

- + Morning peak period traffic operations are worse than No-Build condition.
- + Afternoon peak period traffic operations are significantly improved from No-Build due to a more efficient signal plan and fewer northbound right turns.

Option 3 Evaluation

- + Major change to circulation in center of South Natick village.
 - One-way circulation pattern tends to speed up traffic, less pedestrian-friendly than two-way circulation.
 - Puts Eliot Church in center of heavy circulating traffic.
 - Potential for weaving conflicts on Robert Sproule Lane.
- + Morning peak period traffic operations comparable to No-Build condition.
- + Afternoon peak period traffic operations significantly improved from No-Build due to elimination of movements, use of one-way circulation.



It is recommended that the Town move forward with Option 1 because it provides traffic operations improvements in the afternoon peak period without significant changes to circulation and without negative impacts to the Eliot Church.

Walnut Street/Bacon Street/Chestnut Street

Walnut Street and Bacon Street are important neighborhood collector streets in the neighborhood north of Natick Center around the Walnut Hill School for the Arts. These streets, along with Chestnut Street, a local residential street, are adjacent to Loker Park. This intersection operates with all-way stop control; it experiences intermittent congestion on some approaches, but it only infrequently experiences significant congestion.

Key Issues & Opportunities

- + Wide paved areas due to skewed intersection.
- + Lack of sidewalks and crosswalks create unfriendly pedestrian environment.

Potential Improvements

- + Tighten southeast corner of intersection to shorten crossing distances.
- + Add crosswalks on all approaches.
- + Add sidewalk on east side of Walnut Street from Deerfield Lane to Belvedere Street.
- + Tighten corners at Belvedere Street/Walnut Street and Belvedere Street/Bacon St.



Existing conditions at the Walnut Street/Bacon Street/Bevedere Street Intersection.



Proposed conditions at the Walnut Street/Bacon Street/Bevedere Street Intersection.

The proposed improvements result in no change in traffic operations or queuing, but significantly improved pedestrian access and safety. Some trucks (a very low proportion of vehicles on Walnut Street) could no longer turn right from Walnut Street northbound to Bacon Street eastbound; they could, however, make this connection via Belvedere Street.



4-7 YEARS



The Town should move forward with these improvements because they offer significant benefits for pedestrian access to Loker Park and along major neighborhood streets without negative impacts on vehicular access or circulation.

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Pine Street/Oak Street/Erie Drive

This intersection is in the northeast corner of Natick, near the Wayland town line. Oak Street is an important north-south connection between Route 9 and Wayland, while Pine Street provides connections to the Massachusetts Turnpike and the Golden Triangle via Route 27 and Route 30. This intersection carries heavy traffic volumes, and has significant peak period congestion.

Key Issues & Opportunities

- + Significant congestion and delay for stop-controlled Pine Street approach.

Potential Improvements

Option 1: All-way stop control.

Option 2: Widen eastbound Pine Street approach to two lanes: a left-turn lane and a right-turn lane.

Option 3: Signal control

Option 4: Single-lane roundabout



Existing conditions at the Pine Street/Oak Street/Erie Drive Intersection.



Proposed conditions at the Pine Street/Oak Street/Erie Drive Intersection: Option 4.

	EXISTING	NO-BUILD	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TRAFFIC	Pine St stop	Pine St stop	Pine St stop, 2 lanes	All-way stop	Signal	Roundabout
AM LOS	F	F	F I C	F I F I E	C	B
PM LOS	F	F	F I C	F I D I F	B	B
PEDESTRIAN	CROSSWALK ON PINE ST ONLY	CROSSWALK ON PINE ST ONLY	CROSSWALK ON ALL LEGS			

TABLE 4.6 EVALUATION OF INTERSECTION I-135/SPEEN ST

Option 1 would not significantly improve Pine Street traffic access and operations. Option 2 would not significantly improve Pine Street traffic access and operations, and would have negative impacts on Oak Street traffic access and operations. Option 3 would improve Pine Street traffic access and operations, but would have negative impacts on Oak Street traffic access and operations by adding delay from the traffic signal. **Therefore, Option 4, the single lane roundabout, is recommended because it improves access and operations for Pine Street traffic without adding major delay for Oak Street traffic**

I-5 YEARS 

R2.2

ENCOURAGE WALKING AND BICYCLING AS MODES OF TRAVEL AND EXERCISE THROUGH IMPROVED PEDESTRIAN ACCESS AND ENVIRONMENT, AN EXPANDED PEDESTRIAN AND BICYCLE NETWORK, AND IMPROVED PEDESTRIAN AND BICYCLE SAFETY.

