

MURRAY HILL ROAD SAFETY AUDIT

ITC to Washington Drive

TOWN OF VESTAL

BINGHAMTON METROPOLITAN TRANSPORTATION STUDY

2026

BMTS

Murray Hill Road Safety Audit
ITC to Washington Drive



OVERVIEW

The town of Vestal requested that a Road Safety Audit (RSA) of Murray Hill Road from the Innovative Technologies Complex (ITC) crosswalk to Washington Drive be conducted. An RSA is a proactive, low-cost safety evaluation process recommended by the Federal Highway Administration (FHWA) to identify potential safety issues on existing or planned transportation facilities. RSAs are conducted by a multidisciplinary team that examines the roadway from the perspective of all users, including motorists, pedestrians, bicyclists, and transit users, and identifies opportunities to improve safety.

BMTS previously conducted an RSA for Washington Drive, including its intersection with Murray Hill Road, in 2017. Although the Town implemented recommended improvements from that study, crash occurrences and speeding concerns have persisted. In Fall 2025, the Town also implemented additional striping and signage modifications at Murray Hill Road and Washington Drive in response to ongoing community concerns regarding speeding and crashes.

This RSA was initiated in response to:

1. Concerns about pedestrian safety due to the limited availability of pedestrian facilities.
2. A history of crashes resulting in injuries, including one pedestrian-involved crash and one bicycle-involved crash.
3. Ongoing concerns related to vehicle speeds and overall roadway safety.

The Primary Goals of this RSA are:

1. Improve safety for motorists, pedestrians and bicyclists.
2. Enhance pedestrian and bicycle facilities along the corridor.
3. Reduce traffic congestion on Murray Hill Road and the Vestal Parkway in the vicinity of the University by providing safe and convenient pedestrian and bicycle facilities that encourage walking and bicycling.
4. Reduce crashes at intersections by:
    - Reducing vehicle speeds
    - Improving adherence to traffic control devices

STUDY AREA CHARACTERISTS AND OPERATIONS

Murray Hill Road is classified as an Urban Collector under the Federal-Aid Functional Classification System and is therefore eligible for federal transportation funding. The roadway carries an Annual Average Daily Traffic (AADT) volume of approximately 4,884 vehicles per day north of Washington Drive. South of Washington Drive, traffic volumes decrease to approximately 2,349 vehicles per day. Directional traffic volumes are relatively balanced, with northbound traffic slightly higher during the morning peak period and southbound traffic slightly higher during the afternoon peak period.

Hourly Traffic Volumes

NYSDOT Traffic Data, 2024 Short Count

Time	Northbound	Southbound	Total
7am-7pm	2208	1991	4200
6am-10pm	2514	2359	4874
6am-12am	2558	2439	4998
12am-12am	2606	2479	5085
Peak Hour Data			
AM Peak Hour	08:00 am	08:00 am	08:00 am
Peak Volume	210	174	384
PM Peak Hour	03:00 pm	04:00 pm	04:00 pm
Peak Volume	222	248	469

The posted speed limit of Murray Hill Road and the surrounding local streets is 30 mph. On-street parking from Vestal Parkway (NYS Rt. 434) south to Midvale Road is prohibited on the east side of Murray Hill Road at all times and prohibited on the west side between 8:00am to 5:00pm Monday through Saturday. South of Midvale Road, on-street parking is permitted on both sides of Murray Hill Road to Washington Drive.

Land use along the corridor is predominantly residential, with several religious institutions serving the surrounding community. Five local residential streets intersect the east side of Murray Hill Road. These intersections are under one-way stop control, with stop signs controlling traffic entering Murray Hill Road from the side streets. The intersection of Murray Hill Road and Washington Drive operates as a two-way stop-controlled intersection, with stop signs controlling traffic on Washington Drive.

