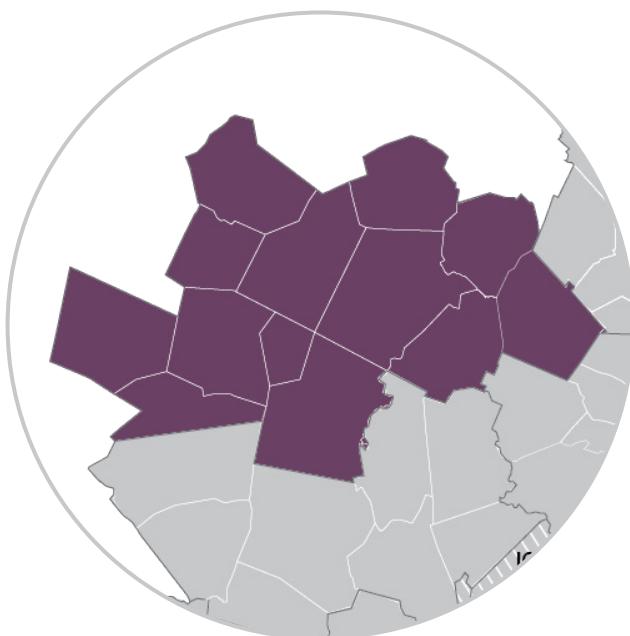


Minuteman Advisory Group on Interlocal Coordination (MAGIC)

Identifying Transportation Needs, Construction Projects,
and Studies in Your Subregion



Winter 2019



Acton • Bedford • Bolton • Boxborough • Carlisle • Concord • Hudson • Lexington • Lincoln • Littleton • Maynard • Stow • Sudbury

WHAT TRANSPORTATION NEEDS DID THE MPO IDENTIFY IN MAGIC COMMUNITIES?

The Boston Region Metropolitan Planning Organization (MPO) conducted an assessment of transportation needs in the Boston region to inform the MPO's current Long-Range Transportation Plan (LRTP), *Destination 2040*, adopted in August 2019. The MPO staff identified existing transportation conditions and made projections of future conditions and demand on the system. MPO staff also reached out to various subregional groups to discuss transportation needs and opportunities to improve transportation in the subregional communities. The resulting LRTP Needs Assessment serves as a tool for planning the region's future transportation network and prioritizing the MPO's limited funding for transportation projects and studies.

The tables that follow highlight some of the transportation needs identified in the MAGIC subregion based on MPO analysis, and the lists below highlight needs identified from past visits to MAGIC communities for the Needs Assessment. For more information, please refer to the *Destination 2040* Needs Assessment report and applications on our website: bostonmpo.org/lrtp.

Transportation Needs Identified in the *Destination 2040* Needs Assessment

Location of Identified Need	Municipality	HSIP Crash Cluster	Intersects MPO Staff-Identified Truck Crash Cluster(s)	Truck Crash Cluster	Priority Congested Location
Route 117	Bolton	●			●
Route 2 at Reformatory Circle	Concord	●	●		
Interstate 95 at Route 2	Lexington	●	●		
Interstate 95 at Route 4 (Bedford Street)	Lexington	●	●	●	
Interstate 495 at Route 2	Littleton	●	●	●	

Note: MassDOT-identified HSIP crash clusters, MPO staff-identified truck crash clusters, and MassDOT Top Crash Locations were identified using crash data collected from 2013–15. Pedestrian crash clusters were identified using data on crashes involving pedestrians collected from 2006–15. More information on these locations is available in the Safety Chapter of the *Destination 2040* Needs Assessment report, while the Capacity Management and Mobility chapter of that report provides details about MPO staff-identified Priority Congested locations.

HSIP = Highway Safety Improvement Program. MassDOT = Massachusetts Department of Transportation.
MPO = metropolitan planning organization.