LEAD 

DEPARTMENT OF PUBLIC WORKS

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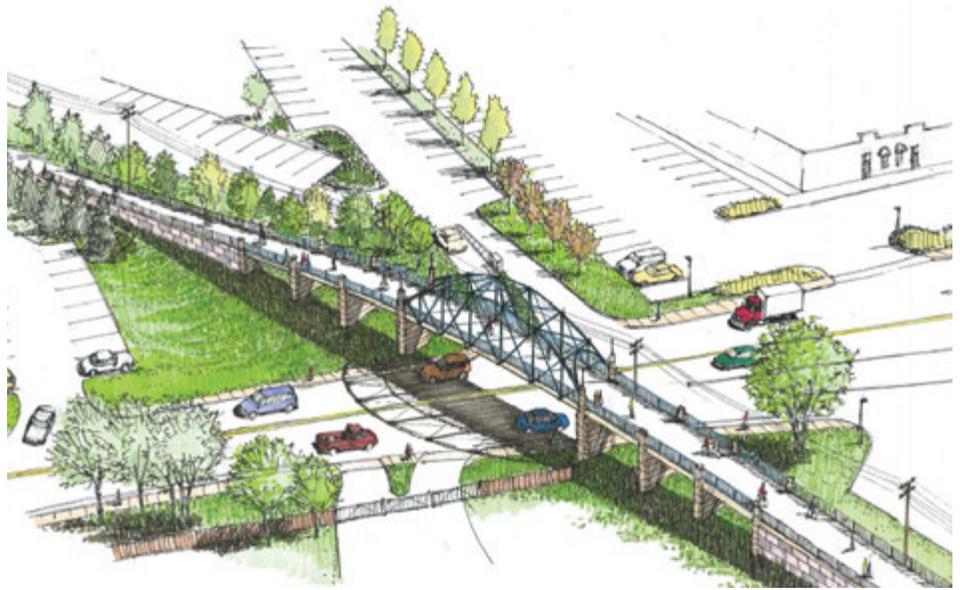
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The intersection improvements described under Recommendation 2.1 include traffic operations improvements as well as significant multimodal improvements. Recommendation 2.2 addresses several key corridors that would benefit from “traffic calming” improvements to enhance pedestrian and bicycle access and safety.

There are several ongoing projects that will improve pedestrian and bicycle access and safety along important corridors in Natick. These include the following:

- + Route 27 North - This project, which is being designed and built by the Massachusetts Department of Transportation (MassDOT), would rebuild Route 27 from North Street in Natick Center to the Wayland town line. It would rebuild sidewalks, add crosswalks, and create continuous five-foot wide shoulders for bicycle accommodation.
- + Route 27 South - This project is being planned and designed by the Town of Natick for the section of Route 27 from Cottage Street in Natick Center to the Sherborn town line. It would rebuild sidewalks, add crosswalks, narrow travel lanes, and create continuous four-foot wide shoulders for bicycle accommodation.

- + Cochituate Rail Trail – This project will create a 2.4 mile long shared-use path in the abandoned Saxonville Branch of the former Boston and Albany Railroad (now CSX) and a 0.25-mile connection to Speen Street known as the Wonder Bread Spur. The project follows the existing railroad right-of-way from Commonwealth Road (Route 30) in Framingham to the Natick Center MBTA Commuter Rail Station. This will provide an important pedestrian and bicycle connection for Natick Center, the Golden Triangle, and the neighborhoods of northwest Natick in between.



Rendering of Cochituate Rail Trail bridge over Route 30.

In addition to these corridors, there are other corridors that would benefit from pedestrian and bicycle access improvements. Principal among these are Route 135 and Speen Street.

