach, but also recognizes the Expert system approach, which uses a model developed by FHWA (USLIMITS2) and considers other factors to determine an appropriate speed limit for all roadway users. A preliminary USLIMITS2 analysis for this Planning Study shows that the Albany Shaker Road corridor may justify a lower speed limit under its current configuration (30 MPH).

Measures of Effectiveness for Speed Limit Reduction

Safety	+
Pedestrian Accessibility	=
Bicycle Accessibility	+
Congestion/Operation	=
Livability	+
Cost	

30-35 MPH

Driver's peripheral vision
Stopping distance
Crash risk

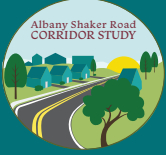


40+ MPH

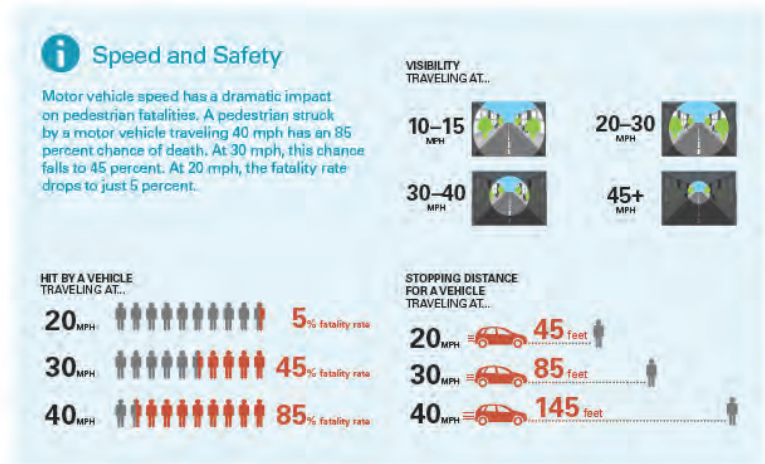
Driver's peripheral vision
Stopping distance
Crash risk



As a driver's speed increases, his peripheral vision narrows severely.²



As illustrated on page 42, and in the referenced document, the safety benefits of reducing the speed of vehicles traveling the corridor can be quantified. The peripheral vision impact of lower speeds on a corridor like Albany Shaker Road is directly related to the improved livability for residents along the corridor. The recommendation of this Study is to pursue a reduced posted speed limit from 40 mph to 30 mph, with the intent of lowering the 85th percentile speed 5 mph or more. Two additional recommendations complement the reduced posted speed:



60

New Jersey Complete Streets Design Guide

- Increased speed enforcement by Colonie Police Department
- Driver feedback signs that educate the driver on their own travel speed and allow them to self-enforce
- Both of these approaches have proven benefits independently resulting in travel speed reductions of 5-10 mph on corridors in the Capital District

Assessment – relative to Measures of Effectiveness:

- Safety – Crash Reduction Factor (CRF) for reducing mean speed by 15% through speed limit change and enforcement – 15% reduction on PDO and 22% on injury crashes
- Pedestrians – accommodations remain relatively the same with no direct impact, but level of comfort is improved
- Bicycles – the level of service is improved with the reduction of speed
- Congestion – no noticeable change as during the higher demand periods the traveling speed is closer to the proposed speed limit (30 to 35 mph)
- Livability – since speed is one of the recommended mitigation measures, livability improves
- Cost – new speed limit signs, driver feedback signs, and speed enforcement are low cost, approximately \$40,000
- Short-term implementation

This improvement will require the Town Board to pass a resolution to change the speed limit and will be a shared cost between Town and County.





Traffic Calming on Side Streets

Albany Shaker Road is a component of the east/west transportation network in the study area; therefore, changes on Albany Shaker Road could have impacts on the adjacent parallel streets. As pointed out at the public meetings and by the study Committees, there is a concern with increases in traffic volumes on these adjacent parallel streets. To address the concern, the Study is recommending that the Town consider installing traffic calming treatments and increase the speed enforcement on adjacent parallel streets. Both tactics will reduce the attractiveness of using the local roadway networks for regional trips as an alternative to roadways that are intended to serve regional traffic. The specific locations identified for these treatments include, but are not limited, to the following:

- Campagna Drive/Marie Parkway
- Emerick Lane/Briarwood Road
- Danielwood Drive
- Loudon Parkway

Based on feedback from the Town and public the following treatments should be considered:

- Tighten street geometry to reduce travel speeds with the intent of making these alternative routes less desirable
- Adding additional traffic control signs and features based on the Town's experience on their other facilities. The speed reduction treatments identified for Albany Shaker Road should be included in the considerations
- Increased enforcement, like Marie Parkway, which the Colonie Police Department and public mentioned

Measures of Effectiveness for Traffic Calming on Side Streets

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	

Assessment – relative to Measures of Effectiveness:

- Safety – crash reduction factors 15% for reducing mean speed and reducing traffic
- Pedestrians – accommodations remain relatively the same with no direct impact, but level of comfort is improved, and with less traffic the potential conflicts are reduced
- Bicycles – the bicycle level of service is improved with the reduction of speed
- Congestion – congestion/operation on side streets is improved with less traffic on the routes where traffic calming is installed and where enforcement is increased
- Livability – since speed is one of the recommended mitigation measures, livability improves
- Cost – new speed limit signs traffic calming treatments, and speed enforcement are low cost, approximately \$10,000 to \$40,000
- This will be a short-term/medium-term Town initiative



Improved Access to The Crossings Town Park

The Crossings Town Park was identified by the members of the committees and through public input as an amenity, but also as a major concern, particularly related to traffic and the operation of the Albany Shaker Road intersection with The Crossings driveway/Emerick Lane during peak park use times. Two mitigation measures were considered to address these concerns:

- Improvements to the primary access to the park, located across from Emerick Lane:
 - Modify the traffic signal timings, traffic signal phasing and add a left turn lane on Albany Shaker Road to turn into the park. An opposing left turn lane would also be added to turn onto Emerick Lane.
 - A mini roundabout was also considered at this location, but was dismissed from further consideration based on anticipated cost, and right-of-way impacts.
- Enhancing the Metro Park Road access to The Crossings, including improved wayfinding signage to increase the awareness and additional parking at this location to improve user confidence that the chances of available parking is increased.

In August of 2017, a westbound left turn traffic signal phase was added to the existing traffic signal at the Albany Shaker Road intersection with The Crossings' Driveway/Emerick Lane. This provided vehicles traveling westbound with the intent of entering the park a protected phase to make the left turn into the Crossings. This improved the westbound traffic flow during the peak park entering times, but decreased the capacity of the eastbound traffic and created increased delay for vehicles leaving Huntleigh Drive intending to go eastbound. It is recommended that this improvement remain in place, but the times of operations and length of the left turn phase be monitored to reduce the negative impacts on other users.

The installation of eastbound and westbound left turn lanes at this intersection should be pursued, but as a long-term improvement. The operational benefits during the peak park entrance times will be an improvement over the above left turn traffic signal phase alternative, but the negative impacts will include impacts to adjacent property owners, increased travel speeds and increased corridor capacity. Increased speeds and traffic capacity will have a negative impact on the quality of life for the residents that live on or adjacent to the corridor.

Assessment – relative to Measures of Effectiveness:

- Safety – the addition of left turn lanes have a crash reduction factor of 15%
- Pedestrians – pedestrian accessibility will remain same, but some concern with increased crossing length (additional lane)

Measures of Effectiveness for Improved Access to The Crossings

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	



- Bicycles – no change in bicycle accessibility as long as 5 foot shoulders are maintained
- Congestion – addition of left turn lanes will increase capacity through the intersection
- Livability – the increased capacity will allow more traffic to flow, in addition, the widening of Albany Shaker Road will put cars closer to residents
- Cost – moderate cost associated with construction of left turn, relocation of sidewalks and possibly the relocation of the traffic signal, approximately \$500,000 to \$1,000,000
- Potential funding sources include Congestion Mitigation Air Quality (CMAQ) and/or Airport Generic Environmental Impact Statement (GEIS)



Enhancing the Metro Park Road access is recommended in the short-term. This would include the construction of over 70 new parking stalls and the installation of way-finding signage to increase awareness of the parking accommodations and make it easier for visitors to find. It is also recommended that the Town/Park website be updated to recommend this access for visitors coming from the south and west.

Additional access to The Crossings Park via West Hearthstone Drive/Windsor Drive, located on the south end of the park.

During Public Information Meeting #2 this alternative was discussed and dismissed because the residential nature of these roadways and the available access on Metro Park Road.

