

Western Avenue Corridor Study & Rezoning



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The Boston Planning & Development Agency (BPDA)

The Boston Planning & Development Agency (BPDA) is the planning and economic development agency for the City of Boston. The BPDA plans and guides inclusive growth in our city, creating opportunities for everyone to live, work, and connect. Through our future-focused, city-wide lens, we engage communities, implement new solutions, partner for greater impact, and track progress.

The information provided in this report is the best available at the time of its publication.

All or partial use of this report must be cited.

Information

For more information about the Western Ave Corridor Study please visit bit.ly/westerncorridor



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Acknowledgments - PLACEHOLDER FOR DRAFT

The Western Avenue Corridor Study is the result of a collaborative effort between community members, City and State departments, and Boston Planning and Development agency staff. This study would not be possible without the generous contribution of time and insight by these participants.

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01.

Executive Summary and Planning Framework

Summary

The Western Avenue Corridor Study and Rezoning is the next step in realizing more than 15 years of community visioning and planning.

Over those 15 years, the North-Allston neighborhood has seen significant change as the result of development pressure, community engagement, and focused planning. In response to these changes, past planning initiatives have revealed key community goals:

- access to more housing, especially affordable housing;
- more open space and better connections;
- multimodal connections and improved transit access;
- a stronger arts and cultural community; and
- a more vibrant Barry's Corner.

While many of these aspirations have been realized through projects such as the Charlesview Residences, improvements to Smith Field and Herter Park Amphitheater, Charles River Community Health, and the revitalized Speedway Headquarters, there remains enormous untapped potential for more positive change. The neighborhood is still home to large areas of surface parking and obsolete commercial buildings; conditions for pedestrians and bicyclists on Western Avenue are unpleasant at best and unsafe at worst; and it is still too difficult for residents to access the Charles River and Allston Village.



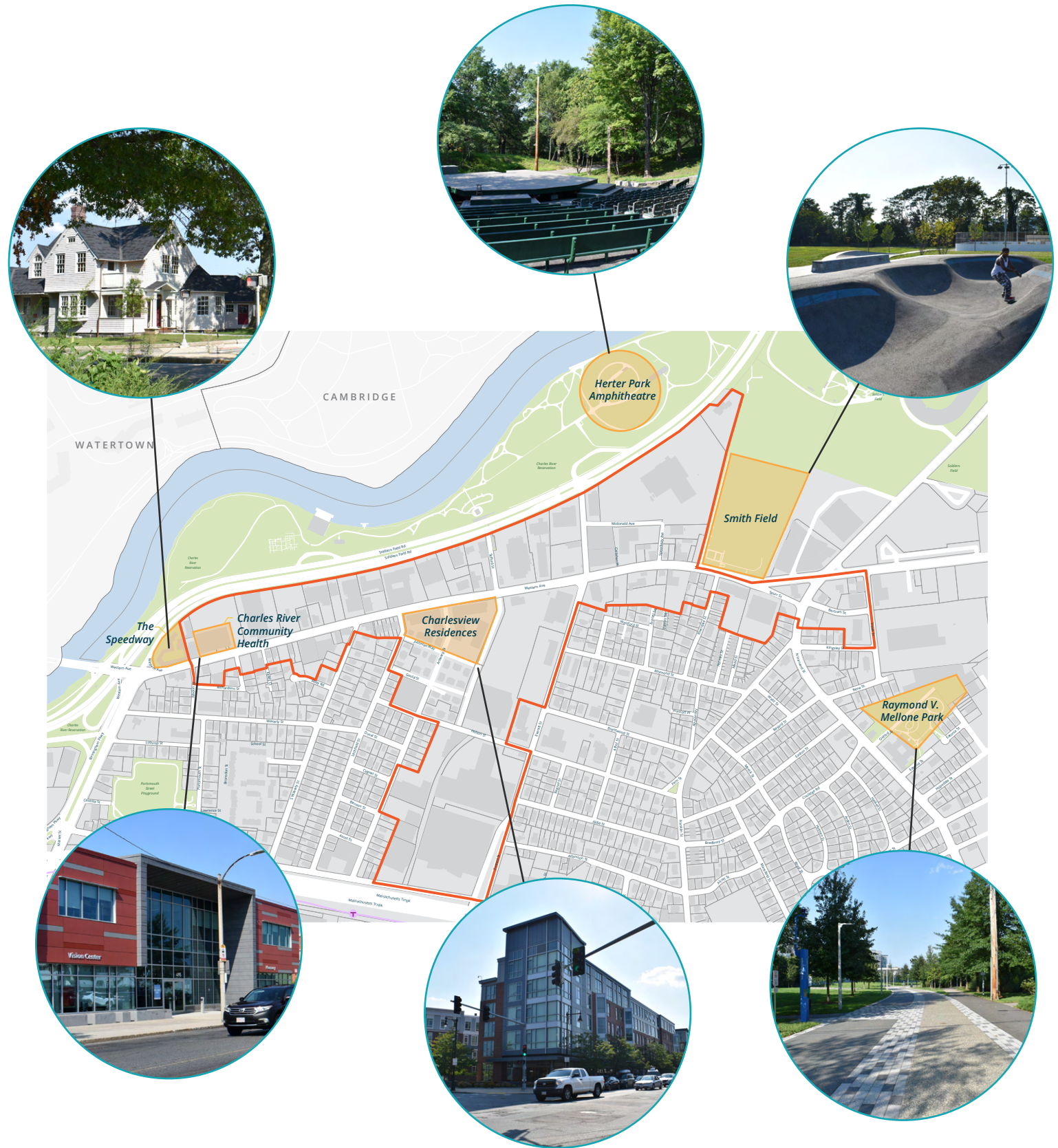
Public artwork along Western Avenue by Jessica Unterhalter and Katey Truhn

The Western Avenue Corridor Study and Rezoning has been developed in close consultation between the community, the Boston Planning & Development Agency, and the City of Boston. **To fulfill the community's unrealized goals, the study relies on three major components:**

- New zoning to incentivize private developers to deliver the land uses, public realm improvements, and public benefits desired by the community.
- Urban Design Guidelines, to ensure that new open space and new development are designed to meet the needs of residents.
- A mobility plan for a multimodal Western Avenue with both short- and long-term plans that support envisioned growth.



Smith Field



The Western Avenue Corridor study area boundary, overlaid with significant community assets and recent development projects

Achieving the results of these three implementation strategies will require collaboration between public and private investment in the area. **To mediate between community goals and market pressures, the study proposes a number of specific land use, building, and transportation controls to ensure that new development along Western Avenue will:**

- Support the growth of housing throughout the area.
- Incentivize the creation of significant new income-restricted housing through a residential density bonus.
- Encourage arts and cultural spaces.
- Create a mix of land uses and enough density to support an active streetscape and retail that serve the neighborhood along all of Western Avenue, with a particular focus on Barry's Corner to Telford Street.
- Support the creation of new retail and office/lab spaces near Barry's Corner and Lincoln Street (in proximity to Boston Landing commuter rail station).
- Limit building height and massing to be compatible with existing neighborhood fabric.
- Create new open spaces, including a significant new 1-2 acre open space in the center of North Allston.
- Ensure that new development is of a human scale, guarantees access to sunlight, and mitigates wind at the street level.
- Convert surface parking lots to pervious open space that will help manage stormwater.
- Expand the current network of streets, creating new streets and connections from the neighborhood to the Charles River and introduce a normalized block structure.
- Support multimodal & transit improvements, in particular on Western Avenue, including enabling a future transitway.

Over time, economic conditions and community desires may change—but the core principles described in this study will lay the groundwork for a Western Avenue that develops according to the needs of its residents.



Continuum, an example of recently completed housing



Open space created as part of the 180 Telford Street residential development



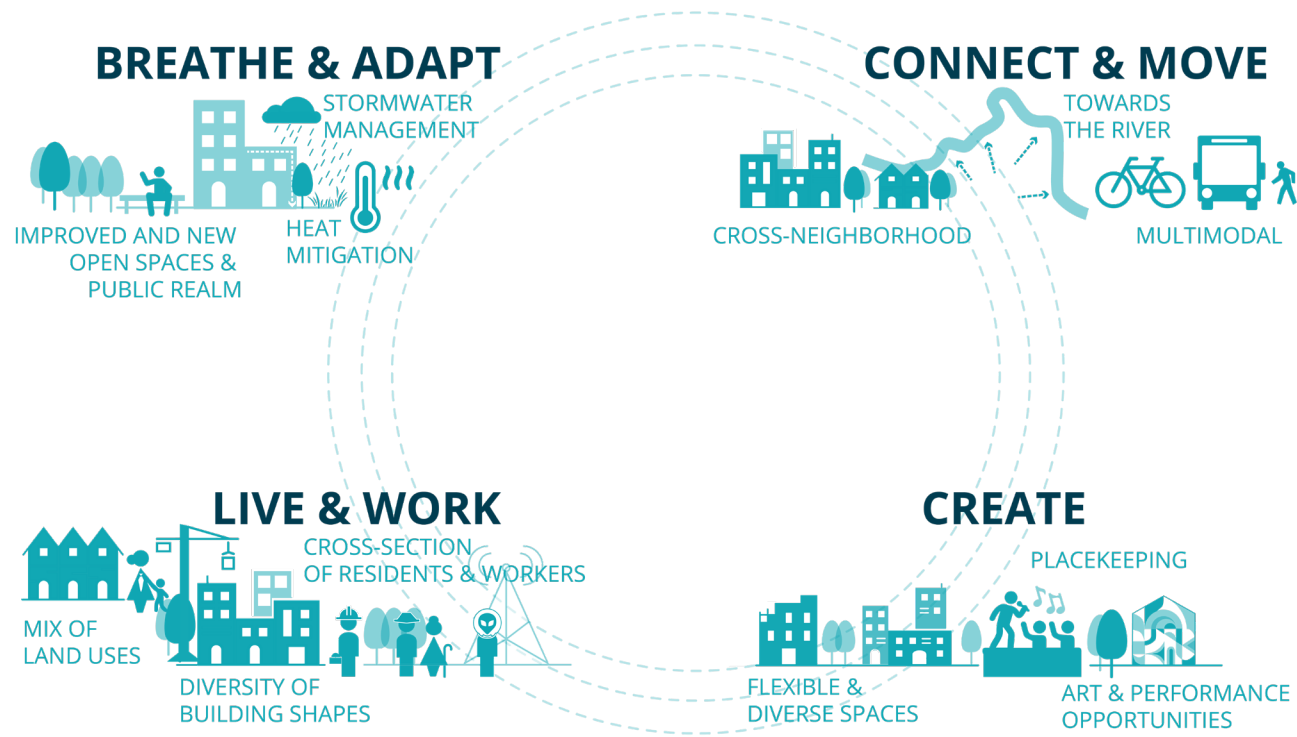
Blue Bike station along Telford Street



Western Avenue, facing west toward Speedway Headquarters and Continuum housing development

The Future of Western Avenue

The Western Avenue Corridor Study and Rezoning establishes a guide for well-designed, well-connected, and appropriately-scaled development that complements the existing Allston neighborhood and results in a vibrant, people-centric, multimodal place.



The planning framework establishes a guide for a connected, appropriately-scaled, and well-designed Western Avenue that complements the existing North Allston neighborhood. In conversations with residents, three clear visions for the future of the Western Avenue corridor emerged. Residents want to see:

- A Western Avenue that creates connections and ease of movement.
- A Western Avenue that can breathe through new open space and adapt to future development.
- A Western Avenue where current residents and future residents can live, work, and create safely and productively.

To achieve these goals, the planning framework proposes three strategies:

- New zoning will make sure new development is appropriately scaled and supports land uses that are important to the neighborhood.
- Design guidelines will translate these goals into sustainable, human-centered solutions.
- Transportation improvements will create a multimodal Western Avenue.

The recommendations presented in this report are based on community conversations and feedback in addition to analysis conducted by the BPDA and its consultants. The recommendations constitute a framework for future growth that is financially feasible, with significant benefits such as



View of Western Avenue today



Hypothetical future view of Western Avenue

affordable housing, new open space, and neighborhood retail. That framework has also been tested and revised to ensure that the transportation network can support the proposed future growth, and that development can help create safe mobility options, in line with other city policies and goals.

Live, Work, & Create

New zoning subdistricts and metrics will guide Western Avenue toward a diverse mix of land uses, with an emphasis on residential, commercial / lab, and new street-level retail. Mixed-use nodes near Barry's Corner and the Lincoln Street area will bring people and liveliness to the neighborhood through retail and neighborhood-serving amenities, creating more 24/7 areas of activity. Residential uses throughout, with ground-floor retail and/or small-scale production, reflect the community's vision for a 21st century neighborhood while ensuring Allston's existing cultural assets remain intact and future culture thrives.

Breathe and Adapt

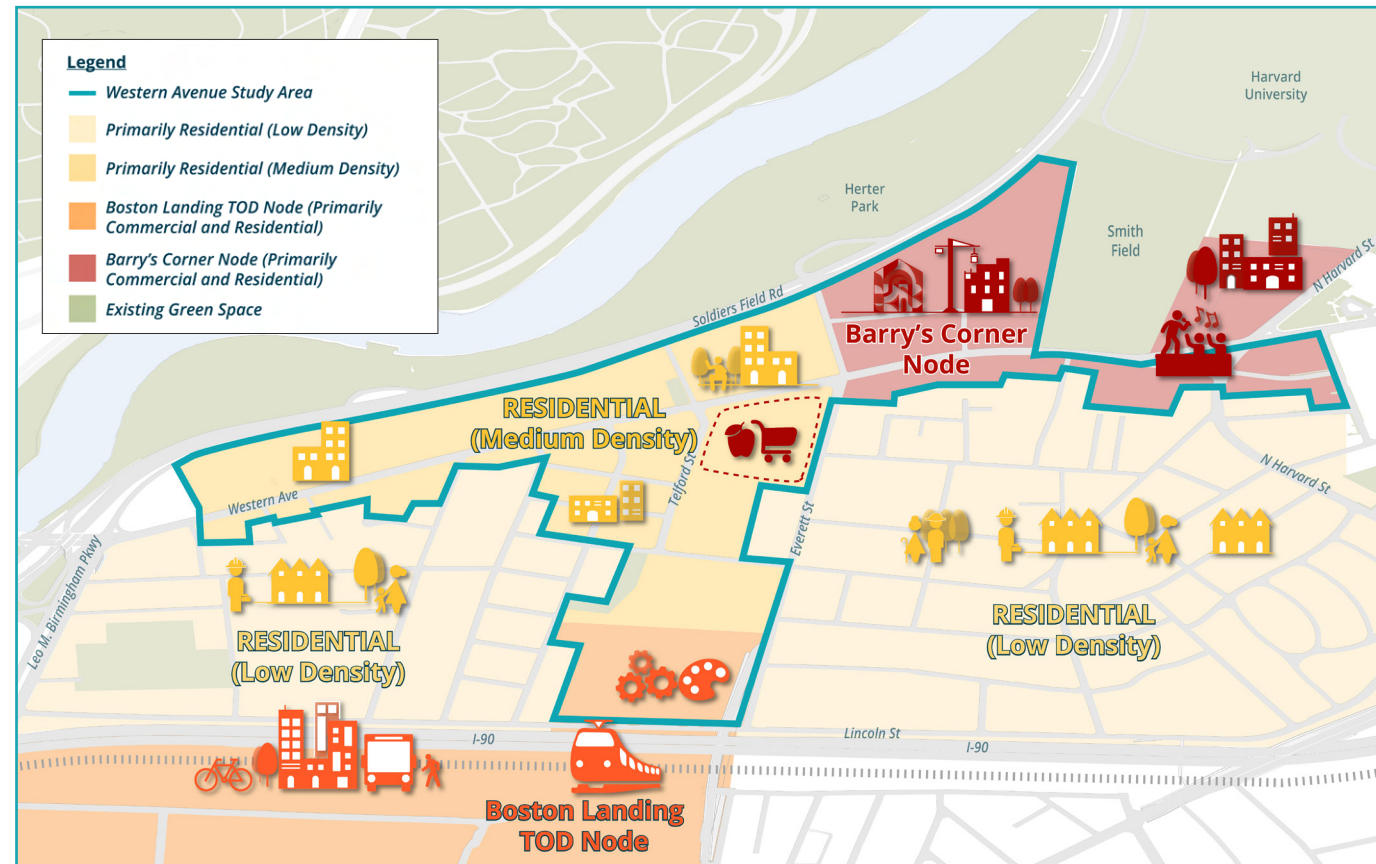
Design guidelines will help set expectations for the character of new development, with an emphasis on public realm, arts, and sustainability. Following these guidelines will ensure that new development complements the existing neighborhood, and that the neighborhood will itself be able to adapt to changes. Design guidelines also help curate the design of open space to promote sustainability and create connections between the neighborhood and the Charles River.

Connect and Move

Through the integration of new local streets and the creation of a multimodal Western Avenue, transportation improvements will make the area safer to travel through and around; alleviate congestion experienced today; allow for future growth; and give residents, employees, and visitors of the area access to a more robust open space network.

Live, Work, & Create

The planning framework envisions Western Avenue as a vibrant, mixed-use corridor, with nodes of higher density at Barry’s Corner and near Boston Landing.



Land Use Framework

At multiple community meetings, residents stated that housing, especially affordable housing, was needed in the neighborhood. The zoning proposed by this plan will allow smaller scale residential buildings and new green spaces to knit together the existing residential neighborhoods and provide a more porous environment between Western Avenue and Soldiers Field Road, enhancing the physical and visual connections to the Charles River. There is a strong desire for retail along the entire length of Western Avenue. The existing shopping center between Telford and Everett streets is envisioned as a location for key community-serving retail such as a grocery store as well as new housing.

To address the desire of many residents to fortify Allston’s

rich artistic and creative character, space for arts and cultural activities will be allowed and encouraged in both the Barry’s Corner Node and the Boston Landing TOD Node. Cultural uses, including creative sector workspace and cultural facilities, are a priority for preservation through redevelopment. Improved public realm infrastructure proposed by new development projects will create gathering places and venues for art, culture, and other placemaking and placekeeping initiatives.

Residents have also expressed concerns about development creating a “wall” between the neighborhood and the Charles River. The community expressed a preference for any greater heights to be primarily located north of Western

“Wide spectrum of affordable housing (rental + homeownership) that builds upon the diversity of the neighborhood.”

Community feedback from September, 2019 public meeting



Public art along Western Avenue

Avenue and closer to the river to avoid undue impact on the ground-level experience, as well as a desire for variation in heights throughout the corridor to avoid monotony.

As a result, zoning proposed by the planning framework limits large-scale commercial, office, and lab development to certain areas where that density, scale, and transportation impacts can be better managed. Throughout the study area, a density bonus will incentivize residential uses and the creation of additional income restricted housing (see

“Residential Affordability Incentive” on page 31).

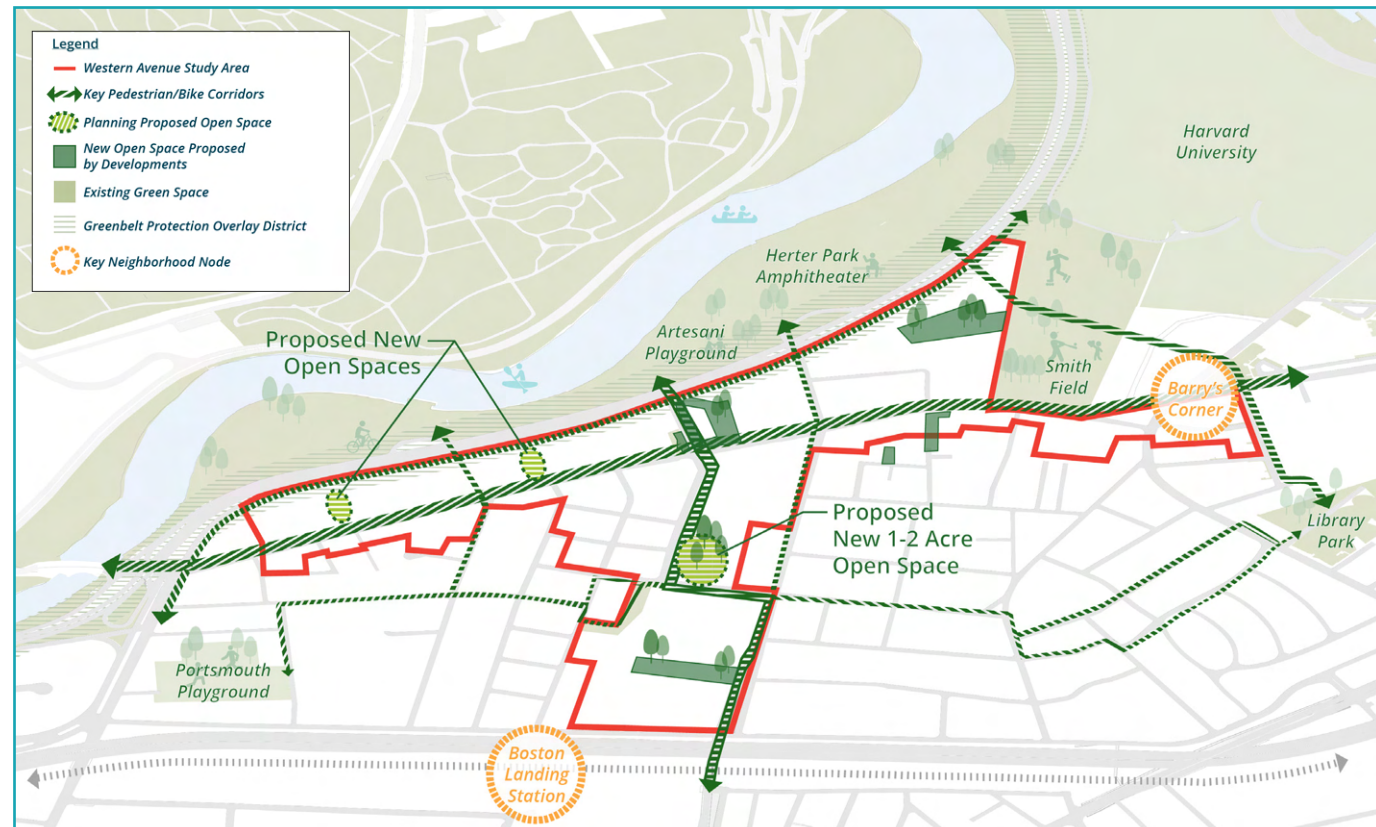
The remainder of the study area will support new housing to serve a variety of household types and residents of a range of income levels. In particular, the majority of the segment of Western Avenue between Telford Street and Barry’s Corner is envisioned as a neighborhood main street lined with retail and other active uses. Greater height and density as well as lab and commercial uses will be allowed in that segment. This additional density will help establish the active and vibrant uses that residents must leave the area to find today.

Land Use Objectives:

- Create a mix of land uses and enough density to support an active streetscape and retail that serve the neighborhood along all of Western Avenue, with a particular focus on Barry’s Corner to Telford Street
- Support a mixed-use TOD node near Lincoln Street near the Boston Landing MBTA Commuter Rail Station
- Allow the development of housing throughout the study area
- Leverage development to create an improved public realm, through setbacks to create wider sidewalks, space for other mobility improvements, and limit building footprints to ensure sufficient space is set aside to accommodate new open spaces and plazas
- Create additional income-restricted housing with a density bonus throughout the study area (see “On-site Affordability Requirement” on page 31)
- Allow the redevelopment of existing retail and industrial uses to create significant new housing and neighborhood-serving retail such as a grocery store
- Allow small-scale commercial uses, such as professional offices, retail, and craft manufacturing on ground floors
- Encourage the retention or re-provision of space for arts and cultural uses throughout the study area

Breathe & Adapt

The planning framework envisions Western Avenue as open and connected, with new open spaces and an improved public realm.



Open Space Framework

The public realm consists of publicly accessible spaces, fixtures, and paths that animate a neighborhood. This definition includes open space, such as traditional green parks, green “connector” corridors, small pocket parks, and hardscape plazas, as well as wider sidewalks with planting zones, street trees, cafe seating, and multimodal mobility options.

Allston residents value existing open spaces, such as Smith Field, Herter Park, the Charles River Reservation, and the Artesani and Portsmouth playgrounds. Residents have expressed a desire to stitch together the residential neighborhoods on either side of Everett Street and create stronger connections to the river. Residents have also long envisioned a significant new park between Everett and Telford Streets, identified as a new 1-2 acre open space. Through the development review process, design guidelines

ensure that new development projects provide the types of open space that can create those connections, such as green connector corridors, pocket parks, and plazas. Design guidelines also help shape the form of buildings to create more open space and visual connections through building setbacks and stepbacks. Collectively, these new open spaces will knit together the existing and new development fabric with green spaces, new streets, and vibrant nodes such as Barry's Corner.

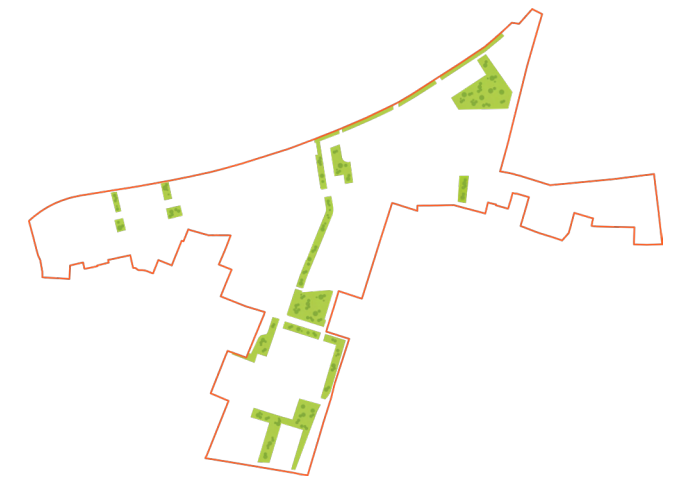
More open space is itself good, but to serve the needs of Allston residents it also needs to be well-designed. Open space, whether public or private, plays an important role in helping the city “breathe” by mitigating air pollution, absorbing stormwater, and reducing the heat island effect.

This planning framework ensures that open space and

“Open space exists—the river!—but access is needed.”

“Open space MUST be open to the public!”

Community feedback from December 2019 public meeting



Potential sites of 9 - 10 acres of new public open space provided through development

the public realm are invested in alongside redevelopment. Development projects will be required to contribute to the expansion of public park resources and the public realm at a level commensurate to the scale of the project and its impact.

Using the best practices established by design guidelines, where today there exists only surface parking or other unusable or inaccessible areas the plan could yield 9 to 10 acres of new green spaces, plazas, greenways, and

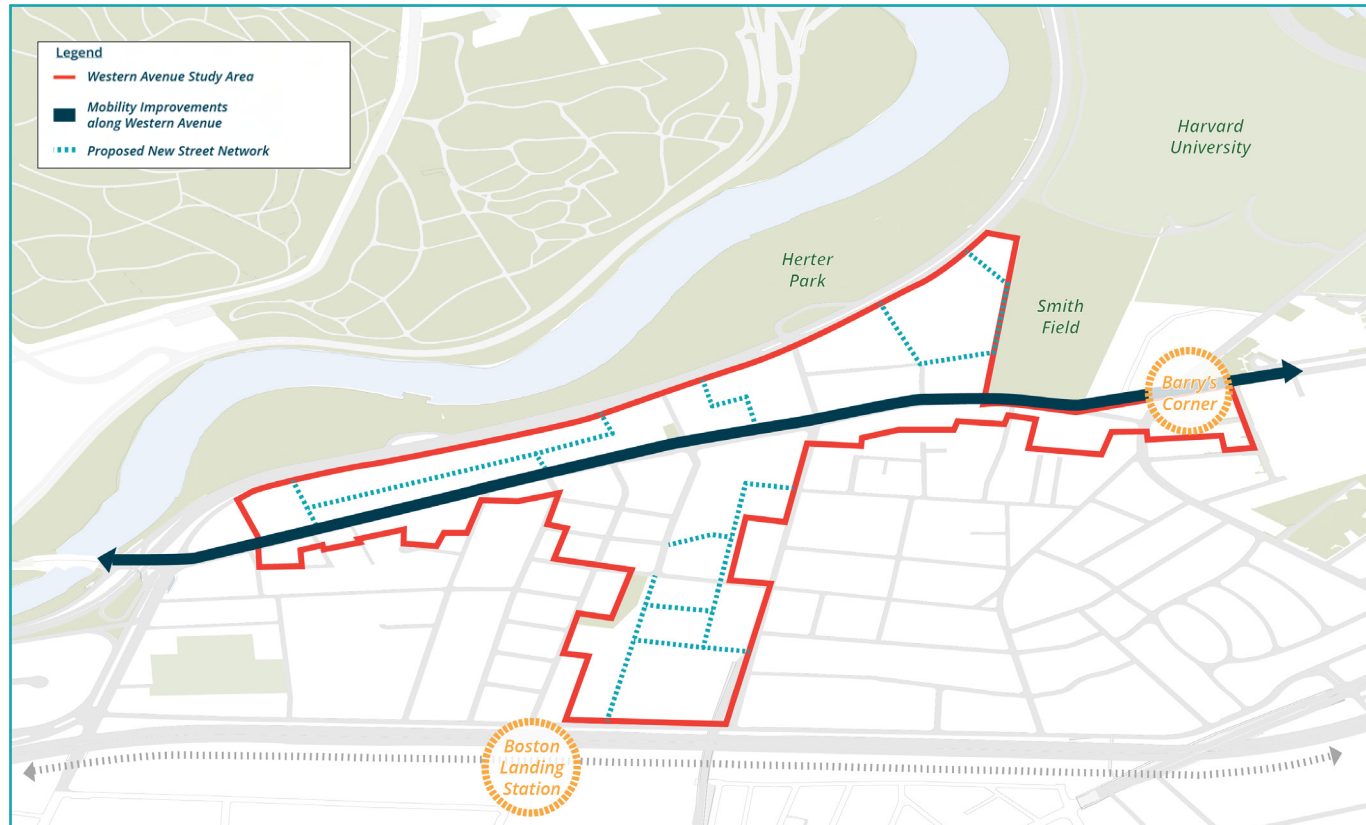
other usable public and ground-level amenities. For more information on the design guidelines proposed by the plan, see “Urban Design Guidelines” on page 38.

Open Space Objectives:

- Connect existing and future residential developments to the Charles River to the north and to the Boston Landing commuter rail station to the south, with a generous, wide green corridor from Telford to Holton to Everett Street
- Connect to new and improved crossings across Soldiers Field Road (through coordination with the Department of Conservation and Recreation)
- Develop a 1-2 acre park between Telford and Everett Streets that connects the existing residential neighborhoods
- Create pocket parks that facilitate connections from Western Avenue to the Charles River
- Improve visual connections to the Charles River from Western Avenue
- Provide guidelines for how taller buildings, when well-designed, can create a high-quality pedestrian experience and leave generous visual and physical connections in between buildings

Connect & Move

The planning framework envisions Western Avenue as a multimodal street with a new, low-stress bikeway and transitway.



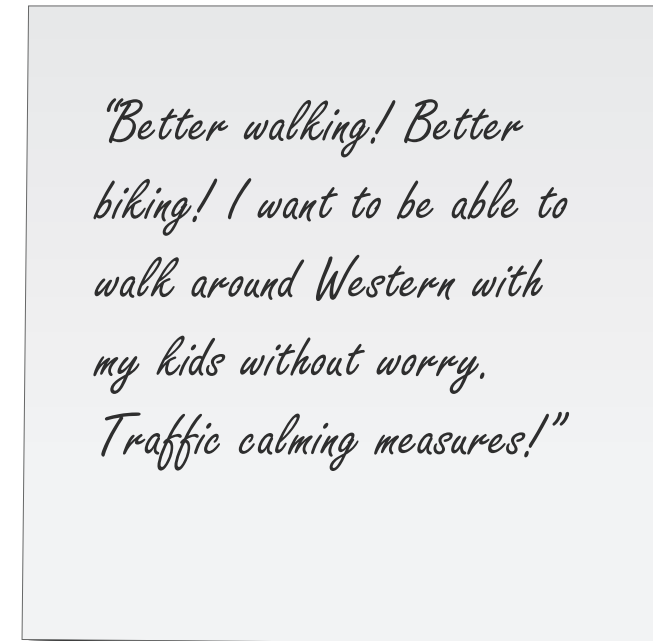
Mobility framework

Allston residents have expressed a strong desire for increased transit and mobility options along Western Avenue. In October 2019, workshop attendees were asked to allocate space for certain transportation modes within a limited street right-of-way. Better bus and bicycle facilities were the highest priorities ahead of other options including on-street parking. In April 2021, the planning team presented short-term design concepts for Western Avenue and polled meeting attendees for their feedback. In response to the statement, “Safe and efficient multimodal transportation (transit and bicycles) are a higher priority than on-street parking,” more than two-thirds of the respondents (43 individuals) said they “agree” or “strongly agree.”

To that end, the planning framework proposes a range of mobility improvements and public realm enhancements,

centered around a proposal for a new transitway along Western Avenue. When implemented, these options—better transit infrastructure, sidewalk-level bicycle facilities, and wider sidewalk zones—will enable more people to safely walk and bike through the area.

Residents have also expressed concern about the impacts of new vehicular traffic in the neighborhood, and in particular about parking for new development. The planning team conducted a survey in the winter and spring of 2021 to solicit input from local businesses and organizations about their transportation and parking needs, in order to create a strategy for improving management of curbside use regulations for the benefit of all. The response highlighted that many businesses have dedicated off-street parking for employees or customers. Short-term parking is typically accommodated in off-street parking locations



Community feedback from September 2019 meeting



Workshop activity from October 2019 community meeting

or via unrestricted curbside parking. While short-term customer and visitor parking was noted as a need, survey respondents also observed that more bicycle parking, safer bicycle infrastructure, and improved transit were needed.

Residents asked for improved transportation that considers growth elsewhere in Allston and in nearby communities such as Watertown, and the BPDA conducted robust traffic modeling in response.

Through these types of treatments, a variety of safe and convenient mobility options would be afforded to people who live and work throughout the area, all the while supporting citywide mode shift and mobility goals and accommodating new growth. Details on this new street network and Western Avenue’s multimodal recommendations are discussed in “04. Mobility Recommendations” on page 51.

Mobility Objectives:

- Introduce a finer grain network of streets and blocks and create a multi-modal street network for people walking, biking, using transit, and driving to move through the area without burdening existing streets
- Create east-west connections for people walking and biking from residential neighborhoods on either side of Everett Street, primarily on Holton Street and Western Avenue
- Create sidewalks that are not only easily traversable regardless of one’s physical ability, but pleasant to walk along
- Promote bicycling as a viable and safe commuting and every day travel option through a new low-stress Western Avenue bikeway
- Advance transit use by prioritizing bus movements along Western Avenue through improvements such as a dedicated transitway
- Incorporate an improved street network to facilitate anticipated growth and create more traditional block sizes

Zoning Recommendations

These recommendations have been developed with the goal of implementing the community vision and achieving the mobility improvements described in the planning framework.



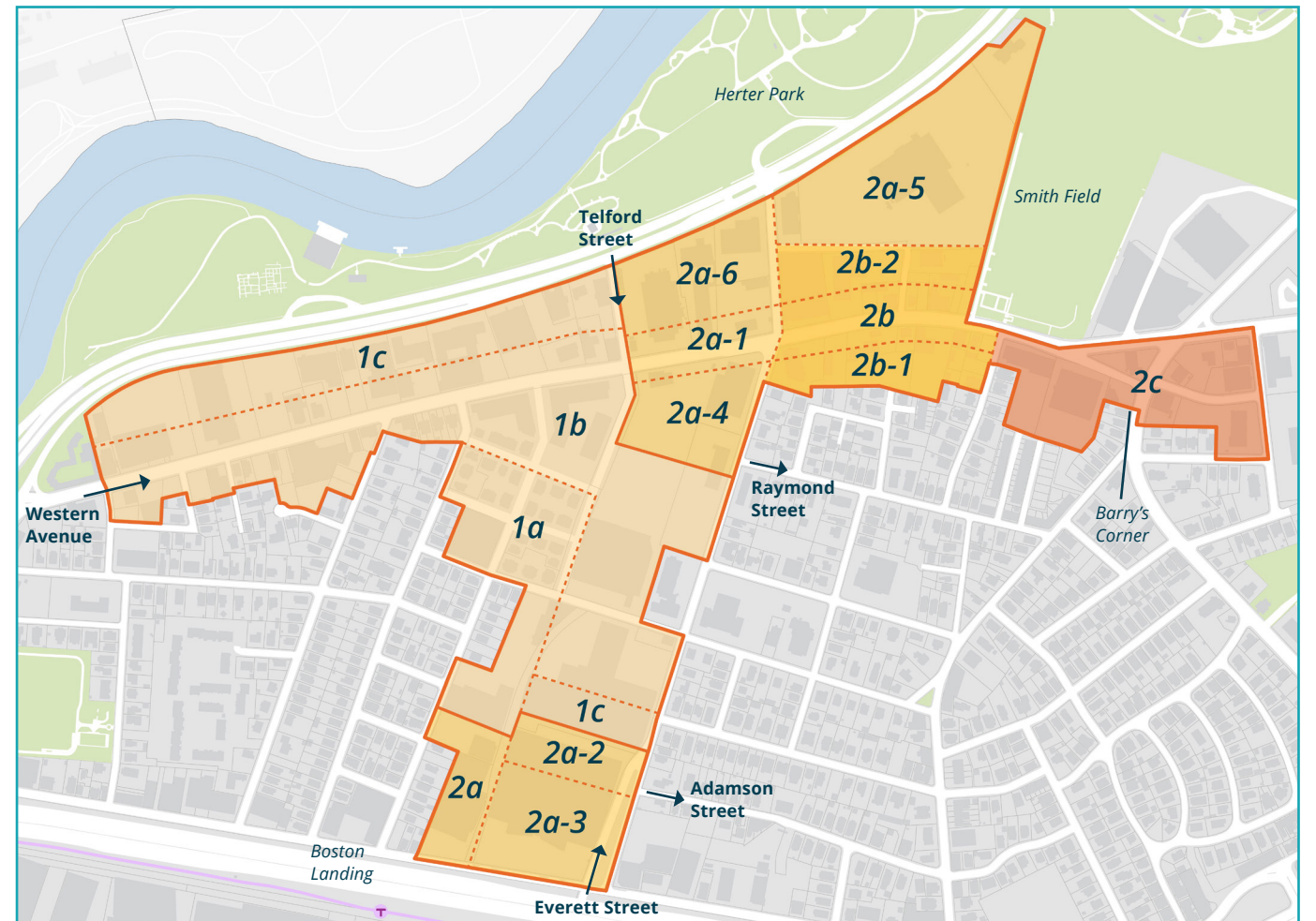
Hypothetical maximum massing envelope under proposed zoning

The following diagrams and maps illustrate the proposed building and open space controls to be written into Article 51 of the Boston Zoning Code. The controls that follow are tools that are designed to work together, and they have been modeled throughout the planning process to ensure that they will be effective in limiting new building masses and ensuring the necessary open space is provided between buildings.

Together, these zoning limits will manage and mitigate the potential for adverse impacts that can be associated with new development.