**Projects Programmed in the 2020–24 Transportation Improvement Program in the
Minuteman Advisory Group Interlocal Coordination Subregion**

TIP Identification Number	Project	Category	Municipality	Year Programmed
609054	Reconstruction of Foster Street	Complete Streets	Littleton	2024
608229	Intersection improvements at Massachusetts Avenue (Route 111) and Main Street (Route 27) (Kelley's Corner)	Intersection Improvements	Acton	2022
608443	Intersection improvements on Route 2A at Willow Road	Intersection Improvements	Littleton, Ayer	2021
608164	Bruce Freeman Rail Trail, Phase 2D	Bicycle/Pedestrian	Sudbury	2022
607738	Minuteman Bikeway Extension	Bicycle/Pedestrian	Bedford	2022

TIP = Transportation Improvement Program.

Transportation Studies Conducted in the MAGIC Subregion through the Unified Planning Work Program

- First- and Last-Mile Transit Connections Studies in Concord (federal fiscal year [FFY] 2016)
- Addressing Priority Corridors from the LRTP Needs Assessment
 - Route 2 in Concord and Bedford (FFY 2013)
- Low-Cost Improvements to Express Highway Bottlenecks in Lexington (FFY 2017)
- Community Transportation Technical Assistance Program in Lincoln (FFY 2018)
- Bicycle Network Gaps: Feasibility Evaluations in Weston (FFY 2018)
- Safety and Operations Analysis at Selected Intersections
 - Lincoln Street and Cox Street/Packard Street in Hudson (FFY 2011)
 - Main Street (Route 117) and Still River Road (Route 110) in Bolton (FFY 2010)
 - Boston Post Road and Landham Road in Sudbury (FFY 2009)

Transportation Needs Identified through Outreach in the MAGIC Subregion

Roadway

- Improve Route 3 chokepoints at six bridge crossings
- Improve chokepoints over Concord Road (Route 225)
- Incorporate Complete Streets designs on Route 2 and 2A. (Massachusetts Department of Transportation [MassDOT] District 3 reconstructed Route 2A, but did not incorporate a bike lane)
- Fix safety challenges at the Landham Road/Route 20 intersection in Sudbury
- Improve the congestion in Lexington and Bedford on Route 4
- Improve Kelly's Corner in Acton
- Improve the Concord Rotary
- Include dedicated bus lanes in all major infrastructure projects 20 years out

Transit

- Add transit options where there are large parking lots on Route 3 and Route 128
- Add a new Bus Rapid Transit lane on Route 3
- Improve transportation options to access community colleges
- Expand transportation for seniors
- Support transit for suburban low-income residents
- Create connections from MAGIC subregion to Bedford and Lowell to access jobs and services
- Coordinate with the Massachusetts Bay Transportation Authority (MBTA) and Lowell Regional Transit Authority to improve cross subregional connections
- Provide transit service for off-peak times for service employees
- Create funding sources and space for regional transit authority (RTA) coordination
- Provide last-mile fixed-route transit and fixed-route service to connect transportation hubs to final destinations
- Provide incentives for people moving through multiple RTAs to encourage transit use and increase revenue for RTAs
- Create more transit hubs like Alewife Station in MAGIC subregion
- Create a local transit system serving Bedford and nearby communities
- Increase MBTA suburban bus service
- Implement reliable access for seniors and people with disabilities to commuter rail in Lincoln, Concord, and West Acton
- Incorporate efficient regional use of Council on Aging vans, which are often not used during commute hours nor on evenings, weekends, or holidays

- Create better options for last-mile connections to get people to jobs, including more frequent service in the evenings and on weekends when service workers work
- Encourage new affordable and/or senior housing developments to incorporate transit service (Municipalities want to meet Chapter 40 requirements but residents in some of the already-built isolated developments are very concerned about the car dependency)
- Create more transportation and more connectivity options for low-income residents and others who cannot, or do not want to drive, or own a car
- Fund community transportation projects to fill the void in public transportation and cross-boundary cooperation and coordination (for example, between RTAs or regional planning agencies)
- Expand the presence of transportation network companies and transit-oriented development near commuter rail stations