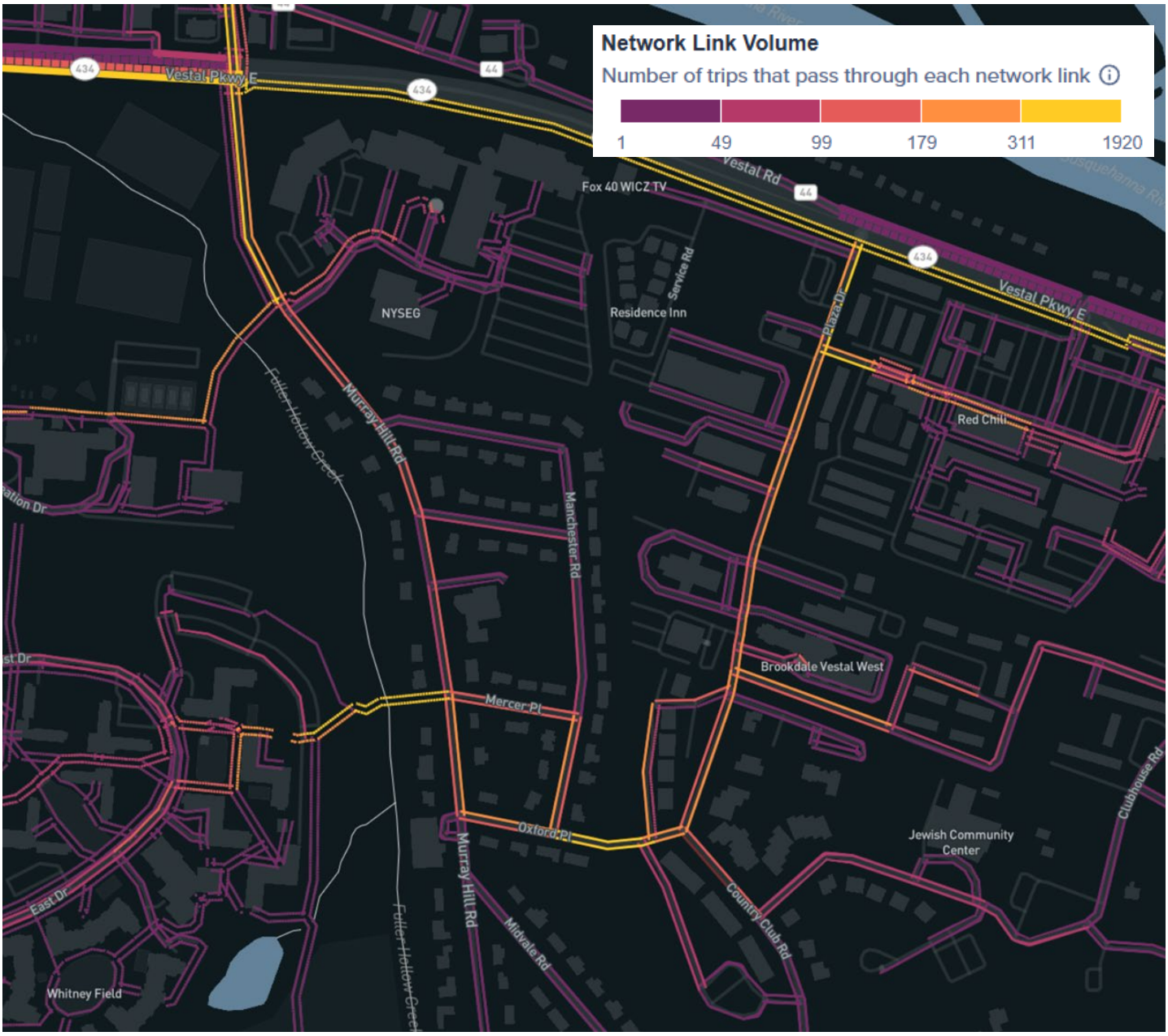
Sidewalks and designated bicycle facilities are not provided along Murray Hill Road between Washington Drive and the driveway into the Innovative Technologies Complex (ITC). There is a sidewalk on the west side of Murray Hill Road between the Vestal Parkway and just to the south of the ITC entrance, that connects to a pedestrian path into Binghamton University's campus. There is also a marked and signed pedestrian crosswalk with a Rectangular Rapid Flashing Beacan located across Murray Hill Road at the ITC driveway. The Town recently constructed a sidewalk along the Washington Drive bridge connecting to Binghamton University's East Access Road immediately west of the Murray Hill Road/Washington Drive intersection. An additional pedestrian connection to the University's main campus is located on the west side of Murray Hill Road just north of Newman House.

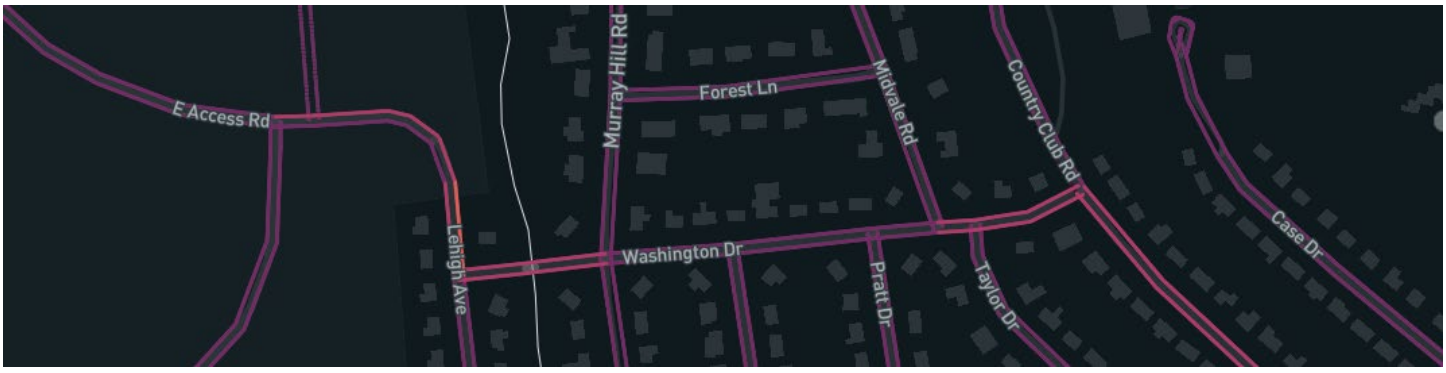
Although dedicated pedestrian and bicycle facilities are generally absent along the corridor, Murray Hill Road includes paved shoulders delineated by edge lines that can accommodate pedestrian travel. Bicyclists currently share the travel lane with motor vehicles or utilize the paved shoulders where available.

Pedestrian and bicycle activity is common along the corridor. According to Town staff, the highest concentrations of pedestrian activity occur near Oxford Place, Mercer Place, and Midvale Road. This observation is supported by Replica's modeled pedestrian and bicycle activity data (see the following figures). The surrounding neighborhood contains a substantial number of student residences, and many Binghamton University students walk or bike to campus using the access points along Murray Hill Road.

In addition to student travel, several institutional land uses generate significant pedestrian activity, including Chabad at Binghamton, Newman House, and Temple Israel. These destinations contribute to pedestrian movements along Murray Hill Road, Oxford Place, Mercer Place, and Midvale Road. Town officials have also observed students parking on Midvale Road and walking to campus, with some vehicles remaining parked overnight. In response to these parking impacts, the Town has prohibited overnight parking on Midvale Road.

Replica Maps illustrating pedestrian and bicycle volumes on select links duing a typical Fall 2025 Thursday.





CRASH ANALYSIS

There were 15 crashes along the corridor over the most recent three-year period, including one pedestrian crash and one bicycle crash (NYSDOT CLEAR). Twelve of the crashes occurred at an intersection, nine of which were right angle crashes. Oxford Place (four crashes) and Washington Drive (four crashes) intersections experienced the most crashes.

