

EXECUTIVE SUMMARY

The Capitol Region Council of Governments (CRCOG) and the Town of East Hartford, in cooperation with the Connecticut Department of Transportation (CTDOT), initiated the Silver Lane Corridor Study to evaluate traffic and development issues along Silver Lane in the Town of East Hartford. The purpose of the Study is to develop a comprehensive transportation plan for Silver Lane that will: (1) address safety, congestion, and mobility of the transit system, pedestrians, and bicyclists; and (2) assess travel demand growth and its impacts on area roadways including traffic associated with development within the Study Area. This report summarizes the findings from the existing conditions, future conditions and recommendations phases of the study.

The Study Area includes the corridor along Silver Lane (State Route 502) in East Hartford from the intersection of the Route 15 entrance ramp easterly to the intersection of Forbes Street, a distance of approximately two miles, as shown below. The study team also assessed intersecting side street approaches and access for adjacent land uses. Silver Lane is intersected by highway ramps, residential streets, and contains a 40,000-seat sports venue, and many businesses. There are also many local destinations on or adjacent to Silver Lane, such as schools, restaurants, retail, and grocery stores. Silver Lane is served by frequent bus service and there are multi-use paths for bicyclists and pedestrians adjacent to the Study Area.



Silver Lane Corridor Study Project Limits

The Silver Lane Corridor Study was completed using a collaborative process with stakeholder and community involvement, an advisory committee, and technical reviews. The study included close collaboration with the other ongoing studies in the Silver Lane area, including the Brownfields Area-Wide Revitalization (BAR) Planning Grant Project, the flood control study of Willow Brook, and future development plans at sites along Silver Lane. Additional information about these initiatives can be found via the Town of East Hartford's website: <https://www.easthartfordct.gov/>.

Existing Conditions Assessment

In the summer of 2019, prior to the completion of this report, Silver Lane was reconstructed as part of CTDOT’s Vendor-in-Place (VIP) pavement rehabilitation program. With the support of CTDOT and the Town of East Hartford and the study team, several of the near-term recommendations discussed later in this report were implemented. Based upon the timing of the work, this report has been written to describe the existing conditions of Silver Lane prior to the VIP project.

Within the study area, Silver Lane generally consists of three travel lanes (one westbound / two eastbound) west of Roberts Street and four lanes (two in each direction) east of Roberts Street. Several deficiencies in lane width and shoulder width were identified based off CTDOT’s geometric design standards for a roadway of Silver Lane’s classification (minor arterial). Notably, the intersection sight distance from Gold Street, for both left and right turns, is deficient. A residential building and a large tree restrict the sight distance. The lane width deficiencies were addressed by the VIP pavement rehabilitation project in the summer of 2019.