Another mitigation measure that was under consideration was the installation of a road that would connect the existing park access to Albany Shaker Road to Metro Park Road. The intent of this connector is to alleviate the congestion at the The Crossings intersection with Albany Shaker Road. The Study Advisory Committee agreed that they did not want to consider an access that connected Metro Park Road through the Park to Albany Shaker Road because of the concern of potential cut-through traffic.

Assessment – relative to Measures of Effectiveness:

- Safety – no measurable improvement
- Pedestrians – remain same – no direct impact
- Bicycles – remain same – no direct impact
- Congestion – improved operation of main access through diverting traffic to Metro Park Road
- Livability – remain same – no direct impact
- Cost – developer improvement, no cost to Town
- Short-term implementation

Measures of Effectiveness for Improved Access from Metro Park Road

Safety	=
Pedestrian Accessibility	=
Bicycle Accessibility	=
Congestion/Operation	+
Livability	=
Cost	



Additional Sidewalks along Albany Shaker Road

This Study evaluated the addition of sidewalks on both sides of Albany Shaker Road between The Crossings Driveway and Everett Road. Currently the sidewalk exists only on one side or the other for this section of Albany Shaker Road. The proposed sidewalk will be a tight fit within the existing right-of-way, similar to the existing sidewalk, requiring adjustments to sign locations and mailbox placement. Several locations where features, such as ravines and steep side slopes, will require the acquisition of right-of-way to accommodate the construction of the new sidewalks. The addition of the sidewalks is consistent with the Committee's objectives, input received during the Town Comprehensive plan update, and much of the public input received to date. At the second public information meeting, the following two concerns were expressed regarding the additional sidewalks:

- The additional sidewalks on Albany Shaker Road are desirable, but not before pedestrian accommodations are provided on streets that currently have no pedestrian accommodations. The commenters pointed out that Albany Shaker Road has continuous pedestrian accommodations the length of our study area, while streets like Maxwell Road do not have adequate shoulders or sidewalks.
- With the recommendations to improve existing and add new locations for pedestrians to cross Albany Shaker Road, the need for continuous sidewalks on both sides is reduced.

These comments were added to the evaluation, as they provide merit when looking at the big picture of improved pedestrian connectivity in the Town and responsible use of limited funding for pedestrian accommodations. For the purpose of this study, the recommendation remains valid to provide sidewalks on both sides of Albany Shaker Road for the length of the study area, but the priority/timing of implementation should consider the comments above.

Benefits of sidewalks include improved connectivity between pedestrian origins and destinations along the corridor, particularly access to The Crossings and retail destinations. In addition, increased pedestrian accommodations would enhance the existing transit service along the corridor.

Assessment – relative to Measures of Effectiveness:

- Safety – the addition of sidewalks will provide a safer area for pedestrians to walk along the corridor, particularly when entering the corridor mid-block. The crash reduction factor for new sidewalks is above 75%
- Pedestrians – improved accessibility with new sidewalks
- Bicycles – small improvement with eliminating the potential conflict when pedestrians and bicycles are sharing the shoulder

Measures of Effectiveness for Additional Sidewalks

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	



- Congestion – no noticeable change in corridor capacity, although the public expressed an interest in walking instead of driving, if the pedestrian accessibility is improved
- Livability – improved livability, as they are desirable by the residences along and adjacent to the corridor
- Cost – it will cost approximately \$2-3 million to make sidewalks continuous on both sides of Albany Shaker Road between the Crossings and Everett Road, or approximately \$1-1.5 million to provide continuous sidewalk on one side or the other
- Potential Funding – Transportation Alternatives Program or CMAQ

Additional Pedestrian Crossings on Albany Shaker Road

With origins and destinations on both sides of Albany Shaker Road, the demand for pedestrian crossings at existing and new locations has increased. Based on the guidance in the FHWA and AASHTO recommendations (in text box shown below) the locations for pedestrian crossings were evaluated.

SPACING GUIDANCE FOR PEDESTRIAN CROSSINGS

Based on the NYS Vehicle and Traffic Law, pedestrian crossing demand should be assumed at all intersecting public streets, and unmarked crosswalks exist at these locations. Pedestrian crossings during busy times can be a challenge at these unmarked locations, and walking distances to the nearest protected pedestrian crossing can be long (approximately 1/3 mile) for someone near the central part of the corridor (i.e. near Marie Parkway).

