LYNN

TRANSIT ACTION PLAN

Final Report

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Massachusetts Bay Transportation Authority

massDOT
Massachusetts Department of Transportation

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LYNN
TRANSIT ACTION PLAN

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Executive Summary

Lynn is a unique community in the Greater Boston region. Located 10 miles north of Boston, it's population and density are more similar to Boston's immediate neighbors of Chelsea and Somerville than to surrounding North Shore communities, yet it does not have direct connections to MBTA rapid transit or key bus routes. In early 2019, the MBTA *Focus40* Plan identified Lynn as a priority place to target improvements to public transportation.

The Lynn Transit Action Plan identifies strategies for providing faster, more reliable transit services. The goal of the Plan is to make it easier for Lynn residents and those who travel to or through Lynn to get where they need to go with public transit. Additionally, the Lynn Transit Action Plan identifies how both large and small improvements to transportation can help Lynn become better connected and more integrated in the region's economy.

The Plan focuses on cost-effective, implementable solutions that aim to address the current needs of residents in the near-term, as well as support anticipated future growth in the longer term. The recommendations are drawn from analysis of transportation, demographic, and land use data, complemented with robust stakeholder and public engagement. Where the data sources reveal

critical information about where people need to travel and how transit serves these needs, the outreach program helps to illustrate why people use or do not use transit and what improvements would support them.

In addition to its density, Lynn's downtown area also has a high rate of households with no cars and households with incomes below the poverty line – all factors pointing to transit reliance. Many of Lynn's environmental justice communities are also located in and around the downtown. Yet Lynn's rate of transit use is not as high as these metrics might indicate, signifying a potential mismatch between the services provided and travel needs. Several factors could explain this lower than expected level of transit use, including the characteristics of the travel needs and the attractiveness of driving (or carpooling) as an alternative mode.

This effort found that for Lynn residents, transit services **broadly connect people to the places they need to go, but improvements to reliability, off-peak frequency, and access** could make transit a better mobility choice for commuting and local travel needs.

The following key takeaways highlight the most prominent opportunities for improvement, based on the findings from extensive data analysis, public input, and stakeholder engagement.

Note: These analyses on ridership and demand were conducted before the COVID-19 pandemic, which has contributed to reduced ridership systemwide and will continue to have longer term ridership implications that we cannot predict. However, as a community with a high proportion of essential workers, the importance of transit service for the residents of Lynn persists and many of these findings could hold as ridership demand returns.

Getting buses out of traffic, increasing the use of CharlieCards, increasing midday local bus frequency, and creating more comfortable walking and biking facilities could support mode shift, as a majority of travel needs are local and trips are short.

- Across all modes of travel, **67 percent of trips are made within the city boundaries and almost half of all travel that starts in Lynn are trips of less than two miles**. Short trips are challenging to serve effectively with public transit, as walking, biking, or driving is almost always a faster option.
- As Lynn continues to grow and develop, **improvements to pedestrian and bicycle facilities could both improve access to transit** and reduce traffic congestion by supporting mode shift.
- Transit riders and non-riders in Lynn rated **frequency and reliability of MBTA service as the highest priority** areas for improvement.
- **Existing bus routes directly serve most of the high-demand destinations**, such as local schools, regional malls, and Salem. However, **infrequent midday service** makes driving, for those with access to a vehicle, a more attractive choice, and makes trips longer, for those who use the MBTA.
- Some corridors have **high levels of bus delay and unreliability**, caused in part by roadway congestion, on-board cash payment, and double-parked cars blocking buses.
- While most of Lynn residents live within a quarter mile of a bus stop, **only 40 percent of the 408 stops in Lynn are considered accessible** and most bus stops do not feature amenities like shelters or real-time bus arrival information, affecting customer experience.

Increased frequency and affordability of transit options to Boston job centers, by bus and Commuter Rail, could improve commutes for many residents, open up new employment opportunities for others, and support economic development opportunities as the City of Lynn continues to grow.

- **Over 12,000 trips are made from Lynn to Boston on an average weekday**, making Boston the second most frequented destination by municipality. Many of these trips are commutes to jobs in downtown Boston, at the airport, and in areas with medical centers and occur throughout the day due to non-traditional work schedules.
- **Transit plays an important role in access to Boston.** Approximately 12 percent of all trips to Boston are by transit, with around 370 by Commuter Rail, 450 by express bus, 350 by local bus and Blue Line, and 325 by driving to the Blue Line. During the peak period, transit accounts for 40 percent of trips, as it can be faster than driving and cheaper than parking.
- Planned future development indicates that **new residents may also commute to Boston**.
- The Commuter Rail provides direct access to Boston and is often quicker than driving during rush hour congestion, **but the fare costs are prohibitive for some residents**. Survey results indicate that higher income households are more likely to use the Commuter Rail or the Blue Line to get to Boston than lower income households. Other transit options are more economical but take longer.
- **The Commuter Rail garage has capacity**, filling only 50 percent of the 900+ spaces most days. Deteriorating conditions and poor lighting dissuade users and **peak-hour commuter trains are often over-crowded.**

MassDOT and the MBTA worked with the City of Lynn and the Lynn Transit Action Plan Advisory Committee to develop recommendations that reflect these key takeaways and speak to the near and long-term goals for the City, as informed by stakeholder engagement. In the near term, these recommendations intend to support transit dependent communities and grow transit usage among all residents by focusing on the travel needs of today – namely improving reliability and access by bus and Commuter Rail to key employment hubs and destinations across the North Shore and in Boston. In the long term, these foundational efforts can build support and demand for larger scale, transformative investments that further support economic growth and sustainability. The recommendations are organized into three categories:

- *Prioritize buses on roadways using bus lanes and transit signal priority to improve reliability and frequency. Taking buses out of traffic and helping them move efficiently through intersections is a low-cost way to improve the experience for current riders and make the bus a better mobility choice for non-riders in the short-term, benefitting trips both locally and between Lynn and Boston. This Plan recommends the following bus priority investments:*
    - Western Avenue (Route 107) Shared Bus/Bike Lanes
    - Multimodal Improvements on Route 1A, Central Square to Wonderland
    - Broad Street Multimodal Corridor
    - North Common Street Bus Lane
    - Citywide Transit Signal Priority
- *Improve access to transit and enhance customer experience by removing barriers and providing upgraded amenities. This makes it easier for riders to access MBTA services and encourages new riders through improved connections to stations. This category includes a mix of short-term and long-term recommendations and focuses mainly on local access. This Plan recommends the following enhancements:*
    - Commuter Rail Service Improvements
    - Lynn Station and Garage Improvements
    - Bus Stop Amenities Integration in Roadway Projects
    - Bus Stop Consolidation and Accessibility
    - Expanded Access to Information
    - Bicycle and Pedestrian Network Improvements
    - Transit-Supportive Urban Design
- *Reimagine how the network functions through coordination among transportation network improvement initiatives that will affect future service plans in the long-term, both locally and between Lynn and Boston. This Plan coordinates these recommendations with network level initiatives, including:*
    - Bus Network Redesign
    - Rail Transformation
    - Ferry Service

1 Introduction

The Lynn Transit Action Plan identifies recommendations for faster, more reliable transit services for Lynn; into Boston, and throughout the North Shore.

The Lynn Transit Action Plan provides a holistic assessment of the mobility demands and needs of the city's residents. It identifies recommendations to make public transit services in and around Lynn faster, more reliable, and better matched to where people need to go. This chapter frames the scope of the project in Lynn's specific context and describes the project's purpose, goals, and methodological approach.

Project Context

In early 2019, the MBTA *Focus40* Plan identified Lynn as a "priority place" for potential improvements to public transportation – a place that would benefit from and can support higher quality transit service (Figure 1-1). MassDOT and the MBTA developed the Lynn Transit Action Plan to hone in on the specific strategies to address this challenge and make public transit a better mobility choice for residents.

The study centers on the needs of residents of Lynn and the study area reflects this focus. The Plan analyzes the challenges and potential improvements within the boundaries of the City of Lynn and along external corridors that provide access to key destinations for Lynn residents.

Figure 1-1 *Focus40* Priority Places (North of Boston)

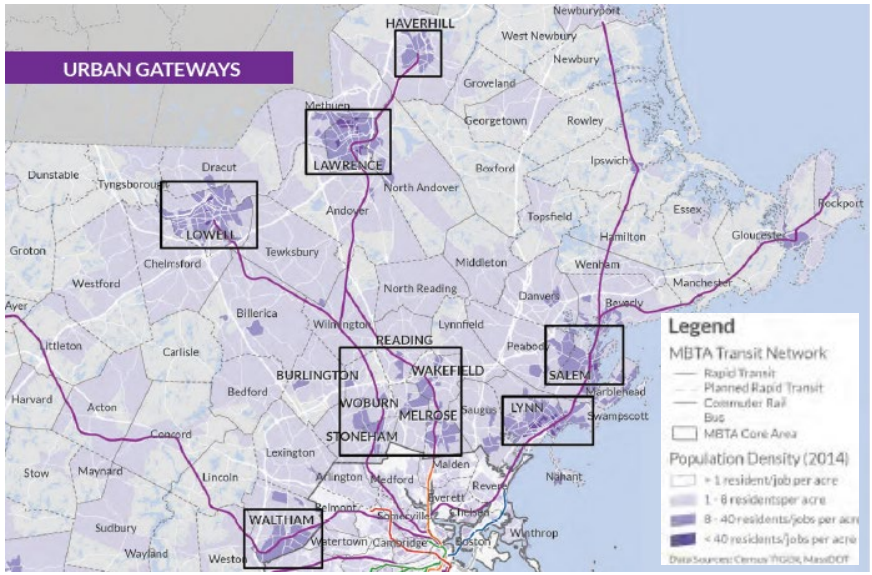
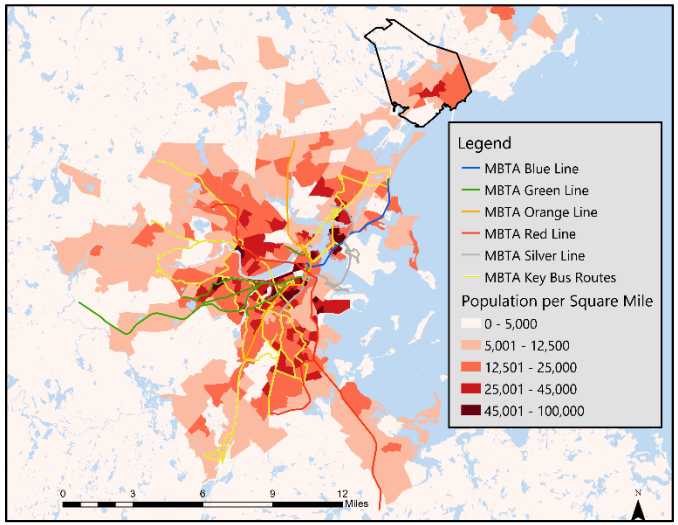


Figure 1-2 Lynn in the Greater Boston Region



Lynn's Unique Position

Located less than ten miles northeast of Boston, Lynn is a diverse, densely populated city of nearly 95,000 residents. Lynn occupies a distinct niche in Greater Boston: it is the most densely populated area in the North Shore, but does not have either rapid transit or key bus route service, as it is outside the core MBTA service area (Figure 1-2). For this study, the North Shore is defined collectively as Beverly, Danvers, Lynn, Marblehead, Nahant, Peabody, Salem, Saugus, Swampscott, Revere, and Winthrop.

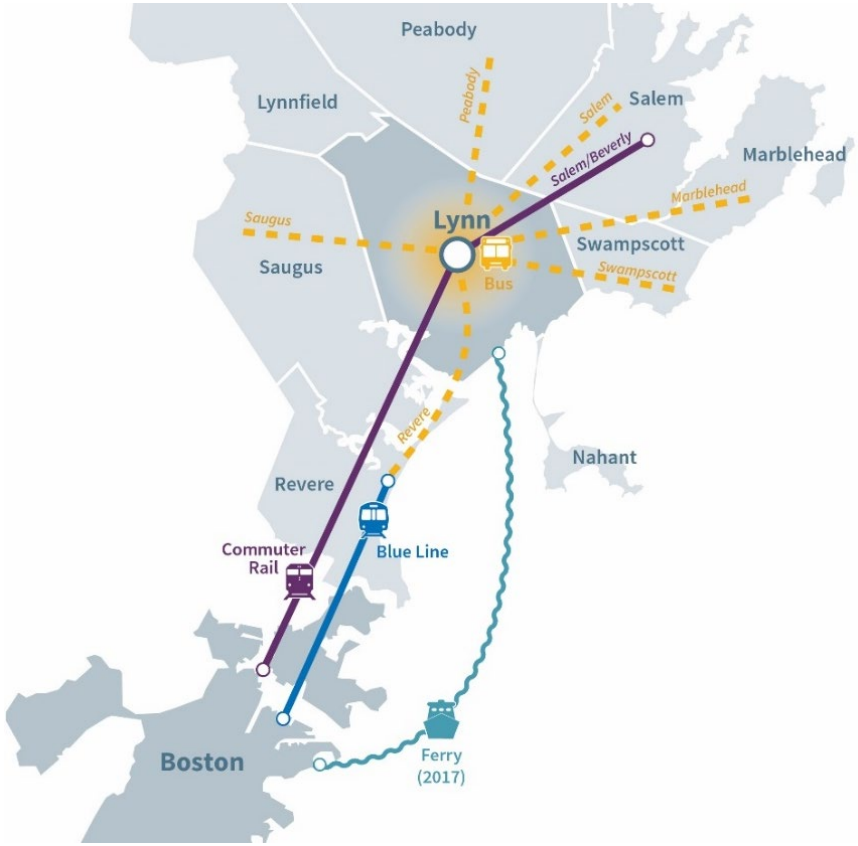
The City of Lynn includes a number of immigrant communities: approximately one third of the population was born outside the United States and around 50 percent of the households speak a language other than English at home. In addition, Lynn's residents face financial burdens at a greater rate than other cities in the region: approximately 20 percent of households live below the poverty line and the average household income is just over $50,000. Improving access to opportunities across the Boston region through a stronger transit network is a vital part of supporting the City's lower income and immigrant communities.

Lynn also anticipates significant growth and development. Historically an industrial and coastal hub, Lynn has plans to transform large industrial areas along the Lynn Harbor and Saugus River into residential and mixed-use developments. A full build-out could establish over 4,000 new residential units, over 1.5 million square feet of retail and commercial uses, and a new green space along the Lynn Harbor to create a vibrant new connection to the waterfront.

The MBTA network serves residents of Lynn through several means (Figure 1-3). Twelve MBTA bus routes connect Lynn to other communities in the region and downtown Boston. A number of these bus routes connect to Wonderland Station, where passengers can access the MBTA's Blue Line rapid transit service. These buses travel through congested corridors, resulting in delays that increase travel time and reduce reliability.

Meanwhile, the MBTA Commuter Rail Newburyport/Rockport Line stops in Lynn, connecting to other North Shore communities and downtown Boston. The Commuter Rail provides a faster trip, but at a higher cost – the $7.00 one-way Commuter Rail fare between Lynn and Boston results in many Lynn residents choosing to use other modes. Lynn's population density, urban fabric, proximity to Boston, and high levels of transit dependency invite the evaluation of potential opportunities to improve this transit service to, from, and within the city.

Figure 1-3 Overview of Lynn Transit Services



Project Purpose and Goals

The overarching aim of the Lynn Transit Action Plan is to make public transit a better mobility choice for residents by making it better match their needs – improving the experience for those who currently use the system and attracting new riders. The Plan also considers how transit improvements can leverage Lynn's location near Boston to better position the City to fully participate in the region's economic growth. Within this context and based on input from local and regional stakeholders, the project team established a three-pronged framework through which to evaluate potential recommendations:

- **Equity:** Pursue mobility improvements that ensure all users, including disadvantaged populations, have high-quality transit that provides access to the resources they need.
- **Economic Development:** Pursue mobility improvements that support the local economy while improving access to regional nodes.
- **Environment:** Pursue improvements that promote sustainable transportation choices and the advancement of resiliency as well as greenhouse gas (GHG) reductions.

This approach will help to ensure that the recommendations included in this Plan will not only meet the mobility needs of Lynn residents, but will support the City and region's larger goals.

Previous Studies

The recommendations in this plan build upon the findings from prior and ongoing efforts revealing important considerations about Lynn's transportation needs and context. Existing density of housing and employment in Lynn demonstrate that it can support increased transit service, and make it a good candidate for additional transit-oriented development.[1,2] However, challenges with the current transit services prevent the City from fully capitalizing on its development potential.

Several studies have looked at improving the city's transportation links to Boston. MassDOT conducted a North Shore Transit Improvements Alternatives Analysis/Draft Environmental Impact Statement in 2011, which evaluated a potential Blue Line extension to Lynn and a shuttle service between Wonderland and Lynn.[3] Corridor studies of Route 107 and Route 1A both recommended improvements for better transit access, while multiple studies have looked at ferry service between Lynn and Boston.[4,5,6,7] Notably, the Better Bus Project – with a first set of changes rolled out on September 1, 2019 – is looking at ways to improve the MBTA bus network. Similarly, the MBTA Rail Vision, which concluded in Fall 2019, assessed how the Commonwealth could better leverage the Commuter Rail system to meet its mobility and economic development needs. How Rail Vision and Bus Network Redesign pertain to Lynn is covered in greater detail in Chapter 4.

Recent efforts have also evaluated fare structure for MBTA services, a key issue for lower income residents in Lynn. One study tested the effect of discount fares, finding that low-income riders use transit more when they have access to discounted fares.[8] It also found that low-income riders use transit differently than the average rider – conducting more off-peak trips, with heavier reliance on buses and lower use of weekly or monthly passes. The MBTA published the Commuter Rail Zone Study in March 2020, which included analysis of the current fare structure and made several recommendations for adjustments.[9] The recommendations in Chapter 4 related to Commuter Rail highlight the findings from this study.

The ***Congestion in the Commonwealth: Report to the Governor 2019*** identified the Route 1A corridor between Revere and Boston as one of the most congested corridors in the region. Additionally, the report noted that *"since 2012, median travel times on both inbound and outbound [MBTA Route 441] trips have remained steady at around 50 minutes. But long trips have been getting even longer since 2016. It can take over 70 minutes to get from one end of the route to the other."*

[1] Paxton-Martin, Andrés and Catherine Tumber, "Opportunity Zones and Transformative Transit-Oriented Development in Gateway Cities," MassINC Gateway Cities Innovation Institute, TTOD Policy Brief #1, November 2018.
[2] City of Lynn Economic Development Industrial Corporation, "Ecomonic Development Strategy: Lynn, Massachusetts," September 2015.
[3] MassDOT, "North Shore Transit Improvements: Alternatives Analysis/Draft Environmental Impact Statement," December 2011.
[4] MassDOT, "Route 107 Corridor Study: Analysis and Multimodal Design of Recommendations Along Route 107 in Salem and Lynn, MA," November 2016.
[5] Central Transportation Planning Staff of the Boston Region Metropolitan Planning Organization, "Route 1A/Lynnway/Carroll Parkway Study in Lynn," June 2016.
[6] MassDOT, "Lynn-Boston Water Transit Sustainability Analysis Report," February 14, 2017.
[7] Boston Harbor Now, "Comprehensive Boston Harbor Water Transportation Study: Lynn, MA Ferry Dock Research and Recommendations," March 2019.
[8] Rosenblum, Jeffrey, et al., "How Low-income Transit Riders in Boston Respond to Discounted Fares: A Randomized Controlled Evaluation," Massachusetts Institute of Technology, June 9, 2019.
[9] MBTA, "Commuter Rail Zone Study," March 2020.

Project Approach

The Lynn Transit Action Plan project team used a combination of analytical and qualitative methods to develop recommendations (Figure 1-4) through a multi-step process:

- Assess existing conditions, including the mobility needs of the community;
- Develop and evaluate a range of potential improvements; and,
- Identify recommendations and next steps.

The following subsections provide more detail about the analytical and qualitative methods used in this process.

Figure 1-4 Project Approach – Analytical and Qualitative Methods

Analytical Methods

- MBTA Ridership Analysis
- Location-Based Services Analysis
- Traffic Data Analysis
- Ferry Market Analysis
- Public Input Survey

Qualitative Methods

- Advisory Committee
- Stakeholder Outreach

Analytical Methods

A range of data sources and analyses provided insight into the current transit service and potential gaps in the system.

