



NEW SCOTLAND/WHITEHALL/BUCKINGHAM HOSPITAL AREA TRAFFIC STUDY

City of Albany, New York



FINAL REPORT

Prepared by:



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Chapter 1. Introduction

The City of Albany initiated this study to evaluate existing and future transportation conditions, and identify potential transportation improvements within the approximate one and one-half square mile study area in the City of Albany, bounded by the New York State Thruway to the south, NY Route 85 to the west, Cortland Street to the north, and S. Main Avenue to the east, referred to as the New Scotland/Whitehall/Buckingham Hospital Area.

STUDY GOAL

Provide an assessment of the feasibility, benefits, and impacts of different transportation improvements in the study area by evaluating alternatives that promote complete streets.

Within the Hospital Area, New Scotland Avenue is a lively and vibrant corridor that is home to a mix of residential, governmental, commercial, academic, and medical properties. Recently, the corridor has seen investment and growth from the academic and medical facilities, as well as private development, which in turn have led to increases in pedestrian and traffic volumes, resulting in longer than typical peak travel times and some concern about travel speeds. New Scotland Avenue and connecting roadways have not expanded with the

growth of these institutions due to lack of right of way and a desire to maintain the existing character of the roadways and surrounding neighborhoods. While the City has implemented changes to some of the roadways to accommodate the various stakeholders, including residents, employees, students, and visitors/customers, not all changes have been regarded as positive. As a result, the City determined that this traffic study is prudent and necessary to evaluate the overall transportation system within the broader study limits. In addition to the Study Goal above, the following Project Objectives were established:

PROJECT OBJECTIVES

- Determine best overall roadway system for all users to, from, and through the area, while minimizing the negative effects of traffic in neighborhoods.
- Involve the public and stakeholders in the study so that all project stakeholders understand the trade-offs and support development of the plan.

A Stakeholder Group was established to help provide input and facilitate the flow of information. In addition, the Stakeholder Group assisted in the identification of problems and potential solutions within the general study area. Stakeholder Group members include representatives from St. Peter's Hospital, Maria College, Residential Neighborhoods in the study area, the City of Albany Traffic Engineering Department, and the Albany Police Department.



Study Area

The Hospital Area is roughly centered on St. Peter’s Hospital and Maria College and spans an approximate 1.5 square mile portion of the City bounded by NY Route 85, S. Main Avenue, Cortland Street, and the New York State Thruway, as shown on Figure 1.1.



Figure 1.1 Study Area

Previous Efforts

The City has implemented numerous traffic changes within the Hospital Area in an attempt to improve the neighborhood quality of life while maintaining traffic operations for motorists entering and exiting Albany. These include:

- Traffic signal upgrades and signal coordination along New Scotland Avenue
- All-Way stop control at intersections on Buckingham Drive
- One-Way circulation changes on Buckingham Drive, Friebel Road, and Tampa Avenue
- Additional signage limiting truck traffic and increasing awareness of pedestrians and children



Chapter 2. Existing and Future Conditions

This Chapter summarizes the existing and anticipated future land use and multimodal transportation infrastructure and operations in the study area.

Land Use

The Hospital Area serves many different land uses including residential, governmental, commercial, academic, and medical properties. Significant attractors within the study area include St. Peter’s Hospital and Maria College. While these trip generators contribute to traffic within the study area, it is important to note that the Hospital Area serves as a gateway to the City of Albany for traffic traveling to and from NY Route 85. Because of this, there are a number of attractors outside the study area that generate traffic within the study area. These include Albany Medical Center, Albany Law School, and Sage College, among others.

Zoning is illustrated on Figure 2.1. The Hospital Area is primarily zoned for residential neighborhoods with the New Scotland Avenue corridor containing commercial and institutional uses. The area is fairly developed although there is potential for redevelopment of existing parcels. Growth potential is discussed later in this chapter.

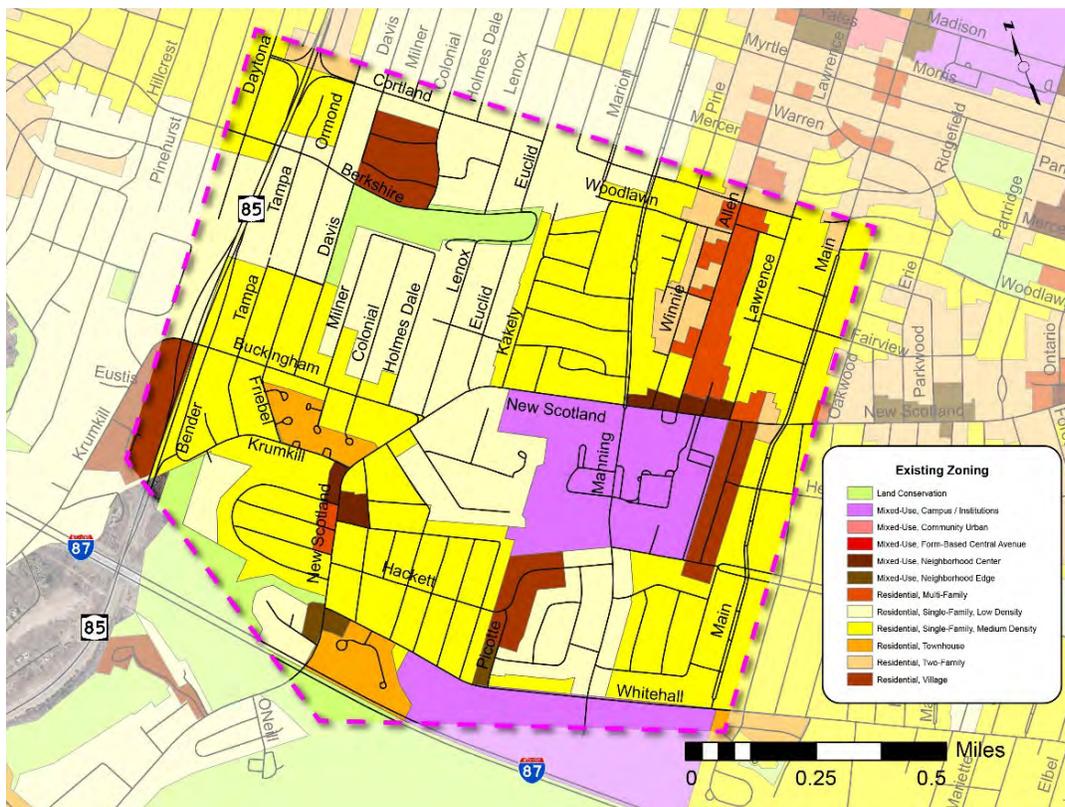


Figure 2.1 Existing Zoning



Roadway Characteristics

Individual roads and streets do not serve travel independently, but as part of a network of roads through which traffic moves. As such, roadways must balance competing functions such as access (the ability to reach a destination) and mobility (the ability to flow through an area). Roadways can serve these goals to varying extents, and are defined by the Federal Highway Administration (FHWA) in terms of functional classification based on the extent to which they balance these needs. Figure 2.2 shows the five functional classes and how they balance the competing needs of access and mobility.

