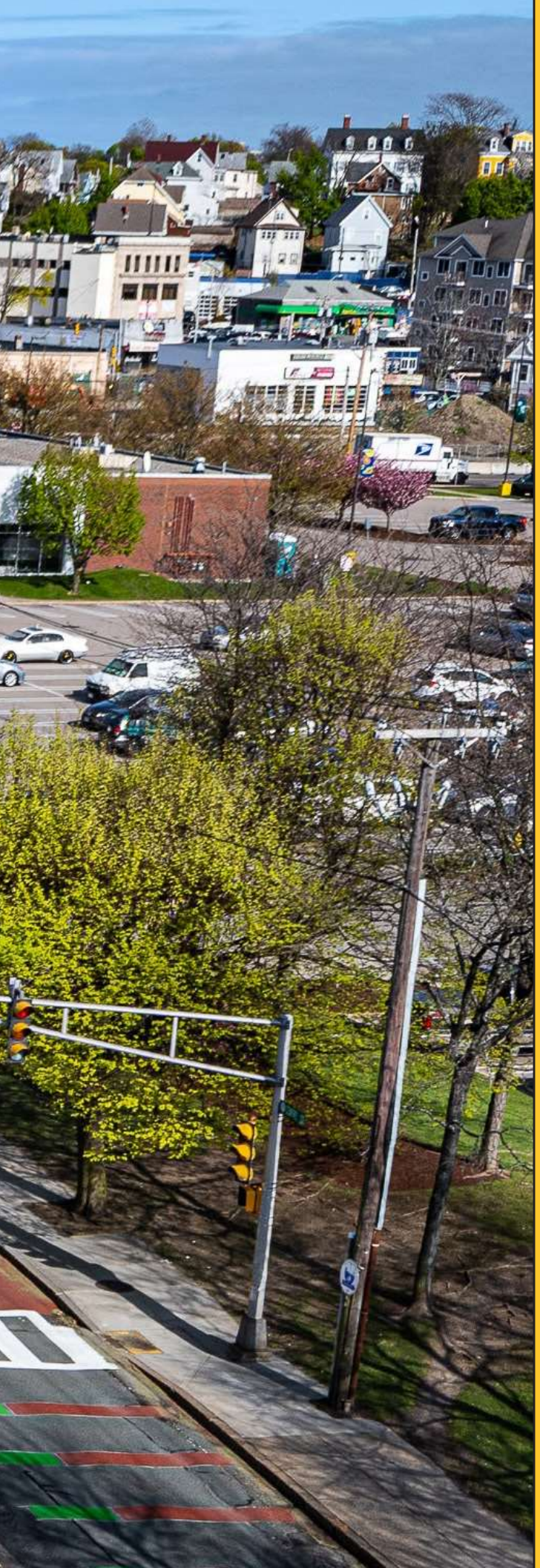


Chapter 2:

Planning Context

Understanding the Planning Context

Understanding the local planning context is essential to transit priority treatment selection and successful project implementation. Evaluating transit performance in a vacuum could lead agencies to implement treatments that fail to address broader community mobility needs and future transportation goals. This chapter outlines how to determine the local planning context and apply toolkit guidance to successfully deliver transit priority projects.

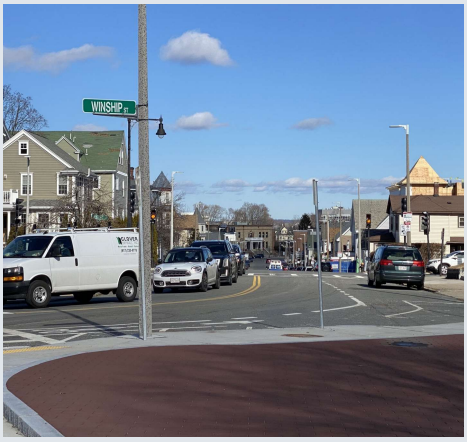
The chapter is split into five sections:

- Purpose and Community Goals
- Street Design and Right-of-way (ROW)
- Neighborhood Context
- Planning for Buses and Bikes
- Street Categories

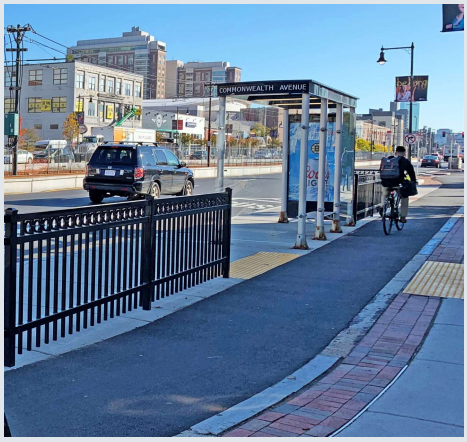
Unique Characteristics of the MBTA Service Area

Many streets within the MBTA service area have unique characteristics that result in challenging bus operating environments. Examples include constrained ROW's, curvilinear streets, bus-bike interactions, and on-street and angled parking. These unique characteristics are important considerations when making decisions about transit priority.