Bicycle

- Encourage opportunities to identify bikes in the Waze application
- Create connections to the Bruce Freeman Rail Trail in Framingham to establish bike connectivity from Lowell to Framingham
- Encourage businesses to support bikeshare to help employees get out during the day
- Create microhubs for transition points such as last-mile connections from trail systems for walking and biking
- Extend the Bruce Freeman Rail Trail to include the bridge over Route 2

Pedestrian

- Update the sidewalk database
- Increase walkability so people can live near where they work and shop
- Create more walkable communities and build near train stations, especially to support people as they age

Parking

- Support parking applications to locate available parking spots
- Implement the CrossTown Connect model coordinating with businesses with large parking lots close to major highways

Land Use and Technology

- Develop policy on autonomous vehicles (AV) and multiperson AVs
- Provide transportation opportunities to help people get to medical appointments
- Support subregional workshops on suburban mobility issues and solutions

Study Ideas and Opportunities in the MAGIC Subregion

Roadway

- Create an inventory of unmet needs

Transit

- Explore transit opportunities and the hiring and training of drivers to provide transportation to medical appointments
- Explore north to south transportation
- Provide transportation technical assistance for smaller suburban municipalities to help develop transit and mode-switching opportunities
- Advise on inefficient bus service with underused buses in the subregion

Parking

- Create a cost-benefit analysis of parking to expand parking lots near transit stations

Pedestrian

- Research public health connections to pedestrian, bike, and transit opportunities to make the case to people who are more focused on car infrastructure

Land Use and Technology

- Map airport traffic and Massachusetts Port Authority parking
- Create an electric car inventory and infrastructure plan
- Research the impact of Waze on local streets, such as traffic generation from local development and lack of local development
- Research the impact of AVs and regional transportation effects

SELECTED FINDINGS FROM BOSTON MPO REGION-WIDE NEEDS ASSESSMENT

Safety Needs

- Identify fatal and serious roadway crash factors and countermeasures
- Consider capital investment, education, enforcement, and other approaches to improve safety
- Address the MassDOT-identified Top 200 high crash intersections in the Boston region (66 total), such as those on Route 9 in Framingham, Route 107 in Lynn and Salem, and Route 16 in Chelsea, Everett, and Medford
- Improve pedestrian connections at intersections, especially in top-ranking pedestrian crash cluster locations, including those in downtown areas in Chelsea, Lynn, Quincy, Boston, and Framingham

- Expand well-maintained and connected sidewalk and bicycle networks
- Develop separated shared-use paths for pedestrians and bicyclists
- Address top-ranking bicycle crash cluster locations, including those in Boston, Cambridge, and Somerville
- Modernize obsolete interchanges, such as Interstate 90 and Interstate 95 (I-95) interchange in Weston and the I-95 Middlesex Turnpike interchange in Burlington, to reduce truck crashes
- Incorporate Complete Streets design and traffic calming principles in roadway projects
- Identify strategies to manage roadway user priority, parking, and curb space
- Identify and invest in priority transit state of good repair and modernization projects (for example, positive train control and rapid transit vehicle upgrades)
- Monitor advancements in AV technology and analyze the safety impacts of AV deployments, particularly in the Boston region

System Preservation and Modernization Needs

- Maximize the number of bridges in the region considered to be in good condition and minimize the number of bridges considered to be in poor condition
- Monitor the MassDOT Pavement Management program
- Identify the location of sidewalks and sidewalk conditions, specifically sidewalks around transit stations
- Support investments that improve the accessibility of transit stations, bus stops, and paratransit services
- Support investments that upgrade transit fleets, facilities, and systems to provide more efficient, reliable, and sustainable service
- Support climate vulnerability assessments and invest in projects and programs resulting from these processes
- Improve connections between intermodal facilities and the regional road network
- Improve resiliency of the region's transportation system to prepare for existing or future extreme conditions, such as sea level rise and flooding