Urban design and transportation guidelines will complement the zoning and will establish best practices as they relate to:

- Site Context
- Site Design
- Streets, Sidewalks, and Building Setbacks
- Parking and Loading
- Project Massing
- Building Heights and Density
- Parking Structures
- Rooftop Mechanicals
- Design and Sizing of Open Spaces
- Programming
- Environment and Comfort
- Connectivity



Summary of proposed zoning districts and metrics

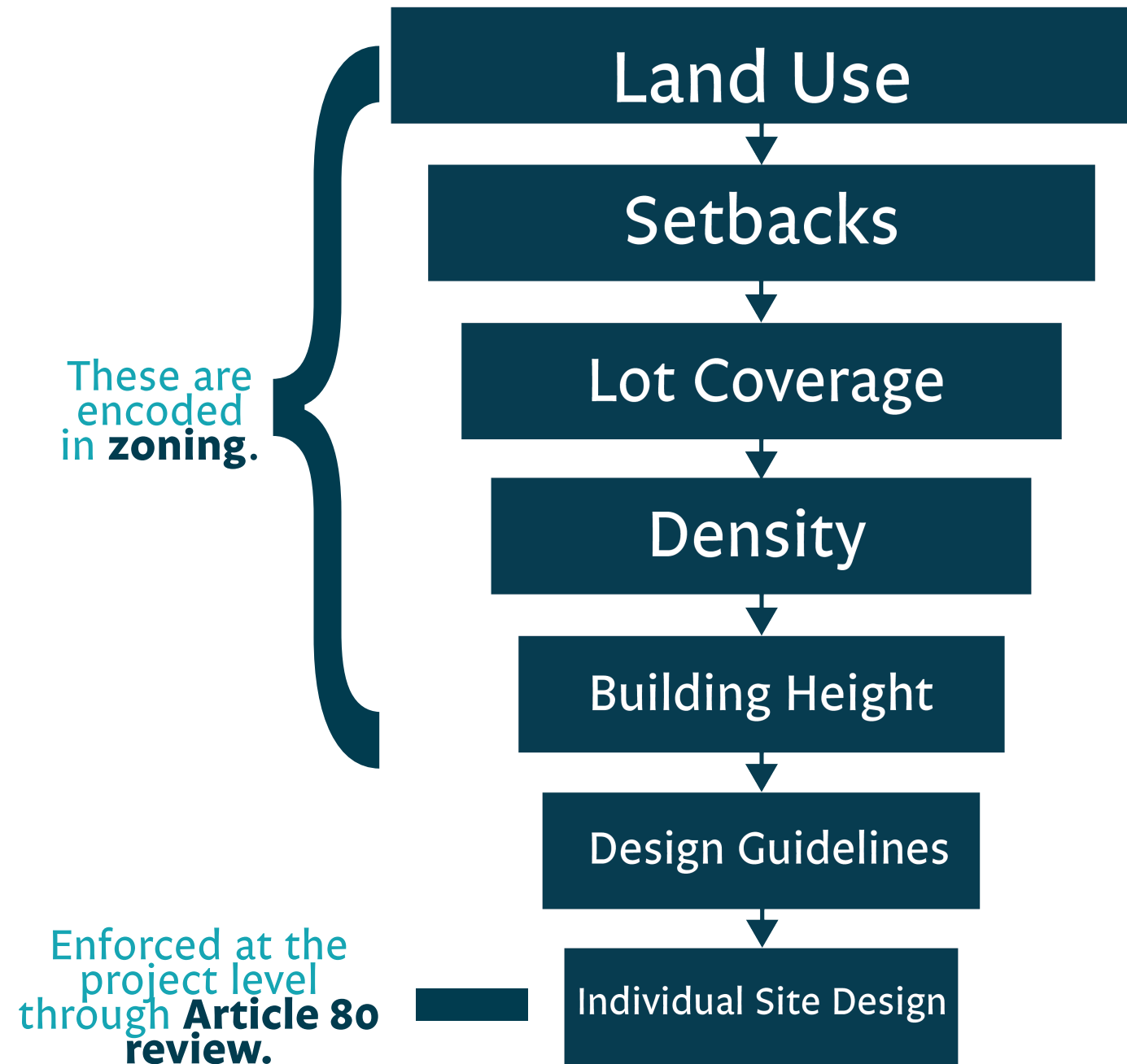
Zone	FAR	Incentive FAR	Lot Coverage	Height	Incentive Height/Lab Mechanicals	Residential	Retail/Cultural	Lab
1a	2.5	-	60%	45 ft	-	✓	✓	-
1b	2.5	-	60%	65 ft	-	✓	✓	-
1c	2.5	-	60%	90 ft	-	✓	✓	-
2a	3.5	4.0 / 4.25	60%	65 ft	-	✓	✓	✓
2a-1	3.5	4.0 / 4.25	60%	75 ft	-	✓	✓	-
2a-2	3.5	4.0 / 4.25	60%	90 ft	-	✓	✓	✓
2a-3	3.5	4.0 / 4.25	60%	125 ft	- / 165 ft	✓	✓	✓
2a-4	3.5	4.0 / 4.25	60%	125 ft	-	✓	✓	-
2a-5	3.5	4.0 / 4.25	60%	135 ft	170 ft / 175 ft	✓	✓	✓
2a-6	3.5	4.0 / 4.25	60%	150 ft	185 ft / -	✓	✓	-
2b	3.5	4.0 / 4.25	70%	75 ft	-	✓	✓	✓
2b-1	3.5	4.0 / 4.25	70%	90 ft	-	✓	✓	✓
2b-2	3.5	4.0 / 4.25	70%	135 ft	170 ft / 175 ft	✓	✓	✓
2c	3.5	4.25	80%	90 ft	-	✓	✓	-



02.

Zoning Recommendations

Zoning Framework



Land Use



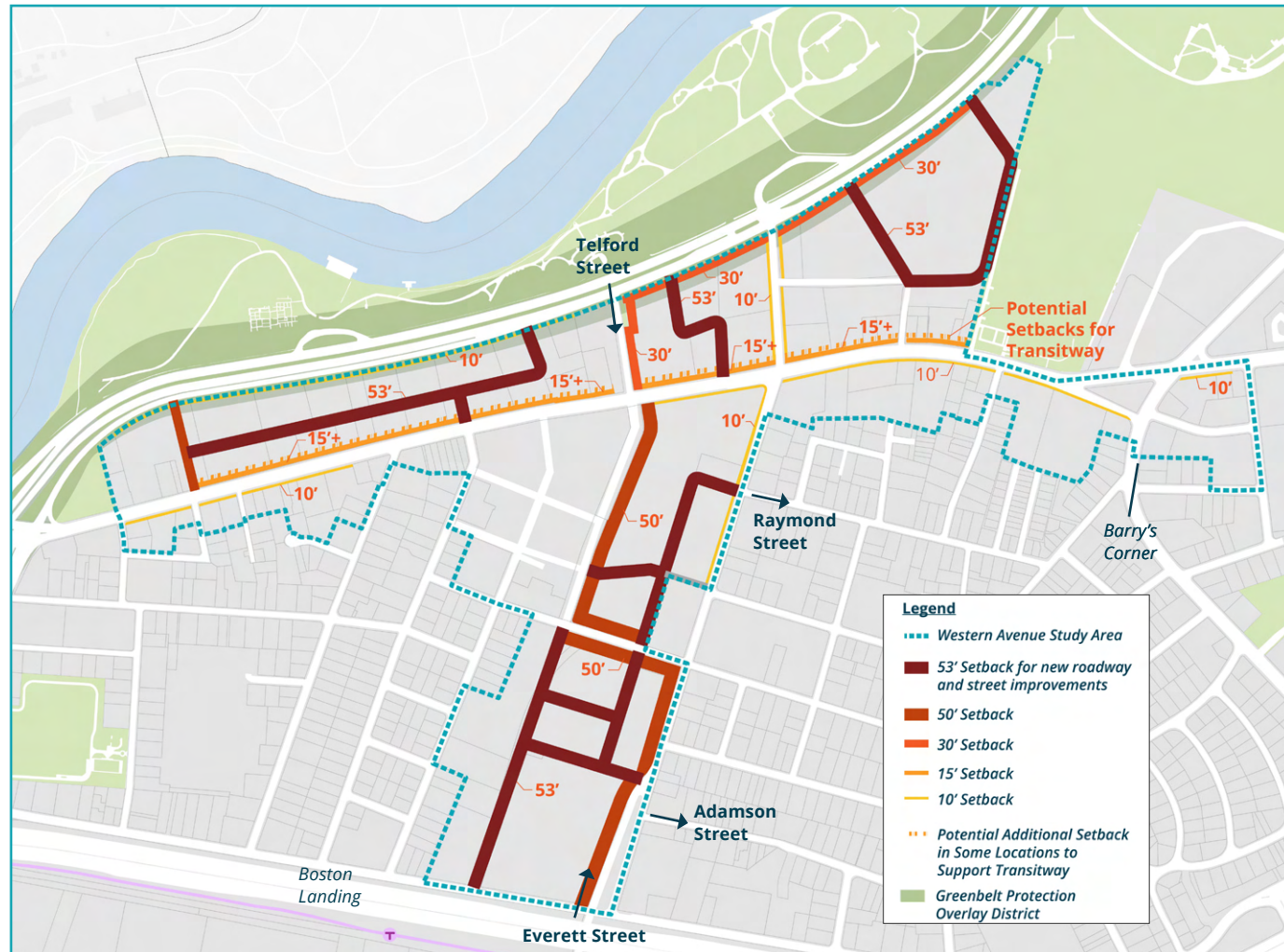
Proposed land use, including limiting lab/commercial uses to Residential/Commercial areas at the Boston Landing TOD and Barry's Corner Nodes

Housing, which is not currently an allowed use, would be permitted throughout the study area. Lab and commercial buildings would be permitted in limited portions of the study area. This approach will create approximately a 75% residential to 25% commercial ratio. Beyond accommodating expanded residential uses, this land use mix will also limit auto-related commuter trips to the area, and promote building massings that are more compatible with the existing smaller scale neighborhood fabric.

A residential affordability incentive in commercial / mixed-use subdistricts will further promote residential uses, including allowing increased density in order to enable increased affordable housing (see "Residential Affordability Incentive" on page 31).

Commercial / lab buildings have unique design parameters, including: large floorplates, high floor-to-floor heights, and large mechanical penthouses. Their large scale and often boxy form means that they are less compatible with residential fabric. Commercial and lab buildings also typically have greater transportation impacts than residential development. In addition to limiting their overall proportion of future development, the zoning would concentrate them in locations towards the edges of the study area and closer to both public transportation infrastructure and roadways (I-90 and Soldiers Field Road) that could serve to minimize traffic impacts on Western Avenue.

Setbacks



Proposed minimum setbacks from property lines necessary to create new roadway and street improvements

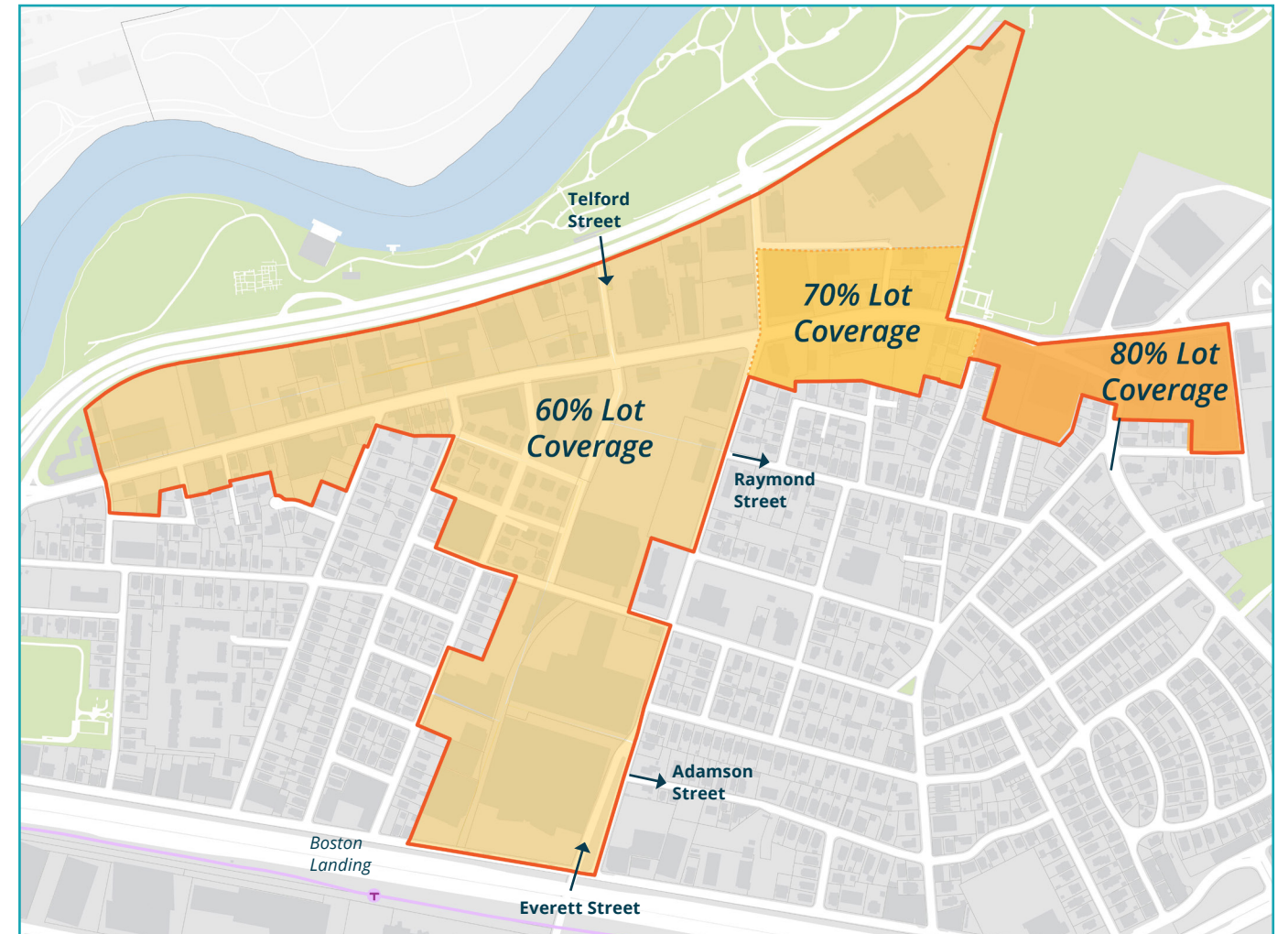
All projects must provide setbacks from property lines to accommodate right-of-way for new and expanded streets and sidewalks. Although setbacks are related to lot coverage in that they will be deducted from the project's overall lot coverage, they represent a very specific type of public realm "carve out" in the sense that the location and dimension are clearly defined. In contrast, most of the other public realm improvements to be achieved as projects are built and will be defined through the development review process.

Soldiers Field Road is a Greenbelt Protection Overlay District (GPOD). Projects with frontage on Soldiers Field Road need to include a setback with enhanced landscaping to augment the corridor, measured 200 feet from the centerline of the right-of-way.

The minimum setback of the building for each street within the study area will be:

- 53 feet along all new streets as indicated;
- 50 feet along Holton Street and Everett Street south of Holton Street;
- 30 feet along Telford Street and Soldiers Field Road east of Telford Street;
- 15 feet along the northern edge of Western Avenue west of Smith Field;
- 10 feet for all other streets, including the southern edge of Western Avenue; Soldiers Field Road west of Telford Street; Everett Street; and the northern edge of Western Avenue east of Smith Field.

Lot Coverage



Proposed maximum lot coverages

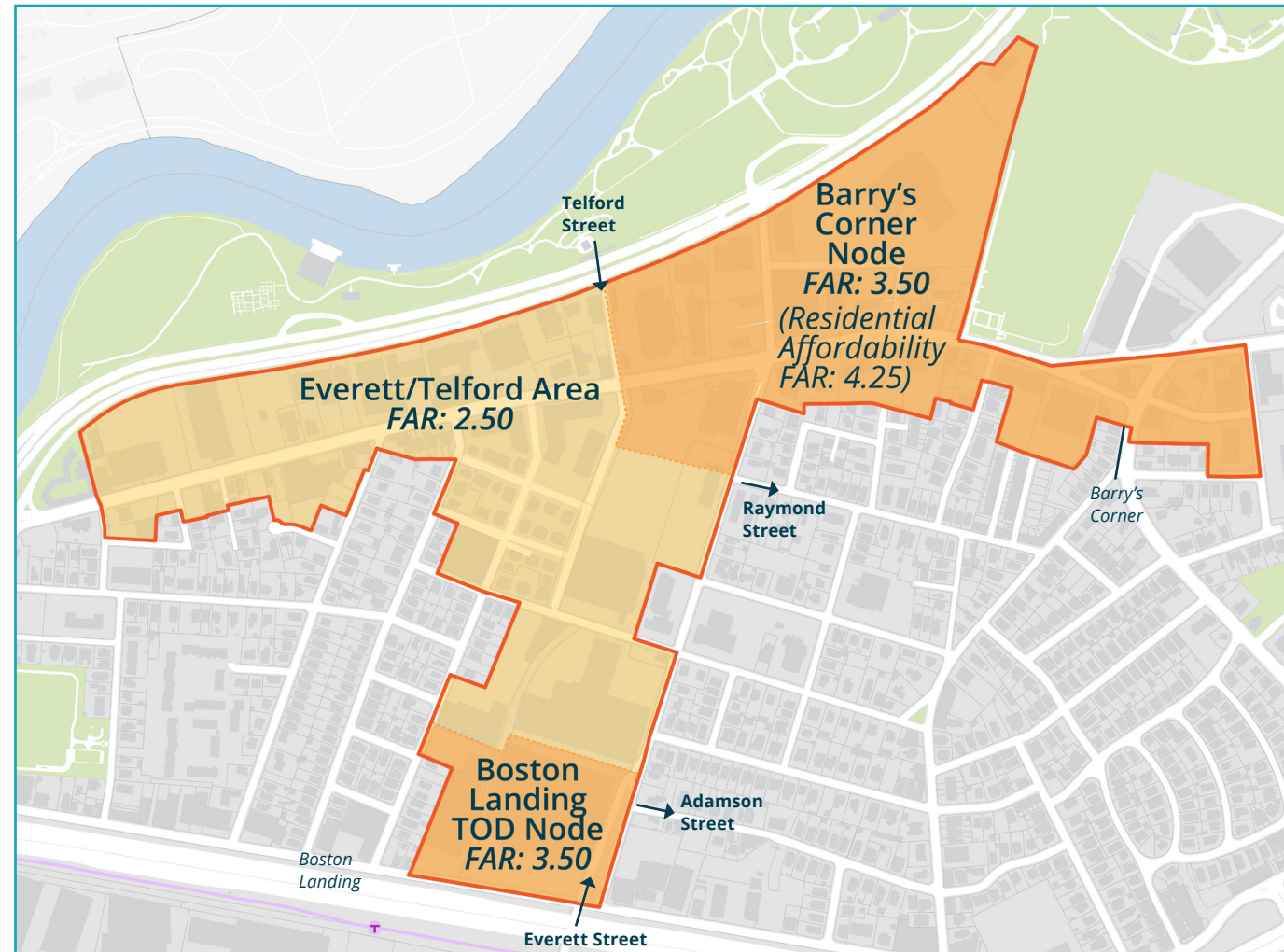
The zoning will limit lot coverage to ensure that new streets and open spaces will be built through new development. Areas that require more extensive public realm infrastructure will only be allowed up to 60% lot coverage, whereas in areas such as Barry's Corner, 80% lot coverage will be allowed in order to encourage a more active and vibrant mixed-use node. To provide an appropriate transition between these two zones, up to 70% coverage will be allowed along Western Avenue between Everett Street and Smith Field.

Lot coverage maximums guarantee that the BPDA and community will have the opportunity to achieve connectivity, open space, and other public realm goals through the development review process. Across the study area, projects

will be required to build significant new public realm improvements. New roadways, parks, plazas, and green spaces would all be developed as part of approved projects and PDAs.

While the new street network will provide the necessary connectivity identified through the public process, lot coverage limitations also serve as a block and building footprint control by ensuring large tracts of land are broken down into block sizes compatible with the existing neighborhood. Lot coverage becomes a critical building control, narrowing the space available to buildings, making them more slender, spaced further apart, and creating more porous and open street walls along street edges.

Density



Proposed FAR limits

The plan establishes maximum density limits, including a tiered structure for Barry's Corner that allows for increased density in exchange for greater numbers of affordable housing units*. Higher densities are concentrated in the active nodes from Barry's Corner to Telford Street as well as close to Lincoln Street, near the Boston Landing MBTA commuter rail station and Guest Street-area developments. Recommended densities are grounded in a financial analysis (completed 2019) that has taken into account the cost of development and the value that zoning must create in order to ensure high-quality development that can bring about the planning vision described above.

FAR recommendations were tested with proposed controls on building height, setback, and lot coverage recommendations to ensure that the proposed zoning achieves the objectives of the planning framework, including:

- Significant separation between "tower" or taller building elements
- Porosity along public street frontage in order to avoid long building walls
- Flexibility to ensure tower elements can be located where impacts can be minimized
- Shadow & wind impacts on both public and private public realm

*All inclusionary development recommendations are subject to update with the forthcoming Mayor's Office of Housing Inclusionary Development Study, expected fall 2022.

	FAR	On-site Affordability Requirement
Boston Landing TOD Node	Max. 3.5 All residential projects approved through a Planned Development Area will be subject to these requirements	No fewer than 17% total residential square footage provided in IDP units - affordable to households averaging 60% AMI.*
Everett / Telford Area	Max. 2.5 All residential projects approved through a Planned Development Area will be subject to these requirements	No fewer than 15% total residential square footage provided in IDP units - affordable to households averaging 60% AMI.*
Barry's Corner Node	Max 3.5 Non-residential projects are limited to FAR 3.5. No fewer than 15% total residential square footage provided in IDP units - affordable to households averaging 60% AMI.*	
	Affordability Incentive 3.5 - 4.0 Within the residential incentive zone, all projects approved through a Planned Development Area with an FAR between 3.5 and 4.0.	No fewer than 17% total residential square footage provided in IDP units - affordable to households averaging 60% AMI.*
	Affordability Incentive 4 - 4.25 Within the residential incentive zone, all projects approved through a Planned Development Area with an FAR between 4.0 and 4.25. Non-residential projects are limited to FAR 3.5	No fewer than 20% total residential square footage provided in IDP units - affordable to households averaging 60% AMI.*

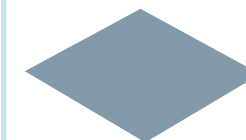
Residential Affordability Incentive

Within the Barry's Corner node, both residential and commercial projects would be allowed up to maximum FAR 3.5; residential projects at this FAR would have to provide a percentage of on-site income-restricted units greater than what is currently mandated through the City's Inclusionary Development Policy. In order to promote residential development and affordable units, and affordability incentive would allow additional FAR for residential uses that provide an increased percentage of inclusionary units, up to the maximum of 4.25 FAR in the chart above. Remaining portion of a site (e.g., commercial / lab uses) are still limited to 3.5 FAR or less. Favorable consideration will be given to projects able to provide additional contributions to affordability and affirmatively-furthering fair housing, such as additional on-site units at higher AMI levels, off-site contributions, or others.

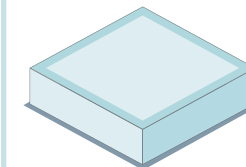
*All inclusionary development recommendations are subject to update with the forthcoming Mayor's Office of Housing Inclusionary Development Study, expected fall 2022.

What is Floor Area Ratio (FAR)?

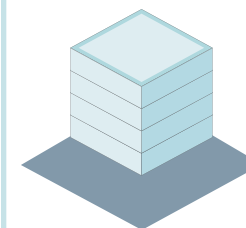
Floor Area Ratio (FAR) is the total square footage of all the floors of a building, divided by the total square footage of the land on which it sits.



Lot Dimension: 100' x 100'
Lot Area : 10,000 SQ FT.

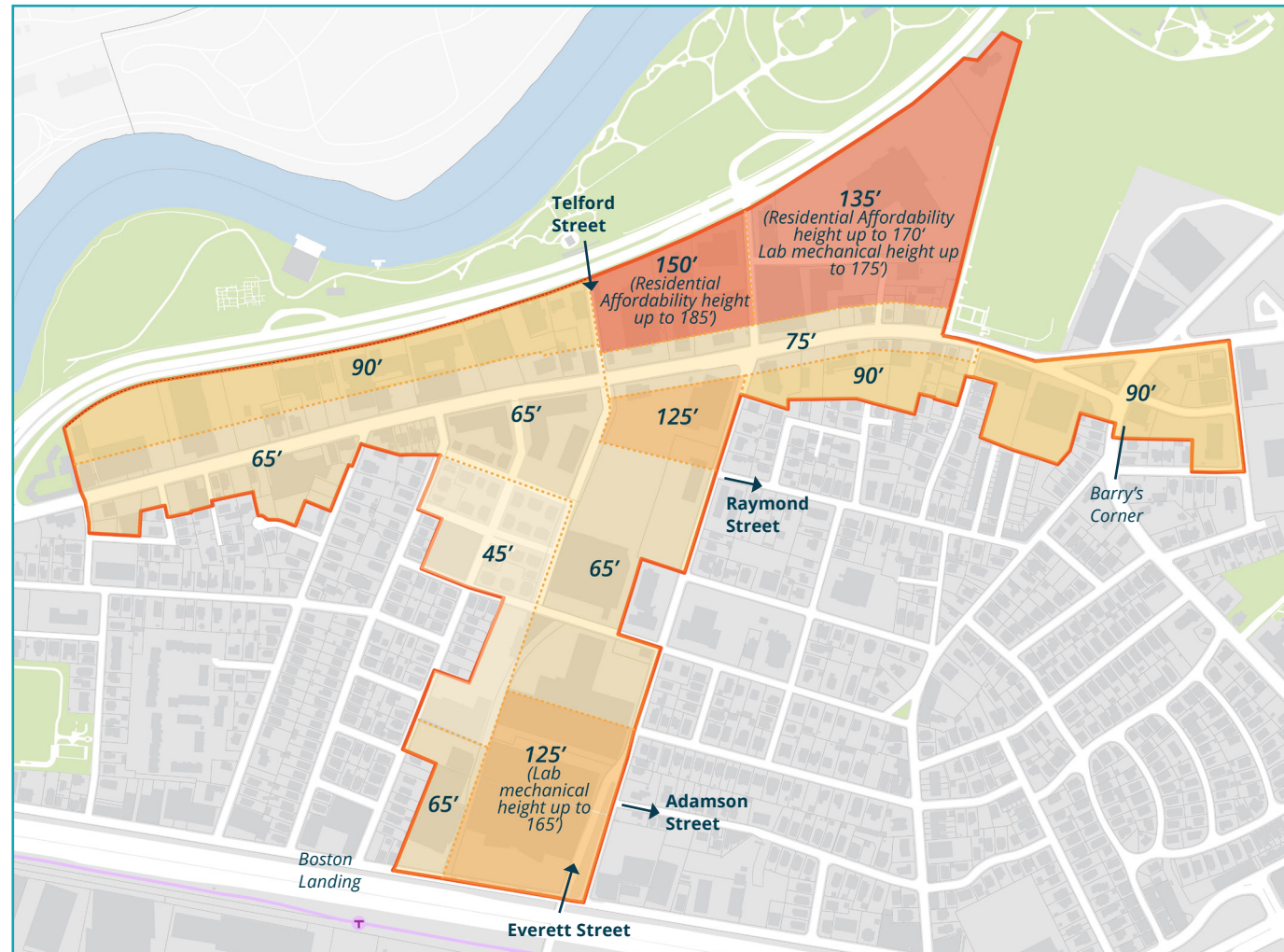


FAR: 1.0 x (10,000 GSF)
Building Footprint: 10,000 SQ FT
Building Height: 10 Feet
Lot Coverage - 100%



FAR: 1.0 x (10,000 GSF)
Building Footprint: 2,500 SQ FT
Building Height: 40 Feet
Lot Coverage - 25%

Building Height



Proposed Maximum Allowed Building Heights

The zoning allows greater heights near Smith Field, Barry's Corner, and Lincoln Street while limiting heights in the Holton Street corridor to better relate to the residential neighborhoods east and west.

The proposed height limits are lower in areas closer to existing residential fabric in the Barry's Corner node and along Western Avenue. Design guidelines further emphasize lower heights where projects abut the existing residential fabric. The zoning, along with urban design guidelines, will encourage new buildings to vary the heights of different building elements. Building FAR and lot coverages have been established at thresholds that will ensure buildings must be varied in height and massing to respond to their individual contexts.

The heights included in zoning are the maximum allowed height. In the two nodes, projects can build a limited area of their site to a maximum height of 155, 175, or 185 feet if they provide increased affordable housing units as part of the residential affordability incentive. While not previously addressed in zoning, the penthouses of lab mechanicals will also be limited to this height. Projects that build at least 50% of the ground-floor space as retail spaces will also be incentivized with an additional 5' in building height in order to accommodate the taller heights needed for a wide variety of retail and restaurant uses.

Spotlight: Barry's Corner

The planning framework envisions Barry's Corner as an active, vibrant mixed-use node, with retail, neighborhood-serving amenities, and opportunities for the arts and cultural communities of Allston to thrive.



Barry's Corner Today

In 2005, the North Allston Strategic Framework for Planning formally recognized the unique opportunity for placemaking at Barry's Corner, calling for the formation of a traditional square that could become the active and vibrant heart of North Allston.

A key objective of the Western Avenue Corridor Study is to advance and expand upon the goals of past planning efforts, and nowhere is that more relevant than at Barry's Corner. As the plan has identified Western Avenue as a new multimodal transit corridor, even more of the public may come to rely on a walkable and activated public realm that will support transit and make it an attractive choice for residents and commuters in the area.

Since the 2005 plan, the new grocery store in Barry's Corner has become an important destination, a development proposal at 180 Western Avenue could create an active indoor/outdoor retail edge at the corner of Western Avenue and North Harvard, Smith Field has been renovated, and "the grove" at Harvard continues to promote public art and open space. Still, the gas station parcel in Barry's Corner remains under private control and continues to operate, and Spurr Street will need to remain open to vehicular traffic at least in the near term. Given these opportunities and limitations, the planning study has developed both short- and long-term concepts to make the most of the space available.

Short Term

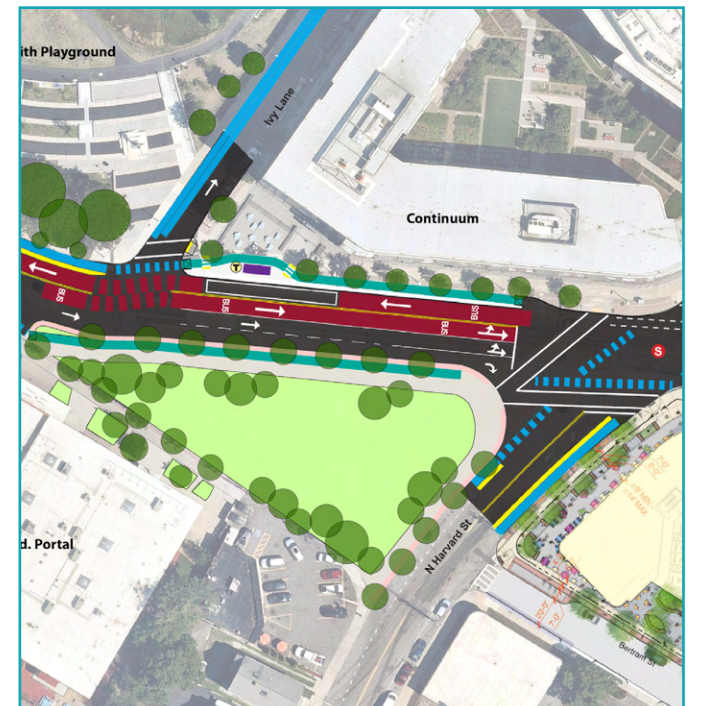
In the short term, the plan recommends using paint and other materials to limit vehicular access and activate Spurr Street on a temporary basis. With other high-quality open space available in close proximity at Smith Field, the success of this space will depend upon the extension of the active uses along the edge of Spurr Street. Two other properties, currently occupied by the Harvard Education Portal and the Dunkin' Donuts, will be key partners in attracting the public to this space. Farmer's/pop-up markets and outdoor arts and cultural events, or even passive café space could all be accommodated within this area. Depending on the programming, these changes would affect either portions or the full extent of Spurr Street. The temporary nature of this space will allow programming ideas to be tested well ahead of any permanent changes.



Allston Village Street Fair, an example of short-term programming

Long Term

In the long-term vision, a combined gas station and Spurr Street parcel would provide for an even larger public open space. Not only would there be sufficient outdoor space for seasonal events, but also space for a permanent pavilion or year-round kiosks that could house various retail uses. The space along the edge of Western Avenue could be used to provide space that can enhance the transitway experience for riders, providing improved shelters and support spaces. In addition, passive spaces that offer seating and a place to enjoy a meal are also possibilities. The design of this space will need to be coordinated with multimodal improvements—see "04. Mobility Recommendations" on page 51.



Hypothetical long term vision, illustrating new public open space, new transit way and bike lanes on Western Ave, and improved sidewalks and streetscape

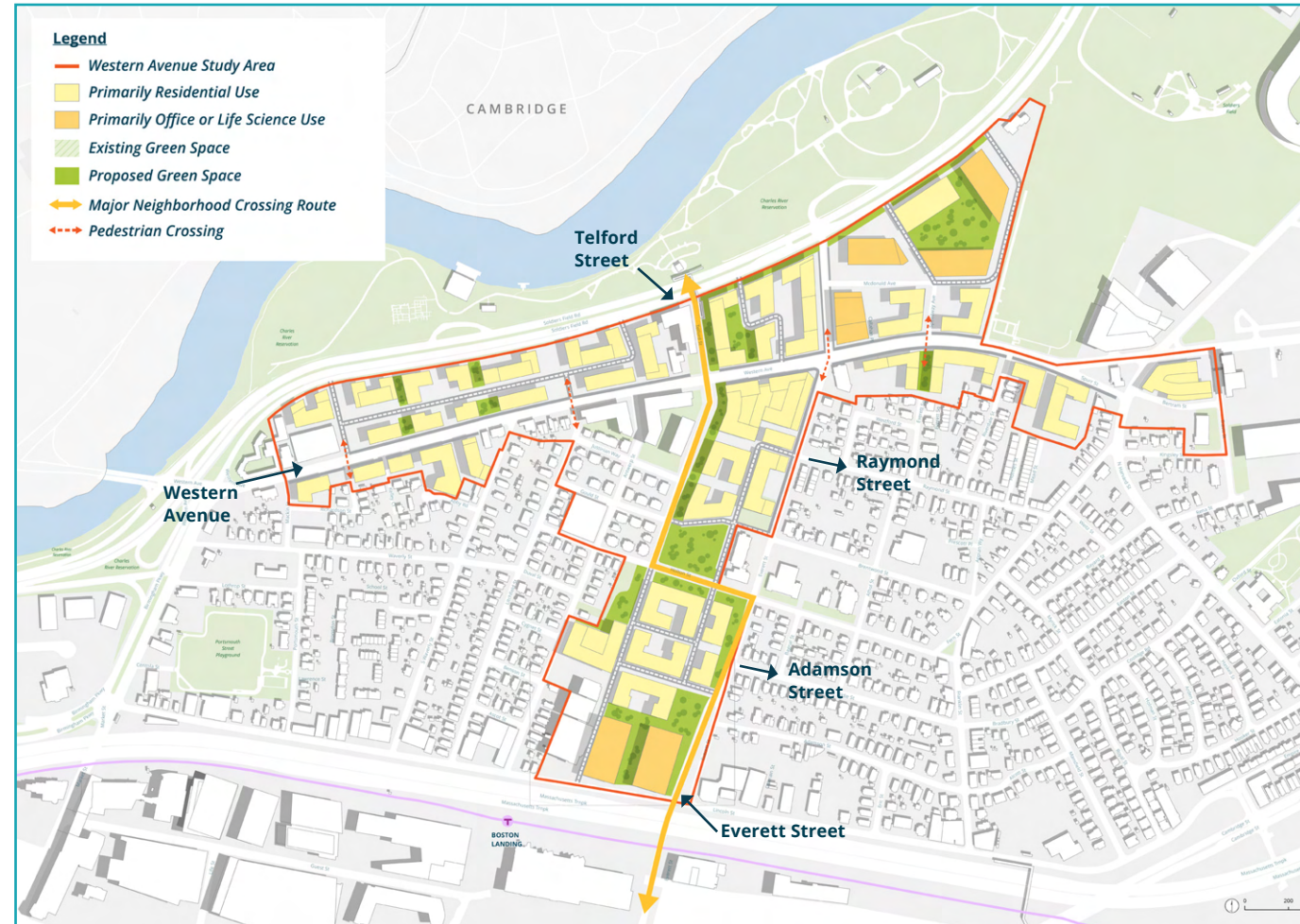


03.

Urban Design Guidelines

Urban Design Guidelines

Urban design recommendations balance building design, massing, and programming with benefits to the public realm.



Conceptual Map of Urban Design Principles Applied to theoretical full buildout

While these guidelines define limits for size, form, and location, they are not meant to prescribe a single building form for the entire study area. Developers and designers are encouraged to work within these parameters to add vitality to the public realm and individuality to the streetscape, while at the same time maintaining and enhancing connections to the wider study area. At the street level, individual projects should strive to develop a site that is cohesive with its surroundings.



Hypothetical view of Western Avenue

Site Context



Theoretical view of open space and mobility improvements created by building setbacks and lot coverage

Site Design and Lot Coverage

The unbuilt portion of the site should be used to create sidewalks, through-block connections, and public and private open spaces with diverse programming and planting. Open space, through-block connections, and right-of-ways that are located on the project site can be counted toward the lot coverage calculation.

Streets, Sidewalks, & Building Setbacks

Where buildings meet the ground along a public street, they should positively contribute to the public realm and pedestrian environment through facade design and transparency, public programming, and massing.

- Street frontages that exceed 250 feet are strongly discouraged.
- Building frontages that exceed 250 feet should include

a publicly accessible and well-designed through-block connection.

- Buildings should be sited to infill at least 75% of site edges facing public streets.
- The ground-floor facade of buildings along Western Avenue, Spurr Street, and Everett Street should maintain 50-60% transparency.
- Adjustments to the street network may be requested through the development review process, and will be granted for parcels where current alignment can be demonstrated to result in undue hardship and an unbuildable lot, or if the realignment is demonstrated not to produce an adverse impact on pedestrian, bicycle, transit, and vehicular traffic operations. For more information about the street network, see “04. Mobility Recommendations” on page 51.

Parking

Parking Structures

To better connect to the public realm, parking garages should be screened and placed away from main thoroughfares such as Western Avenue, in order to separate vehicle light and noise from the pedestrian realm. Parking structures of all kinds should be innovative in design and should address the possibility of future adaptive re-use.

- Wherever possible, it is recommended that parking garages be located below street level to allow for active commercial, community, and residential uses on the ground floor.
- When exposed to a street, parking garages should be screened with a creative facade that provides continuity with non-parking uses within the building, with other building massing elements, or with active public programming such as retail or community space.
- Where screening cannot be achieved, exposed parking structures should be limited to side streets starting as far from Western Avenue and Everett Street as possible.
- Landscaping, plazas, and active use programming can be used to conceal or enhance rooftop parking areas, especially roofs of free-standing parking garages.
- All pedestrian access to parking structures should be located off of primary streets.
- All vehicular access to parking structures should be located on side roads and away from intersections on Western Avenue.

Pick-up/Drop-off Zones in New Development

New curbside pick-up, drop-off, and valet uses are discouraged along Western Avenue, Everett Street, and Telford Street. However, if new curbside pick-up, drop-off, or valet activities are proposed, project proponents must provide an additional 10-foot setback from the curb (in addition to the 15-18 feet required for curb level bike lanes, transit improvements, sidewalks, landscaping zone, and/or cafe zone).

Loading/Unloading In New Development

To the greatest extent possible, all loading and unloading in new development shall be internal to the project and accessed off of side streets as opposed to Western Avenue, Everett Street, and Telford Street. In the rare instance where loading and unloading will be considered along Western Avenue, Everett Street, or Telford Street (due to limited access from side streets), the proponent should provide an additional 10-foot setback (in addition to the 15-18 feet required for curb level bike lanes, transit improvements, sidewalks, landscaping zone, and/or cafe zone). Loading activities may never occur in bus lanes, bike lanes, or blocking pedestrian spaces such as sidewalks, or cafe zones.

New Curb Cuts

Any new curb cuts are strongly discouraged along Western Avenue. To the greatest extent possible, curb cuts shall be consolidated and limited to one curb cut per block face and shall not be wider than 24 feet. Porte cocheres or semi-circle pick-up, drop-off, valet, or loading areas are prohibited. Surface parking at the street level is always strongly discouraged.

