

College  
Avenue



Ball  
Square



Lowell  
Street



Gilman  
Square



Union  
Square



Washington  
Street



Lechmere



# Mystic Valley Parkway Green Line Extension *Community Visioning Process*

Final Report  
February 2012



Cities of Medford and  
Somerville, MA



## Acknowledgments

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## Executive Summary

### Planning for a Potential Green Line Station

The Metropolitan Area Planning Council (MAPC) was hired by the Massachusetts Department of Transportation (MassDOT) to evaluate the possible benefits and impacts associated with a potential extension of the Green Line from College Avenue to Mystic Valley Parkway in the cities of Medford and Somerville. MAPC was specifically tasked with analyzing the potential for land use, zoning and development changes, and estimating future economic development benefits that could be derived from those changes. While benefits would be anticipated for both cities and their residents, impacts are also possible. Additional traffic, added pressure on parking and the potential for increased housing costs are some impacts that could accompany the potential station. Throughout the process, MAPC engaged both cities, key stakeholders in the area, and held a series of public meetings that have shaped the recommendations in this report.

### Vision for the Potential Station Area

What is envisioned for the station area is a well-connected, walkable, bike-able, neighborhood scale transit-oriented development node that provides new opportunities for mixed-income housing, job creation, increased tax revenue, and access to quality public transit. New development must knit into the fabric of the existing neighborhood and provide opportunities for increasing access to affordable housing and quality jobs. Connectivity from the surrounding area is critical in making the potential station a part of the neighborhood.

### Recommendations for the Potential Station Area:

MAPC developed recommendations for four specific focus areas immediately adjacent to the potential station which represent the greatest opportunity for change over a 20-25 year time horizon.

- Focus Area 1 – “166-194 Boston Avenue”
  - Allow up to four floors of mixed-use development
  - Ground floor mix of neighborhood retail and office space
  - Up to three floors of residential above
- Focus Area 2 – “200 Boston Avenue”
  - Allow for redevelopment of existing parking structure to accommodate up to three floors of office/research & development space
  - First floor could include a small restaurant or café
- Focus Area 3 – “Walkling Court”
  - Redevelop existing senior affordable housing complex
  - Allow for a mix of three to four floor buildings in order to create more senior affordable housing units than what exists today
  - Provide ADA accessible, affordable, modernized housing choices for seniors
- Focus Area 4 – “Whole Foods”
  - Allow for up to six floors of mixed-use development
  - Two floors for Whole Foods, up to four floors of residential above



Whole Foods Supermarket

### **Estimated Benefits from New Development:**

MAPC estimated the benefits that could be derived from the construction of the potential station and any development/redevelopment that could result from added demand in the area.

- **117 additional market-rate housing units**
- **55 additional senior housing units**
- **4 additional low-income family housing units**

- **15,000 square feet of added commercial/retail space**
- **67,000 square feet of added office space**

- **240 new jobs**
- **Doubling of existing tax revenue in the station area**
- **Additional \$25 million in home equity within a half-mile of the potential station**

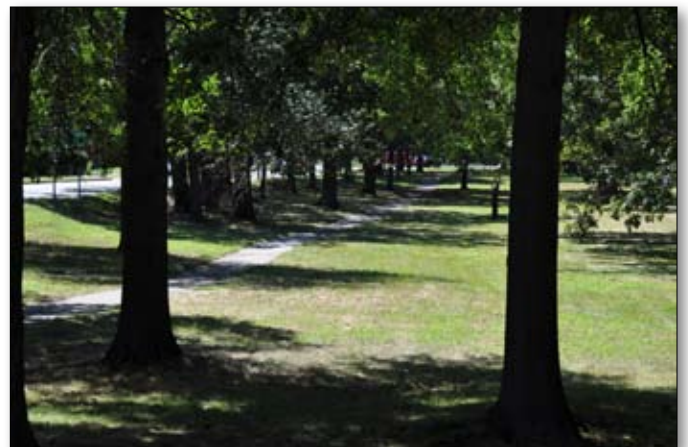
### **Implementing the Vision:**

Key steps for implementing the vision for the potential station area include:

- Rezone parcels in the area to allow for the type of development described in the vision and amend the zoning ordinance to allow for mixed-use
- Create opportunities for marketing the station area to developers, businesses and customers by establishing a retail association
- Invest in streetscape, landscaping, and lighting to make the area more attractive and inviting
- Ensure that the station area is well connected to the existing neighborhood to promote walking and biking. Invest in infrastructure improvements that will facilitate active transportation and increase safety at key crossing locations
- Take advantage of the existing open space opportunities along the Mystic River and create visible and safe connections from the river to the station area

### **Impacts and Mitigation:**

MAPC also reviewed potential impacts on traffic, parking, and neighborhood change and recommended measures that could help mitigate these impacts. These include specific infrastructure investments to lessen traffic impacts, recommendations for parking enforcement, and a significant toolkit listing strategies and policies for maintaining the affordability of the existing and future housing stock in the station area.



*Pathway along Mystic River*



## Chapter 1: Introduction

The Green Line Extension is a project that will provide rapid transit access to thousands of residents and businesses. The concept dates back more than thirty years. As planning and engineering for the project between Lechmere Station and Route 16/Mystic Valley Parkway progressed, MassDOT decided it was necessary to break the project into two distinct phases. Phase I includes the extension between Lechmere and College Avenue with a spur serving Union Square. Phase II is the final piece of the extension between College Avenue and Route 16/Mystic Valley Parkway. The Green Line Extension, as a whole, is an extremely important regional transit project which would provide a reliable and direct rapid transit connection from Medford and Somerville to Boston and beyond. Aside from being a significant transportation improvement project, the Extension would create substantial opportunities for new development and increase access to jobs and housing.

The Metropolitan Area Planning Council (MAPC) was contracted by the Massachusetts Department of Transportation (MassDOT) to undertake a visioning process and analyze potential land use, zoning, economic development, and transportation changes around the potential Route 16/Mystic Valley Parkway Green Line station. Working closely with MassDOT and the cities of Medford and Somerville, MAPC developed a set of recommendations for creating a well-connected and well-integrated appropriately scaled transit-oriented development site around the potential Green Line station. MAPC also identified potential benefits and impacts associated with these changes and potential strategies for mitigation.