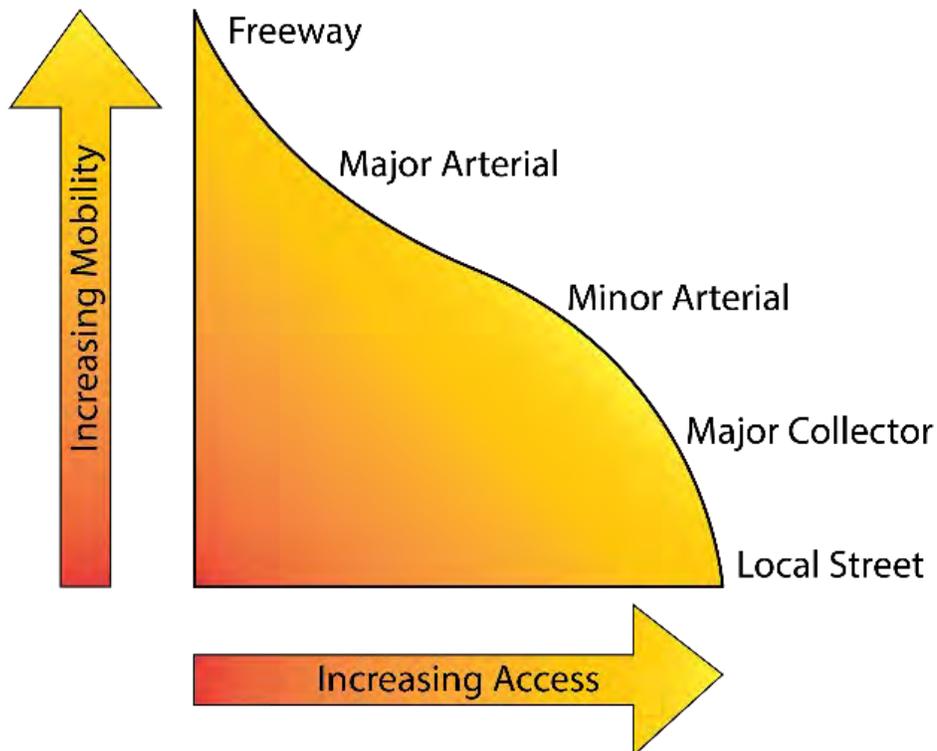


Figure 2.2 Functional Classification Access vs. Mobility

The Hospital Area contains numerous local roads as well as major collectors and minor arterials. Figure 2.3 shows the Hospital Area roadway network and functional classification.



Figure 2.3 Functional Classification

A comparison of Figures 2.1 and 2.3 shows that most residential neighborhoods are served by local roads while more intense uses are located along roadways classified as minor arterials. Buckingham Drive and Krumkill Road are exceptions to this generality, as they are both classified as minor arterials that serve residential areas. S. Manning Boulevard north of New Scotland Avenue and Hackett Boulevard are similar, although it is noted that both roadways provide a raised median with trees planted in the center and have a different character than Buckingham Drive and Krumkill Road. Table 2.1 summarizes key characteristics of the major roadways within the Hospital Area.

Table 2.1 Major Hospital Area Roadways

Street	Functional Classification	Number of Primary Lanes	Pavement Width	AADT	Posted Speed Limit	Sidewalk
New Scotland Avenue	Minor Arterial	2-4	46'	11,900	30	Both Sides
S. Manning Boulevard	Minor Arterial	2-3	38' - 55' ¹	11,150 9,460	30	Both Sides
Buckingham Drive	Minor Arterial	2	25'	7,900	30	Both Sides
Krumkill Road	Minor Arterial	2	28' - 32'	15,490	30	One Side
Whitehall Road	Minor Arterial	2	30' - 40'	8,520	30	Both Sides

¹Raised median north of New Scotland Avenue included in pavement width.



Pedestrian and Bicycle Accommodations

Pedestrians are generally accommodated on sidewalks located on one or both sides of the major roadways within the study area. Marked crosswalks, pedestrian signals, and countdown timers are generally present at the signalized intersections within the study area. There are also several uncontrolled marked crosswalks within the study area as shown on Figure 2.4.



Figure 2.4 Uncontrolled Marked Crosswalks

There are no dedicated bicycle accommodations within the study area. In general, bicyclists share the travel lane with vehicles or where possible, ride in the parking lane when unoccupied.



Transit

Transit service in the Hospital Area is provided by the Capital District Transportation Authority (CDTA) via the following routes:

- Route 6 – The 6 is classified as a trunk route and operates primarily along Whitehall Road, Second Avenue, and S. Pearl Street, between St. Peter’s Hospital and downtown Albany. Trunk routes operate seven days a week from early morning to late night with a minimum frequency of every half hour. Beginning at the Broadway/Orange bus station, buses operate south on S. Pearl Street before traveling west on Second Avenue and Whitehall Road. Buses operate in a counterclockwise loop to serve St. Peter’s Hospital and New Scotland Avenue before returning downtown via Whitehall Road, Second Avenue, and S. Pearl Street.
- Route 13 – The 13 is classified as a trunk route and operates primarily along New Scotland Avenue between the Slingerlands Price Chopper/Shoprite and downtown Albany. The 13 operates seven days a week with busses arriving every 30 minutes on weekdays and every 45 minutes on weekends.
- Route 138 – The 138 is classified as a neighborhood route and operates in a crosstown fashion between St. Peter’s Hospital and downtown Albany. Beginning downtown, buses travel north on N. Pearl Street before serving Lark Drive and continuing west on Livingston Avenue. Buses then turn south on Allen Street before completing a counterclockwise loop on New Scotland Avenue and S. Manning Boulevard to reach St. Peter’s Hospital. In general, neighborhood routes operate six to seven days a week from 6:00 a.m. to 9:00 p.m. with a minimum frequency of thirty to forty-five minutes.
- Route 734 – The 734 is classified as a commuter route and operates between Ohav Shalom and downtown Albany primarily via Hackett Boulevard. As a commuter route, the 734 only operates during the AM and PM peak periods Monday through Friday.

Within the study area, there are over 70 bus stops including stations at St. Peter’s Hospital on Manning Boulevard and New Scotland Avenue. Figure 2.5 illustrates the existing routing and bus stop locations within the Hospital Area.