Project Massing



Hypothetical open space and massing created by setbacks and set-backs

The massing of each building is defined by its height, setbacks, stepbacks, and floorplate sizes. Building form has a direct impact on the public realm, through how it is perceived by pedestrians and neighbors.

Building Heights & Density

For taller buildings, such as those permitted in the Barry's Corner node or adjacent portions of Western Avenue, the use of podiums, stepbacks, and spacing can open up view corridors, frame the sky from the ground, and provide natural light to the street. Sculpting these elements can help a project have a strong and positive impact on the public realm.

The arrangement and spacing of these taller building elements can also play a critical role in shaping the public realm, not just along the adjacent streets but anywhere in the neighborhood the building is visible. Taller building elements should be spaced to create a varied and distinctive building design, while also framing views of the sky and surrounding projects. Wherever possible, taller building elements should not be aligned parallel to Western Avenue, to avoid creating a "wall" between the neighborhood and the river.

The dimensions and massing of taller building elements may be shaped by view corridors, heights of adjacent buildings, street frontages, among other factors. At a minimum,

- Building elements taller than 70 feet must be stepped back 25 feet from the rear or side property lines.
- Building elements above the podium must be stepped back 15 feet from the street-facing edge of the podium.
- Tall elements should not exceed 200 feet in width of the continuous facade.

Rooftop Mechanicals

For all buildings, and especially laboratory and life science programs, rooftop mechanicals should be compatible with the overall building architecture, and be set back from the roofline to minimize visibility from the street. Whenever the massing for these systems have been estimated or completed they should be represented in all drawings (renderings, sections, elevations, etc.) given to the Boston Planning & Development Agency or presented to the public.

Programming and Open Space

Design & Sizing

All open space, whether public or private, is encouraged to be innovative and creative.

- Projects should work to create new open spaces that fit within the surrounding context and provide a continuous pedestrian experience.
- Proposed open space program should be complementary to the existing open space network within the neighborhood. Proposals should consider what already exists in the neighborhood and how new open space can be added to support both existing nearby users and new users that will come with future development.
- Pedestrian-scale amenities and connections should be emphasized to shift this neighborhood away from its automobile oriented, large block character to one that encourages walkability and active streets.
- New open space should sufficiently support the mix of uses proposed, as different uses bring varied levels of density. Retaining an appropriate balance between open space will be essential as this neighborhood



Hypothetical view of open space on Western Avenue, looking north to the river

What is Open Space?

Public Open Space is owned by the public, perpetually open to the public, and can be maintained by the public or through agreement with private entities

Publicly accessible open space is accessible by the general public without a fee (this does not include protected open space or privately owned publicly accessible space)

Ground floor amenity space is outdoor amenity space for the exclusive use of the project end users, and is typically open to the public to use for a fee, such as retail associated space.

Private amenity space is privately owned and only used by building or development users.

Public realm includes:

- Lobbies or facilities with posted hours
- Buffers (transitional/interstitial spaces such as rain gardens, shy zones, furnishing zones, expanded sidewalks, and drive zones)
- Connections (walkways/laneways through a private parcel site that provide connections to amenities available to the public, or a through block connection); may be open to public vehicle and pedestrian access
- Publicly-owned sidewalks in the right-of-way
- Bike lanes and areas that serve transportation uses such as drop-off, service, or loading, including shared streets

densifies.

- Larger, consolidated open space is preferred over several smaller open spaces.
- Open space should provide a diverse range of sizes, as it relates to the programming desired by the community and the number of users the space intends to serve.
- Balconies, terraces, accessible rooftops, green roofs, and other above-grade amenities are encouraged for its building occupants.
- Projects should utilize attractive and well maintained plantings throughout the site, with plants that are appropriate to the region, to all seasons and are irrigated with collected storm or gray water. Plant trees that will form tree canopies; incorporate neighborhood gardening opportunities; and include rooftop gardens to help to reduce the heat island effect.
- Projects that do not comply with lot coverage guidelines and open space requirements must provide additional public benefits. The qualification of individual projects and specific benefits will be determined through the Article 80 development review process.



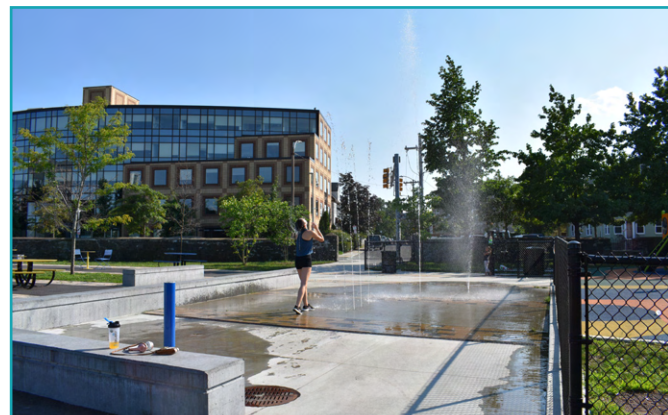
Park along Telford Avenue



Amphitheater at Herter Park



Pump Track at Smith Field



Water Feature at Smith Field

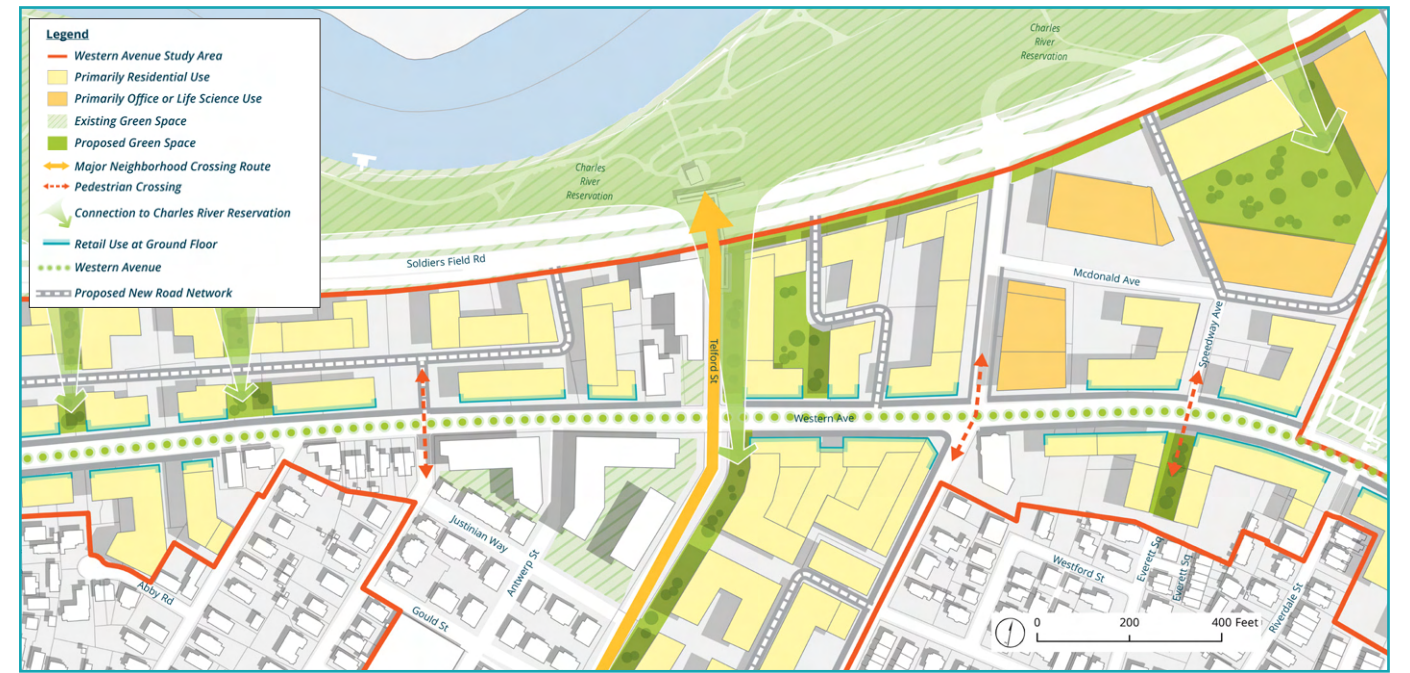
Programming

Open spaces should have diverse programming. Passive lawns and spaces with seating and vegetation should be paired with active uses. Private open spaces do not need to be heavily programmed, but should provide and encourage opportunities for community engagement and gathering.

Projects should utilize innovative landscape design, installation of temporary, permanent and/or interactive public art in open spaces and the public realm to build and maintain a vibrant and enlivened streetscape. Include a mix of distinctive street furniture, street trees, and wider sidewalks that allow for public and semi-public active spaces, creating a continuous public realm experience along Western Ave.

Below are examples of active open space typologies which could be included along Western Avenue or along the new linear green space proposed to connect Telford Street to Holton Street to Everett Street:

- Community gardens, dog parks, and spaces designed specifically for older Allston residents
- Free-play spaces and playgrounds.



Connections established by hypothetical full buildout

- Compact active sports programming such as L-shaped basketball courts and ping-pong tables.
- Interactive water features.
- Public art, such as sculptures for kids to climb on, or art walls for communities to design and paint annually.
- Creative amenities such as seating integrated with public art or a community book exchange.

Connectivity

A key goal for future open space in the study area is to connect the neighborhood with the river to the north, across I-90 to the south, and between residential areas east and west of Everett Street. These connections can be physical—such as by extending through-block connections or creating easy pedestrian access—or visual, such as by framing views.

Public Realm

Future street design should provide a robust tree canopy along sidewalks and in open space, in addition to striving to preserve existing mature trees where possible. In February 2021, the City of Boston initiated the Urban Forest Plan (UFP). The goal of the UFP is to promote growth, longevity, and protection of Boston’s urban canopy over the next 20 years, and to create a framework for expansion and modification for projected future conditions including climate change, development, and other factors.

The public realm shall consist of a robust, publicly accessible street network that complies with Boston Complete Streets, providing generous and accessible pedestrian zones, a robust greenscape and furnishing zone, and an activated frontage zone. Buildings should setback as required to create a high-quality public realm; building overhangs or cantilevers over public realm or open space are strongly discouraged.

- Developments parallel to the river should break up their massing, especially along Western Avenue, to avoid creating a “wall” and to enable physical and visual connections to the riverfront.
- Projects along the northern edge of Western Avenue and the southern edge of Soldiers Field Road should consider how to place through-block connections between the two streets.
- All new projects along Everett Street between Western Avenue and I-90 should consider how to integrate street-facing open space, to contribute to the creation of a north-south open space corridor across the study area.

Comfort

Comfort and safety in the public realm are of the utmost importance. Heat, air movement, and sun exposure all affect how a person feels in a space, whether they feel welcome, and are physically comfortable enough to stay and sit, or pass through quickly on their way to somewhere more comfortable. Public spaces that have no shade are uncomfortable in warm weather; spaces without sun are uncomfortable in cool weather; and spaces located in wind tunnels are uncomfortable on even marginally breezy days.

Developments proposed near or abutting an existing open space must adequately study the effects of the building's massing and facade by completing shadow studies, reflectivity studies, and wind modelling, among others. Analysis resulting from these studies offers an opportunity to adjust the form and materiality of developments, ensuring that thermal comfort in the public realm is preserved. This analysis should be performed early enough in the design process so that it can be taken into account in a meaningful way.

This plan, including zoning and design guidelines, requires the creation of open spaces as part of development. These spaces should also be sited based on environmental analysis that considers advantageous sun exposure, building shadow and wind impacts, and compatibility with adjacent uses. Planning and programming of the open spaces must respond to pre-existing conditions, such as by avoiding plantings in certain areas without enough sun. They also have the opportunity to mitigate effects of existing development by planting trees to offer shade in areas of high sun exposure or densely planting to prevent downdrafts and wind gusts. The zoning recommendations in this report have been carefully calibrated to ensure new development can incorporate the best environmental and comfort practices into their designs.



Street trees and pervious surfaces along Telford



Shade trees in The Grove at Barry's Corner



Different environmental comfort strategies at work in Artesani Playground: shade trees, shade structures, pervious surfaces, and fountains

Some standards for reducing wind, solar, and shade concerns include:

- Buildings should strive to limit the duration of shadow impacts on pocket parks, linear open spaces, and large green spaces to two hours.
- Towers should be oriented so that their long facades are parallel to prevailing winds, minimizing downdrafts on open space and sidewalks. Taller building elements that are stepped back provide a "shelf" that can also interrupt downdraft effects before they reach the ground level.
- Towers should be spaced far enough apart from each other that they do not create undesirable wind impacts.
- If building orientation cannot be corrected, trees that retain leaves throughout the winter and cantilevered canopies can be employed to shelter pedestrians from wind gusts and downdrafts.
- Consider incorporating colonnades or arcades as devices for sheltering pedestrians from inclement weather.
- Maximize the urban tree canopy to provide shaded areas within the streetscape. In a densely built urban environment, street trees are critical in mitigating the urban heat island effect.
- Outdoor spaces should provide both sun and shade, allowing for users to choose where they feel most comfortable. Provide afternoon shade with deciduous trees. Provide open lawns for those who want to be in the sun. Block wind chill with mixed deciduous and coniferous plants. Maintain openings for cooling summer breezes.
- Consider and analyze the expected uses (time of day, tasks) of open space and the range of possible users (commuters, residents, employees) in conjunction with local climate conditions. Here in the northeast, a south or southwestern exposure provides the most ideal sun exposure for open space.
- Use lighter colored pavements to minimize solar gain and to mitigate the urban heat island effect. Select materials with a higher Solar Reflectance Index (SRI). The higher the SRI, the cooler the material is likely to stay in the sunshine, which in turn reduces how hot the air temperature in the area becomes.
- When specifying outdoor benches, select a sustainably-harvested wood material over metal. Wood is more comfortable year round, as it does not get as hot as metal in the sun, nor does it get as cold in the winter.

Sustainability & Resilience

Development offers an opportunity to both build more sustainably and to address resiliency concerns. The plan will ensure that new development maintains a careful balance of built and unbuilt spaces, for example, allowing the conversion of surface parking lots into more open space, pervious surfaces, and landscaped areas with trees that can help manage stormwater and mitigate heat island effect and increasing summer temperatures. Tree trenches to promote more robust tree canopies along City streets have already been adopted in the Allston-Brighton Mobility Plan and will be used along the Western Avenue Corridor (see pg. 44 in the Allston-Brighton Mobility Plan).

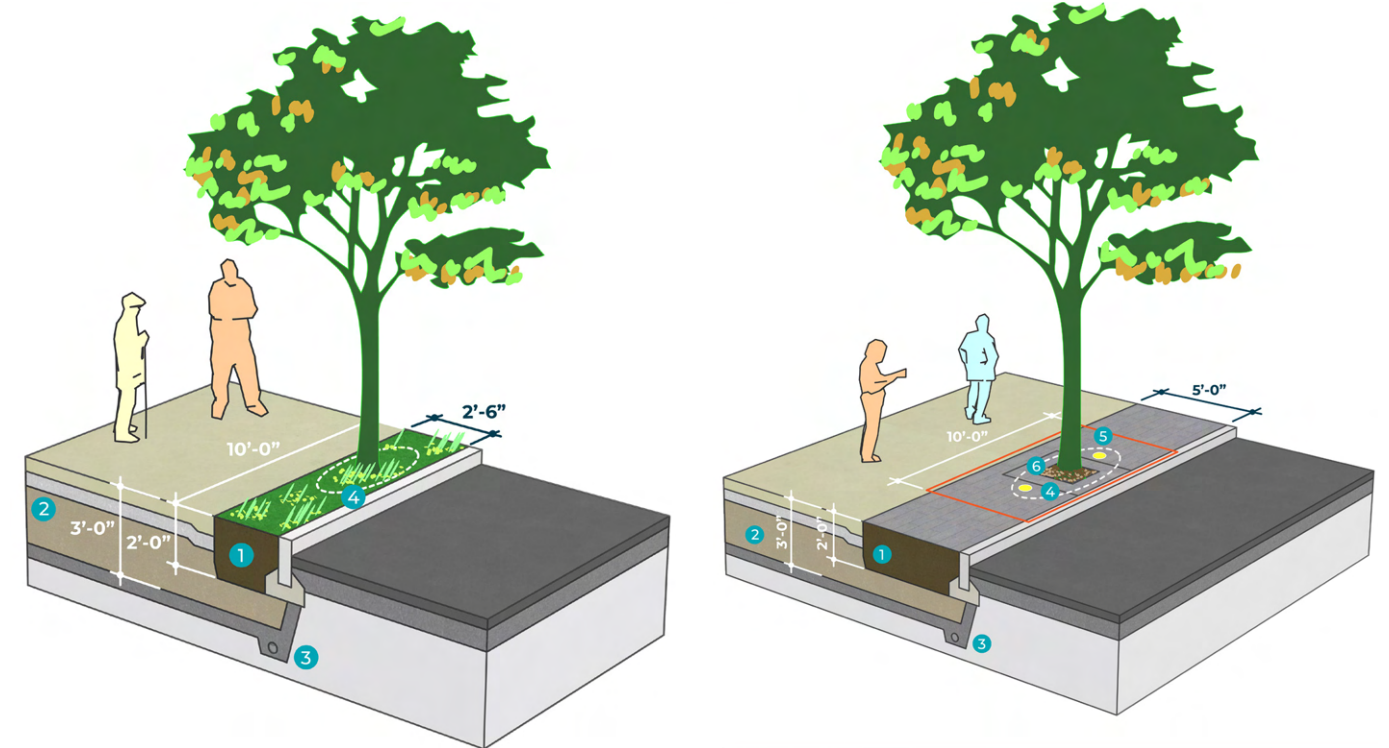
Buildings that meet green building standards such as LEED are becoming increasingly common due to market demand and City of Boston policies. LEED, or the US Green Building

Council's Leadership in Environmental and Energy Design (LEED) Rating System, certifies buildings based on their performance and sustainability. The Boston Zoning Code's Article 37 requires that large developments meet the LEED certified level as a base, which helps ensure that major building projects minimize negative environmental impacts and are designed to be people-oriented.

The City's related Carbon Neutral Building Assessment and Climate Resiliency Checklist also make both sustainability and resiliency key considerations, including questions related to building envelope efficiency, mechanical equipment performance, greenhouse gas emissions, and heat and storm water flood mitigation strategies, among other topics.



Polination Garden at Herter Park. A diversity of planting and open space- such as those that can sustain pollinators and native plants- are invaluable to promoting a healthy, sustainable environment.



Examples of resilient street tree planting strategies, illustrated in the Allston-Brighton Mobility Report. No one resilience strategy may be appropriate for every part of the neighborhood, and development projects should explore multiple options to best meets the needs of the community and the local environment.

The key resilience concerns in Lower Allston are heat and stormwater flooding (see "Sustainability and Resilience Context" on page 80). Sustainability and resilience guidelines elsewhere in the City of Boston which will be applied to Western Avenue include:

- Minimize heat island effect caused by buildings with cool roofs, vegetated roofs, and hardscape materials with a solar reflectance index (SRI) of at least 29.
- Minimize the area of impervious paved surfaces so that it is no greater than necessary to meet the needs of existing and new uses.
- Limit pollution due to stormwater runoff by managing stormwater volume and flow through structural and green infrastructure means, including landscaping, vegetated roofs, and underground cisterns.
- Design and program buildings to have residential uses and mechanical equipment above possible flood elevation.
- Flood-proof building uses located below future flood level. Wet flood-proofing is allowed for parking, access, crawl spaces, and storage.
- Preserve existing trees where possible. Trees are effective at capturing airborne pollutants, providing shade, and reducing urban heat island effect. They have

been shown to intercept large volumes of rainwater and this can significantly reduce stormwater runoff volumes. Preservation of mature existing trees is paramount, as older trees have greater potential to store carbon and slow climate change.

- Provide shade by planting trees or with structures covered by energy generation systems that produce renewable energy such as solar thermal heaters, photovoltaics, and wind turbines.
- Reduce water use for landscape irrigation. Choose native, drought tolerant or low water-needs plantings to minimize irrigation needs. Utilize smart irrigation technology that uses weather data or soil moisture data to determine the irrigation needs of the landscape. Irrigate with collected storm or gray water.
- Design functional stormwater features as amenities. Provide a connection to the local climate and hydrology by integrating aesthetically pleasing stormwater features that are visually and physically accessible and manage on-site stormwater.



04. Mobility Recommendations

Introduction

To better accommodate the new development activity, mobility recommendations include multimodal improvements on existing streets, the implementation of a new local complete street network, a bold transit vision on Western Avenue, smart curbside management, and robust Transportation Demand Management (TDM) measure.

A New Street Network

An expanded street network—which will be realized through the acquisition of setbacks through new developments—will ultimately create a more coherent block structure, helping to better distribute vehicle trips within the study area. This more normalized block structure will also assist in the creation of safer and more appealing multimodal transportation options, and better connect new and future residents, employees, and visitors within and to the area. The expanded street network and associated transportation analysis helped to inform the zoning strategy and long-term buildout for the study area. Details of this can be found in the appendix—see “Draft Modeling Process Report and Assumptions for Long-Term Buildout” on page 102.

Mode for Bostonian Commutes	Today*	2030 Aspirational
Public Transit	34%	↑ Up by a third
Walk	14%	↑ Up by almost a half
Bike	2%	↑ Increases fourfold
Carpool	6%	↓ Declines marginally
Drive Alone	39%	↓ Down by half
Other/Work from Home	5%	↑ Slight increase in Work from Home

Transportation targets set by Imagine Boston 2030

To accommodate the right-of-way for new local complete street connections, 53 foot corridors are needed, in addition to the setbacks along Western Avenue, Everett Street, and Telford Street which enable other multimodal improvements. All new streets will be public ways and will be built to City standards.

Improving Existing Key Corridors

Setbacks along Everett and Telford Streets will help to accommodate wider sidewalks, improved bikeways, and turning pockets as needed at signalized intersections.

Western Avenue, however, will play a critical role in transforming the study area by prioritizing wide sidewalks, low-stress bikeways, near-term transit enhancements, and bold long-term transportation improvements. To accomplish this over the long-term a 18' setback is needed on the northern side of the street throughout the corridor, while 10' setbacks are recommended on portions of the southern side of the street. Additional setbacks of up to 26' on the northern side of the corridor will be needed

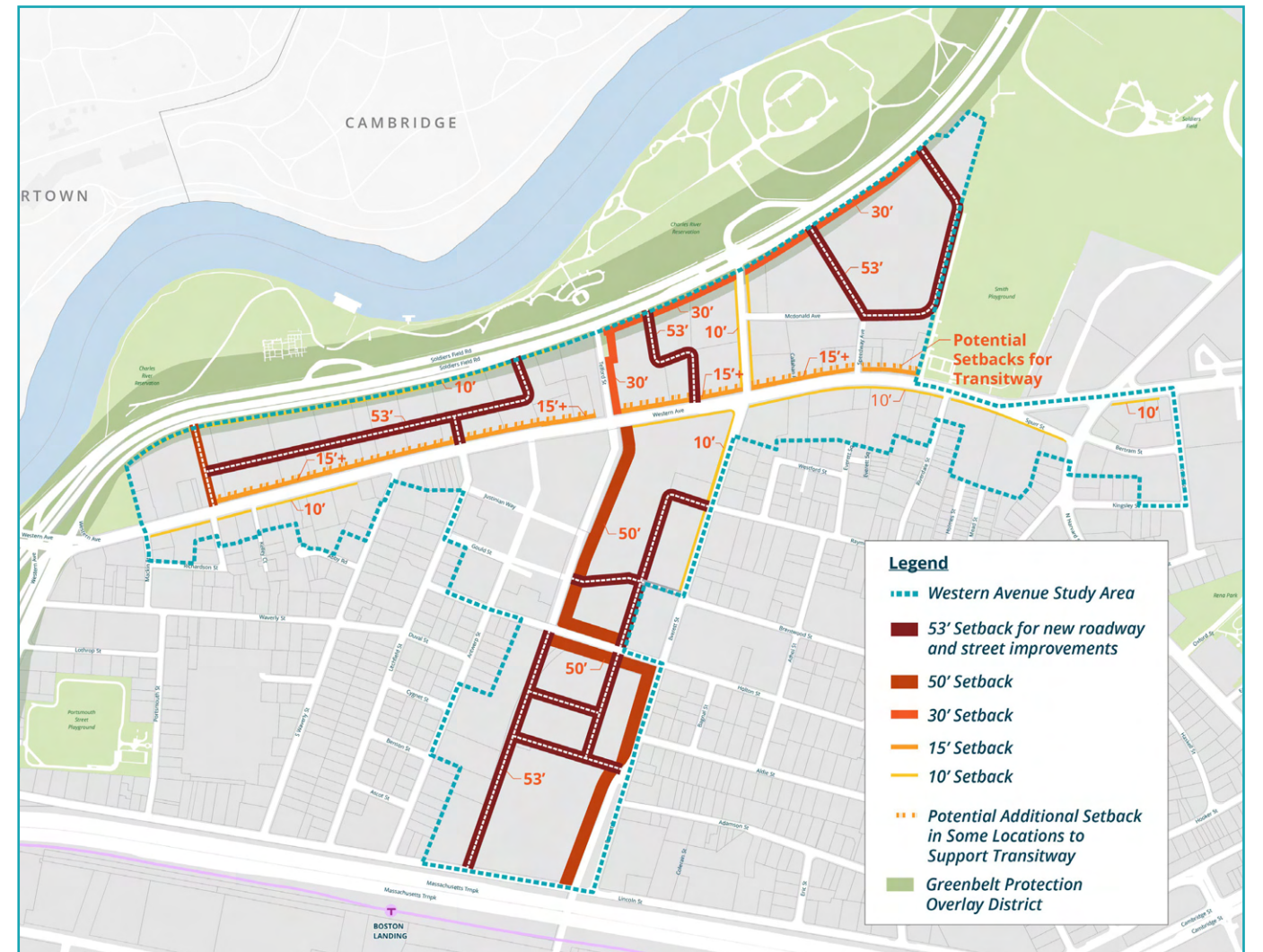
to accommodate future transit transitway improvements, although these exact locations will be confirmed through a more detailed design and public engagement effort.

Public input played a crucial role in the development of these recommendations. In line with Go Boston 2030's mode share goals, attendees at workshops and meetings indicated that a majority value prioritizing improved accommodations for bus riders, bicyclists, and pedestrians over on-street parking.

In October 2019, workshop attendees participated in an exercise in which they were asked to prioritize the allocation of limited street right-of-way dimension among certain travel modes.

Better bus and bicycle facilities were the highest priorities, ahead of other options including on-street parking.

In April 2021, the planning team presented short-term



Proposed street network with required setbacks for new development

design concepts for Western Avenue and polled meeting attendees. In response to the statement, “Safe and efficient multimodal transportation (transit and bicycles) are a higher priority than on-street parking,” more than two-thirds of the respondents (43 individuals) said they “agree” or “strongly agree.” Only four individuals said they disagree or strongly disagree, with the remaining 16 respondents neutral. The planning team also conducted a survey in the winter and spring of 2021 to solicit input from local businesses and organizations about their transportation and parking needs and potential for improving management of curbside use regulations for the benefit of all. Overall, the response highlighted that many businesses currently in operation on the corridor have dedicated off-street parking for employees or customers. Short-term parking is typically accommodated in off-street parking locations, or via unrestricted curbside parking. While short-term customer and visitor parking

was noted as a need, survey respondents also observed that more bicycle parking, safer bicycle infrastructure, and improved transit were needed.

Short-Term: Separated Bike Lanes & Transit Enhancements

Big change can start with small steps, including the creation of protected bicycle lanes along Western Avenue and improvements to pedestrian infrastructure.

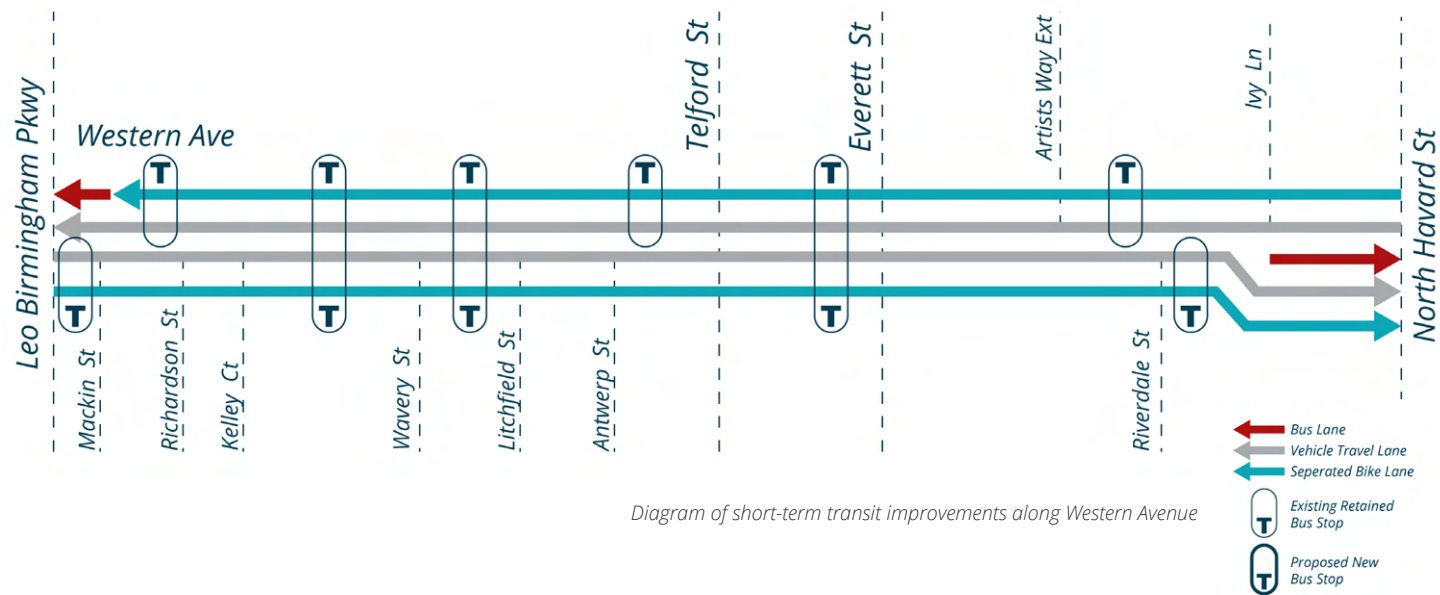
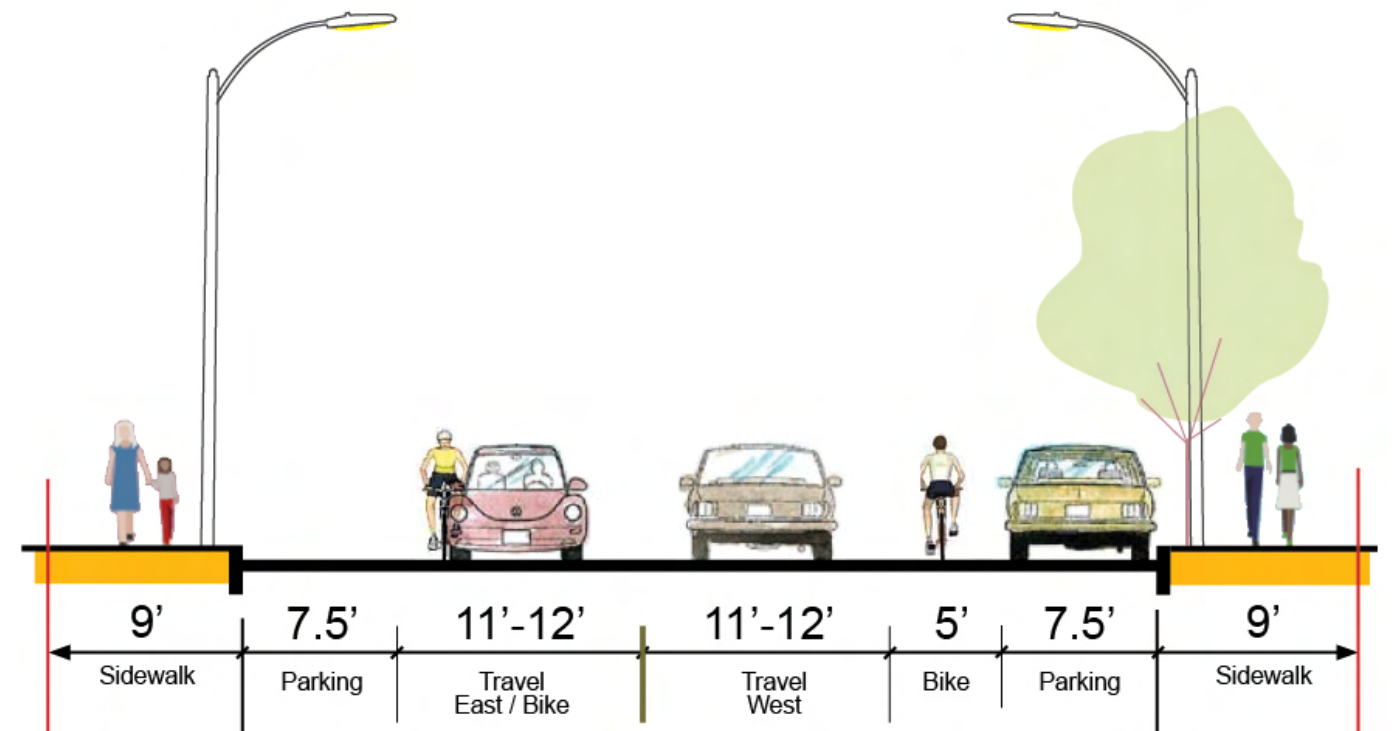


Diagram of short-term transit improvements along Western Avenue

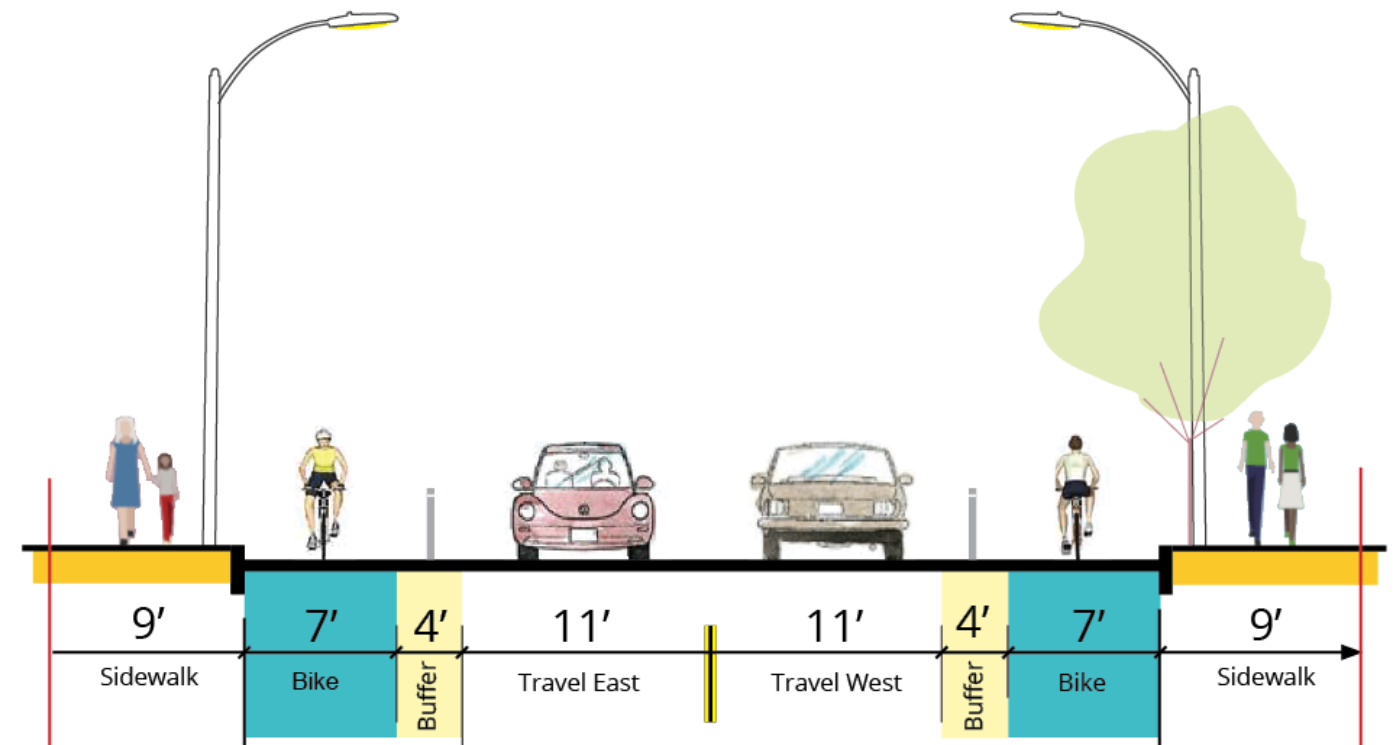
Pedestrian, bicycle, and transit improvements are priorities that not only address transportation deficiencies today but help to support the long-term vision of the neighborhood. Prioritizing these multimodal improvements along Western Avenue will help reduce not only vehicular congestion but also greenhouse gas emissions.

One relatively easy way to begin doing this is through the creation of low-stress separated bike lanes and bus queue jumps within the existing Western Avenue curb to curb space as a near-term action item. The existing typical condition on Western Avenue today accommodates two vehicle travel lanes, two parking lanes, and a single painted bike lane on one side along certain sections of the street. Short-term improvements would adjust this condition such that curbside parking would primarily be replaced with protected bike lanes. These new bike lanes would be separated from vehicles by a 3-foot buffer, which might contain barriers such as flex posts or other vertical elements as appropriate.

The implementation of this concept would result in the reallocation of 181 existing on-street vehicle parking spaces out of 3,728 spaces on or near Western Avenue. To help offset this 5% loss, specific parking and curbside management policies and strategies have been developed through this study—see “Parking and Curbside Use Strategies: Area-Wide” on page 64. These strategies will be finalized during a full roadway design process.



Existing: Western Avenue street section with street parking and limited dedicated bike lanes



Proposed: Western Avenue street section with low-stress bikeway

Long-Term: Transitway

To fully accommodate future development and realize the vision of Western Avenue as a transformative multimodal corridor, a bold vision for better transit is needed.



Columbus Avenue in Jamaica Plain (photo credit: MBTA)

A “transitway” provides dedicated space for transit vehicles within bi-directional transit-only travel lanes. This priority will allow for more frequent and reliable bus service, which is key to realizing a corridor where people are not reliant on single-occupancy vehicles as their primary means of everyday transportation.

Beyond accommodating the needs of future development, the Western Avenue transitway is responsive to the community’s expressed desire for a more robust transportation solution, fits with City mode share goals, advances the MBTA’s vision of Western Avenue as a

high-frequency service corridor through Bus Network Redesign, and works in tandem with other public realm improvements such as better bike infrastructure, pedestrian improvements, and open space. Ultimately, a completed transitway will help more efficiently and effectively accommodate future growth.

In addition to two lanes of travel dedicated for exclusive use by transit vehicles, the long-term transitway concept for Western Avenue assumes a consequential re-thinking of street-functionality and directionality along Western Avenue, as well as street-directionality along Telford and Everett

What is a transitway?

A transitway dedicates right-of-way on the street for exclusive use by transit vehicles (buses). In addition to bus lanes, transitways feature enhanced transit stations with real time arrival information, improved shelters, benches, and bus boarding areas. The center-running bus lanes and boarding platforms (referred to as “floating bus stops”) on Columbus Avenue in Jamaica Plain are one approach to a transitway.