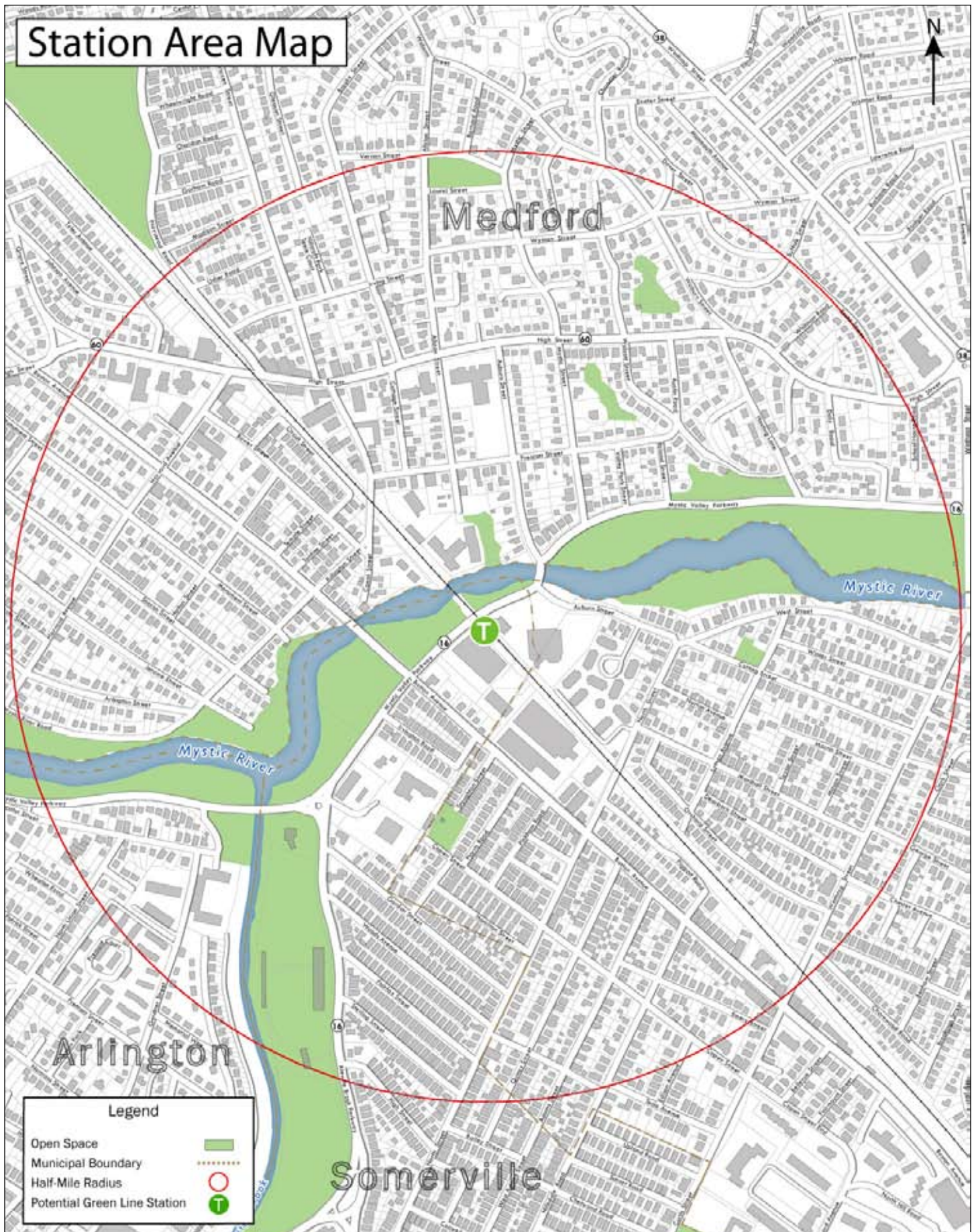
Throughout this year long visioning process, MAPC engaged residents, business owners, property owners, concerned citizens, and other stakeholders in a series of five public meetings and targeted community outreach meetings. MAPC contracted with the Massachusetts Office of Public Collaboration to provide neutral meeting facilitation during the planning process. The public engagement efforts helped MAPC identify key community concerns, opportunities for change, a vision for the potential station area, and recommendations to achieve that vision. This report presents an overview of the existing conditions around the potential station area, a review of the public participation process, the vision for the station area, and the potential benefits and impacts that could result from an extension of the Green Line to Mystic Valley Parkway.

## Chapter 2: Existing Conditions and Potential Impacts

To gain a better understanding of circumstances in the station area, MAPC performed an existing conditions analysis for the area within a half-mile of the potential station at Mystic Valley Parkway. Having a clear understanding of the existing conditions allows for more informed decisions to be made about potential benefits and impacts resulting from changes in the future. The existing conditions analysis includes a review of 2010 demographics, an overview of the existing land use and zoning in place for both the cities of Medford and Somerville, a look at the economic characteristics of commercial districts in the area, and an overview of existing transportation facilities and their functionality. A map depicting the half-mile station area is shown in Figure 2.1.



Figure 2.1: Half-Mile Station Area Map



## Demographic Overview

Experiences in the Metro Boston region and across the country demonstrate that transit investments and expansions are often followed by neighborhood changes as new development occurs and new residents and businesses move in, attracted by the transit. Understanding what changes might occur requires understanding the existing conditions in the neighborhood. MAPC and *MetroFuture* (the regional plan for Metro Boston) have a goal to expand transit, but also to minimize displacement and ensure that residents can remain in their community as changes occur. Some residents expressed concern during public meetings about the potential change in demographics over time and what the future composition of neighborhoods would look like should the Green Line be extended to Mystic Valley Parkway. Specific concerns were expressed about the ability of existing residents to be able to afford rises in housing costs and a loss of social and economic diversity in the community.

The demographic analysis looked at population, race/ethnicity, age, sex, housing tenure, and household composition for Census blocks within a half-mile of the potential station using 2010 Census data and data from the 2005-2009 American Community Survey (ACS)<sup>1</sup>. Data was specifically selected to provide information which would later feed into an analysis about strategies for managing any potential neighborhood change in the wake of the Green Line Extension (see Chapter 5).