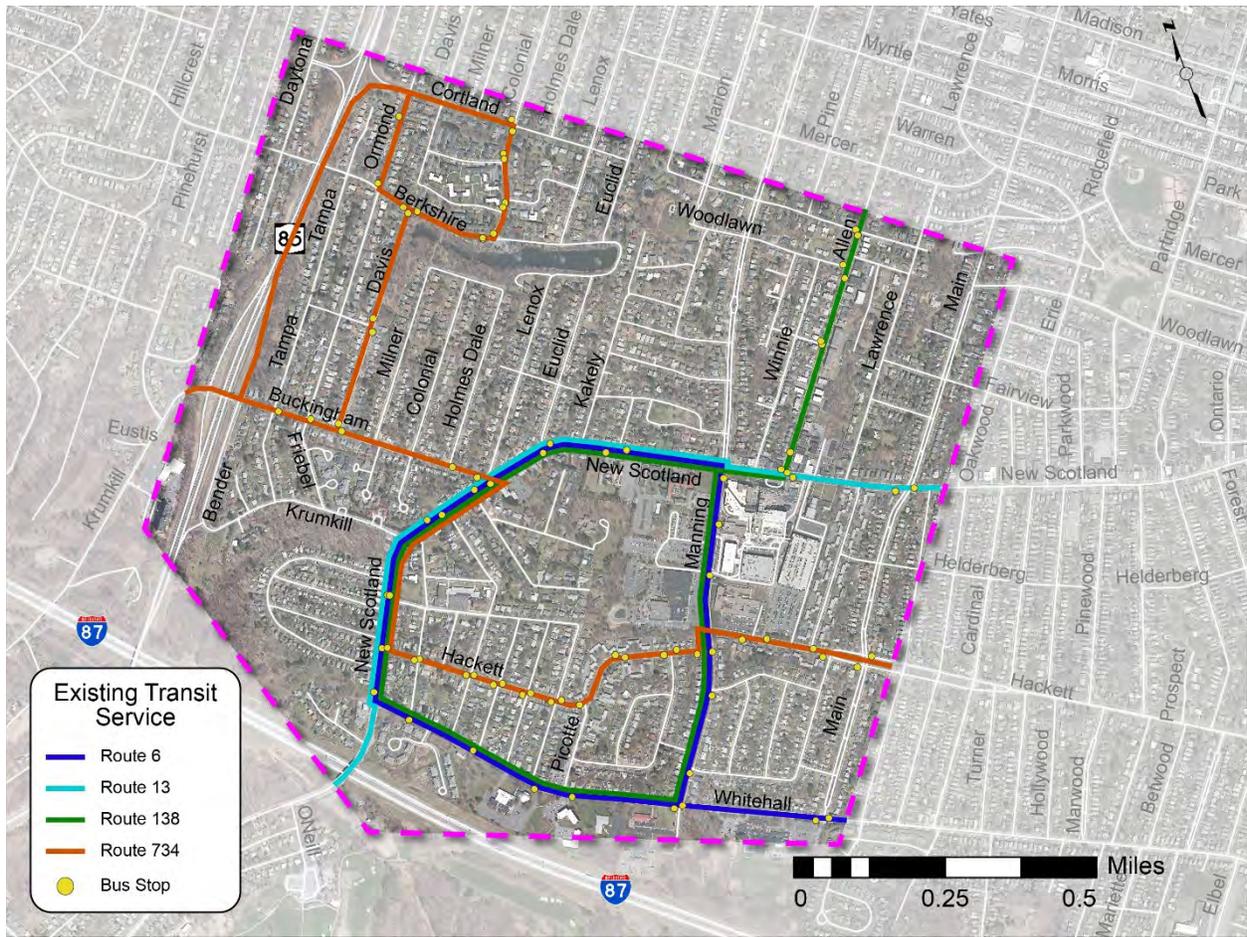


Figure 2.5 Existing Transit Service

Traffic Volumes

Traffic counts were conducted at the study area intersections in September and October of 2018 for the morning (AM) peak hours from 7:00 a.m. to 9:00 a.m. and evening (PM) peak hours from 4:00 p.m. to 6:00 p.m. Traffic flow diagrams are included in Appendix A.

Future traffic volume forecasts were prepared for the year 2030 to examine the operational characteristics of the Hospital Area for a 10-year horizon. A regression analysis of study area roadways indicates that traffic volumes have generally been flat. However, a conservative 10% percent growth factor was applied to the 2018 existing volumes in order to develop the 2030 forecast volumes.

Volume forecasts were also provided by CDTC using the STEP Model (Systematic Transportation Planning and Evaluation Model). This travel demand model estimates traffic demand based on population, housing, and employment data. The estimated volumes are compared against actual traffic counts to validate the model. Each 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. The 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 of Albany, Rensselaer, Saratoga, and Schenectady. 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.

A comparison of the forecasts by CDTC to the 10% growth factor used in this study, indicates that the 10% growth factor is higher and conservatively estimates future traffic. Future volumes may be lower than those used in the analysis in in this study. It is noted that anticipated traffic associated with the New Scotland Village Apartments was included in the STEP Model.

Traffic Operations

Traffic operations were evaluated using the Synchro software to represent existing traffic conditions and levels-of-service (LOS). LOS is a measure of delay at intersections with good operations represented by short delays in the LOS A/B range, and poor operations represented by long delays in the LOS E/F range. Table 2.2 summarizes the results of the existing and future level of service analysis.

Table 2.2 Existing Level of Service

Intersection	Control	AM Peak Hour		PM Peak Hour	
		2018 Existing	2030 Forecast	2018 Existing	2030 Forecast
New Scotland Ave/Whitehall Rd/Stewarts Drwy	S	B (14.6)	B (16.0)	C (22.9)	C (26.5)
New Scotland Ave/Hurst Ave	S	A (4.4)	A (5.1)	A (2.4)	A (4.2)
New Scotland Ave/Krumkill Rd	S	D (36.6)	D (53.2)	B (16.5)	B (18.6)
New Scotland Ave/Buckingham Dr/Lenox Ave	S	B (17.4)	B (19.2)	B (18.2)	C (20.0)
New Scotland Ave/S. Manning Blvd	S	C (31.7)	D (38.1)	D (40.3)	D (47.4)
New Scotland Ave/S. Allen St	S	B (11.8)	B (15.0)	B (11.5)	B (12.5)
New Scotland Ave/S. Main Ave	S	B (18.5)	C (20.7)	B (13.9)	B (14.8)
Krumkill Road/Buckingham Drive/NY 85 NB Ramp	S	B (13.9)	B (15.9)	B (13.2)	B (14.1)
Krumkill Road/NY Route 85 SB Ramp	S	C (22.9)	C (25.5)	C (26.0)	C (31.9)

S, U = Signalized and unsignalized intersection
 X (Y.Y) = Level of Service (Average delay in seconds per vehicle)

The analysis shows that under existing conditions the intersections along New Scotland Avenue generally operate at LOS D or better with traffic traveling along New Scotland Avenue flowing reasonably well due to the coordinated traffic signal system, while side-streets typically experience longer delays. Under future conditions, overall delay is expected to increase, but overall LOS is projected to remain at LOS D or better.

Under existing conditions, the New Scotland Avenue/Krumkill Road and New Scotland Avenue/S. Manning Boulevard intersections experience the longest delay and operate at overall LOS D during the AM and PM peak hours respectively. Vehicles approaching New Scotland Avenue from Krumkill Road experience long delays during the peak hour and queues can be observed extending along Krumkill Road to Bender Avenue to the NY Route 85 Interchange. It is noted that this likely has a metering effect on New Scotland Avenue. Delays at the New Scotland Avenue/S. Manning Boulevard intersection are fairly balanced on all



approaches. Under future conditions, delays will increase with the greatest increase projected at the New Scotland Avenue/Krumkill Road intersection during the morning peak hour, where average delays will increase by 18 seconds per vehicle.



Chapter 3. Public Involvement and Alternatives

Public Involvement

While the above summary provides a data oriented approach to identifying traffic operating conditions within the Hospital Area, it is important to provide citizens a meaningful way to contribute their own knowledge of issues and ideas for potential solutions. Public involvement was conducted in two phases. The first phase solicited feedback on issues and potential solutions in the study area. The second phase presented several roadway options to address these issues, and asked the public for feedback on these options. The first phase of public involvement is summarized below, while the second phase is discussed at the end of this chapter.

A public information meeting was held on November 13, 2018, with over 85 residents, stakeholders, and study representatives present. The purpose of the meeting was to inform the public about this transportation planning study, let them know the different methods by which they can provide comments, and obtain input from the public on issues and ideas (problems and solutions) that should be considered as the study progressed. Meeting attendees had several opportunities to provide input, ask questions, and offer comments. This included an interactive text message poll displayed in real-time during the presentation; a break out activity where groups assigned a note taker to record problems and solutions within the study area; an open forum question/comment session; written comment forms and a comment drop-box.

The responses to the text message poll provide a snapshot of what is most important to attendees. Traffic calming and vehicle operations for cars were the two most chosen responses. These responses are consistent with the objectives of the study to maintain good traffic operations, while minimizing the negative effects of traffic in neighborhoods.