According to the New York State Highway Design Manual (NYS HDM) Section 18.7.1.1 Pedestrian Street Crossing Dynamics, walking distances and suggested spacing of crossings is as follows:

“Based on FHWA research and AASHTO guidance, 1 mile is recognized as the maximum walking distance that most healthy/able-bodied people would be willing to undertake. However, the research also states that the majority of pedestrian trips are 1/4 mile in length. Subject to good engineering judgment, 1/4 mile is an appropriate average distance for accommodating “most” pedestrians of all abilities, outside of high-pedestrian traffic zones. In high-pedestrian traffic zones, or central business/walking districts, pedestrian crossings spaced between 330 ft. to 500 ft. apart would be reasonable and may correspond with the typical block lengths in high-pedestrian traffic zones. Suggested spacing of crossings are as follows:

- *Central business/walking districts – from 330 ft. to 500 ft. apart and based on density.*
- *Urban or suburban residential/retail areas – based on density/ land use and not to exceed 1/4 mile. (1600 ft.)*
- *Low-density rural centers/seasonal use areas – as needed. It is easier to find crossable gaps.*

The maximum distance that people with disabilities should reasonably be expected to divert from their intended path would be between 165 ft. and 250 ft.”



Below is a list of locations where improvements should be considered at existing pedestrian crossing locations:

- The Crossings/Emerick Lane
- Marie Parkway
- Shaker El
- Osborne Road
- Everett Road

The Crossings/Emerick Lane intersection – add a striped crosswalk, ADA ramps, pedestrian signal heads and push buttons on the west leg of the intersection. The addition of this crossing will provide full accommodations on all approaches. The traffic signal timings currently accommodate an “all pedestrian phase”, meaning all vehicular traffic is stopped when any of the pedestrian buttons are pushed.

Assessment – relative to Measures of Effectiveness:

- Safety – currently no crash history, but this will provide safer accommodations for pedestrians, crash reduction factor for pedestrian accommodations at signalized intersection is 25% for pedestrian crashes
- Pedestrians – improved pedestrian accessibility
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – new crosswalks and pedestrian signal heads on one leg of intersection are low cost, approximately \$30,000
- Potential funding – Pedestrian Safety Action Plan (PSAP)

Measures of Effectiveness for Improved Pedestrian Accommodations at The Crossings/Emerick Lane intersection

Safety	+
Pedestrian Accessibility	+
Bicycle Accessibility	=
Congestion/Operation	=
Livability	+
Cost	

The **Marie Parkway intersection** traffic signal currently does not have any pedestrian accommodations. The recommendation at this intersection is to add striped crosswalks, ADA ramps, pedestrian signal heads and push buttons on all four legs of the intersection. It is anticipated that the existing traffic signal poles will remain in place, but the controller will need to be upgraded. There is also an opportunity to reduce the length of the crosswalk on Maria Drive, by removing the median, and tightening the radius on the corner by the firehouse.





Assessment – relative to Measures of Effectiveness:

- Safety – the addition of pedestrian accommodations will improve the safety for pedestrians. The crash reduction factor for pedestrian accommodations at a traffic signal are 25% for pedestrian crashes
- Pedestrians – improved pedestrian accessibility
- Bicycles – remain same, no improved accommodations
- Congestion – slight increase in vehicle delay when pedestrians are crossing
- Livability – improved
- Cost – assuming the traffic signal will remain, the upgrade to accommodate the new crosswalks and pedestrian signal heads on all four legs of intersection are low cost, approximate cost \$40,000- \$200,000
- Potential Funding – PSAP

Measures of Effectiveness for Improved Pedestrian Accommodations at The Crossings intersection and Marie Parkway intersection

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	

The **Shaker El intersection** is a stop-controlled intersection (Stop sign on Shaker El approach) with an uncontrolled crosswalk on the west leg of the intersection. The recommendation is to install a traffic signal with striped crosswalks, ADA ramps, pedestrian signal heads and push buttons on all three legs of the intersection. In addition to improving the pedestrian accommodations at this location, the traffic signal will also improve traffic exiting the elementary school, a concern noted during the public meetings.

A roundabout and mini roundabout were considered at this location, but were dismissed because of cost and right-of-way impacts.