### Population, Age and Gender

In 2010, the population within a half-mile of the station was just under 9,550 with a split of 52% female and 48% male. The population pyramid shown in Figure 2.2 depicts the number of male and female residents by age, as a percent of the total population. The cohorts between the ages of 20-34 constitute more than a quarter of the station area population. This is not surprising given the area's proximity to Tufts University. Aside from Tufts students in the area, this could also indicate that young professionals and/or young families are locating in these parts of Medford, Somerville and Arlington. Generally, the gender split in each age range is even except from 65-85+ where females outnumber males.

Looking back at the Census data from 2000, population in the half-mile area has decreased over the ten year period by about 500 people<sup>2</sup>. This is likely a result of shrinking household sizes with fewer children in the home and some out-migration. Figure 2.3 shows the absolute change in each age cohort within the half-mile area. The observed age shifts are consistent with regional trends which demonstrate fewer school-age children and more 50-64 year olds as baby boomers age.

<sup>1</sup>Block level data from the Census provided the closest geographic conformity to the half-mile radius study area. With the new changes to the Census forms, which began in 2010, a number of disaggregated data categories are no longer available through the decennial Census. In order to look data such as renter and owner cost burden, bedroom counts for housing units and mortgage status by age, MAPC used data from the 2005-2009 American Community Survey (ACS). Unfortunately, the smallest practical geography available for ACS data is the Census Tract (data is available at the Block Group level, but margins of error are often very high). While the data still provides an overview of the demographics in the area, some of the tracts extend well outside the half-mile study area boundary.

<sup>2</sup>Small changes were made to Census block boundaries between 2000 and 2010 within the study area.

Figure 2.2: Population by Age and Gender, *Census 2010*

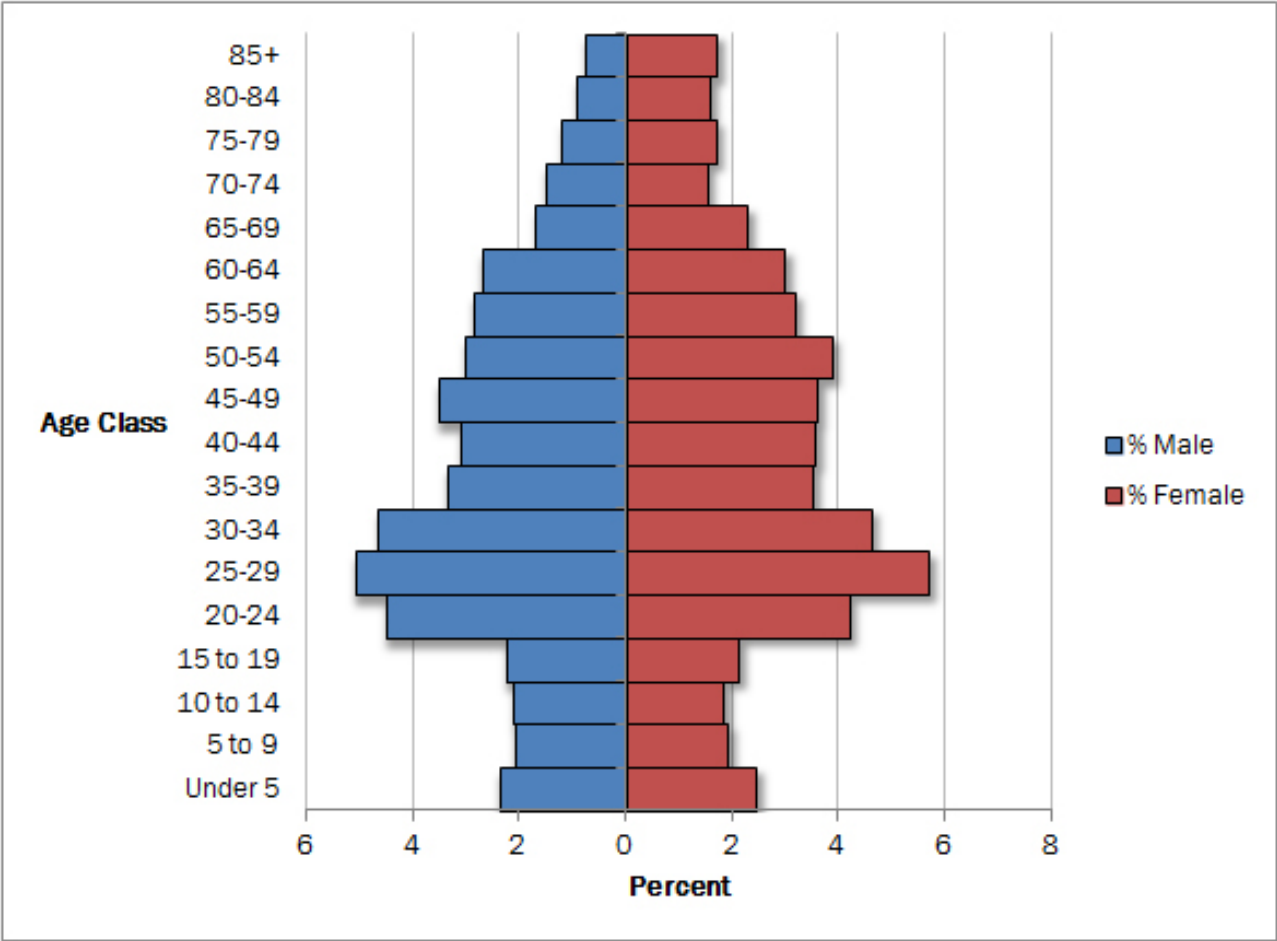
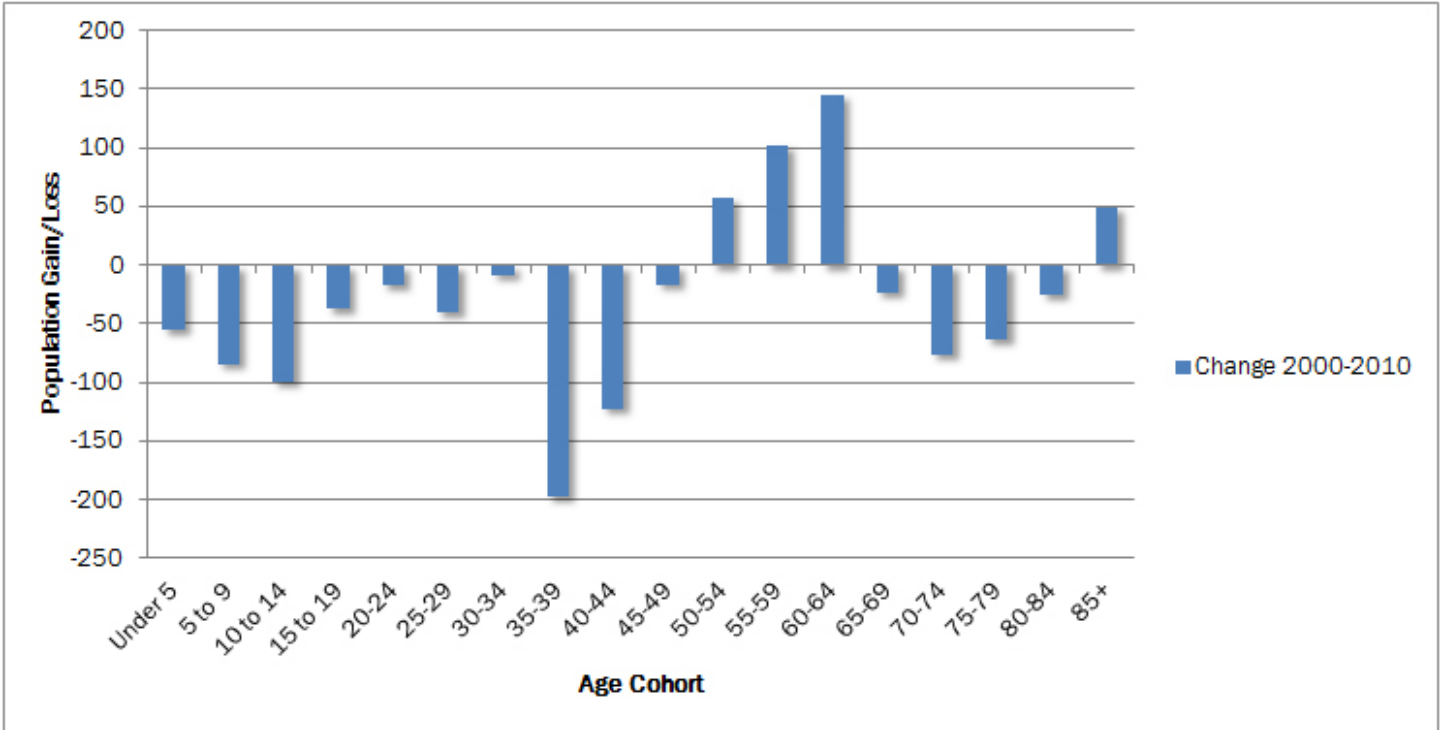