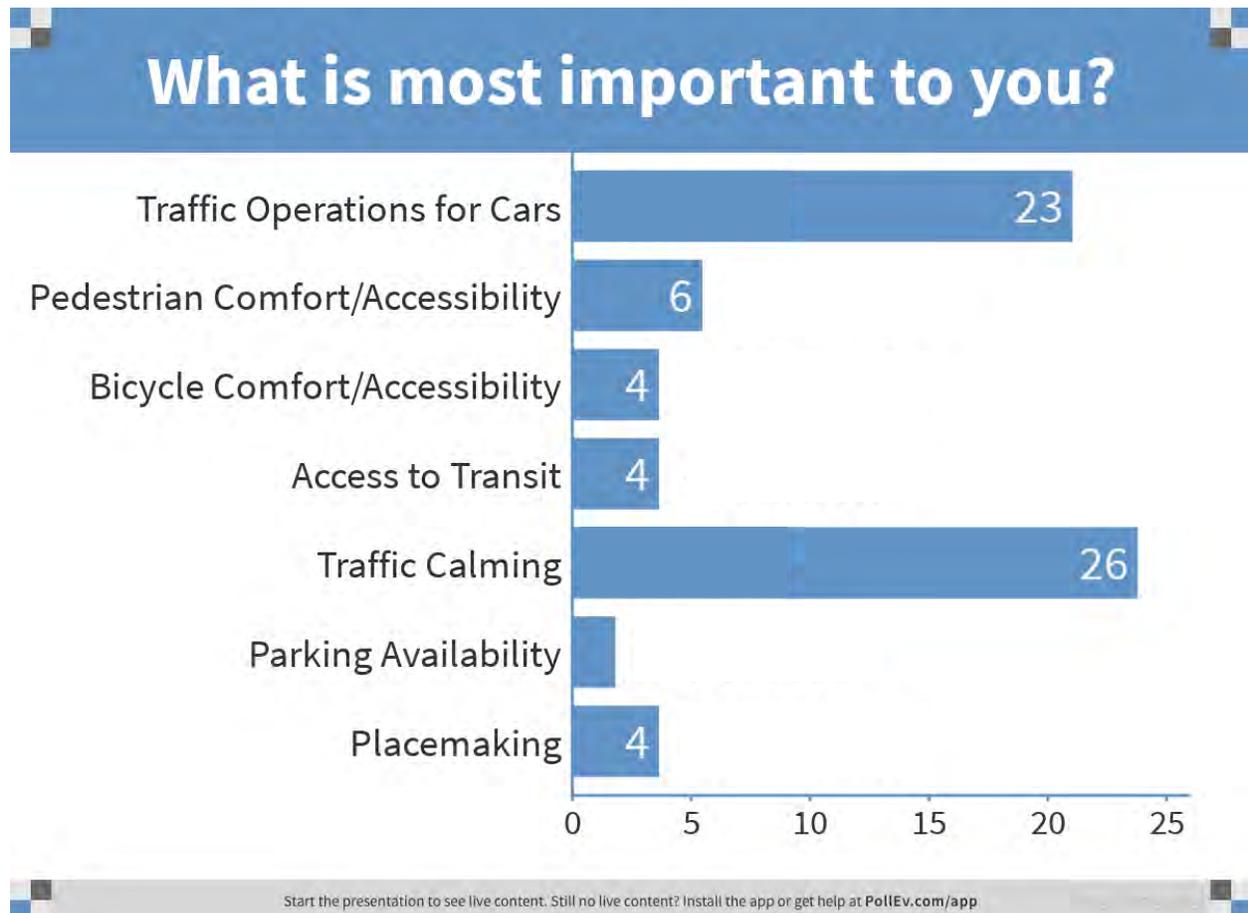


Figure 3.1 Public Input (First Public Meeting Nov. 13, 2018)

The breakout activity provided groups to further elaborate on what the perceived problems are within the study area and what potential solutions may alleviate these problems. Common problems identified included vehicle speeds and volumes, lack of pedestrian and bicycle accommodations, peak hour traffic issues related to the lack of existing lane markings, concern with recent one-way changes on Friebel Road and Tampa Avenue, and general increases in traffic associated with new development. Potential solutions that were identified included implementing traffic calming measures, updating traffic signal timings, diverting traffic to/from NY Route 85, increasing police enforcement of traffic, restriping New Scotland Avenue with bicycle and pedestrian accommodations, and encouraging transportation demand management including use of public transit.

Figure 3.2 shows the location specific comments provided. A review of individual comments and comparison of Figure 3.1 to Figure 3.2 shows that the majority of concerns in the study are located on roadways classified as minor arterials. The alternatives proposed in the next section focus on these areas.

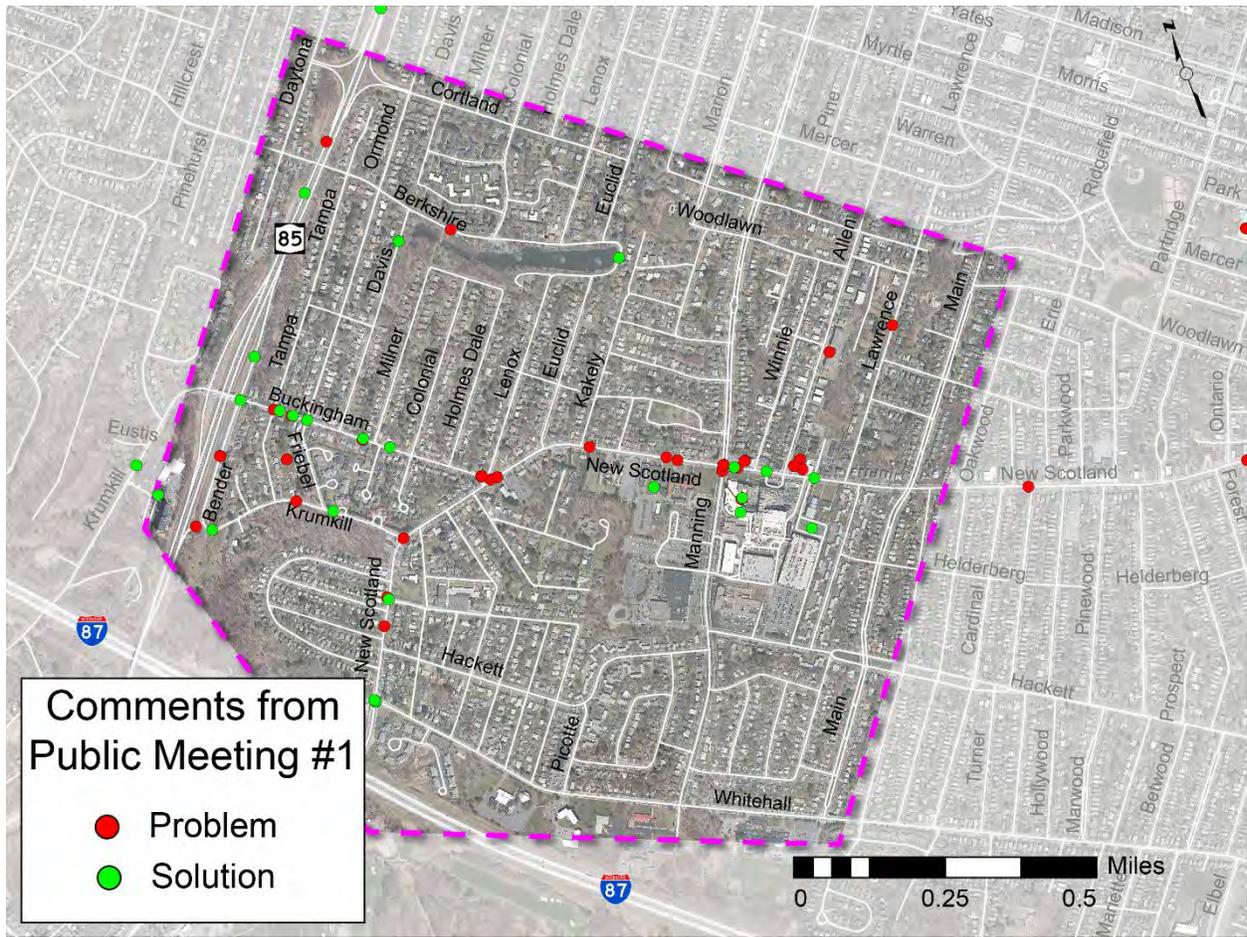


Figure 3.2 Locations and Comments from Public Meeting # 1

Alternatives Analysis

Based on stakeholder feedback and the ideas received at the first public meeting, a series of transportation improvements were developed to address concerns identified within the Hospital Area. In many instances, the concerns were related to safety and quality of life; and therefore, the proposed improvements focused on mitigation measures that address these issues. Below (in no particular order) are the issues/concerns identified during the study process, which became the focus for the mitigation measures developed:

- Peak hour traffic issues related to the lack of existing lane markings
- Concern about vehicle speeds and traffic volumes
- Difficult pedestrian crossings and lack of bicycle accommodations
- Concern with the recent one-way changes on Friebel Road and Tampa Avenue
- General increase in traffic associated with new development

The descriptions below summarize the complete streets measures evaluated to address the above concerns:

1. Roadway striping on New Scotland Avenue to clearly define lanes and create a more orderly flow of traffic.



2. Roundabouts at key intersections on New Scotland Avenue to increase vehicle capacity while provide a measure of traffic calming.
3. Channelization at Buckingham Drive to calm traffic entering from New Scotland Avenue and maintain an orderly flow to NY Route 85.
4. Circulation changes to the Buckingham Neighborhood to promote access for residents.
5. Alternative NY Route 85 access to reduce traffic in the Buckingham Neighborhood.
6. Transit and demand management actions to reduce reliance on personal vehicles
7. Improved pedestrian crossings to promote pedestrian safety and walkability in the Hospital Area.