MBTA Ridership Analysis

Two MBTA data sources provided essential information on current ridership patterns and bus delay: automatic passenger count (APC) data and the origin-destination-transfer (ODX) model. MBTA buses use automatic passenger counters to count boardings and alightings by stop on each trip and aggregate that data to estimate typical weekday boardings. This analysis uses APC data to assess ridership by route, location, and time of day. The ODX data originates from a series of transactions for a CharlieCard or CharlieTicket over the course of a day. The ODX model helps the MBTA understand where people go when they use transit by inferring each trip's origin, destination, and any transfers. The analysis uses 16 weeks of ODX data from 2017, comprising 16 weekends and 81 weekdays, with trips broken into periods (Saturday, Sunday, and nine MBTA-defined Weekday periods).

The ODX analysis in this study examines top origin stops, top destination stops, and top origin-destination pairs, to understand key locations and routes for trips starting or ending in Lynn across different time periods. The analysis assesses if there are certain times when demand peaks and could potentially support frequency improvements (e.g., travel between Lynn and Boston has different demand patterns than travel between Lynn and the airport or Lynn and key retail locations). With the MBTA network offering a number of connections, the Lynn Transit Action Plan also examines common transfers (e.g., at Wonderland) to evaluate potential new direct connections.

Location-Based Services Analysis

To complement the ODX analysis, the Lynn Transit Action Plan considers trip patterns for *all travel, regardless of mode, using the* Location-Based Service (LBS) data. Analysis of travel patterns more broadly can help identify key gaps in the transit service, such as locations where there is no or limited transit service that appear to have a significant amount of demand. LBS data uses anonymized records drawn from smartphone apps with location enabled to track trip origins and destinations. It defines a "trip" as an instance of travel between two locations followed by a 10-minute stay. For example, if someone walks from his or her home to a park several blocks away and sits on a bench for more than 10 minutes, this is counted as one trip. If that person then walks to a coffee shop, this is counted as a second trip. While all the data are anonymized, the data available to MassDOT and the MBTA are scaled up to the Census Block Group level, ensuring privacy and making it impossible to isolate any one individual's movements. The Lynn Transit Action Plan analyzed the LBS data for all trips with at least one end in Lynn.

The analysis uses the LBS data to identify the largest travel markets for trips starting and/or ending in Lynn, by community/neighborhood and time of day. It then assesses how well the current transit service meets travel needs for high-demand locations, which it uses to identify opportunities for service improvements. Appendix C further details this analysis.

Traffic Data Analysis

The Lynn Transit Action Plan also reviews new and previously collected traffic data on roadways that carry MBTA bus lines to better understand the existing roadway conditions. New traffic counts cover 48-hour periods during typical weekdays and include the traffic volumes, classifications, and speeds on each roadway. The analysis also identifies, reviews, and incorporates previous traffic counts collected as part of other studies from 2015-2019 on transit corridors in Lynn.

The traffic volumes provide baseline existing conditions for the roadway network and help to identify the percentage of roadway users on each corridor that travel via public transit. The analysis also incorporates the traffic data into the development and evaluation of the proposed alternatives to assess potential impacts to the roadway network.

Bus and Personal Vehicles Stopped at Traffic Light

Ferry Market Analysis

The Lynn Transit Action Plan considers a potential ferry service between Lynn Blossom Street Pier and either Long Wharf (downtown Boston) or Fan Pier (Seaport District of Boston). The analysis builds on prior service and ferry studies to estimate market demand between the North Shore and Boston.

The ferry market demand analysis uses the LBS data to identify trips between the North Shore and Boston that fall within the potential catchment area for ferry service. It incorporates land use growth projections both for Lynn and Boston to estimate the potential demand for a ferry service in both 2018 and 2040.

View of Lynn Harbor from the Lynn Blossom Street Pier

Mural in Lynn

Public Input Survey

As part of the outreach efforts, MassDOT conducted a survey of transit riders and non-riders within the MBTA service area in Lynn. The survey sought to understand how residents use public transportation (or why they do not use it) and what improvements they would like to see. The survey included questions about the frequency of transit use and specific types and routes, destinations accessed by transit, preferences around mode choice and priorities for improvement, and demographic information (optional).

MassDOT made the survey available in six languages and distributed it widely, using both electronic distribution (e.g., on the project website, email lists, and on MBTA social media) and via printed and in-person distribution at key locations throughout the City (e.g., high schools, transit stops, and farmers markets). MassDOT collected a total of 1,081 responses through these channels. Chapter 2 details the survey methodology, distribution, and findings.

Qualitative Methods

In addition to the detailed analytical methods, MassDOT sought stakeholder and community input and feedback throughout the project.

Advisory Committee

At the outset of the project, the team convened a study Advisory Committee. The members of the Advisory Committee represent a variety of interests in the City of Lynn, including city and state offices, and community groups for residents and businesses (Table 1-1).

The Advisory Committee meetings covered the following topics:

- Advisory Committee Meeting #1 (June 17, 2019) included a project overview, a brief summary of existing conditions, and a discussion around defining the project goals and objectives.
- Advisory Committee Meeting #2 (October 2, 2019) shared findings from the existing conditions analysis and solicited feedback on potential improvements to analyze.
- Advisory Committee Meeting #3 (January 31, 2020) provided an update on potential recommendations and presented concepts for a series of potential bus lanes for feedback.
- Advisory Committee Meeting #4 (June 18, 2020) presented refined concepts to gather input prior to the completion of the study. This meeting was conducted online.

In addition to providing guidance at meetings, the Advisory Committee members actively shared project news and information with their constituents. This outreach from the Advisory Committee included circulating the public input survey and providing notifications about events (such as the project open house), which enabled MassDOT to solicit feedback from a broad group of transit users and non-users.

Table 1-1 Advisory Committee Members

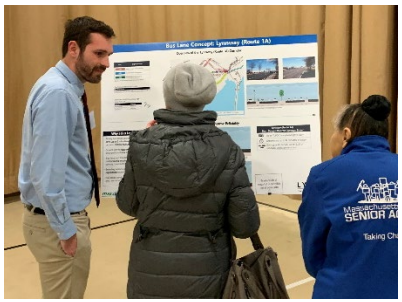
Name	Affiliation
Andrea C. Baez	YMCA of Metro North
Daniel Cahill	Massachusetts House of Representatives
Peter Capano	Massachusetts House of Representatives
Colin Codner	Lynn Area Chamber of Commerce
Jim Cowdell	Economic Development & Industrial Corporation of Lynn
Brendan Crighton	Massachusetts Senate
Amanda Dooling	North Shore Community College
Lori Ehrlich	Massachusetts House of Representatives
Jonathon Feinberg	New Lynn Coalition
Kurt Gaertner	Executive Office of Energy and Environmental Affairs
Gordy Hall	Lynn Business Partnership
Fred Hogan	Lynn City Council
James Marsh	City of Lynn, Director of Community Development
Frances Martinez	North Shore Latino Business Association
Thomas McGee	City of Lynn, Mayor
Seth Moulton	United States House of Representatives
Lisa Orgettas	Independent Living Center of the North Shore and Cape Ann, Inc.
Kathleen Paul	Massachusetts Senior Action Council, Lynn Chapter
Tonia Scalcione	Executive Office of Housing and Economic Development
Edward Shinnick	City of Lynn, Traffic Commission
Natasha Soolkin	New American Association of Massachusetts
Donald Wong	Massachusetts House of Representatives

Stakeholder Outreach

The outreach efforts focused on being inclusive and interactive – providing opportunities throughout the process to engage with the project and multiple platforms for providing input. Since approximately 50 percent of the population in Lynn speaks a language other than English at home, the outreach often included materials in multiple languages commonly spoken in Lynn. Typically, materials produced had both English and Spanish versions, and some materials also had versions in Haitian Creole, Brazilian Portuguese, Russian, and Khmer. The approach to stakeholder outreach included five main channels:

- Public input survey, as described in previously;
- Two open houses;
- Project briefings for area stakeholders;
- Digital communication through a project website and email list; and,
- Coordination with other agencies.

MassDOT held an open house to get feedback on potential transit improvements.



The Open House included stations with bilingual boards (in English and Spanish) for multiple improvements.

Stakeholders participated in two open houses featuring information about the Lynn Transit Action Plan. On November 16, 2019, MassDOT presented on the project and sought feedback at the Lynn City Summit, hosted by the City and MAPC. At the open house, MassDOT distributed a flyer about the project in English, Spanish, and Khmer. On February 11, 2020, the North Shore Community College hosted an open house for the Lynn Transit Action Plan. MassDOT used a multipronged approach to publicize the open house:

- Advisory Committee members shared information about the open house with their constituents;
- The project team handed out over 300 flyers and 600 postcards, in English and Spanish, throughout the City in advance of the open house;
- The MBTA posted advertisements for the open house on a number of the buses serving bus routes in Lynn;
- A North Shore newspaper, The Daily Item, published a front-page story about the open house in advance of the meeting; and,
- MassDOT updated the project website with information about the open house and sent emails to the project email list.

The open house included a presentation and a number of stations representing a variety of initiatives with bilingual boards (in English and Spanish) where attendees could discuss potential recommendations with representatives from the project teams. MassDOT received considerable feedback at the open house, both verbally and in written form which are included in Appendix F.

Along with the Advisory Committee meetings and open houses, MassDOT conducted stakeholder briefings throughout the project. These briefings provided valuable perspectives about the project and potential improvements, with findings described in Section 3.4. In addition to the groups represented by the Advisory Committee, these briefings included:

- City of Lynn Department of Public Health
- City of Lynn Department of Public Works
- City of Lynn Housing Authority
- Lynn Public Schools Superintendent and Transportation Director
- City of Revere Economic Development

Lynn City Hall

For stakeholders who could not attend meetings, the project website, www.mbta.com/lynntransit, provides an overview of the project. It also included notifications of upcoming events and maintains links to past event materials. The website has a link to sign up for email updates. Through this link and other outreach efforts, the project maintained an email list of over 200 addresses.

In addition to collaborating with the Lynn community, MassDOT collaborated with other stakeholder agencies and other internal projects. This coordination included:

- Frequent coordination with other MassDOT or MBTA projects that could affect transit in Lynn, such as Bus Network Redesign, Rail Vision, Commuter Rail Zone Study, Lynn Commuter Rail Garage project, Route 107 and Route 1A bridge projects, and the Route 107 roadway improvement project;
- Discussions with MBTA bus operators at the Lynn Garage to obtain feedback about what works well and does not work well on the existing routes;
- Collaboration with the Northern Strand Community Trail project team to review how potential improvements could be incorporated into designs for the Northern Strand and vice versa; and,
- Workshops with the Massachusetts Department of Conservation & Recreation (DCR) to develop and review recommendations for transit improvements on roadways owned by DCR (including the Lynnway).

Chapter 2 describes the existing conditions in Lynn, including the market for transit, existing services, and transit competitiveness. It also summarizes findings from the outreach process. Chapter 3 builds on Chapter 2 with near and long-term recommendations. Chapter 4 concludes the report and identifies potential next steps for implementation.

2 Transit in Context: Data and Analysis

With lower incomes and reduced access to personal vehicles, people in and around downtown Lynn are more likely to rely on transit to get around.

MBTA services in Lynn serve two key functions: providing connections to the downtown core of Boston and providing access to key destinations across the North Shore.

Lynn is the most densely populated area in the North Shore, closer in this metric to communities in the inner core than to its surrounding communities like Salem or Saugus. And, the rate of zero car households – over 20 percent – is higher than in the surrounding area, indicating that residents may be more likely to rely on transit to get around.[10]

Yet, Lynn is disconnected from the high frequency transit networks serving the inner core, and transit, walking, and biking do not account for a significant share of trips made within, to, or from Lynn. Like many of the surrounding communities, Lynn is fairly car-centric.

This chapter examines the conditions in Lynn that help explain this outcome, describing how land use and demographic conditions shape demand for transit, the character and ridership trends associated with existing services, and how current transit service compares against driving. These analyses reveal the challenges with existing service and indicate what types of changes could improve it.

[10] U.S. Census Bureau, American Community Survey 5-year estimates

View of Downtown Lynn

The Market for Transit

Successful transit services attract riders when they feature two key components:

- Provide access to where people need to go
- Provide a reasonable way to travel as compared to other mobility options, in particular, driving

When a transit service achieves both, people are more likely to use it – it is competitive as compared to using other ways to get around. It is important to note that there are some riders who use the MBTA for every trip they make, and some that decide between bus, train, driving, or ridehail for each individual trip. A more competitive bus system will give people better choices on where they can go and how they can get there, regardless of whether they currently have access to a car. To make transit more useful to people, it needs to be more competitive for those who own cars – and those who do not. Factors like travel time, frequency, number of connections, and walking distance inform metrics that help evaluate why people choose to use or not use public transit (Figure 2-1).

Demographic and land use patterns shape where transit service can be competitive, they are building blocks for the demand for transit service and, therefore, the service type and frequency that matches the ridership potential. Generally, higher concentrations of people, jobs, and a variety of land uses create a stronger base for transit ridership, warranting higher frequency and capacity services. It is more difficult to build successful transit services – like bus routes or rail lines – in areas with fewer people and areas that lack concentrations of employment centers and other important destinations.

The following sections describe how Lynn's demographics, land use, and geography shape the demand for transit among residents in the city.

Figure 2-1 Competitive Transit

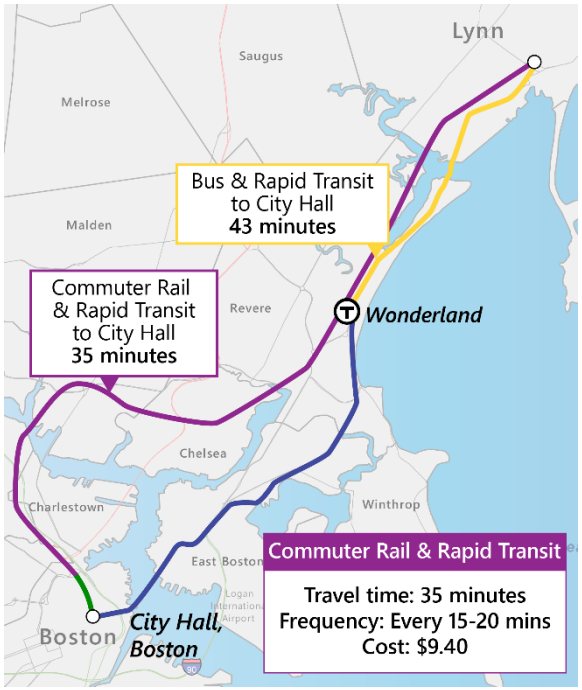
Essentials of Competitive Transit

- Make transit go where people need to go.
- Make service run when people need to travel.
- Make travel times reasonable.
- Make travel times consistent from day to day.
- Make service affordable to all users.

Competitiveness Examples: How Travel Time Comparisons Influence the Attractiveness of Transit

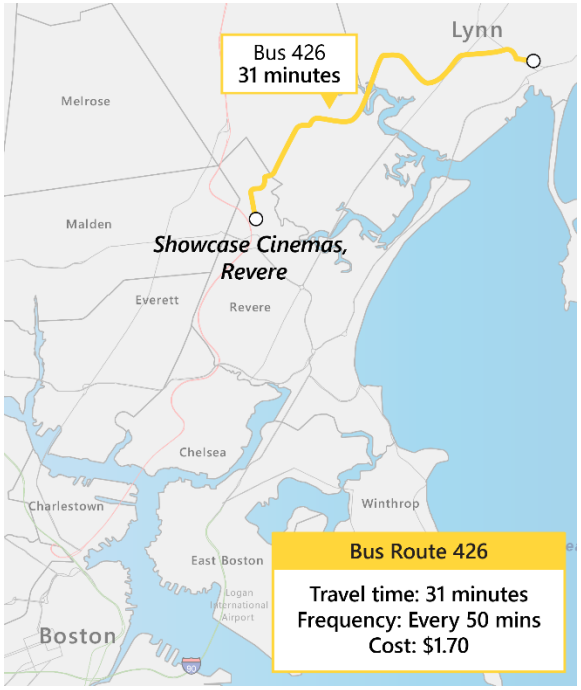
1 Transit is competitive with driving

A weekday trip from downtown Lynn to Boston City Hall during morning peak can be faster and cheaper on transit (especially considering the time and cost of parking). While the trip can take up to an hour in a car, it is about 35 minutes by Commuter Rail, and under 45 minutes by bus and the Blue Line. In this case, transit access to Boston is competitive with driving.



2 Transit is <u>not</u> competitive with driving

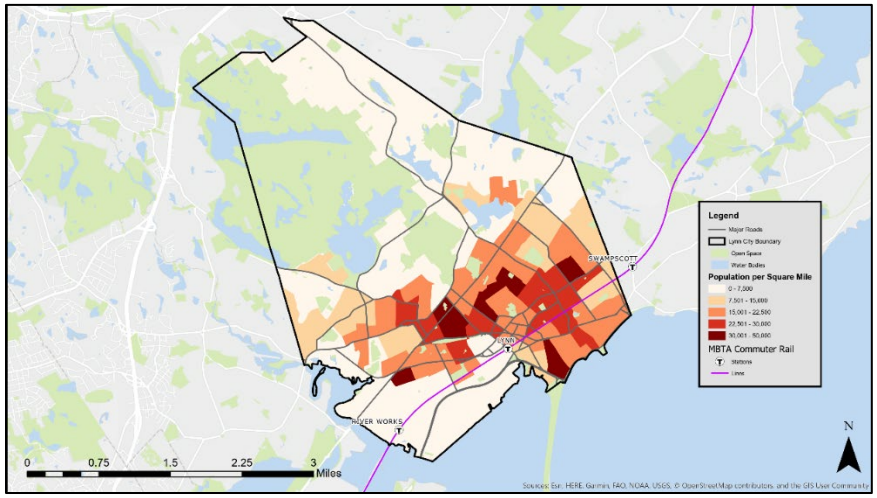
For a weekday trip from downtown Lynn to Showcase Cinemas in Revere during off-peak hours, transit can take twice as long as the approximately 17-minute drive. Service runs about every 50 minutes. In this case, transit is providing access to the desired destination, however the difference in travel time and cost prevent it from being competitive with driving.



Transit Demand Factors in Lynn

The majority of land area in Lynn is residential. Multi-family housing – which provides a good base for transit demand – is primarily located in and around the downtown area, particularly along Western Avenue (Route 107), North and South Common Street, and in the area east of Central Square. These areas have the highest population densities in Lynn (Figure 2-2).

Figure 2-2 Population Density of Lynn



Employment centers (Figure 2-3) and commercial activity (Figure 2-4) are clustered near the downtown, as well as along the two main corridors: Western Avenue and the Lynnway (Route 1A). Greater concentrations of employment and shops can make it easier to structure transit services, as the service can connect people to distinct centers, rather than dispersed locations. The density and mix of uses in downtown and along the main corridors can build sustained demand for transit throughout the day. Demand may also be more bi-directional along corridors, rather than in a single commute direction.