Figure 2.3: Population by Age: Change 2000-2010, *Census 2000 and 2010*

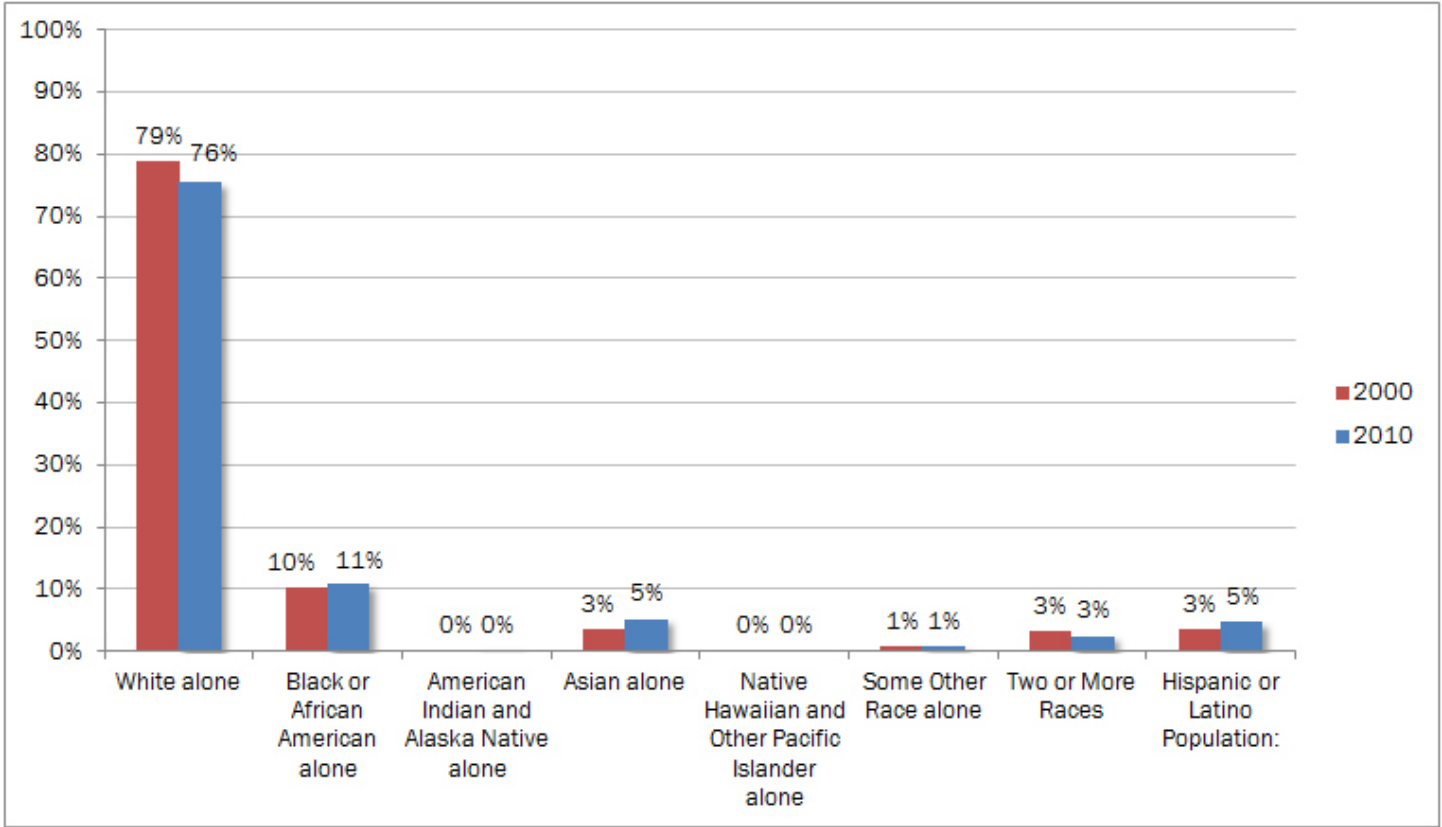




### Race and Ethnicity

Within the half-mile area, 76% of the population is Non-Hispanic White, 11% is Non-Hispanic Black or African American, 5% is Asian, and a little more than 5% is Hispanic/Latino of any race. Since 2000, Black/African American, Asian and Hispanic/Latino residents have increased as a share of the population showing that the area has become more diverse over the last ten years. A comparison of race and ethnicity between 2000 and 2010 is shown in Figure 2.4.

Figure 2.4: Race and Ethnicity, *Census 2000 and 2010*



### Housing Tenure and Composition

There are approximately 4,300 housing units within a half-mile of the potential station, with a balance of rental and owner units. Approximately 52% are renter-occupied and 48% are owner-occupied. The share of renter and owner occupied units has remained virtually the same from 2000-2010. The mix of renter and owner units varies in different portions of the station area. Rental units tend to be concentrated around the Tufts campus, in the two senior affordable housing developments and in public housing located in Arlington. Medford has a higher percentage of owner-occupied housing within the half-mile area, especially in tracts north of the Mystic River. Of the owner-occupied units in 2010, 71% were owned with a mortgage and 29% were owned free and clear. More than 50% of homeowners over the age of 65 own their home outright. These homeowners may still have considerable expenses for insurance, taxes, maintenance, etc; but the lack of a mortgage means that they own the full value of their home as an asset for themselves or their heirs. The Census data for housing tenure is shown in Figure 2.5.

In 2010, there was an average of 2.2 persons per household, with 51% family households and 49% non-family<sup>3</sup> (which includes single person households). The overall number of housing units has virtually remained the same

<sup>3</sup> The Census collects information on the composition of each household and whether the household is a family or non-family household. The Census defines a family household as one that contains two or more people and the householder is related to at least one other person in the household by marriage, adoption or birth. Non-family households may contain only one person or additional persons who are not related to the householder.

between 2000 and 2010, but persons per household has dropped from 2.3 to 2.2. This corresponds to a higher percentage of residents who are living alone and a higher percentage of non-family households in the area. The percentage of non-family households increased by about 3% between 2000 and 2010, and approximately 34% (+/- 4%) of all housing units were single person households. The high number of non-family households is most likely related to the off-campus housing occupied by Tufts University students, the two senior housing complexes (Walkling Court and Capen Court), and more seniors living alone but not in the senior housing complexes. Interestingly, only 3% of non-family households had four or more people. The Census data for single family households is shown in Figure 2.6.

Figure 2.5: Housing Tenure, Census 2010

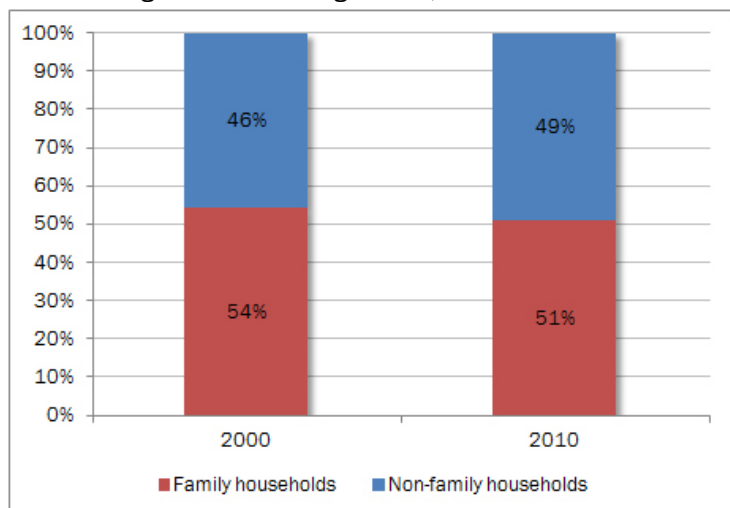
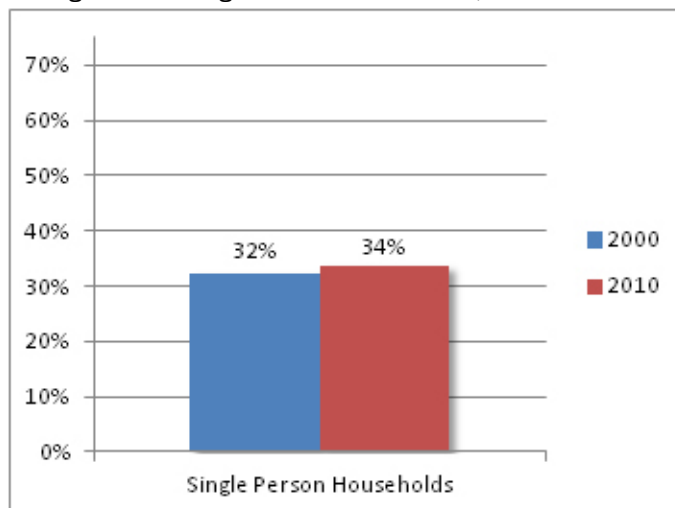