To accommodate a fully functional transitway, it is imperative that transit vehicles be able to access bus stops without interference from general vehicle traffic so that passengers may easily and quickly board and alight. To enable this direct access, where buses are not directly



14th Street Busway in New York City

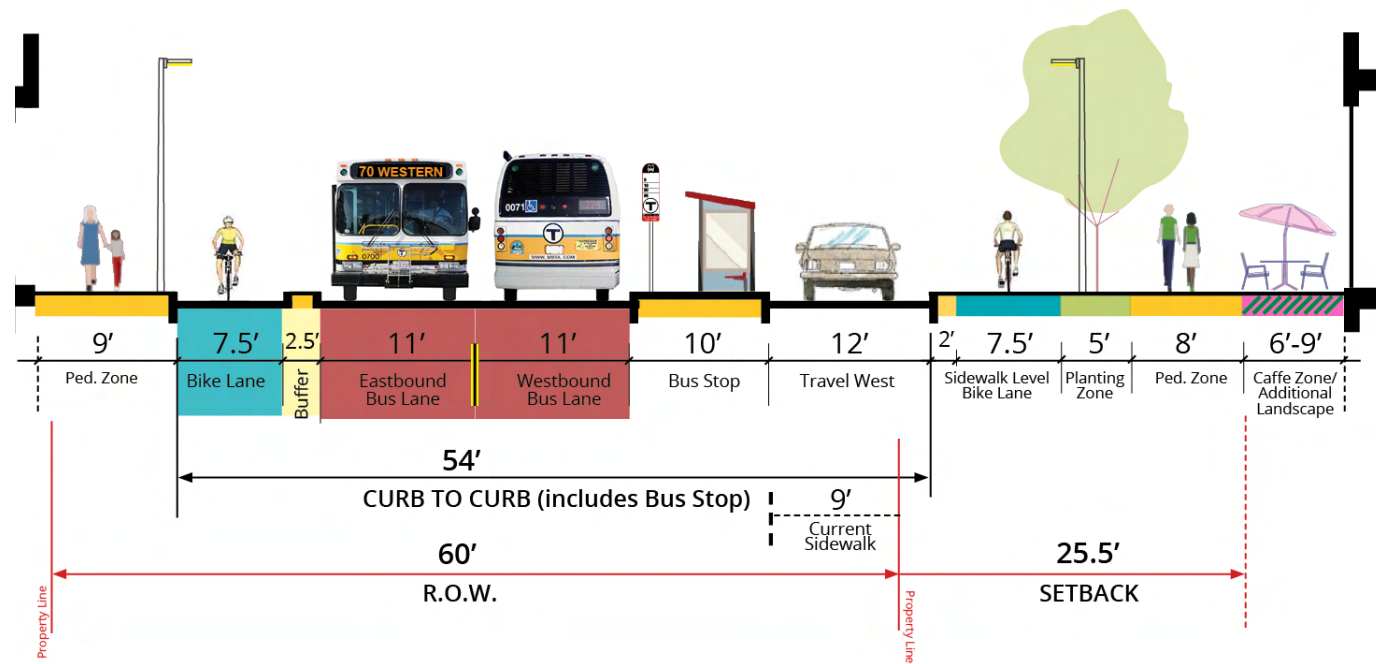


14th Street Busway in New York City

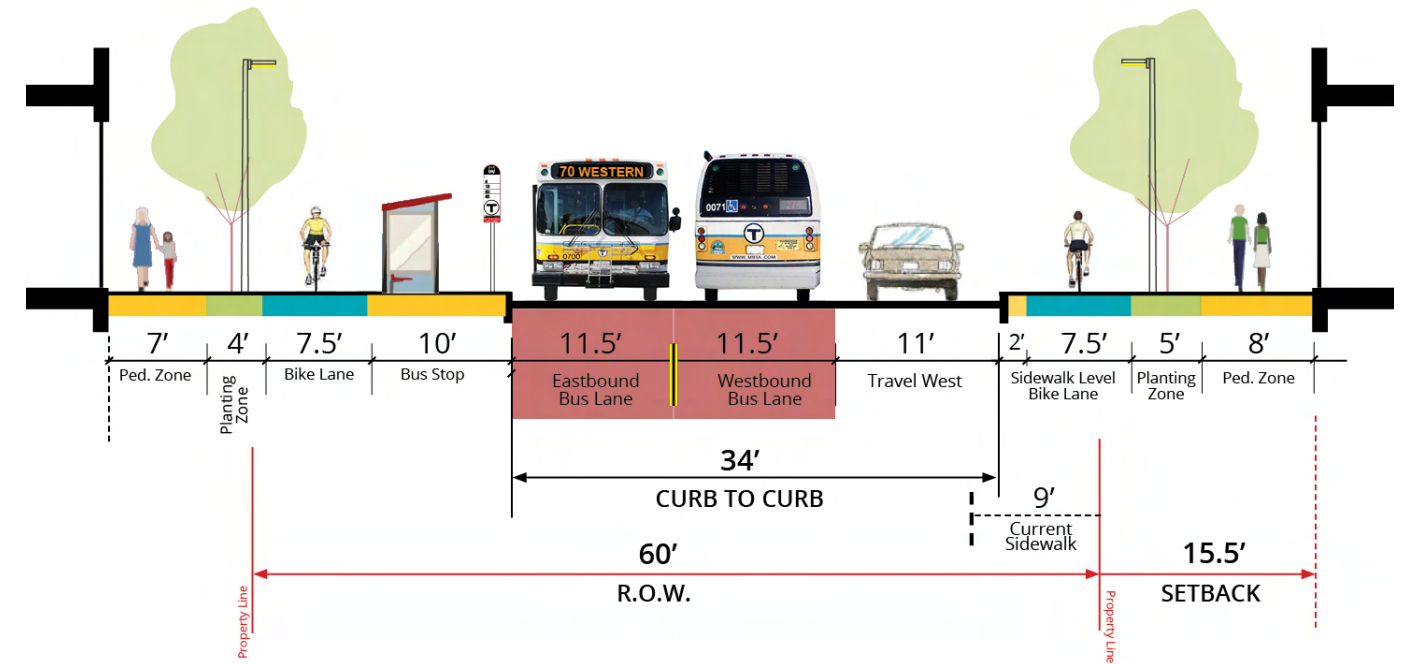
adjacent to the curb, floating bus stops will be required for transit vehicle access. The resulting transitway increases person throughput, reduces bus delay, and increases reliability for buses. Examples of successfully implemented transitways in the United States include San Francisco’s Market Street¹ and New York City’s 14th Street Busway².

¹ <https://www.sfmta.com/projects/better-market-street-project>
² <https://www.samschwartz.com/14th-st-busway>

Streets north of Western Avenue for general purpose vehicular travel. Additional right-of-way along much of the street is also assumed to have been secured to allow bike lanes to be placed at sidewalk level, freeing more space in the roadway for dedicated transit lanes. Redirection of some vehicular through-traffic (e.g. regional traffic, not local traffic) off of Western Avenue and onto other streets (such as Soldiers Field Road, Greenough Blvd, or the Mass Pike) is needed to create greater capacity for bus travel.



Proposed: typical street section containing a floating bus stop



Proposed: typical street section containing a curbside bus stop

While further in-depth transportation analysis, public engagement, and design efforts are needed to advance the transitway, an initial traffic modeling “stress-test” of this concept was conducted during this study. The transportation modeling used for Western Ave is consistent with strategies the City has used in recent years to support climate goals by improving bike and transit connections. Key inputs for this modeling effort included:

Street directionality changes can accommodate local vehicle connectivity while also reducing regional through-traffic that is currently passing through the Western Avenue corridor without stopping. These street directionality changes include:

- Two-way travel for transit vehicles, school buses, and emergency vehicles
- One-way travel along Western Avenue for general purpose vehicles - westbound only west of Telford Street and eastbound only east of Everett Street
- The conversion of Telford Street and Everett Street north of Western Ave as one-way pairs
- The creation of a new fully signalized intersection at Telford Street and Soldiers Field Road

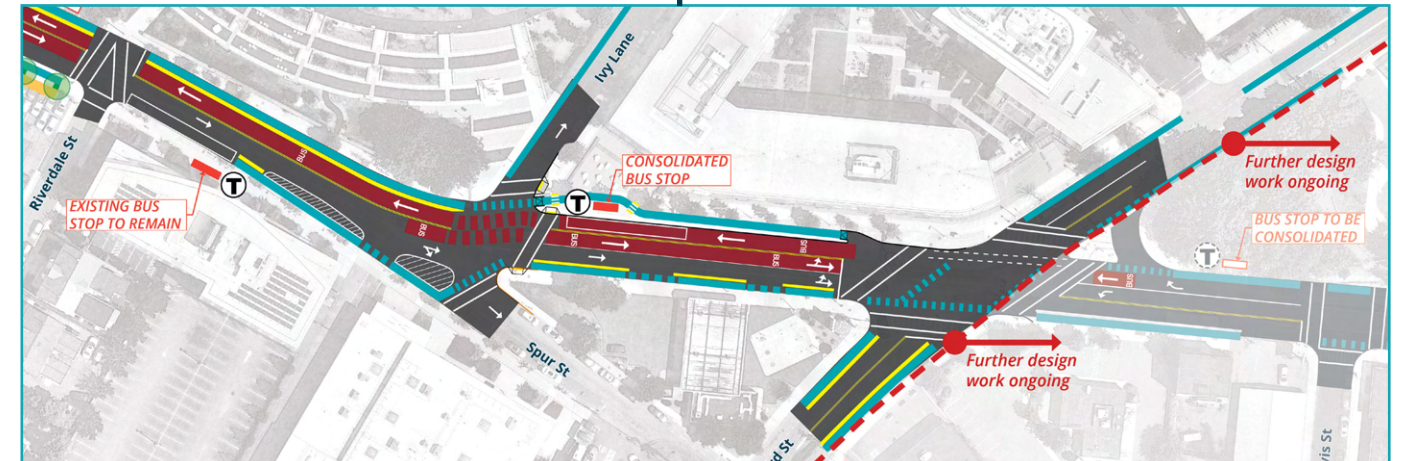
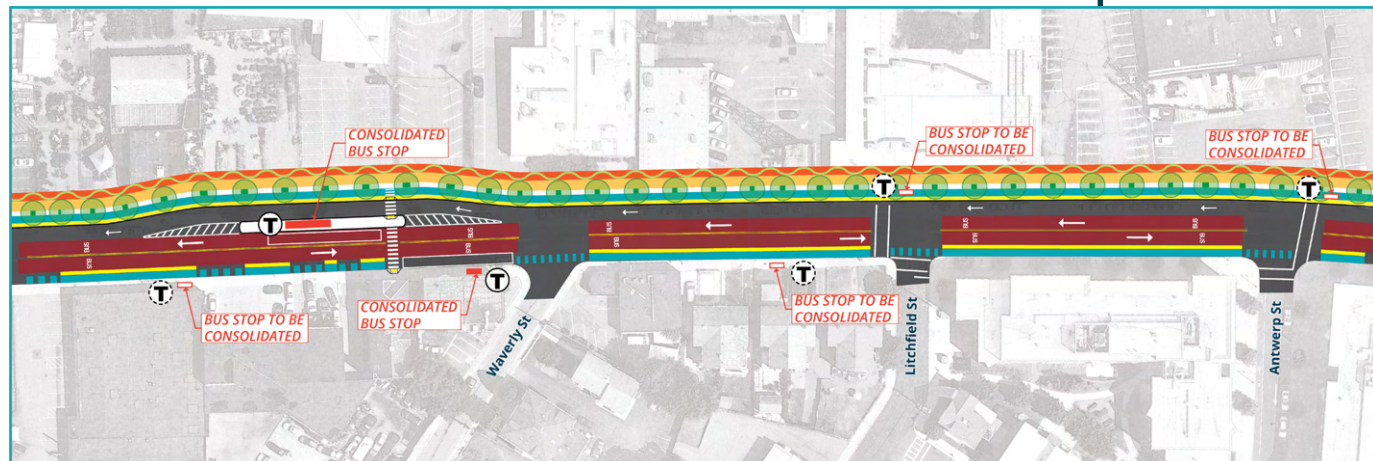
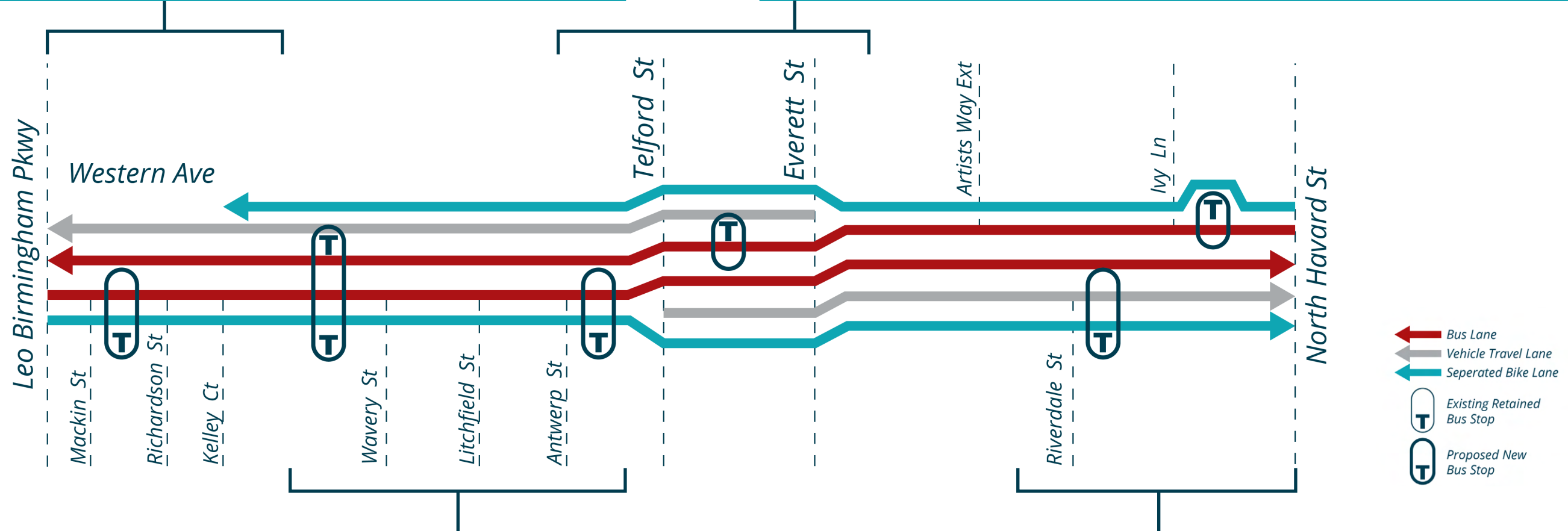
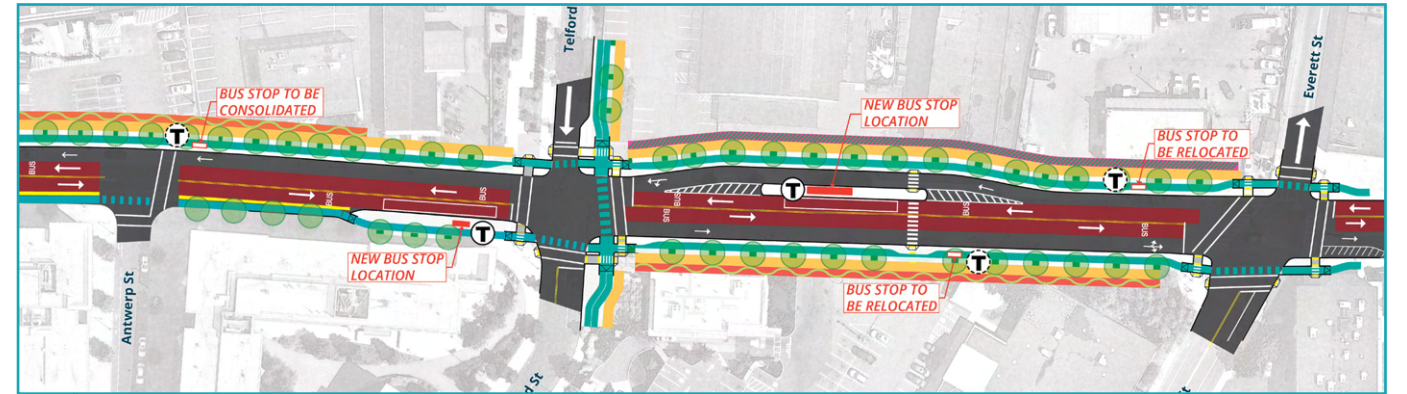
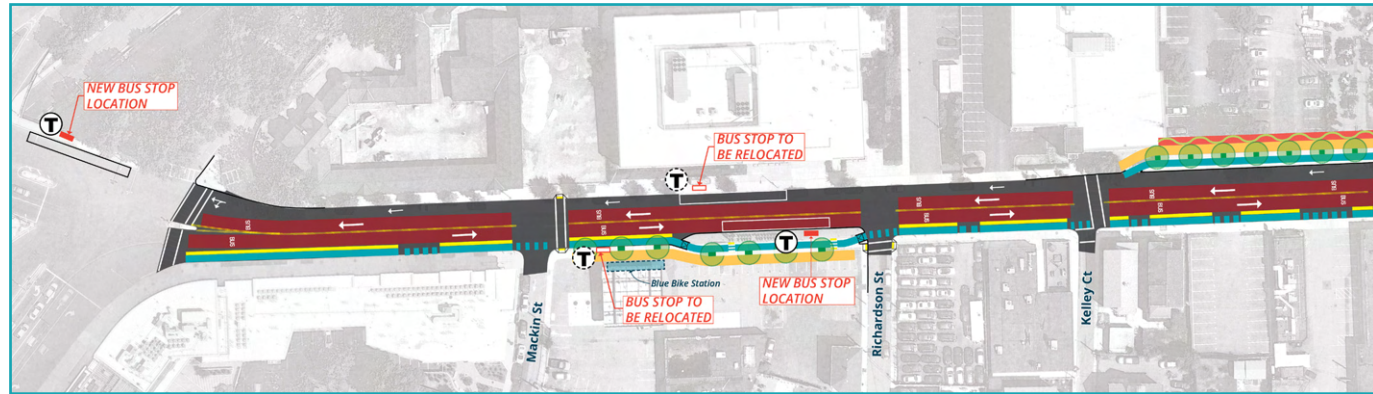
The reduction of the number of total vehicle trips moving through the corridor by both 20% and 50%.

This key assumption is that members of the public will use better bike and transit connections and change their mode of travel when these options are available to them. This has been observed in recent local examples - including a 20% decrease in traffic at intersections near Boston Landing Station after that station opened and a 13% reduction in traffic on Brighton Ave after the bus lane opened (with a 7-8% increase in bus passengers). A 50% reduction in single occupancy vehicles (SOV) was also modeled to understand the implications of SOV mode shift based on the mode share goals established by Go Boston 2030.

Accounting for additional development in nearby areas of Allston-Brighton and Watertown, in addition to accounting for the 6 to 7 million square feet of new development that could be realized in the study area over time. The modeling reflected an additional 11 million square feet of recently completed or planned development activity in other nearby areas of Allston-Brighton and Watertown - including new development at Boston Landing

and Allston Yards.

The results of this “stress-test”, including the analysis of new development inside and outside the study area, were presented to the public on January 27, 2022. While the initial modeling conducted through this study found the transitway to be a viable concept, a larger-scale, in-depth analysis and public engagement process is necessary to advance this concept. In addition to robust public input, this effort would examine the full extent of Western Avenue in Boston, coordinate MBTA stop changes and improvements, address neighborhood road and vehicle access needs, and closely coordinate with other transportation projects in the area along with other state agencies and adjacent municipalities.



Parking and Curbside Use Strategies: Site-Specific

Parking and curbside use will require strategies that respond to specific blocks and sites.

Charlesview Curbside Management and Traffic Calming Plan

Develop a curbside/parking management/traffic calming (which shall be separate and distinct from the Slow Streets Program) plan for the four blocks immediately surrounding Charlesview, including Litchfield Street, Antwerp Street, Justinian Way, and Gould Street. Utilize targeted Article 80 project mitigation to fund this plan. Traffic calming strategies may include but not be limited to regulatory and wayfinding signage, speed humps, curb extensions, or others.

South Campus Drive (“Driveway B”)

This new street shall be used for on street public parking for Smith Field and local retail.

Gasoline Station Triangular Parcel at Barry’s Corner

If this parcel is redeveloped for community open space as noted in the Urban Design chapter, ensure multimodal transportation improvements are addressed in design efforts.

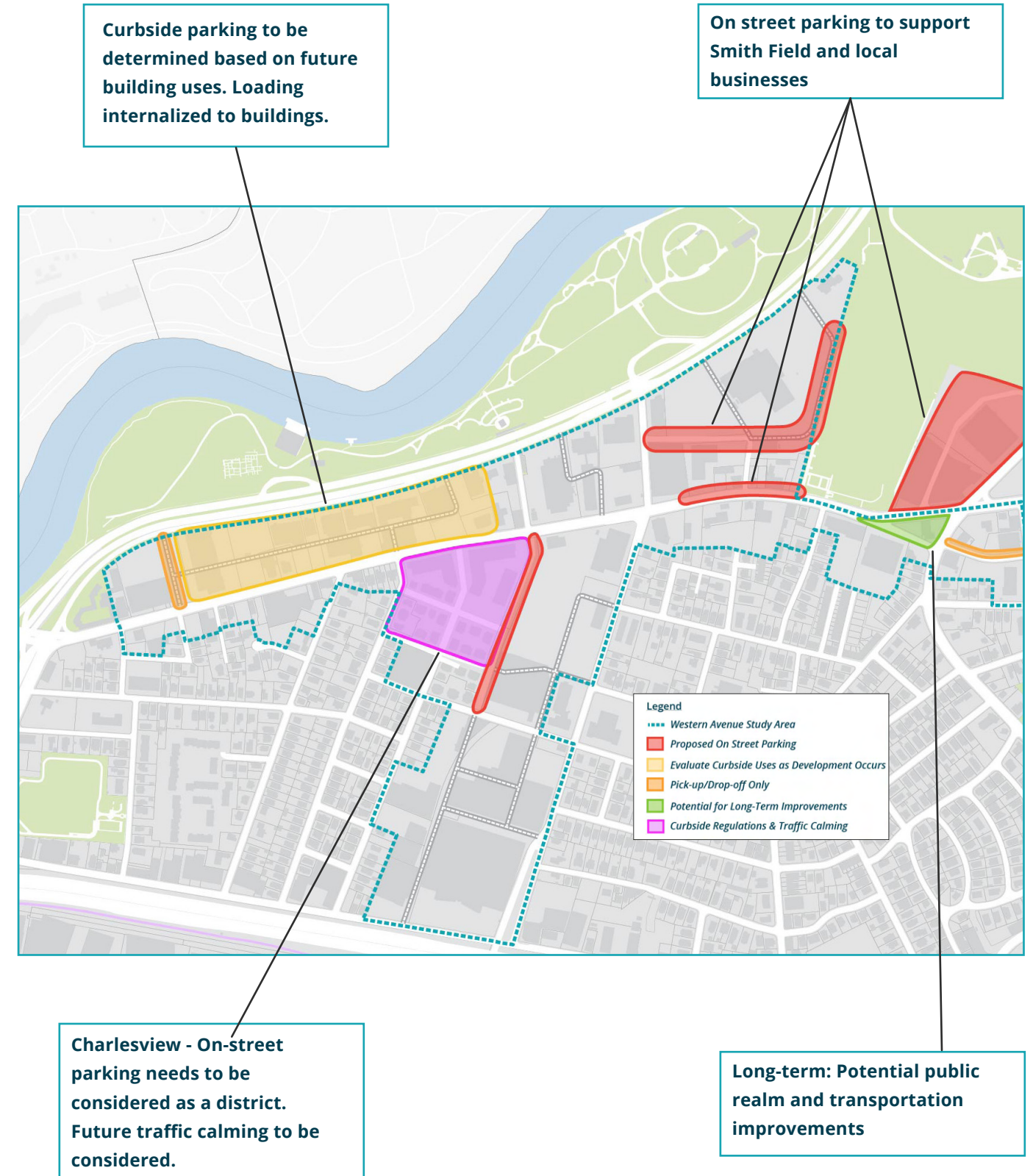
Driveway “B” and Other Proposed New Streets in Vicinity of MacDonald Avenue

To facilitate public access to local retail and Smith Field, through the Article 80 process, any new side street in the vicinity of MacDonald Avenue may include the addition of publicly accessible curbside parking.

Additional Public Parking

To support consolidated parking and provide access to public uses and local retail, additional public parking may be considered in the following locations through the Article 80 process if its clear purpose and intent is to serve existing and future uses in the study area:

- Onsite in new development as long as the parking is available to the general public at clearly designated times of day and not restricted for private use. For BPDA and BTM staff to appropriately evaluate any such proposed strategies, information on operations, access, cost, and management of such parking areas would be needed. Long-term tenant parking would not be allowed in these spaces.
- On existing side streets and new streets within one block of Western Avenue, Everett Street, and Telford Street through Article 80 review and in consultation with BPDA and City staff.



Parking and Curbside Use Strategies: Area-Wide

Nearly all curbside parking, pick up and drop off, and loading zones along Western Avenue will be repurposed or eliminated to achieve the recommended multimodal concepts for Western Avenue.

Maximum Parking Rates

To accomplish mode shift and realize pedestrian, bicycle and transit improvements, developments in the study area must work as one. While every development faces its own particular constraining factors, mode shift will only occur through purposeful action, including but not limited to the implementation of multimodal transportation infrastructure, disincentivizing driving and parking in individuals and organizations, and working with development teams to ensure that parking is right-sized in each development. In coordination with BTM and BPDA the maximum parking ratios for the study area are as follows:

- Office: 0.8 per 1,000 sq/ft
- Institutions: 0.8 per 1,000sq/ft
- R&D / Lab 0.8 per 1,000 sq/ft for
- Residential: 0.5 per unit for rental projects; 1.0 per unit for condominiums
- Hotel: 0.2 per room
- Retail: 0.45 per 1,000 sq/ft for projects less than 5,000 sq/ft; 0.75 per sq/ft for projects more than 5,000 sq/ft
- Industrial/Manufacturing: 0.75 per 2,500 sq/ft

These parking ratios are intended to partner with the BTM TDM (Transportation Demand Management) Program which seeks to advance the policy goals of lower carbon emissions and decreasing vehicular trip to work rates by 50% as established in Go Boston 2030. These ratios may be adjusted if future conditions improve mobility.

Pick-up/Drop-off Zones in New Development

New curbside pick-up, drop-off, and valet uses are discouraged along Western Avenue, Everett Street, and Telford Street. However, if new curbside pick up, drop off, or valet activities are proposed, project proponents must provide an additional 10 foot setback from the curb (in addition to the 15 foot setback required for the improvements envisioned for the corridors. New curbside

use in conflict with the future transitway will be prohibited.

Loading/Unloading in New Development

To the greatest extent possible, all loading and unloading in new development shall be internal to the project and accessed off of side streets as opposed to Western Avenue, Everett Street, and Telford Street. In the rare instance where loading and unloading will be considered along Western Avenue, Everett Street, or Telford Street (due to limited access from side streets), the proponent shall provide an additional 10 foot setback (in addition to the 15' required for the improvements envisioned for the Corridor). Loading activities may never occur in bus lanes, bike lanes, or blocking pedestrian spaces such as sidewalks or cafe zones.

New Curb Cuts

New curb cuts are strongly discouraged along Western Avenue. To the greatest extent possible, curb cuts shall be consolidated and limited to one curb cut per block face and shall not be wider than 24 feet. Porte cocheres or semi-circle pick up, drop off, valet, or loading areas are prohibited.

Curbside Management & Traffic Calming Plans for All New Streets

Curbside management strategies shall be developed and evaluated during the Article 80 process for new developments. All new streets will require a program-dependent, curbside/parking management and traffic calming plans, to be funded through the Article 80 process.

Implementation of Multimodal Improvements

The Plan envisions a phased approach to prioritize space on the street for transit, pedestrians and bicyclists.

As additional setbacks of a minimum of 15 feet are realized along Western Avenue through redevelopment, more space will be created for protected, sidewalk-level bike lanes, freeing up space in the main roadway for dedicated bus lanes. Precise setbacks will be determined in consultation with BPDA and BTM through the Article 80 review process.

The Plan recommendations contemplate the following phasing:

Multimodal Improvement	Components	Timeline
Western Avenue Separated Bike Lanes	<ul style="list-style-type: none"> • Low-stress bike lanes • Strategic bus queue jumps • Improved pedestrian crossings 	2 years
Western Avenue Transitway	<ul style="list-style-type: none"> • Separated transit lanes • Low-stress bike lanes • Wide sidewalks • Improved pedestrian crossings 	Dependent on further evaluation, design, community engagement, and additional dimension through setbacks
New Local Street Network	<ul style="list-style-type: none"> • General purpose travel lanes • Curbside uses such as parking and loading • Safe sidewalks • Consolidated site access 	As development occurs
Curbside management & TDM strategies	See "Transportation Demand Management (TDM)" on page 66	As development occurs

Transportation Demand Management (TDM)

TDM use will be addressed through both area-wide and site-specific strategies.

In support of citywide efforts to reduce over-reliance on single occupancy vehicle trips through Transportation Demand Management (TDM), this study not only recommends multimodal infrastructure improvements but also 12 TDM measures to be implemented by new development projects.

If the study area were to be fully built out and maximize allowed land use and FAR, future traffic volumes in the Western Avenue study area could be approximately 14,000

vehicles during the heaviest travel time (the p.m. peak hour) if the status quo were maintained. This estimate is based on a combination of existing traffic, traffic from recently completed or anticipated developments in lower Allston and Watertown, and the trips generated by the roughly 6-7 million square feet of development that would be allowed through this study. If the City, public agency partners, and private developers were to implement all twelve development-led TDM measures and all nine mode shift strategies influenced by public sector investment outlined

below, p.m. peak hour driving in the study area could be reduced by half to approximately 7,000 vehicles, meeting Go Boston 2030 mode shift goals.

The tables below show TDM measures that would be implemented over time as development occurs, as well as public sector improvements that significantly aid in mode shift. Each percentage illustrates trips that shift away from vehicles and towards other modes of travel. The twelve TDM strategies noted below should be prioritized in all projects that go through the Article 80 review process. More information on the background and impact of these TDM measures can be found in the appendix—see “Western Avenue TDM Strategies Report” on page 92.

While all the strategies in the tables below are important to realize mode shift, the following would produce the greatest benefit in terms of shift to more sustainable modes and are therefore most critical:

- Increase density/intensity and a mix of land uses as recommended in this study.
- Reduce the overall vehicle parking supply.
- Implement demand-based parking pricing on public streets.
- Provide increased work from home flexibility.
- Providing 100% transit subsidy.

Strategies To Be Implemented Through Development

TDM Strategy	Replacement Travel Mode	Vehicle Trip Reduction			
		Ring 1 (0-3 miles)	Ring 2 (3-6 miles)	Ring 3 (6+ miles)	Total
Reduce parking supply	All	9%	6%	2%	5%
Provide market-rate parking	All	8%	6%	1%	5%
Provide increased work-from-home flexibility	None	2%	4%	6%	4%
Provide 100% transit subsidy	Transit	4%	6%	2%	4%
Unbundled parking	All	4%	3%	1%	2%
Increase car share access and reduce cost	All	4%	3%	1%	2%
Provide all-day, publicly accessible neighborhood bus service	Transit	3%	2%	0%	1%
Require Allston-Brighton TMA membership	All	2%	1%	1%	1%
Establish carpool program with preferential spaces	All	2%	1%	1%	1%
Expand bike parking according to BTM guidelines	Bike	1%	1%	0%	0.5%
Provide bikeshare membership subsidy	Bike	1%	1%	0%	0.5%
Provide multimodal transportation subsidy to encourage non-auto travel	Bike, Walk	1%	1%	0%	0.5%

Strategies To Be Implemented Through Public Investment

TDM Strategy	Replacement Travel Mode	Vehicle Trip Reduction			
		Ring 1 (0-3 miles)	Ring 2 (3-6 miles)	Ring 3 (6+ miles)	Total
Increase density/intensity of land uses	Walk	15%	7%	2%	8%
Implement demand-based parking pricing on public streets	All	10%	7%	3%	6%
Build low-stress bike network	Bike	4%	3%	1%	2%
Provide frequent, all-day MBTA bus service	Transit	3%	4%	1%	2%
Build short, connected, pedestrian friendly blocks	Walk	3%	1%	0%	1%
Expand bike share to achieve maximum desired station density	Bike	3%	1%	0%	1%
Open West Station and improve commuter rail frequency and capacity	Transit	0%	0%	2%	1%
Establish E-bike/E-cargo bike program	Bike	1%	1%	0%	0.5%
Improve bus stops (this can also be a private development improvement)	Transit	1%	1%	0%	0.5%



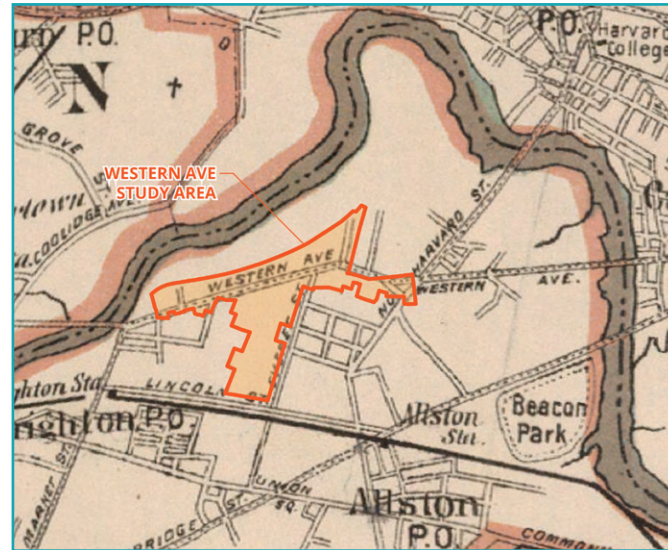
05. Appendix

Neighborhood History

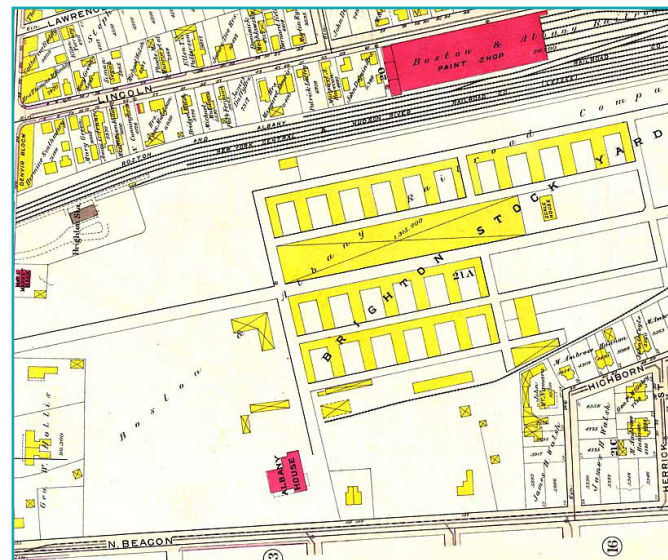
For the first 160 years of the occupation of Allston and Brighton by colonists they were part of Cambridge.¹ In 1807 they separated into their own municipality of Brighton and became a hub of commercial agriculture and cattle trade, with \$2 million dollars of cattle business a year by 1847, and an estimated 50 slaughterhouses in the neighborhood by the 1860s.

The Brighton neighborhood saw residential development from 1850 to 1875, and in 1872 all slaughterhouses were consolidated into a single location on the edge of what is today North Allston (also known as Lower Allston) in order to free up land elsewhere for housing. Brighton Stock Yards was moved across the street, to the intersection of Market Street and North Beacon Street. The Brighton Abattoir slaughterhouse was demolished in the 1950s, and the stockyards were closed in 1967, to continue to free up land for development². Brighton was absorbed into the City of Boston in 1874 as Allston-Brighton.

Brighton was absorbed into the City of Boston in 1874 as Allston-Brighton. In 1889 the electric streetcar was introduced, which spurred rapid development.



Map from Walker Atlas, 1891



Map of Brighton Stockyards, 1909

1 <http://www.bahistory.org/HistoryBrighton.html>
 2 <https://globalboston.bc.edu/index.php/home/immigrant-places/allston-brighton/>

Land Acknowledgement

The land that today makes up North Allston is located on the lands of the Massachusetts and Pawtucket nations prior to their forced removal.¹ The BPDA aspires to show respect and concern for all peoples and their history. We acknowledge the long and complex history that has brought the City of Boston to reside on this land. Acknowledgement is only a gesture, but a crucial piece of reconciliation and understanding the greater context of this neighborhood.

1 <https://native-land.ca/>

The original Charles River Dam was completed in 1910 and gave new riverine flooding protection to Lower Allston and made new land available in the Charles River Basin.³ Today much of the land which was once at high risk of flooding is park land or owned by Harvard University.⁴

Immigrants made up a substantial portion of new residents in Allston-Brighton, with waves of Irish, Italian, and Jewish families settling in the neighborhood from 1910 until the 1950s.⁵ During the same period, the area began drawing students as residents from Harvard University, Boston University, and Boston College—a trend which has continued to the present day.

By 1974, long after the agriculture and the cattle trade left North Allston, land uses in the area were predominantly industrial along Western Avenue and between Everett Street and Telford Street, with residential neighborhoods on either side. More industrial uses were then located at the eastern and western edges along the Charles River, and Harvard University came to own all the land to the far north.