Understanding the installation of the traffic signal is a mid to long-term investment, below are some short-term, less costly alternatives:

- Add crosswalk striping on the side street
- Bring more attention to the uncontrolled crosswalk on located on the west leg of the intersection (crossing Albany Shaker Road), which should follow the NYSDOT guidance from the Pedestrian Safety Action Plan. Considerations in this plan would be:
 - Improved signs and striping
 - Pedestrian actuated flashing beacons



Assessment – relative to Measures of Effectiveness:

- Safety – the addition of the traffic signal will improve the safety for pedestrian crossings and for traffic exiting the Shaker El. The crash reduction factor for the traffic signal and improved pedestrian accommodations are 25% for pedestrian crashes and 20% for new traffic signal for all types of crashes
- Pedestrians – improved pedestrian accessibility
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – to install a traffic signal and pedestrian accommodations for three legs of the intersection with sidewalk ramps and crosswalks will be moderate cost, approximately \$30,000 to \$300,000
- Potential Funding – Local funds, PSAP and/or developer mitigation

Measures of Effectiveness for Improved Pedestrian Accommodations at Shaker El intersection

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	

At the **Everett Road intersection**, the recommendation at this intersection is to add striped crosswalks, ADA ramps, pedestrian signal heads and push buttons on all four legs of the intersection, currently none exist.

Assessment – relative to Measures of Effectiveness:

- Safety – the addition of pedestrian accommodations will improve the safety for pedestrians. The crash reduction factor for pedestrians accommodations at a traffic signal are 25% for pedestrian crashes
- Pedestrians – improved pedestrian accessibility
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – assuming the existing traffic signal will remain, the upgrade to accommodate the new crosswalks and pedestrian signal heads on all four legs of intersection are low cost, approximately \$40,000 to \$100,000
- Potential Funding – Developer mitigation in place and PSAP

Measures of Effectiveness for Improved Pedestrian Accommodations at Everett Road intersection

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	



At the **Osborne Road intersection**, the recommendation at this intersection is to add striped crosswalks, ADA ramps, pedestrian signal heads and push buttons on all four legs of the intersection. With pedestrian origins and destinations in all four quadrants of this intersection, pedestrian accommodations on the west and south legs are not adequate. In addition, the turning radii should be looked at on all four corners relative to the design vehicle with the intent of shortening the length of the existing and proposed crosswalks.

A roundabout was also considered at this location and dismissed as a short to medium term solution, but based on the unique benefits of the roundabout at this location, should be considered as a long-term solution. The roundabout considered at this location includes two lane entries on Albany Shaker Road, but one-lane exits. This layout would improve the overall capacity, but still serve to limit the flow and calm the traffic. The roundabout also provides improved pedestrian accommodations, with short crossings and reduced potential conflicts.

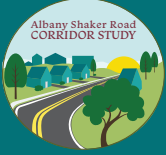
Assessment – relative to Measures of Effectiveness:

- Safety – the addition of pedestrian accommodations will improve the safety for pedestrians. The crash reduction factor for pedestrians accommodations at a traffic signal are 25% for pedestrian crashes
- Pedestrians – improved pedestrian accessibility
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – assuming the existing traffic signal will remain, the upgrade to accommodate the new crosswalks and pedestrian signal heads on all four legs of intersection and modify the curb radii are moderate cost, approximately \$40,000 to \$100,000
- Potential Funding – Developer mitigation funds and/or PSAP

Measures of Effectiveness for Improved Pedestrian Accommodations at Osborne Road intersection

Safety	+
Pedestrian Accessibility	+
Bicycle Accessibility	=
Congestion/Operation	=
Livability	+
Cost	○

In addition to improvements to the above locations, the area on Albany Shaker Road between Osborne Road and Everett Road is longer than desired distance between pedestrian crossing locations (existing and proposed). A crossing near **Tipton Drive** will provide a reasonable access point for pedestrians to cross in each direction. With the Hindu Society, cultural center to the south, residential cluster on the north and bus stops on both sides of Albany Shaker Road a crossing at this location would serve multiple purposes. The sight distance at this location will need to be evaluated.



Assessment – relative to Measures of Effectiveness:

- Safety – an enhanced crosswalk will provide pedestrians with a safer crossing option
- Pedestrians – improved crossing
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – new signing, striping, and possible RRFB will be low cost, approximately \$10,000 to \$20,000

Additional Bicycle Accommodations along Albany Shaker Road

The Study also evaluated improvements for bicycle users, including the addition of a multi-use path on one side of Albany Shaker Road. The costs and right-of-way impacts resulted in the dismissal of this improvement from further consideration.