Figure 2-3 Employment Density in Lynn

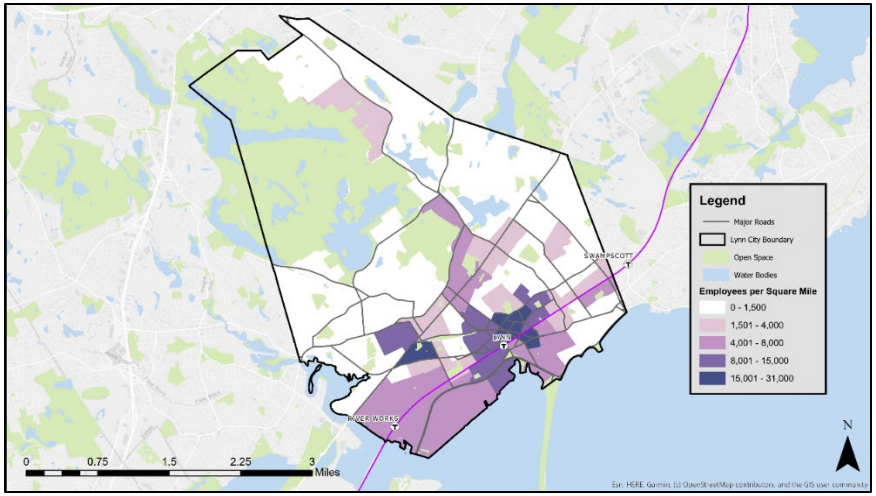
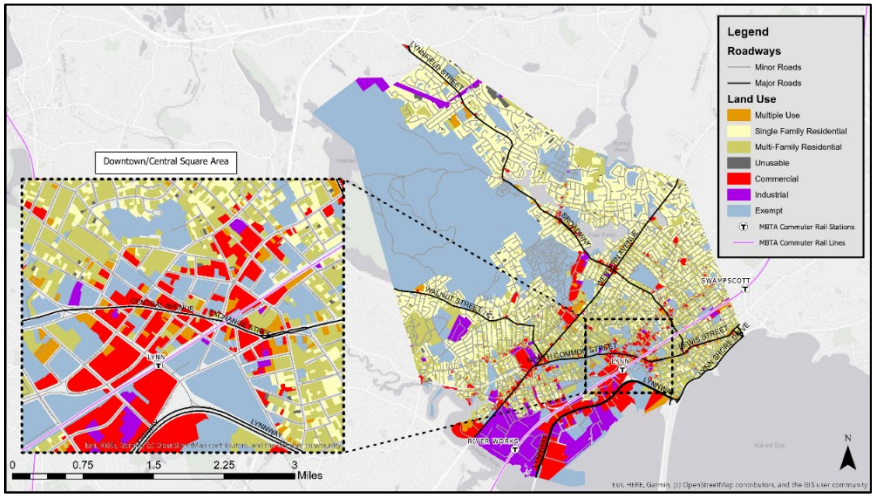


Figure 2-4 Land Use in Lynn

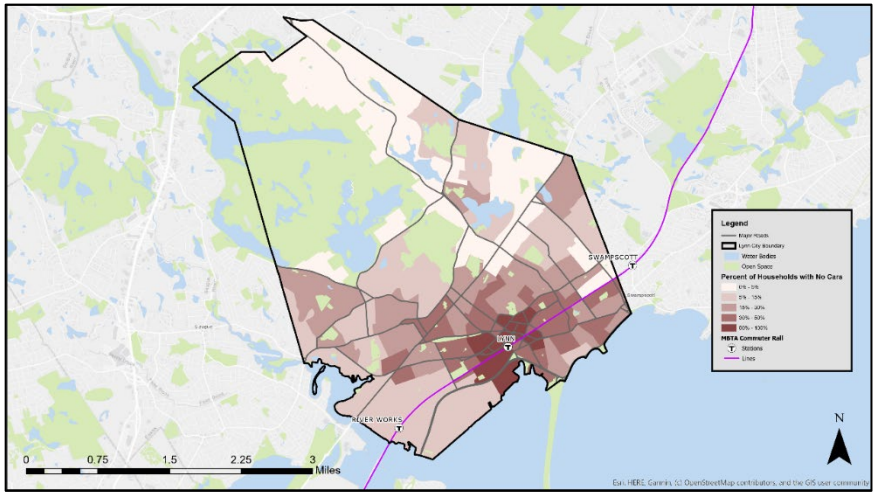


Residents of Lynn also tend to work in industries that have particular needs for transit and access. Nearly 50 percent of workers in this area in 2017 were employed in health care and social assistance.[11] The next four largest industries for employment were public administration, finance and insurance, retail, and waste management and remediation. Apart from public administration and finance, the other industries do not follow the typical 9 to 5 work pattern but rely on shift work. They also tend to be less geographically concentrated, as hospitals, shopping centers, and social services are dispersed across the region. Providing competitive service for these workers may require enhanced off-peak service to focus on access to regional and sub-regional destinations beyond downtown Boston.

Transit Needs of Lynn's Environmental Justice Communities

Many of Lynn's environmental justice populations – minority, English-isolated, or lower-income populations – are located in and around the downtown. This area also has Lynn's highest rates of zero-car households (Figure 2-5). With lower incomes and a reduced access to personal vehicles, people in this area will be more likely to rely on transit to get around. It is particularly important to ensure information about transit services is made available in all relevant languages.

Figure 2-5 Zero-Vehicle Households in Lynn



Preparing for Future Growth and Development

Greater Boston is experiencing profound economic growth, bringing jobs and new residents to the region. While much of the job growth has occurred in employment centers in the inner core, like downtown Boston, Kendall Square, and the Longwood Medical Area, the region's attractiveness has prompted growth in Gateway Cities like Lawrence and Lowell. Given its proximity to Boston and historic industrial infrastructure, Lynn is well positioned to grow employment in several sectors. The Metropolitan Area Planning Council (MAPC) projects employment to grow by 6.2 percent in Lynn and 4.6 percent in the larger MAPC region between 2020 and 2040.[12]

[11] U.S. Census Bureau OnTheMap, 2017 LEHD Survey

[12] MAPC, Final Projections for RTPs, received June 2019.

The growth in employment supports a regional growth in population. This influx of residents has created pressure on the housing market across the entire region, including the North Shore.[13] Residents of the inner core are increasingly looking for more affordable housing options along Commuter Rail lines. MAPC projects population to grow by 11.4 percent in Lynn and 10.4 percent in the larger MAPC region between 2020 and 2040.[14] Housing in Lynn is becoming increasingly less affordable for its current residents, posing a challenge for vulnerable communities. However, Lynn is also playing a major role in supporting the development of new housing, a critical need across the region and particularly near the major job centers in Boston and Cambridge. Lynn has seen recent development in the Downtown introduce new housing and refresh the dining and entertainment varieties. Lynn is also preparing for major change along the waterfront area between Revere and Central Square. The City has permitted or planned for over 7 million square feet of development, mostly consisting of new residential buildings.

The expected growth in both employment and population will support local businesses and enable the city to provide more resources to its residents, but it also raises questions about the impacts on mobility and access for current and future residents alike. A robust transit system and bicycle and pedestrian network can help mitigate concerns about increasing traffic congestion by providing residents with alternative means for getting around.

The Right Conditions for Transit, but Relatively Low Ridership

Downtown Lynn and the neighborhoods in the surrounding areas feature transit supportive demographic and land use – high concentrations of residents and jobs, a mix of land uses that create sustained demand for mobility, and populations with less access to personal vehicles. However, transit ridership does not reflect this potential demand – across Lynn the MBTA buses see on average 7,000 boardings per weekday.[15] Other cities in the region with comparable service and population, like Malden and Quincy, see over 10,000 boardings per day.

This lower-than-expected transit usage demonstrates that transit service is not competitive with other ways to get around, likely due to a number of factors. Despite low car ownership rates, people may have access to auto modes of transportation, such as carpools or carshares. Using a car may be significantly easier and quicker than using the bus or train. Land use likely also plays a factor – downtown Lynn has an abundance of surface parking that makes driving a more attractive choice.

Closer analysis of the existing travel services and travel patterns for people in Lynn detailed in the following sections provides insight into some of the existing challenges and barriers that affect its competitiveness.

[13] MassDOT, *Congestion in the Commonwealth: Report to the Governor 2019*.
[14] MAPC, Final Projections for RTPs, received June 2019.
[15] The MBTA *Service Delivery Policy* (2017) defines the following time periods within each weekday, used for data analysis purposes in this report:
Sunrise (3:00-5:59 AM), Early AM (6:00-6:59 AM), AM Peak (7:00-8:59 AM), Midday Base (9:00 AM - 1:29 PM), Midday School (1:30-3:59 PM), PM Peak (4:00-6:29 PM), Evening (6:30-9:59 PM), Late Evening (10:00-11:59 PM), and Night (12:00-2:59 AM).

Existing Transit Services

MBTA services in Lynn serve two key functions: providing connections to the downtown core of Boston and providing access to key destinations across the North Shore (Figure 2-6). Nearly 1,500 trips starting in Lynn and ending in Boston each day use transit. The Newburyport/Rockport Commuter Rail Line and several express buses provide direct access to downtown Boston. Many residents also use the Blue Line to go downtown or to the airport, accessing it by car or bus. In previous years, a piloted ferry service provided an additional way to travel downtown. MBTA bus routes serve a variety of local and regional destinations, including adjacent downtowns (Salem, Beverley) and employment, shopping, and medical centers.

The Covid-19 pandemic has negatively impacted ridership and will continue to do so in ways that we cannot predict. Based on information gathered during the first few months of the crisis, MBTA bus ridership has seen less of a decline than rapid transit and Commuter Rail. The ridership data presented in this report is reflective of pre-Covid conditions.

The following sections describe these services, how current riders use them, and the challenges associated with them in greater detail.

Bus Service

Lynn is served by 12 MBTA bus routes (Figure 2-6).[16] Several routes provide a connection to Boston (via the Blue Line or express service to Haymarket). In addition, several routes provide service to key North Shore employment and shopping centers in Salem, Marblehead, Peabody, Saugus, Chelsea, and Revere. While Lynn is currently part of the North Shore Transportation Management Association (TMA), the TMA does not operate in Lynn.

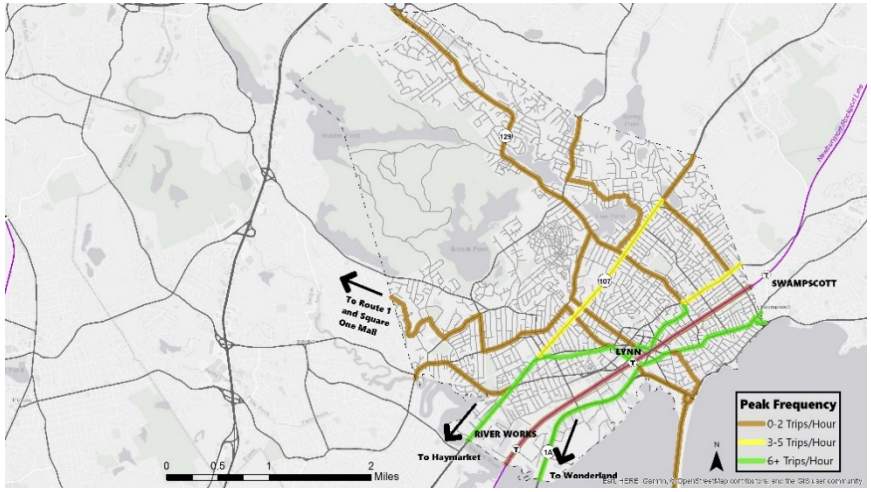
Figure 2-6 MBTA System Map

[16] Prior to the Better Bus Project changes enacted on September 1, 2019, 15 bus routes served Lynn.

Route Structure and Frequency

Within the City of Lynn, the major transfer point between bus routes and to Commuter Rail is at the Lynn Busway at Central Square. Several routes also overlap on the main transit corridors in the City – Western Avenue (Route 107), the Lynnway and Broad Street (Route 1A), and Common Street. These corridors feature the highest combined frequency in the city, when considering all the routes that use them (Figure 2-7). During the peak, buses operate on average every 10 minutes. Other corridors with only one or two bus routes have significantly lower frequency, with only one or two buses providing service per hour during the peak and even less frequently in the off-peak. The service frequencies in Lynn and the North Shore throughout the day largely resemble the off-peak service frequencies in the urban core.

Figure 2-7 Frequency of Transit Service by Roadway Corridor



Ridership and Usage

Approximately 7,000 riders board MBTA buses on an average weekday in Lynn. Ridership, based on automated passenger count (APC) data,[17] is mainly concentrated on the routes that access the Route 1 employment areas (Route 429), Boston, and the Blue Line (Table 2-1), with around 450 people using the Express routes and 350 people connecting to the Blue Line on an average weekday.[18] Middle and high school students are key audiences for the local bus services, using them throughout the day to travel to and from school, home, and work. Older adults are another key audience who use the services all day. Commuters with early shifts use the bus services in the early morning to access Boston, as well as regional destinations like the malls, often filling the routes.[19]

Table 2-1 Bus Route Weekday Ridership (Fall 2019)

Route(s)	Description	Ridership
424	Eastern Avenue & Essex Street - Wonderland Station	338
426	Central Square, Lynn. - Wonderland or Haymarket	1,647
429	Northgate Shopping Center - Central Square, Lynn	1,381
434	Main Street, Peabody - Haymarket Station	43
435	Liberty Tree Mall - Central Sq., Lynn via Peabody Sq.	627
436	Liberty Tree Mall - Central Sq., Lynn via Goodwins Cir.	707
439	Nahant - Wonderland Station	96
441	Marblehead - Wonderland Station via Paradise Rd.	1,249
442	Marblehead - Wonderland Station via Humphrey St.	2,601
450	Salem Depot - Wonderland or Haymarket Station	1,509
455	Salem Depot - Wonderland Station	3,413
456	Salem Depot - Central Square, Lynn	225

[17] The MBTA collects APC data on buses using machines positioned over each door, to record the number of passengers boarding and alighting each bus.

[18] Based on Fall 2018 MBTA Ridership Data (before Better Bus service Changes)

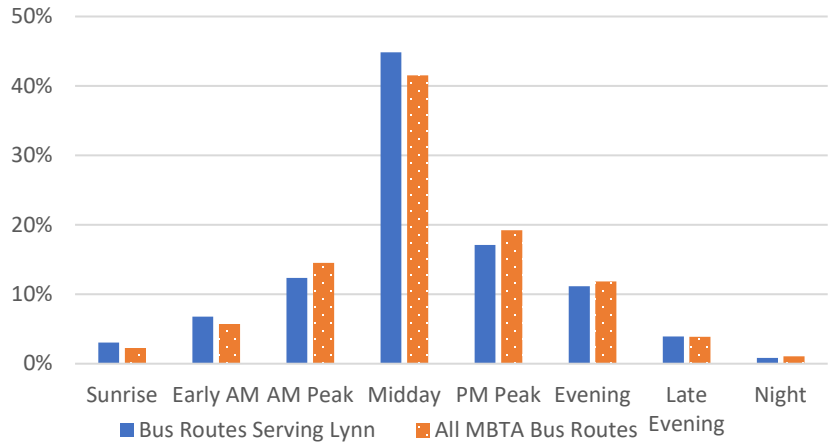
[19] MassDOT/MBTA Discussion with Lynn Garage Bus Operators, August 1, 2019.

Analysis using the MBTA Origin, Destination, Transfer (ODX)[20] tool reveals two key findings about how current bus riders use these services.

Transit riders in Lynn likely use transit for commutes that do not fall within traditional working hours and for non-work trips (e.g. school, recreational, activities, shopping), illustrating a demand for off-peak, all-day service:

- Bus routes serving Lynn see more trips in the early morning and midday, and fewer trips during the traditional AM and PM peak periods as compared to the entire system (Figure 2-8).
- During the midday, more transit trips originate from areas with mixed land uses, including residential, school, and commercial areas of Lynn, demonstrating demand for transit to serve trips beyond traditional commutes.[21] In the PM peak and night periods, as well as on weekends, origins are more heavily commercial, showing trips starting at employment or retail locations.
- The busways at Central Square, Wonderland and other Blue Line Stations, and stops at and retail/commercial areas that include the Northshore Mall and the Walmart on Lynnway (served by stops 777 Lynnway and Lynnway @ Hanson Street) are top origins and destinations.

Figure 2-8 Temporal Distribution of Trips on Routes Serving Lynn vs. MBTA System



The bus connection to the Blue Line is important, but a majority of trips are local:

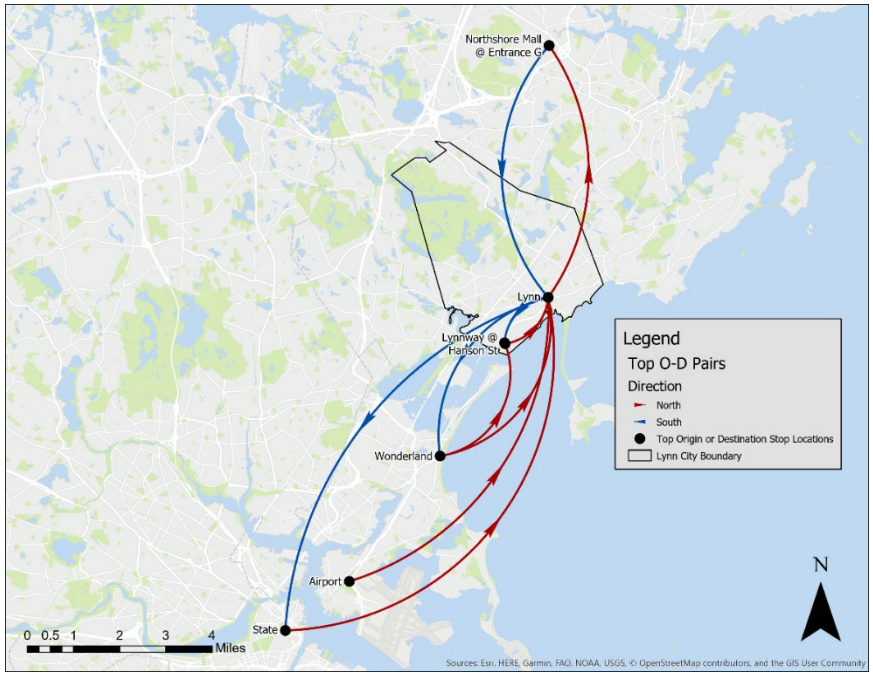
- Of all bus trips that begin in Lynn, 24 percent end somewhere on the rapid transit system. About half of these trips are destined for locations on the Blue Line (Figure 2-9) and the other half use the Blue Line to access other destinations on the rapid transit system.[22]
- Around two-thirds of bus trips that begin in Lynn do not require any transfers and 18 percent occur fully within Lynn.

[20] The Origin, Destination, Transfer (ODX) Inference model looks at series of transactions for a CharlieCard or Ticket over the course of the day and infers each trip's origin, destination, and any transfers on an anonymous basis to understand travel patterns. The model only covers bus and rapid transit, it does not cover Commuter Rail, and has several other key limitations including scaling up for cash transactions. For this project, the analysis focuses on trips originating or destined for Lynn. More information on the ODX model can be found here: https://www.mbtabackontrack.com/blog/43-odx-model.

[21] MAPC, "Land Parcel Database", July 2019

[22] A very small percentage of trips use a bus (Routes 426, 434, and 450) to connect directly to the Orange or Green Line at Haymarket.

Figure 2-9 Top Origin-Destination Pairs

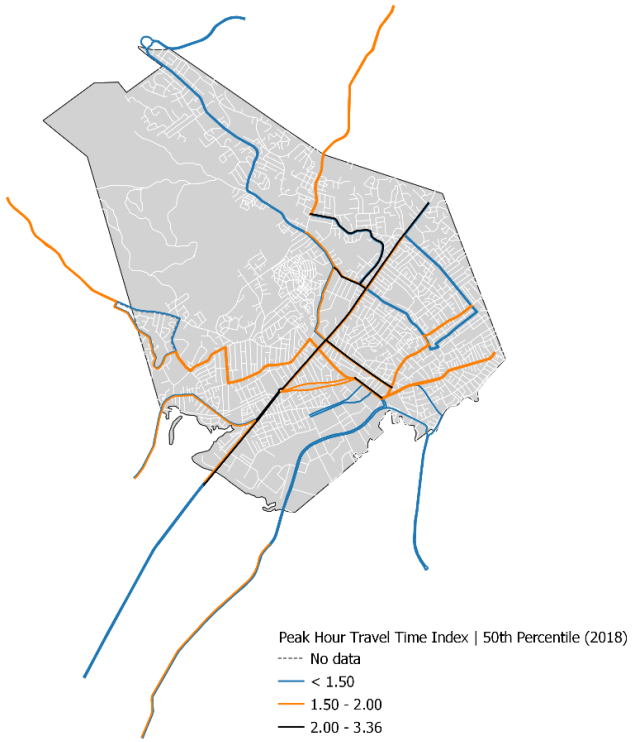


Traffic Congestion and Bus Service Delay

Buses in Lynn face delay due to several factors, including traffic congestion, personal vehicles blocking bus stops by parking in them, and a significant portion of passengers paying with cash, which slows down the boarding process.[23] Reducing the number of cash payments and increasing enforcement of parking violations could reduce travel time and improve the rider experience. However, addressing traffic congestion is one of the most effective ways to help buses move faster.