The Boston-Albany railroad was built in 1834, with service to the area specifically focused on the cattle and slaughterhouse industry.⁶ The railroad bifurcated Brighton, and created the southern edge of today's North Allston. Interstate-90 (I-90) was built adjacent to the railroad following the Federal Aid Highway Act of 1956, further splitting it from the rest of Allston and Brighton by making the southern edge of North Allston more difficult to cross.⁷

3 <https://www.nae.usace.army.mil/Missions/Civil-Works/Flood-Risk-Management/Massachusetts/Charles-River-Dam/>

4 <https://www.mass.gov/files/documents/2016/08/ry/07-pp134-139herterpark.pdf>

5 <https://globalboston.bc.edu/index.php/home/immigrant-places/allston-brighton/>

6 <http://www.bahistory.org/AllstonDepot.html>, 6 <https://www.south-station.net/railway-history>

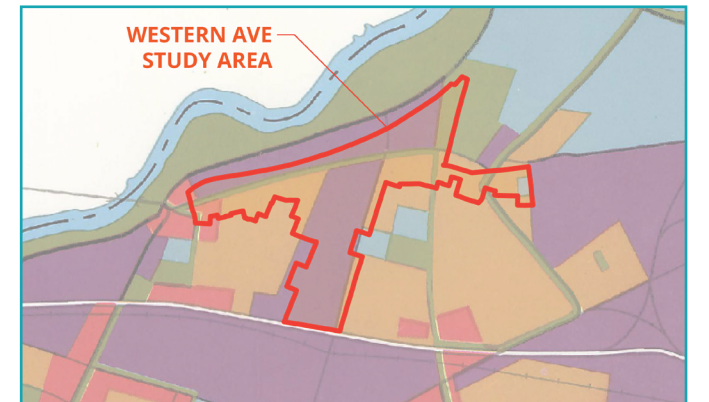
7 <https://www.geotab.com/blog/busiest-highways-in-america/>



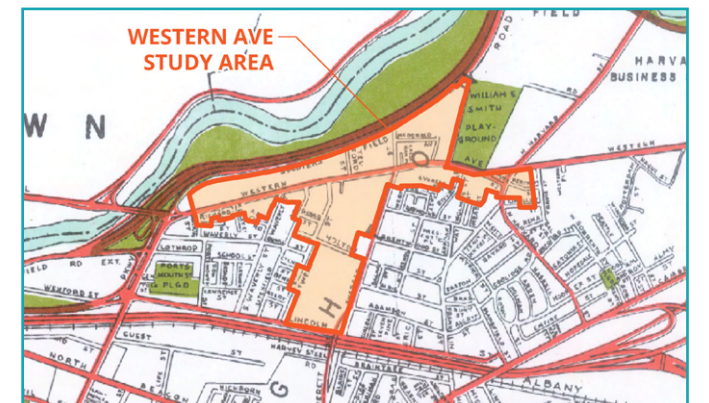
USGS Topographic Map, 1900



Boston Redevelopment Authority City Planning Map, 1954



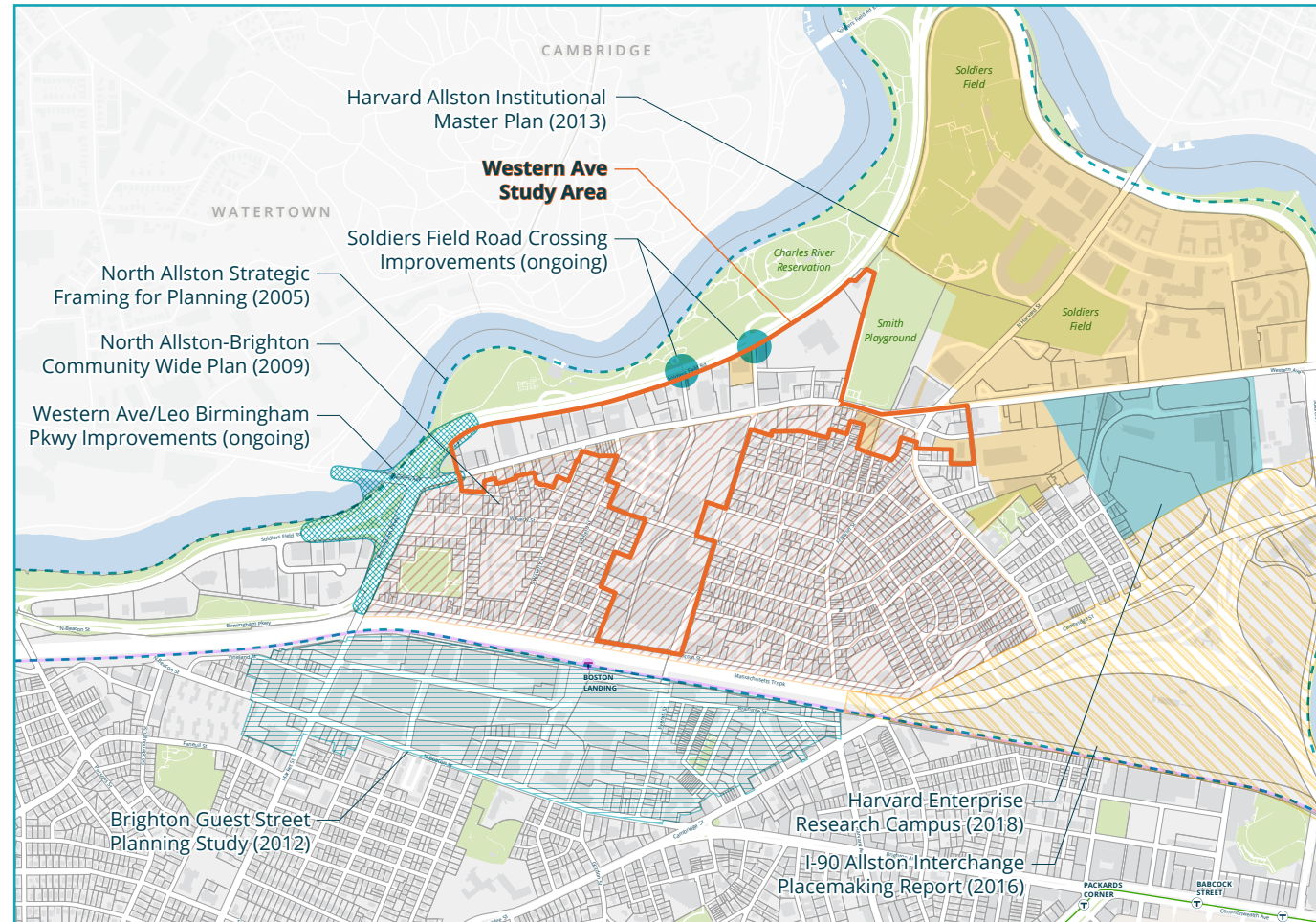
Boston Redevelopment Authority Land Use Map, 1975



Boston Redevelopment Authority Thoroughfares Map, 1994

Planning Context

Previous planning in the neighborhood has produced a vision for the study area and a set of community aspirations. The documents that form the foundation of this vision are as follows:



Past planning initiatives around the study area

North Allston Strategic Framework for Planning (2005)

The North Allston Strategic Framework for Planning (NASFP), completed in 2005, was an effort to articulate and integrate the aspirations of the North Allston-North Brighton neighborhood, Harvard University, and the City of Boston in the wake of Harvard's acquisition of significant amounts of land in North Allston-North Brighton.

Community Wide Plan (2009)

The 2009 North Allston-Brighton Community Wide Plan (CWP) picked up where the NASFP had left off, providing land use recommendations for the Brighton Mills area and a number of neighborhood-wide circulation concepts. The intent was to then create recommendations for additional "modules," namely the Western Avenue corridor and the portion of Brighton north of I-90 and west of Market Street (Riverway Triangle), but these efforts were put on hold due to the economic downturn.



Harvard University's Science and Engineering Complex

Brighton/Guest Street Planning Study (2012)

The planning study created a new context for an industrial/commercial corridor and introduced new streets for to serve both new development within the study area and property owners adjacent to it. The creation of urban blocks with complete streetscapes created a context for development within a new district.

Harvard Institutional Master Plan (2013)

The Harvard IMP has a number of proposed projects for Harvard's institutional properties east of Barry's Corner. The Science and Engineering Complex, recently completed, will be the anchor of the new Allston campus. Much of the thinking about the area south of Western Avenue has evolved since the IMP was approved, due to the I-90 Interchange project and the planning for the Enterprise Research Campus.

Harvard Enterprise Research Campus (2018)

The BPDA and Harvard have worked together with the neighborhood to envision the area between Western Avenue and Cambridge Street as the home to new commercial development (largely focused on life sciences and other uses that will relate directly to Harvard's academic research and programs), as well as approximately 1,000 new housing units, significant new open space, and transportation infrastructure that will connect directly to the new I-90 interchange and future West Station.

Western Ave/Leo Birmingham Pkwy Improvements (ongoing)

This initiative proposed short-term improvements and long-term concepts for the section of Leo Birmingham parkway that intersects with Western Avenue, at the western end of the study area.

Allston Brighton Arts, Culture, and Placekeeping Report (2021)

Conducted by the Mayor's Office of Arts and Culture, the report examined the cultural environment of the neighborhood to understand how it has been affected by economic change and development pressure. The resulting report identified cultural assets and spaces most at-risk, and established a list of strategies designed to encourage affordable creative space and the preservation of existing spaces. For more information, see "Arts & Culture Context" on page 84.

Allston Multimodal Project (I-90 Interchange) (ongoing)

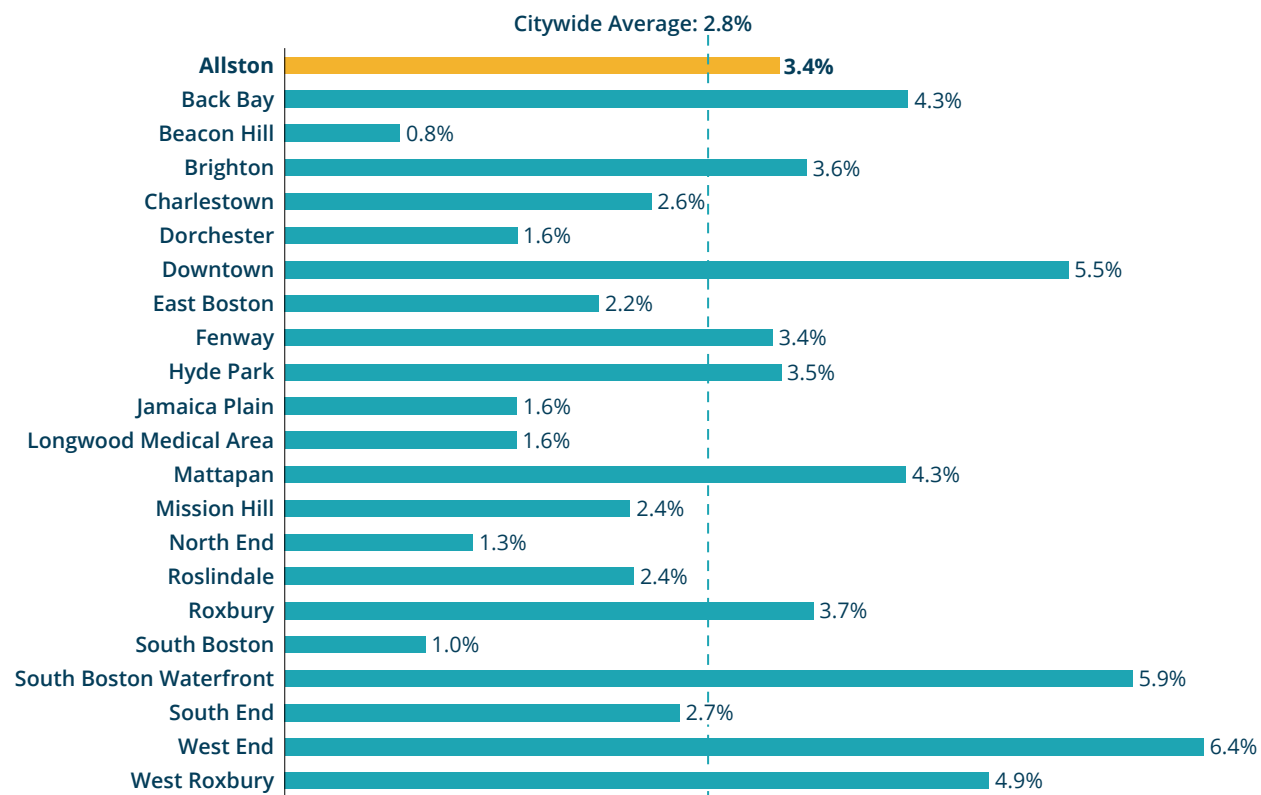
This project will transform the existing interchange in Allston, open up many acres of Harvard-owned land for new development, and introduce significant new transit infrastructure in the form of West Station, envisioned to be a multimodal station serving the new development as well as other parts of Allston and the Commonwealth Avenue area.

Soldiers Field Road Crossings (ongoing)

Responding to the community's desire for improved access to the river and Herter Park, the Department of Conservation & Recreation is working to improve the crossing to the riverfront parks at Telford Street, where there is an existing (but decrepit) elevated crossing, and a new at-grade crossing at Everett Street. In addition, the approaches to these two crossings on the relevant blocks of those streets will be improved. This will dramatically improve access to the very significant parkland along the river. An additional crossing at Smith Field has also been studied and may be feasible in the near future.

Housing Context

The Boston area has some of the highest housing prices in the country, a situation that works against shared goals of healthy, inclusive neighborhoods and housing opportunities near jobs.



Source U.S. Census Bureau, American Community Survey 5-year estimates, 2013–2017, BPDA Research Division Analysis.

Housing supply across Boston is constrained.

Housing affordability is directly tied to the health, inclusivity, and opportunities of neighborhoods, and so the City of Boston closely tracks population growth, housing costs, and the creation of new housing to better understand housing demand and prices. Population growth has outpaced housing production across the city, spurring increases in housing costs. While Allston’s population counts from the 2020 Decennial Census are currently under review, we anticipate that North Allston’s population grew faster than its housing production, which increased by 1,178 units from 2010 to 2020.⁸

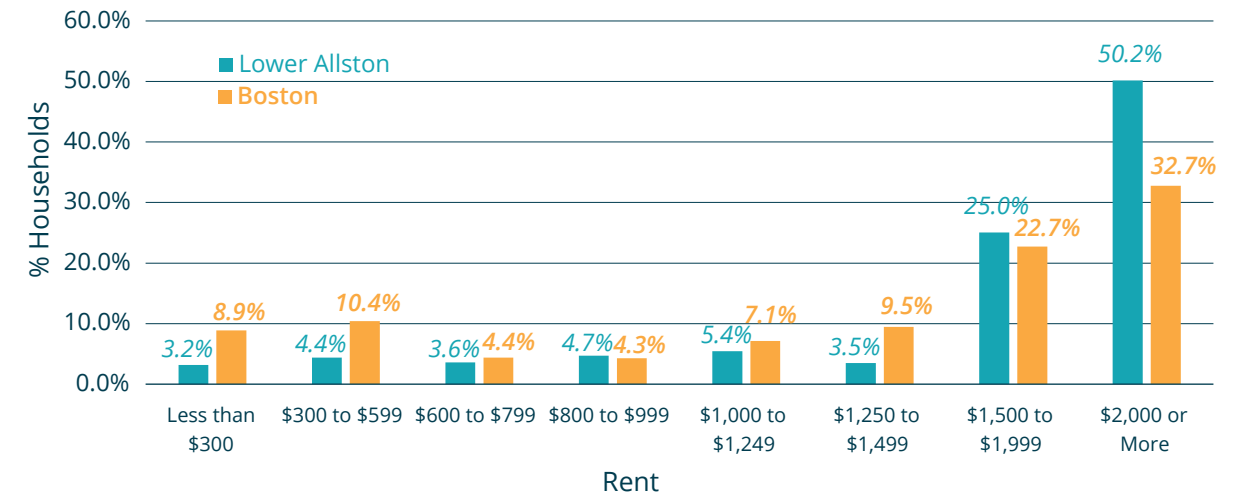
8 Housing permit data, DND analysis

Diminishing vacancy rates reveal strain of demand.

Citywide, the supply of housing units available for rent or sale remains tight. The citywide rental vacancy rate—the number of rental units available for rent as a share of housing units either available for rent or currently rented—was 3 percent in 2019.⁹ The rental vacancy rate for North Allston was slightly higher, at 3.4 percent.¹⁰ Vacancy rates are one of a key set of barometers used to analyze local housing markets. Low vacancy rates suggest that supply is low, and prices are rising. In 2014, the City released Housing A Changing City: Boston 2030, the city’s housing plan (updated in 2018), which set a target vacancy rate of 7

9 5-year ACS data, 2015-2019.

10 Ibid.



Source: American Community Survey 5-year estimates

percent by 2030, more than doubling the current vacancy rate to help stabilize rent levels. In 2010, the vacancy rate in North Allston was 4.7 percent, meaning that the City is further from the 7 percent goal today than in 2010.¹¹

North Allston is moving towards its housing production goal.

Based on a projected growth in Boston’s population to 760,000 people by 2030, Housing A Changing City: Boston 2030 set a goal of creating 69,000 new units between 2010 and 2030. The North Allston Strategic Framework for Planning (2005) (see “Planning Context” on page 72) called for 2,400–2,800 new units between 2005 and 2025. As of July 2021, 1,589 have been permitted and 1,358 constructed.¹² While the goal has not been met, given that there are over 2,400 units in the pipeline that have applied for permits or received BPDA approval this goal may be met in the future¹³.

Housing prices in North Allston are slightly higher than Boston overall, and are rising.

The median sales price of a residential property in North Allston rose about 121 percent over the ten years from 2010 to 2020, from about \$289,750 up to approximately \$640,000¹⁴. Over the same period, the median home price in Boston increased 101 percent, rising from about \$349,000 to \$700,000¹⁵. Prices in North Allston, which had been lower

11 5-year ACS data, 2006-2010.

12 BPDA and DND data. Not all projects approved by BPDA will move forward within this time frame.

13 Housing permit data, DND analysis

14 The Warren Group

15 Ibid.

than Boston overall, have subsequently risen more quickly than in the rest of the city as a whole, and are now slightly higher. While low housing supply and high demand has similarly led to increasingly unaffordable rental housing in North Allston, rent prices in the neighborhood have grown slower than the city at-large over the past 8 years for which data is available. According to Rental Beast and MLS data, the median rent in the City of Boston increased 24 percent between 2014 and 2020, from \$2,000 to \$2,500.¹⁶ In North Allston, median rent prices rose by 14 percent, from \$2,100 to \$2,400. North Allston has a slightly higher percentage of listings between \$1,501–\$2,499 than the city overall, and a slightly lower percentage of listings over \$2,500.¹⁷

There is both less affordable housing and a demographic shift occurring in North Allston.

Even though rising housing prices in North Allston are outpacing wage growth in Boston, the number of rent-burdened households in North Allston fell by 435 households (16.5 percent) from 2010 to 2019, even as the area gained more than 150 new households¹⁸. A household is rent burdened if they pay more than 30 percent of their gross household income toward rent. The decrease in the percent of the population that is rent burdened may be related to a demographic shift in the neighborhood. Over the past decade, there has been a 77 percent increase in the 25–34 year-old population, a 106 percent increase in residents with a Bachelor’s degree, and a 96 percent

16 Rental Beast and MLS (0-3 bedroom rental listings).

17 Ibid.

18 5-year ACS data, 2006-2010 and 2015-2019.

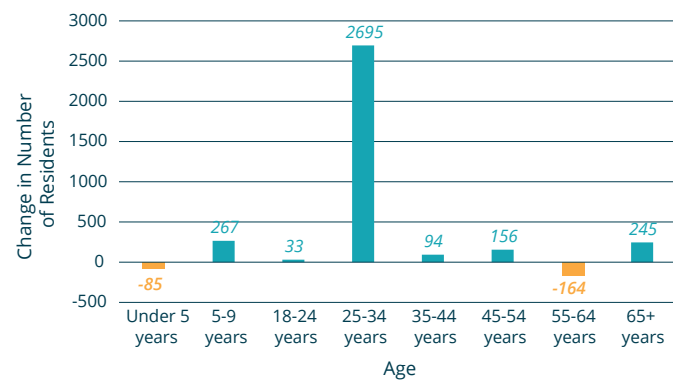
increase in residents with a graduate degree or professional degree.¹⁹ Simultaneously, there was a 180 percent increase in households earning \$150,000 or greater and a 26 percent decrease in families earning less than \$50,000.²⁰ All of this, together, means that in the nine years from 2010 to 2019, a number of lower income households were lost in North Allston and there was an increase in moderate and higher income households.

North Allston’s affordable housing rate is lagging behind the City’s overall.

19 percent (55,792 units) of Boston’s housing stock are affordable income-restricted, while in North Allston about 14 percent (807 units) of housing units are income-restricted.²¹ Citywide the majority (66 percent) of income-restricted units are affordable to households making less than 50 percent of the Area Median Income (AMI).²² In North Allston only 22 percent of units are affordable to households under 50 percent of AMI, though 48 percent of units are affordable to households with incomes of less than 60 percent of AMI, and 97 percent of units are affordable to households under 80 percent of AMI. (Refer to AMI callout for more

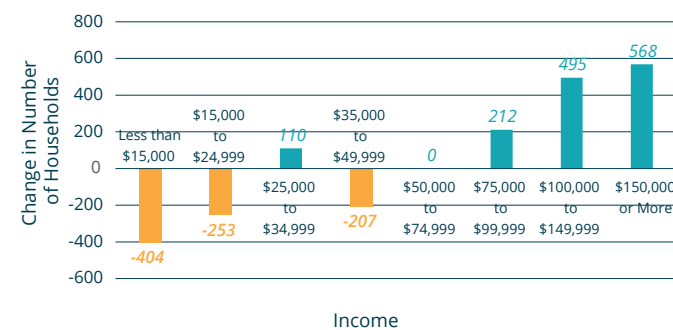
19 Ibid.
 20 Ibid.
 21 Income Restricted Housing in Boston 2020, DND, https://www.boston.gov/sites/default/files/file/2021/03/Income%20Restricted%20Housing%202020_0.pdf
 22 Ibid.

Change in Lower Allston Population by Age, 2006–2010



Source: American Community Survey 5-year estimates.

Change in Number of Households in Lower Allston by Income



Source: American Community Survey 5-year estimates.

What is Area Median Income (AMI)?

The US Department of Housing and Urban Development sets income limits, called Area Median Income (AMI) limits, that determine eligibility for certain kinds of housing aid, including Section 8 housing vouchers and public housing. The income limits are based on the median family income for the larger metro region and the size of households. Typical income bands are 30% (extremely low income), 50% (very low income), 80% (low income), 100%, and 120% AMI, and the bands are what qualifies for different kinds of housing aid. If a family of 4 is 50% AMI it means that their household income is half that of the median 4-person household in the metro area. Lower Allston is considered part of the larger HUD Boston-Cambridge-Quincy, MA-NH Metro Area.

Income Band Limits	Household Size					
	1-Person	2-Person	3-Person	4-Person	5-Person	6-Person
30% AMI	\$24,900	\$28,450	\$32,000	\$35,550	38,400	\$41,250
50% AMI	\$41,500	\$47,400	\$54,450	\$59,250	\$64,000	\$68,750
80% AMI	\$62,450	\$71,400	\$80,300	\$89,200	\$96,350	\$103,500
100% AMI	\$79,350	\$90,650	\$102,000	\$113,300	\$122,400	\$131,450
120% AMI	\$95,200	\$108,800	\$122,400	\$135,950	\$146,850	\$157,750

Source: City of Boston, https://www.boston.gov/sites/default/files/embed/h/hud_rent_income_limits.pdf

information).²³ Citywide, 23 percent (12,818 units) are set aside for senior households (age 64+), and 3 percent (1,603 units) are set aside for people experiencing homelessness; in North Allston those percentages are 19 percent, and 4 percent, respectively.²⁴

There are tools to promote affordable housing in Allston/Brighton.

Building and retaining income-restricted affordable housing units is crucial to encouraging mixed-income and equitable communities, as well as mitigating potential displacement. While increasing the supply of housing overall is a key step, the City encourages the development and retention of affordable housing units by leveraging state and federal funds, through the Acquisition Opportunity program, and, most relevant to this planning study, through the Inclusionary Development Policy (IDP), which mandates a minimum percentage of income-restricted units as part of most large residential developments. Created in 2000 and updated in 2015, the IDP requires that housing developments that are proposing ten or more units and require zoning relief support the creation of income-

23 Income Restricted Housing Database, DND
 24 Income Restricted Housing Database, DND

restricted housing by:

- Including income-restricted units within their building (typically 13 percent of a development’s units);
- Creating income-restricted units at a location near their building; and/or
- Contributing to the Inclusionary Development Policy Fund utilized by the City of Boston Department of Neighborhood Development (“DND”) to fund the creation of affordable/income restricted housing across Boston.

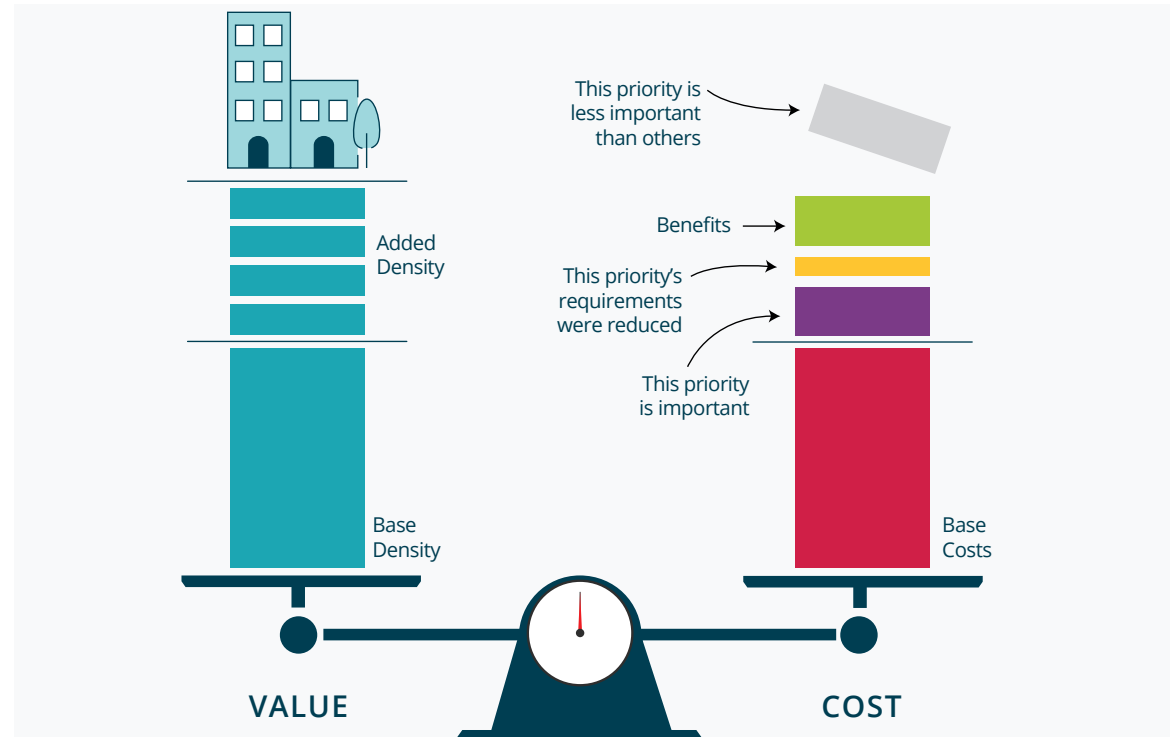
This planning framework lays out how greater residential density can be added to the Western Avenue corridor, and the IDP is a primary vehicle by which that density can help promote an equitable future for North Allston.



Charles View Apartments

Market and Financial Context

In order to bring about the high-quality development with community benefits that residents want, zoning must allow densities that make



The interplay between density and the value can be captured to address community priorities.

In order for projects to be minimally feasible from a financial perspective in an environment of high land and construction costs, the “base value” created by zoning must equal the “base cost” of development. Since many development costs (e.g. the cost of land) are fixed, a smaller building might not generate enough return to cover those costs. The base value must represent a floor area ratio (FAR) that generates enough return in the form of sales proceeds or rents to cover the cost of construction. With even greater density, the project might generate increased value that can be captured as additional benefits, such as more affordable housing or subsidized retail spaces.

Boston has some of the highest construction costs in the country, challenging the financial feasibility of many development projects.

Housing prices throughout Boston have been increasing,

because of population growth and the resulting housing demand increase, as well as the cost of construction. High land costs are a factor but, even when land costs can be reduced, the cost of construction still poses a challenge. Nationally, the cost of construction increased by 57 percent from 2000 to 2016²⁵.

The cost of construction also changes over time, and has rapidly increased since the onset of the Covid-19 pandemic during the course of this planning study. Residential development is especially challenging and project finances leave only modest room to deliver more than the required minimum percentage of income-restricted units.

Shorter (7 stories or below) buildings have a harder time covering land acquisition price and other fixed costs, to say nothing of providing additional affordable units or other

²⁵ National Multifamily Housing Council, “The Housing Affordability Toolkit,” April 2019, p. 14

benefits. Taller buildings require steel construction and trigger high-rise building code requirements, adding to their construction costs on a per square foot basis. As a result, they need to add significantly more units to break even, and don’t generally become feasible until they reach a height of at least 16 or 17 stories- which means they can also provide a greater number of income-restricted housing units.

Allston is an emerging life sciences hub.

Currently, lab/life science buildings are, from a financial standpoint, more viable in the market than housing. Since 2010, Life Sciences employment in Boston has grown by 38 percent, and in Cambridge the number of jobs has risen by 83 percent.²⁶ Given North Allston’s proximity to Cambridge and the growth seen across Boston, lab and life science projects have begun to identify the Western Avenue corridor as a site for future development.

New retail has been slow to lease and has high levels of vacancy, indicating that the study area may be over-retailed for its current population density.

Ground-floor retail activates streets, provides basic goods and services, and adds to the unique character of any neighborhood. However, even before the pandemic, the future of bricks-and-mortar neighborhood retail was uncertain, with increasing competition from big box retailers and online shopping. Moreover, according to both quantitative and qualitative indicators, the study area is over-retailed.

Parking is expensive.

Parking represents a significant cost to the developer that may not be recouped through fees. The cost to build a single space ranges from at least \$50,000 in a parking structure to over \$100,000 in an underground garage. Parking may also complicate the physical development of the site and preclude more valuable leasable space such as additional housing units. From a transportation perspective, if parking is abundant and inexpensive to the user it incentivizes driving in single-occupancy vehicles. Ultimately, more parking reduces the potential for more community benefits such as affordable housing and arts and cultural spaces, as well as serving as a dissinsentive for mode shift.

²⁶ BPDA Research



UHomes @90 Antwerp is currently being built on a 0.7-acre parcel donated by Harvard. While the project provides exemplary affordability—12 of the 20 condominiums, or 60%, will be income-restricted—it still required \$1.75 million in public subsidy despite zero land cost.

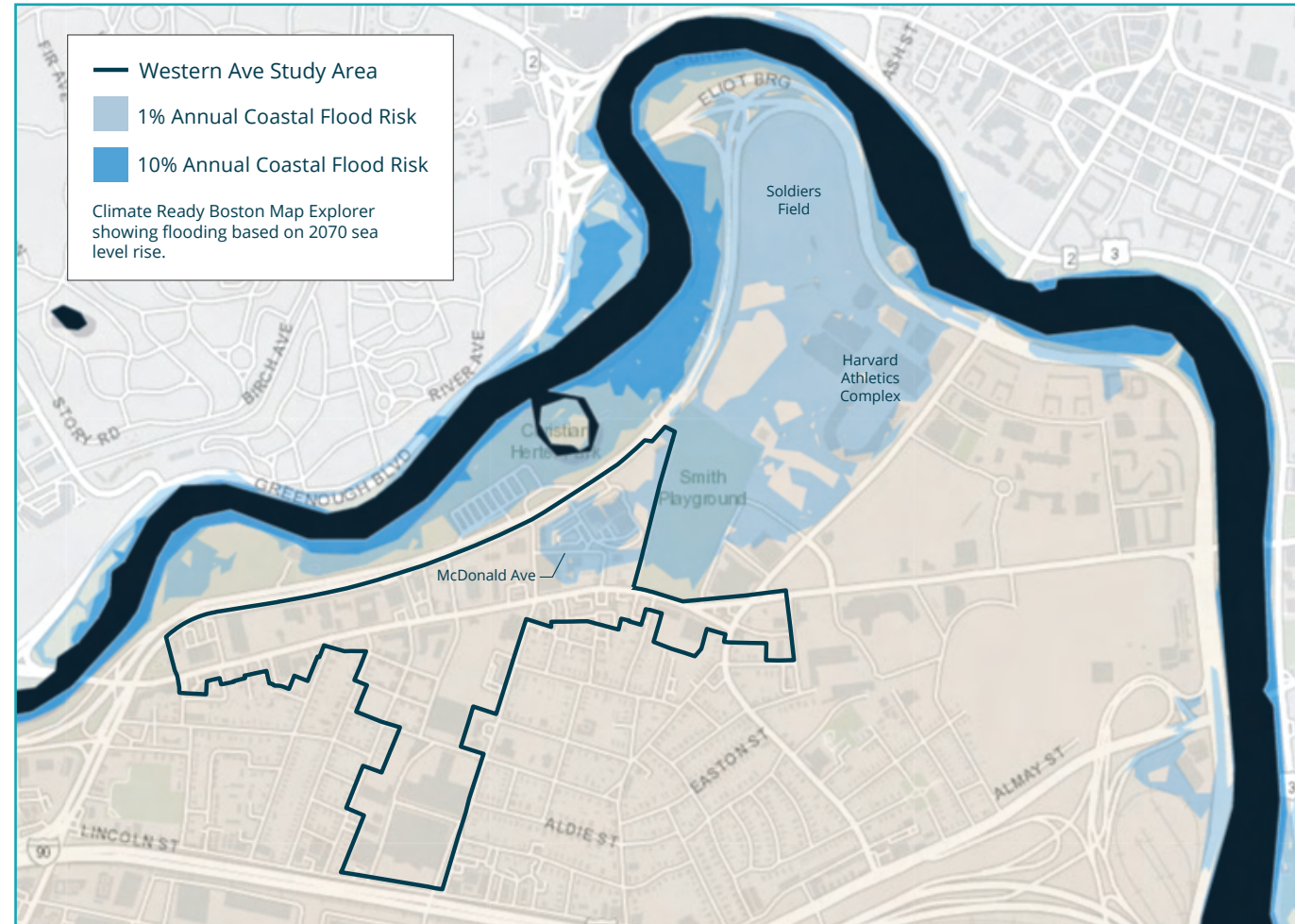
New construction may be overbuilding parking. Recent analysis by the Metropolitan Area Planning Council (MAPC) found that many new developments in the Greater Boston area have overbuilt parking. The average 50-unit building with 50 parking spaces had 14 empty spaces. As the MAPC writes, “Not only is the overbuilding of parking in residential developments wasting tremendous amounts of money and useful space; but the provision of abundant parking may also be counterproductive to local transportation goals for traffic and sustainability. Transit-proximate developments that provide easy parking are less transit-oriented than they might seem: they’re attracting car-owning households less inclined to use the available transit and more likely to use their cars, affecting local traffic with every trip.”

The City has a variety of mechanisms to support income-restricted housing, but increasing the percentage of affordable units in a residential development is challenging.

Development projects in Boston contribute to the creation of income-restricted housing in two main ways: first, most large residential buildings must provide 13% of their total units at a price affordable to households earning 70% of the Area Median Income; and second, large commercial developments must pay a per-square-foot “linkage” fee that supports affordable housing citywide.

Sustainability and Resilience Context

Climate change is increasingly having a significant impact on public health, resident’s well-being, and the built environment.



1 percent and 10 percent Annual Coastal Flooding Risk by 2070

The effects of climate change— such as rising sea levels, flooding, temperatures, and extreme weather events— threaten the lives, livelihoods, and personal property of Boston residents, and a key part of any plan is to consider the best scientific data available to assess adaptation and mitigation resilience measures that should be adopted in the present in order to protect residents in the future.

Coastal and riverine flooding are not immediate concerns for Allston, but could be in the future.

Today, North Allston is protected from significant flooding by the Charles River Dam, which helps to prevent storm surges from impacting the river. By 2070, coastal flood conditions

due to sea level rise could cause the dam to be overtopped, exposing the neighborhood to significant coastal flooding risk. The areas most likely to experience flooding in a 1% annual event in 2070 are today mostly public open space immediately adjacent to the river, such as Herter Park, Soldier’s Field, and Smith Playground. Further inland, a significant area of land near McDonald Avenue could also be at risk of flooding, which should be addressed through resilience infrastructure provided by future development projects.

Stormwater flooding further complicates North Allston’s resilience needs. Flash floods, such as those associated

with heavy storm events, can be dangerous and occur more frequent due to climate change. Additionally, stormwater runoff can carry pollutants to the Charles River, which threaten the river’s ecology and biodiversity.

In a 500-year storm scenario, as predicted by a citywide model developed by the Boston Water and Sewer Commission (BWSC), many of the streets north of Western Avenue and in the residential neighborhood to the east of the study area could expect to experience significant stormwater flooding. With these critical areas in mind, stormwater management through the integration of natural landscapes and infrastructure interventions will take an elevated role in the planning process.

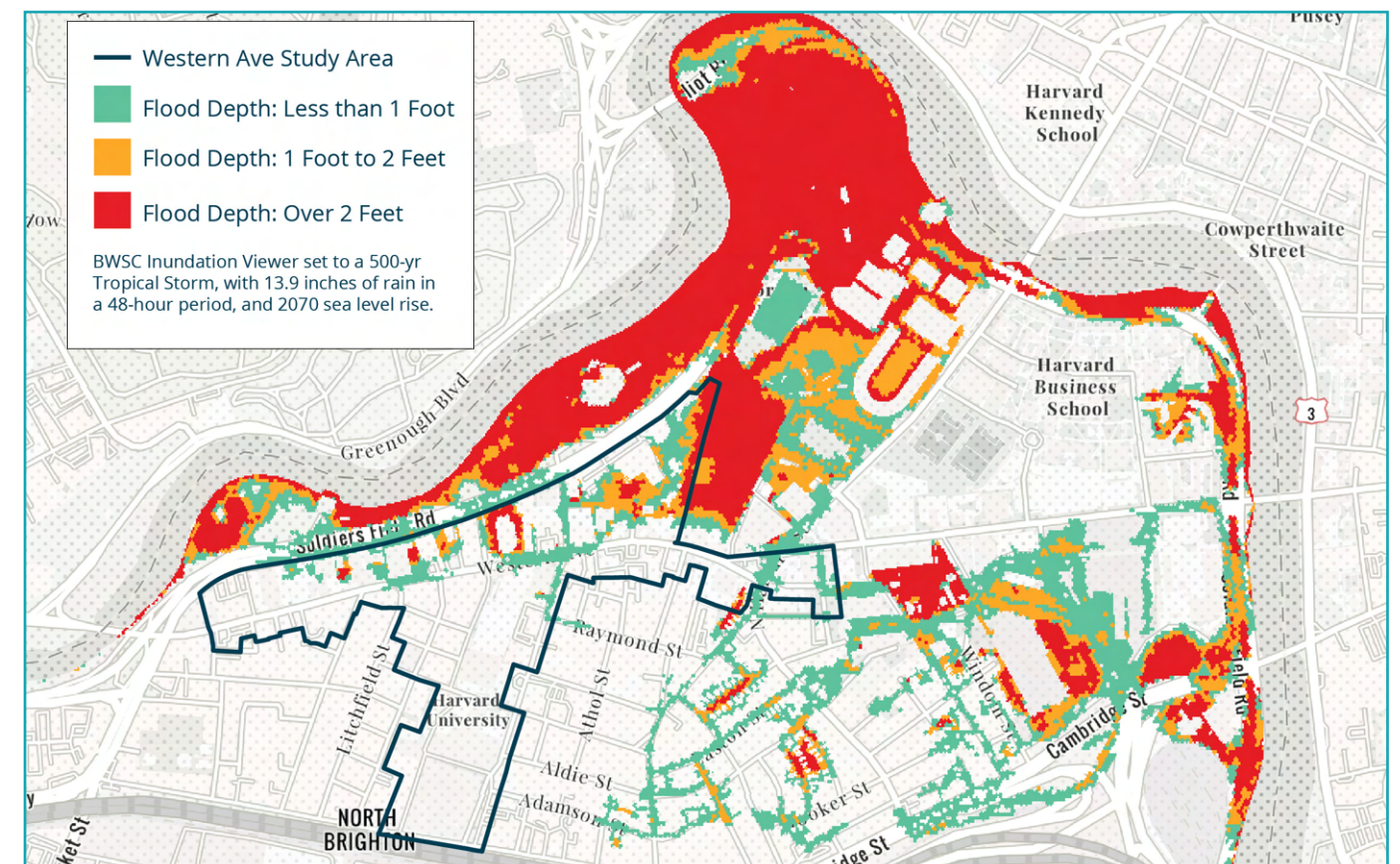
Rising temperatures and heat events are a concern across Boston, and Western Avenue is no exception.