Many ROWs in the MBTA service area have constrained ROW. In these environments, it is critical to understand and articulate the community benefits of transit priority, such as increasing person-throughput capacity and improving transit reliability.



Curved streets are hard to navigate in a bus. This can exacerbate speed and reliability issues, making bus priority even more important for riders.



Transit corridors often serve many other purposes, such as freight, loading, and biking connections. In these cases, bus priority measures should aim to reduce conflicts and improve safety and efficiency for all modes.

Purpose and Community Goals

The lead agency should coordinate with the MBTA and local stakeholders to determine the purpose of the street, confirm data sources, and develop an engagement strategy. It's important to understand both current and future conditions for freight, transit, walking, and biking. For example, is it a major freight or transit route? Should it include a future protected bike lane? The lead agency should coordinate with local, regional, and state agencies on upcoming projects that intersect or overlap with the project corridor, as well as review relevant transportation plans and policy and planning regulations.

Community engagement is also critical to understanding corridor mobility challenges and needs. The project lead should engage the community early in the project development process to collect feedback on how mobility on the street could improve and the changes the community would like to see. Project goals and objectives should balance community feedback with local, regional, and state transportation goals.

Improving Bus Operations

Improving transit operations through network and schedule changes is another important goal. Transit development plans help identify neighborhoods with greater need for transit priority based on ridership, passenger volumes, travel times, and reliability (both current and projected).

Use the data and tools in Chapter 1 (p. 19) to diagnose travel time and reliability challenges. This will help determine where transit priority will have the greatest impact.

See It in Action: Broadway, City of Somerville (Winter Hill)

In October 2019, the City of Somerville and the MBTA implemented dedicated all-day, bidirectional bus lanes on Broadway between Magoun Square and McGrath Highway. These lanes shortened travel times for bus routes 89 and 101, which connect Somerville with Sullivan Square Station.

The Broadway bus lanes (part of the Winter Hill in Motion multimodal transportation effort) also included bus stop consolidation and better signage, as well as bike and pedestrian improvements. The purpose was to encourage transit, walking, and biking by making these modes more welcoming, efficient, and safe. This aligns with goals in several Somerville plans, such as SomerVision, Climate Forward, and Vision Zero.

After project completion, and in response to pushback from drivers, the MBTA and City of Somerville worked with local businesses and community members to address concerns surrounding curbside access, safety, and parking.

Broadway cross-section before (top) and after (bottom) bus lanes were installed.

Street Design and Right-of-way

Street design and ROW are two key planning considerations when making decisions about transit priority.

Street design is made up of the different elements on a street. These can include, for example, curb extensions, bicycle lanes, sidewalks, speed humps, swales, street trees, travel lanes, and parking spaces. Street design influences how people walking, biking, in buses, and driving vehicles interact with the street and with each other. This affects speeds, pedestrian safety, and person-throughput capacity, not to mention bus delay and reliability.