The 2019 statewide report, *Congestion in the Commonwealth: Report to the Governor 2019*, listed Routes 107, 1A and 60 between Lynn and Boston as unreliable, with Routes 1A and 60 noted as some of the most congested corridors in Massachusetts. For buses, peak-hour delays due to traffic congestion are highest along Western Avenue (Route 107), Market Street, Washington Street and the Maple Street/Euclid Avenue corridors (Figure 2-10). All commuters coming from points north of Wonderland Station must travel on Route 1A or other local roadways through Lynn and Revere to reach the station.

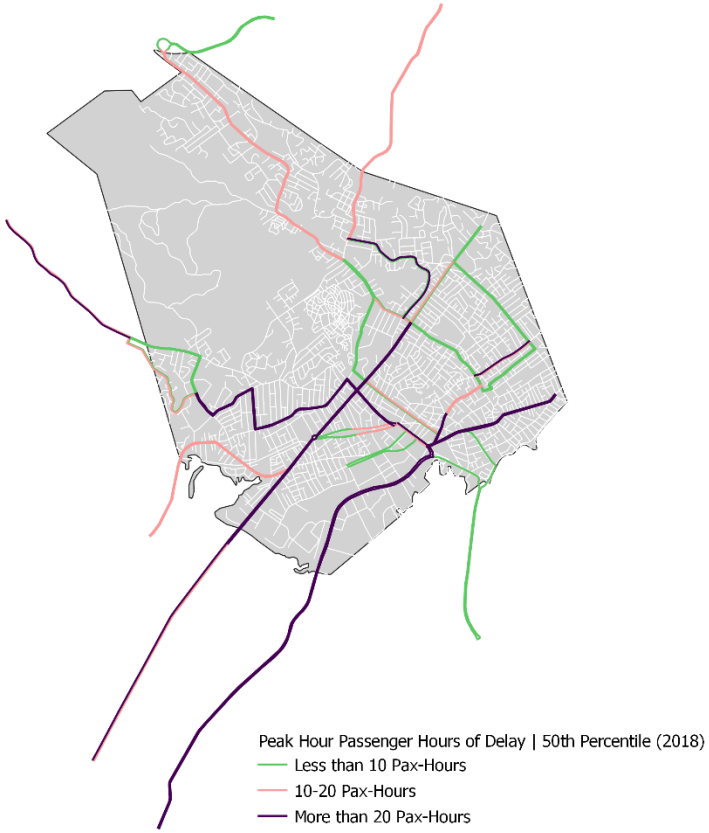
Figure 2-10 50th Percentile Travel Time Index by Roadway Segment



[23] MassDOT/MBTA Discussion with Lynn Garage Bus Operators, August 1, 2019.

Total passenger delay, which scales up the travel time delay to account for the number of passengers using the bus, is highest on Western Avenue (Route 107), the Lynnway/Broad Street/Lewis Street (Route 1A), North and South Common Street, and Union Street (Figure 2-11). Assessing passenger hours of delay helps identify where improvements could affect the largest number of people using the service.

Figure 2-11 50th Percentile Peak Hour Passenger Hours of Delay by Roadway Segment



Fares

Bus fares vary by destination – with a CharlieCard, the local fare is $1.70, while routes to Boston charge the inner express fare of $4.25, and those transferring to the Blue Line must pay the subway fare of $2.40. When paying with CharlieTicket or cash, fares are currently higher, but the MBTA is introducing fare policy in 2021 that will equalize fare payments regardless of media.

Storage, Layover, and Maintenance of Buses

Lynn is also home to one of eight MBTA bus garages, where bus maintenance and storage occur. The Lynn Garage houses 89 buses in a facility built to accommodate 87 buses, limiting the ability to expand service in the future. According to the 2016 MBTA Bus Maintenance Efficiency Study, the building, while in fair condition, is poorly lit, requires use of adjacent streets to move buses, and is prone to stormwater flooding.

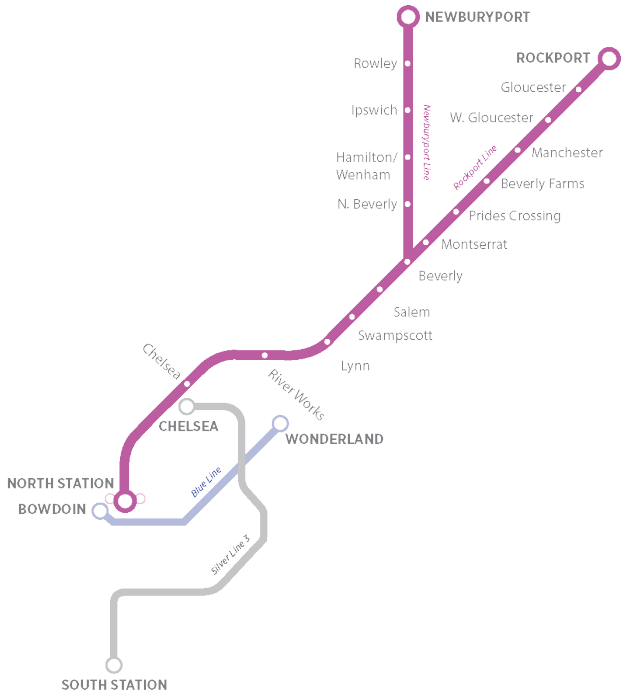
Across the system, space for additional vehicles in the existing garages is a major constraint. The MTBA Bus Modernization Program is conducting a multi-year effort to rehabilitate all bus facilities to create better accommodations for operations, allow for a larger fleet, and prepare for battery electric technology.

Lynn Garage (Bus Storage and Maintenance Facility)

Commuter Rail

The MBTA operates 14 Commuter Rail lines extending from downtown Boston to areas north, south, and west of the city. Lynn is located along the overlapping section of the Newburyport and Rockport Lines (Figure 2-12), providing access to the Boston terminal in 20 – 25 minutes. The service also provides access to Gloucester (Rockport Line), Beverly, Salem, Chelsea, and other North Shore communities. Three Commuter Rail stations along the Newburyport/Rockport Line serve Lynn – two within the city itself and one in Swampscott, near neighborhoods in East Lynn.

Figure 2-12 Map of Newburyport/Rockport Line



[24] MBTA Commuter Rail Newburyport/Rockport Line schedules are available at: https://www.mbta.com/schedules/CR-Newburyport/timetable.

Service is focused on peak hour, peak direction travel, aimed at providing access to downtown Boston for traditional commuters. While some Newburyport/Rockport Line express trains bypass Lynn in the peak periods, a peak period train stops in Lynn approximately every 15-30 minutes. Lynn receives more service than most other stations on the system due to its location on the overlapping section. Across the system, midday and off-peak service is less frequent (every 30-60 minutes), making it more difficult to use for non-traditional work schedules.[24]

The Newburyport/Rockport Line has over 7,200 passenger trips per day in each direction, based on Commuter Rail ridership counts conducted by Central Transportation Planning Staff (CTPS) in 2018. Of these, approximately 370 passengers board and 220 passengers alight at Lynn in the inbound direction, and approximately 180 passengers board at Lynn and 420 passengers alight at Lynn in the outbound direction. Inbound trains often approach capacity in the morning, and schedule delays can result in full trains arriving at Lynn with no capacity for additional passengers. In addition, the regular fare of $7.00 one-way to Boston is higher than the bus or subway fare.

Many Lynn residents also use Swampscott Station, which has approximately 830 boardings and 60 alightings per day in the inbound direction, and approximately 60 boardings and 850 alightings per day in the outbound direction, with a higher fare of $8.00 one-way to Boston.

The third station serving Lynn – River Works – is open only to General Electric employees and visitors. River Works has fewer than 10 boardings and 20 alightings per day in the inbound direction, and fewer than 20 boardings and 10 alightings per day in the outbound direction, with a fare of $7.00 one-way to Boston.

Table 2-2 Commuter Rail Ridership, Frequencies, and Fares

Station	Typical Weekday Boardings	Typical Peak Period Frequencies	Typical Off-Peak Frequencies	One-Way Fares to Boston
River Works	30	15-30 min. (by request)	Limited	$7.00
Lynn	550	15-30 min.	30-60 min.	$7.00
Swampscott	890	15-30 min.	30-60 min.	$8.00

Central Square-Lynn Station and Garage

Central Square Station is located on a raised viaduct above ground, accessible by elevator and two stairs. The station's platform and stairs are in poor condition.

A 978-space on-site parking garage costs $2 daily and $35 monthly. Parking transaction data indicates that the parking garage is generally underutilized on both weekdays and weekends, with occupancy typically below 55 percent, leaving considerable capacity for additional users. The station lacks any bicycle parking, with no designated spaces, racks, or lockers.

In Spring 2020, the MBTA began a project to rehabilitate the station and garage. This effort will provide an opportunity for public involvement.

View of Lynn Station, from Intersection of Spring Street and Exchange Street

Swampscott Station

Swampscott Station, just over the Lynn border, has no immediate local bus connections, but sees high ridership. Its 144-space parking lot costs $6 daily ($105 monthly) and, according to the MBTA, generally fills up by 7:00 AM.

There are two bicycle racks with total space for approximately 15 bicycles. Historical street imagery appears to indicate the racks are frequently at or over capacity.

River Works Station

River Works Station, along the western boundary of Lynn, is less critical to Lynn's current transit network. It is only open to employees and visitors at General Electric's location there. All stops at this station are flag stops, meaning the train will only stop at the station if a passenger requests to board or alight. There is no public automobile parking or bicycle parking at this location.

There is currently a private development proposal that would renovate the station, which would include new platforms and a parking lot with a limited number of spaces to allow for the station to be opened to the public. Beyond this potential development immediately adjacent, there are plans for multiple additional developments – mixed use and residential – in the area east of the station along the Lynnway. These developments could greatly increase ridership at the station, which stands at fewer than 30 boardings per day, combined across both directions. The Lynn Gear Works development alone is projected to generate an additional 585 boardings per day, with approximately 90 percent of those traveling in the peak period/peak direction.[25]

[25] Lynnway Associates, *Lynn Gear Works Redevelopment, Final Environmental Impact Report*, EEA #15441, March 10, 2017.

Blue Line

The Blue Line does not service Lynn directly, but many residents access the Blue Line via car or bus to get to jobs located in Boston. Of the 1,500 transit riders heading to Boston, approximately 350 use one of several Lynn bus routes to access Wonderland Station in Revere (Routes 424, 426W, 439, 441, 442, 450W, and 455), which is a cheaper trip than the express bus or the Commuter Rail to access downtown Boston. In addition, approximately 325 of the 1,350 cars parked at Wonderland (24 percent) daily come from Lynn.[26] Commuters coming from points north of Wonderland Station must travel on Route 1A or other local roadways through Lynn and Revere to reach the station. During the morning peak, approximately 30 percent of the light vehicles on Route 1A are destined for the Wonderland area, meaning rapid transit access plays a major role in roadway congestion. The Blue Line runs with peak frequencies of roughly five minutes and off-peak frequencies of 9-13 minutes and takes 20 minutes from Wonderland to downtown Boston.

Blue Line Extension

In 2011 the MBTA published a Draft Environmental Impact Statement (DEIS) for a potential Blue Line extension to Lynn or Salem. The analysis projected that the extension would result in 4,000 new daily transit trips per day in 2030, generating new trips and diverting existing trips from auto travel, local buses and the Newburyport/Rockport Line. During peak periods, the trip between Lynn and Boston would take about 35 minutes. The DEIS described numerous challenges with the Blue Line Extension, particularly related to wetlands impacts (primarily associated with the Rumney Marsh and other coastal wetlands in Revere and Saugus).

Blue Line Train Leaving Wonderland Station

Ferry Service

The MBTA and City of Lynn piloted ferry service from the Blossom Street Terminal to Boston's Long Wharf in 2014, 2015 and 2017. The fare cost was comparable to the Commuter Rail, at $14.00 round trip, and the schedule offered between one and three round trips each day. The ferry, which took around 35 minutes to reach Boston and ran from May to September, saw a total ridership of approximately 13,000 in 2014 (145 daily riders) and 15,000 in 2015 (170 daily riders). For context, the Newburyport/Rockport Line has approximately 15,000 boardings per day,[27] and the Hingham/Hull Ferry has approximately 20,000 boardings per week.[28]

Ferry service has been previously examined as part of the 2017 Lynn-Boston Water Transit Sustainability Analysis Report and the 2019 Comprehensive Boston Harbor Water Transportation Study. Appendix A includes more information on these studies.

[26] Sample from License Plate Reader survey conducted in Fall 2019
[27] CTPS Commuter Rail Counts, 2018.
[28] MBTA Ridership Data, October 2019.

Access to Transit

Evaluating the ease of access to transit services can help identify additional barriers or challenges to using the system.

Pedestrian Access to Bus Stops

Bus routes and stops have wide coverage in Lynn. Only a few small pockets of Lynn lie outside of a quarter-mile distance from a bus stop (Figure 2-13). This distance represents roughly a 5-minute walk, meaning people in these areas, barring any infrastructural issues, can easily access public transit by walking.

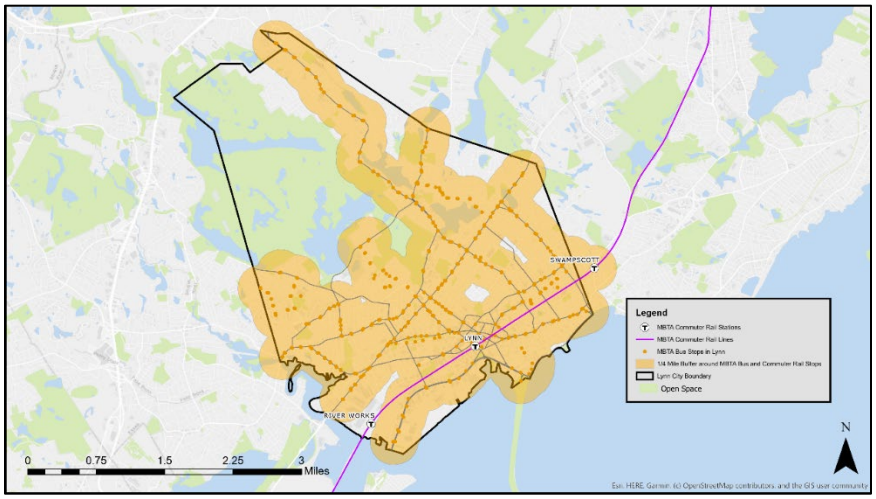


Figure 2-13 Quarter-Mile Walkshed from Transit Stops

Bus corridors typically have sidewalks on both sides of the roadway, with a few exceptions, but the condition of these sidewalks is potentially not adequate to serve all users requiring access to a bus stop. The MBTA considers 166 of the 408 bus stops accessible for persons with a mobility disability. This means that even though they may have sidewalks present, the sidewalks may not be wide enough to accommodate a bus's wheelchair ramp or may not be accessible via a nearby curb ramp.[29]

Bicycle Infrastructure

Bicycle infrastructure in Lynn is limited to the Community Path of Lynn Trail, an off-street trail running from Boston Street at the Saugus border to Summer Street (at Summer Street Place). The Path is part of the Northern Strand Community Trail, which when complete will stretch from Everett to the Lynn Waterfront via Malden, Revere, and Saugus. In 2019, the City of Lynn commissioned a study to develop and analyze potential corridor alignments through Lynn. This study recommended a route through downtown Lynn, terminating at Nahant Beach, plus a spur to Bennett Street. In 2020, the State of Massachusetts allocated funding for the full design and construction of the trail from the existing off-road path to Nahant Beach along South Common Street, Market Street, and the Lynnway. The path is currently in design and construction of the off-street portion is scheduled to begin in 2020.

Currently, there is no bike share program in Lynn. In June 2018, the City of Lynn conducted a pilot program with two dockless bike share companies, Ant Bicycle and LimeBike. As reported on a CBS Boston news story, due to citizen complaints of blocked sidewalks and vandalized bikes, city officials ended the pilot and requested the companies remove all bicycles from the city in September 2018.[30]

[29] Further information on accessibility will be available at the conclusion of the Plan for Accessible Transit Infrastructure (PATI) program.

[30] Germano, Beth. "Lynn Puts Brakes on Dockless Bike Program," CBS Boston, September 26, 2018.

Transit Competitiveness in Lynn

Evaluating existing transit services requires understanding how competitive these services are when compared to using other modes. Simply put, for which trips is the transit service a reasonable mobility option and for which trips does driving provide the only option or a significantly better experience?

This analysis identifies where there are significant gaps in transit competitiveness, given the existing travel demand in and around Lynn. It uses location-based services (LBS) data, which provide information on all of the trips that occur in the region – including driving, walking, biking, transit trips – based on cell phone data.

To assess competitiveness, this analysis first identifies where people need to travel to evaluate whether transit provides access and then assess how effective the current transit services are at providing a competitive travel option for accessing high-demand destinations. The following sections are organized accordingly, summarizing the travel patterns for trips beginning and ending in Lynn and providing insight into how the existing services currently meet the demand for trips longer than two miles. The competitiveness analysis is limited to trips that are longer than two miles, as it is hard for transit to compete with other modes, including automobile and non-motorized modes, for shorter trips.[31] Appendix C further details this analysis.

What Are Location-Based Services (LBS) Data?

- LBS data are collected by global positioning systems (GPS) applications running either in the background or foreground on cellular devices, where the device user has opted to allow the app to import the device's geographic location.
- The data are anonymized so that information cannot be tracked to a particular mobile phone number, processed into trips based on a set of criteria, and aggregated by census block group and time period.
- A "trip" is from one destination to the next, so going from home to the post office to the grocery store to home would be three trips. Trip tables provide a count of the number of trips by origin and destination block group.
- Trips are classified as "home-based regular" (work or school), "home-based other", and "non-home based" considering their patterns of repetition.
- Since the LBS dataset only includes a sample of all trips made, the trips from this sample are factored to approximate total trip volumes. Expansion algorithms are applied to scale travel metrics so that they reflect the patterns of the total population.
- For this study, trips were only included if they either started or ended in Lynn, or were made by a Lynn resident.

[31] Transit is only successful over short distances if there is very frequent service aligned with travel demand. When service is less frequent, it is often significantly faster to drive, bike, or even walk the full length of the trip. In lower density areas like much of Lynn, this may be hard to achieve with fixed-route transit services.

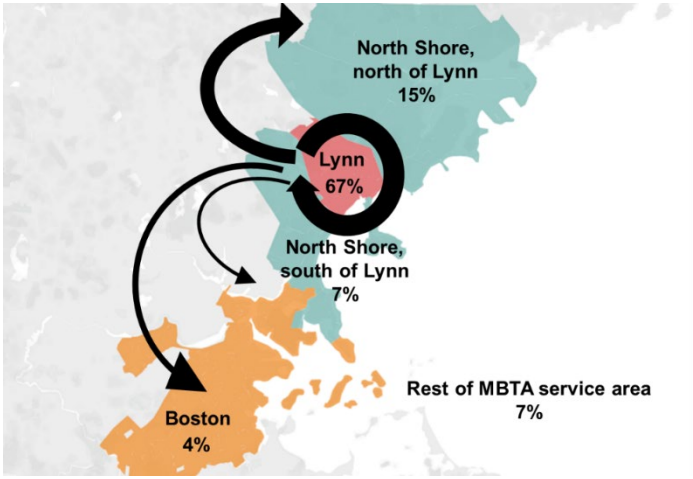
Travel Patterns and Demand

The LBS data reveal several important findings about the travel needs for people traveling to and from Lynn.

Most Trips are Short and Stay Local

On an average weekday, 89 percent of the nearly 300,000 trips that begin in Lynn end in the North Shore, with 67 percent staying within the city boundaries (Figure 2-14).

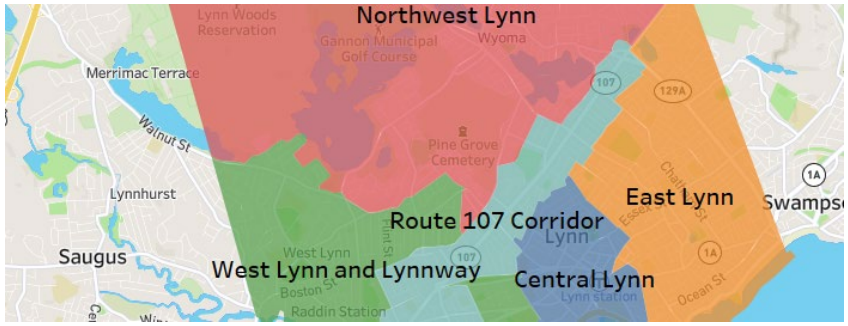
Figure 2-14 Destinations of Weekday Trips Beginning in Lynn



Within Lynn, the highest intensity of tripmaking[32] occurs between the following neighborhoods (Figure 2-15): the Route 107 Corridor and East Lynn, West Lynn and Lynnway and East Lynn, and Central Lynn and West Lynn and Lynnway.