New Scotland Avenue Striping Alternatives

Pavement markings are an important tool for communicating roadway information to motorists. They can be used to indicate the intended travel path and roadway alignment. While the current striping on New Scotland Avenue provides a centerline to delineate opposing traffic, there are no other lane markings, leading to a sense of uncertainty as to where vehicles should be positioned. Table 3.1 shows the potential striping alternatives examined for New Scotland Avenue between Whitehall Road and S. Manning Boulevard.



Table 3.1 New Scotland Avenue Striping Alternatives

ID	Name	Description		Pros	Cons
A	Null or Do Nothing	This would keep the existing roadways as they are and serves as a baseline for comparison of other alternatives.		-Maintains existing transportation infrastructure	-Does not address study goals
B	3-Lanes with Bike Lanes	Stripe New Scotland Avenue as a three lane section with one travel lane in each direction, a center two-way left turn lane (TWLT), and conventional bicycle lanes on both sides of the roadway.		-Traffic calming -Bicycle accommodations	-Small travel time increase -Parking impacts
C	3-Lanes with Alternate Side Parking	Stripe New Scotland Avenue as a three lane section with one travel lane in each direction, a center TWLT, and parking on one side of the street.		-Traffic calming -Minimizes parking impacts	-Small travel time increase
D	2-Lanes with Bike Lanes and Alternate Side Parking	Stripe New Scotland Avenue as a two lane section with one travel lane in each direction, parking and a buffered bike lane on one side of the street, and a conventional bike lane on the opposite side of the street.		-Traffic calming -Minimizes parking impacts - Bicycle accommodations	-Small travel time increase, -Does not assist left turns



Traffic analysis of the striping alternatives was performed using Synchro Software which automates the procedures contained in the *Highway Capacity Manual*. It is noted that intersection LOS under the different striping alternatives does not vary, since the proposed lane geometry at the signalized intersections is the same under each alternative. The results of the LOS analysis are summarized in Table 3.2.

Table 3.2 Roadway Striping LOS Summary

Intersection	Control	AM Peak Hour		PM Peak Hour	
		2030 Null	2030 Striping	2030 Null	2030 Striping
New Scotland Ave/Whitehall Rd/Stewarts Drwy	S	B (16.0)	C (27.9)	C (26.5)	C (31.0)
New Scotland Ave/Hurst Ave	S	A (5.1)	A (5.9)	A (4.2)	A (4.2)
New Scotland Ave/Krumkill Rd	S	D (53.2)	D (54.5)	B (18.6)	B (19.3)
New Scotland Ave/Buckingham Dr/Lenox Ave	S	B (19.2)	B (19.1)	C (20.0)	C (20.1)
New Scotland Ave/S. Manning Blvd	S	D (38.1)	D (38.1)	D (47.4)	D (47.4)

The analysis indicates that in general, striping lanes on New Scotland Avenue between Whitehall Road and Buckingham Drive will have only a small impact on traffic operations. This is because the existing lane geometry at intersections will be the same, or de facto operations are similar. It is noted that under a two-lane alternative, delays between traffic signals would increase due to turning vehicles intermittently blocking the travel lane.

Potential Roundabouts

Roundabouts were examined at several intersections in the Hospital Area as a means to increase vehicle capacity while providing a measure of traffic calming. Figure 3.3 identifies the locations of potential roundabouts. While the following analysis examines roundabouts as an alternative form of traffic control, based upon initial feedback received from the public, roundabouts are not being further progressed as part of this study.



Figure 3.3 Potential Roundabout Locations Examined

Traffic analysis of roundabouts was performed using Sidra software to determine operational characteristics. Table 3.3 summarizes the results of the LOS analysis.

Table 3.3 Roundabout LOS Summary

Intersection	AM Peak Hour		PM Peak Hour	
	2030 Null	2030 Roundabout	2030 Null	2030 Roundabout
New Scotland Ave/Krumkill Rd	D (53.2)	C (21.0)	B (18.6)	A (9.2)
New Scotland Ave/Buckingham Dr/Lenox Ave	B (19.2)	B (17.3)	C (20.1)	B (16.2)
New Scotland Ave/S. Manning Blvd	D (38.1)	C (25.3)	D (47.4)	C (22.2)

The analysis indicates that a single lane roundabout is feasible at the New Scotland Avenue/Buckingham Drive intersection while hybrid type roundabouts with a combination of single lane and multi-lane approaches would be necessary to provide adequate operations at the New Scotland Avenue/Krumkill Road and New Scotland Avenue/Manning Boulevard intersections. It is noted that the two intersections requiring a hybrid roundabout would also benefit the most, in terms of reduced vehicle delay from the capacity improvements a roundabout would provide. All three intersections would benefit from the traffic calming effects and improved pedestrian accommodations.



Buckingham Drive Channelization

Two channelization options were examined on Buckingham Drive in order to calm traffic and provide more orderly flow to NY Route 85. Alternative A would provide bump-outs to reduce the curb radius at the New Scotland Avenue/Buckingham Drive intersection as shown in 3.4. Alternative B would channelize right turns at the Buckingham Drive/Krumkill Road/Bender Ave/NY Route 85 northbound on-ramp intersection, allowing traffic to flow freely onto NY Route 85.



Figure 3.4 Channelization Alternatives Alt A



Alt B

The analysis indicates that traffic would operate similarly to existing conditions under the proposed channelization alternatives. The channelization alternatives provide the additional benefit of calming traffic through the Buckingham Neighborhood. Specifically, Alternative A would reduce the pedestrian crossing distances at the intersection while also encouraging slower vehicle speeds as motorists enter Buckingham Drive. Under Alternative B, queues and delays on Buckingham Drive and Krumkill Road would be reduced as motorists can flow freely onto NY Route 85 from Buckingham while signal timing adjustments can provide additional time for vehicles accessing NY Route 85 from Bender Avenue. Implementation of both of these channelization measures is envisioned to reduce queuing and entry speeds on Buckingham Drive.

Buckingham Neighborhood Circulation

In response to comments received at the first public meeting, circulation changes were examined in the Buckingham Neighborhood. A review of traffic volumes in the area indicate that prior to the implementation of the one-way traffic patterns on Friebel Road and Tampa Avenue, traffic from the south would cut through the neighborhood in order to access NY Route 85 from Buckingham Drive rather than Krumkill Road and Bender Avenue. In order to restore two-way traffic flow to these streets for residents while minimizing cut through traffic, two sign options and two channelization options were developed. Sign option A would restrict left turns from both Tampa and Friebel at Buckingham Drive, while option B would restrict right turns from Krumkill Road as shown in Figure 3.5. The channelization alternatives shown on Figure 3.6 would provide an additional measure of self-regulation to the turn restrictions at Buckingham Drive.



Figure 3.5 Sign Options



Figure 3.6 Channelization Options

Alternative NY Route 85 Access

Four options were examined to provide alternative access from New Scotland Avenue to NY Route 85 as a means to reduce traffic in the Buckingham Neighborhood. Table 3.4 describes each alternative and presents the pros and cons for each. The schematic alternatives are also shown on Figure 3.7.

ID	Name	Description	Key Findings
A	New On-Ramp at Krumkill Road	Close the existing NY Route 85 on-ramp at Buckingham Drive/Krumkill Road and construct a new ramp on Krumkill Road adjacent to the existing NY Route 85 northbound off-ramp.	Crosses inbound and outbound traffic flows, requiring a major multi-lane intersection at Krumkill/Bender in close proximity to Route 85. Impacts to private property and or cemetery.
B	Ramp at Whitehall Road	Close the existing NY Route 85 on-ramp at Buckingham Drive/Krumkill Road and construct a new ramp from New Scotland Avenue opposite Whitehall Road.	Relocates a portion of traffic to Whitehall Road while others divert north on Ormond Street. Increases conflicting traffic flows at the Krumkill Road/ New Scotland Ave intersection.
C	New Full Interchange at Whitehall Rd	Relocate the existing NY Route 85 interchange from Krumkill Road south with access opposite Whitehall Road.	Results in impacts to private property and existing structures. Cost on the order of \$50M
D	Krumkill Road Widening	Widen Krumkill Road to four lanes to provide access to NY Route 85.	Substantially increases traffic volumes on Krumkill Road and Bender Avenue. Impacts private property and residents on Krumkill. Potential impacts to the cemetery.