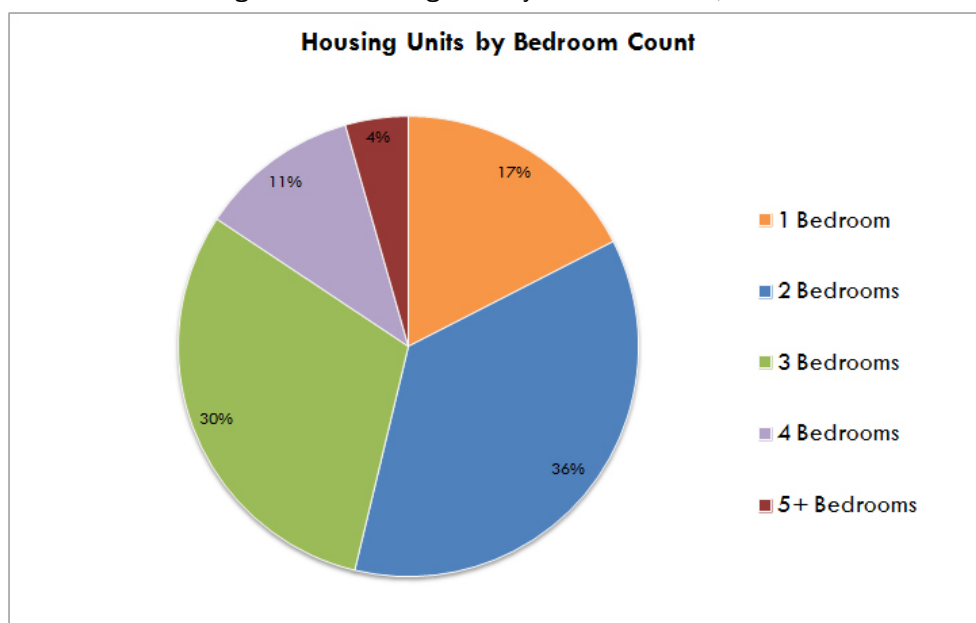
Figure 2.6: Single Person Households, Census 2010



### Housing Units by Bedroom Count

Over 50% of the units in the study area tracts are one or two bedrooms, with only about 15% being 4 or more bedroom units. Not surprisingly, the largest numbers of one and two bedroom units were in tracts close to Tufts University and the larger number of three or more bedroom units were found in the more suburban tracts further from the study area where densities are much lower. The distribution of bedroom counts is consistent with the information about household size and composition: 16% of households in station area tracts have four or more people, and 15% of housing units have four or more bedrooms. A chart showing the makeup of bedroom counts in housing units can be seen in Figure 2.7.

Figure 2.7: Housing Units by Bedroom Count, ACS 05-09



## **Median Household Income**

The weighted average median household income was \$62,000 for households within the half-mile radius<sup>4</sup>. The weighted average income for the half-mile radius was lower than that of the City of Medford (\$67,623) and only slightly lower than the City of Somerville (\$62,575). Median household income varied greatly among the five Census tracts in the station area ranging from a low of \$45,500 to a high of \$79,500. A map of the five Census tracts can be found in the Appendix in Figure A1.

## **Renter/Owner Cost Burden**

A standard way of measuring housing affordability in the United States is the percent of income spent on housing expenses (rent or mortgage, utilities, insurance, and taxes). A household is considered cost burdened if it spends more than 30% of household income on housing expenses. Severe cost burden describes households that spend over 50% of household income on housing expenses.

The Census tracts making up the study area include both cost burdened renters and homeowners. Below are some statistics on renter housing cost burden:

- Approximately 44% of station area renters were cost burdened in 2005-2009, and nearly half of those renters were severely cost burdened
- Cost burdened renters over the age of 65 make up 53% of all renters over the age of 65

Residents over 65 years of age are more likely to own their home than are younger residents, but senior renters are more likely to be cost burdened than younger residents. The tract with the highest number of cost burdened renters is the one closest to Tufts University which is consistent with most housing areas near secondary education facilities. Students have little to no income to report but still have to pay for housing if living off campus.

Statistics also show cost burdened homeowners are found in the study area:

- Approximately 35% of homeowners in the station area tracts are cost burdened
- Around 32% of all homeowners in the study area are over the age of 65, and of those approximately 35% are cost burdened owners

Upon further analysis, only one tract in the study area shows both homeowners and renters over 65 years of age to be less cost burdened than homeowners under the age of 65. This tract corresponds to the neighborhood of West Medford. Homeowners in this tract tend to have housing expenses that fall under 30% of total household income. Also of interest is data regarding homeowners over the age of 65 who no longer have a mortgage on their home. Approximately 65% of those homeowners own their home free and clear. Figures 2.8 through 2.10 highlight some of the data discussed above.

<sup>4</sup> In order to calculate the average median household income for the half-mile radius, a weighted average was used and based on the total number of households and household median income in each Census Tract. Weighted average is an average that assigns a weight to each quantity being averaged.