[32] "Intensity" is defined as the number of trips per square mile per hour. A higher trip intensity will support more frequent transit service.

Figure 2-15 Neighborhoods in Lynn for LBS Analysis



Across Massachusetts, overwhelmingly travel is local: most trips are short and occur within a radius of a few miles around one's home. The data in Lynn reflect this trend and illustrate the importance of local and North Shore connections to travel for Lynn residents – 43 percent of trips are less than 2 miles, and 67 percent are less than 5 miles.

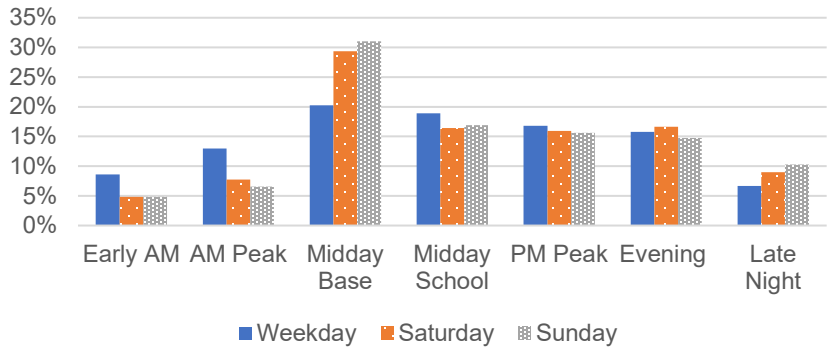
Boston is an Important Destination, Especially for Commuters

Outside of Lynn, Boston is the largest trip destination by municipality, accounting for 4 percent of total trips on both weekdays (over 12,000 trips per day) and weekends (over 8,000 trips per day). Accounting for the ridership data reviewed in previous sections approximately 12 percent, or 1,500, of these trips occur on Commuter Rail, Express Bus, or via the Blue Line. When isolating commutes to work or school, top destinations include Lynn (56 percent), Boston (8 percent, over 4,000 trips per weekday), and Peabody and Salem (5 percent each). Travel patterns between Lynn and Boston are similar on weekdays and weekends, which might indicate that a considerable proportion of Lynn residents work outside regular business hours, as commonly seen in the service, retail, and healthcare industries.

Trips within Lynn Occur throughout the Day, Especially on Weekends

About 30 percent of the weekday trips longer than two miles within Lynn occur during the AM and PM peaks, while the majority of the trips occur during off-peak hours (Figure 2-16). On weekends, an even higher proportion of trips occur during the midday and hours defined as "late night". As a result of the temporal dispersal of trips, service may need to be oriented towards all-day travel.

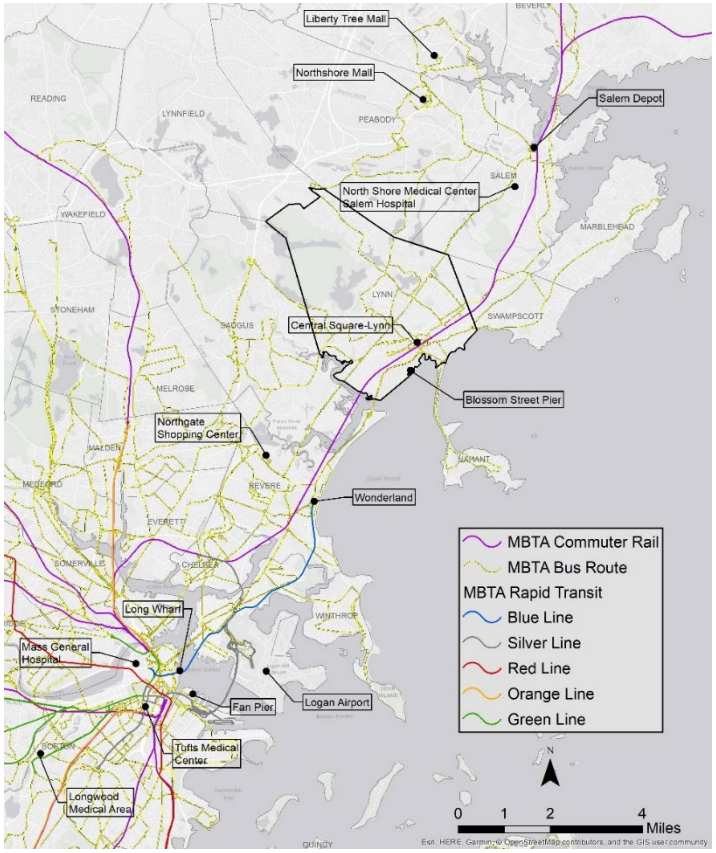
Figure 2-16 Percentage of Trips within Lynn by Time Period



Medical Centers, Regional Malls, and the Airport are Important Employment Hubs

Neighborhoods that contain the North Shore Medical Center Salem Campus, Massachusetts General Hospital (West End), the Longwood Medical Area (LMA), and Tufts Medical Center (Chinatown) are among the top ten destinations for daily travel for Lynn residents, indicating that Lynn residents commute to work at or regularly need to access these locations. In addition, downtown Salem, the North Shore and Liberty Tree malls, downtown Boston, and the Logan Airport are among top destinations, indicating that Lynn residents commute to jobs in these employment hubs. The data indicate that the top concentration of travel to these locations for Lynn residents is in the morning peak period. However, residents appear to travel to the area where the Salem Hospital is located throughout the day, from early morning through the afternoon, in high concentrations. The data also show high concentrations of trips to LMA, Boston's West End, and Chinatown in the early morning, which may reflect health care/ medical workers arriving for morning shifts. Figure 2-17 shows transit services available for these locations.

Figure 2-17 Map of Key Regional Destinations



Assessing Transit Competitiveness

The travel demand analysis demonstrates that, broadly speaking, existing services provide access to key destinations, including between Lynn neighborhoods, downtown Boston, and other employment centers (medical facilities, the airport). This finding addressed the first component of competitiveness. However, the quality of transit service in comparison to driving to these destinations vary greatly by destination and across time of day, as transit schedules change. Evaluating the travel time, frequency, transfers, and the time it takes to walk to and from stops on transit is an effective method to assess competitiveness as it compares to driving. Identifying the percent of trips taken on transit (transit mode share) between high-demand locations can also help identify where transit is successful or lacking. While cost, comfort, and other factors are also important, honing in on the travel time and demand related factors can provide insight into how the network could adjust to better serve mobility needs. Cost and other related factors are considered separately.

Bus Waiting in Traffic on Congested Lynn Corridor

The following findings emerge:

- Trips within Lynn are typically not competitive, as travel times for bus service and the relative infrequency, particularly in off-peak periods, makes driving significantly faster.
- For trips within the North Shore, there is a noticeable gap between weekday peak and off-peak service frequency, which reduces the competitiveness for midday and evening trips. In addition. off-peak periods have less roadway congestion, increasing the attractiveness of driving during those times.
- Transit service is most competitive for trips between Lynn and downtown Boston, particularly during peak periods when roadway congestion increases drive times. Not surprisingly, transit mode share is significantly higher than other destination pairs, with over 40 percent of these trips estimated to occur on transit. However, access via Commuter Rail or Bus to downtown Boston is also more expensive than local bus service, which can present a barrier for some residents.
- For all trip destinations, transit is less competitive during the weekend, especially on Sundays, due to lower frequencies increasing transit travel time and lower traffic congestion reducing drive times.
- For access to medical centers, transit is relatively more competitive than driving to the Boston medical areas (Longwood, West End, Chinatown) than it is to Salem Hospital and North Shore Medical Center. Despite this, transit mode shares are low to all of the medical centers.

Table 2-3 summarizes methods to improve competitiveness for some of the types of transit that service Lynn.

Table 2-3 Effective Methods to Improve Competitiveness of Different Types of Service

	Type Of Service	How Does It Operate?	Types Of Stations	What Makes It Successful?	What Challenges Does It Face?	Local Examples	How Can This Service Be More Competitive?
	Fixed-Route Bus Service	In mixed traffic with other vehicles and/or in dedicated lanes	Street signs with or without shelters	This service works in residential neighborhoods and commercial centers with medium to high demand that varies throughout the day.	This service can be slowed by traffic congestion, making it less reliable and potentially reducing ridership.	Route 424, 426, 441	Bus lanes, transit signal priority, accessible and efficient boarding and bus stops
	Key Bus Route	In mixed traffic with other vehicles and/or in dedicated lanes	Street signs with or without shelters	This service works in residential neighborhoods and commercial centers with medium to high demand that varies throughout the day. This service runs more frequently than other Fixed-Route Bus Service.	This service can be slowed by traffic congestion, making it less reliable and potentially reducing ridership.	Routes 111, 116, 117	Bus lanes, transit signal priority, accessible and efficient boarding and bus stops
	Rapid Bus Services	Mostly in dedicated lanes and exclusive facilities like tunnels, rarely in mixed traffic	Platforms with level boarding and/or street signs with shelters	This service works in areas with high demand that remains relatively consistent throughout the day. Service is more frequent than other bus routes.	This service requires higher demand and dedicated roadway space, which may impact parking. Implementing this service requires adequate funding and roadway construction.	Silver Line (Chelsea)	Dedicated bus lanes, accessible and efficient boarding and bus stops along regional corridors, and changes to service frequency.
	Commuter Rail[33]	On separated tracks, which may use exclusive facilities like bridges and tunnels	Platforms with shelters and lighting	This service works between high demand regional hubs.	Implementing this service requires capital funding, dedicated Right of Way, and specialized operations and maintenance.	Newburyport/ Rockport Line	Increasing frequency, reducing off-peak fares

[33] Ferry service would have similar characteristics to Commuter Rail service, and would serve similar markets.

What We Heard: Surveying Residents on Transit Use and Attitudes

In addition to collecting quantitative data on travel behavior and transit use, the Lynn Transit Action Plan conducted a survey of current transit riders and non-riders in the MBTA service area in Lynn. The survey asked respondents about their transportation decisions and attitudes towards MBTA services, as well as what improvements and changes to services they would prioritize.

A total of 1,081 responses were collected over the almost two-month period in which the survey was open (September 16 to November 11, 2019). The survey was made available in six languages most relevant in Lynn: Ayisyen (Haitian Creole), English, Khmer, Portuguese, Russian and Spanish. English accounted for over 90 percent of all responses. Respondents were also given the option of answering demographic questions. Of these, 841 individuals provided information on their ethnicity, with 26 percent identifying as Latino or Hispanic. 807 individuals provided information on their race, with 8 percent identifying as Black or African American, 3 percent as Asian, and 53 percent as White.

The project staff administered the survey at several locations around the City, as well as digitally through project emails and a link on the project website and in MBTA social media posts. Advisory Committee members also shared the survey via email and social media with their constituents.

The results of the survey closely match the findings of the Existing Conditions Analysis conducted as part of the Lynn Transit Action Plan. That analysis found that most trips in Lynn stay within the City and the North Shore, while access to employment centers in Boston and Cambridge are also important, for both users of transit and other transportation modes. The data collected through this survey also compliments the data of the Existing Conditions analysis by illustrating how income and other demographic characteristics impact mode choice and travel behavior.

MassDOT conducted a Public Input Survey to understand resident attitudes towards transit in Lynn.

Project staff administered the survey in person at several locations and made it available online.

MassDOT marketed and offered the survey in multiple languages.

Findings from the Survey

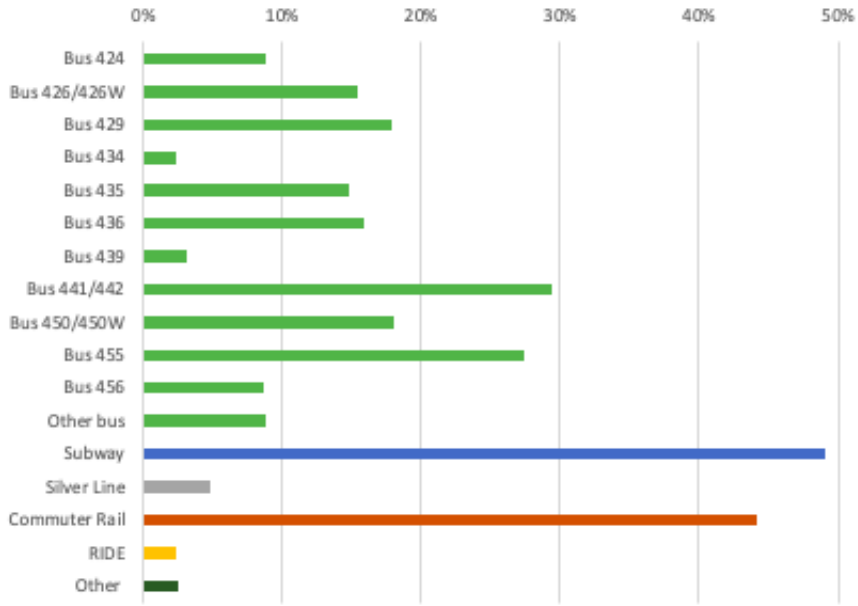
Many residents of Lynn are dependent on MBTA services for transportation to work, school, and other destinations.

- 64 percent of respondents said they use MBTA services more than once a month (identified as frequent riders), and 74 percent of frequent riders reported using the MBTA for trips to work or school most or all of the time.
- Frequent riders also use the MBTA for non-work or school related trips, with 40 percent of respondents reporting that they use the MBTA for all or most of their other journeys, like shopping, appointments, and recreation.
- The primary reasons cited by frequent riders for using MBTA services included: they do not or prefer not to drive (23 percent), do not have access to a car (21 percent), or because parking at their destinations is not available or affordable (17 percent).
- Over 60 percent of frequent riders reported using bus service in a typical week, nearly 50 percent reported using subway service, and over 40 percent reported using Commuter Rail (Figure 2-18). These results are likely due to bus services being spread across many routes which end at MBTA subway stations. Additionally, subway users with access to personal vehicles may have the option to drive to Commuter Rail or subway stations rather than relying on bus routes.

MBTA buses serve a significant proportion of trips, especially for low income households (annual household income < $44,500).

- 66 percent of respondents from low-income households reported using MBTA bus services in a typical week, as compared to only 41 percent of respondents from high-income households (annual household income >$44,500).
- 29 percent of frequent riders reported travelling on a Route 441/442 (Marblehead – Wonderland) bus in a typical week; 27 percent on Route 455 (Salem Depot – Wonderland); 18 percent on either Route 450 (Salem Depot – Haymarket) or the 450W weekend service to Wonderland; and 18 percent on Route 429, which serves the Northgate Mall (Route 1 employment district) and Lynn Station.

Figure 2-18 MBTA Services Used by Frequent Riders During an Average Week



Across incomes, low-income households use local bus routes more than other modes. Low-income households use these services to access local destinations at higher rates than high-income households, which report using the MBTA to access Boston and riding the Blue Line and Commuter Rail at higher rates.

- 30 percent of respondents from high-income households reported using the Blue Line in a typical week, and 23 percent reported using the Commuter Rail, while 12 percent of respondents from low-income households reported using the Blue Line and 14 percent reported using the Commuter Rail (Figure 2-19).
- 48 percent of respondents from low-income households reported using transit to travel to destinations within Lynn and the surrounding towns on a weekly basis, while only 19 percent reported using transit to travel to Boston and other parts of the region (Figure 2-20).
- Conversely, only 16 percent of high-income households reported using transit to access destinations within Lynn and surrounding towns on a weekly basis, and 59 percent reported using transit to travel to Boston and other parts of the region (Figure 2-20).

Bus on Western Avenue in Lynn

Figure 2-19 Typical MBTA Service Used During an Average Week, by Household Income

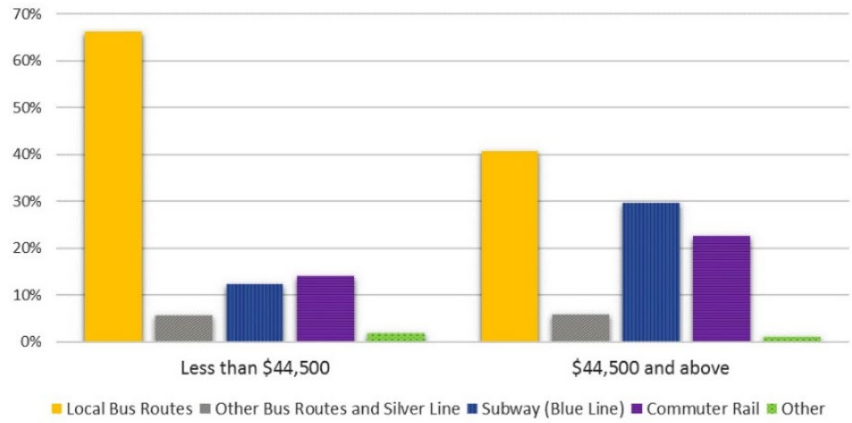
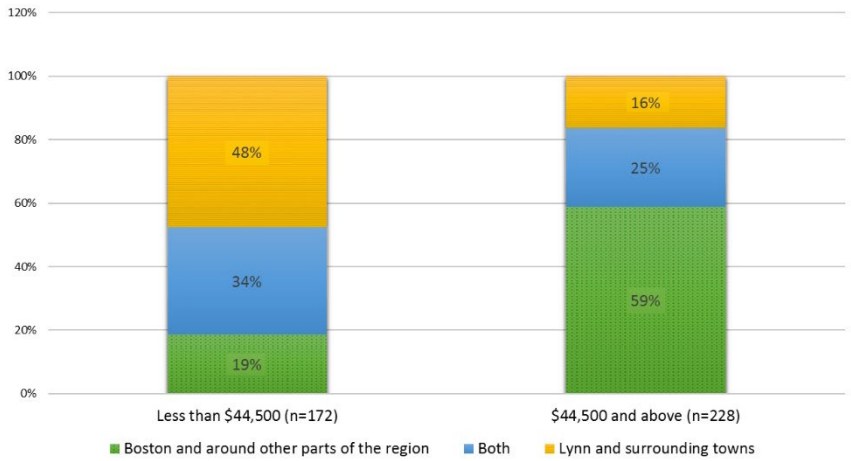


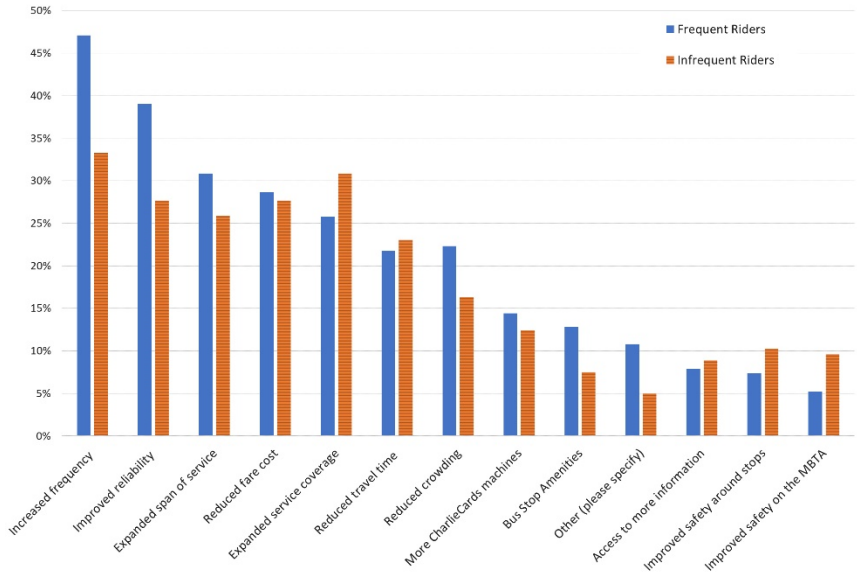
Figure 2-20 Transit Travel Destinations During an Average Week, by Household Income



Frequent and infrequent riders have similar priorities for improvements to MBTA Service (Figure 2-20).

- The top five priorities for both frequent and infrequent riders were: increased frequency, improved reliability, expanded span of service and service coverage, and reduced fare cost.
- Increased service frequency was identified by the highest percentages of frequent and infrequent riders as a priority, 47 percent and 33 percent, respectively.
- However, the second most identified priority differed between the groups, with improved reliability being identified by 39 percent of frequent riders and 31 percent of infrequent riders identifying expanded service coverage.