Route 135 (East and West Central Street)

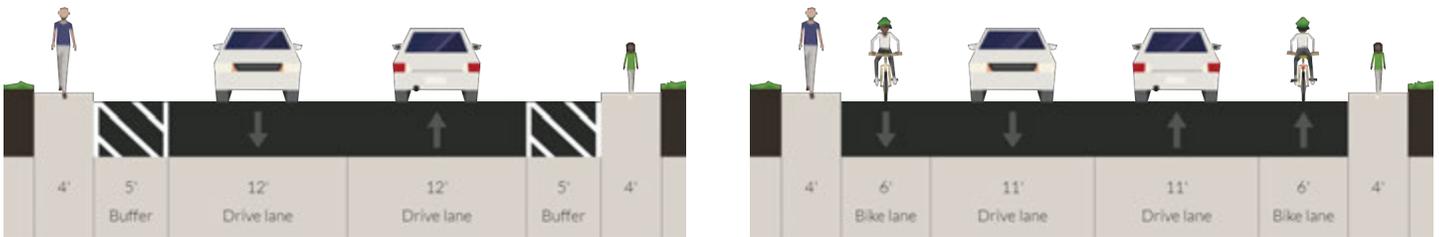
Route 135 is the main east-west surface street through Natick, and the only surface street (i.e. non-limited-access highway) that provides continuous east-west connections through Natick. It provides generally one travel lane in each direction, with additional turn lanes at intersections.

Key Issues & Opportunities

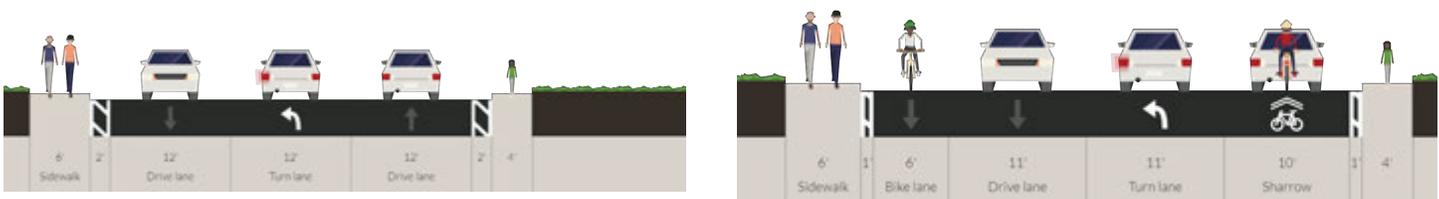
- + Inconsistent bicycle accommodation
- + Route 135 is the best east-west bicycle connection through Natick, and connects to many destinations, but there are long gaps without bicycle lanes or shoulders wide enough to accommodate bicycle access
- + Frequent, wide curb cuts create challenges for pedestrians, bicyclists, and motorists

Potential Improvements

- + Upgrade crosswalks at key intersections - these crosswalk improvements are reflected in the intersection improvements described above under Recommendation 2.1 at Route 135/Mill Street, Route 135/Speen Street, and Route 135/Route 27.
- + As parcels are redeveloped, identify opportunities to narrow and/or consolidate curb cuts through improved access management, roadway connections within and between parcels.
- + Provide continuous bicycle accommodation:
 - Option 1 - Bike Lanes: Create continuous five to six-foot bicycle lanes along most of Route 135, with shared-bicycle lane markings ("sharrows") on segments of Route 135 where intersection turning lanes or local constraints preclude bicycle lanes
 - Option 2 - Separated Bike-Way: Create a two-way separated bicycle way along one side or the other of Route 135 in order to provide a more secure bicycle facility that is suited to less experienced bicyclists.



Cross section of Route 135 showing existing condition with no left turn lane (left) and Option 1 with two one-way in-road bike lanes.



Cross section of Route 135 showing existing condition with left turn lane (left) and Option 1 with two one-way in-road bike lanes.



Cross section of Route 135 showing left turn lane and Option 2 with one two-way separated bike lane.

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4-7 YEARS



It is recommended that crosswalks be upgraded at key intersections. As parcels are redeveloped, curbcuts should be narrowed and/or consolidated. In the short- to medium-term, continuous 5-6 foot bicycle lanes should be provided in each direction through the re-stripping of the existing paved roadway, widening of existing 4-5 foot shoulders, and narrowing of wide travel lanes. In the longer term, consideration could be given to a continuous two-way separated bicycle way along the northern side of Route 135, subject to the following considerations and caveats:

- + The two-way bicycle way should only be provided to the west of Route 27, where major intersection conflicts are less frequent than east of Route 27.
- + The two-way bicycle way would need to be implemented all at once in order to prevent discontinuous segments of bicycle lane and two-way separated bicycle way, which would require bicyclists to frequently cross conflicting traffic.
- + The two-way separated bicycle way would require physical separation, special treatment at intersections, and special traffic controls, which would result in a much higher cost than a painted bicycle lane in each direction.