The Study does recommend that the existing Share the Road markings and signs be replaced with “In Lane” signs per NYSDOT TSMI-13-07 to accommodate bicyclists at locations where the five-foot shoulder is reduced or eliminated, particularly at intersections.

Designating a formal bike lane along a road or highway in New York State requires a pavement width of four to six feet, according to NYSDOT’s Design Manual. Existing shoulder width along Albany Shaker Road varies from 4-6 feet (the shoulder widths are generally 6 feet on the curbed side, and 4 feet next to concrete gutter), but narrows to 2-3 feet along three sections of the roadway. Designating a continuous bike lane is not possible without widening in these locations. Evaluation of right of way impacts and engineering issues related to widening was part of the alternatives assessment process. In most cases, the need for widening and additional right-of-way resulted in the designation as a medium-term to long-term improvement. When evaluating all medium to long-term improvements, bicycle lanes shall be considered, including bike lanes through the signalized intersections. In the interim, as recommended above, the “In Lane” signs will be installed.

Measures of Effectiveness for Improved Pedestrian Accommodations at Tipton Drive intersection

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	

** There is the potential to improve bicycle accommodations at the Osborne Road intersection by re-striping and removing the striped median.*



Assessment – relative to Measures of Effectiveness:

- Safety – the addition of “In Lane” signs will increase driver awareness for bicycle users. At this time a crash reduction factor has not been confirmed
- Pedestrians – remain same, no impact
- Bicycles – improved accommodations at existing locations where five foot shoulders do not exist
- Congestion – remain same, no impact
- Livability – remain same, no impact
- Cost – new “In Lane” signs and pavement markings are low cost, approximately \$10,000 to \$20,000
- Potential Funding – Local Town and County

Measures of Effectiveness for Installation of “In Lane” Information

Safety	=
Pedestrian Accessibility	=
Bicycle Accessibility	+
Congestion/Operation	=
Livability	=
Cost	

Safety Improvements

As illustrated in Figure 2.8 and Table 2.11, there are three locations where the crash rates are higher than the statewide crash rates for similar facilities. The three locations are:

- Maxwell Road intersection
- Osborne Road intersection, including the approaches on Albany Shaker Road
- Everett Road intersection

In addition to the recommendation to lower the posted speed limit from 40 mph to 30, mph, the following mitigation measures were identified based on the Federal Highway Administration crash reduction factors to alleviate the crash patterns observed in the five years of crash data provided by CDTC.



The relocation of **Maxwell Road** to the east away from Wolf Road, and the change of traffic control to a **roundabout** has improved the operation and safety of this intersection. There are additional opportunities to improve the



AVIATION ROAD EXTENSION AND EXIT 4 IMPROVEMENT

When developing the traffic volumes for the future scenarios, CDTC evaluated options with and without the Aviation Road Extension (from Marcus Boulevard to Albany Shaker Road) and reconstruction of Exit 4. The findings indicated that the combination of the two transportation projects did not change the traffic volumes on Albany Shaker Road east of the proposed Aviation Road connection. The findings did indicate a decrease in traffic on Maxwell Road north of Albany Shaker Road. This is a result of additional capacity on I-87 Northbound included in the Exit 4 reconstruction. This additional capacity reduces the benefit of bypassing the Exit 4 on ramp and using local roads, including Maxwell Road, to access I-87 further north.

safety at this location that could be combined with the proposed construction of the south leg of the intersection (connection of Aviation Road). The primary improvements at this location are to restripe and sign the eastbound approach to one thru lane, which will eliminate the merge on the east side of the intersection and provide westbound traffic with a better indication if the eastbound vehicles are turning left in front of them or going straight. The intersection has been evaluated and this does not change operational level of service. Other minor improvements include signing that is consistent with the latest NYS guidance for roundabouts. While the preferred option may be to install a raised median, the operation could be tested with striping and cones.

Assessment – relative to Measures of Effectiveness:

- Safety – the change in lane configuration will reduce the right angle crashes
- Pedestrians – remain same, no improved accommodations
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – remain same, no impact
- Cost – if the restriping and signing changes occur with the addition of the connection to the Aviation Road extension, the cost will be moderate, approximately \$100,000 to \$200,000
- Potential Funding – Highway Safety Improvement Program (HSIP) and developer mitigation

Osborne Road intersection – In addition to the reduced radii above, optimized traffic signal timings will improve the peak hour flow. It is also

Measures of Effectiveness for Safety Improvements at Maxwell Road Intersection

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	



anticipated that lowering the speed limit on the corridor will reduce the rear-end accidents. The other short-term improvement is to restrict left turns in and out of the adjacent driveways, which appear to be associated with some of the crashes on the Albany Shaker Road approaches to the Osborne Road intersection. There are also opportunities to improve traffic simultaneously, including clearance intervals and all-red times, and traffic signal equipment upgrades if the existing traffic can accommodate.