Based on the above assessment, these alternatives shift traffic and create impacts in other areas and are not considered practical at this time. The study focuses on what can be done in the short-term along existing facilities, to improve safety and mobility for all users (pedestrians, cyclists, and motorists).

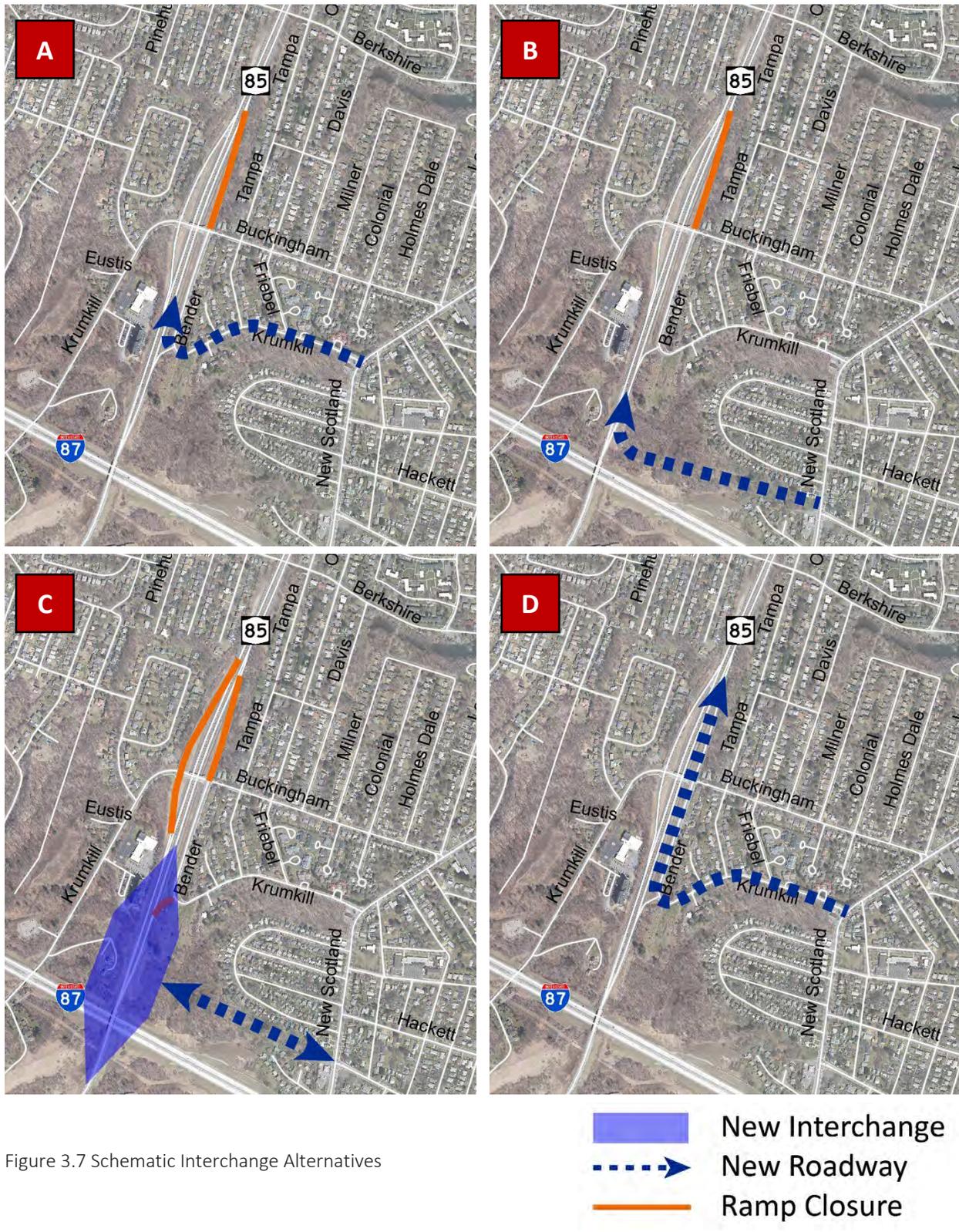


Figure 3.7 Schematic Interchange Alternatives



Transit and Demand Management Actions

In consultation with CDTA, plans emerged that support the objectives of this study and can have a real benefit in terms of reducing vehicle trips in the study area, and improving traffic operations and mobility.

As CDTA continually monitors ridership and route performance, changes are made to routes and schedules to improve service, ridership, access to transit, and better overall system performance. Service may be reduced on the least productive routes, with enhancements and alterations increasing ridership in more productive areas. The plan identified for the Hospital area is to “short-turn” the Route #13 to increase frequency of service in the more dense and higher productive segment between the Hospital Area and downtown (93% of the demand), while reducing service in the lower density and less productive segment between Slingerlands Price Chopper and the Hospital Area (7% of the demand). The change is shown graphically in the following images provided by CDTA, and provides improved service in line with demand. The frequency of service during the AM and PM commute, will be increased to every 15 minutes between the Hospital Area and downtown. The frequency of service will be every 30-45 minutes during the peak commute between Slingerlands Price Chopper and the Hospital Area.

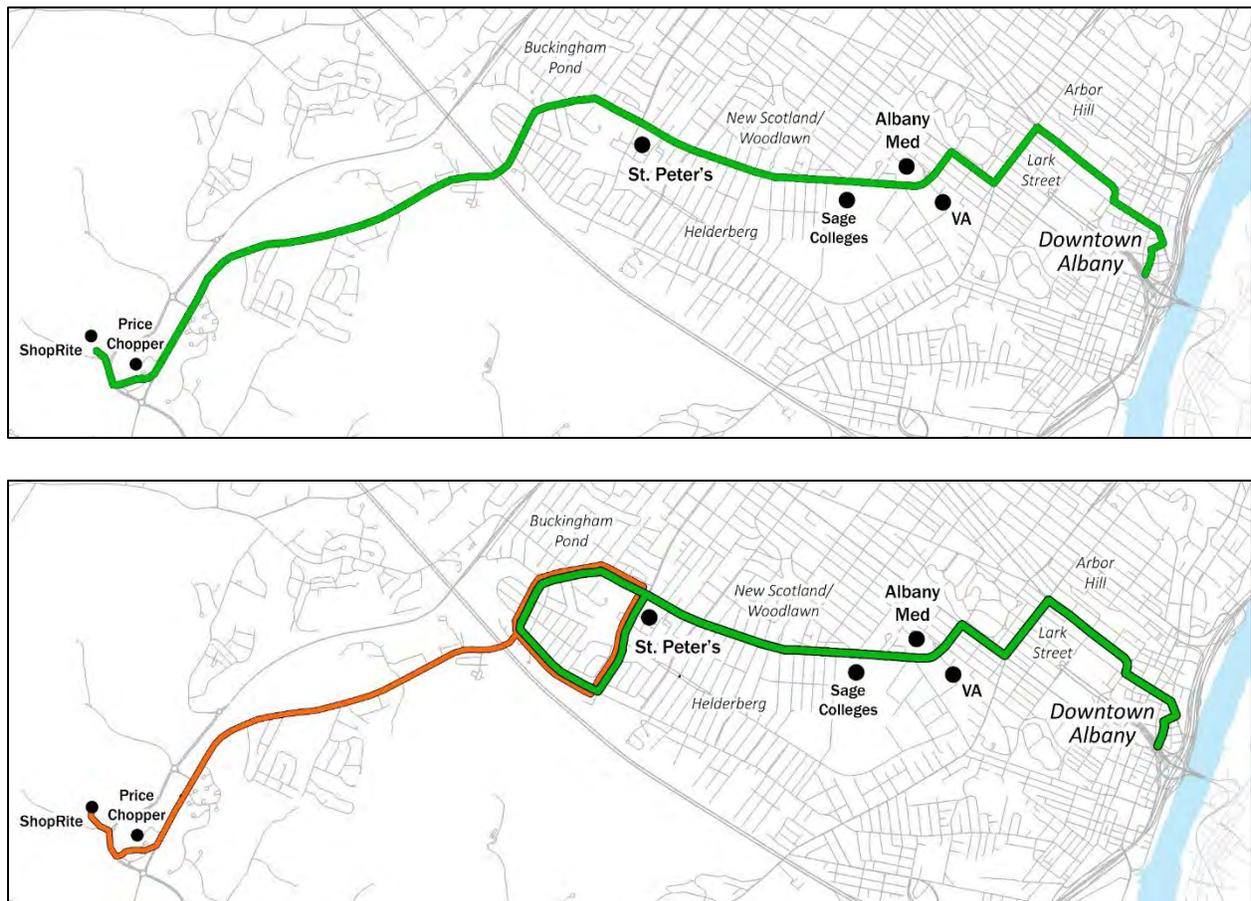


Figure 3.8 – CDTA Route #13 Short Turn and Frequency Increase

CDTA’s Routes #6 and #138 are also planned to be modified or merged in a similar effort.