Speen Street

Speen Street is a key north-south connection, and an important local roadway for residential neighborhoods of southwest Natick. It is currently fairly unfriendly to pedestrians and bicyclists, with no bicycle accommodations and infrequent crosswalks.

Key Issues & Opportunities

- + Infrequent crosswalks - there are only four crosswalks across Speen Street in the one mile distance between Hartford Street and Route 135.
- + Lack of bicycle facilities.
- + Adequate width between Hartford Street and Route 135 to provide one travel lane in each direction plus bike lanes in each direction.
- + Continuous center left turn lanes between Hartford Street and Route 135 preclude bike lanes - these turn lanes are typically much longer than needed for the low-volume residential traffic using them.
- + Narrow cross-section (only 24 feet from curb-to-curb) from Route 135 to Sherborn town line.

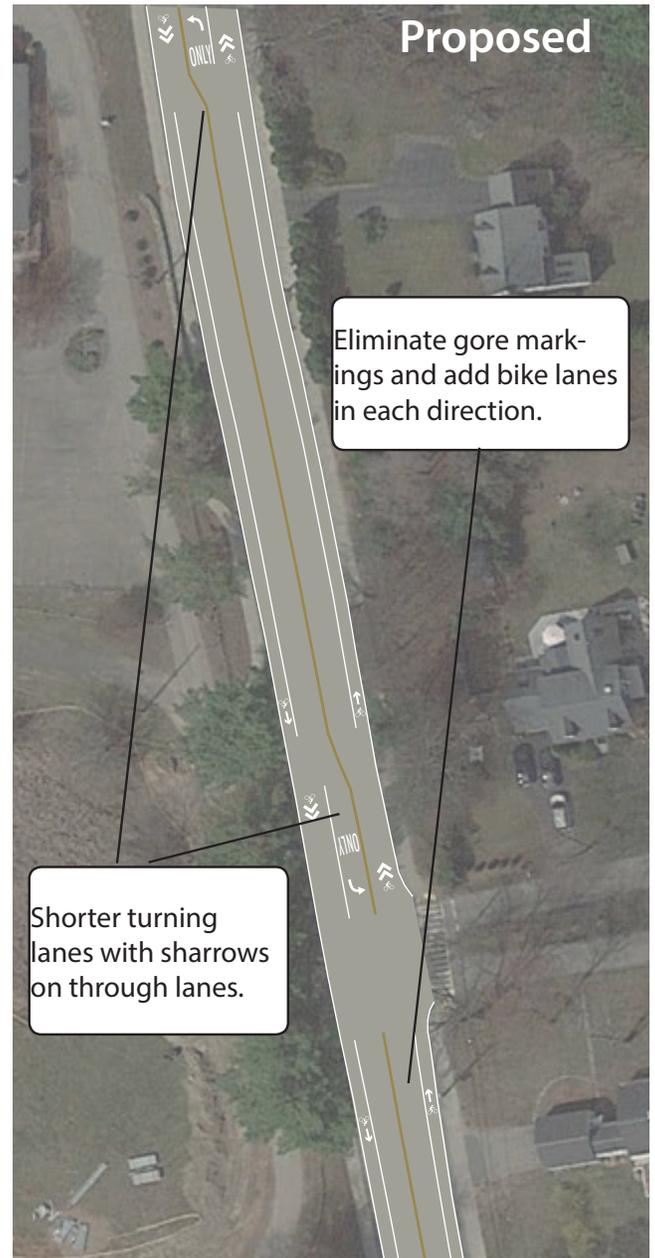
Potential Improvements

- + Consider shortening left turn lanes on Speen Street in order to provide roadway space for bicycle lanes in between shorter left turn lane segments.
- + Provision of bicycle sharrows on segments of Speen Street with inadequate width for bicycle lanes.
- + Addition of crosswalks at key intersections.



It is recommended that the following improvements be undertaken:

- + Significant shortening of left turn lanes on Speen Street as shown below.
- + Creation of continuous five-foot-wide bicycle lanes along most of Speen Street between Hartford Street and Route 135.
- + Provision of sharrows on segments of Speen Street where intersection left turn lanes are required.
- + Provision of sharrows on narrower segment of Speen Street from Route 135 to Sherborn town line.
- + Addition of crosswalks at key intersections.