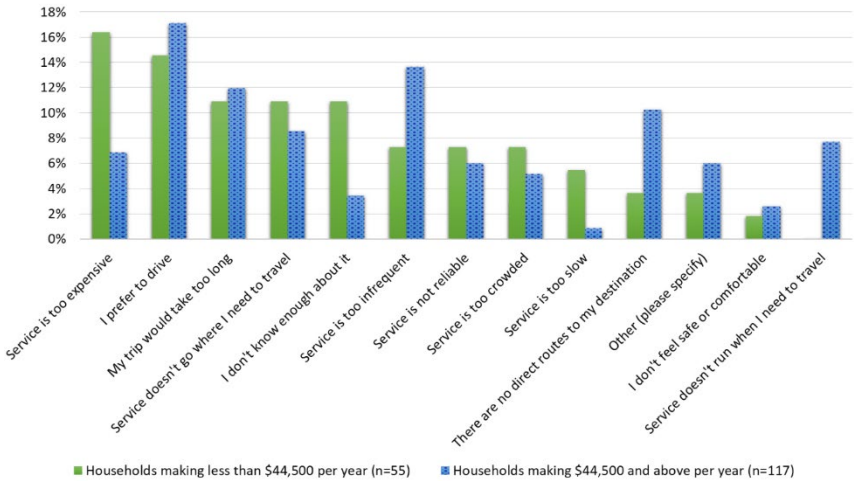
Figure 2-21 Priorities for Improvements to MBTA Services for Frequent and Infrequent Riders



Low-income households and high-income households have considerably different reasons for not using MBTA services more often.

- The top reason that respondents from high-income households cited for not using the MBTA more often is a preference for driving, while the top reason cited by respondents from low-income households is that service is too expensive. However, a preference for driving was the second most selected reason for respondents from low-income households.
- Respondents from high-income households selected infrequent service, a lack of direct routes to their destinations, and service not running at convenient times as other reasons.
- Respondents from low-income households selected not knowing enough about the service and service being too slow at higher rates than respondents from high-income households.

Figure 2-22 Primary Reason for Not Using the MBTA More Often, by Household Income



The results of the Public Input Survey provide additional context and support for the findings of the other analyses conducted using ridership and travel data, as well as other qualitative information collected from project stakeholders. Both local bus service and services connecting to Boston play critical roles in providing access to destinations for many residents, especially for low-income households who lack access to personal vehicles. As with other parts of the region, improvements to frequency and reliability are the highest priority for transit riders and non-riders. Fare cost and access to information about service are important barriers to address, particularly for low-income and non-English speaking households. The following page identifies some of the core issues for Lynn transit users and non-users. It summarizes the main findings from the existing conditions analysis and public input process.

The key takeaways on the following page serve as a foundation for the recommendations in Chapter 3. Strategies to address these issues could not only benefit current riders, but may encourage infrequent riders to use transit more often. Those strategies include changes to the built environment including installation of bus lanes, transit signal priority, and bus stop amenities, and changes to services themselves including additional off-peak service, frequency adjustments, and route modifications. See Chapter 3 for a complete list and description of the strategies recommended by this Plan.

Key Takeaways

Lynn is the most densely populated community in the North Shore, with many zero-car households, yet transit use is relatively low, indicating a mismatch between the services provided and travel needs. Public input and analysis of transit and travel data indicate that transit service **broadly connects people to the places they need to go, but improvements to reliability, off-peak frequency, and access** could make transit a better mobility choice for commuting and local travel needs.

Murals in Lynn

Getting buses out of traffic, increasing the use of CharlieCards, increasing midday local bus frequency, and creating more comfortable walking and biking facilities could support mode shift, as a majority of travel needs are local and trips are short.

Across all modes of travel, **67 percent of trips are made within the city boundaries and almost half of all travel that starts in Lynn are trips of less than two miles**. Short trips are challenging to serve effectively with public transit, as walking, biking, or driving is almost always a faster option.

As Lynn continues to grow and develop, **improvements to pedestrian and bicycle facilities could both improve access to transit** and reduce traffic congestion by supporting mode shift.

Transit riders and non-riders in Lynn rated **frequency and reliability of MBTA service as the highest priority** areas for improvement.

Existing bus routes directly serve most of the high- demand destinations, such as local schools, regional malls, and Salem. However, **infrequent midday service** makes driving, for those with access to a vehicle, a more attractive choice, and makes trips longer, for those who use the MBTA.

Some corridors have **high levels of bus delay and unreliability**, caused in part by roadway congestion, on-board cash payment, and double-parked cars blocking buses.

While most of Lynn residents live within a quarter mile of a bus stop, **only 40 percent of the 408 stops in Lynn are considered accessible** and most bus stops do not feature amenities like shelters or real-time bus arrival information, affecting the customer experience.

Increased frequency and affordability of transit options to Boston job centers, by bus and Commuter Rail, could improve commutes for many residents, open up new employment opportunities for others, and support economic development opportunities as the City of Lynn continues to grow.

Over 12,000 trips are made from Lynn to Boston on an average weekday, making Boston the second most frequented destination by municipality. Many of these trips are commutes to jobs downtown in downtown Boston, at the airport, and in areas with medical centers and occur throughout the day due to non-traditional work schedules.

Transit plays an important role in access to Boston. Currently, approximately 12 percent of all trips to Boston are made on transit, with around 370 Commuter Rail trips, 450 express bus trips, 350 by local bus and Blue Line, and 325 by driving to Blue Line. During the peak period, transit accounts for 40 percent of trips, likely because it can be faster than driving and cheaper than parking in high-demand areas like downtown.

Plans for future development indicates that new residents may also commute to Boston.

The Commuter Rail provides direct access to Boston job markets and is often quicker than driving during rush hour congestion, **but the fare costs are prohibitive for some residents**. Survey results indicate that higher income households are more likely to use the Commuter Rail or the Blue Line to get to Boston than lower income households. Other transit options are more economical but take longer.

The Commuter Rail garage has capacity, filling only 50 percent of the 900+ spaces most days. Deteriorating conditions and poor lighting dissuade users and **peak-hour commuter trains are often over-crowded**.

3 Recommendations

These recommendations would make transit services in and around Lynn, faster, more reliable, and better matched to where people need to go. They would focus on moving *people*, rather than *vehicles*.

The recommendations in this chapter respond to the conditions on the ground, as described in Chapter 2, and speak to the near and long-term goals for the City, as informed by stakeholder engagement. In the near-term, they aim to support existing transit dependent communities and grow transit usage among all residents by focusing on the travel needs of today – namely improving reliability and access by bus and Commuter Rail to key employment hubs and destinations across the North Shore and in Boston. In the long-term, these foundational efforts can build support and demand for larger scale, transformative investments that further support economic growth and sustainability.

The recommendations are grouped into the following categories:

- *Prioritize buses on roadways*. Bus service connects Lynn residents to key locations within Lynn and on the North Shore and to the Blue Line at Wonderland. As the most affordable transit option, the bus provides a critical service, particularly for lower income households. The buses currently travel in congested corridors, causing delays and impacting reliability. The analysis identified corridors with high levels of congestion and ridership as candidates for priority improvements. The recommendations include a number of these locations, where bus lanes and transit signal priority could create a faster, more reliable bus service in the short-term, benefitting trips both locally and between Lynn and Boston.
- *Improve access to transit and enhance the customer experience* to further encourage transit use. These recommendations, developed largely based on public input, range from improving the physical access at and around Lynn stops and stations, to improving access to information about transit. This category includes a mix of short-term and long-term recommendations and focuses mainly on local access.
- *Reimagine how the network works*. These recommendations include larger transformational efforts at the MBTA network level, that will affect future service plans to Lynn in the long-term, both locally and between Lynn and Boston.

Table 3-1 identifies the complete list of recommendations and the following subsections detail the benefits, costs, and implementation considerations for each of these recommendations.

Table 3-1 Recommendations

Type	Recommendation
Bus Priority	Western Avenue (Route 107) Shared Bus/Bike Lanes
Bus Priority	Multimodal Improvements on Route 1A, Central Square to Wonderland
Bus Priority	Broad Street Multimodal Corridor
Bus Priority	North Common Street Bus Lane
Bus Priority	Citywide Transit Signal Priority
Access to Transit	Commuter Rail Service Improvements
Access to Transit	Lynn Station and Garage Improvements
Access to Transit	Bus Stop Amenities Integration in Roadway Projects
Access to Transit	Bus Stop Consolidation and Accessibility
Access to Transit	Expanded Access to Information
Access to Transit	Bicycle and Pedestrian Network Improvements
Access to Transit	Transit-Supportive Urban Design
Reimagine Network	Bus Network Redesign
Reimagine Network	Rail Transformation
Reimagine Network	Ferry Service

Western Avenue (Route 107) Shared Bus/Bike Lanes

Extent of proposed improvement

Context

As one of the highest-volume corridors in Lynn, Western Avenue between Market Square and the Belden Bly Bridge features a mix of multi-family housing, shops, and industrial sites. Most of the corridor, owned partially by MassDOT and partially by the City of Lynn, has a single travel lane and a single parking lane in each direction. With the high traffic volumes and single travel lane, buses experience **delays of up to 11 minutes per trip** in the peak period over the 1.1-mile segment.

Five MBTA bus routes use Western Avenue to connect to Wonderland and Haymarket Stations to the south, and Salem and Peabody to the north. **Up to 10 buses per hour** use the corridor during peak periods in the peak direction when in service. With this high-frequency service along the corridor, the MBTA serves up to **9,200 passengers daily**. During peak periods, **up to 41 percent of roadway users** travel in a bus.

This corridor provides a critical connection to **Lynn Garage**, where the MBTA houses and maintains all buses serving East Boston and the North Shore. Up to 90 buses use this corridor each day to depart and return to the Garage. In total, nearly **200 buses per day** use the corridor in each direction.

The Concept

This concept proposes creating an **all-day shared curb-running bus/bike lane in both directions** on Western Avenue between Market Square and the Belden Bly Bridge by converting either parking lanes or the second travel lane through the full corridor.

Photo of Western Avenue

Benefits

- Improves bus speed (up to 11 minutes per trip) and reliability
- Benefits apply to non-revenue trips to/from Lynn Garage
- Allows MBTA to provide more bus trips with the same number of vehicles by reducing travel time
- Provides a safer route for bicyclists, who would not compete with general traffic and could instead travel in between buses, with buses and bicycles traveling at similar speeds
- Allows travel for school buses and emergency response vehicles
- Smoother travel for both bus and general traffic, as the bus does not need to reenter general traffic lanes after each bus stop
- Upgraded bus stops for ADA compliance
- Potential for new amenities, such as bus shelters, at select locations

Rendering of proposed bus/bike lane on Western Avenue at Burns Street, looking north

Details

This concept proposes two 12-foot bus lanes adjacent to the curb, running in each direction along the entire segment on Western Avenue. To ensure a 12-foot lane width along the entire corridor, the project would require minor adjustments to curbs to accommodate. The concept design also includes transit signal priority, which extends green phases to allow an oncoming bus to pass through an intersection or reduces red phases for a bus waiting at an intersection. The concept design includes ADA improvements to all stops on the corridor that do not currently meet ADA accessibility criteria.

The bus lanes would replace roadway space currently dedicated to parking. The project team assessed the potential impacts of re-assigning this roadway space on parking needs, finding that side-street and off-street parking was available to absorb the reduction in parking on Western Avenue. A parking survey of Western Avenue found that at maximum occupancy, approximately 61 cars parked in 149 spaces between the Lynn Garage and Market Square; at that time, side streets had 130 spaces available.

For more details on the proposed Western Avenue bus lanes, see Appendix D.

Costs

The recommendation costs an estimated $3m - $3.5m (2020$) including:

- All curb modifications (excluding potential utility relocations)
- Painting a bus lane and restriping
- Installation of transit signal priority equipment
- Bus stop consolidation and relocation, and ADA improvements

The project also requires additional periodic repainting.

Implementation Considerations and Next Steps

As the City moves forward with this recommendation, the MBTA may contribute funding towards design and construction of the bus lane, including curb modifications and any bus stop improvements. The City of Lynn would need to fund any other related upgrades, such as signal equipment. The MBTA could support the City of Lynn through the construction process. Once the MBTA has the initial buy-in from local stakeholders, the process from design through construction takes an estimated 9 to 12 months. Key components to implementation include:

- Analysis and conceptual design ✓
- Stakeholder input (in progress)
- Preliminary design and final design
- Identify and finalize funding sources
- Final city approval
- Construction

The bus lane could serve as the first phase of a larger set of bus priority improvements through the corridor and north to Salem. For example, continuing the bus lanes through the bridge would result in similar vehicle conditions on the bridge as are currently in place today. Beyond the bridge, further analysis could consider the potential for continuing the bus lane in the Route 107 shoulder in Saugus, and then on Route 60 in Revere and beyond (e.g., Route 1, the Tobin Bridge, or Route 1A). To address larger mobility needs across the North Shore, these analyses may consider the introduction of new services that could take advantage of these bus lanes. This assessment could occur through the Shared Network Study, a MassDOT led effort to assess opportunities to reduce the number of single-occupancy vehicles while also increasing roadway passenger throughput and capacity.

Multimodal Improvements on Route 1A, Central Square to Wonderland

Context

Route 1A provides a critical link from downtown Lynn through Revere to the Blue Line at Wonderland. Today, many Lynn residents use the bus or drive to Wonderland to access jobs at the Airport or in Boston. There are currently plans to build over 4,000 residential units along this corridor in Lynn. This level of proposed development, which is tailored to Boston commuters, will further increase the need for access. Improving transit, walking, and biking options along this corridor ahead of this development will be critical to addressing today's congestion and mitigating future traffic impacts.

Currently, Route 1A in Lynn (the Lynnway, owned by DCR) has three general purpose travel lanes in each direction, while Route 1A in Revere (North Shore Road, owned by MassDOT) has two general purpose travel lanes in each direction. MBTA Routes 439, 441 and 442 use Route 1A to connect Lynn to Wonderland to the south and Marblehead to the north. The MBTA serves up to **8,600 passengers daily** on the corridor. Buses experience congestion throughout the corridor, with **delays of up to 15 minutes per trip**. *Congestion in the Commonwealth: Report to the Governor 2019* listed Route 1A in Revere as one of the most consistently congested corridors in Massachusetts. **Up to 8 buses per hour** use the corridor during peak periods in the peak direction. In total, approximately **70 buses per day** use the corridor in each direction. Additional MBTA routes, including the 116, 424, and 455, also access Wonderland via North Shore Road at Revere Street.

In addition to bus delay, the sidewalks along large portions of this corridor do not meet ADA standards and pedestrians seeking to cross the street often face high speed vehicles and long, uncomfortable crosswalks. There are no bicycle accommodations, though a portion of the section in Revere parallels Revere Beach Boulevard, which is a designated bicycle path.

The Concept

This concept proposes creating an **all-day center-running bus lane in both directions** between Market Street in Lynn and Wonderland in Revere by converting the inner travel lanes to bus lanes through the full corridor. In conjunction with these improvements, **this Plan recommends creating a shared use path along the eastern edge of the Lynnway**, with bicycle and pedestrian connections to the Revere Beach Boulevard boardwalk in Revere to the south and the Northern Strand Trail to the north.

Benefits

- Improves bus speed (up to 15 minutes per trip) and reliability
- Allows MBTA to provide more bus trips with the same number of vehicles by reducing travel time
- Creates a fast, frequent, flexible connection to the Blue Line
- Provides pedestrian refuge with new stops on Lynnway
- Provides a separated path for bicyclists and pedestrians
- Adds green space along the Lynnway
- Allows travel for school buses and emergency response vehicles
- Upgrades bus stops for ADA compliance
- Potential for new amenities, such as bus shelters, at select locations

Rendering of Proposed Bus Lanes on the Lynnway at Harding Street, Looking North

Details

The analysis considered several alternatives for the bus lane configuration, including running it along the curb. The bus lane concepts account for one 12-foot bus lane in each direction along the entire segment. The analysis found that center-running lanes provide the most benefit because they eliminate conflicts between buses and right-turning vehicles (with frequent driveway entrances on the Lynnway and a number of side streets on North Shore Road), provide pedestrians with a refuge while crossing the wide roadway (particularly on the Lynnway), and help to slow traffic. The preferred concept replaces the left-most travel lanes with the center-running bus lanes. Bus stops would be provided at intersections with ADA-accessible platforms providing all pedestrians a refuge to facilitate crossing. To ensure a 12-foot bus lane-width, the project would make adjustments to curbs throughout the corridor and modifications to the median where there is no landscaping, with the ability to increase greenspace, as well as provide bus amenities. The curb-running concept would likely require taking a lane or adjacent land to expand the sidewalks at stop locations to provide ADA-accessibility.

The concept design also includes transit signal priority, which extends green phases to allow an oncoming bus to pass through an intersection or reduces red phases for a bus waiting at an intersection. The concept design includes ADA improvements to all stops on the North Shore Road portion of the corridor that do not currently meet ADA accessibility criteria.

The bus lanes would replace roadway space currently dedicated to general purpose traffic. This concept design reduces the Lynnway to two general purpose lanes in each direction with allowance for turning lanes at appropriate intersections, consistent with existing travel patterns on North Shore Road. It reduces the General Edwards Bridge and North Shore Road to a single general purpose lane in each direction.

For more details on the proposed Route 1A bus lanes, see Appendix D.

Costs

The recommendation costs an estimated $18m (2020$) including:

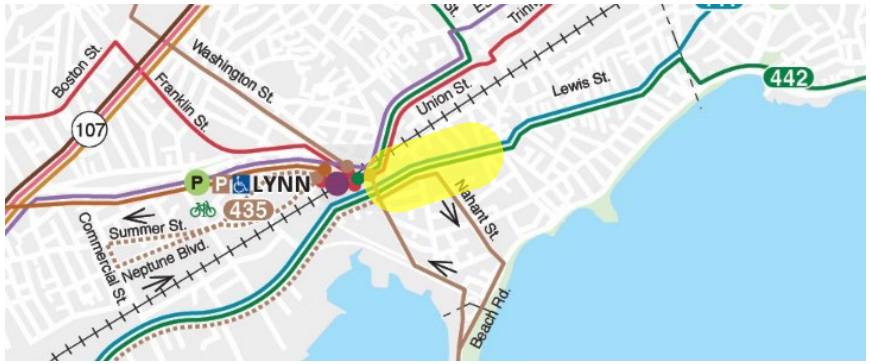
- All curb and median modifications and additional landscaping (excluding potential utility relocations);
- Painting a bus lane and restriping
- Installation of transit signal priority equipment
- Bus stop consolidation and relocation, and ADA improvements
- Creation of a shared use path (excluding potential property acquisition or easements)

Implementation Considerations and Next Steps

The next steps for this concept follow two tracks, as DCR owns the Lynnway and MassDOT owns North Shore Road. DCR is conducting a design development process to advance several concepts for re-imagining the Lynnway, of which MassDOT, the MBTA, and Lynn take part. MassDOT, in collaboration with the MBTA and Revere will seek to further assess the feasibility and design for North Shore Road. The MBTA may contribute funding toward bus lane design and construction and the parties could also work with developers to partially offset the cost of the improvements. Once there is initial buy-in from local stakeholders, the process from design through construction could be completed within 12 to 18 months. Key components to implementation include:

- Analysis and conceptual design (in progress)
- Stakeholder input (in progress)
- Preliminary design and final design
- Identify and finalize funding sources
- City of Lynn, DCR, and City of Revere approval
- Construction

Broad Street Multimodal Corridor



Extent of proposed improvement

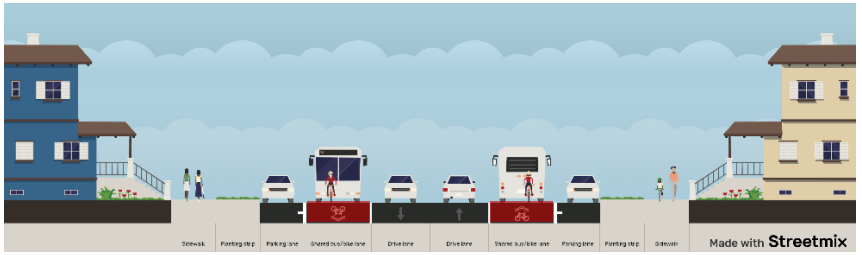
Context

Broad Street is under City of Lynn jurisdiction and runs between Market Street and Chestnut Street connecting East Lynn with Central Square. Broad Street has multifamily housing and retail, and an entrance to North Shore Community College. Most of the corridor is variable in width and has a single travel lane, a single parking lane in each direction, and additional lanes for turning movements. Buses experience **delays of up to three minutes per trip** in the peak period over the 0.6 miles segment.