Capacity Management and Mobility Needs

- Reduce congestion on expressways, interchanges and arterials
- Reduce congestion at bottleneck locations on the regional roadway network
- Continue to monitor car sharing as it is poorly integrated with other modes and not accessible in all areas
- Continue to monitor Transit Demand Management (TDM) services
- Research strategies for TDM as relatively few municipalities in the Boston region have TDM ordinances

- Reduce congestion on regional roadways to facilitate the movement of freight
- Reduce conflicts between automobiles and delivery trucks that are competing for curb space
- Improve access to transit service that runs frequently
- Increase capacity at park-and-ride lots that are at or approaching capacity
- Improve the reliability of bus service as bus speeds are projected to decline due to increased congestion (for example, the introduction of more dedicated bus lanes could be a potential solution)
- Address increased transit delays resulting from the system's aging rapid transit infrastructure
- Address crowding on rapid transit lines and bus routes; According to a 2040 no-build scenario, crowding is projected to increase to unacceptable levels in some locations
- Address the need for sufficient MBTA garage space to fully modernize and expand the fleet
- Examine off-peak and reverse commute options between suburban areas and the Boston Central Business District as the commuter rail mostly serves peak-period travel
- Identify challenges to making first- and last-mile connections, which are major barriers to transit usage
- Expand pedestrian and bicycle infrastructure so that residential areas and employment locations are close to facilitates that are conducive to regular use
- Connect the disjointed elements of the bicycle network to create a cohesive network
- Create a comprehensive inventory of exiting sidewalk data, including sidewalk coverage and condition

Clean Air and Sustainable Community Needs

- Reduce carbon dioxide emissions from MPO-funded transportation projects and programs to help meet the requirements of the Global Warming Solutions Act, particularly projects that help to reduce vehicle-miles traveled
- Prioritize transportation projects that meet the Green Communities certification and assist municipalities in meeting or maintaining these certifications
- Provide data and assistance to municipalities in developing their greenhouse gas inventories and energy reduction plans
- Reduce volatile organic compounds, nitrogen oxides, carbon monoxide, and particulate matter emissions from MPO-funded transportation projects and programs (particularly those that help to reduce vehicle-miles traveled) to help maintain the air quality standards in the region
- Identify projects and programs that can meet criteria established to protect wetlands, cultural resources, open space, and wildlife
- Ensure that infrastructure to reduce storm water pollution and impacts from natural hazard events (for example, flooding or winter storms) is incorporated in project design

Transportation Equity Needs

- Address the lack of transit service for transportation equity (TE) populations compared to service available to non-TE populations
- Increase reliability of rapid transit and bus service for populations whose only option is transit
- Address inadequate access to safe bicycle facilities for elderly and youth populations
- Increase docked bikeshare facilities in the Inner Core for some communities with a high share of low-income or minority populations
- Increase off-road active transportation routes in communities with a high share of TE populations that live near congested roadways
- Improve coordination of schedules, routes, and services between towns and the MBTA and other RTAs
- Expand transit service (late night, early morning, and reverse commute) between job-rich centers, such as Longwood Medical Area, the Seaport, suburban job centers, and underserved neighborhoods
- Provide new transit service between low-income suburban residential communities and suburban job centers
- Consider building transit-oriented developments that provide affordable housing near transit hubs and employment centers to meet the needs of TE populations
- Improve sidewalks and street crossings, especially around schools, so that they are safe for children and elderly adults
- Document potential exposure of TE populations to climate change impacts and determine how the ability to access transportation may be affected

Economic Vitality Needs

- Administer infrastructure improvements to support growth in the priority development areas, including improving equitable access to employment and housing via public transit, walking, and biking options
- Arrange better commuter rail scheduling including more frequent, reliable off-peak, late-night, and weekend service to support reverse commuting, especially for service workers
- Coordinate with RTAs to address the needs of customers who travel between different RTA service areas
- Provide funding sources to connect RTA services



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