Figure 2.8: Renters with High Housing Cost Burden, ACS 05-09

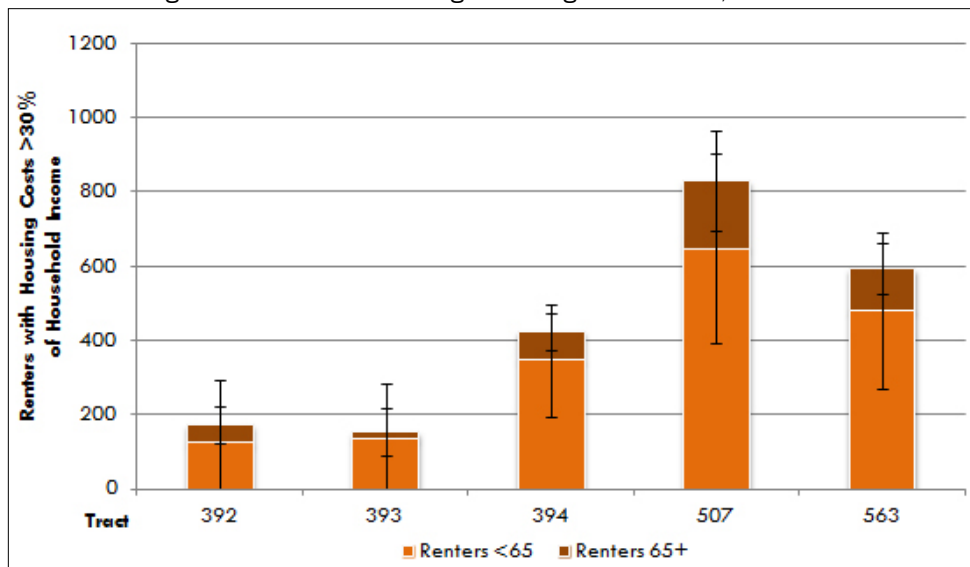


Figure 2.9: Homeowners with High Housing Cost Burden, ACS 05-09

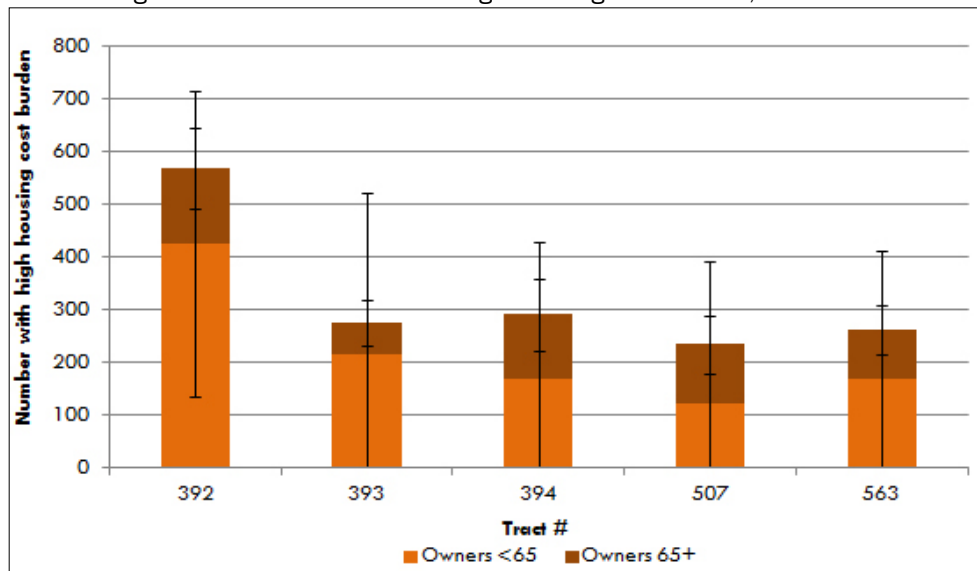
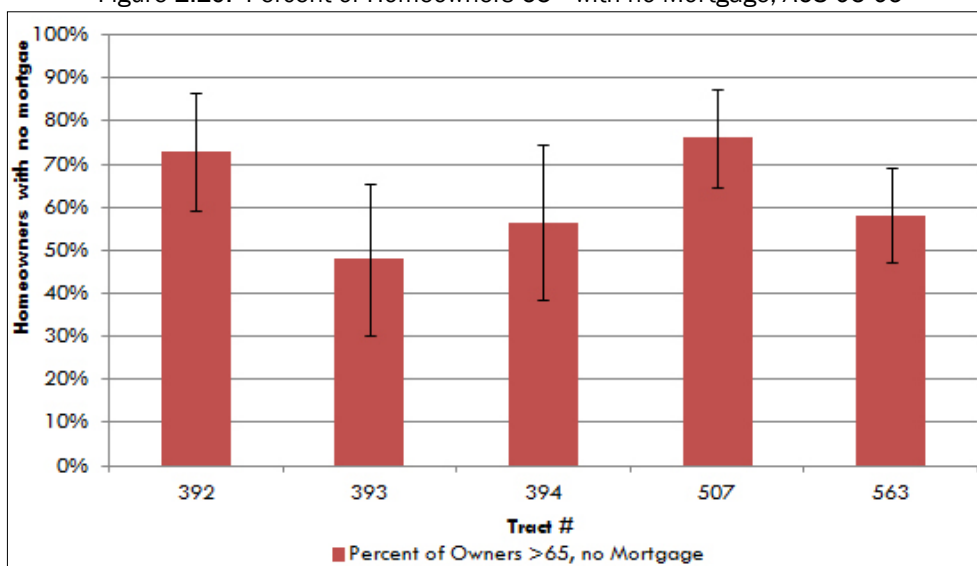


Figure 2.10: Percent of Homeowners 65+ with no Mortgage, ACS 05-09



\*Error bars represent 90% confidence interval



## Implications for Change

The demographic and economic characteristics of an area can begin to tell a story about how susceptible an area and its residents may be to changes in a neighborhood's fabric. The changes that could result from the introduction of a light rail station, such as a Green Line station at Mystic Valley Parkway, may range from the addition of housing units above existing commercial buildings to a complete redevelopment of an existing use. Investment, whether through infrastructure, new development or improved public services, has the potential to create a rise in property values and could potentially increase the cost burden on homeowners and renters. The term displacement is used when housing costs rise causing residents to move.

As part of this planning process, MAPC reviewed literature and case studies from across the United States about anti-displacement strategies and mechanisms for managing neighborhood change. A number of these studies included demographic indicators which can be used to identify which segments of the population may be more susceptible to changes in their neighborhood. Examples of these populations include:

- Elderly home owners on a fixed income that cannot afford an increase in property taxes resulting from rising property values
- Renters on a fixed income that cannot afford increased rent resulting from increases in property values and increased demand in the area
- Cost burdened homeowners spending more than 30% of their household income on housing expenses resulting from increased property taxes

One area of particular concern that MAPC heard throughout the public participation process was one of potential displacement as a result of the Green Line station opening at Mystic Valley Parkway. The following opportunities and concerns were derived from the demographic overview of the half-mile station area:

1. The balance of rental and ownership overall is close to a 50/50 split, but the mix of rental and owner units does vary throughout each Census tract. It will be important to monitor this change over time as rental housing could be converted to owner-occupied housing creating the need for more moderately priced rental housing
2. Cost burden is a concern, especially for senior renters. There is a need for more affordable senior housing now, and this need will only grow as baby boomers continue to retire
3. There are few large households (4+ person) in the station area, and almost no large non-family households. The likelihood of converting large houses to rentals for students or other non-family households beyond what already exists is unlikely
4. 65% of seniors, age 65 and over, own their home free and clear and are holding a significant financial asset for themselves or their heirs
5. One-third of all households in the area are one person. This number is likely to grow with increasing senior populations driving a need for additional affordable senior housing and smaller sized market-rate rental or for-sale units

In Chapter 5 of this report, specific anti-displacement strategies are discussed as ways of managing any potential neighborhood change that could come from constructing a station at Mystic Valley Parkway.