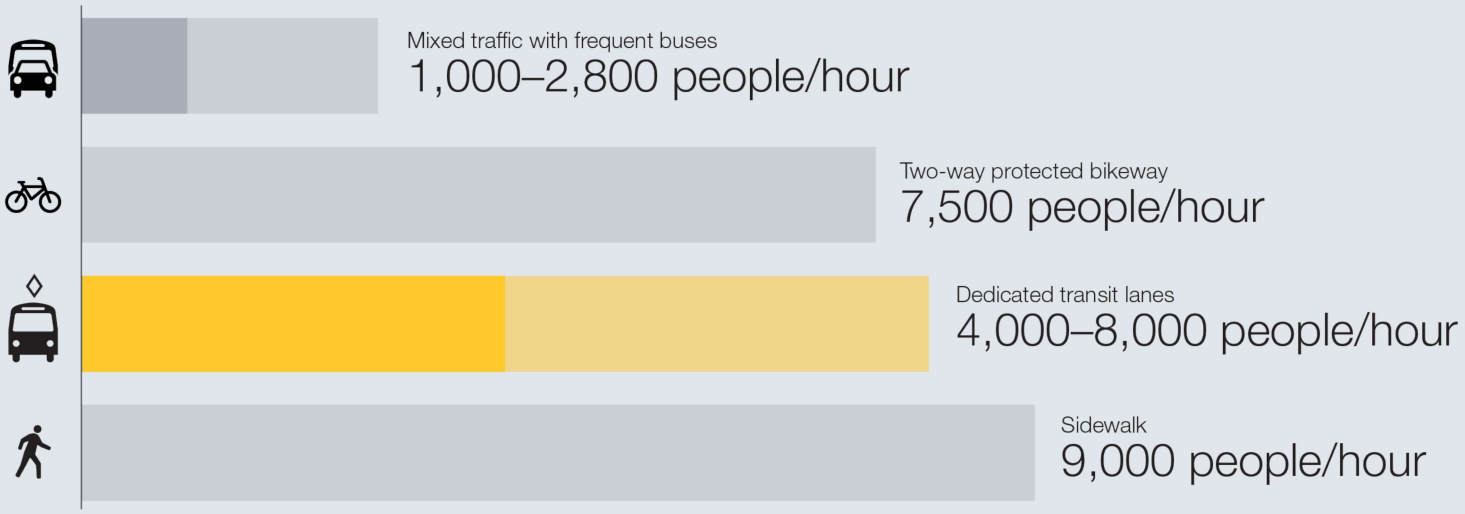
Right-of-way (ROW) is the street and sidewalk space owned and maintained by the local municipality or state agency. Changing the overall ROW available is challenging and requires easements and additional funding. Repurposing space or lanes can improve transit speed and reliability and roadway safety without widening the street and impacting adjacent properties. ROW decisions should account for the neighborhood context and balance the need of different roadway users.

Transit Priority Increases Person-Throughput Capacity

By repurposing space for transit, buses can operate at faster speeds and at a higher frequency. These improvements to transit efficiency increase the number of people that can travel along the corridor, supporting future growth and mode-shift to transit.

How many people can the space of one travel lane serve?

Figure 2: Person-Throughput Capacity



See It in Action: Columbus Ave, City of Boston (Jamaica Plain/Roxbury)

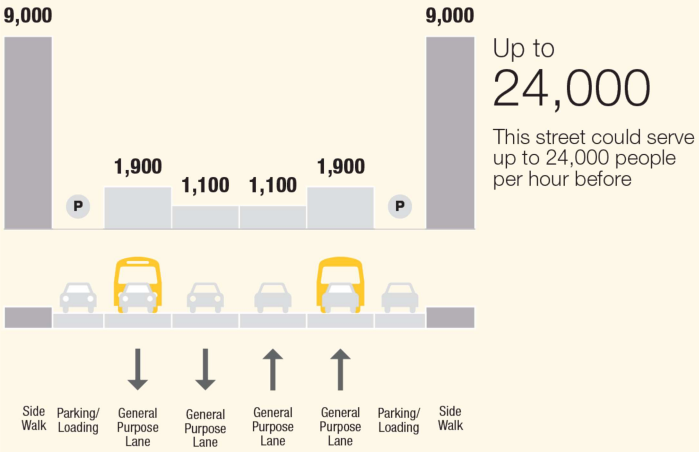
In the Fall of 2021, the City of Boston and the MBTA implemented 0.8 miles of center-running bus lanes on Columbus Ave from Jackson Square to Walnut Ave. The corridor serves the Route 22, one of the MBTA's highest ridership routes, as well as the MBTA Routes 29 and 44.

The dedicated bus lanes increased person-throughput capacity on the corridor and reduced delay for riders by 4-7 minutes. The project also improved pedestrian safety, transit access, and overall accessibility.

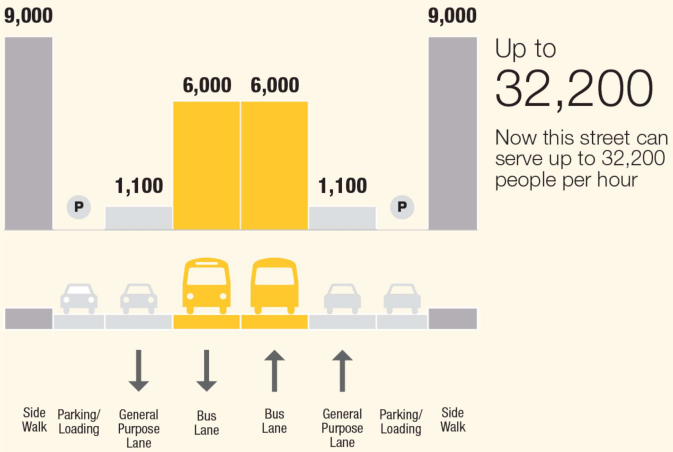
A comparison of September/October 2021 and Winter 2022 data before and after operations began showed that daily bus ridership on Columbus Avenue increased dramatically during this period.