Demand Management strategies also includes expanded use of CDTA's Universal Access Program, staggering shifts in order to spread traffic volumes over several peak hours, providing additional park and ride facilities for commuters, and improving walkability and access to public transportation as a way to reduce vehicle trips.

The basic premise of CDTA's Universal Access Program is that employees of participating employers ride the bus for free, and the employers reimburse CDTA for the service. Participation in the plan is an expense for employers, but can shift people from their cars to transit, leaving fewer cars on the road and improving traffic operations in return. Maria College provides Universal Access, and the New Scotland Village project has agreed to provide Universal Access for all residents and retail employees. The goal is to work with major employers in the study area and throughout the region to implement Transportation Demand Management (TDM) strategies.



Public Feedback on Alternatives

A second public information meeting was held on March 25, 2019, and attended by over 85 residents, stakeholders, and study representatives. The purpose of the meeting was to update the public about the preliminary concepts developed for the study area, and to discuss and determine which features are desirable. The meeting began with an open house where attendees could view posters depicting the different design concepts for the study area. Following the open house, a presentation provided an overview of the design concepts developed for this planning study.

Meeting attendees had several opportunities to provide input, ask questions, and offer comments. This included the open house, a question/comment session; a break out activity where groups reviewed the various design concepts, discussed the pros and cons for each, and provided their opinion on a worksheet, written comment forms and a comment drop-box, and access to the project website and project email.

While a synopsis of public and stakeholder comments is provided here, readers are encouraged to read the entire record of comments (included in Appendix B) for a full understanding. The major take-aways from the public and stakeholder meetings are listed below:

- Complete Streets – Some commenters believe that the concepts presented are overly focused on moving cars as compared to making the area more comfortable for non-motorized users and protecting the neighborhoods.
- Reduced Speed Limit – Some comments requested that the speed limit be reduced below 30 mph.
- Buckingham Circulation – Circulation in the Buckingham Neighborhood remains a concern. There is a general desire to restore two-way traffic on Tampa Avenue and Friebe Road, and limit the amount of through traffic.
- Roundabouts – The majority of commenters oppose roundabouts; however, there is also some misinformation regarding the benefits of roundabouts as a form of traffic calming. There are documented safety and operational benefits of roundabouts. Notably per the American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual, roundabouts reduce the types of crashes where people are seriously hurt or killed by 78-82% when compared to conventional stop-controlled and signalized intersections. Additional education and engineering will be needed if roundabouts are ever progressed in the area.
- Requests for speed enforcement.
- Transportation Demand Management (TDM) – There is a general desire to implement TDM strategies including increased transit service, potential park and ride lots, and shift staggering.
- Location Specific Comments – There are many comments and suggestions for specific improvements, which were considered as part of the development of recommendations, and are documented in Appendix B of this report.

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Chapter 4. Conclusions and Recommendations

The Hospital Area contains a mix of residential neighborhoods and commercial and institutional areas. As such, the roadway network must balance the competing needs of residents and commuters. A fundamental objective of this study was to determine the best overall roadway system to, from, and through the area, while minimizing the negative effects of traffic in neighborhoods. The technical studies show that incorporating a number of the proposed recommendations will support the City's efforts to balance the competing needs of all users. In addition to the recommendations detailed below, an effective traffic safety program will incorporate the three "E's" (1) Engineering, (2) Enforcement, and (3) Education. While the following recommendations provide engineering measures to achieve complete streets objectives for the study area, enforcement and education of the vehicle and traffic law will also improve motorist, pedestrian and bicycle safety and comfort.

Short and Mid-Term Recommendations

The study identifies priority circulation improvements to be pursued immediately in order to calm traffic and improve circulation in and around the Buckingham Neighborhood. The priority improvement includes returning Tampa Avenue and Friebel Road to two-way traffic and using signs to restrict left turns from these neighborhood streets onto Buckingham Drive.

In addition to the priority circulation improvement, the study recommends short and mid-term complete streets enhancements through lane markings, signage, and context sensitive intersection improvements, to improve neighborhood quality of life while maintaining mobility in the area.

Figure 4.1 at the end of this Chapter summarizes the overall study recommendations. Figures 4.2 and 4.3 show conceptual improvement plans for New Scotland Avenue. The following descriptions begin at the western end of the Hospital Area and then continue east and are not in priority order. The numbering corresponds to the west to east convention on Figure 4.1.

- 1 Beginning at the west end of the Hospital Area, channelization of right turns from Buckingham Drive onto NY Route 85 eastbound will improve access to and from NY Route 85 and calm traffic along Buckingham Drive.
- 2 Continuing east, restoring Friebel Road and Tampa Avenue to two-way traffic between Krumkill Road and Buckingham Drive will improve access for neighborhood residents and reduce additional travel. Additional signage restricting turns is recommended in order to discourage cut-through traffic.
- 3 The study recommends extending the right turn lane on Krumkill Road approaching the New Scotland Avenue intersection in order to allow vehicles turning right to access the turn lane, which is blocked at peak times by queued vehicles waiting to turn left. Preliminary investigations show that right-of-way might be needed, so this could become a longer-term improvement.



- 4 The recommendation for New Scotland Avenue between Whitehall and Manning is to stripe the corridor as a three-lane roadway with one lane in each direction, a two-way left turn lane (TWLTL) and alternative side parking. The pavement markings will calm traffic in the segments, while the existing turn lanes at the Whitehall Road, Krumkill Road, Buckingham Drive, and S. Manning Boulevard intersections will provide traffic flow comparable to existing conditions.
- 5 Continuing east, a reduction of the curb radii at Buckingham Drive/New Scotland Avenue/Lenox Avenue intersection will shorten the pedestrian crossing distances and calm traffic as it enters Buckingham Drive. A similar treatment is recommended in the northwest quadrant of the New Scotland Avenue/Euclid Avenue intersection, which will also improve the angle of the intersection.
- 6
- 7 East of S. Manning Boulevard, the study recommends restriping New Scotland Avenue as a three lane section with a TWLTL and maintain the existing parking between S. Manning Boulevard and S. Main Avenue.
- G In general the study recommends improving walkability, pedestrian safety and access to transit by implementing high visibility pedestrian warning signs at uncontrolled marked crosswalks as outlined in the NYS Pedestrian Safety Action Plan (PSAP). Coordination with CDTA on transit service enhancements and expanded use of CDTA's Universal Access Program is also recommended.

A third public meeting was held on October 7, 2019 to present and receive feedback on the above recommendations. A majority of the commenters desire a higher level of bicycle accommodation on New Scotland Avenue. Lane widths and bicycle accommodations will be evaluated during the design process.

The study recommendations will provide good overall multi-modal traffic operations and supports the goals and objectives of this study.