The number of observed right-angle crashes (corridor wide and at Washington Drive) were over-represented compared to the statewide proportion of these crash types on similar facilities. This means that this corridor is experiencing more. The one bicycle crash that occurred was also over-represented compared to the statewide proportion.

Route	Total	Fatal	Serious Injury	Fatal & Injury	PDO	PSI (Total)	LOSS (Total)
Int of Murray Hill Road & Mercer Place	1	0	1	1	0	-0.0308237	2
Int of Murray Hill Road & Marlboro Place	0					-0.21126766	2
Int of Murray Hill Road & Mansfield Road	0					-0.21126766	2
Int of Murray Hill Road & Washington Drive	4	0	1	3	1	0.342126085	3
Int of Murray Hill Road & Forest Lane	1	0	0	0	1	-0.0308237	2
Int of Murray Hill Road & Midvale Road	2	0	0	0	2	0.069347108	3
Int of Murray Hill Road & Oxford Place	4	0	0	2	2	0.510508169	4
Forest Lane from 0.00 to 0.00	0					NaN	0
Mansfield Road from 0.12 to 0.12	0					NaN	0
Marlboro Place from 0.00 to 0.00	0					NaN	0
Mercer Place from 0.00 to 0.00	0					NaN	0
Midvale Road from 0.39 to 0.40	2	0	0	0	2	0.066458908	4
Murray Hill Road from 0.60 to 1.41	14	0	2	6	8	1.911569511	3
Oxford Place from 0.00 to 0.00	4	0	0	2	2	NaN	0
Washington Drive from 0.06 to 0.07	4	0	1	3	1	0.133678779	4

The above table lists crash totals and severity at each intersection and segment included in the study area, as well as two Safety Performance Functions, PSI and LOSS. The entire segment of Murray Hill Road within the study boundaries has a PSI of 1.9. **PSI (Potential for Safety Improvement)** is a method used to identify roadways and intersections where safety performance is below expected levels, indicating opportunities for targeted improvements. A PSI less than zero means there are fewer crashes than expected crashes and that the location's safety performance is above average. A PSI greater than zero means there are more crashes than expected and that there is a potential for safety improvements. The **Level of Service of Safety (LOSS)** is a quantitative and qualitative framework used to assess how a roadway segment or intersection is performing relative to its expected crash frequency and severity. A LOSS of 1 has a low potential for crash reduction and a LOSS of 4 has a high potential for crash reduction. The right-angle injury crashes at Oxford Place and Washington Drive are likely resulting in higher LOSS at these locations and have potential for safety improvements.

CRASH DATA 4/30/2022-4/30/2025

Location	Intersection	Collision Type	Crash Type	Crash Severity	# of Injuries	Light Conditions	Weather C	Contributing Factors
INTERSECTION-RELATED	Forest Ln	REAR END	MOTOR VEHICLE	PROPERTY DAMAGE	0	DAYLIGHT	CLEAR	DRIVER INATTENTION,BACKING UNSAFELY
AT-INTERSECTION	Mercer Pl	OTHER	COLLISION WITH BICYCLIST	SERIOUS INJURY	1	DAYLIGHT	CLEAR	None reported
AT-INTERSECTION	Midvale Rd	LEFT TURN (AGAINST OTHER CAR)	MOTOR VEHICLE	PROPERTY DAMAGE	0	DARK-ROAD LIGHTED	CLEAR	FAILURE TO YIELD RIGHT OF WAY,DRIVER INATTENTION
AT-INTERSECTION	Midvale Rd	RIGHT ANGLE	MOTOR VEHICLE	PROPERTY DAMAGE	0	DARK-ROAD LIGHTED	RAIN	FAILURE TO YIELD RIGHT OF WAY,DRIVER INATTENTION
Not an intersection crash	NA (ITC Driveway)	RIGHT ANGLE	MOTOR VEHICLE	PROPERTY DAMAGE	0	DAYLIGHT	CLOUDY	FAILURE TO YIELD RIGHT OF WAY,DRIVER INATTENTION
Not an intersection crash	NA (Passing vehicle)	OVERTAKING	MOTOR VEHICLE	PROPERTY DAMAGE	0	DARK-ROAD LIGHTED	CLEAR	FAILURE TO YIELD RIGHT OF WAY, TURNING IMPROPER, PASSING IMPROPERLY
AT-INTERSECTION	Oxford Pl	RIGHT ANGLE	MOTOR VEHICLE	INJURY	1	DAYLIGHT	CLEAR	FAILURE TO YIELD RIGHT OF WAY,WINDSHIELD INADEQUATE
AT-INTERSECTION	Oxford Pl	OTHER	COLLISION WITH PEDESTRIAN	INJURY	1	DAYLIGHT	CLEAR	None reported
AT-INTERSECTION	Oxford Pl	LEFT TURN (AGAINST OTHER CAR)	MOTOR VEHICLE	PROPERTY DAMAGE	0	DAYLIGHT	CLEAR	FAILURE TO YIELD RIGHT OF WAY, TURNING IMPROPER
AT-INTERSECTION	Oxford Pl	RIGHT ANGLE	MOTOR VEHICLE	PROPERTY DAMAGE	0	DAYLIGHT	CLEAR	FAILURE TO YIELD RIGHT OF WAY,VIEW OBSTRUCTED/LIMITED
AT-INTERSECTION	Oxford Pl	RIGHT ANGLE	MOTOR VEHICLE	PROPERTY DAMAGE	0	DUSK	CLOUDY	FAILURE TO YIELD RIGHT OF WAY, DRIVER INATTENTION
AT-INTERSECTION	Washinton Dr	RIGHT ANGLE	MOTOR VEHICLE	INJURY	1	DAYLIGHT	CLEAR	FAILURE TO YIELD RIGHT OF WAY
AT-INTERSECTION	Washinton Dr	RIGHT ANGLE	MOTOR VEHICLE	INJURY	2	DAYLIGHT	CLEAR	FAILURE TO YIELD RIGHT OF WAY
AT-INTERSECTION	Washinton Dr	RIGHT ANGLE	MOTOR VEHICLE	PROPERTY DAMAGE	0	DAYLIGHT	CLEAR	FAILURE TO YIELD RIGHT OF WAY,DRIVER INATTENTION
AT-INTERSECTION	Washinton Dr	LEFT TURN (AGAINST OTHER CAR)	MOTOR VEHICLE	SERIOUS INJURY	1	DAYLIGHT	CLEAR	DRIVER INATTENTION,TRAFFIC CONTROL DEVICES DISREGARDED