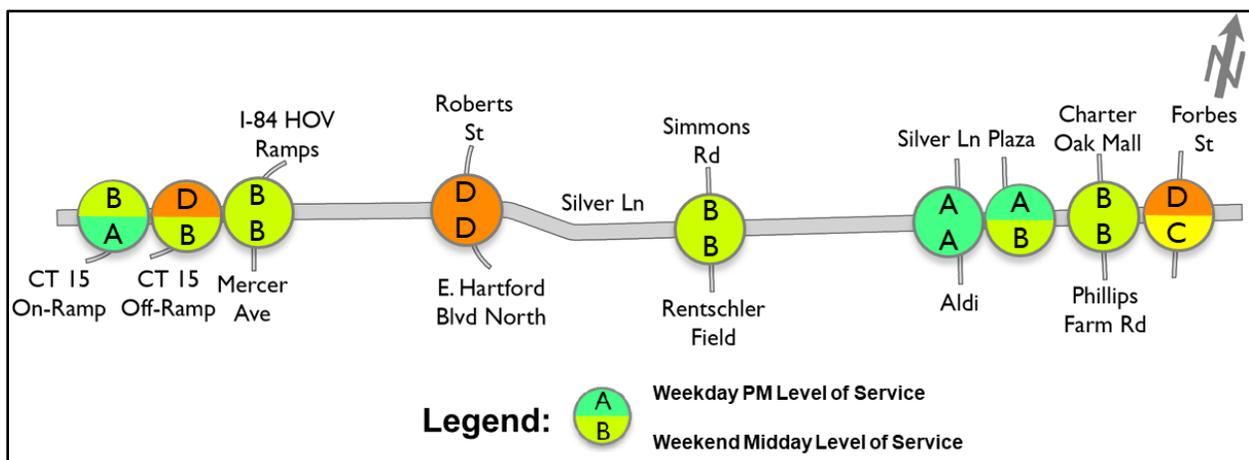


Limited Intersection Sight Distance at Gold Street

Average daily traffic volumes have fluctuated since 2003. Throughout the corridor, volumes are generally less than their historical high in 2006. Stakeholders and members of the public noted that travel speeds during off-peak periods are often well in excess of the posted speed limit, particularly east of Roberts Street. This was confirmed with field research and test travel runs through the corridor.

Intersection capacity analyses were developed for the PM weekday and weekend midday peak periods using Synchro traffic analysis software, turning movement volumes, and the traffic signal timing plans obtained as part of this existing conditions analysis, with the following results:

- Overall, all signalized intersections in the Study Area operate at a Level of Service (LOS) D or better during the peak periods, representing an acceptable degree of congestion.
- A summary of the LOS results is presented for the overall intersections below.



Level of Service (LOS) for Study Intersections on Silver Lane

Crash data for Silver Lane was obtained for the three-year period from January 1, 2012 to December 31, 2014. A total of 206 crashes were recorded in the corridor. One crash resulted in a fatality and approximately 30% crashes resulted in an injury. The overall crash trends for the corridor included:

- Nearly one-third of crashes were rear-ends, a common collision type attributed to vehicles following too closely
- Approximately 30 % of crashes involved turning movements, attributed to failure to grant right-of-way and improper turning or passing maneuvers
- Approximately 20% of crashes involved sideswipes, attributed to improper passing maneuvers or improper lane change

There is a sidewalk on the north side of Silver Lane throughout the Study Area. There is sidewalk for much of the south side, although there is a gap from Gold Street to Phillips Farm residential community (except for a short section of sidewalk along the frontage of the Aldi grocery store). Along the corridor, the sidewalk widths vary from three feet to eight feet. At several locations, crosswalks are not provided to connect the sidewalk network across unsignalized side road intersections.

There are no bicycle facilities, such as bicycle lanes, bicycle racks, or bicycle signal detectors, on Silver Lane. Shoulders are generally too narrow to provide bicyclists with a safe riding path, and there is no signing or striping to mark shared roadway facilities. The Charter Oak Greenway Trail lies northeast of the study area. There is a gap within the East Coast Greenway off-road trail network between the terminus of the Charter Oak Trail and the Riverfront Recapture trail system as illustrated on the following page.

In the greater Hartford area, *CTtransit* operates local bus routes, express routes and *CTfastrak*, Connecticut's bus rapid transit system. Within the Study Area, operating on Silver Lane between Main Street and Forbes Street are *CTtransit* Route 83 and *CTfastrak* Route 121. There are several *CTtransit* routes adjacent to Silver Lane: Route 91, which travels along Brewer Street and Forbes Street, Route 87 on Main Street, and Route 95 on Main Street. The majority of the stop locations on Silver Lane do not have bus shelters and some locations do not offer sidewalk connections to adjacent land uses that are compliant with the Americans with Disabilities Act (ADA).