Long Term Recommendations

In addition to the study recommendations above, the following recommendations are provided for long term consideration:

- Work with major employers and in the study area to implement Transportation Demand Management (TDM) strategies. Beyond Universal Access discussed above as a short to mid term recommendation, these strategies may include staggering shifts in order to spread traffic volumes over several peak hours, or providing additional park and ride facilities and incentives for commuters.
- Consider capacity improvements at major intersections (New Scotland Avenue/Krumkill Road, New Scotland Avenue/Buckingham Drive, and New Scotland Avenue/S. Manning Boulevard). The analysis has shown that traffic signals or roundabouts may be provided at the major intersections. Based on the NYSDOT Highway Design Manual (Section 5.9.1) *"when a project includes reconstructing or constructing new intersections, a roundabout alternative is to be analyzed to determine if it is a feasible solution based on site constraints, including ROW,*



environmental factors, and other design constraints.” and “When the analysis shows that a single lane roundabout is a reasonable alternative, it should be considered the Department’s preferred alternative.” Maintaining traffic signals is recommended in the short term. As part of any long term capacity improvement, the type of intersection control (signal vs roundabout) needs to be evaluated further and the decision documented during the design process. Roundabouts can increase vehicle capacity while providing a measure of traffic calming. It is noted that additional public education about the pedestrian and bicycle benefits of roundabouts would be necessary.

Implementation and Funding

This study recommendations focus on relatively low cost short and mid-term improvements that could be implemented within approximately one and a half to two years. The City should work proactively to identify local funding Private funding through cooperative arrangements, site plan approval and SEQR mitigation should also play a role. The proposed striping on New Scotland Avenue between S. Manning Boulevard and S. Main Avenue is a good example of this, where mitigation by the New Scotland Village developers may implement some of this project and share in the cost. The following table (4.1) summarizes the estimated costs, including design and construction inspection.

Table 4.1 Implementation Plan and Costs

Description	Estimated Cost (Thousands)
Short and Mid Term Recommendations	
Buckingham / NY 85 Channelization	\$145,000
Buckingham Area Circulation Improvements	< \$5,000
Krumkill Widening	\$250,000 + ROW
Restripe New Scotland (including channelization at Buckingham and Euclid)	\$425,000
Long Term Recommendations	
Implement Transportation Demand Management	--
Consider capacity improvements at key intersections	\$6.0 M

For longer term more costly improvements, the City would need to establish the local match for a larger public project (or projects), and to work with the CDTC and the NYSDOT to get a Hospital Area project on the local and Statewide Transportation Improvement Program (TIP).

Transportation resources continue to be constrained in New York. The current public funding policy for transportation projects in New York is focused on “preservation first” to keep the existing transportation system and bridges in a state of good repair. The State generally does not have the ability to address congestion and capacity issues, and funding for those types of projects is rare. Projects that address identified safety needs or that are shown to create new jobs, have a better chance when competing for the



limited public funds that are available. Similarly projects that show a local funding commitment also have a better chance to leverage State funds.

Below is a description of the available Federal, State and Local funding sources.

Federal

TIP – The Transportation Improvement Program (TIP) is a five-year capital improvement program that allocates federal highway funds to surface transportation projects that have been selected through CDTC’s planning process. CDTC updates the TIP every two years to maintain a current list of projects.

Below are several federal funding sources typically found on the TIP:

- HSIP – Highway Safety Improvement Program funding is for projects designed to achieve significant reductions in traffic fatalities and serious injuries on all public roads.
- NHPP – National Highway Performance Program funding for projects that support progress toward achievement of national performance goals for improving infrastructure condition, safety, mobility. Although mostly used for maintenance, some funding can be eligible for capacity projects.
- TA – Transportation Alternatives funding is a set-aside of funds under the Surface Transportation Block Grant (STGB) Program for on and off road pedestrian and bicycle facilities, non-driver access to public transportation, and safe routes to schools. States have flexibility in how the TA program is administered and the New York State program is run through the state level TAP office.
- BUILD – Better Utilizing Investments to Leverage Development grants (formerly TIGER) are for investments in surface transportation infrastructure. Grants are awarded on a competitive basis for projects that will have a significant local or regional impact.

State

- State Dedicated Funds – Programmed at the discretion of the NYSDOT.
- CFA/REDC – The Consolidated Funding Application is an efficient, streamlined tool to apply for State economic development funds. The application examines funding for transportation infrastructure from multiple State sources including NYSDOT.
- CHIPS – The Consolidated Local Street and Highway Improvement Program provides State funds to municipalities to support the construction and repair of highways on the State highway system. In order to be eligible for CHIPS funding, the project must be undertaken by a municipality (i.e. City of Albany), be for a highway-related purpose, and have a service life of 10 years or more.

Local

- Federal transportation programs typically require a 20% local match. The City of Albany should plan to cover a portion of the project’s cost through their general fund or bonding.
- Private mitigation funding through traffic impact studies and SEQR documentation can be used for access management changes, sidewalk and landscaping along site frontages.

In conclusion, implementation of the study recommendations will provide good overall multi-modal traffic operations consistent with complete streets principals, and support the goals and objectives of this study.



Short & Mid - Term Plan

(Not in Priority Order)

- 1** Channelize right turns from Buckingham Drive onto NY Route 85 eastbound.
 - 2** Restore Friebel Road and Tampa Avenue to two-way traffic between Krumkill Road and Buckingham Drive. Use signs to restrict left turns from these neighborhood streets onto Buckingham Drive.
 - 3** Extend the right turn lane on Krumkill Road approaching New Scotland Avenue intersection. (May become longer term improvement due to potential need for right of way)
 - 4** Restripe New Scotland Avenue as a three lane section with alternate side parking and a center two-way left turn lane (TWLT). Lane widths and bicycle accommodations will be evaluated during design.
 - 5** Reduce the curb radii at Buckingham Drive/New Scotland Avenue/Lenox Avenue intersection.
 - 6** Reduce the curb radii at the Euclid Avenue/New Scotland Avenue intersection
 - 7** Restripe New Scotland Avenue as a three lane section with a center TWLT and maintain existing parking between S. Manning Boulevard and S. Main Avenue.
- General Hospital Area Theme:* Improve walkability, pedestrian safety, and access to transit by implementing high visibility pedestrian warning signs at uncontrolled marked crosswalks as outlined in the NYS Pedestrian Safety Action Plan. Coordinate with CDTA on transit service enhancements and expanded use of CDTA's Universal Access Program.

Long Term Recommendations

- 1. Implement Transportation Demand Management strategies including park and ride operations and increased access to public transit.
- 2. Consider capacity improvements at key intersections to provide traffic calming and improve traffic flow.

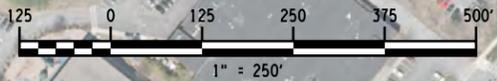
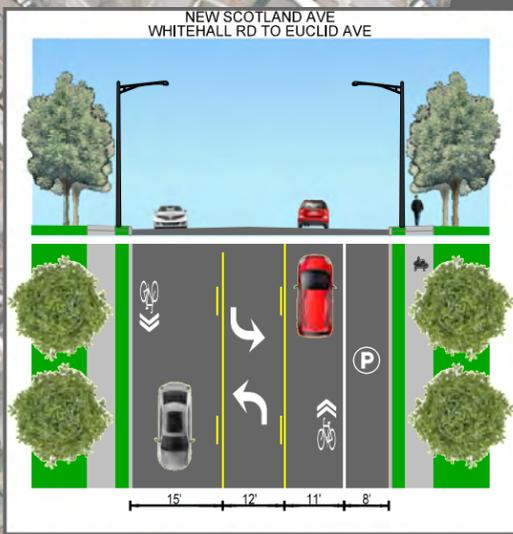


Figure 4.1 - Suggested Improvements

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Lane widths and bicycle accommodations will be evaluated during design.



SUGGESTED IMPROVEMENTS
WHITEHALL TO MANNING

ALBANY HOSPITAL AREA
TRAFFIC STUDY
ALBANY COUNTY, NEW YORK

PROJECT: 118-084 DATE: 10/2019 FIGURE: 4.2

FILE NAME : N:\Projects\2018\118-084 Albany Hospital Area Traffic Study\cadd\fig\118-084_fig.pst_4.2.dgn
DATE/TIME : 10/2/2019
USER : dbr.jes

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THREE LANE CONCEPT WITH
PARKING BOTH SIDES
ALBANY HOSPITAL AREA
TRAFFIC STUDY
ALBANY COUNTY, NEW YORK



PROJECT: 118-084 DATE: 10/2019 FIGURE: 4.3