Assessment – relative to Measures of Effectiveness:

- Safety – the controlled access on the approaches and reduced speed will reduce the future crashes at this location. The crash reduction factor for these improvements of at least 10%
- Pedestrians – improved pedestrian accessibility
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – the modification of the driveway access points and reduction of speed limit are low cost, approximately \$40,000 to \$100,000
- Potential Funding – HSIP and/or developer mitigation

Measures of Effectiveness for Safety Improvements at Osborne Road Intersection

Safety	+
Pedestrian Accessibility	+
Bicycle Accessibility	=
Congestion/Operation	=
Livability	+
Cost	○

Long-term, a roundabout is a potential consideration at this location. A partial multi-lane roundabout will improve the safety and increase the capacity, while calming traffic during the off-peak travel periods. In this case, the proposal is to have two lane entrances on Albany Shaker Road and one lane exists. The current intersection layout is wide and accommodates higher speeds. In addition, the roundabout will provide safer crossing locations for pedestrians. The public feedback indicated a concern that the roundabout would change the character of the Osborne Road/Albany Shaker Road intersection. Another significant consideration with the roundabout is the cost, it is anticipated to cost over \$2 million; therefore would need to be longer-term solution.

Everett Road intersection – There is an opportunity to restripe this intersection to eliminate one of the westbound through travel lanes and add an eastbound left turn lane on Albany Shaker Road (mini road diet). The striping will address a concern raised during the public comment period regarding the merging of two lanes of traffic into one over a relatively short distance.



In addition to the public concern, the crash data indicates a cluster of accidents making this movement. The intersection capacity has been evaluated, and the level of service remains acceptable. The elimination of a through lane would reduce the exposure for pedestrians crossing Albany Shaker Road.

Assessment – relative to Measures of Effectiveness:

- Safety – the elimination of the merge is intended to reduce the crashes associated with this movement. The crash reduction factor for eliminating a merge is not confirmed at this time
- Pedestrians – improved pedestrian accessibility with less lanes to cross
- Bicycles – remain same, no improved accommodations
- Congestion – remain same, no impact
- Livability – improved
- Cost – the cost of the pavement overlay and striping are low cost, approximately \$10,000 to \$40,000
- Potential Funding – County forces may be able to install proposed striping

Measures of Effectiveness for Safety Improvements at Everett Road Intersection

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	

Raised Median

The installation of the raised median will eliminate left turns on and off Albany Shaker Road from the driveways between Wolf Road and Maxwell Road, some of which are currently prohibited with signing. The installation of this median is contingent on the connection of the properties south of Albany Shaker Road to the proposed Aviation Road extension to the Maxwell Road Roundabout, highlighted in yellow in the image on page 55. By eliminating left turns in this stretch, the turning conflicts will be reduced and the delay will be decreased. The inset photograph illustrates the median type preferred by the Committee. In addition to initial construction costs, the County expressed concerns with maintenance costs associated with cleanup and snow and ice control.



Assessment – relative to Measures of Effectiveness:



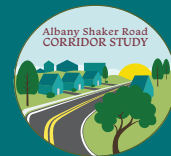
- Safety – the installation of the median to eliminate left turns on and off Albany Shaker Road. The crash reduction factor for a raised median is 25%
- Pedestrians – improved pedestrian accessibility with less lanes to cross
- Bicycles – remain same, no improved accommodations
- Congestion – the elimination of left turns will improve the flow of traffic through this section of Albany Shaker Road
- Livability – remain same, no impact
- Cost – the installation of the median is low cost, approximately \$250,000 to \$500,000
- Potential Funding – Airport GEIS and/or HSIP

Measures of Effectiveness for Raised Median

Safety	
Pedestrian Accessibility	
Bicycle Accessibility	
Congestion/Operation	
Livability	
Cost	

Two-way Left Turn Lane or Center Turn Lane

A corridor wide improvement, a two-way left turn lane or center turn lane, was considered and dismissed. The intent of this alternative was to improve the access in and out of side streets and driveways. The benefits of this alternative were outweighed by the potential negative impacts to adjacent property owners to accommodate the widening of approximately five plus feet on each side or eliminating the five-foot shoulders (existing bicycle accommodation). This alternative was removed from further consideration.