Existing Multi-Use Trail System

Future Conditions Assessment

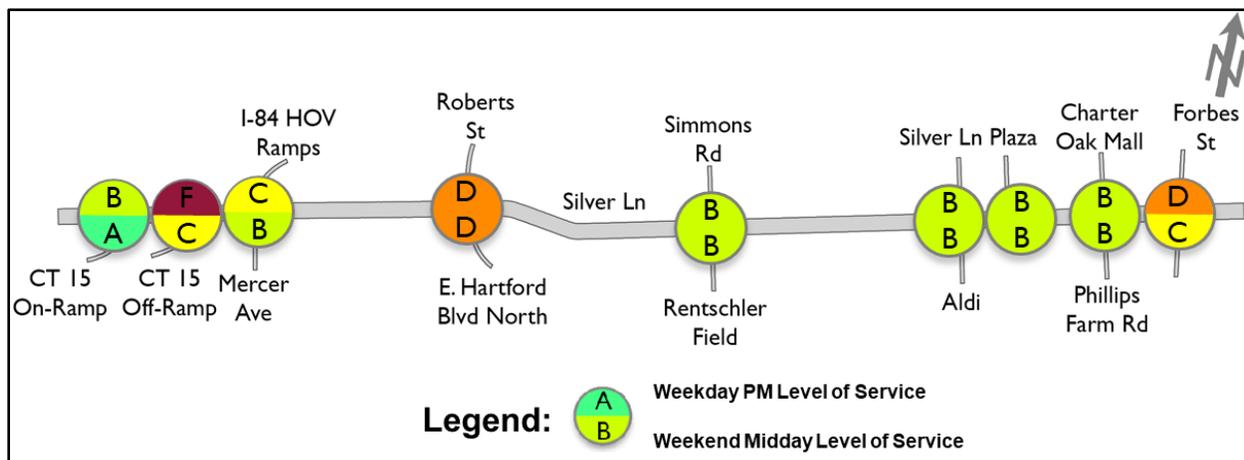
Future economic development within the study corridor was assessed under two scenarios, base and build, as defined below:

Base: Considers ambient growth in traffic from development in and around the study corridor that will occur independently of actions taken as a result of this study. Two base scenarios were tested with the more conservative scenario used in analysis.

Build: Considers additional development concepts identified by the study team as part of the vision for the corridor.

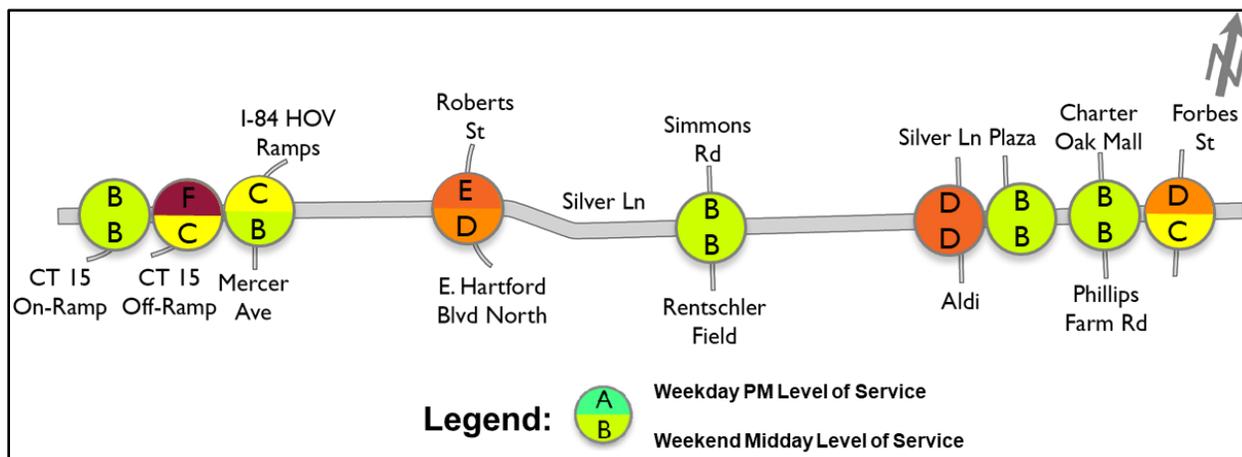
In order to compile expected developments for the base scenario, the study team worked closely with the Silver Lane Advisory Committee and local stakeholders to identify developments planned in and around the study corridor. The study team collaborated with the BAR Grant consultant and the Silver Lane Advisory Committee to identify potential developments as part of the Build Scenario. The Capitol Region Council of Governments (CRCOG) developed the future (2040) traffic forecasts for the Silver Lane study area using their CRCOG-maintained travel demand model. The travel demand model is a complex planning tool used to understand travel behavior and trips. Peak hour traffic volumes are

expected to grow between 18% and 31% by 2040 for the Base scenario. Throughout most of the corridor, there is a steady growth rate of about 20%, which amounts to an additional 250 to 350 vehicles per hour. The additional development in the Build scenario increases the traffic growth rates. Growth is especially high in the eastern end of the corridor where most of the potential development takes place. West of Roberts Street, volumes only increase by about 25%, which amounts to about 300 to 450 vehicles per hour. The intersections with the largest increases in traffic, Silver Lane Plaza and Charter Oak Mall, are access points for the envisioned developments. The results of the traffic operational analysis for the Base and Build scenarios are illustrated below.