Eliminate gore markings and add bike lanes in each direction.

Shorter turning lanes with sharrows on through lanes.

Existing and proposed Speen Street roadway configuration, illustrating addition of bike lanes.

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R2.3

IMPLEMENT THE TRANSPORTATION RECOMMENDATIONS FROM THE GOLDEN TRIANGLE PLANNING STUDY.

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SUPPORT 
 COMMUNITY & ECONOMIC DEVELOPMENT
 TRANSPORTATION ADVISORY COMMITTEE

As described in Chapter 3, the Town of Natick and the City of Framingham recently published a draft of the Golden Triangle Planning Study. This study addresses land use, planning, transportation and infrastructure issues in the Golden Triangle. This area, which straddles Framingham and Natick, is generally bordered by Route 126 to the northwest, Interstate 90 to the north, the Cochituate Rail Trail and Lake Cochituate to the east, and Route 9 to the south. .

The Golden Triangle is a critical economic generator for Framingham, Natick, and surrounding towns, and it provides important jobs and shopping opportunities. However, it is also a major generator of traffic, and its large blocks concentrate traffic on its limited network of very wide roadways. This results in a highly-congested roadway network and an environment that is very unfriendly for pedestrians and bicyclists.

The Golden Triangle Planning Study evaluated potential future transportation demand resulting from land use growth assumptions of 10 percent and 20 percent, along with recommendations for transportation improvements that would accommodate the traffic growth, make the area more appealing for development, and enhance access in all modes, especially for pedestrians and bicyclists.