Figure 3: Person-Throughput Capacity Based on Two ROW Configurations

Columbus Ave Without Bus Lanes (Before)



Columbus Ave With Bus Lanes (After)



Columbus Ave before (left) and after (right) dedicated, center-running bus lanes were installed.

Neighborhood Context

Neighborhood context refers to the built environment and transportation network and the policy and planning regulations that govern them. This includes land use, such as residential, commercial, and industrial, as well as the scale of buildings and other factors like bus and bike routes. Downtown areas have a very different neighborhood context than an outlying residential community. The neighborhood context plays a big role in determining project budgets and selecting transit priority treatments.

In addition, neighborhood demographics help identify which communities would benefit the most from more frequent and reliable bus service. Particularly, neighborhoods serving seniors, persons with disabilities and others dependent on bus service. These also include areas where vehicle ownership is low, transit dependency is high, and transit commutes are long. Fixing the equity gap in transit travel times requires prioritizing investments where they're needed most, a critical component of MBTA's implementation plans for the Bus Network Redesign.

See It in Action: North Common St, City of Lynn

In the Spring of 2021, the City of Lynn, MassDOT, and the MBTA implemented Lynn's first bus lane (0.75 miles) along North Common St to make transit faster and more reliable. This effort was the first of many bus priority recommendations in the 2020 Lynn Transit Action Plan.

The neighborhood context was an important planning consideration in the Transit Action Plan. An analysis of neighborhood demographics found that Lynn's Downtown had a high concentration of households without access to cars and households with incomes below the poverty line. Additionally, many of Lynn's environmental justice communities – areas with higher rates of emissions and asthma – are in and around downtown. A key finding of the action plan was a mismatch between transit demand and the quality of transit service. This neighborhood context provided the justification for shared bus/ bike lanes.

Dedicated bus lanes on North Common St in Lynn's downtown.

Planning for Buses and Bikes

Repurposing space for dedicated bus and bike lanes is essential to encouraging more biking and transit use and achieving regional climate goals. Municipalities should coordinate internally and with the MBTA on a decision framework that prioritizes bus operations and biking and manages tradeoffs like slower travel times for general-purpose traffic. Transit priority treatments and bike lanes shouldn't be competing when there is space dedicated for general-purpose traffic or on-street parking that could be reclaimed for more efficient transit and active transportation.

The safest design option for both buses and bikes are separate dedicated bike and bus lanes with vertical protection like parking, concrete curbing or posts, and floating bus stops. Floating bus stops provide all-ages-and-abilities bike lanes, shorten crossing distances for pedestrians, and improve efficiency for buses with in-lane stops. Floating bus stops are the preferred configuration, but on corridors with slower traffic speeds and less frequent bus service, shared bus/ bike lanes provide an option for more confident bicyclists.

More recently, some cities are exploring integrated bus stops with raised bike lanes and a shared condition at the bus boarding area. This maintains the separation between the bike lane and the travel lane on constrained streets, but riders must board and alight in the bike lane. The MBTA prohibits this design because of the safety risk it poses to more vulnerable passengers crossing the bike lane such as older adults and riders who are blind/have low vision and others with disabilities (see Design Directive). Municipalities must collaborate with MBTA and relevant accessibility stakeholder groups to identify the appropriate design solution for bike lanes at bus stops. The MBTA Office of the Chief Engineer may grant a waiver allowing a variation of this treatment on a case-by-case basis.

Most transit priority treatments can coexist with bike lanes, but bus bulbs, particularly on one-way streets can preclude future bike lane implementation. Because bike lanes typically also repurpose parking, bus bulbs can cause bike lanes to abruptly end if they're not reconstructed as floating bus stops. Coordination among bike and transit stakeholder groups is important to ensuring bike infrastructure and transit priority treatments support one another.

Street Categories

Street categories synthesize information about a street's purpose, design, ROW, and neighborhood context, and, in doing so, help to inform transit priority decisions. Categories typically take the form of either street classifications or street types, which are not mutually exclusive.

- **Street classifications** focus on motor vehicle traffic. Arterials have high traffic volumes, collectors medium volumes, and local streets low volumes.
- **Street types** tend to incorporate additional factors, such as other forms of transportation (e.g., walking, bicycling, taking transit) as well as the purpose of the street beyond vehicle movement.