ROAD SAFETY AUDIT TEAM

The RSA Team included:

Maria Sexton, town of Vestal Supervisor
Vincent Stavola, town of Vestal Police Chief
Thomas Sullivan, town of Vestal Engineer
Jennifer Yonkoski, BMTS
Scott Reigle, BMTS
Louisa Tornari, BMTS
Leigh McCullen, BMTS

ROAD SAFETY WALKING AUDIT

The Road Safety Audit was conducted on June 9, 2026. The RSA team convened on-site to review corridor conditions and discuss safety concerns previously raised by the Town and local residents. BMTS provided an overview of crash history along the study corridor to inform the field review. The team then conducted a walking audit of the corridor to observe existing conditions firsthand, identify potential safety issues, and discuss possible countermeasures. Findings from the field review were used to develop the recommendations presented in this report.

FINDINGS AND RECOMMENDATIONS

Corridor-Wide Observations and Safety Concerns

High vehicle operating speeds and limited speed management effectiveness
Murray Hill Road exhibits operating speeds that are frequently perceived as excessive by residents and were confirmed through field observations and enforcement reports. While signage, striping, and periodic speed feedback devices have been implemented, these measures provide only temporary or limited long-term speed reduction. The roadway geometry appears to support higher travel speeds than intended, particularly between intersections.

Wide intersections and turning movements
Many side street intersections along the corridor (including Midvale Road, Oxford Place, Mercer Place, Marlboro Place, and Mansfield Place) feature wide curb radii and overly generous intersection openings. These conditions encourage higher speed turning movements, reduce driver awareness of cross traffic and pedestrians, and increase exposure time for crossing pedestrians and bicyclists. These geometric conditions are consistent with observed right-angle crash patterns at key intersections.

Incomplete pedestrian infrastructure
Sidewalks are not provided along the corridor, requiring pedestrians to use roadway shoulders. In some locations, shoulder space is limited or intermittently used for parking, creating conflicts between pedestrians, vehicles, and cyclists. Pedestrian activity is concentrated near key generators such as the university connection near the ITC, as well as residential clusters around Oxford Place and Mercer Place.

Lack of dedicated bicycle facilities and shared-use conflicts
There are no designated bicycle facilities along Murray Hill Road. Cyclists must either share travel lanes or use roadway shoulders, where conflicts can occur with both pedestrians and parked vehicles. This increases exposure and reduces comfort for all non-motorized users.

Inconsistent signage, pavement markings, and parking regulation clarity
Traffic control signs, particularly parking restriction signage, are inconsistent in placement and compliance with MUTCD guidance. In several locations, signage is missing, improperly located, or obscured by vegetation, reducing effectiveness and contributing to reduced intersection sight distance and regulatory confusion.

Sight distance limitations due to vegetation and roadside obstructions

Vegetation encroachment at multiple intersections restricts sight distance for both major and minor road approaches. This is a contributing factor to observed crash patterns, particularly right-angle crashes at stop-controlled intersections.

Crash history concentrated at intersections with geometric and visibility constraints

Crash data indicates a pattern of right-angle crashes at key intersections along the corridor, several resulting in injury. These crashes are consistent with a combination of higher operating speeds, limited sight distance, and intersection geometry that does not sufficiently control vehicle behavior.

Overall, the corridor exhibits conditions where roadway design, rather than driver compliance alone, is the primary factor influencing safety performance, supporting the need for geometric traffic calming and multimodal infrastructure improvements. The Federal Highway Administration (FHWA) recommends several geometric traffic-calming treatments, including curb extensions, mini roundabouts, and speed tables, each with benefits and limitations depending on roadway context. BMTS evaluated these countermeasures considering the existing roadway geometry, on-street parking, and traffic volumes. Based on this evaluation, a mini roundabout at the Washington Drive intersection and curb extensions at the remaining intersections are recommended as the most effective treatments to reduce vehicle speeds, improve intersection safety, and achieve the objectives of this assessment. These recommendations are discussed in greater detail in the individual intersection evaluations.

RECOMMENDED CORRIDOR WIDE IMPROVEMENTS (more detailed intersection comments follow)

- Install high-visibility ladder-style crosswalk markings at all stop-controlled approaches throughout the corridor to improve pedestrian visibility and crossing awareness.
- Remove or trim vegetation at intersections to restore adequate sight distance for motorists. Much of the vegetation affecting sight lines is located on private property; therefore, the Town will need to coordinate with adjacent property owners to complete this work.
- Inspect all regulatory and warning signs for visibility and remove visual obstructions, primarily tree branches and shrubs, that limit sign conspicuity.
- Review and improve on-street parking regulations, signage, and pavement markings throughout the corridor. Existing parking restrictions along Murray Hill Road and the intersecting side streets are inconsistent and may be confusing to motorists. For example, parking is prohibited on the west side (southbound shoulder) of Murray Hill Road between the ITC and 508 Murray Hill Road from 8:00 a.m. to 5:00 p.m., while nearby side streets have different restrictions, such as 7:00 a.m. to 9:00 p.m. on Mercer Place. In addition, several parking signs are missing, faded, or obscured by vegetation.
    - The Town should conduct a comprehensive review of existing parking regulations throughout the neighborhood and develop a coordinated parking management and signage plan that improves clarity and consistency. The Town should also consider codifying parking regulations to provide additional clarity and facilitate enforcement. As part of this effort, the Town should evaluate the removal of on-street parking along Murray Hill Road between the ITC and Washington Drive to accommodate future pedestrian and bicycle facilities, as discussed in the recommendations below.
    - Install or relocate **"No Parking Here to Corner"** signs to provide a minimum setback of 30 feet from all intersections on the sides of streets where parking is permitted, replacing existing signs that do not meet current standards. In accordance with the MUTCD, the 30-foot setback should be measured from the nearest crosswalk.
    - Repaint yellow curb or pavement markings within designated no-parking zones at intersections where markings have faded or are missing.