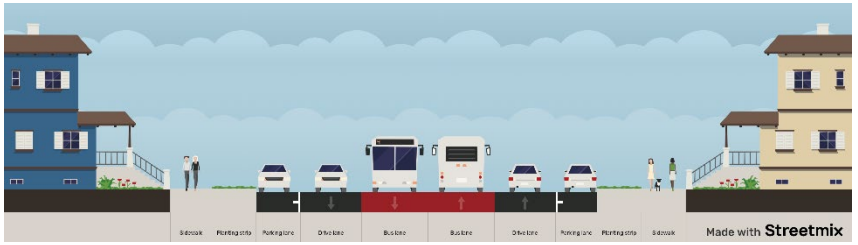
MBTA Routes 441 and 442 use Broad Street to connect Lynn to Wonderland to the south, and Marblehead to the north. Routes 426/426W, 429, 435, 436, 455, and 456 also use Broad Street in one direction, from Spring Street to Market Street, to access the Lynn Busway. Including these trips, **up to 20 buses per hour** and approximately **197 buses per day** use the corridor in the peak direction. On average, over **5,100 passengers travel on Broad Street daily** in the peak direction. During peak periods, **up to 40 percent of roadway users** travel in a bus.

The Concept

This concept proposes creating an **all-day center-running bus lane or an all-day parking-offset shared bus/bike lane in both directions** on Broad Street between Chestnut Street and Exchange Street by adjusting the lane configuration or converting the parking lane for a short stretch. It proposes creating an **all-day center-running bus lane or an all-day parking-offset shared bus/bike lane in the southbound direction and a bike lane in the northbound direction** on Broad Street between Exchange Street and Market Street (a segment where buses only travel in the southbound direction). Additional analysis is necessary to finalize the preferred alignment.



Conceptual typical cross-section of proposed parking-offset shared bus/bike lane



Conceptual typical cross-section of proposed center-running bus lane

Benefits

- Improves bus speed (up to three minutes per trip) and reliability
- Allows MBTA to provide more bus trips with the same number of vehicles by reducing travel time
- Provides a separated facility for bicyclists (parking-offset option)
- Allows travel for school buses and emergency response vehicles
- Smoother travel for both bus and general traffic, as the bus does not need to reenter general traffic lanes after each bus stop
- Upgraded bus stops for ADA compliance
- Potential for new amenities, such as bus shelters, at select locations

Details

This concept proposes two 12-foot bus lanes along Broad Street between Chestnut Street and Exchange Street, either by replacing the left-most travel lanes, or with lanes adjacent to the curb or parking. The bus lane would continue in the southbound direction between Exchange Street and Market Street, with one five-foot bike lane with a two-foot buffer in the northbound direction. To ensure a 12-foot bus lane width along the entire corridor, the project would require minor adjustments to curbs, and would remove the median on a portion of Broad Street for the center-running concept. The concept design also includes transit signal priority, which extends green phases to allow an oncoming bus to pass through an intersection or reduces red phases for a bus waiting at an intersection. The concept design includes ADA improvements to all stops on the corridor that do not currently meet ADA accessibility criteria.

While the bus lanes would maintain parking through much of the corridor, they would replace roadway space currently dedicated to parking in some segments. For more details on the proposed bus lanes, see Appendix D.

Costs

The recommendation costs an estimated $2m - $2.5m (2020$) including:

- All curb modifications (excluding potential utility relocations)
- Painting a bus lane and restriping
- Installation of transit signal priority equipment
- Bus stop consolidation and relocation, and ADA improvements

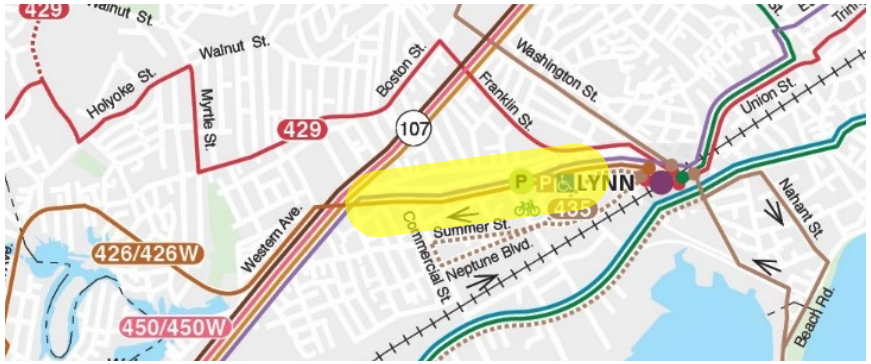
The project also requires additional periodic repainting.

Implementation Considerations and Next Steps

As the City of Lynn moves forward with this recommendation, the MBTA may contribute funding towards design and construction of the bus lane, including any curb modifications and any bus stop improvements. The City of Lynn would need to fund any other related upgrades, such as signal equipment. The MBTA could support the City of Lynn through the construction process. The City of Lynn is investing in multiple projects along Washington Street adjacent to the Broad Street corridor, creating a great opportunity to merge public investments. Once the City and the MBTA have buy-in from local stakeholders, the process from design through construction takes an estimated 9 to 12 months. Key components to implementation include:

- Analysis and conceptual design ✓
- Stakeholder input (in progress)
- Preliminary design and final design
- Identify and finalize funding sources
- Final city approval
- Construction

North Common Street Bus Lane



Extent of proposed improvement

Context

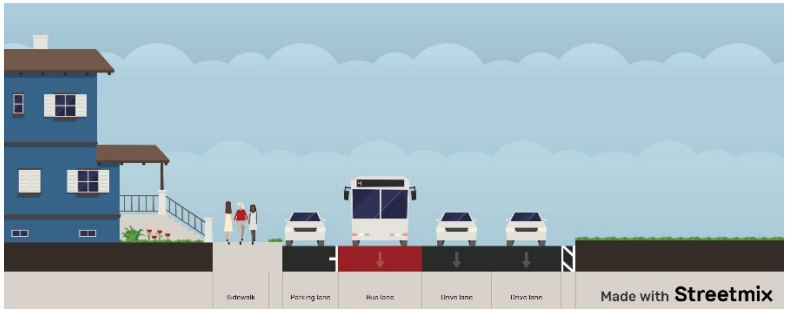
Common Street connects Market Street and Western Avenue. A one-way pair separated by Lynn Common, an historic public place, North Common Street provides one-way travel from Market Street to Market Square, and South Common Street provides one-way travel in the opposite direction. Lynn City Hall, a library, multiple churches, senior and multifamily housing are in the immediate vicinity. Most of the corridor, owned by the City of Lynn, has two travel lanes and a single parking lane in each direction. Buses experience **delays of up to four minutes per trip** in the peak period over the 0.75 miles segment.

MBTA Routes 426 and 455 use North Common Street, connecting Lynn to Wonderland and Haymarket Stations to the south, and from Salem to the north. **Up to six buses per hour** and approximately **70 buses per day** use the corridor, serving up to **2,800 passengers daily**. During peak periods, **up to 20 percent of roadway users** travel in a bus. Additional trips use North Common Street to return to MBTA's Lynn Garage.

The City of Lynn and the Commonwealth are in the process of designing the proposed Northern Strand Trail on South Common Street and Market Street, which would connect Western Avenue to the Waterfront. It would reduce South Common Street from two travel lanes to one travel lane. Although this segment would not include bus lanes, the MBTA will work with the Northern Strand Trail project team to provide bus accommodations and mitigate potential impacts to service. The Northern Strand Trail would not change the usage of North Common Street.

The Concept

This concept proposes restriping the existing cross-section on North Common Street to include an **all-day bus lane** and two general purpose travel lanes. It would preserve the majority of the existing parking lane and maintain both existing general purpose travel lanes.



Conceptual cross-section of proposed bus lane on North Common Street, looking northeast

Benefits

- Improves bus speed (up to four minutes per trip) and reliability
- Benefits apply to non-revenue trips to/from Lynn Garage
- Allows MBTA to provide more bus trips with the same number of vehicles by reducing travel time
- Allows travel for school buses and emergency response vehicles
- Smoother travel for both bus and general traffic, as the bus does not need to reenter general traffic lanes after each bus stop
- Upgraded bus stops for ADA compliance
- Potential for new amenities, such as bus shelters, at select locations

Details

The concept features a bus lane adjacent to the parking lane on North Common Street, running along the entire segment. To ensure a 12-foot lane width along the entire corridor, the project would make adjustments to the existing parking and travel lane widths, and curbs where necessary. The wide existing roadway right-of-way enables the concept design to maintain parking and two general purpose travel lanes on North Common Street while adding a bus lane.

The concept design has the potential to include transit signal priority, which extends green phases to allow an oncoming bus to pass through an intersection or reduces red phases for a bus waiting at an intersection. The concept design includes ADA improvements to all stops on the corridor that do not currently meet ADA accessibility criteria.

For more details on the proposed North Common Street bus lane, see Appendix D.

Costs

The recommendation costs an estimated $1m - $1.5m (2020$) including:

- All curb modifications (excluding potential utility relocations)
- Painting a bus lane and restriping
- Investigation of the opportunity to include transit signal priority equipment
- Bus stop consolidation and relocation, and ADA improvements

The project also requires additional periodic repainting.

Implementation Considerations and Next Steps

As the City of Lynn moves forward with this recommendation, the MBTA may contribute funding towards design and construction of the bus lane, including any curb modifications and any bus stop improvements. The City of Lynn would need to fund any other related upgrades, such as signal equipment. The MBTA could support the City of Lynn through the construction process. Once the City and the MBTA have buy-in from local stakeholders, the process from design through construction takes an estimated 9 to 12 months. Key components to implementation include:

- Analysis and conceptual design ✓
- Stakeholder input (in progress)
- Preliminary design and final design
- Identify and finalize funding sources
- Final city approval
- Construction

Citywide Transit Signal Priority

Bus Stopped at Red Light on the Lynnway

Context

Stopping at red lights increases the travel time for buses and can cause delay when a bus misses a light due to congestion. Transit Signal Priority (TSP) is a mechanism used to help buses move more smoothly through intersections by ensuring green lights. There are two approaches to TSP:

- **Passive TSP** times signal phases based on the travel time of buses, which operate more slowly than passenger vehicles, so that the buses receive a green light during normal operations.
- **Active TSP** adapts the signal phasing to prioritize transit vehicles by extending a green phase to allow an oncoming bus to pass through an intersection or reducing a red phase for a bus waiting at an intersection.

The Concept

This concept proposes **implementing passive TSP throughout the City of Lynn, wherever possible**, particularly at intersections with high bus frequencies. It recommends **identifying specific locations to implement active TSP, including on all corridors with bus lanes**. This plan recommends developing TSP designs consistent with MBTA specifications.

Benefits

- Improves bus speed and reliability
- Allows MBTA to provide more bus trips with the same number of vehicles by reducing travel time
- Smoother travel for both bus and general traffic, as TSP can provide separate phases where buses merge into general traffic
- Can incorporate emergency response vehicle preemption

Costs

Costs for TSP would include:

- Traffic analysis to develop new signal timing plans for all City signals at intersections serving buses;
- Signal timing modifications
- New signal equipment (particularly for active TSP)

Implementation Considerations and Next Steps

If the roadway owners (including the City of Lynn, MassDOT, and DCR) choose to move forward with this recommendation, once a design is finalized, the MBTA may contribute funding toward various aspects of TSP, subject to agreement with the MBTA. The roadway owner would need to fund any other related upgrades such as ancillary signal equipment (e.g., new mast arms). Key components to implementation include:

- Identify locations and design signal improvements
- Identify and finalize funding sources
- Final city approval
- Signal modernization and/or signal re-timing

Commuter Rail Service Improvements

View of Central Square-Lynn Platform

Context

MBTA Commuter Rail offers the fastest transit option between Lynn and downtown Boston. It also directly connects Lynn to other key regional locations, including Chelsea and Salem. **Peak frequencies at Lynn Central Square Station vary between 15 and 30 minutes, while off-peak frequencies range from 30 to 90 minutes.** During peak periods, some express trains do not stop at Lynn. Meanwhile, some of the trains that do stop during peak periods are often at or close to capacity, impacting how people choose to use the train.

In the spring of 2020, Commuter Rail ridership dropped exponentially due to COVID-19. Ridership rebounds on all modes is uncertain as the economy begins to re-open. While Lynn riders have always demonstrated a need for service options throughout the day, many more riders may likely seek additional off-peak options to accommodate staggered work schedules. Spreading out demand across the day and providing options for riders can also help improve safety by reducing crowding and allowing for adequate personal space on vehicles, including Commuter Rail trains.

The Concept

This concept would have the MBTA investigate the feasibility of making the following schedule adjustments to the Newburyport/Rockport Line service as part of its regular schedule updates, which occur twice per year:

- **Adding stops at Lynn** on trains that currently bypass the station and
- Adjusting the off-peak schedule to eliminate large gaps and provide **all-day service at the same minutes past the hours** ("clockface" schedule).

These adjustments would support safety as the economy re-opens, while addressing a demonstrated mobility need for Lynn residents.

Benefits

- Improves frequency, particularly during midday, to provide a more competitive trip catering to non-traditional work schedules and for travel between North Shore communities
- Improves schedule consistency

Costs

Modest increases in bidirectional service using our current fleet means more efficient use of existing equipment and crew shifts, so these improvements would only incur additional fuel costs, associated with:

- Adding stops on peak trains that currently bypass Lynn
- Operating additional off-peak trips

Implementation Considerations and Next Steps

The MBTA is working to assess the appropriate changes to make through the two regular schedule adjustments that happen per year. The agency will continue to assess ridership and needs as the economy re-opens and new commute and travel needs emerge. Prior to implementation, the MBTA needs to identify a funding source for the additional fuel costs. The MBTA expects delivery of new bi-level coaches beginning in 2022, which will add capacity and may provide additional opportunities for the MBTA to adjust the existing schedule. Key components to implementation include:

- Develop pilot service plans
- Stakeholder input (in progress)
- Identify and finalize funding sources
- Implement new schedules

View of Boston from Lynn

Lynn Station and Garage Improvements

View of Central Square-Lynn Garage

Context

Central Square-Lynn Station is located on a raised viaduct, accessible by elevator and two stairs. The station's platform and stairs are in poor condition, negatively affecting the experience for riders who use it.

The garage, located between the Commuter Rail station and Lynn Busway, offers 978 spaces, including 13 accessible spaces. The MBTA charges $2 per day or $35 per month to park there. However, many residents do not feel comfortable or safe using the garage, and the Commuter Rail is not heavily used in Lynn. As a result, despite the low fee, the garage only fills about half of its spaces on a typical weekday.

The MBTA is advancing a multi-phase program to rehabilitate and modernize the station, track beds, arcade, and tenant spaces. As part of phase one, the MBTA completed urgent repairs to the station and garage in 2017. Phase two is a $33 million project to rehabilitate the station that began pre-design in Spring 2020 and is anticipated to start construction in fall 2021.

Concept

The rehabilitation project will bring the station to a state of good repair. Based on input from the public and stakeholders, the Lynn Transit Action Plan recommends that the MBTA consider ways in which the rehabilitation project can also address concerns about safety and comfort. Improving lighting for pedestrians using the station area and pursuing ways to activate the space to support more foot traffic could help the space feel safer, as well as physically be safer. The MBTA could explore opportunities to partner with local businesses or non-profits to make use of the retail space or the garage site. This may take the form of transit oriented development, pop-up retail opportunities, events, or art installations.

In the longer-term, this concept proposes the MBTA reassess demand for parking at the garage with the potential implementation of a Route 1A bus priority corridor and as the surrounding area develops. The MBTA may also consider making an agreement with adjacent developers to lease parking in the garage so that they do not need to construct parking on their own property.

Benefits

- Increases transit usage
- Supports higher frequency transit services
- Decreases congestion between Lynn and downtown Boston
- Improves safety and the customer experience
- Achieves State of Good Repair

Costs

Costs depend on the policies implemented. Costs could include:

- Reconstruction of the garage site for new uses
- Outreach and marketing of new policies
- Enforcement of new policies

Implementation Considerations and Next Steps

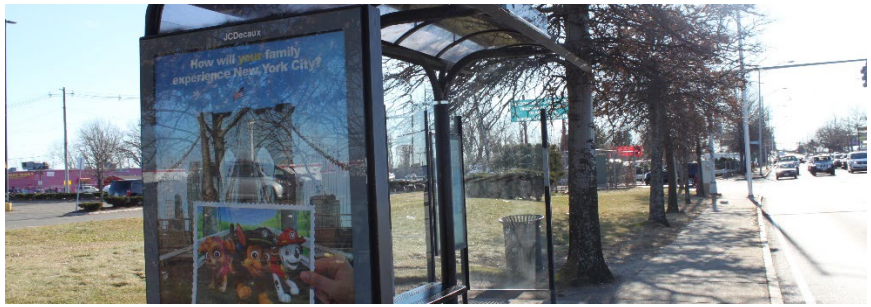
Dedicating some or all of the garage space for other uses (such as retail facilities) would require a focus on funding and maintenance responsibilities, as the MBTA needs to use its resources on ensuring facilities are in a state of good repair and on maintaining operations. Key components to implementing any new programming include:

- Develop potential garage improvements and new uses (in progress)
- Stakeholder input (in progress)
- Produce final recommendation
- Identify maintenance responsibilities and budgetary implications, and finalize funding sources
- Implement new improvements and policies

View of Lynn Arcade

View from Central Square-Lynn Platform

Bus Stop Amenities Integration in Roadway Projects



MBTA Bus Stop in Lynn with Shelter and Bench

Context

Most transit trips in Lynn use the bus. While a portion of existing bus stops have amenities such as shelters and benches, most do not. Based on the project survey, **over 12 percent of respondents listed improved amenities as one of their top three desired MBTA improvements**. Feedback sessions for the Better Bus Project showed that stop amenities can make the bus feel safer and more comfortable, making it a more attractive mobility choice.[34]

The Concept

This concept proposes **improving amenities** at select locations. This includes **shelters, benches, and digital signage with real-time information** to improve customer experience. Bus shelters support an improved passenger experience, particularly in inclement weather. Benches provide added comfort. Real-time information alerts passengers of when the next buses will arrive.

Benefits

- Improves customer experience
- Increases likelihood non-transit users could choose transit

Costs

Improvements would include costs associated with:

- Bus shelters, benches, and digital signage

These costs vary by location and exclude any site-specific improvements such as curb modifications and utility relocations.

Implementation Considerations and Next Steps

This concept recommends that whenever the City of Lynn is doing sidewalk repairs or roadwork on a segment, it contacts the MBTA about the potential for upgrades to any stops in that segment. Relevant upgrades depend on the space available and the ridership and priority of the location. Regardless of whether it is possible to make upgrades at the time of construction, it will be important and more cost-effective in the long run, for the design to not preclude future improvements. The MBTA bus stop design guidelines provide information on the dimensional requirements for accessibility and other upgrades, that the City of Lynn can consider when doing construction. Key components to implementation include:

- Identify locations and design improvements
- Identify and finalize funding sources
- Construction

[34] MBTA, "Bus Stops and Amenities," Presentation to the FMCB, April 8, 2019.

Bus Stop Consolidation and Accessibility

Context

Lynn has **approximately 400 bus stops**, with **many segments offering multiple stops within a few blocks**. The high density of locations offers short walk access times, but **slows travel times as buses make frequent stops**. The MBTA recommends approximately 1,000' to 1,300' between stops, a distance which balances walk access and bus travel time needs.

Additionally, of the existing stops in Lynn, **less than half are considered accessible** for persons with mobility challenges, according to MBTA standards. The MBTA's Plan for Accessible Transit Infrastructure (PATI) prioritizes improvements and locations that have the most positive impacts on accessibility.

The Concept

This concept proposes that the **MBTA coordinate with the City of Lynn to identify opportunities to both consolidate bus stops and prioritize accessibility improvements at the remaining stops**. This Plan recommends that all bus priority corridors with bus lanes consolidate stops to attain stop spacing of approximately every 1,000' to 1,300' to achieve faster travel times and make all stops on these bus priority corridors accessible wherever possible.