In 2015, Boston experienced 22 days that were over 90 degrees, and by 2030 the City could see as many as 40 days. The “urban heat island effect”, caused by the prevalence of concrete, metal, and buildings in cities, as well as a shortage of green spaces and trees, can exacerbate

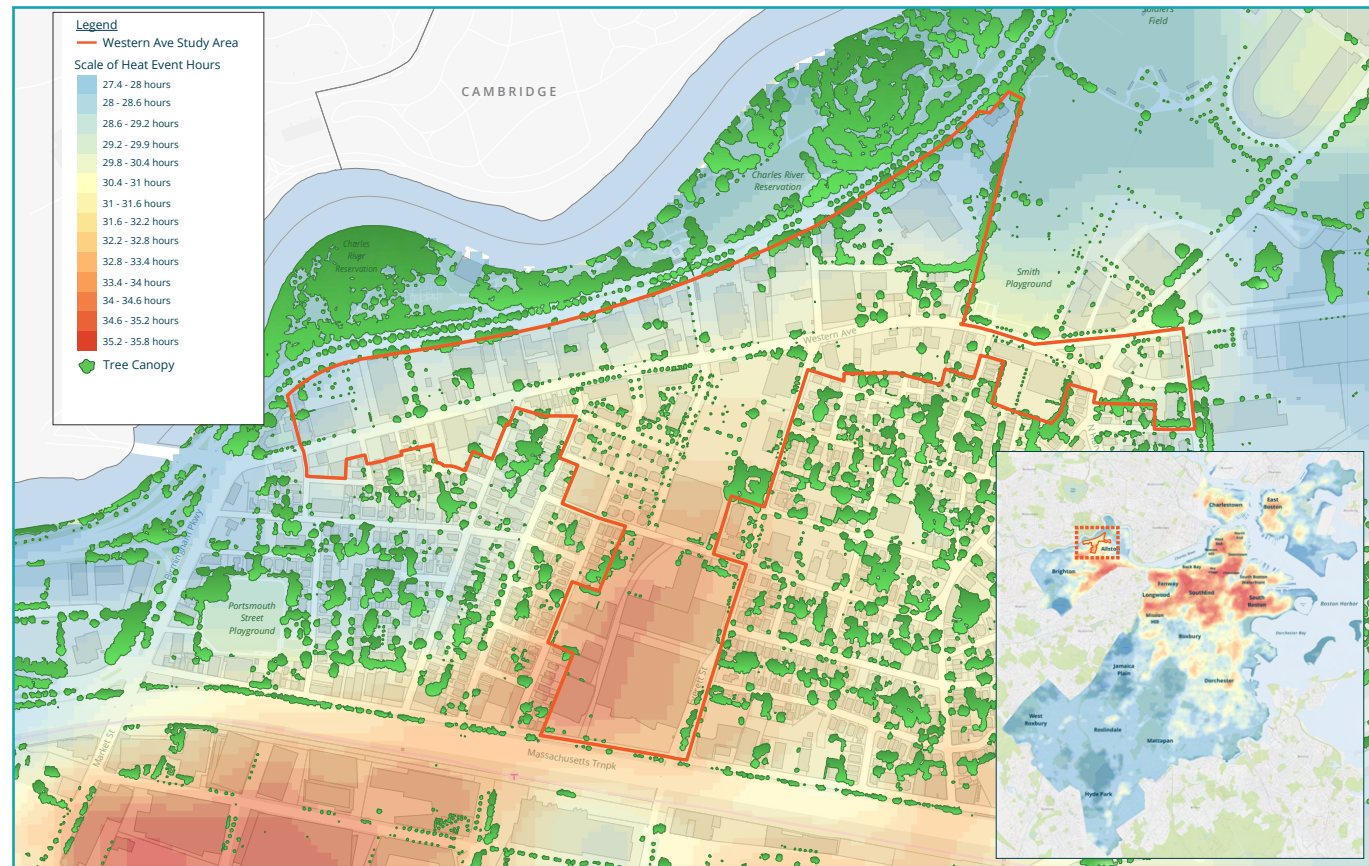
extreme heat events in cities. Extreme heat impacts the health of residents due to reduced air quality and heat related medical emergencies, while also damaging the built environment through power failures and transit infrastructure disruptions.

Addressing rising temperatures is a question of equity: the populations most impacted and at risk are low-income communities, communities of color, and the elderly. While climate change will increase temperatures everywhere in Boston, residents of historically underserved neighborhoods will experience the most intense heat island effects.

The proximity of the Charles River Reservation and other open spaces in Lower Allston help to curb temperatures at the northern end of the study area, but the southern end of the study area a higher number of extreme heat events. There is a notable overlap between where heat in the neighborhood is the worst and where there is the least amount of tree canopy, especially between Everett Street and Telford Street. The tree canopy within the Western Ave study area is also considerably less dense than in the



Flood depth in Lower Allston



Heat events and tree canopy in Lower Allston. Inset: heat events across the City.

adjacent residential neighborhoods, making those streets hotter and less comfortable.

for improving and protecting open space in Boston, focusing on access and equity.

The City of Boston is working to address heat, equity, and sustainability.

The following 3 ongoing city plans make up the “Healthy Places: Planning for Heat, Trees, and Open Space Initiative,” which will address heat in Boston:

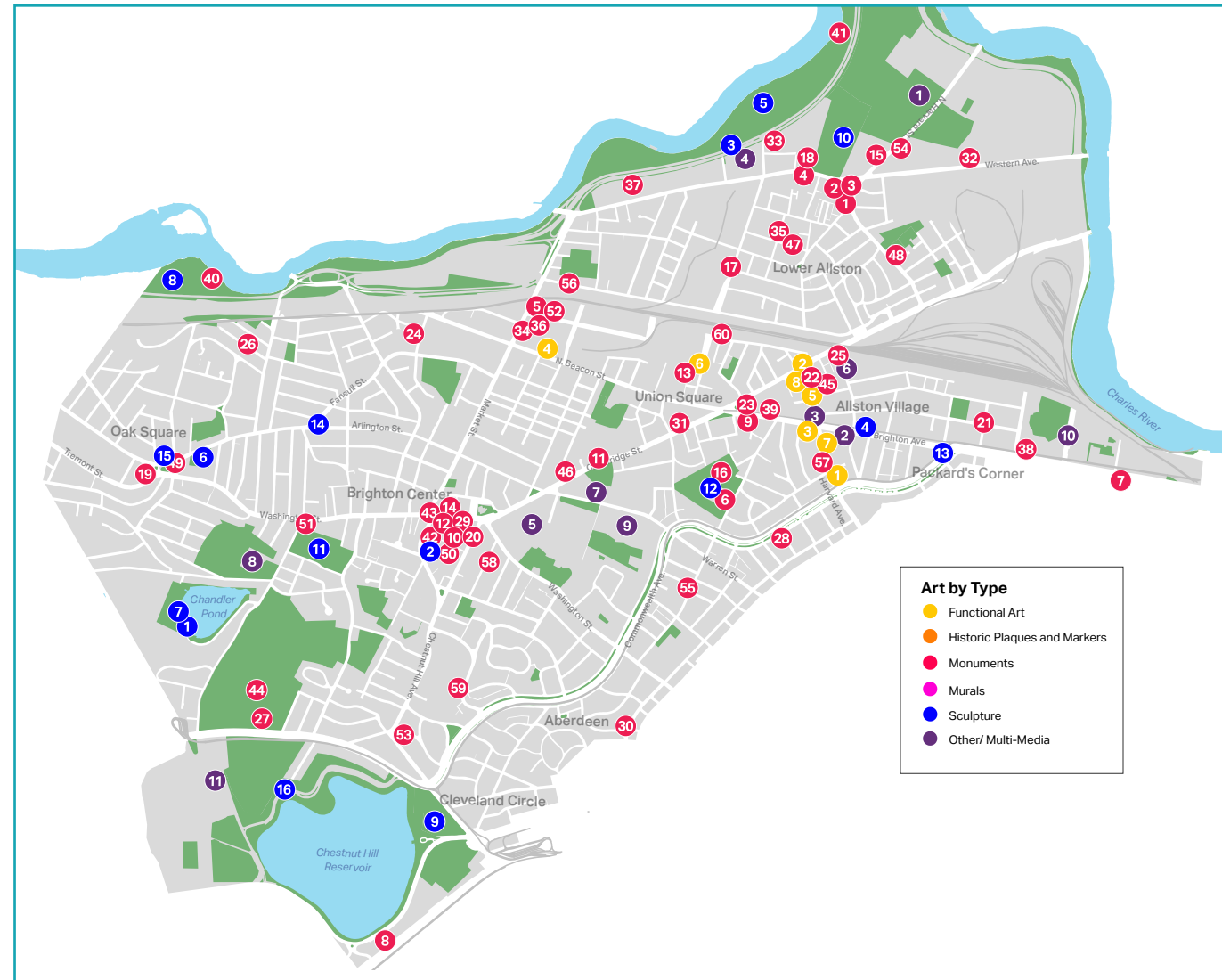
- Climate Ready Boston’s Heat Resilience Study focuses on the places where heat islands overlap with historically underserved communities. The objective is to develop community driven strategies to improve policies and programs aimed at reducing urban heat and heat risk.
- Department of Parks and Recreation’s Urban Forest Plan is a long-term strategic plan for managing the trees throughout Boston, including their planting, growth, and maintenance. Special focus is given to equity and environmental justice, tree preservation, and how to add new trees to the City’s urban forest.
- Department of Parks and Recreation’s Open Space Plan 2022-2028 updates the City’s seven-year plan

Development is part of building a sustainable and resilient Lower Allston.

As Lower Allston continues to develop, heat and flooding can be addressed simultaneously through green infrastructure. The redevelopment of surface parking into uses which incorporate stormwater retention systems and green roofs can help to control water run-off and reduce heat absorption. Projects which include trees and pervious paving in the public realm provide additional shade and can increase water infiltration to reduce stress on city sewers during storm events. The Urban Design Guidelines in this study (see “Urban Design Guidelines” on page 38) show what a more resilient Western Ave might look like, building on Boston’s Complete Streets Guidelines and the Coastal Flood Resilience Guidelines.

Arts & Culture Context

Allston is a center of arts and creative economy activity in Boston, but it needs to be preserved.



Existing community assets in Allston-Brighton: organizations, institutions, businesses, spaces, and buildings.²⁶

Art and Cultural Assets in Allston-Brighton Today

Cultural assets, spaces, and programs are threatened in Allston-Brighton. As development pressure and a shifting economy start to transform the neighborhood (see “Market and Financial Context” on page 78), artists and artist-centered spaces are beginning to be displaced. As more spaces are lost, artists lose venues in which they can create and present their work.¹

²⁶ Allston-Brighton Arts, Culture and Placekeeping Report, Mayor's Office of Arts and Culture, July 2021 (p. 42)

In 2021, the Mayor’s Office of Arts and Culture (MOAC) commissioned the *Allston-Brighton Arts, Culture, and Placekeeping Report* to respond to the threat of cultural asset loss. The resulting report found that affordable work and practice spaces, dedicated art galleries, and small to mid-size music venues are among the most threatened types of space. In response to this report MOAC has begun tracking at-risk, lost, and potential cultural assets, in an attempt to understand what areas see the most risk.

BUILDING

1. Harvard University
2. White Horse Tavern
3. Tavern In the Square
4. Studio Allston Hotel
5. St. Elizabeth’s Hospital
6. Garage Boston
7. Franciscan Children’s Hospital
8. EF Education
9. Brighton Marine Health Center
10. Boston University
11. Boston College

ORGANIZATION

1. Crossings Gallery
2. Harvard Ceramics Program
3. Harvard Ed Portal
4. Zone 3/Aeronaut Allston
5. WGBH Education Foundation
6. West End House Boys and Girls Club
7. WBUR
8. Waterworks Museum
9. Wai Kru
10. Unbound Visual Arts
11. The Literacy Connection
12. The Corner Art Room
13. Tenacity
14. Star Dance School Brighton
15. SilkRoad
16. Ringer Park Partnership Group
17. Red Sky Studios
18. PRX Podcast Garage
19. Presentation School Foundation
20. Plein-Air Art Academy
21. Paradise Rock Club
22. Out of the Blue Too Art Gallery
23. Oak Square YMCA
24. Mix One Studios
25. Midas Collaborative
26. Metro West Opera Inc./MassOpera
27. McMullen Museum of Art
28. Lovin’ Spoonfuls
29. Longwood Symphony Orchestra
30. Jewish PULSE of Boston
31. Helping Hands: Monkey Helpers
32. Harvard Innovation Lab
33. Crossings Gallery
34. Great Blue Hills Music
35. Gardner Pilot Academy
36. Fraser Performance Studio
37. Earthwatch Institute
38. Dress for Success Boston
39. DEAF, Inc.
40. Community Rowing, Inc.

41. Charles River Canoe & Kayak: Allston Brighton
42. Brighton-Allston Heritage Museum
43. Brighton Main Streets
44. Brighton Dance Studios
45. Brazilian Workers Center
46. Brazilian Women’s Group
47. Boston String Academy
48. Boston Public Library - Honan Allston Branch
49. Boston Public Library - Faneuil Branch (Brighton)
50. Boston Public Library - Brighton Branch
51. Boston College Neighborhood Center
52. Boston Baroque
53. Bais Yakov of Boston
54. ArtLab
55. Andy Yosinoff’s Cheer and Dance Clinics
56. Ancient Egypt Research Associates
57. Allston Village Main Streets
58. Allston Brighton Community Development Corporation
59. 2Life Communities Brighton Campus
60. Allston Arts District/Allston Open Studios

PROPERTY OWNER/BUSINESS

1. Wonder Bar (closed Fall 2020)
2. O’Brien’s Pub
3. Brighton Music Hall
4. The Sound Museum
5. The Artful Edge
6. Studio 52
7. Mr. Music Guitar Center
8. Mad Oak Studios

PUBLIC SPACE

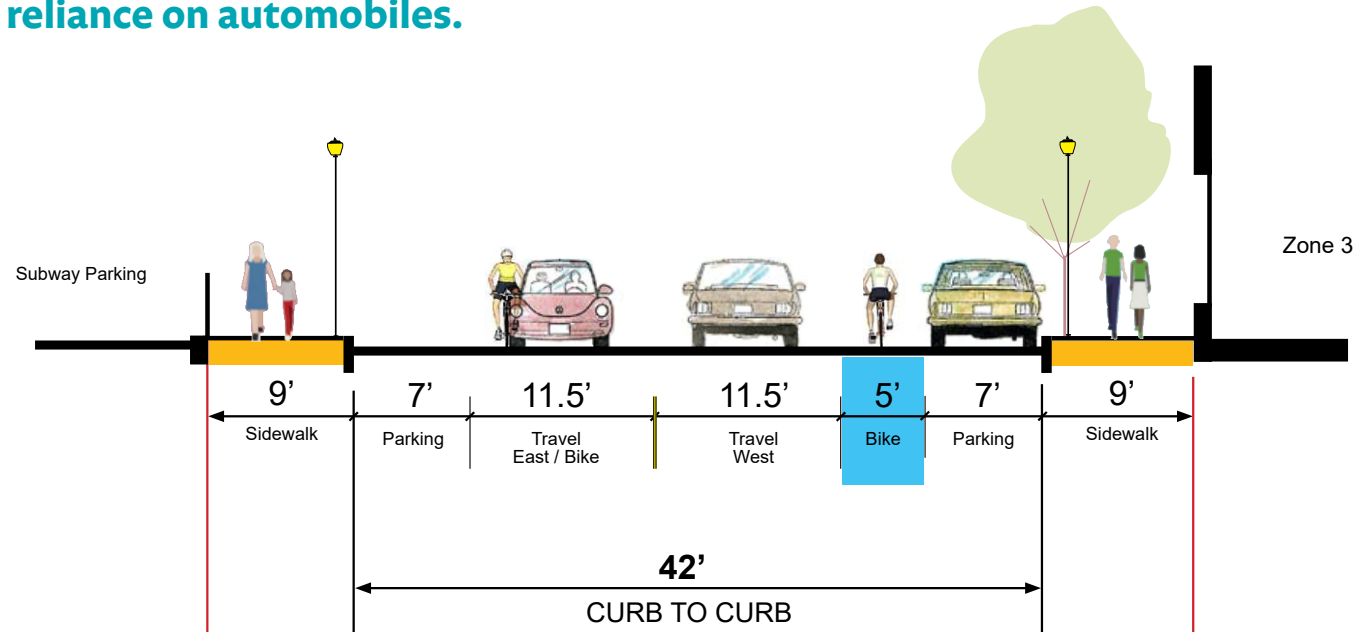
1. Grassy Area Next to Chandler Pond
2. Brighton Common
3. Artesani Park
4. Herter Park Amphitheatre/ Christian A Herter Park
5. Hardiman Playground
6. Gallagher Park
7. Daly Field
8. Chestnut Hill Reservation
9. Smith Field and Playground
10. Rogers Park
11. Ringer Park
12. Packard’s Corner
13. Oak Square
14. Faneuil Library Art Gallery
15. Community Gardens

Through this Allston-Brighton work, both city-wide and neighborhood-specific implementation priorities have been identified. This reflects that many challenges identified are experienced across Boston. The top priority identified for Allston-Brighton is the preservation and re-provision of space, including affordable commercial space, cultural venues and live-work space. The cultural assets captured in the map above should be considered and supported in planning and development initiatives. City-wide, MOAC is working with partners to adopt models to support cultural space, develop affordable commercial space strategies,

grow local control of cultural and community spaces, and to secure funding to support all of these priorities.

Mobility Context

The ability to access jobs and services efficiently is central to quality of life and equity. City policy is focused on creating a more sustainable and equitable transportation system, with more and better options and less reliance on automobiles.



Typical Existing Cross Section of Western Avenue

Daily Vehicle Volumes on Major Streets

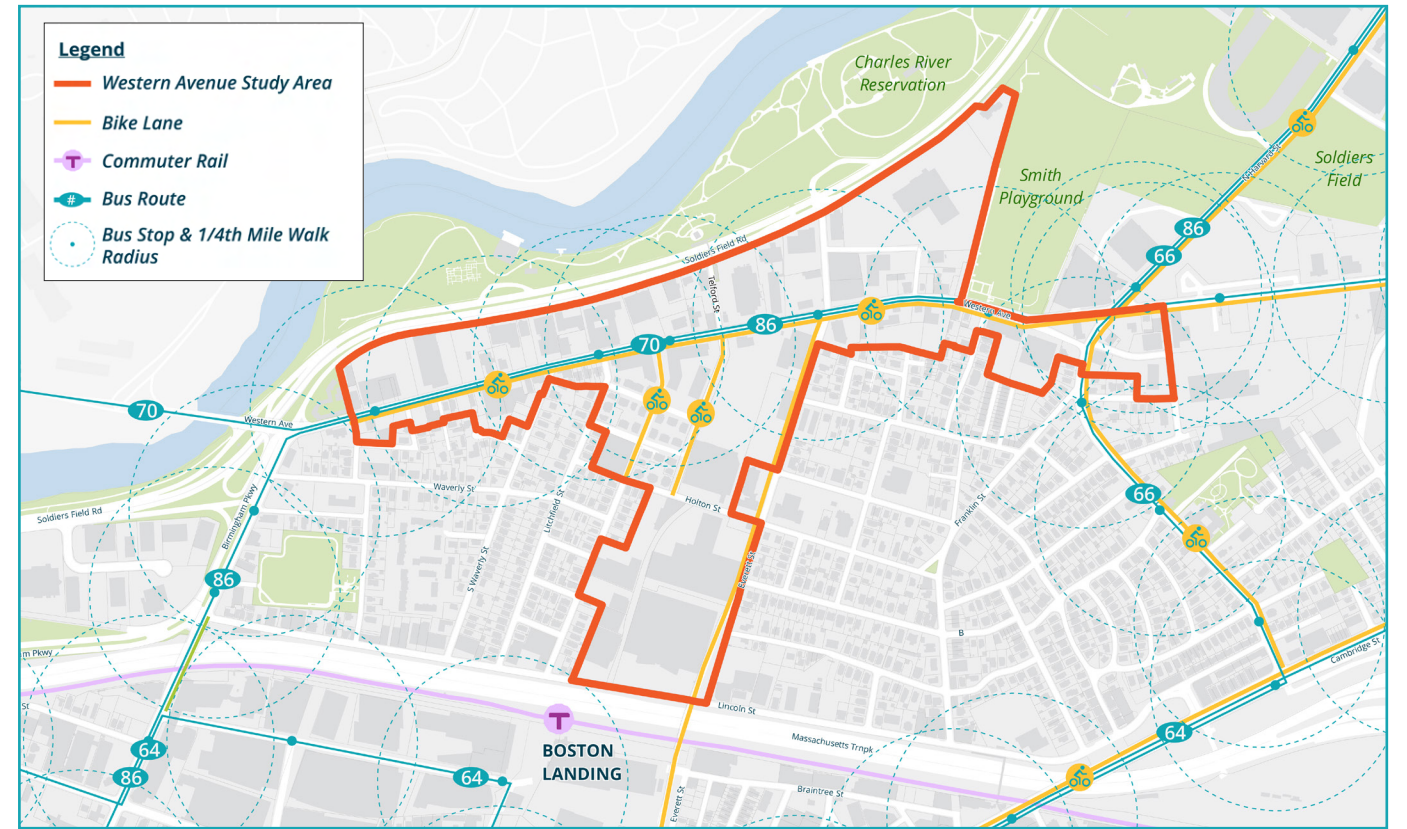
Street Network

The study area is traversed by two major east-west streets: Western Avenue and Soldiers Field Road. Bisecting the study area, Western Avenue functions as the “main street”, with intermittent, active ground floor uses along much of its frontage. The cross section of Western Avenue currently consists of on-street parking on both sides and two travel lanes, one in each direction. A single bike lane alternates between the north and south sides of the street.

Flanking the north side of the study area, Soldiers Field Road consists of four general purpose travel lanes, two eastbound and two westbound. Running north-south between Soldiers Field Road and Lincoln Street are Everett Street and Telford Street. Providing a vehicular, pedestrian, and bicycle connection from the study area over the Turnpike to the Guest Street area and Boston Landing Station, Everett Street currently has two general purpose travel lanes, one in each direction, with a southbound bike lane. Telford Street has

Study Street	Existing Daily Vehicle Volumes
Western Avenue	11,000
Soldiers Field Road	51,900
Telford Street north of Western Avenue	400
Telford Street south of Western Avenue	2,900

Source: 2018 MBTA Data and NEXUS DPIR
Volumes rounded to the nearest 100



Transit and Transportation Routes around the study area

two bidirectional travel lanes between Soldiers Field Road and Holton Street, but between Holton Street and Lincoln Street jogs awkwardly at the intersection with Holton Street and narrows to the point where its dimensions do not meet City street standards. Thus, Telford does not operate as a normalized thoroughfare all the way through between Western Avenue and Lincoln Streets.

Transit

The Western Avenue study area is served by public transit through high-frequency bus routes, connections to the Red Line and Green Line, and the Worcester Commuter Rail Line and many major hubs are connected to study area by transit.

Transit Service Within the study area

Bus Route 70

Running from Watertown to Cambridge via Western Avenue, the MBTA 70 bus route connects major destinations such as Waltham Center, Arsenal Yards, Barry’s Corner, Central Square, and MIT. This bus also connects to several other transit routes including the 47 bus, 66 bus, 86 bus, and the Red Line.

Bus Route 86

MBTA 86 bus route runs from the Chestnut Hill Reservoir to Sullivan Square via Western Avenue, connecting major destinations such as Cleveland Circle, Brighton Center, Barry’s Corner, Harvard Square, Union Square (Somerville), and Sullivan Square. The 86 bus also connects to several other transit routes including the 66 bus, 70 bus, 89 bus, 96 bus, CT2 bus, the Green Line D Branch, the Orange Line, and the Red Line.

Bus Route 66

The MBTA 66 bus route is a key bus route that runs from Nubian Square to Harvard Square. Although technically there are no stops within the boundary, the 66 bus runs through the study area briefly at Barry’s Corner. The 66 bus also connects to several other transit routes including the Red Line, the Silver Line (4 and 5), and 24 different bus lines including the 1 bus, 39 bus, 47 bus, 57 bus, and 86 bus.

Transit Service Nearby the study area

Bus Route 64

Running from Oak Square to Kendall/MIT, the MBTA 64 bus route straddles the southern edge of the study area within a

short walk of the Boston Landing Station. This bus connects major destinations such as Oak Square, Boston Landing, Central Square, and Kendall Square. It also connects to several other transit routes including the 66 bus, 70 bus, 86 bus, CT2 bus, and the Red Line.

Red Line

The Red Line subway may be accessed from the study area by using the 66, 70, or 86 bus routes. Running from Alewife to Braintree and Ashmont, the Red Line connects to major destinations including Harvard Square, Kendall Square, Downtown Boston, South Boston, and Dorchester.

Green Line B Branch

The Green Line B Branch runs from Boston College to Park Street in Downtown Boston connecting to major destinations including Cleveland Circle, Packards Corner, Kenmore Square, and Copley Square. The Green Line can be reached from the study area via the 66 bus or by a 15-20 minute walk.

Boston Landing Station

Completed and opened in 2018, Boston Landing Station on the Worcester-Framingham Commuter Rail Line is located just outside the study area, a 2-minute walk over the I-90 Turnpike. Since opening, this station has become a major transit destination in the neighborhood, providing quick access to Downtown Boston.

Harvard Square

A major transit hub in the City of Cambridge just north of the study area, Harvard Square is reachable via the 66 and 86 bus routes or a 20-minute walk. Serving the Red Line subway, Harvard Square is also a bus hub for MBTA bus routes 1, 66, 68, 69, 71, 73, 74, 75, 77, 78, 86, and 96.

Central Square

Also a transit hub in the City of Cambridge, Central Square can be reached directly via the 70 bus and indirectly via the 64 bus. Central Square is a stop on the Red Line and also a bus transfer point for the MBTA bus routes 1, 47, 64, 70, 83, and 91.

Transit Ridership and Frequency

Transit Line	Average Weekday Ridership	Weekday AM Peak Frequency	Weekday PM Peak Frequency	Weekday off-Peak Frequency
70*	7,950	3-25 min	4-30 min	10-75 min
86	5,940	8-20 min	12 - 22 min	8 - 45 min
66	12,370	9 min	10-11 min	2-30 min
64	1,830	13-23 min	20-30 min	18-75 min
Worcester Commuter Rail Line	18,637 (600 board and 533 alight at Boston Landing Station)	35 min	35 min	60 min
Red Line	258,200 (16,300 board at Central, 20,060 board at Harvard)	3-5 min	3-5 min	
Green Line**	152,200	6 min	6 min	

Source: 2018 MBTA Data and NEXUS DPIR

*The MBTA consolidated the 70 and 70A routes in December 2019

**Green Line ridership data is only available for all four branches

Transit Ridership

Transit routes operating in and near the study area generally have high ridership for the MBTA system. The 66 bus is a key bus route, meaning that it has some of the highest ridership in the MBTA system, strong connectivity with other transit routes and serves a large geographical area. The 70 bus and 86 buses were both recommended to be upgraded to Key Bus Routes due to their increasingly high ridership.

The Red Line and Green Line are both high-capacity rail transit lines that form the backbone of the MBTA's system. Boston Landing Station has seen a notable increase in trips serving 9-5 commuters to downtown Boston from Allston, with significant boardings in the AM peak going inbound and alightings in the PM peak going outbound.

The table on the facing page summarizes ridership for each of these transit routes. 2018 is used as the base year to account for temporary schedule changes due to COVID-19 and because Commuter Rail data only exists for 2018.

Bus Reliability

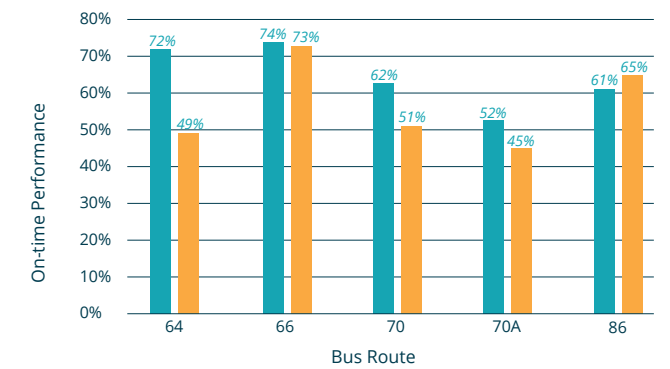
The bus routes that serve Western Avenue generally perform below the desired on-time performance standards. The MBTA considers 75% on-time performance the minimum for a key bus route and 70% on-time performance the minimum for a non-key bus route.

The 64 bus during off-peak hours is the only route and time that meets the MBTA's standards. Although the 66 does not meet the standards, it is close, with 74% off peak and 73% peak. Bus routes operating on Western Avenue (70, 70A, and 86) generally operate below the on-time performance standard.

Pedestrian Infrastructure

The study area is typically lacking in high-quality pedestrian infrastructure, particularly along its major corridors including Western Avenue, Everett Street, and Telford Street. While these corridors and other surrounding streets generally have sidewalks, the often minimal width, sometimes poor condition, multiple curb cuts, and lack of high visible crosswalk markings limit pedestrian comfort and safety.

Average On-time Performance by Bus Route



Source: 2018 MBTA Reliability Data

Soldiers Field Road

Just north of the study area, Soldiers Field Road is a major arterial road owned and maintained by the Department of Conservation and Recreation (DCR). This roadway provides key regional and local connections into, through, and out of Allston. However, its four-lane, median separated cross-section and limited crossings are a major barrier for pedestrians, cyclists, and those with limited mobility to accessing community open space assets such as Herter Park and the Paul Dudley White Path.

Paul Dudley White Path

The Paul Dudley White Path is a 17-mile pedestrian and bicycle path along the Charles River in both Boston and Cambridge. This major regional amenity stretches along the entirety of the Charles River throughout Allston north of Soldiers Field Road. However, access to and from this asset is extremely limited from the study area. Only two access points are marked for pedestrian and bicycle crossings of Soldiers Field - the intersection of Western Avenue and Leo Birmingham Parkway, and the pedestrian bridge at Telford Street.

Everett Street / Telford Street

Everett and Telford (via Holton) Streets provide key connections to and from the Western Avenue Corridor and Boston Landing for all modes, particularly pedestrians and cyclists. However, sidewalk widths are minimal along these roadways, often with utility infrastructure narrowing the path of travel, and an inconsistent presence of tree pits and perpendicular ADA ramps. From January 2018

through June 2021, there were five pedestrian crashes on Western Avenue or at nearby intersections which required a response from a public safety agency. From January 2018 through June 2021 there was one pedestrian crash on Everett Street which required a response from a public safety agency.

Western Avenue

With the exception of sidewalks along relatively newly constructed buildings such as Radius, Continuum, and the Harvard Education Portal, sidewalks along Western Avenue fail to offer a highly comfortable pedestrian environment. Multiple curb cuts and driveway access points, minimal sidewalk widths, sparse tree canopy, and sporadic or nonexistent amenities such as bus shelters and street benches are fairly typical of the corridor. North/South pedestrian crossings are present along the corridor at major intersections, but also at minor intersections with minimal traffic control. From January 2018 through June 2021 there were five pedestrian crashes on Western Avenue or at nearby intersections which required a response from a public safety agency.

Bicycle Infrastructure

Similarly, while the nearby Paul Dudley White Path is a key pedestrian and bicycling asset, within the study area boundary itself, safe and appealing bicycle infrastructure is limited, with painted bike lanes on N. Harvard Street and Telford Street Extension, single-direction painted bike lanes on southbound Everett Street, and a westbound-only painted bicycle lane on Western Avenue itself. Painted bike lanes, which are not physically separated from motor vehicle traffic, are not as safe or comfortable as bike lanes that are physically separated, and therefore more protected from, vehicular traffic and do not encourage everyday bicyclists to bicycle for their everyday transportation needs.

In addition to the Paul Dudley White Path along the banks of the Charles River, some limited on-street bicycle infrastructure does exist in the study area. Bi-directional painted bike lanes are present on N. Harvard Street and Telford Street Extension, and single direction painted bike lanes are found on south-bound Everett Street and primarily west bound-only on Western Avenue. From January 2018 through June 2021 there were 16 bicycle crashes on the roadways in the study area that required a response from

a public safety agency, with 13 of those occurring along Western Avenue. The intersection of Western Avenue/ Soldiers Field Road/ Leo Birmingham Parkway (which is controlled and managed by DCR) is identified by MassDOT as a 2016–2018 Top 5% Crash Cluster location for Bicycle Crashes, with a total count of 15.

Two Bluebikes bike share stations are also present in the study area, with one year-round station on N. Harvard Street north of Barry's Corner, and one seasonal station on Western Avenue at Richardson Street, just west of Leo Birmingham Parkway and the Paul Dudley White multi-use path.

The presence, availability, and comfort of bicycle infrastructure determines its effectiveness at attracting bicyclists. Bicycle Level of Traffic Stress (BLTS) is a measurement of how stressful any roadway is on bicyclists. Scoring for BLTS ranges from 1, the least stressful, to 4, the most stressful. BLTS scopes for every road include traffic speed, average daily traffic volume, presence of bike lanes and parking lanes, and conflict factors such as bus lanes and school zones. To attract the average bicyclist—and grow the City's bicycling population—high comfort scores of BLTS 1 and 2 are needed on roadways where bicycle facilities are located. While painted bike lanes are present, no street with a bike lane in the study area today has a low-stress bicycle facility, with BLTS scores of 3 and 4 on Western Avenue, Everett Street, Telford Extension, and N. Harvard Street.



Bike Infrastructure on Western Avenue today. Bike lanes are marked with signage, but space is not marked or designated on the roadway itself.



Bike Infrastructure on Western Avenue today, leaving the study area. This bike lane is clearly delineated with a high visibility conflict area.

Western Avenue TDM Strategies Report



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January 9, 2022

Project# 26545

To: Joe Blankenship, Senior Transportation Planner
 Boston Planning & Development Agency
 One City Hall Square
 Boston, MA 02201

From: Meredyth Sanders and Conor Semler

RE: Western Avenue TDM Strategies - Draft

INTRODUCTION

The Boston Planning & Development Agency’s (BPDA) *Western Avenue Corridor and Rezoning Study* is a planning effort to engage local stakeholders in conversations about future development on Western Avenue between Barry’s Corner and Leo Birmingham Parkway, together with both sections of Telford Street and Everett Street between Lincoln Street and Soldier’s Field Road.

Future development along Western Avenue will include new land uses and street connections that support multiple transportation modes. Denser, mixed-use development and a network of complete streets will enable people to travel safely and comfortably by walking, bicycling, taking public transit, or driving.

The *Western Avenue Corridor and Rezoning Study* planning process considered the transportation impacts of the proposed rezoning. The BPDA and the study team (Kittelison & Associates, Inc.) completed a series of analyses to understand the traffic and transportation impacts of various land use scenarios. The results of the traffic analysis are presented in the May 4, 2021 memo to the BPDA titled “[Draft Modeling Process and Assumptions for Long-Term Build-Out](#).” Based in part on these analyses, the BPDA selected a preferred zoning scenario that will enable the City to both improve existing network issues and allow for additional neighborhood growth.

This memorandum builds on the results of the transportation analysis and identifies a range of transportation demand management (TDM) strategies to manage the impacts of anticipated growth. These TDM strategies are intended to support the goals of *Go Boston 2030*, including achieving a 50% reduction in vehicle trips on Boston streets.

FUTURE NO-BUILD TRAFFIC IMPACTS

As documented in the “Draft Modeling Process and Assumptions for Long-Term Build-Out” memorandum, the proposed rezoning would result in approximately 1,423 vehicle trips during the p.m. peak period. To understand the impacts of the proposed rezoning, these new traffic trips generated by the potential development resulting from the proposed rezoning were added to the existing transportation network, in addition to all known “in-process” development projects.

Assuming existing trip-making behavior, with people choosing to drive at the same rate as they do today, the future street network would experience high levels of congestion at several nearby intersections during the peak periods. These congested future traffic conditions would also stifle multimodal travel, clogging lanes for buses and minimizing opportunities to build protected bike lanes. BPDA understands that future travel will need to rely less heavily on driving to maintain mobility throughout the neighborhood.

Go Boston 2030

Go Boston 2030, Boston’s comprehensive transportation plan, outlines mode shift goals for the City to meet the needs of livability, equity, safety, and the environment. As shown in **Figure 1**, Boston seeks to reduce driving in the City by 50% by 2030.

How We Get to Work Today and Aspire to in 2030

Mode for Bostonian Commutes	Today*	2030 Aspirational Goal
Public Transit	34%	↑ Up by a third
Walk	14%	↑ Up by almost a half
Bike	2%	↑ Increases fourfold
Carpool	6%	↓ Declines marginally
Drive Alone	39%	↓ Down by half
Other/Work from Home	5%	↑ Slight increase in Work from Home

Figure 1 *Go Boston 2030* Mode Share Goals

Accordingly, BPDA is planning with a goal to reduce driving alone in the Western Avenue study by half. This can be achieved by reducing vehicle trips from future developments and changing trip-making behavior for existing land uses. Incentives such as discounted transit passes or increased parking pricing encourage people to choose to travel by methods other than driving alone. The Study team modeled future traffic conditions assuming a 50% reduction in vehicle trips through implementation of TDM measures. The analysis results showed that the study area intersections would not experience substantial increases in congestion compared with today.

Mode shift will not happen by continuing to plan and develop land in the same way. The City must proactively guide individuals, institutions, and property developers away from single occupancy automobile travel. The following section describes the Study’s approach to transportation demand management.

TRANSPORTATION DEMAND MANAGEMENT

Transportation demand management (TDM) strategies aimed at shifting travel away from single-occupancy driving are critical to achieving the *Go Boston 2030* mode shift goals. TDM strategies create incentives to use non-auto transportation (e.g., reduced transit fares) or disincentives to driving (e.g., increased vehicle parking prices). While both types of strategies are useful in achieving mode shift, they often work best when paired together.

In October 2021, the Boston Transportation Department launched its new [TDM Points System](#) to reform the development review process. It sets performance-based targets for TDM programs of projects undergoing the BPDA Article 80 Large Project Review. The TDM points system allows developers to choose strategies that have been proven to have an impact on reducing drive alone rates. It will help developers minimize the amount of parking they build and, in turn, will reduce the amount of traffic and congestion generated by new developments.

The Western Avenue study draws from national best practices, including the TDM Points System, to identify a broad range of TDM strategies that will help meet the *Go Boston 2030* mode share goals. TDM programs have a history of success in the Boston region, [most famously in Cambridge’s Kendall Square](#). Between 2000 and 2012, Kendall Square added nearly 4 million square feet of development. Over that time traffic volumes on area streets remained flat or even decreased thanks to proactive TDM policies enacted by the City of Cambridge. **Figure 2** illustrates the traffic volumes on area streets over that time.

Cambridge’s total workforce has increased between 2000 and 2016, but the number of people driving to work has decreased by 14% for SOVs and 22% for carpool, while the number of people taking public transit has increased by 22%, and the number of people traveling by bike has increased by 150%.

The Metropolitan Area Planning Council (MAPC) [recently completed a report](#) documenting other regional case studies demonstrating the impact of TDM programs.

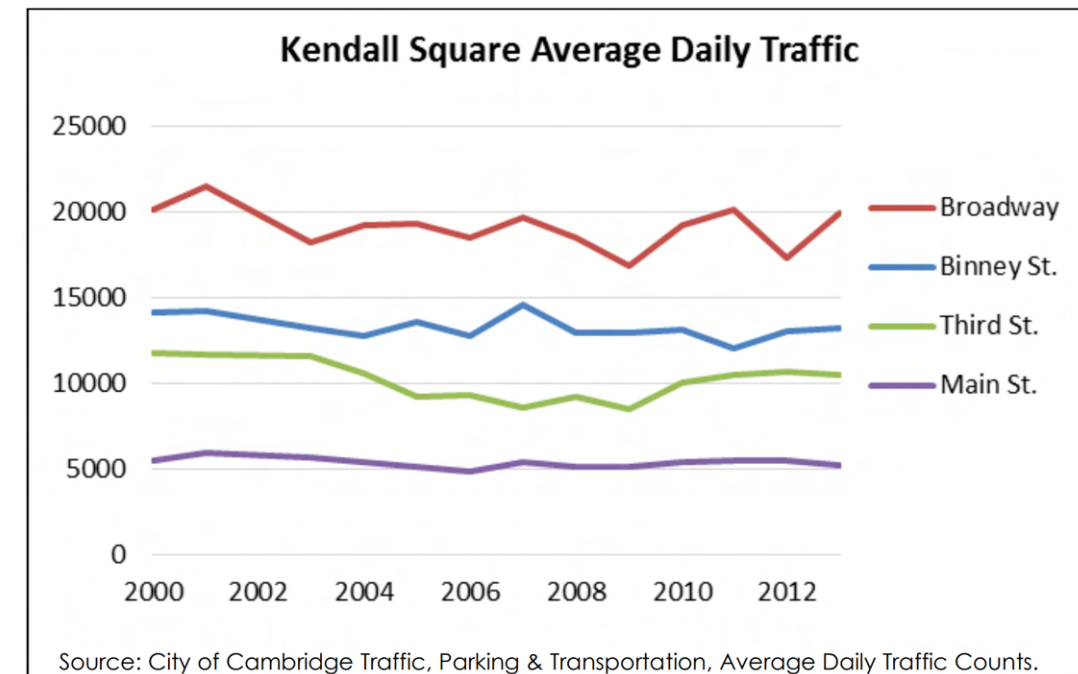


Figure 2 Kendall Square Average Daily Traffic Volumes

Each TDM strategy is estimated to impact trip-making behavior in distinct ways. Some strategies shift people away from driving at high rates for short trips, but are less effective at discouraging driving for people who must travel further. Other strategies work better at longer distances. This section details the analysis method used to identify and estimate the impacts of selected TDM strategies on trips to and from the Western Avenue study area.