Base Future (2040) Traffic Operations

Under the Base scenario, traffic can be expected to flow acceptably through most of the intersections in the Study Area despite the moderate growth in traffic volumes. Route 15 exiting traffic, which is controlled by a stop sign, will experience a LOS F and a 468 foot long queue during the weekday PM peak hour because traffic volumes will be high enough that vehicles exiting the freeway will have difficulty finding gaps in the free-flowing Silver Lane traffic. Preventing these queues from backing up to the freeway is an important safety consideration. Although LOS will be acceptable, the queue length for eastbound Silver Lane at Mercer Street will exceed the available distance, and block the Route 15 off ramp during both peak hours. LOS E or F will be experienced on several lane groups at Roberts Street, and queues will exceed storage capacity in several directions. At Forbes Street, the northbound and southbound approaches will experience LOS E during the weekday PM peak, although queuing will not be excessive.



Build Future (2040) Traffic Operations

Under the Build scenario, the Route 15 Off-Ramp continues to operate at LOS F, with queues approaching 600 feet in length and delays of approximately 3.5 minutes during the weekday PM peak hour. Eastbound queues at Mercer Street will block the Route 15 off ramp, and will extend to the Route 15 entrance ramp during the weekday PM peak hour. Roberts Street will operate at an overall intersection LOS E, with most lane groups at LOS E or F during both peak hours, and many lanes exceeding their storage capacity. Although the dual signals at Silver Lane Plaza will operate reasonably well on Silver Lane, northbound and southbound driveway traffic from Aldi's and from the Plaza will experience 3 to 4 minute delays (LOS F) during both peak hours.

The study team also assessed the potential changes in transit demand and service. In order to achieve higher average speeds and reliability, the CTfastrak East Expansion Final Report recommends consolidating stops on Route 121 through the corridor. This would withdraw CTfastrak service from the stops at Clement Road and Forbes Street. These stops would still be served by CTtransit Route 83.

Analysis of Alternatives and Recommendations

Alternatives were developed to address the deficiencies noted in the existing conditions and future conditions assessments. The study team engaged in a collaborative and interactive process with Town of East Hartford officials, community stakeholders and the Capitol Region Council of Governments (CRCOG) to define and select alternatives as part of a comprehensive plan for the corridor. This comprehensive plan provides for improved mobility, accessibility and safety for all users. The recommendations are intended to support the findings of the Silver Lane Revitalization Plan and benefit the overall quality-of-life in East Hartford.

Corridor-wide Recommendations

Several recommendations, particularly those affecting pedestrian, bicyclist and transit mobility, were evaluated within the context of the entire project corridor to ensure consistency throughout the corridor. The primary corridor-wide recommendations are to:

- Reconfigure Silver Lane, utilizing a road diet to more equitably allocate space on the roadway for all users
- Provide 10' sidepaths on both sides of Silver Lane to enhance bicyclist and pedestrian mobility and connect the gap in the East Coast Greenway
- Consolidate and improve transit stop amenities along Silver Lane