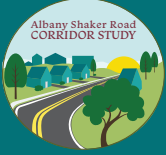
CHAPTER 6

Conclusions

The recommendations presented in this study are intended to support the Town's efforts to fully develop the community's vision, and the realistic multi-modal functionality and appearance of Albany Shaker Road. The recommendations are conceptual in nature and are presented to characterize the types of improvements that are desirable, and that may be implemented as part of future land use and transportation improvement projects. All transportation concepts will require further engineering evaluation and review. This report was prepared in cooperation with the SSC and SAC. The contents do not necessarily reflect the official views or policies of these government agencies. The concepts need to be investigated in more detail before any financial commitments can be made.

The following are the recommended improvements identified during the study that are consistent with the Study objectives and obtained concurrence from the Study Steering Committee:

- Reduce posted speed limit to 30 mph with increased enforcement and driver feedback signs. This recommendation should be implemented in the short-term, and is under the jurisdiction of the Town/County.
- Traffic calming on side streets that are within the Town's jurisdiction. The first step is for the Town from the list provided in this Study, to prioritize the streets and use the Town's internal guidelines to implement the appropriate traffic calming measures. The implementation of the first traffic-calming project is anticipated to be short-term.
- It is recommended that the Town pursue funding for pedestrian improvement projects including additional sidewalks along Albany Shaker Road and improved crossing locations throughout the corridor. The process to apply for the funding, the design and construct the improvements will result in this being a medium to long-term implementation.
- It is recommended that the Town and County jointly to pursue safety funding to address areas with crash rates higher than state average. Three locations were identified as primary candidates: Maxwell Road roundabout, Osborne Road intersection and Everett Road intersection. The process to apply for the funding, design the improvements and construct are medium to long-term implementation.



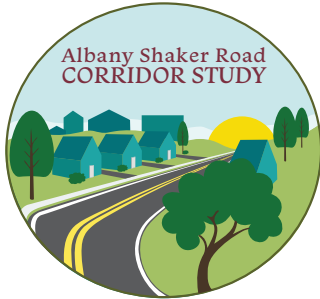
- This study did not recommend any land-use changes, but it is recommended that when development is proposed with densities higher than the current zoning, that the Town/County evaluate the potentially negative impact on the traveling public and the character of the corridor. It is anticipated that these considerations will occur in the short-term and will ongoing in the future.

This document provides the Town and County with a resource to apply for the funding opportunities presented in Chapter 5, which included the following:

- Albany County Airport Generic Environmental Impact Statement (GEIS) funds that could be used for improvements on the west end of the corridor in the GIES study area.
- Congestion Mitigation Air Quality (CMAQ) funding that is applicable for locations where the traffic delay is improved and/or alternative modes of traffic.
- Transportation Alternatives Program (TAP), which in the Capital District are pedestrian and bicyclist improvements
- Pedestrian Safety Action Plan (PSAP) funds, which are primarily for controlled and uncontrolled pedestrian crossings
- Highway Safety Improvement Program (HSIP), is typically an underused funding source that is available to construct improvements where the crash rates are higher than the NYSDOT average for similar facilities.

The CMAQ, TAP, PSAP and HSIP funds are typically coordinated through NYSDOT and CDTC. Project candidates for these funding sources often receive preferred scoring when planning studies have been have identified the desired improvements.

In conclusion, the alternatives recommended on Albany Shaker Road between Wolf Road and Everett Road are consistent with the project objectives identified and confirmed during the study. The next step in the process is for the Town Colonie and Albany County to adopt or acknowledge the findings of this study as a mechanism to pursue funding and implement the improvements in the corridor.



ALBANY SHAKER ROAD CORRIDOR STUDY

APPENDICES

Prepared for:



By:



In association with:



NOVEMBER 2018



APPENDICES

APPENDIX A - ENVIRONMENTAL JUSTICE

APPENDIX B - LIVABILITY ASSESSMENT

APPENDIX C - PUBLIC INVOLVEMENT

APPENDIX D - TRAFFIC CALCULATIONS

APPENDIX E - CRASH SUMMARY

APPENDIX F - USLIMITS2 OUTPUT