- Install additional regulatory parking signs along Murray Hill Road between Midvale Road and Washington Drive. Currently, there is one **"No Parking"** sign on the east side of Murray Hill Road south of Midvale Road. The Town has indicated that parking is permitted within this segment. If the Town continues to allow parking within this Segment, this sign should be replaced with a **"No Parking here to Corner"** sign with an arrow pointing toward Midvale Road.

OPTIONS FOR SIDEWALK AND BICYCLE FACILITIES ALONG MURRAY HILL ROAD

Option 1. Install Sidewalks and Dedicated Bicycle Lanes Along Both Sides of Murray Hill Road

To comprehensively address pedestrian and bicycle safety, the long-term goal should be to install sidewalks and dedicated bicycle lanes throughout the corridor between the ITC and Washington Drive.

Based on available mapping, the right-of-way of Murray Hill Road is approximately 60 feet wide (to be verified by the Town). This includes an existing curb-to-curb roadway width of approximately 40 feet and additional right-of-way extending beyond the curb lines. A 60-foot right-of-way is generally sufficient to accommodate the following typical cross section:

- Two 11-foot travel lanes, consistent with the minimum lane width recommended by the *New York State Department of Transportation (NYSDOT) Highway Design Manual* for urban collector roadways.
- Five-foot minimum sidewalks on both sides of the roadway, consistent with recommendations from the U.S. Access Board to allow two pedestrians to comfortably walk side by side.
- Five-foot bicycle lanes in each direction, with painted buffers where feasible, consistent with *AASHTO Guide for the Development of Bicycle Facilities*.
- Elimination of on-street parking along Murray Hill Road. Parking is currently prohibited north of Midvale Road but is permitted along portions of the corridor south of Midvale Road.

This is the preferred alternative recommended by BMTS because it provides dedicated facilities for both pedestrians and bicyclists while maintaining a conventional roadway design. Under this alternative, sidewalks would generally be constructed between the existing curb line and adjacent property lines, while the existing shoulders would be restriped as dedicated bicycle lanes. Compared to roadway reconstruction alternatives, this option would likely minimize impacts to existing drainage infrastructure and curb lines, except where curb ramps would need to be reconstructed or installed to provide ADA-compliant pedestrian crossings at intersections.

The primary considerations associated with this alternative include potential impacts to the area between the existing curb and adjacent property lines during construction, long-term sidewalk maintenance responsibilities, snow removal, and possible relocation of utility poles or other roadside infrastructure. Because on-street parking would be eliminated along the corridor, the Town should also evaluate potential parking impacts on adjacent residents and identify appropriate mitigation measures where needed.

Option 2. Narrow the Roadway, Install Sidewalks, and Provide Shared Bicycle Lanes

As an alternative, the curb-to-curb roadway width could be reduced to a minimum of 26 feet, providing two 13-foot shared travel lanes for motor vehicles and bicycles with shared lane markings (sharrows). This roadway width is generally consistent with the minimum guidance in the *NYSDOT Highway Design Manual* for low-volume urban collector roadways.

Roadway narrowing is a recognized traffic-calming strategy that reduces operating speeds by decreasing the amount of pavement width available to motorists. Narrower roadways can improve safety by reducing both the frequency and severity of crashes while also shortening pedestrian crossing distances.

Reducing the pavement width along Murray Hill Road would create additional space within the existing right-of-way for sidewalks, landscaped buffers, and other streetscape improvements. Compared to Option 1, this alternative would likely reduce impacts to adjacent properties because sidewalk construction would occur farther from front property lines.

The primary disadvantages of this alternative are that dedicated bicycle lanes cannot be provided, requiring bicyclists to share lanes with motor vehicles. As with Option 1, on-street parking would need to be eliminated along Murray Hill Road, and the Town should evaluate the resulting impacts on neighborhood parking. This alternative would also involve more substantial roadway reconstruction than Option 1, resulting in greater construction-related impacts and costs.

PRIORITY FOR CONSIDERATION FOR ABOVE RECOMMENDATIONS

High. Many of these recommendations are low cost and would bring the corridor into compliance with ADA standards and the MUTCD, which are intended to improve traffic and pedestrian safety, and therefore should be completed as soon as possible.

The installation of sidewalks and changes to the roadway configuration will take more time, however these improvements should be considered a high priority to adequately meet the goals of the Town to Address vehicle and pedestrian safety.

RECOMMENDED INTERSECTION IMPROVEMENTS

Intersection of Washington Drive and Murray Hill Road

OBSERVATIONS

The intersection of Murray Hill Road and Washington Drive is a four-leg intersection with stop control on the eastbound and westbound approaches of Washington Drive. Murray Hill Road operates as the uncontrolled major roadway. Marked crosswalks are provided on three approaches of the intersection (westbound Washington Drive and both approaches of Murray Hill Road), and stop bars are present on both stop-controlled approaches.

Since completion of the 2017 Road Safety Assessment (RSA), several improvements have been implemented based on recommendations from the Town Engineer and prior studies. These include relocating the stop signs closer to the intersection and adding crosswalk pavement markings. The Town Engineer indicated that high-visibility ladder-style crosswalks are scheduled to be installed prior to completion of this assessment.