Method

As described in the [“Draft Modeling Process and Assumptions for Long-Term Build-Out”](#) memorandum, future vehicle trips were estimated based on the trip generation characteristics of the full build-out of the proposed rezoning. Vehicle trips were then distributed based on the origin-destination patterns for Zone 17 in the BTM Trip Distribution Zones from the Development Review Guidelines (see Figure 2, below). Vehicle trips were then assigned to the street network following the trip distribution patterns identified above. Based on this trip assignment, each origin-destination pair was assigned a trip distance based on the roadway network.

Next, the Study team identified potential TDM strategies to shift travel behavior away from driving for the Western Avenue study area. Drawing from national research, local experience (including BTM’s [TDM](#)

[Points System technical documentation](#)), and professional judgment, each strategy is estimated to shift mode according to its effectiveness and trip distance.

To measure the impact of trip distance on strategy effectiveness, each origin-destination pair is categorized into one of three trip distance “rings:” less than 3 miles, 3 to 6 miles, and greater than 6 miles. **Figure 3** provides an illustration of BTD’s Trip Distribution Zones by “ring.” The analysis presented in this memorandum relies on street network distances, so the map in Figure 2 is purely illustrative.

For the purposes of this analysis, p.m. peak period vehicle trips were used to estimate the impacts of TDM strategies. **Table 1** summarizes p.m. peak period vehicle trips originating at or destined for the Western Avenue corridor by travel distance. If the Western Avenue Corridor were to be fully built as described in the proposed rezoning (6.6 million square feet), in addition to already occurring or planned-for background trips (10.8 million square feet of additional development), the total number of vehicle trips is estimated to be approximately 14,000 for the entire Western Avenue Study area in the p.m. peak period.

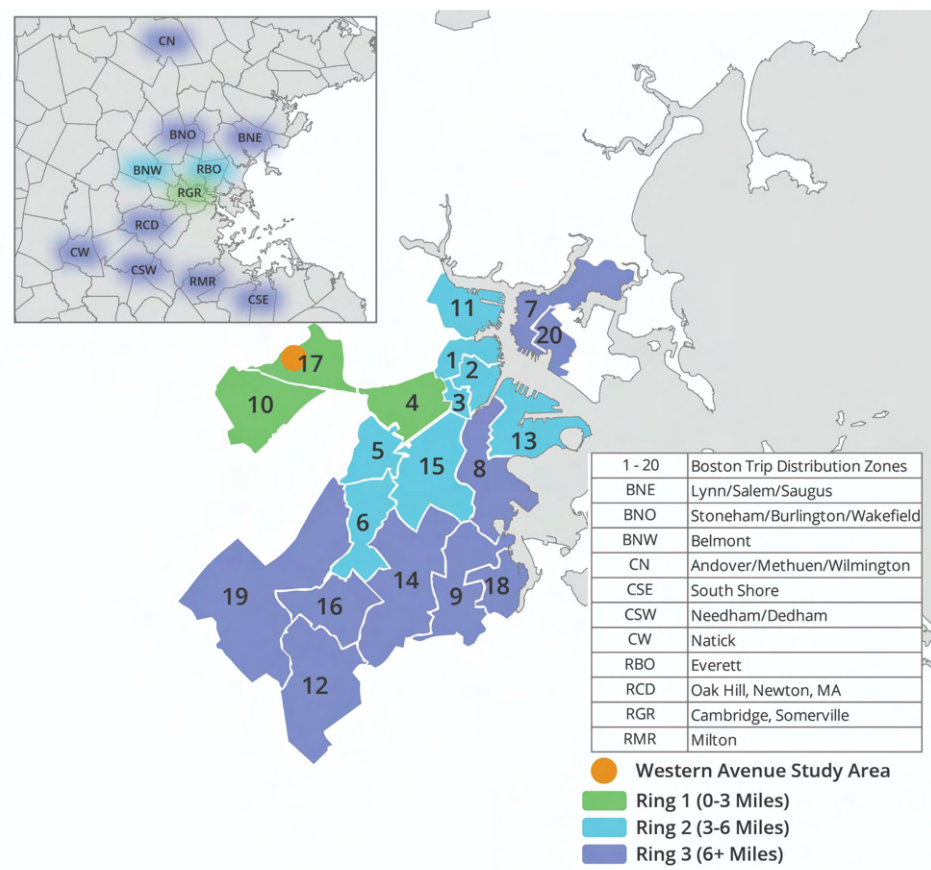


Figure 3 Western Avenue Trip Distances by BTD Transportation Distribution Zones

Table 1 Western Avenue Trip Distance

	Origin-Destination Travel Distance			Total
	Ring 1 (0-3 miles)	Ring 2 (3-6 miles)	Ring 3 (Greater than 6 miles)	
PM Peak Hour Study Area Vehicle Trips	5,208	3,367	5,425	14,000
Proportion of PM Peak Hour Vehicle Trips	37%	24%	39%	100%

As shown in Table 1, the majority of vehicle trips (61%) are six miles or less in distance, which presents a significant opportunity for conversion to walking, bicycling, or transit. In urban areas like Boston, trips under 6 miles can often be made faster, cheaper, and/or more efficiently by non-auto modes than by driving. For example, traveling from Boston Landing to Downtown Boston during the morning peak period, the 5-mile trip takes about 25 minutes driving, 20 minutes on transit, and 25 minutes on bike.

Each selected TDM strategy was estimated to reduce vehicle trips by a percentage for each of the distance rings. The vehicle trip reduction estimates are based on national research and best practices applied to the specific context of the Western Avenue study area. The study team relied on several factors to decide the vehicle trip reduction estimates:

- Existing mode shares by neighborhood (from the U.S. Census)
- Experience from TDM strategies locally and nationally
- “Best case scenario” mode shares by mode in similar Boston neighborhoods
- Order-of-magnitude impacts from [BTB’s TDM Points System](#)

The strategies are organized into two categories: (1) strategies that require action or investment from a public agency; and (2) strategies that can be implemented privately. The vehicle trip reduction estimates quantify the approximate impact of each individual strategy. However, these strategies are most effective when used together.

The following two examples are used to illustrate the analysis method. The first, reducing parking supply, is an example of a strategy to reduce driving subsidies. The second strategy, building a low-stress bicycle network, demonstrates the impact of encouraging travel by non-auto modes.

REDUCE PARKING SUPPLY

The availability of parking at a destination is one of the most influential factors in a traveler’s decision on whether to drive. When parking availability is decreased, some proportion of the population will decide to travel by other modes. Travelers have different choices depending on where they are traveling to or from, what the specific needs of the trip is, and what alternatives to driving are available.

Reducing parking supply will have the greatest effect on trips having the most alternatives to driving. Short distance trips and trips along high-frequency transit routes have the greatest ability to shift travel away from driving. To understand the quantity of vehicle trip reduction, the analysis estimates the potential to shift travel away from driving according to the travel rings defined above. **Table 2** outlines the potential for reducing parking supply to reduce driving.

Table 2 Vehicle Trip Reduction for Reducing Parking Supply

TDM Strategy	Vehicle Trip Reduction			Total
	Ring 1 (0-3 miles)	Ring 2 (3-6 miles)	Ring 3 (Greater than 6 miles)	
Reduce Parking Supply	10%	7%	3%	6%*
Total PM Peak Vehicle Trips	5,208	3,367	5,425	14,000
Reduced PM Peak Vehicle Trips	-508	-231	-136	-875

* Weighted Average

Reducing vehicle parking has the potential to remove approximately 875 trips from the Western Avenue area street network. Most of the reduction (just over 500 trips) would come from origin-destination pairs under three miles.

LOW-STRESS BICYCLE NETWORK

Building a low-stress bicycle network throughout the Western Avenue study area and surrounding neighborhood would create a street system in which most people would feel safe and comfortable biking to and from local destinations. This would enable people to choose to use a bicycle for some short-distance trips (e.g., grocery store). This TDM strategy would be most effective at influencing shorter distance trips (0-3 miles), moderately effective at medium-distance trips (3-6 miles), and modestly effective for longer distance (greater than 6 miles) trips. **Table 3** illustrates how this calculation would be applied.

Table 3 Vehicle Trip Reduction for Low-Stress Bicycle Network

TDM Strategy	Vehicle Trip Reduction			Total
	Ring 1 (0-3 miles)	Ring 2 (3-6 miles)	Ring 3 (Greater than 6 miles)	
Low-Stress Bicycle Network	4%	3%	1%	2.5%*
Total PM Peak Vehicle Trips	5,208	3,367	5,425	14,000
Reduced PM Peak Vehicle Trips	-208	-84	-54	-347

*Weighted Average

As shown in Table 3, the creation of a low-stress bicycle network is estimated to reduce approximately 347 vehicle trips from the future transportation network. These trips would be made by bicycle instead of driving.

RECOMMENDED TDM STRATEGIES

The Study Team identified 12 TDM strategies that can be implemented through private development. The Team also identified 9 TDM strategies that require public investment to realize the mode shift impacts. Table 4 presents these strategies, the parties responsible for implementing each strategy, the modes that each strategy will shift trips to, and the percentage of vehicle trips estimated to be shifted to other modes by trip distance.

As highlighted in **Table 4**, the success of these TDM strategies relies on cooperation between the City of Boston and a range of partners, including the MBTA and private property owners. For example, the TDM strategy to Improve Commuter Rail Service depends on the MBTA and MassDOT making planned capital improvements such as servicing and building West Station in Allston and improving commuter rail operations (e.g., frequency and reliability of service). As development reviews take place, the BPDA and BTM will evaluate and approve proposed TDM strategies to further the goals of the Western Avenue Corridor Rezoning Study and Go Boston 2030. The lifespan of all approved TDM measures in the Western Avenue study should match the life of Transportation Access Plan Agreements.

SUMMARY OF OVERALL MODE SHIFT

Future traffic volumes in the Western Avenue study area are estimated to be approximately 14,000 vehicles during the p.m. peak hour. This estimate is based on a combination of existing traffic, traffic from in-process developments (10.8 million square feet), and trips generated by 6.6 million square feet of long-term developments from the proposed Western Avenue Rezoning. If the City and its partners were to implement all of the TDM strategies outlined in the previous section, p.m. peak hour driving in the Western Avenue study area could be reduced by half to approximately 7,000 vehicles. Implementing all of these TDM strategies in short order might be challenging; nevertheless, it should be possible to implement many of the strategies. Moreover, since certain strategies result in a significant reduction in peak hour vehicle trips, it would be advisable to focus on the measures that would achieve the greatest peak vehicle trip reduction. These measures include: Increase density/intensity of land uses (as recommended by the WACRZ plan); Provide increased work from home flexibility; Reduce parking supply (25% of parking ratio guidelines); and, Implement market rate parking pricing.

Table 4 and Figure 4 summarize overall mode shift that can be achieved by the combined TDM strategies. Over half of trips that will shift from driving to some other mode are short trips within the first ring (0-3 miles). About a quarter of trips that will shift from driving to some other mode are mid-range trips within the second ring (3-6 miles). The remaining 16% of trips that will shift from driving to some other mode are long-range trips within the third ring (6+ miles).

Table 4 Maximum Possible Change in PM Peak Vehicle Trips to/from the Western Avenue Study Area

Mode	Change in PM Peak Vehicle Trips to/from the Western Avenue Study Area			
	Ring 1 (0-3 miles)	Ring 2 (3-6 miles)	Ring 3 (Greater than 6 miles)	Total
Bike	990	437	54	1,567

Transit	990	606	271	2,203
Walk	1,875	539	109	2,665
Work From Home	208	269	651	564
Drive (% veh trip reduction)	-4,062 (58%)	-1,852 (26%)	-1,085 (16%)	-6,999

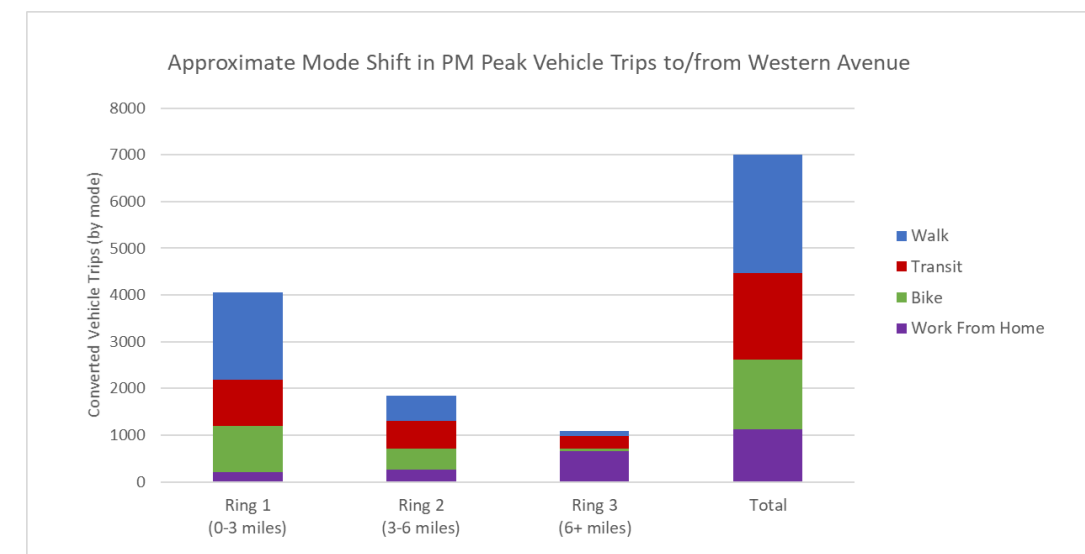


Figure 4 Maximum Possible Mode Shift in PM Peak Vehicle Trips to/from the Western Avenue Study Area (if all public and private TDM measures are implemented)

Draft Modeling Process Report and Assumptions for Long-Term Buildout



Date: May 4, 2021 Project #: 24929

Project: Western Avenue Transportation Study
 Subject: Draft Modeling Process and Assumptions for Long-Term Buildout

1.0 INTRODUCTION

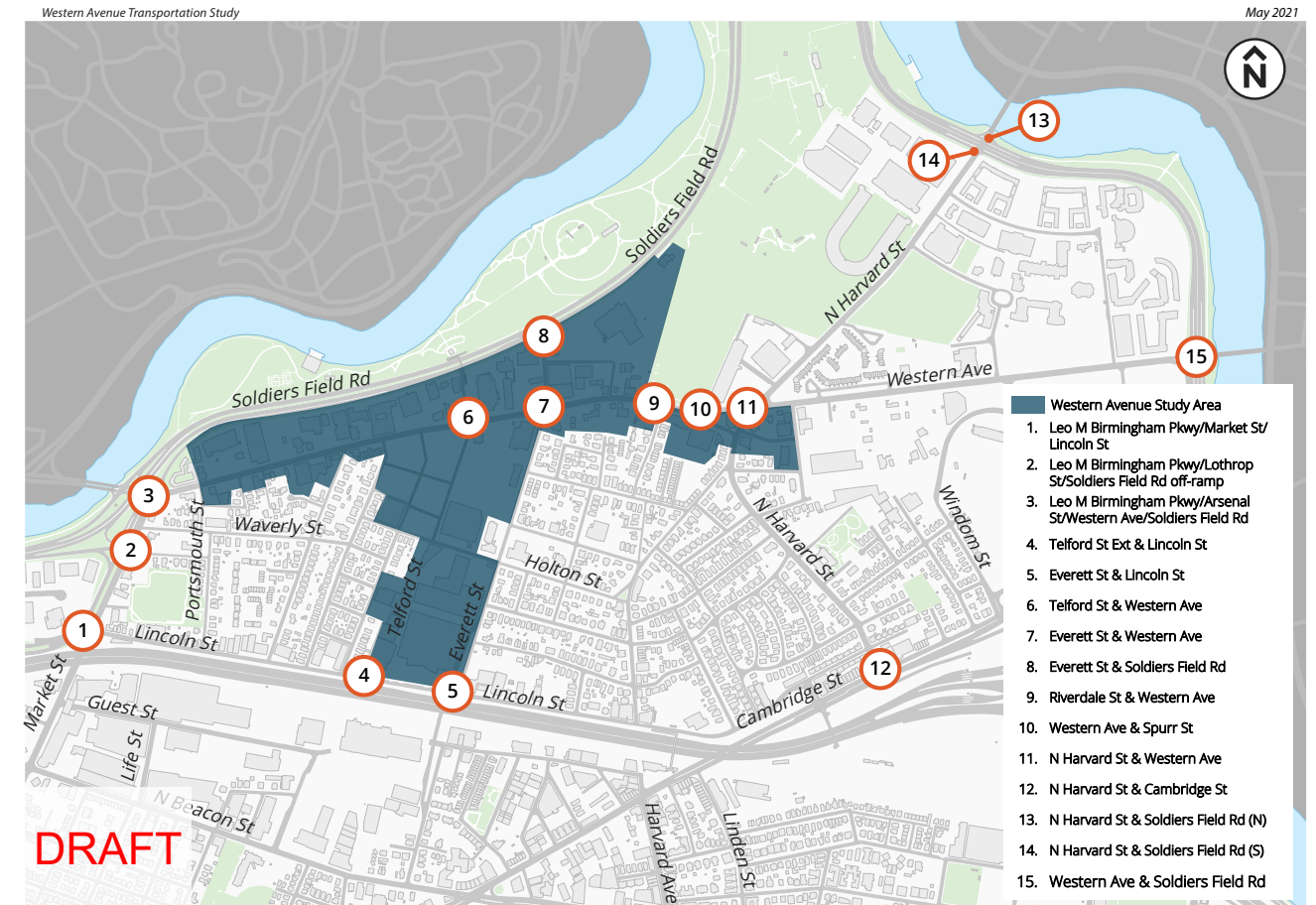
The Boston Planning & Development Agency’s (BPDA) *Western Avenue Corridor and Rezoning Study* is a planning effort to engage local stakeholders in conversations about future development on Western Avenue situated between Barry’s Corner and Leo Birmingham Parkway, together with both the sections of Telford Street and Everett Street situated between Lincoln Street and Soldier’s Field Road (**Figure 1**).

The City’s primary goals for this process include:

- Inform recommendations for new or modified zoning
- Build on previous and ongoing planning in the area, including:
 - o North Allston Strategic Framework for Planning
 - o North Allston-Brighton Community-Wide Plan
 - o Harvard’s Institutional Master Plan
 - o The Allston-Brighton Mobility Study (the “A-B Mobility Study”)
- Foster a dialogue with developers and property owners
- Recommend transportation enhancements
- Recommend public realm improvements

Development and growth along Western Avenue will entail the formation of new land uses and street connections that must support multiple transportation modes, including walking, bicycling, public transit, and driving. The transportation planning that is being conducted considers local needs and conditions, and future changes guided by citywide plans and policies, including Imagine Boston 2030, Go Boston 2030, Boston’s Complete Streets Guidelines, and the Vision Zero Action Plan.

The *Western Avenue Corridor and Rezoning Study* began with an assessment of existing transportation conditions in the Western Avenue study area. The BPDA and the study team (Kittelson & Associates, Inc.) tested a series of potential development and land use scenarios to identify a preferred development and land use scenario that will enable the City to both improve existing network issues and allow for additional neighborhood growth.



Western Avenue Corridor Study Area and Study Intersections Figure 1

The final transportation recommendations for Western Avenue will include an assessment of the neighborhood’s long-term build-out, as well as measures to make the area safer, alleviate congestion experienced today, and allow for future growth. These measures will include potential changes to the existing cross-sections for Western Avenue, Everett Street, and Telford Street.

This memorandum summarizes the technical evaluation of long-term build-out traffic operations in the Western Avenue study area. Findings from this memorandum will inform the identification, testing, and selection of additional transportation recommendations for the study area. A future update to this memorandum will summarize the impacts of the final transportation recommendations on long-term build-out traffic operations.

2.0 EXISTING CONDITIONS ANALYSIS PROCESS

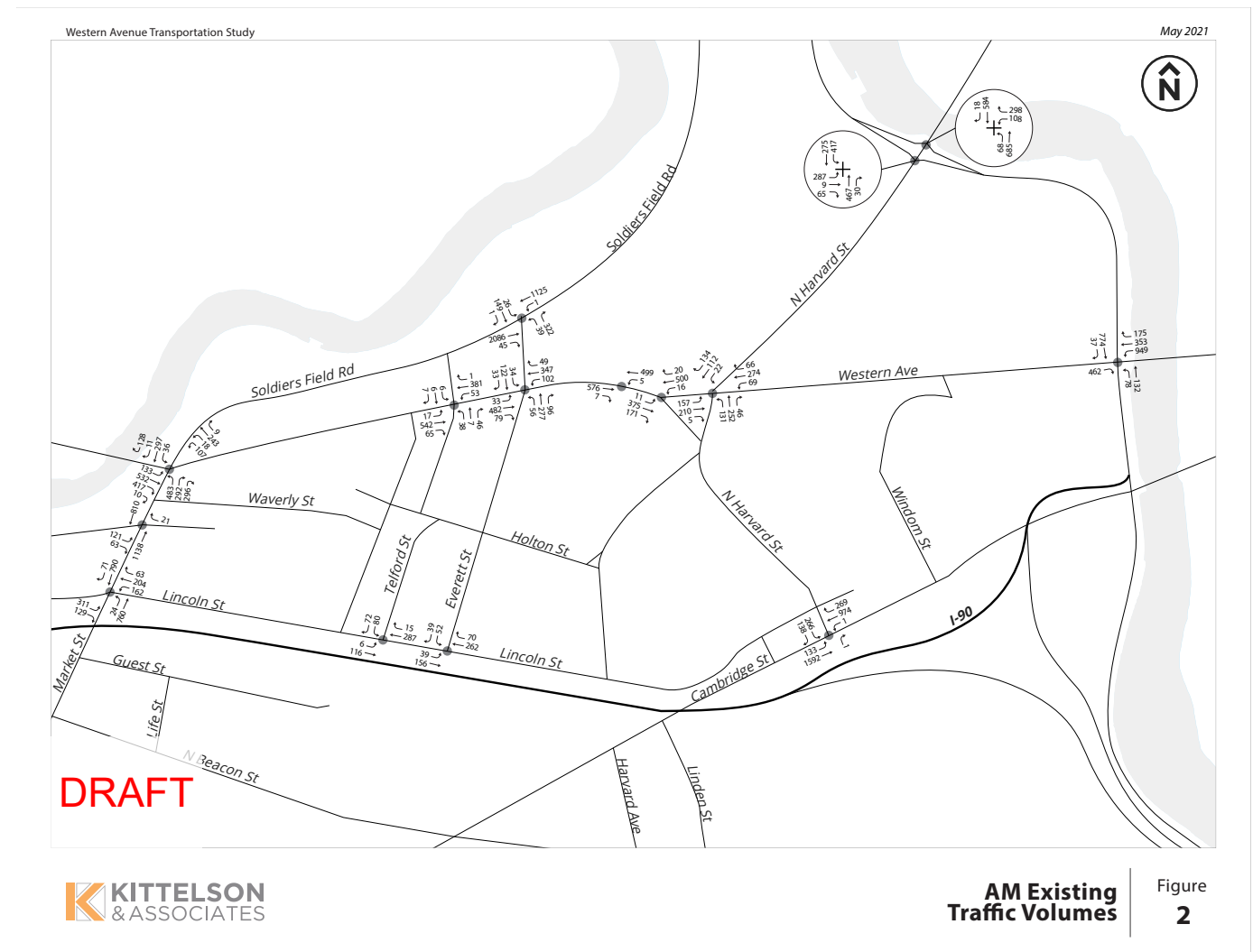
Kittelson conducted multi-modal trip data assembly and collection for study intersections, and developed a.m. peak period and p.m. peak period Synchro models for the study intersections. The Western Avenue Corridor Study area is shown in **Figure 1**.

Data Collection

For the baseline condition, Kittelson and the BPDA compiled recent peak hour turning movement counts. These counts were collected between 2013 and 2018. A 2% annual growth rate was applied to counts taken before 2019 to develop 2019 volumes. Turning movement counts were not available at one study intersection (Lincoln Street and Telford Street Extended), so volumes from adjoining intersections were used to develop a turning movement count estimate at this location. Intersection-specific peak hours were used for the analysis. At intersections within the study area, the morning and evening peak hours ranged between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively.

Figure 2 and **Figure 3** provide a summary of the resulting 2019 Existing Condition traffic volume counts for the weekday a.m. and p.m. peak periods.

The traffic count worksheets used in this study are available upon request.

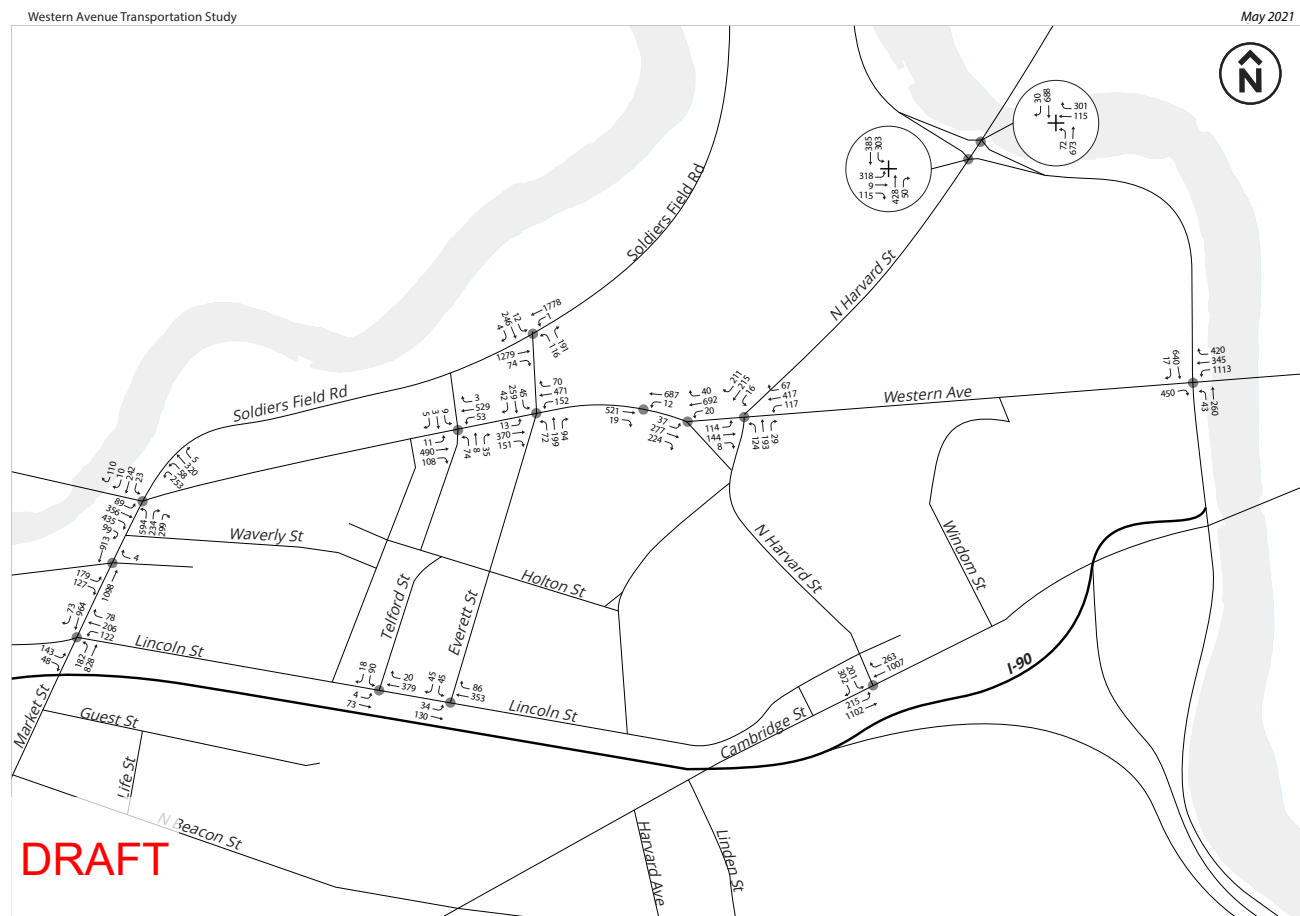


Existing Intersection Delay

Traffic operations analyses were performed at study area intersections in accordance with the 2000 Highway Capacity Manual (HCM) for signalized intersections and the Sixth Edition HCM for unsignalized intersections using Synchro 10. Kittelson used intersection delay as the measure of intersection performance. Delay represents that amount of time it takes vehicles to pass through an intersection (reported in seconds).

Figure 4 summarizes delay for the study intersections under the weekday a.m. and p.m. peak periods. The intersections of Western Avenue/Soldiers Field Road/Leo Birmingham Parkway/Arsenal Street (#3) and Western Avenue/Soldiers Field Road (#15) experience the highest levels of delay.

The level-of-service worksheets for 2019 existing conditions are available upon request.



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PM Existing Traffic Volumes

Figure 3

DRAFT

3.0 LONG-TERM BUILD-OUT WESTERN AVENUE ANALYSIS PROCESS

This portion of the study was developed to provide a thorough and technical evaluation of long-term build-out traffic operations along Western Avenue to support the future vision of the *Western Avenue Corridor Study*. Future potential development, land use, and changes to the street network were provided by the BPDA for this analysis.

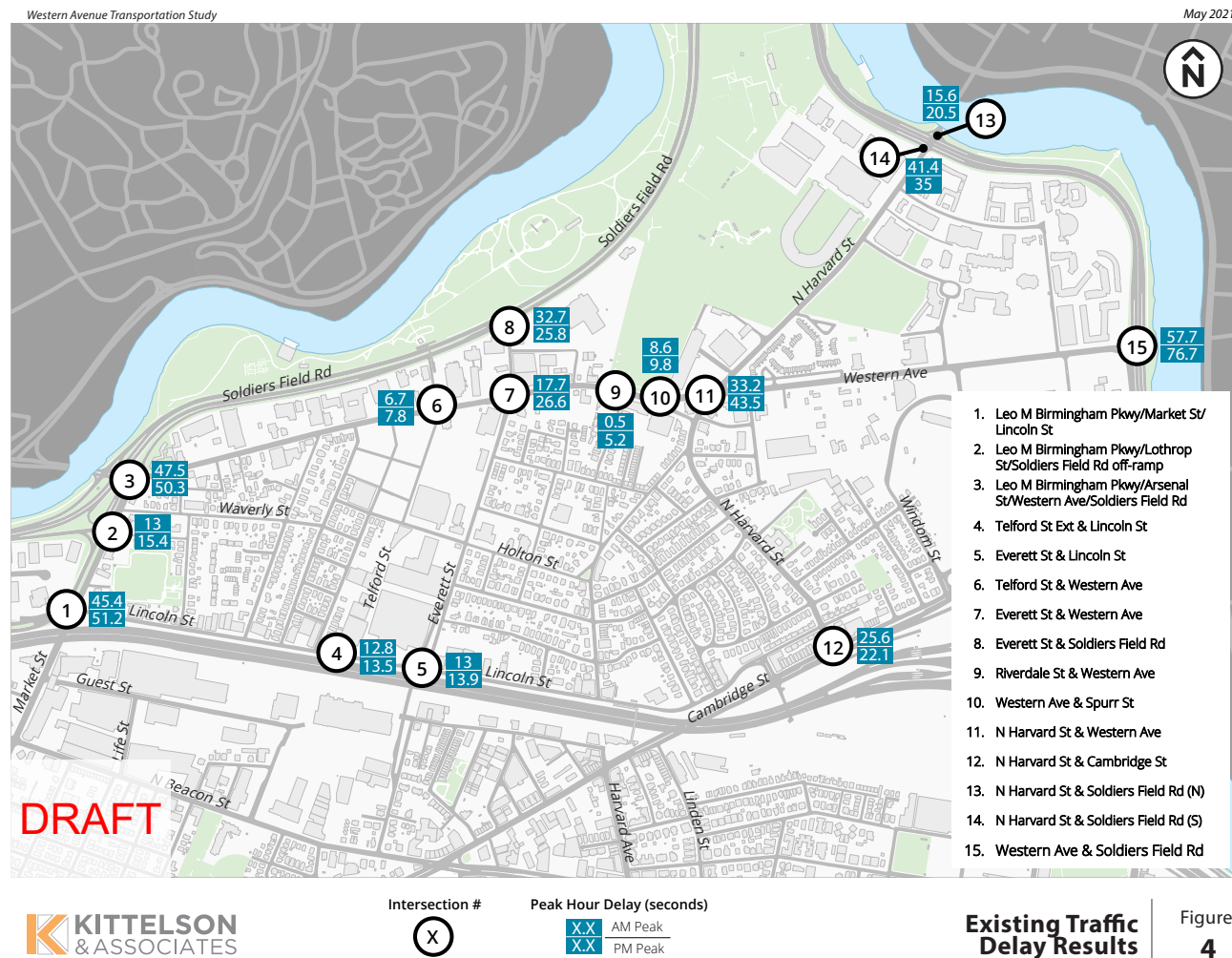
Known Area Development

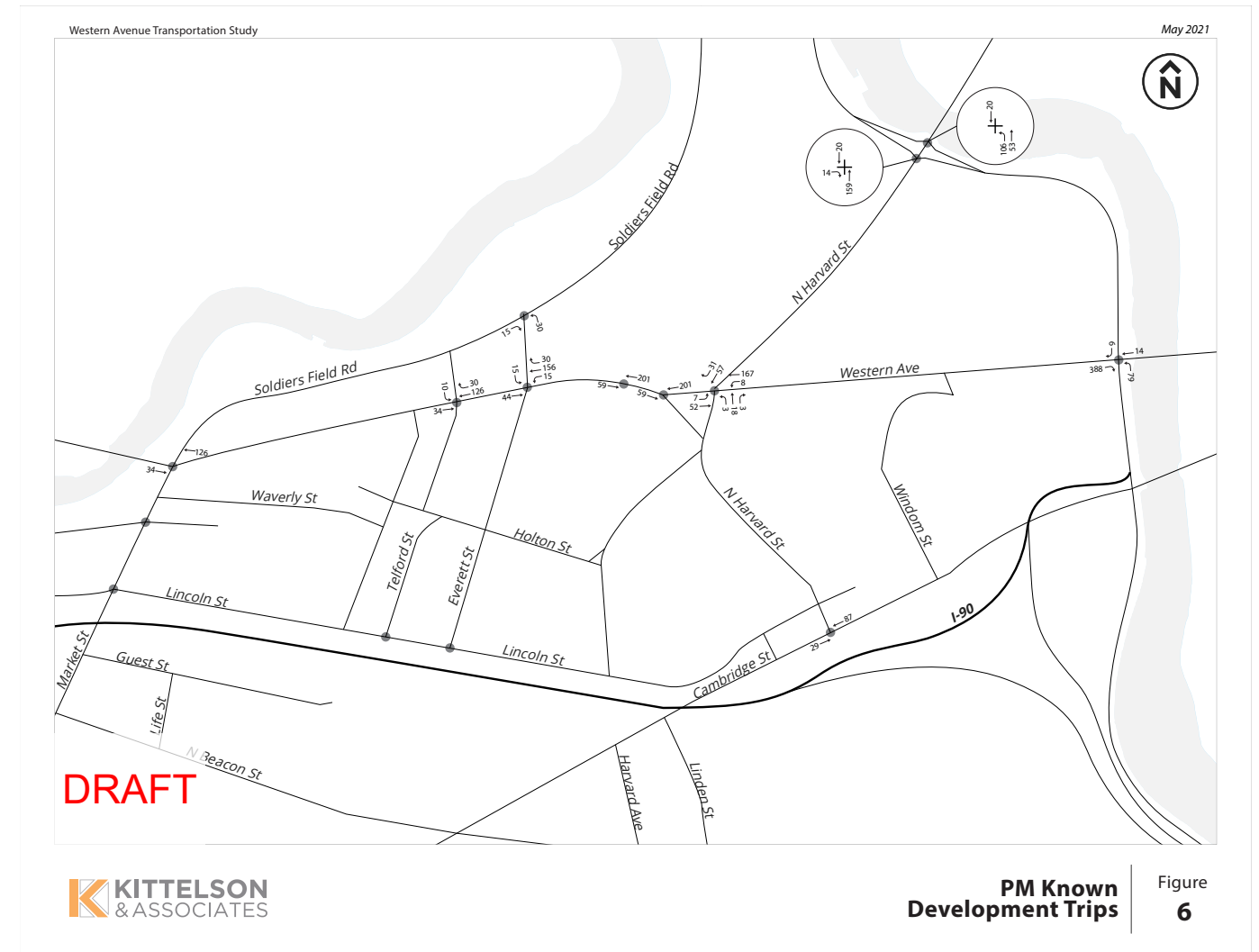
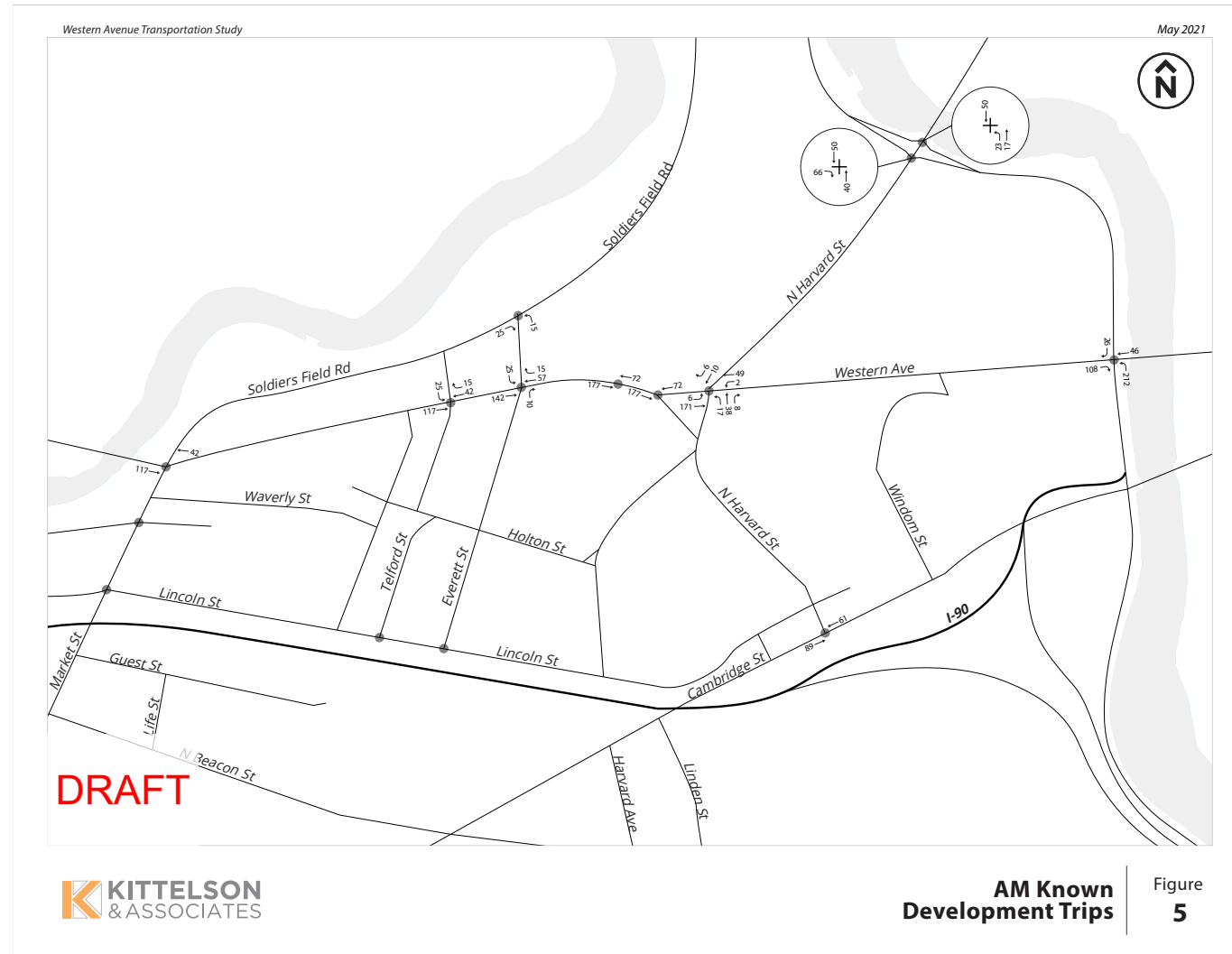
Future traffic volumes from six known in-process developments were included in the long-term build-out Western Avenue analysis:

- **Harvard Enterprise Research Campus (ERC):** Planned for a 36-acre area across Western Avenue from Harvard Business School, this project will contain approximately 1,800,000 square feet of mixed-use development consisting of residential, office/lab, hotel, conference center, restaurant, and retail use, along with over two acres of public open space. Site generated vehicle trips from the approved traffic study for the project were added to the long-term build-out Western Avenue analysis.
- **Harvard Business School Faculty & Admin:** Located on Gordon Road east of N. Harvard Street, this project will contain 110,000 square feet of faculty and administrative office uses. Background vehicle trips from this site for the approved traffic study for the Harvard ERC project were added to the long-term build-out Western Avenue analysis.
- **Harvard Mixed Use Project:** Located on Ivy Lane west of N. Harvard Street, this project will include a 60,000 square foot basketball venue, 200,000-250,000 square feet of residential uses, and 10,000-30,000 square feet of retail uses. Background vehicle trips from this site for the approved traffic study for the Harvard ERC project were added to the long-term build-out Western Avenue analysis.
- **Harvard Gateway:** Located in the northeast quadrant of the intersection of Western Avenue and N. Harvard Street, this project will include 250,000-265,000 square feet of institutional/mixed use uses and 35,000-50,000 square feet of retail uses. Background vehicle trips from this site for the approved traffic study for the Harvard ERC project were added to the long-term build-out Western Avenue analysis.
- **Harvard Hotel/Conference Center:** Located east of the Harvard ERC site, this project will contain 250,000 square feet of hotel and conference space. Background vehicle trips from this site for the approved traffic study for the Harvard ERC project were added to the long-term build-out Western Avenue analysis.
- **Science and Engineering Complex (SEC):** Located west of the Harvard ERC site, this project will include 496,850 square feet of academic space. Background vehicle trips from this site for the approved traffic study for the Harvard ERC project were added to the long-term build-out Western Avenue analysis.