- Relocate overhead utilities

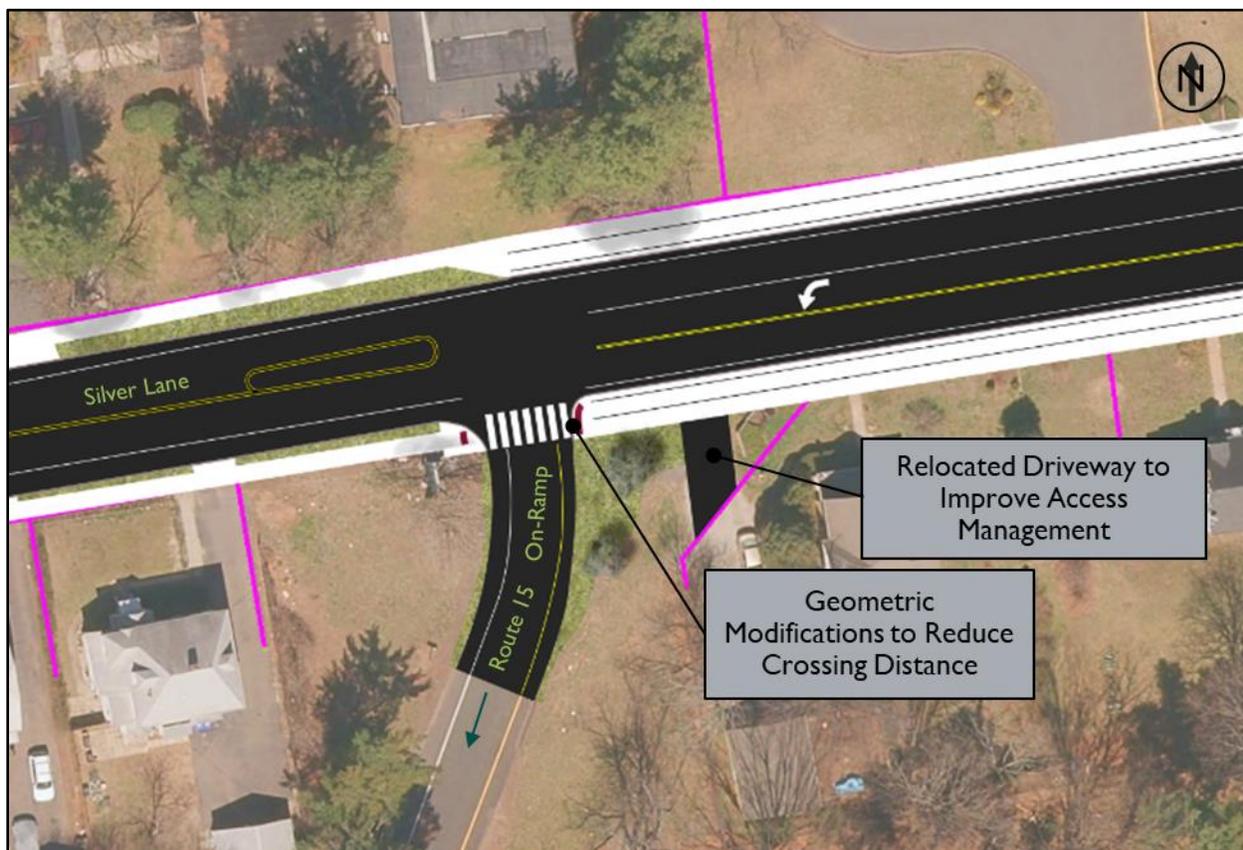
The segment east of Roberts Street will be able to have wider shoulders (5') due to the greater setbacks of existing development and available right-of-way.

Location-based Improvements

In addition to the corridor-wide improvements, many location-based improvements were recommended. Several are described below. Additional improvements are included in Section **Error! Reference source not found.** of the body of the report.

Route 15 On-Ramp

The Route 15 On-Ramp operates well under existing conditions, and will do so through the 2040 Build condition. Westbound queues on Silver Lane are less than 100 feet during the peak hours. Minor geometric modifications are recommended at this location to shorten the crossing distance for pedestrians from approximately 85 feet to 45 feet, and to make the intersection less skewed, which will control the speed of left turning traffic. Reducing the radius on the southeast corner will also allow the residential driveway on the corner to be pulled back from the intersection, which will improve the access to the property and reduce the potential turning conflict. Final design efforts would ensure that the curb radii allow the appropriate design vehicles to turn on to the ramp.