RISK ANALYSIS

Since at least 2017, the town of Vestal has received complaints from residents regarding excessive vehicle speeds along Murray Hill Road. During the walking audit the Police Chief confirmed that vehicles traveling north and southbound on Murray Hill have been clocked for speeding. Speeding vehicles were also observed during the walking audit. The Town has periodically deployed a portable dynamic speed feedback sign near this location to encourage speed compliance. While the device has produced temporary reductions in vehicle

speeds, the Town reports that its effectiveness diminishes over time and has not resulted in sustained changes in driver behavior.

During the three-year crash analysis period, four right-angle crashes occurred at this intersection. Two involved westbound vehicles on Washington Drive failing to yield to northbound traffic on Murray Hill Road, while the remaining two involved eastbound vehicles failing to yield to southbound traffic. Three of the four crashes resulted in injuries, including one serious injury.

Restricted intersection sight distance may have contributed to these crashes. Vegetation on the northeast and southwest corners of the intersection partially obstructs drivers' views of approaching traffic, particularly for eastbound vehicles looking north and westbound vehicles looking south. Trimming or removing this vegetation would improve visibility and should be completed regardless of any future intersection improvements.

Although this intersection has experienced several injury crashes, it does not currently satisfy the traffic volume or crash warrants contained in the *Manual on Uniform Traffic Control Devices (MUTCD)* for conversion to an all-way stop-controlled intersection. In addition, the MUTCD specifically states that stop signs should not be installed solely as a means of reducing vehicle speeds and that all-way stop control is generally appropriate only where traffic volumes are relatively balanced among the intersection approaches.

RECOMMENDATIONS

The Town has already implemented several low-cost improvements at this location, including updated signing and pavement markings. BMTS recommends two potential alternatives for further improving safety. Of these, installation of a mini roundabout is the preferred alternative because it addresses both the documented crash pattern and neighborhood concerns regarding excessive vehicle speeds.

Alternative One – Install a Mini Roundabout

BMTS recommends constructing a mini roundabout at the intersection of Murray Hill Road and Washington Drive. This recommendation is consistent with previous evaluations. The Town Engineer identified a mini roundabout as the preferred long-term improvement in Fall 2025, and the 2017 Road Safety Assessment also recognized this intersection as a strong candidate for this treatment.

Mini roundabouts are compact, unsignalized circular intersections designed to fit within the existing footprint of conventional intersections. They include a fully traversable central island that accommodates larger vehicles, such as buses and emergency vehicles, while requiring passenger vehicles to reduce speed as they negotiate the intersection. In many cases, mini roundabouts can be constructed largely within the existing right-of-way, minimizing property acquisition and reducing construction impacts.

A mini roundabout would directly address the two primary concerns identified during this assessment: excessive vehicle speeds and right-angle crashes. By requiring motorists on all approaches to negotiate a curved path, the intersection would naturally operate at speeds of approximately 15 to 20 mph. These lower operating speeds substantially reduce both the likelihood of crashes and the severity of crashes when they do occur.

The crash history at this intersection demonstrates the potential benefits of this treatment. During the study period, four right-angle crashes occurred, three of which resulted in injury. According to the Federal Highway Administration (FHWA), modern roundabouts and mini roundabouts are particularly effective at reducing

severe and fatal crashes because they virtually eliminate high-speed right-angle and head-on collisions while significantly reducing vehicle speeds through the intersection.

In addition to improving safety, a mini roundabout would provide continuous traffic flow during most periods, reduce vehicle delay compared to stop control, and serve as a permanent traffic-calming feature for the Murray Hill Road corridor.

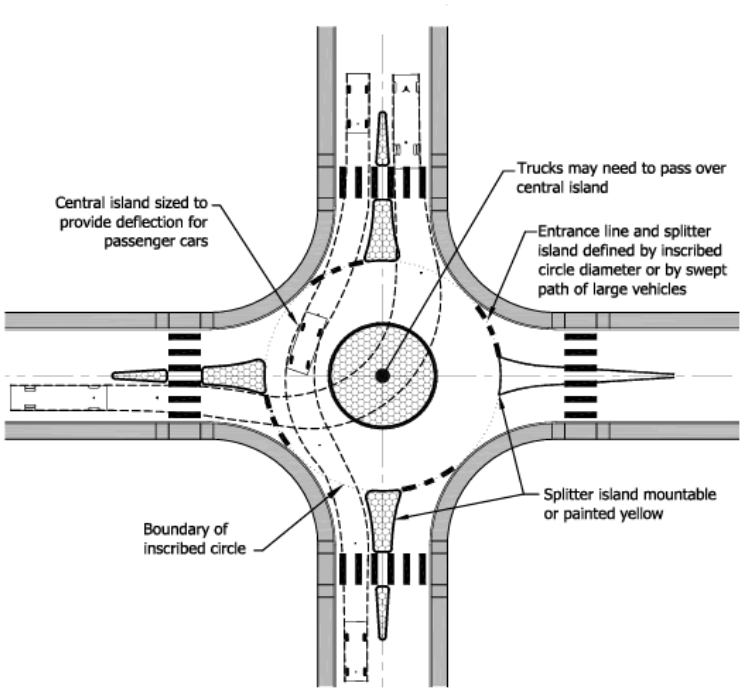


Figure 1: Design Features of a Mini-Roundabout

FHWA | Mini-Roundabouts

<u>Alternative 2 – Continue to Enhance Signing and Pavement Markings, Monitor Performance, and Re-evaluate the Need for a Mini Roundabout</u>

As an alternative to immediate construction of a mini roundabout, the Town may continue implementing low-cost safety improvements at the intersection, monitor their effectiveness, and re-evaluate the need for geometric improvements if crashes or excessive vehicle speeds persist.