  **1-12+ YEARS** 

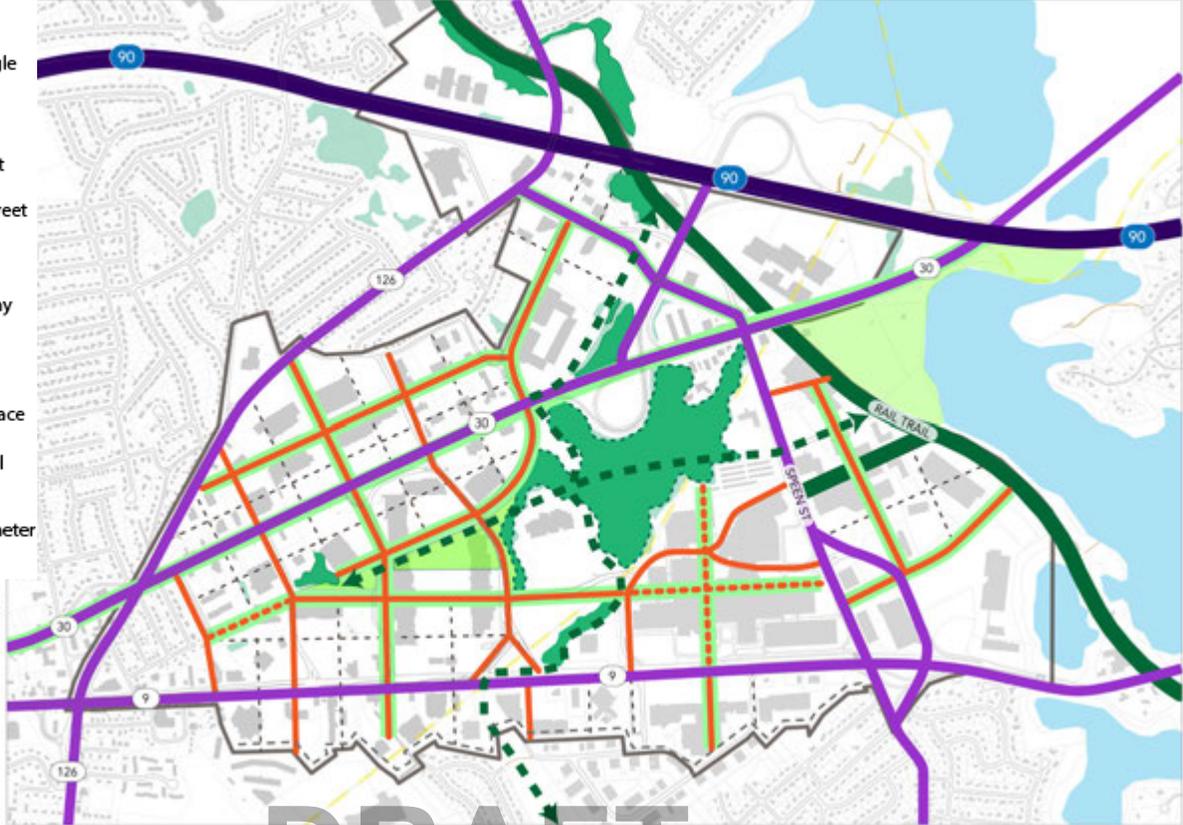


The following transportation recommendations from the Golden Triangle Planning Study should be implemented:

+ **Aspirational Connections and Open Space Framework Plan:** The Golden Triangle Planning Study recommends breaking up many of the large blocks in the study area by building new, multimodal Complete Streets and non-motorized connections, as shown below.

LEGEND

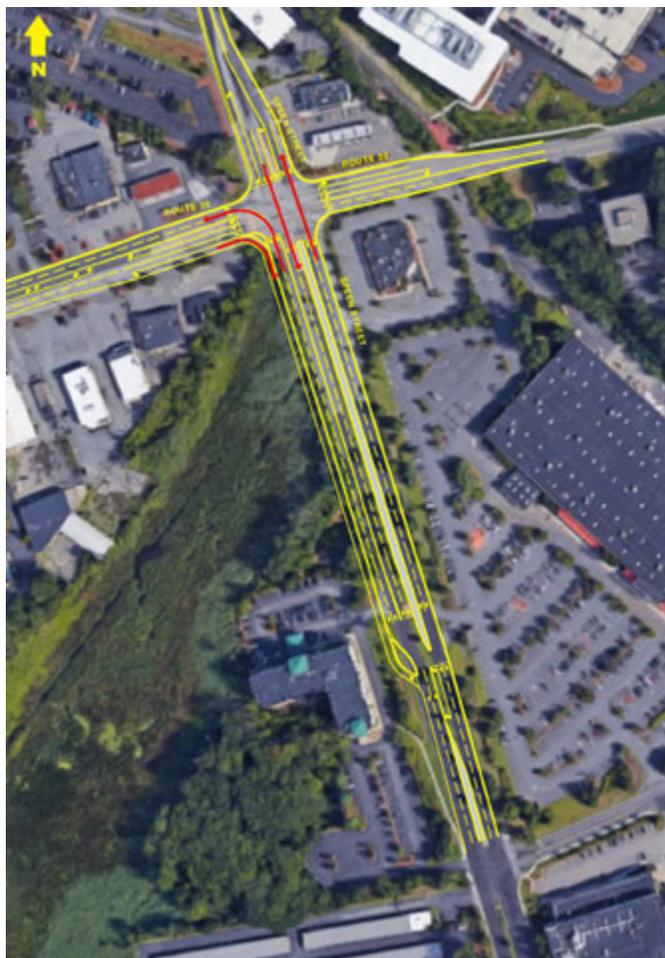
-  Golden Triangle
-  Municipal Boundary
-  Primary Street
-  Secondary Street
-  Green Street
-  New Greenway
-  Future Street
-  New Green Space
-  Future Internal Street
-  Wetland Perimeter Path



Golden Triangle Plannin Study Connections & Open Space Framework Plan

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- + **Displaced Left Turn at Speen Street/Route 30 Intersection:** A significant traffic access and congestion issue in the Golden Triangle is access between Speen Street and I-90. In the afternoon peak period, traffic bound from the Speen Street corridor to I-90 typically overwhelms the double-left turn from Speen Street onto Route 30. The recommended “displaced left turn” would displace those left turns from Speen Street northbound to the outside of Speen Street southbound. This would enable these turns to operate concurrently with Speen Street through traffic, and remove the left turn conflict, a major source of traffic congestion at this intersection. This proposal is shown in Figure 20.



Proposed displaced left turn at the Speen Street/Route 30 intersection.