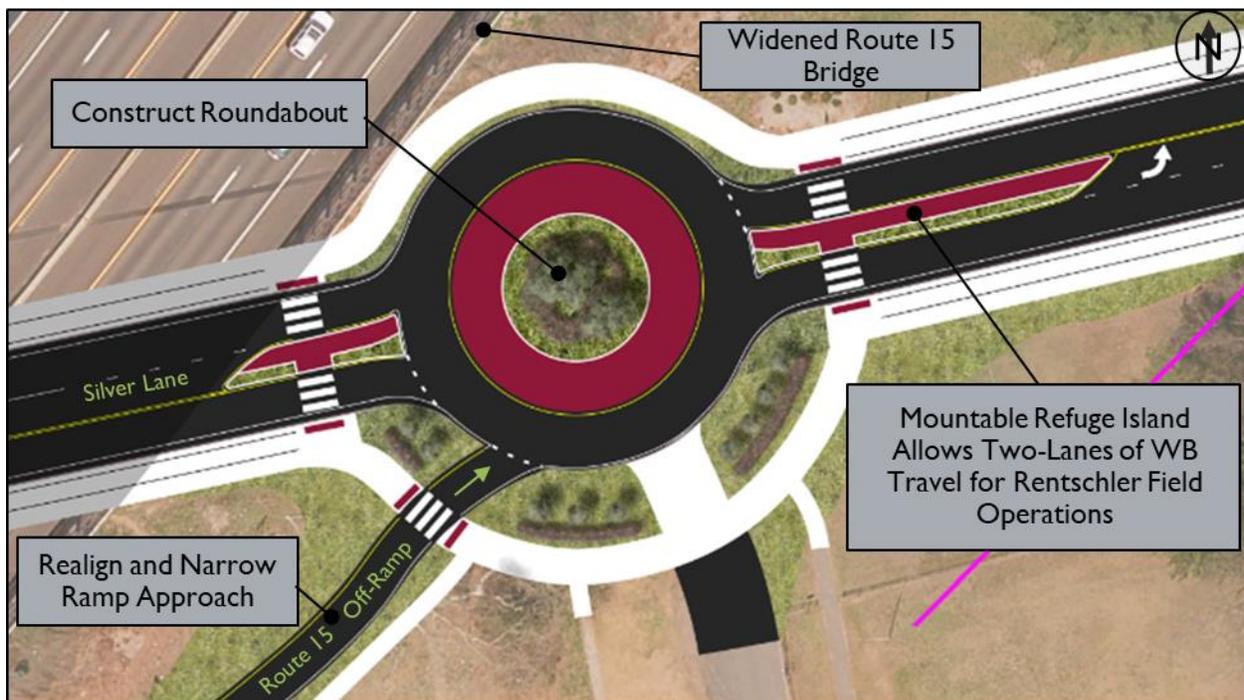


Route 15 On-Ramp Location-based Improvements

Route 15 Off-Ramp

The Route 15 Off-Ramp operates at LOS D under existing conditions in the weekday PM Peak hour, but will deteriorate to LOS F under 2040 Build conditions, because exiting ramp traffic will not be able to find sufficient gaps in the traffic to turn onto Silver Lane.

Construction of a roundabout is recommended as the best solution for this intersection. The off-ramp approach to the roundabout will include narrowing and introduce curvature to encourage lower vehicular speeds. In combination with the previously discussed improvements at the Route 15 On-Ramp, the new and improved pedestrian facilities and environment will create a safer walking route from residences along Silver Lane to the Silver Lane Elementary School.



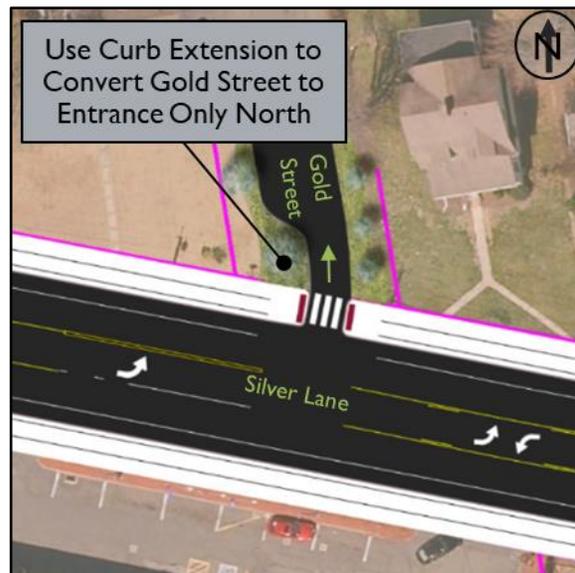
Route 15 Off-Ramp Location-based Improvements

Gold Street

Gold Street is a residential street that intersects Silver Lane a short distance east of Roberts Street. It is only one block long, running north from Silver Lane to Clement Road. Gold Street serves approximately 2 dozen single family homes.