Figure 5 and Figure 6 show the vehicle trips added by the known area developments during the weekday a.m. and p.m. peak periods.

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New Grid

Transportation infrastructure needs are important to consider and evaluate while planning future development in the Western Avenue Study Area. The current street network includes pinch points and gaps, particularly between Western Avenue and Soldiers Field Road. Without a long-range plan, growth may occur without network transportation benefits. As a result, a new street grid concept was developed and analyzed as part of considering how to incorporate future growth and increased traffic volumes within the study area as well as improve existing network problems. A denser grid system helps disperse traffic while allowing more capacity to be accommodated. The conceptual grid model helps ensure that new growth and development can be accommodated. Improved connectivity and circulation for both vehicular traffic and alternative transportation modes are some of the benefits of a future grid network. The new streets also serve to break down superblocks and provide more human scaled streets

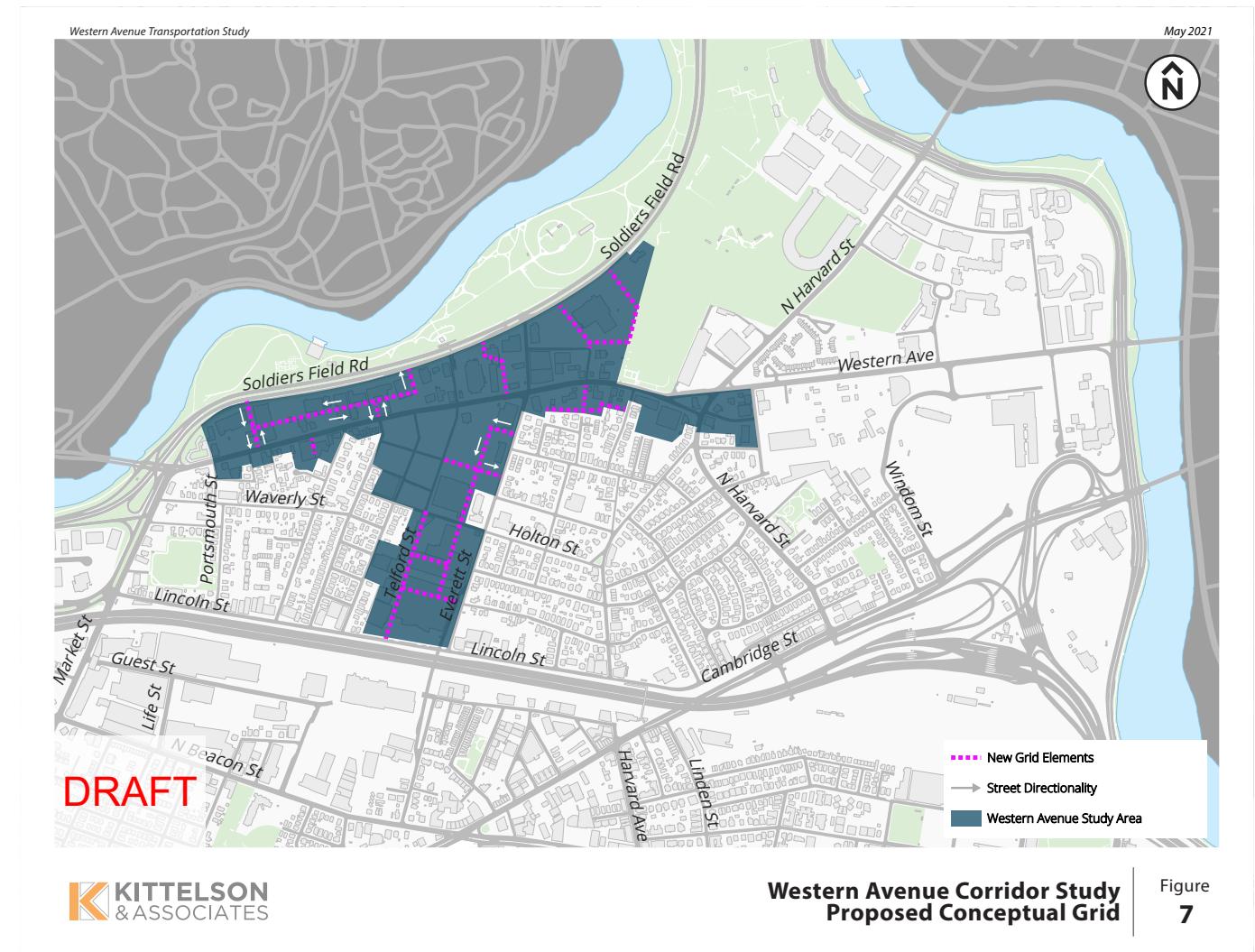
Street Circulation

Today, Western Avenue is a primary east-west roadway in the study area. Motorists use Western Avenue to access local streets within the study area and key regional facilities at the eastern and western bounds of the study area (i.e., Soldiers Field Road). There are few connections between Western Avenue and Soldier's Field Road within the study area (i.e., Telford Street, Everett Street, N. Harvard Street). Without changes to the area's street network, traffic will continue to be added to these connecting streets, which are nearing capacity during peak hours.

The planned grid concept adds four additional north-south connections between Western Avenue and Soldier's Field Road, including:

- Extending Richardson Street north across Western Avenue to Soldiers Field Road
- Extending Litchfield Street north across Western Avenue to a new east-west connection between Richardson Street extended and a new north-south connection to Soldiers Field Road
- Providing a new north-south connection from Western Avenue and Soldiers Field Road (between Telford Street and Everett Street)
- Extending Speedway Avenue north to Soldiers Field Road via the two existing driveway entrances to the Westinghouse Broadcasting Company building

The concept also proposes to connect Telford Street between Western Avenue and Lincoln Street. Connections between Telford Street and Everett Street via future extended east-west roadways such as Brentwood Street will grow the grid network south of Western Avenue. More street alternatives will help improve circulation within the study area and provide for future building access with development. The proposed conceptual grid network is displayed in **Figure 7**. Unless noted on Figure 7, streets are assumed to be two-way.



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Western Avenue Development Forecast

The BPDA tested two different long-term buildout scenarios for the Western Avenue study area so that the recommended zoning strategy for the study area could be informed by the results of transportation modeling. This sensitivity testing allowed the BPDA to understand how changes in land use mix (e.g., residential vs. office/lab), land use quantity, and land use location would influence the number of new trips, times of day that trips would take place, and how trips would move through the street network.

Table 1 summarizes the two scenarios included in the sensitivity testing. The sensitivity testing showed that Scenario A is the most likely to support the planning vision for the Western Avenue study area while providing access to all future users and uses of the street network.

Table 1. Long-Term Buildout Scenario Comparison

Scenario	Land Use	Size	Percent of Total
Scenario A	Residential	4.7M SF	71%
	Office	1.9M SF	29%
	Total	6.6M S	100%
Scenario B	Residential	2.7M SF	43%
	Office	3.6M SF	57%
	Total	6.3M SF	100%

The following sections detail the sensitivity testing process applied to both land use scenarios but only provide the results of the sensitivity testing for Scenario A.

Trip Generation

To estimate the new trips expected with the potential full build-out of the Western Avenue study area, the following development program was tested:

- 4,708,743 square feet of residential
- 1,889,648 square feet of office

Trips were estimated using the Trip Generation, 10th Edition, published by the Institute of Transportation Engineers (ITE). The following Land Use Codes (LUCs) were selected for the proposed uses:

- LUC 221 – Multifamily Housing (Mid-Rise)
- LUC 710 – General Office Building

ITE’s trip generation data provide unadjusted vehicle trip estimates that assume that all new trips will be vehicle trips. These unadjusted trips were first converted to person trips using historic vehicle occupancy rates for the study area.¹ Next, to account for the use of alternative transportation modes available within

¹ 2018 ACS 5-Year Estimates for the Census Block Groups encompassing the Western Avenue Study Area

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the Western Avenue study area, the person trips were assigned to specific modes, based on historic trends in the area. **Table 2** shows the local mode splits assumed for the Western Avenue study area.

Table 2. Peak Hour Mode Splits

Public Transportation	Walk/Bike/Other	Vehicle Trips
29%	31%	40%

Source: 2018 ACS 5-Yr Estimates

Since Scenario A will be comprised of mixed uses, an internal capture rate was applied to the weekday a.m. and p.m. vehicle trips. The internal capture rates were assigned using Trip Generation 3rd Edition methodology, which is based on NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments. **Table 3** shows the internal capture rates assumed for weekday a.m. and weekday p.m. vehicle trips.

Table 3. Internal Capture Rates

Internal Capture Rate	A.M. Peak Hour	P.M. Peak Hour
	1.34%	3.26%

The resulting estimated motor vehicle trip generation is shown in **Table 4**.

Table 4. Trip Generation Summary

Time Period/Direction	Vehicle Trips
Weekday Daily	
Total	15,344
Morning Peak Hour (minus internal capture)	
Enter	780
Exit	543
Total	1,323
Evening Peak Hour (minus internal capture)	
Enter	551
Exit	872
Total	1,423

Scenario A is estimated to generate approximately 1,323 vehicle trips (780 entering and 543 exiting new developments) during the morning peak hour. During the evening peak hour, the program would generate approximately 1,423 vehicle trips (551 entering and 872 exiting). These trips will be distributed among development parcels throughout the study area and onto the supporting roadway network.

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Trip Replacement

Scenario A will replace existing land uses along Western Avenue, such as the existing Star Market grocery store, Mahoney’s Garden Center, and various offices, autobody shops, and restaurants. The BPDA identified 936,925 square feet of land uses expected to be replaced with the potential full build-out of the Western Avenue study area. Since general land use codes (LUCs) were used for the proposed uses for the study area, LUC 710 (General Office Building) was applied to 744,818 square feet of existing land uses. More specific LUCs were selected for 192,107 square feet of existing land uses that produce a substantially higher number of trips than the General Office Building use (e.g., Star Market, German International School of Boston).

Using the same process that was applied to the trips generated by Scenario A, the unadjusted trips provided by ITE’s trip generation data were converted to person trips and assigned to specific modes. The same internal capture rate was applied to the weekday a.m. and p.m. vehicle trips to avoid overestimating the number of existing trips to be replaced by Scenario A.

The trips generated through this process were removed from the estimated motor vehicle trip generation. The resulting estimated motor vehicle trip generation is shown in **Table 5**.

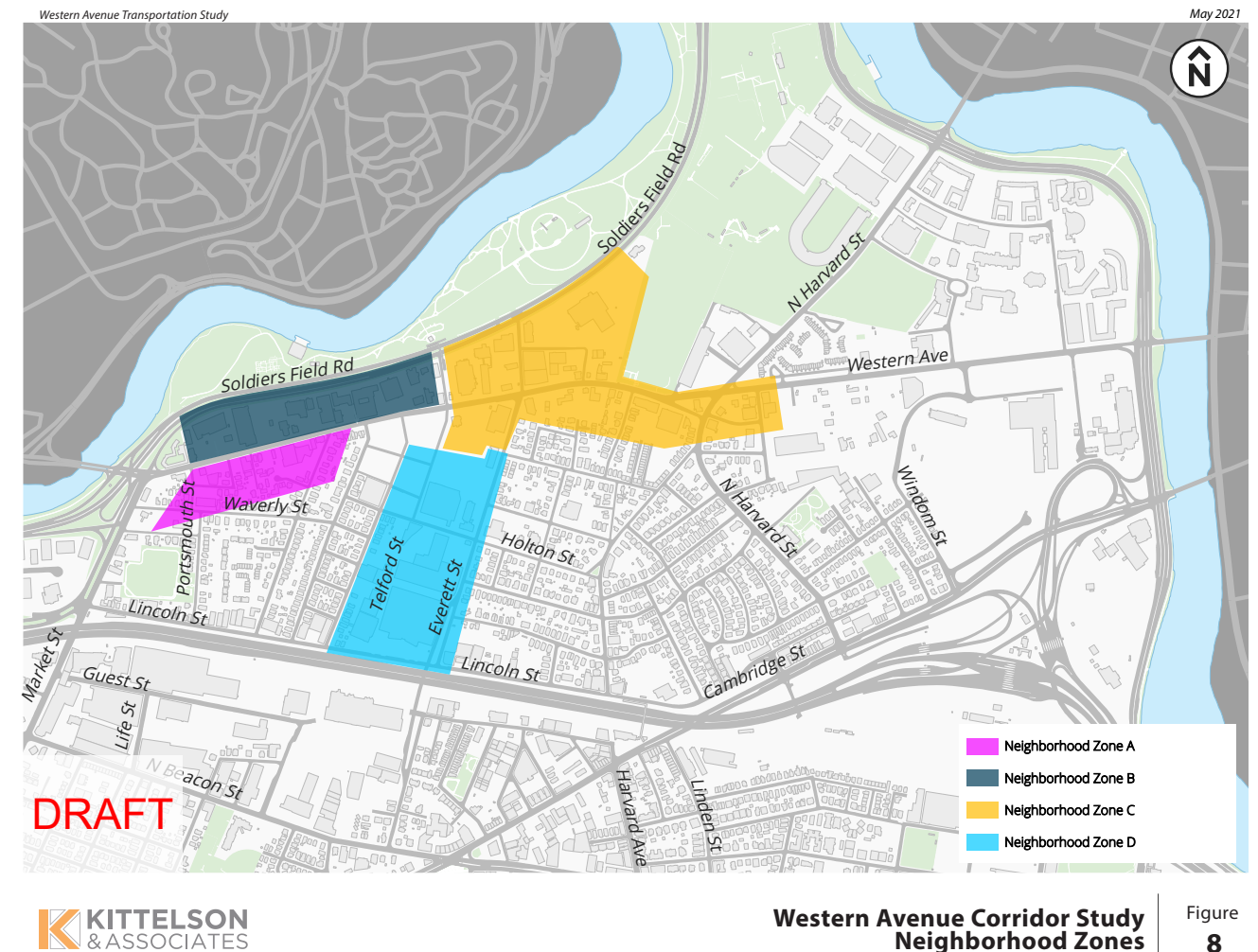
Table 5. Trip Replacement

Time Period/Direction	Development Vehicle Trips	Vehicle Trips from Existing Uses being Replaced	Net New Development Vehicle Trips
Morning Peak Hour			
Enter	780	448	332
Exit	543	192	351
Total	1,323	640	683
Evening Peak Hour			
Enter	551	242	309
Exit	872	447	425
Total	1,423	689	734

Trip Distribution

Since trip patterns vary within the Western Avenue Study area, four neighborhood zones were identified for trip distribution. The four neighborhood zones are shown graphically in **Figure 8**. Trips were distributed to and from each neighborhood zone based on BTDA’s guidelines for the project area. These guidelines are based on historic census data that identify where area residents work and where area employees live. BTDA’s Trip Distribution Zones are depicted in **Figure 9**. A summary of the regional trip distribution results is presented in **Table 6**.

New vehicle trips proposed by BPDA’s future land use scenario were added to the six known area development volumes using the local trip distribution patterns shown in **Table 6**.



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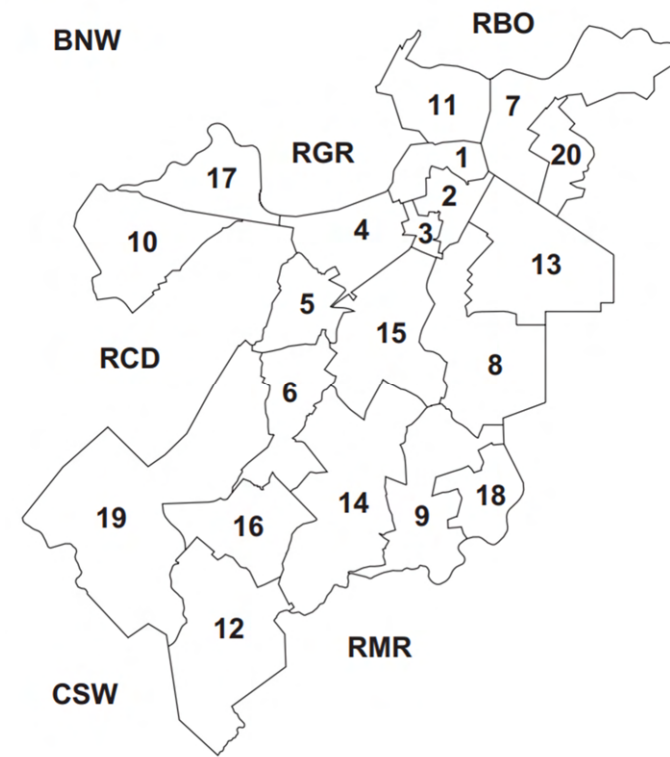


Figure 9. BTD Transportation Distribution Zone Map

Table 6. Trip Distribution

To/From (BTD Zones and Suburbs):	AM		PM	
	In	Out	In	Out
North (Stoneham, Burlington, Wakefield, Andover, Methuen, Wakefield)	11%	4%	5%	8%
Northeast (7, 11, Lynn, Salem, Saugus, Everett)	8%	6%	8%	9%
Northwest (Belmont, Watertown)	9%	8%	7%	7%
South (12, 16, 19)	3%	2%	2%	3%
Southeast (5, 6, 8, 9, 14, 15, 18, Milton and South Shore)	13%	11%	13%	13%
Southwest (10, Oak Hill, Newton, Needham, Dedham)	24%	21%	23%	25%
East (1, 2, 3, 4, 13, 20, Cambridge)	15%	34%	28%	20%
West (Natick)	11%	5%	5%	8%
Western Avenue Study Area ¹	6%	9%	9%	7%
Total	100%	100%	100%	100%

¹The Western Avenue Study Area is located within BTD Zone 17. Trips distributed within Zone 17 were not assigned to the study area's roadway network.

Source: BTD Trip Distribution Percentages for Zone 17 AM and PM

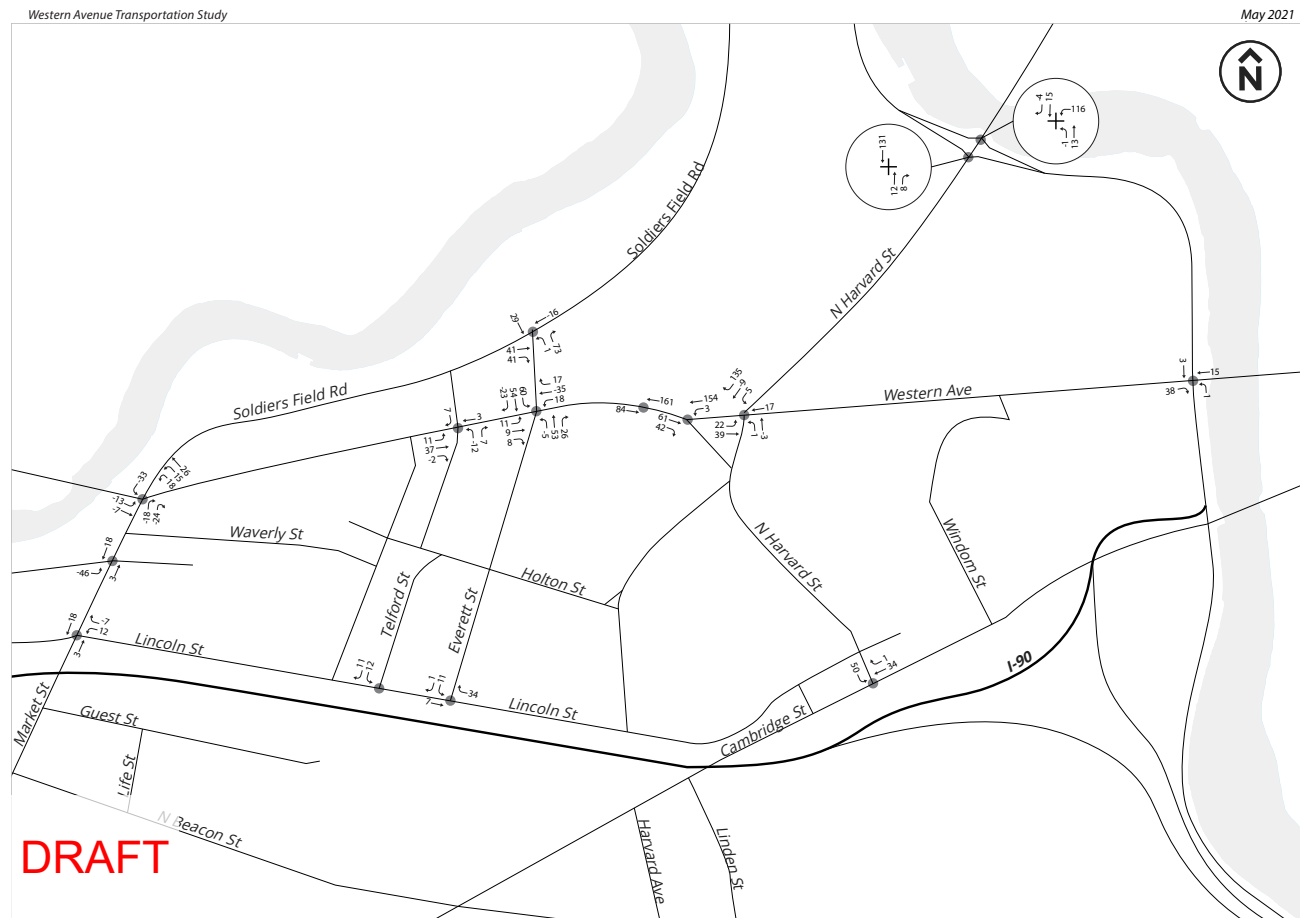
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Trip Assignment

Net new vehicle trips were assigned to the transportation network following the trip distribution patterns identified above. Trips were assigned origin-destination pairs comprised of the four Western Avenue zones and each of BTD's Trip Distribution Zones. For each origin-destination pair, the analysis team considered two to four routes following common traffic patterns. Trips for each pair were divided among the possible routes and combined to create net new traffic through the study intersections.

Figure 10 and Figure 11 show the net new development vehicle trips added to the street network during the weekday a.m. and p.m. peak periods.

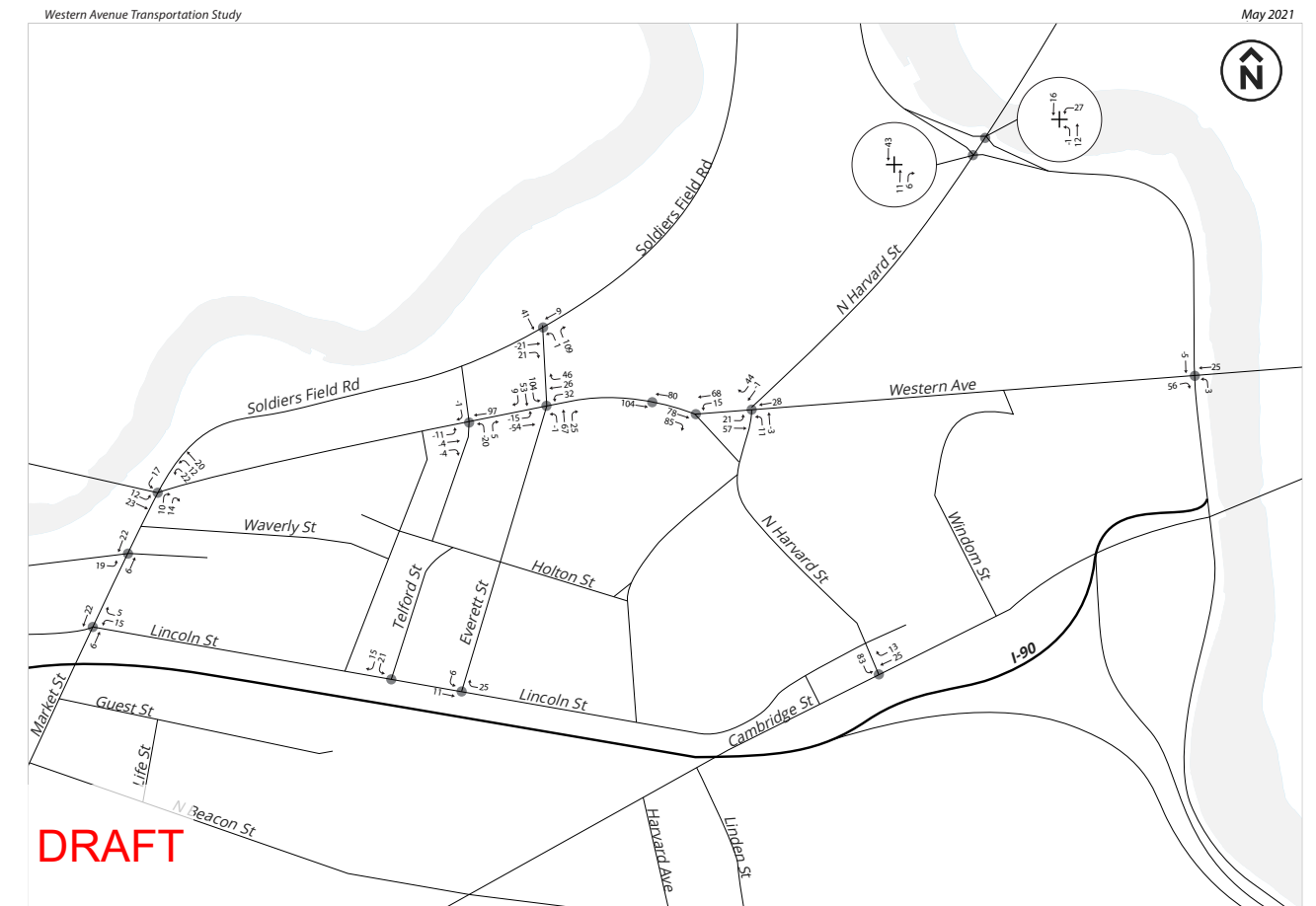
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AM Net New Trips Figure 10



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PM Net New Trips Figure 11

Long-term Build-Out Intersection Delay

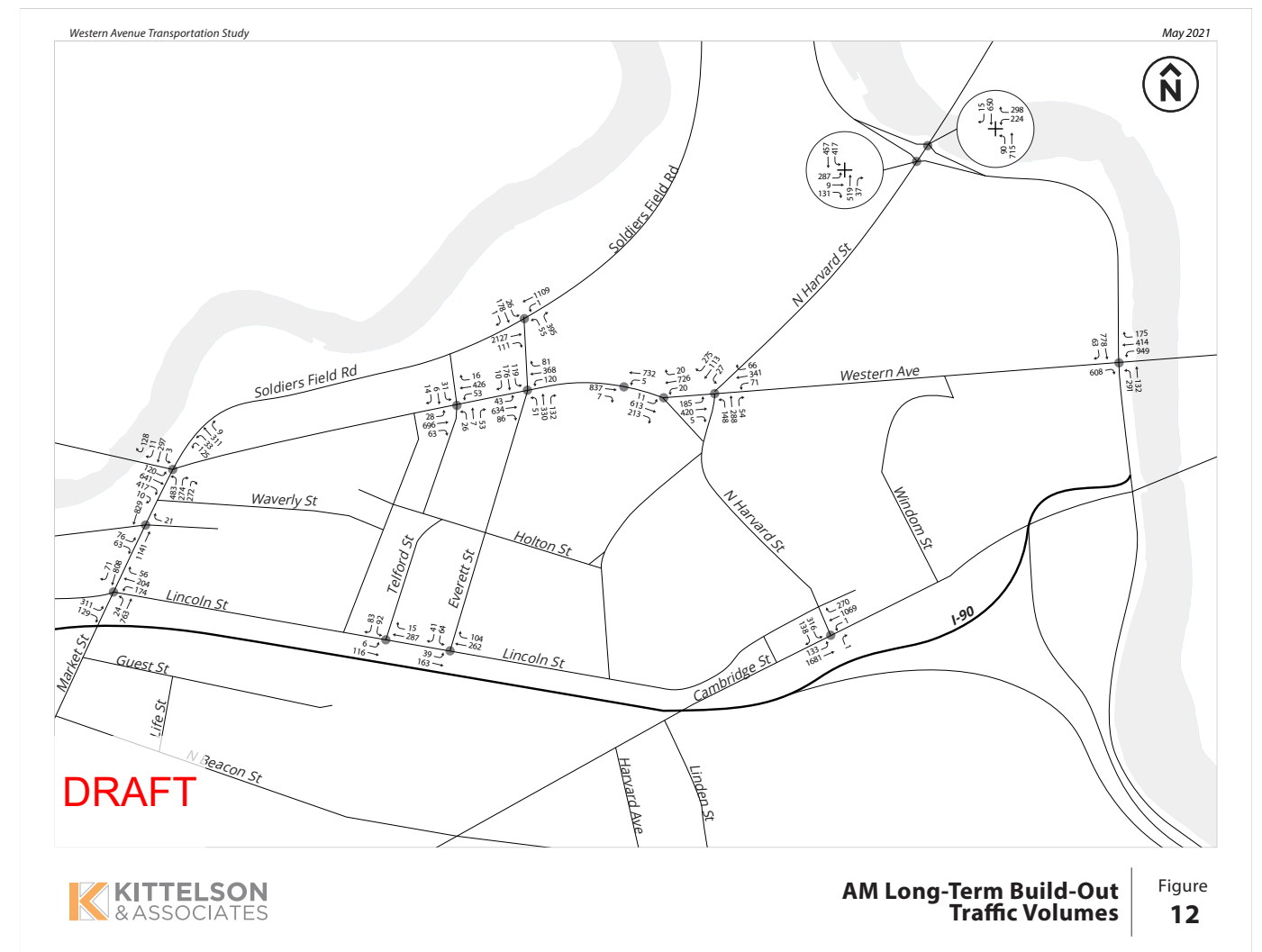
The resulting long-term build-out volumes are shown in **Figure 12** and **Figure 13** for the morning and evening peak periods, respectively. The volumes shown in these figures include known development traffic and estimated longer-term future Western Avenue study area development traffic.

Figure 14 summarizes delay for the study intersections under the weekday a.m. and p.m. peak periods. The intersections of Western Avenue/Everett Street (#7) and Western Avenue/Soldiers Field Road (#15) experience the highest levels of delay (greater than 75 seconds during the p.m. peak). Kittelson will test mitigations (e.g., signal timing modifications) to reduce vehicle delay at these intersections.

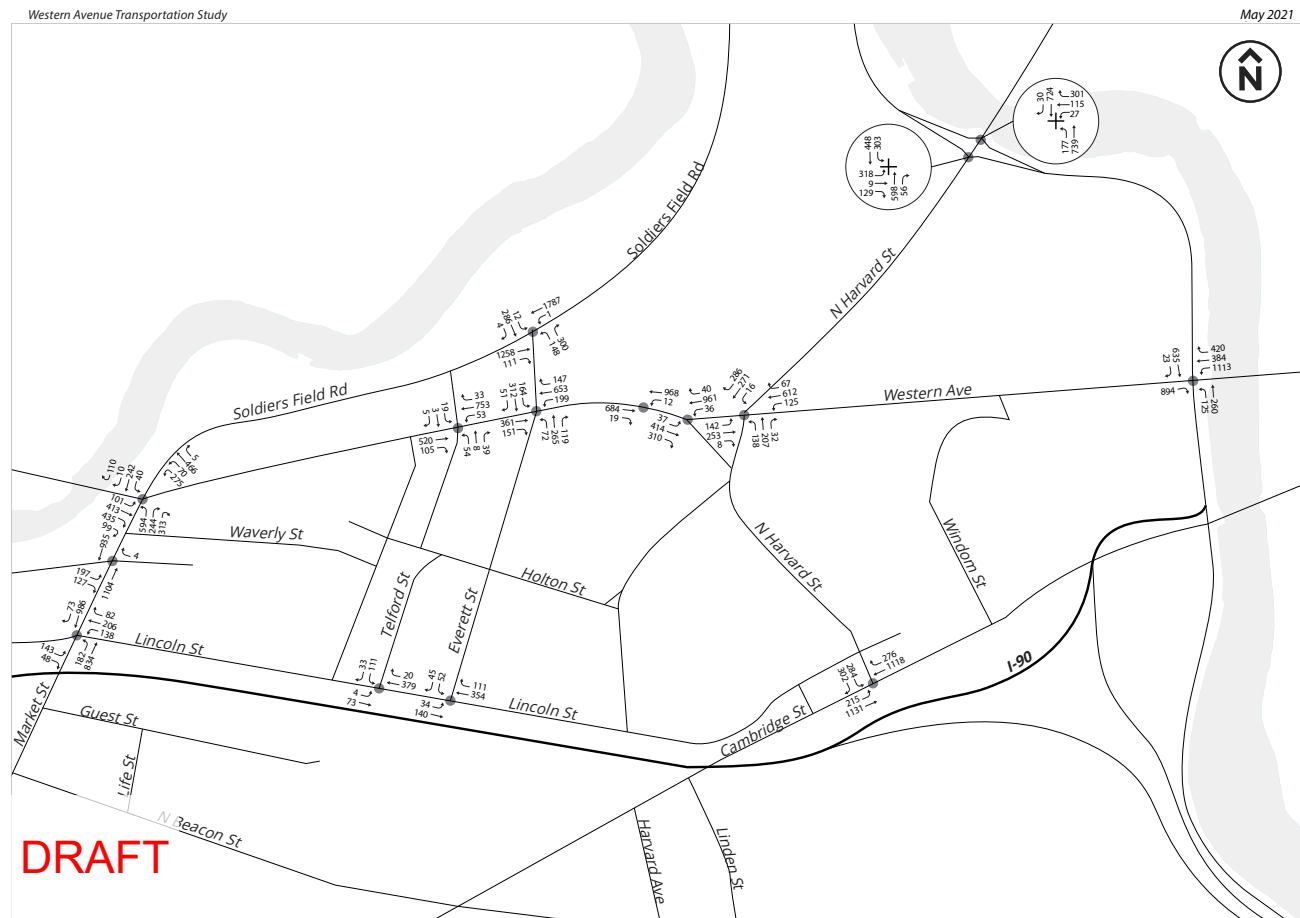
The level-of-service worksheets for long-term build-out conditions are available upon request.

4.0 NEXT STEPS

Kittelson will test multimodal changes to the street network and potential shifts in mode share to address impacts of the long-term build-out on traffic operations in the Western Avenue Study Area.

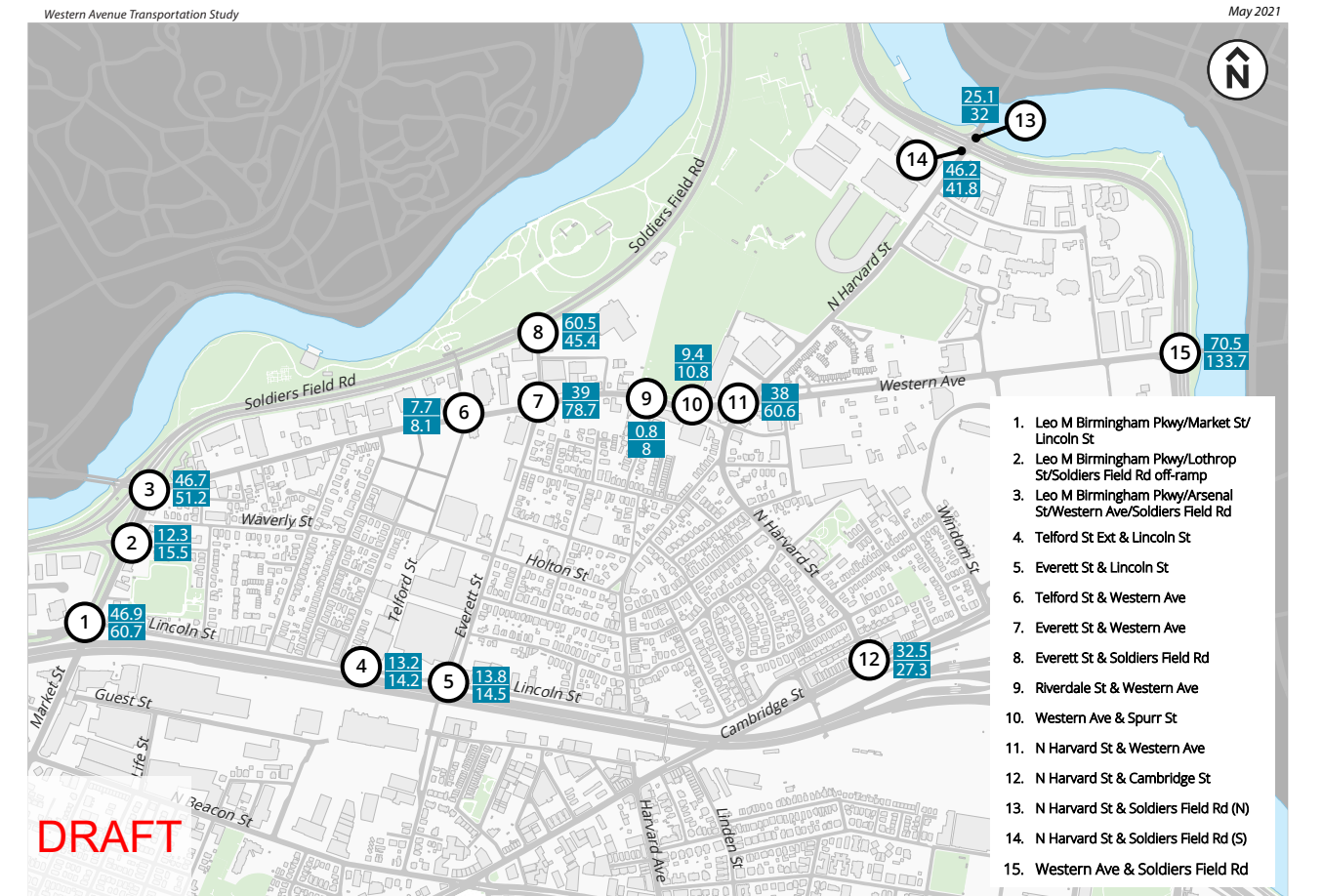


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PM Long-Term Build-Out Traffic Volumes Figure 13



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Intersection # (X)
Peak Hour Delay (seconds): X.X AM Peak, X.X PM Peak

Long-Term Build-Out Traffic Delay Results Figure 14