- + **MassPikeMas Exit 13 Interchange Redesign:** This proposal would address the Speen Street/Route 30 congestion issue by adding new ramps directly from Speen Street to the I-90 on- and off-ramps. This would reduce the demand for turning movements at the Speen Street/Route 30 intersection and reduce traffic congestion.
- + **Commuter Shuttle:** A shuttle system from the MBTA Natick Center Commuter Rail Station into and through The Golden Triangle. The shuttle would serve both Commuter Rail passengers and other residents, employees and visitors wanting to move around The Triangle.



R2.4

LEAD



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COMMUNITY & ECONOMIC DEVELOPMENT

TRANSPORTATION ADVISORY COMMITTEE

1-5 years



REVIEW THE PEDESTRIAN AND BICYCLE NETWORK THROUGHOUT NATICK AND DEVELOP COMPREHENSIVE IMPROVEMENT PLANS TO BE IMPLEMENTED OVER TIME.

Natick currently has a very limited bicycle network, as well as many roadways with sidewalks missing from one or both sides. The Town of Natick recently completed a town-wide Pedestrian Accessibility Study that evaluates the condition of sidewalks throughout Natick and recommends a five-year sidewalk improvement plan. **The recommendations from that plan should be implemented. Natick also should undertake a study to determine where additional sidewalks are needed to provide safe pedestrian access to destinations including schools, parks, commercial centers and other destinations.**

The Town of Natick also should consider undertaking a town-wide bicycle transportation plan to build upon the recommendations included in this plan.



R2.5

LEAD



DEPARTMENT OF PUBLIC WORKS

SUPPORT



COMMUNITY & ECONOMIC DEVELOPMENT

TRANSPORTATION ADVISORY COMMITTEE

ONGOING



ENCOURAGE INCREASED USE OF PUBLIC TRANSIT THROUGH IMPROVED MBTA COMMUTER RAIL STATION INFRASTRUCTURE AND PARKING OPPORTUNITIES AND IMPROVED LOCAL MWRTA PUBLIC TRANSIT SERVICE.

Access to the Natick Center MBTA station will be improved by Natick’s ongoing projects – Route 27 North, Route 27 South, and the Cochituate Rail Trail – which will improve traffic operations as well as pedestrian and bicycle access to Natick Center and the commuter rail station. In addition, MassDOT is planning accessibility and station improvements at the Natick Center MBTA Station. Several of the improvements proposed in Recommendation 2.1, notably the Route 135/Route 27 intersection improvements and Route 135 corridor improvements, would also improve motor vehicle, pedestrian, and bicycle access to Natick Center. **The pedestrian improvements from Recommendation 2.1 should be implemented.**



R2.6

LEAD



DEPARTMENT OF PUBLIC WORKS

SUPPORT



COMMUNITY & ECONOMIC DEVELOPMENT

TRANSPORTATION ADVISORY COMMITTEE

1-5 YEARS



EVALUATE PARKING SUPPLY, PARKING DEMAND, AND OPTIONS FOR PARKING MANAGEMENT THROUGH A DOWNTOWN PARKING MANAGEMENT PLAN.

For residents, visitors, shoppers, and commuter rail riders who drive to Natick Center, parking is a critical challenge. Most of the on-street and off-street parking near Natick Center is limited to two-hour parking or to retail customers in order to support the Natick Center businesses and local institutions, such as the library and Town government.

The Town should consider undertaking a comprehensive parking study, which could entail the following elements:

1. *Parking Inventory*



Inventory of parking supply for Natick Center within about 1/3 to 1/2 mile of the commuter rail station

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- + Identify and analyze elements such as regulations, permits, enforcement period, special use restrictions (such as handicap spaces, Zipcar use, and loading zones).
- + Review compliance with parking ordinances, payment methods, and price, when applicable.
- + Develop database and GIS-based mapping of all parking supply in study area.

2. *Parking Utilization*

- + Field surveys of parking utilization for all study area parking.
- + Parking occupancy counts taken periodically (every 1-2 hours) over the course of a typical weekday will provide a time series of typical parking demand in different zones at different times of day.