As noted earlier in the description of geometric deficiencies, Gold Street has sub-standard intersection sight distance looking to the left for vehicles turning left or right onto Silver Lane, and there have been several crashes at this location. Because the sight line limitation is another residential house, it is not considered feasible to improve this deficiency.

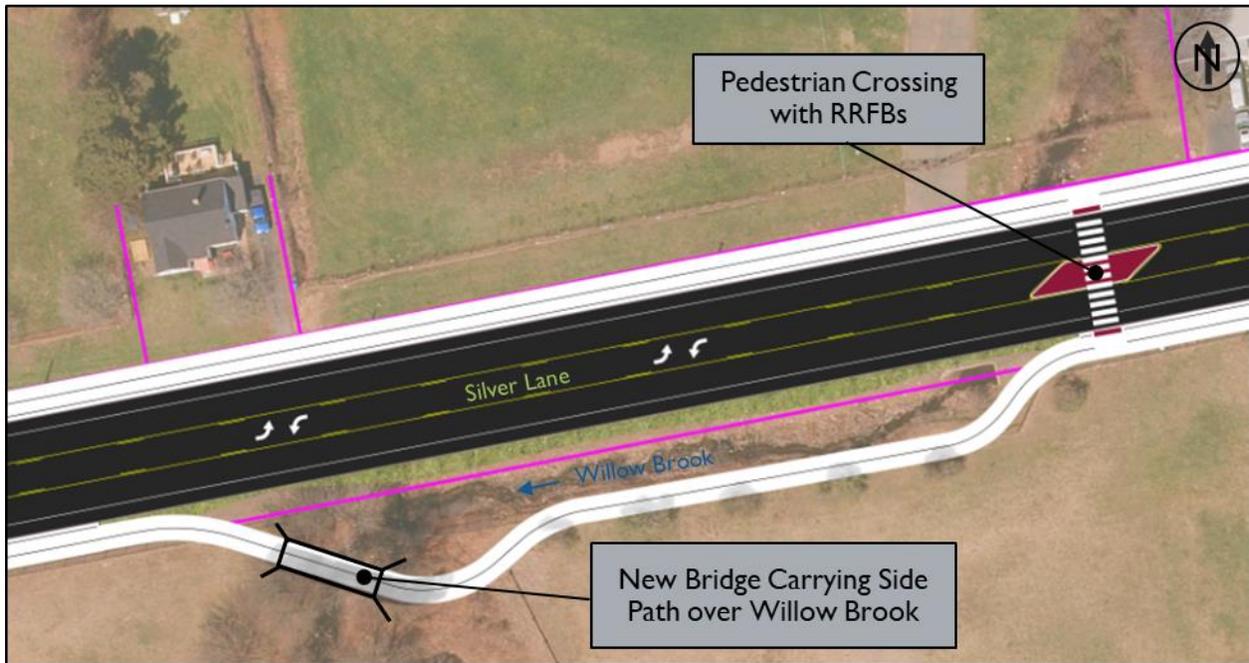
Through the discussions of the study team, it was decided that the best way to improve this situation is to make Gold Street one-way to the north, thereby eliminating the traffic turning onto Silver Lane. Residents of this street will travel north to Clement Road and either turn left and follow Clement Road back to Silver Lane, or turn right and follow Clement Road to Simmons Road. This minor inconvenience will eliminate the difficult turn onto Silver Lane, and improve safety at this location. This concept could be implemented on a trial basis using temporary infrastructure to gauge neighborhood support prior to implementation of more permanent infrastructure.



Gold Street Location-based Improvements

583 Silver Lane

The proposed side path on the south side of Silver Lane, necessary to close an existing sidewalk gap, must cross a small stream (Willow Brook) and its associated wetlands. The path will turn south to shorten the length of the bridge used in this crossing. It will then return to its alignment parallel to Silver Lane. Just east of this point, a mid-block crossing is proposed to service the parking fields on the north side of Silver Lane, and also because of the distance between crossings at Roberts Street and Simmons Road. Installation of Rectangular Rapid Flashing Beacons (RRFB's) is suggested at this location. This is one example of several mid-block pedestrian crossings recommended throughout the corridor.