Benefits

- Upgraded bus stops to provide equitable access to MBTA services for all riders, including riders with mobility challenges
- Stop consolidation improves bus speed and reliability

Costs

These costs vary widely by location based on the site-specific improvements required. Costs could include, for example:

- All new landing pads, curb ramps, and other curb modifications (excluding potential utility relocations)
- Installation of crosswalks to access bus stops

Implementation Considerations and Next Steps

The MBTA would need to identify a funding source for ADA improvements prior to implementation. Key components to implementation include:

- Coordinate with MBTA PATI Program
- Stakeholder input (in progress)
- Identify locations and design improvements
- Identify and finalize funding sources
- Final city approval
- Construction

Expanded Access to Information

Context

Conversations with stakeholders revealed that many Lynn residents, in particular in non-English speaking homes, do not have access to comprehensive information about the transit system, including the services available and how to use them. In addition, those who use the service frequently pay with cash instead of using a re-loadable CharlieCard, a process which can slow the time it takes to load a bus. The project survey supports these conclusions, finding that **over eight percent of respondents listed access to improved information and nearly 11 percent listed access to CharlieCards and new locations to load fare as one of their top three desired MBTA improvements.**

A fare vending machine is located at Lynn Central Square, but does not consistently operate properly. Lynn offers only four other locations (City Hall and three retail locations) to obtain a CharlieCard or load value onto one. These locations are not open during the full hours of service operation, which can make it difficult to load value prior to morning trips.

The Concept

This concept proposes that the City of Lynn work with the MBTA to **develop a communications plan to improve access to information about MBTA services**, including routes, schedules, and fare payment, for residents. It will be important to develop strategies to reach non-English speaking communities. An effective communication plan would likely rely on partnerships with local community groups and service providers to support circulation of information about the services available. Also, **additional fare vending machines would be part of MBTA's future fare program and additional retail locations could be added in the meantime.**

Benefits

- Improves customer experience
- Increases likelihood non-transit users could choose transit
- Provides flexibility in timing of fare payments
- Reduces trip times by helping residents to optimize their routes and schedules and CharlieCard use would reduce bus delay
- Improves speed and reliability by reducing cash payments on the bus

Costs

Costs for improving access to information would include:

- Advertising and publishing information about MBTA services
- Distributing CharlieCards throughout the City

Implementation Considerations and Next Steps

This Plan recommends that the MBTA work with the City of Lynn to develop specific strategies to improve access to information and access to fare media and fare payments, and to identify a funding source for these improvements. Key components to implementation include:

- Develop a program structure and capacity to produce materials and build partnerships to distribute information and fare media
- Stakeholder input
- Identify and finalize funding sources
- Distribute CharlieCards and other information
- Monitor program

Bicycle and Pedestrian Network Improvements

Context

Bicycle infrastructure in Lynn is limited, but in 2019, the City of Lynn developed the *Lynn Walking and Bicycling Network Plan* that identified priority routes. The Northern Strand Trail is scheduled to be advanced to Western Avenue and the City of Lynn intends to continue the Northern Strand along Western Avenue, Common Street, and Market Street to connect to the waterfront, although that portion remains unfunded as of Spring 2020. The proposed recommendations, if implemented, would improve bicycle access along Western Avenue and the Lynnway, adding to the network created by the completed Northern Strand Trail. However, many important routes within the City would still lack bicycle accommodations. **Lynn does not have a bike share program**. In June 2018, the City of Lynn conducted a pilot program with two dockless bike share companies, but the City discontinued the program later that year.

Meanwhile, a large portion of travel by Lynn residents and employees occurs within Lynn, with **43 percent of trips completed in less than two miles**. While it is difficult for transit to compete for these short trips, improving the bicycle and pedestrian infrastructure could result in mode shift away from automobile use towards these more sustainable modes.

The Concept

This concept proposes that the City of Lynn **advance priority routes from the *Lynn Walking and Bicycling Network Plan* to improve bicycle and pedestrian access to transit**. This has a secondary benefit of providing a **better network** for people to complete full trips by bicycle or on foot, since the majority of Lynn trips are short distances.

Benefits

- Provides safer routes for bicyclists
- Provides safer routes for pedestrians
- Increases likelihood non-transit users could choose transit

Costs

Costs vary widely by location, Costs could include, for example:

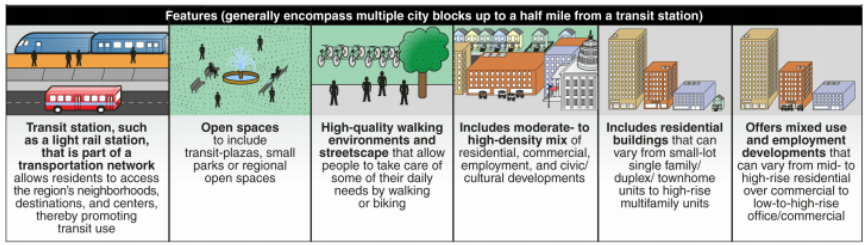
- Sidewalk and curb modifications, including new curb cuts
- New sidewalks
- Painting and restriping for bicycle accommodations
- Bicycle storage at select locations

Implementation Considerations and Next Steps

This Plan recommends that the MBTA work with the City of Lynn to identify specific locations for bicycle and pedestrian transit access improvements. The City of Lynn would need to identify a funding source for these improvements, including MassDOT's Complete Streets Funding Program and Shared Streets and Spaces Grant Program. Key components to implementation include:

- Identify key corridors to improve bicycle and pedestrian access
- Stakeholder input (in progress)
- Identify strategies to improve access to bicycles
- Identify and finalize funding sources
- Construction

Transit-Supportive Urban Design



Common Features of Transit-Oriented Development (*USGAO November 2014*)

Context

Transit is most successful in areas with high residential and employment densities. In Lynn, multi-family housing is primarily located in and around the downtown area, particularly along Western Avenue (Route 107), North and South Common Street, and in the area east of Central Square. Commercial activity and employment are also clustered near the downtown, as well as along Western Avenue and the Lynnway. Lynn's current downtown parking policies support transit-oriented development. Lynn has plans to transform large industrial areas along Lynn Harbor and Saugus River into residential and mixed-use areas and is seeking redevelopment opportunities in the downtown and waterfront.

The Concept

As land use changes, **transit-supportive zoning** can increase the use of alternative modes and promote car-free households. This includes **reducing or eliminating parking minimums** and **considering parking maximums**. **Applying urban design requirements**, such as pedestrian-friendly streetscapes, also improve walkability and transit-supportiveness of development. Finally, **transportation demand management policies** could shift how developers build for and incorporate transit into development plans.

For more information and examples of transit-supportive urban design see the MBTA and MassDOT TOD Policies and Guidelines.

Benefits

- Increases transit usage
- Supports higher frequency transit services
- Improves walkability

Costs

Costs depend on the process that the City of Lynn chooses to use to update policies. Costs could include, for example:

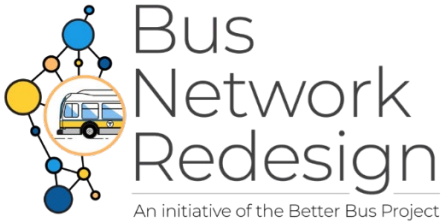
- Development of a new land use and zoning plan
- Updating of land use policies in City materials
- Public engagement and outreach sharing new policies

Implementation Considerations and Next Steps

The City of Lynn is responsible for implementing urban design policy as well as approving and permitting development. Key components to implementation include:

- Identify desired land use densities
- Stakeholder input (in progress)
- Apply transit-supportive urban design policies
- Modify developer mitigation policies

Bus Network Redesign



Context

The MBTA's Bus Network Redesign is a complete re-imagining of the bus system to better reflect the travel needs of the region and create a more competitive service for current and future bus riders. Future network changes in Lynn will be considered as part of this process.

As described in Chapter 2, the Lynn Transit Action Plan effort includes analysis of trips starting and/or ending in Lynn to examine current deficiencies and opportunities for transit service. For trips to Boston, the analysis assessed competitiveness based on shortest transit travel time, which often included Commuter Rail. Key findings include:

- Travel demand is spread more evenly across the day than in other communities, indicating that midday service frequency increases could make transit more competitive.
- Transit is often uncompetitive for short trips, including within the boundaries of the city (67 percent of all trips) and to nearby North Shore communities (21 percent of all trips).
- Despite the high percentage of trips that stay within the North Shore (88 percent), Boston is the second most common destination (on a municipality basis), and the destination where transit is most competitive during peak periods, including on Commuter Rail which has a different cost structure.

The Concept

This Plan identifies three key target markets for improvement:

- Travel within Lynn, especially from East Lynn and West Lynn to Central Lynn.
- Peak and off-peak travel within the North Shore – especially to major generators such as North Shore Medical Center, Salem Hospital, central Salem, and the area malls.
- Off-peak (including early morning, midday, and evening) travel to and from the Longwood Medical Area and Logan Airport.

More specific service design concepts for these markets will be evaluated as part of the Bus Network Redesign.

Benefits

- Reduce travel time, waiting time, and transfers for workers and visitors to medical and retail centers in Boston and the North Shore
- Increase productivity of MBTA bus services by revisiting route design to support the greatest travel demand markets
- Make transit more competitive with driving to major North Shore destinations
- Support major Boston area medical institutions by improving access to workforces

Details

The table on the following page shows the top travel markets for trips within Lynn, ranked by trip intensity (trips per hour per square mile). For most markets, transit mode share is very small. Transit travel times are somewhat more competitive with driving between Central Lynn and West Lynn/Lynnway neighborhoods, and transit mode share for these trips is about 10 percent. When there are a lot of trips, but low service, there is greater opportunity for improvement.

Origin-Destination	Daily Trips	Transit Share
Route 107 Corridor - East Lynn	2,190	1%
East Lynn - Route 107 Corridor	1,750	1%
West Lynn and Lynnway - Central Lynn	1,700	10%
West Lynn and Lynnway - East Lynn	3,940	1%
East Lynn - West Lynn and Lynnway	3,920	1%
Central Lynn - West Lynn and Lynnway	1,510	11%
East Lynn - Central Lynn	900	4%
Central Lynn - East Lynn	820	2%

The table below shows the top travel markets for trips between Lynn and other Boston area communities, ranked by trip intensity. Analysis of Commuter Rail and express bus schedules demonstrates that transit is on par and potentially faster than driving to Boston's core neighborhoods, though the cost of the service can present a barrier. However, since transfers are undesirable, transit may be a less attractive choice for destinations requiring more transfers (such as Longwood and Back Bay). For key destinations in Salem, current bus travel time, delays, and frequency, as well as the likely availability of free parking make driving much more attractive, particularly during off-peak periods.

Destination	Time Period	Daily Trips
Boston: West End	AM Peak	220
Salem: NSMC Salem Hospital	AM Peak	190
Salem: Central Salem	AM Peak	470
Salem: NSMC Salem Hospital	Midday School	200
Boston: Downtown	AM Peak	390
Salem: NSMC Salem Hospital	Early AM	230
Boston: Longwood	Early AM	190
Boston: Back Bay	AM Peak	200
Salem: NSMC Salem Hospital	Midday Base	210

Implementation Considerations and Next Steps

Changes to the bus routes serving Lynn will be implemented as part of a larger set of changes to the MBTA network being considered in the Bus Network Redesign. The Network Redesign will include several opportunities for community input, in particular in advance of major changes. Implementation is expected to occur over the course of several stages, beginning as early as 2022. These changes could include adjustments to frequencies on existing routes as well as changes to the route structure and the locations the buses serve.

To learn more about the Bus Network Redesign, visit the project website: mbta.com/betterbus.

Photo of Passengers Boarding Route 429 Bus at Lynn Busway

Rail Transformation

View of Commuter Rail Train at Lynn Station

Context

The MBTA Commuter Rail offers the fastest transit option between Lynn and downtown Boston. It also directly connects Lynn to other key regional locations, including Chelsea and Salem. Peak frequencies at Lynn Central Square Station vary between 15 and 30 minutes, while off-peak frequencies range from 30 to 90 minutes. Some of the trains during peak periods are often at or close to capacity, impacting how people choose to use the train. As noted in Chapter 2, the service is more expensive than the bus or rapid transit ($7.00 each way to Boston), which is a barrier for lower income residents. Increased frequency throughout the day targeted at non-traditional commuters and fare adjustments for lower income residents could make the Commuter Rail a more attractive service for many Lynn residents, providing a more direct connection to employment hubs in the inner core.

The MBTA Rail Vision identified cost-effective strategies to transform the existing Commuter Rail system into one that better supports improved mobility and economic competitiveness in Greater Boston. The Rail Vision analysis found that **increasing service at Lynn increases projected ridership**. This growth is strongest during peak periods towards Boston, but also occurs in off-peak periods and in both directions. The analysis also found that **reducing fares increases projected ridership**. Appendix E includes additional details on the Rail Vision analysis.

The Fiscal Management and Control Board (FMCB), which provides MBTA oversight, set the desired direction for the future of Commuter Rail based on the results of the MBTA Rail Vision study. They passed resolutions, which outlined the long-term goals for the service, the recommended initial phase of improvements, and the establishment of an Office of Rail Transformation to oversee these improvements. The recommendation for the initial phase featured **high-frequency service on the Environmental Justice Corridor, including the Newburyport Rockport line between Lynn and North Station.** The MBTA is working to incorporate initial investments into its capital plan. The MBTA also expects delivery of new bi-level coaches beginning in 2022, which will add capacity and may provide additional opportunities to adjust the existing schedule. The MBTA also completed a Commuter Rail Zone Study in Fall 2019 to **evaluate potential changes to the Commuter Rail fare structure.**

The Concept

Over the next several years, the MBTA will further define the expected improvements for long-term service to Lynn (including to Swampscott, Central Square, and River Works Stations). These could include **higher frequency service, use of low-emission trains, and improved access** through fare policy changes and improved first/last mile connections as well as a potential Commuter Rail stop at Wonderland to create a connection to the Blue Line.

View of Commuter Rail Train from Outside Central Square-Lynn Station

Benefits

- Improves frequency throughout the day
- Improves schedule consistency
- Electrifies Newburyport/Rockport Line
- Improves access

Details

The MBTA has established an Office of Rail Transformation, which will use the results of the Rail Vision analysis to define future service and identify the investments needed to operate that service. The Office of Rail Transformation will identify foundational investments that will allow the MBTA to improve service in the shorter term while moving towards the future service. With the delivery of 80 new bi-level coaches, beginning in 2022, the MBTA will add capacity and may enable some of these shorter-term improvements. The MBTA will also advance work associated with the findings from the Commuter Rail Zone Study, which has the potential to ease affordability concerns about Commuter Rail service for Lynn's lower income residents.

Implementation Considerations and Next Steps

The FMCB identified the Newburyport/Rockport Line for the initial phase of the Rail Transformation. The Office of Rail Transformation will define the specific improvements required and will identify the timeline and funding sources associated with those improvements.

Ferry Service

Context

In partnership with Boston Harbor Cruises (BHC), the MBTA currently operates three ferry routes connecting downtown Boston and the Seaport District to Hingham, Hull, and Charlestown. The communities of Salem and Winthrop also run seasonal ferry routes connecting to Boston. A pilot service operated between Lynn and Boston in 2014, 2015, and 2017, in part due to mitigation from the impact of Route 1A and Sumner Tunnel construction on commuters. The pilot demonstrated demand for service, but a portion of the riders were exchanging the Commuter Rail for the ferry, instead of shifting from driving. Boston Harbor Now (BHN) completed a study in 2019 that identified the Blossom Street Ferry Terminal in Lynn, with two ferry berths and between 150-200 off-street parking spaces, as a critical asset to supporting potential future growth in demand for service. The Lynn Transit Action Plan builds off the analysis done for the BHN study, identifying a similar level of demand for a ferry service based on existing travel patterns to the Seaport and Financial districts.

A ferry service from the Blossom Street Pier could provide direct service to either Fan Pier in the Seaport District or Long Wharf Pier in the Financial District in downtown Boston in approximately 35 minutes. While overall demand to access the financial district may be greater, due to the number of jobs in the area, providing direct access to the Seaport would provide a connection to a location that is harder to currently access by transit from Lynn, requiring a multi-seat, multi-mode ride. Therefore, the Lynn Transit Action Plan recommends further evaluation of service to Fan Pier in the Seaport. **Job growth in the Seaport, as well as proposed development along the Lynn waterfront, could create a larger market for the service in the future**. The planned growth for the Lynn waterfront combined with increasing demand for transportation choices between the North Shore and Boston shows there is opportunity for ferry service to serve as a transportation option for the region.

The Concept

This concept proposes that the City of Lynn work the Water Transportation Advisory Council and other local partners to **further investigate the opportunities for a peak period ferry service** between Lynn and Boston.

Benefits

- Saves time and increases convenience for commuters and other travelers destined for downtown Boston and the Seaport
- Supplements peak-period Commuter Rail capacity
- Supports new development along the Lynn waterfront

Implementation Considerations and Next Steps

The Water Transportation Advisory Council comprises state, local, and other water transportation organizations dedicated to improving ferry transportation in the Commonwealth. The City of Lynn, along with other North Shore communities, sits on the Council and can work with the Council to identify opportunities for service that meet the region's needs, as well as potential sources of and approaches to capital and operating funding.


Borne on the evening wind
across the crimson twilight,
O'er land and sea they rise and fall
O Bells of Lynn!
Henry Wadsworth Longfellow
Your tools clicking a chorus of work
Stitching leather into shoes
for the feet of the people
Laughter splitting the air!
Vincent Ferrini
MAY REVOLUTION NEVER CEASE

4 Conclusion

Lynn's unique character, diversity, and growing demand require access to an extensive transportation network.

Lynn's proximity to Boston, its dense urban population, waterfront location, and historic fabric of housing contribute to its unique character. As the demand for affordable housing and access to regional jobs continues to pressure metropolitan Boston. Lynn is poised to experience continued growth and all the pressures that come with it. Lynn's socio-economically diverse residents require access to a diverse transportation network.

Given the cost of the Commuter Rail and ferry, and the high demand in Lynn for local destinations throughout midday and other off-peak periods, bus connections are crucial for transit users in the City. As the least expensive transit option, lower-income residents depend heavily on the bus network; however, the current schedules may not meet residents' needs. Buses do not have dedicated rights-of-way and travel through congested corridors, resulting in delay and reliability challenges.

To address these challenges and improve bus service, the Lynn Transit Action Plan proposes to **prioritize buses on roadways** using bus lanes on corridors with high transit usage (Figure 4-1), and to implement transit signal priority citywide. By creating a faster, more reliable service, bus prioritization could improve transit service in the **near-term**. Once the MBTA and the City have buy-in from local stakeholders, the process from design through construction is estimated to take 9 to 18 months.

Figure 4-1 Proposed Bus Priority Improvements

Extent of proposed improvements

The Lynn Transit Action Plan also proposes identifying Commuter Rail service changes that could improve access to Boston in the near-term. Increasing service frequency could open up Commuter Rail as a viable, fast option for Lynn residents whose commutes often fall outside the bounds of traditional work schedules. Finally, the Lynn Transit Action Plan proposes a number of methods to **improve access to transit and enhance customer experience** (Figure 4-2). These **near-term** and **medium-term** recommendations include both physical access to transit and access to information about transit. The MBTA would work with the City of Lynn to implement these improvements, which would complement both bus prioritization and larger network improvements.

Figure 4-2 Proposed Improvements to Transit Access and Customer Experience

In the **longer-term**, larger transformational efforts provide the opportunity to assess how the transit network can best meet Lynn's and the region's needs. The analysis in this Plan provides the foundation for evaluating further changes. The **Bus Network Redesign** will integrate these results as it develops and reviews potential changes to bus service in Lynn and across the North Shore. Meanwhile, the **Rail Transformation Office** and the **Water Transportation Advisory Council** are charged with contemplating the future of access to Boston region wide. The analysis regarding trips between Lynn and Boston provides insight into the scope of the potential market for transit service and what type of transit best matches the demand. Prioritizing buses and improving access to transit will continue to build a foundation that supports these larger transformational efforts while strengthening the transportation network for the City of Lynn.


Massachusetts Bay
Transportation Authority
massDOT
Massachusetts Department of Transportation