3. *Parking Supply and Demand Analysis*

- + Establish the parking supply.
- + Analyze peak daily parking accumulation, daily parking utilization, and patterns of high or low usage.
- + Identify factors that could increase or decrease parking supply or demand, such as new development, loss of businesses in Natick Center, and increased use of TNCs. With the advent of Connected and Autonomous Vehicles (CAVs), it is expected that the cost of vehicular travel will drop, making it "cheaper" to the user. This could make travel by TNCs a more attractive alternative to single-occupancy-vehicle (SOV) travel, and perhaps to public transportation, cycling or walking. From a parking perspective, some argue that CAVs will create more efficient parking by allowing these vehicles to drop-off passengers and continue to off-site parking, thereby reducing the need for accessible parking and thus reducing cost. In contrast, some fear that the anticipated convenience of CAVs will induce additional vehicular trips, with these vehicles circulating or traveling long distances to avoid parking costs, increasing the external costs of crashes and emissions. Either way, demand for large supplies of parking proximate to dense activity centers is anticipated to drop.

4. *Parking Management*

- + Review existing pricing, evaluate parking pricing options, and conduct a sensitivity analysis of parking revenue.
- + Evaluate construction cost for new parking supply, financing options, and capacity of parking revenue to support project financing.
- + Review potential options for parking management, including separate management of on-street and off-street parking, joint management by the Town of Natick, or joint management of all parking by a separate parking authority or outside parking management company.

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Goal	Recommendation	Action Step	Lead Responsibility 	Support Responsibility 	Time Frame 	Metric	Coordination 
Improve safety in all travel modes through the implementation of a Complete Streets design approach, roadway and intersection improvements, and proven safety counter-measures.	Employ a Complete Street Design Approach	The Town should continue to implement the Complete Streets policies into all roadway improvement projects.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	ON-GOING		Open Space & Recreation
	Implement Proven Safety Countermeasures	The Town should consider these measures as potential design elements that should be evaluated for inclusion in all roadway improvement projects, as appropriate to the project context.	Department of Public Works	Transportation Advisory Committee	ON-GOING		
Reduce traffic congestion and improve accessibility by improving multi-modal access, including vehicular access, public transit, walking, bicycling and ride-sharing.	Reduce traffic congestion and improve accessibility by managing traffic bottlenecks, improving connectivity of the roadway network, and upgrading intersection design and traffic controls.	The Town should study and/or implement improvement recommendations for the following intersections: <ul style="list-style-type: none"> • Route 135/Route 27 • Route 135/Speen Street • Route 135/Mill Street • Hartford Street/Bishop Street • Pleasant Street/Union Street/Route 16 • Walnut Street/Bacon Street/ Chestnut Street • Pine Street/Oak Street/ Erie Drive 	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	4-7 YEARS		Land Use Economic Development Parks & Open Space Historic & Cultural Resources

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Goal	Recommendation	Action Step	Lead Responsibility 	Support Responsibility 	Time Frame 	Metric	Coordination 
	Encourage walking and bicycling as modes of travel and exercise through improved pedestrian access and environment, an expanded pedestrian and bicycle network, and improved pedestrian and bicycle safety.	Incorporate bicycle lanes and sidewalks on Route 35.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	4-7 YEARS		Land Use Economic Development Open Space & Recreation
		Incorporate bicycle lanes and improve crosswalks on Speen Street.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	4-7 YEARS		Land Use Economic Development Open Space & Recreation
	Implement the transportation recommendations from The Golden Triangle Planning Study.	Implement the following recommendations: <ul style="list-style-type: none"> • Connections and Open Space Framework • Displaced Left Turn at Speen Street/Route 30 Intersection • MassPike Exit 13 Interchange Redesign • Commuter Shuttle 	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	1-12+ YEARS		Land Use Economic Development Open Space & Recreation Housing
	Review the pedestrian and bicycle network throughout Natick and develop comprehensive improvement plans to be implemented over time.	Implement the recommendations from the Pedestrian Accessibility Study.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	1-5 YEARS		Open Space & Recreation

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Goal	Recommendation	Action Step	Lead Responsibility 	Support Responsibility 	Time Frame 	Metric	Coordination 
		Consider undertaking a town-wide bicycle transportation plan to build upon the recommendations included in this plan.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	1-5 YEARS		Open Space & Recreation
	Encourage increased use of public transit through improved MBTA commuter rail station infrastructure and parking opportunities and improved local MWRTA public transit service.	Implement the pedestrian improvements from above.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	1-5 YEARS		Economic Development
	Evaluate parking supply, parking demand, and options for parking management through a downtown parking management plan.	Undertake a comprehensive parking and parking management study.	Department of Public Works	Community & Economic Development Department Transportation Advisory Committee	1-5 YEARS		Economic Development

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