583 Silver Lane Location-based Improvements

A full summary of proposed improvements is included in Section **Error! Reference source not found.** of the full report. An assessment of probably construction costs is included on the following page.

Assessment of Probable Costs

Recommendations	Estimated Construction Cost
Pedestrian Safety	
Pedestrian Portion of Side Path (5' Concrete)	\$1,500,000
Buffer Strip (2' - 3' Hardscape)	\$1,500,000
ADA-compliant Push Buttons and Signals	\$100,000
ADA-complaint Sidewalk Ramps	\$200,000
Marked Crosswalks	\$55,000
Pedestrian Bridge over Willow Brook	\$200,000
Raised Refuge Islands	\$225,000
RFFBs	\$700,000
Textured / Mountable Refuge Islands	\$80,000
Ornamental Street Lighting	\$1,600,000
Bicycle Safety	
Bike Path Portion of Side Path (5' Asphalt)	\$400,000
Bike Path Signing and Striping	\$90,000
Transit Improvements	
Bus Shelters	\$500,000
Bus Pull-outs	\$260,000
Vehicle Operations and Improvements	
Widening to Implement Road Diet (Shoulders)	\$1,000,000
Route 15 On-Ramp	\$75,000
Roundabout at Route 15 Off-Ramp	\$2,500,000
Signalization Improvements at Mercer Avenue	\$250,000
Revise Parking at Carl's Barbeque	\$50,000
Signalization Improvements at Roberts Street	\$100,000
Signalization Improvements at Simmons Road	\$250,000
Separate Traffic Signals at Aldi and Silber Lane Plaza (East)	\$500,000
Traffic Signal Upgrades between Aldi and Forbes Street	\$500,000
Total	\$12,635,000

*Some funding has been secured to develop concepts and implement interim sidewalk improvements. See Interim Improvements section, following.

Interim Improvements

An opportunity emerged in the spring of 2019 to implement the proposed road diet under CTDOT's Vendor-in-Place (VIP) pavement rehabilitation program. While the long-term vision for this roadway segment includes additional amenities, the Town quickly saw the opportunity to capitalize on implementing the desired lane configuration under an existing funded program. As a result, the road diet is already in place, as shown in the images below. The implementation of the road diet has addressed deficient lane widths throughout the corridor. Additionally, the provision of the two-way center left turn lane allows traffic to safely bypass left turning vehicles while they wait for a gap in opposing traffic. Finally, the road diet has increased shoulder widths throughout the corridor. While this has improved the nature of bicyclist facilities, the resulting widths still do not meet standards to serve as bicycle lanes due to the limited curb-to-curb width of the existing roadway and the nature of improvements possible under the VIP program.



Silver Lane, near Whitney Street illustrating the lane configuration before (left) and after (right) the road diet implementation)



Silver Lane near the Burger King (708 Silver Lane) looking east before (left) and after (right) the road diet implementation

The Town worked with CTDOT to coordinate the installation and extension of fencing at the intersection of the Route 15 NB Off-Ramp to Plain Drive and Lawrence Street to encourage use of the sidewalks along Lawrence Street and Plain Drive, rather than walking on a dirt path near the Route 15 Off-Ramp. The intersection of the Route 15 Off-Ramp at Lawrence Street and Plain Drive was converted into an all-way Stop sign controlled intersection. A formal crosswalk was installed by the

town to direct pedestrians to walk across the Lawrence Street leg of the intersection, rather than the off-ramp leg.

Plans are nearing completion for construction of an interim sidewalk project that will complete gaps in the existing sidewalk, and provide better pedestrian connectivity using existing (in-place) funding. This work can eventually evolve into the larger plan. By completing this project, the Town will eliminate the gaps in the sidewalk network, one of the primary pedestrian deficiencies. This measure would help address the deficient intersection sight distance at this location by directing motorists to other intersections in order to turn on to Silver Lane.

The Town is currently applying for funding to complete a demonstration project to implement temporary traffic controls and curbing to reorient Gold Street to one-way operation. If successful, the Town can implement permanent measures to complete the conversion.