In Fall 2025, the Town Engineer recommended the following improvements:

1. Install high-visibility ladder-style crosswalks on all four approaches to the intersection.
2. Install pedestrian crossing warning signs on Murray Hill Road (Completed).
3. Install "Cross Traffic Does Not Stop" warning signs on Washington Drive (Completed).
4. Relocate the stop signs on Washington Drive closer to the intersection.
5. Selectively trim trees and vegetation to improve intersection sight distance.
6. Continuing targeted speed enforcement by the Vestal Police Department.

This Road Safety Assessment recommends the following additional improvements:

- Upgrade the stop-controlled approaches on Washington Drive by:
    - Installing oversized STOP signs.
    - Adding retroreflective strips to stop sign posts to improve nighttime visibility.
    - Installing **STOP AHEAD (W3-1 or W3-1a)** warning signs on both approaches to the intersection.
- Improve intersection sight distance by trimming or removing vegetation:
    - Along the frontage of **712 Murray Hill Road** to improve visibility for drivers looking north from Washington Drive.
    - Between **801 and 805 Murray Hill Road** to improve visibility for drivers looking south along Murray Hill Road.

- Install or relocate "No Parking Here to Corner" signs and associated pavement markings on all intersection approaches where they are currently missing or do not meet recommended setbacks. In accordance with the Manual on Uniform Traffic Control Devices (MUTCD), the no-parking setback should be measured from the nearest crosswalk.

Following implementation of these improvements, the Town should monitor vehicle speeds, crash frequency, and crash severity over an appropriate evaluation period to determine whether the measures have adequately addressed the identified safety concerns.

If excessive speeds or the existing pattern of right-angle crashes persists, the Town can consider implementing the additional countermeasures recommended by the Town Engineer in 2025, including:

- Install flashing intersection warning beacons on Murray Hill Road to increase driver awareness of the approaching intersection. The Town has noted that these devices may provide only temporary effectiveness as motorists become accustomed to their presence.
- Install a dynamic speed feedback sign that displays approaching vehicle speeds to motorists. While these devices have demonstrated short-term effectiveness, they typically require periodic relocation or supplemental enforcement to maintain their influence on driver behavior.
- Re-evaluate the intersection for all-way stop control if future traffic volumes or crash history satisfy the warrants contained in the *MUTCD*. At the time of this assessment, the intersection does **not** meet the traffic volume or crash warrants for all-way stop control.
- Construct a mini roundabout, as described under **Alternative 1**, if lower-cost improvements do not produce a sustained reduction in vehicle speeds or right-angle crashes.

PRIORITY FOR CONSIDERATION FOR ABOVE RECOMMENDATIONS

High. Many of these recommendations are low cost, quick build solutions intended to improve traffic and pedestrian safety.

The Town could install a temporary demonstration mini-roundabout, utilizing temporary materials such as painting, tape, and flexible delineators, to assess its effectiveness and to demonstrate to the neighbors how it would operate if fully implemented.

T-Intersection Recommendations - Midvale Road, Oxford Place, Mercer Place, Marlboro Place, and Mansfield Place

OBSERVATIONS AND RISK ANALYSIS

The intersections of Midvale Road, Oxford Place, Mercer Place, Marlboro Place, and Mansfield Place with Murray Hill Road all feature wide intersection openings and large curb return radii. These geometric characteristics allow vehicles to make turns at relatively high speeds and do little to encourage drivers to slow when entering or exiting Murray Hill Road. As a result, motorists have less time to observe and react to pedestrians, bicyclists, and conflicting traffic.

The combination of these intersection geometries and the relatively high operating speeds on Murray Hill Road likely contributes to the crash patterns observed at several locations, particularly the intersections of Midvale Road and Oxford Place.

During the three-year crash analysis period, four crashes occurred at the Oxford Place intersection, including one pedestrian crash that resulted in injury. In addition, pedestrian activity is concentrated within the area

bounded by Midvale Road, Oxford Place, and Mercer Place because of the number of nearby residential destinations and pedestrian trip generators.

The recommendations presented below apply to all T-intersections along the corridor. Additional intersection-specific recommendations are provided for Midvale Road, Oxford Place, and Mercer Place based on their individual crash histories, traffic characteristics, and pedestrian activity.

The following recommendations apply to the intersections of Midvale Road, Oxford Place, Mercer Place, Marlboro Place, and Mansfield Place with Murray Hill Road.

- Install curb extensions with reduced curb return radii at each corner of the intersecting side streets. Curb extensions narrow the effective roadway width, reduce turning speeds, shorten pedestrian crossing distances, and improve the visibility of pedestrians, bicyclists, and approaching vehicles. Reduced curb return radii also encourage motorists to make slower, more deliberate turning movements and improve the ability of drivers on the side streets to see approaching traffic on Murray Hill Road. Depending on the location, construction of curb extensions may require modifications to existing drainage infrastructure. As an interim measure, curb extensions may be installed using low-cost treatments such as pavement markings, flexible delineators, or planters before permanent curb construction is undertaken.
- Relocate stop signs as needed to align with the revised curb extensions and improve their visibility and compliance with current design standards.
- Install or replace "No Parking Here to Corner" signs where they are missing, damaged, or do not meet recommended setback requirements.
- Install high-visibility ladder-style crosswalks across each side street approach. Where sidewalks are not yet present, crosswalks should connect directly to the existing roadway shoulders to provide a continuous pedestrian path.
- Construct ADA-compliant curb ramps when sidewalks are installed along Murray Hill Road. Curb ramps should align with the high-visibility crosswalks to provide accessible pedestrian crossings at each intersection.
- Trim or remove vegetation along the east side of Murray Hill Road, and at other locations as necessary, to improve intersection sight distance for drivers approaching from the side streets.