The tables that follow show street classifications and types that are likely to be encountered within the MBTA service area. Street classification categories were created using the NACTO Urban Street Guide and Boston Complete Streets Guide. Street classifications are a critical component of transit priority treatment selection and understanding neighborhood context. By defining the role of the street there are inherent parameters on project priorities that guide project decision-making and coordination and, inform treatment selection and alternatives analysis.

Table 3. Street Categories

Street Type	Street Classification	Description
Downtown Mixed-Use	Arterial or Collector Street	Downtown mixed-use streets support a mix of retail, residential, office, and entertainment uses. This mix creates many of the region's most dynamic public spaces. These streets should support high levels of walking, biking, and transit, as well as frequent parking turnover, including loading zones. Downtown mixed-use streets often feature green space, street furniture, outdoor cafés, plazas, and public art. Downtown mixed-use streets are typically the best candidates for transit-only streets.
Downtown Thoroughfare	Arterial or Collector Street	Downtown thoroughfares prioritize vehicle movement with fast and direct connections from one regional and neighborhood center to the other. Downtown thoroughfares or arterial streets have high traffic volumes and speeds. Because of how busy these streets are across different types of trips and transportation modes, there are often higher rates of conflicts and collisions. To improve safety and encourage more people to walk, bike, and ride, transit municipal and state agencies can repurpose general purpose traffic lanes for other uses like bus and bike lanes.
Transit Corridor	Arterial or Collector Street	Transit corridors support a variety of transit modes including buses and bus rapid transit (BRT), light rail, and streetcars. Transit corridors often overlap with downtown thoroughfares and mixed-use streets. Transit corridors need to provide safe walking, biking, and rolling access to stations and stops. Transit corridors encourage more people to ride transit and spur economic development.

Street Type	Street Classification	Description
Neighborhood Street	Local or Collector Street	Neighborhood streets are often places for recreational activities and leisure. These streets provide safe and inviting places to walk and bike to access neighborhood amenities and schools. Some design elements include stormwater management, curb extensions, traffic calming elements, and bicycle lanes.
Neighborhood Residential	Local or Collector Street	Neighborhood residential streets are used primarily for local trips and are characterized by lower vehicle and pedestrian volumes. These streets typically do not have more than two travel lanes (one in each direction) and are not intended for through-traffic. The design of residential streets focuses on encouraging slow speeds. The emphasis is on pedestrian safety, space for children to play, ample street trees and accessible paths to neighborhood destinations.
Neighborhood Connector	Local or Collector Street	Neighborhood connector streets are through streets that traverse several neighborhoods. Connector streets typically have local transit routes and higher vehicle volumes than residential streets. Depending on characteristics of the street and transit route, neighborhood connectors are often good candidates for offset bus lanes.
Boulevard	Arterial or Collector Street	Boulevards are defined by a grand scale with long block lengths and specific urban design characteristics such as wide sidewalks lined with street trees and furnishings. Boulevards usually have a consistent design for the length of the corridor, often with wide planted medians or green space and they connect important civic and natural places.
Parkway	Arterial or Collector Street	Parkways are typically four lane higher-speed roads, characterized by long, uninterrupted stretches running parallel to open and green spaces. Many parkways have historic elements, including continuous rows of trees and curbing adjacent to parkland. Parkways usually have fewer intersections, which is suitable for motor vehicles, accommodating higher speeds due to the longer distances between signalized intersections. Both Boulevards and Parkways are good candidates for curbside, offset, and center-running bus lanes depending on demand for the curb.
Shared Street	Arterial or Collector Street	Shared streets are shared by people using all modes of transportation at slow speeds. Raised curbs are excluded, and the sidewalk is blended with the roadway. Speeds are slow enough to allow for people who walk to intermingle with bicyclists, motor vehicles, and transit. Shared streets are usually in places where pedestrian activity is high and vehicle volumes are significantly low. Shared streets are designed to significantly reduce traffic speeds using pedestrian volumes and other cues to slow traffic.
Industrial Street	Local, Collector, or Arterial Street	Industrial streets support truck traffic and accommodate the loading and distribution needs of wholesale, construction, commercial, service, and food-processing businesses and are typically also arterials or collectors. Industrial streets need to provide adequate turning radii for trucks at intersections, a primary design consideration. These streets usually feature light pedestrian traffic, but sidewalks and accessible accommodations are still present. Traffic volumes and congestion may be higher on industrial streets compared to more pedestrian-oriented streets.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