Additional Recommendations – Midvale Road

Parking Signage

In Fall 2025, the Town implemented overnight parking restrictions on Midvale Road between 8:00 p.m. and 5:00 a.m. During the field review, it was observed that the regulatory parking signs installed to communicate these restrictions may not fully comply with the Manual on Uniform Traffic Control Devices (MUTCD).

The Town should review the placement and orientation of all parking restriction signs and modify them as necessary. R7-2 parking regulation signs with directional arrows that define the limits of a parking restriction should be installed at an angle of approximately 30 to 45 degrees to the direction of travel to improve visibility for approaching motorists.

Delineate Roadway Shoulders

According to the Town, supported by Replica travel data, Midvale Road experiences regular pedestrian and bicycle activity. The existing shoulders should be delineated with pavement markings to provide a more clearly defined space for pedestrians and cyclists. This treatment would improve user guidance and maintain consistency with other neighborhood streets, including Oxford Place.

Replace Stop Sign
The existing STOP sign on Midvale Road is faded and should be replaced. If curb extensions are constructed to reduce the corner radii at the intersection with Murray Hill Road, the stop sign should also be relocated closer to the intersection in accordance with MUTCD guidance to improve visibility and reinforce driver compliance.

OXFORD DRIVE/MURRAY HILL ROAD RECOMMENDATIONS

Pedestrian Crossing Signage
The pedestrian crossing signing at the intersection of Oxford Place and Murray Hill Road should be reviewed and revised to improve compliance with the Manual on Uniform Traffic Control Devices (MUTCD).

- Remove the pedestrian crossing warning signs facing traffic on the stop-controlled approaches of Oxford Place. The MUTCD states that a **Non-Vehicular Warning** sign assembly should not be installed on an approach controlled by a STOP or YIELD sign because drivers are already required to stop and yield to pedestrians before entering the intersection.
- Replace the downward-pointing arrow plaque beneath the pedestrian crossing warning sign on Murray Hill Road south of the intersection (facing northbound traffic) with an **AHEAD** plaque (W16-9P). Because the warning sign is installed in advance of the crosswalk rather than at the crossing itself, an **AHEAD** plaque more accurately conveys the location of the pedestrian crossing and is consistent with MUTCD guidance.
- Utilize an In-Street Pedestrian Crossing (R1-6 or R1-6a) sign to remind road users of laws regarding right-of-way at an unsignalized crosswalk. If the portable sign (R1-6a) is used, coordination with the Chabad Center will need to be established.
- Trim or remove vegetation obstructing the pedestrian crossing warning sign on Murray Hill Road facing southbound traffic to improve sign visibility and ensure adequate advance warning for approaching motorists.







Additional Recommendations – Mercer Place

A shared-use path connecting the university to Murray Hill Road terminates immediately west of the Mercer Place intersection. As a result, pedestrians and bicyclists regularly cross Murray Hill Road at this location. However, the intersection currently lacks marked crosswalks, pedestrian warning signs, and ADA-compliant crossing infrastructure. In addition, the existing path is not aligned with the intersection corners, resulting in pedestrians frequently crossing Murray Hill Road at an unprotected location and, in many cases, diagonally through the intersection.

To improve pedestrian and bicycle safety, the intersection should be reconfigured to better accommodate crossings and reduce vehicle turning speeds. Recommended improvements include:

- Install curb extensions (bulb-outs) with reduced curb return radii at the Mercer Place intersection to slow turning vehicles and shorten pedestrian crossing distances.
- Install high-visibility ladder-style crosswalks across Murray Hill Road and Mercer Place, together with appropriate pedestrian crossing warning signs, consistent with the treatments recommended at the Oxford Place intersection.
- Utilize an In-Street Pedestrian Crossing (R1-6 or R1-6a) sign to remind road users of laws regarding right-of-way at an unsignalized crosswalk. If the portable sign (R1-6a) is used coordination with Newman House will need to be established. Evaluate for yielding compliance and consider installation of a Rectangle Rapid Flashing Beacon (RRFB) across Murray Hill if yielding is not adequate.
- Realign or extend the existing shared-use path so that it connects directly to the intersection corner and aligns as closely as practical with the proposed crosswalk. This will encourage pedestrians and bicyclists to use the designated crossing while minimizing crossing distance and improving visibility for both roadway users and motorists.
- Construct ADA-compliant curb ramps and accessible connections between the shared-use path, sidewalks (when installed), and the proposed crosswalks.

Collectively, these improvements would formalize an existing pedestrian crossing location, improve visibility for all roadway users, reduce turning speeds, and provide a safer and more accessible connection between the university path and the surrounding neighborhood.

PRIORITY FOR CONSIDERATION FOR INTERSECTION RECOMMENDATIONS

High. Many of these recommendations are low cost and would bring the corridor into compliance with ADA standards and the MUTCD, which are intended to improve traffic and pedestrian safety, and therefore should be completed as soon as possible.

Conclusion

This Road Safety Assessment identifies recurring safety concerns along Murray Hill Road and its intersecting side streets, primarily related to high operating speeds, wide intersection geometries, and the absence of pedestrian and bicycle facilities. These conditions contribute to right-angle crashes and conflicts between drivers and vulnerable road users.

Existing and proposed low-cost improvements—such as enhanced signage and striping, vegetation management, and targeted enforcement—will provide incremental safety benefits and should be implemented as part of routine maintenance. However, these measures alone are unlikely to fully address geometric and operational issues along the corridor. Long-term safety improvements will require geometric changes, including reducing corner radii, improved pedestrian crossings, and the installation of a mini roundabout at Washington Drive. These treatments are consistent with FHWA guidance and are expected to reduce vehicle speeds, improve yielding behavior, and decrease crash frequency and severity.

Overall, a phased approach is recommended that prioritizes low-cost quick build safety enhancements while advancing toward permanent changes such as providing sidewalks. This strategy is expected to improve safety and mobility for all users, particularly pedestrians and bicyclists, and address the documented crash patterns along the corridor.