## Land Use and Zoning

This section describes the existing land use characteristics and current zoning regulations controlling land use and development in the half-mile study area. Property within the half-mile radius would experience most benefits and potential impacts from a Green Line station. The study area is divided in half north to south by the Mystic River, and east to west by the MBTA's Commuter Rail Lowell Line. Of the land within the study area in Medford and Somerville, approximately 84% is within Medford and 15% is within Somerville. The potential station is proposed to be located at the existing U-Haul facility at 600 Mystic Valley Parkway in Somerville. This site is within 250 feet of the Medford/Somerville city boundary line.

### Synopsis of Development History

Medford, Somerville and Arlington were all settled prior to the American Revolution: Medford was settled as part of a private land grant in 1630 and was designated a city in 1892. Somerville, originally settled as part of Charlestown in 1630, was established as a separate Town in 1842 and a City in 1872. Arlington was originally settled in 1635 as the village of Menotomy, taking the name Arlington in 1867.

Railroads have been important to the development of these communities since the Boston & Lowell Railroad established stations in Somerville and Medford in 1835. By the 1840's, commuter service was instituted. Expanded passenger service provided the opportunity for wealthier residents to move to the area and commute to jobs in Boston, a mere 5.5 miles from West Medford by rail. The expanded service included train stations at Somerville, Tufts College and Medford Hillside in addition to West Medford, where the Lowell Branch of the MBTA commuter rail stops today.



*West Medford Commuter Rail Station*

By 1860, stores, banks and hotels clustered around the railroad and provided services for the residents of the new housing developed within walking distance of the train stations. Electric streetcar service began in the 1890's, replacing horse car service on some routes, and denser housing development "filled in" vacant land. By the time the automobile was widely available, the land use pattern in these communities was well established, and featured small commercial or village centers surrounded by moderately dense housing, usually two and three family dwellings. Many, but not all of the streetcar routes in this area were replaced with bus routes that still service the area today.

The historic evolution of transportation has shaped the land use patterns that are in existence today. If the Green Line is extended to Mystic Valley Parkway, accelerated changes to this pattern may occur.

### Existing Land Use

The predominate land use within the study area is residential, with two and three family dwellings south of the Mystic River in Medford and Somerville, and single family residential dwellings north of the River in Medford. Business uses prevail at West Medford Square, at the Winthrop Street /Boston Avenue intersection and at the Whole Foods supermarket site. The U-Haul business is an industrial use, and the property from 200 Boston Avenue to North Street is zoned for Industrial Use, but is in fact used for offices, lab space and other commercial land uses.

One of the most distinguishing characteristics in the study area is a natural feature: the Mystic River. The River serves as the boundary between Medford and Arlington, and is partially the boundary between Medford and Somerville. The Alewife Brook, a tributary of the Mystic River, is the boundary between Arlington and Somerville. The Massachusetts Department of Conservation and Recreation has designated parkland reservations on both sides of the Mystic River and on the eastern side of Alewife Brook Parkway.

### Medford Land Use

The West Medford Commuter Rail Station is located in the northern portion of the study area, adjacent to the tracks and High Street (Route 60) and anchors West Medford Square. South of the station, the land is primarily developed as one and two family dwellings. North and south of the commuter rail line and along High Street is a cluster of retail/business uses that comprise West Medford Square. There are also some institutional uses, such as St. Raphael's Church and the West Medford Congregational Church. The businesses in the area are described in detail in Appendix 1 Table A6.

Continuing clockwise from West Medford Square, with a northern limit for the half-mile study area at Vernon Street and an eastern boundary of Essex Street, the land uses are detached single family homes and a few neighborhood parks in the area bounded on the south by the Alewife Brook Parkway.

Crossing the Mystic River, with the study area boundary generally following Winthrop Street to the municipal boundary with Somerville, one and two family homes predominate. Walkling Court, a 144 unit Medford Housing Authority senior housing development is adjacent to the Whole Foods supermarket site and across the commuter rail tracks from the office space/parking garage at 200 Boston Avenue. Other office uses adjacent to 200 Boston Avenue include the Elizabeth Grady Company office building.

At the southern edge of the study area, the shopping area at Winthrop Street and Boston Avenue south of the commuter rail tracks is the Hillside neighborhood shopping district. Retail/service uses include a convenience store, laundry, nail salon, bank, and hardware store. A complete listing of these businesses can be found in Appendix 1 Table A7.

### Somerville Land Use

The land uses in the Somerville portion of the study area are predominantly residential, and are similar to those in Medford. The Medford/Somerville city boundary bisects the Whole Foods site and the free-standing liquor store on the lot.

On the south side of the commuter rail tracks, the block running from Mystic Valley Parkway to the municipal boundary includes three different land uses. The first is the existing U-Haul rental and self storage facility classified as an industrial land use. Adjacent to this property to the east is an office building at 196 Boston Avenue. At the intersection with Mystic Valley Parkway and Boston Avenue is a gasoline station, classified as a commercial use.

The blocks south of Boston Avenue are predominantly residential and include Capen Court, a 99 unit assisted living facility managed by the Visiting Nurses Association of Somerville and a 95 unit affordable housing development managed by the Somerville Housing Authority. It is interesting to note that facilities designated to serve senior citizens are located in both Somerville and Medford, within ½ mile of the proposed station. Other commercial land uses in Somerville include the corner lots of Alewife Brook Parkway, north and south of Gordon Street and north of High Street.

A generalized land use map was developed based on information in the two cities' land use maps and data available from the Massachusetts Geographic Information Systems office (MassGIS). Table 2.1 shows the percentage of land under each land use category for Medford and Somerville within the half-mile study area. Figure 2.11 shows the generalized land use in and around the study area.

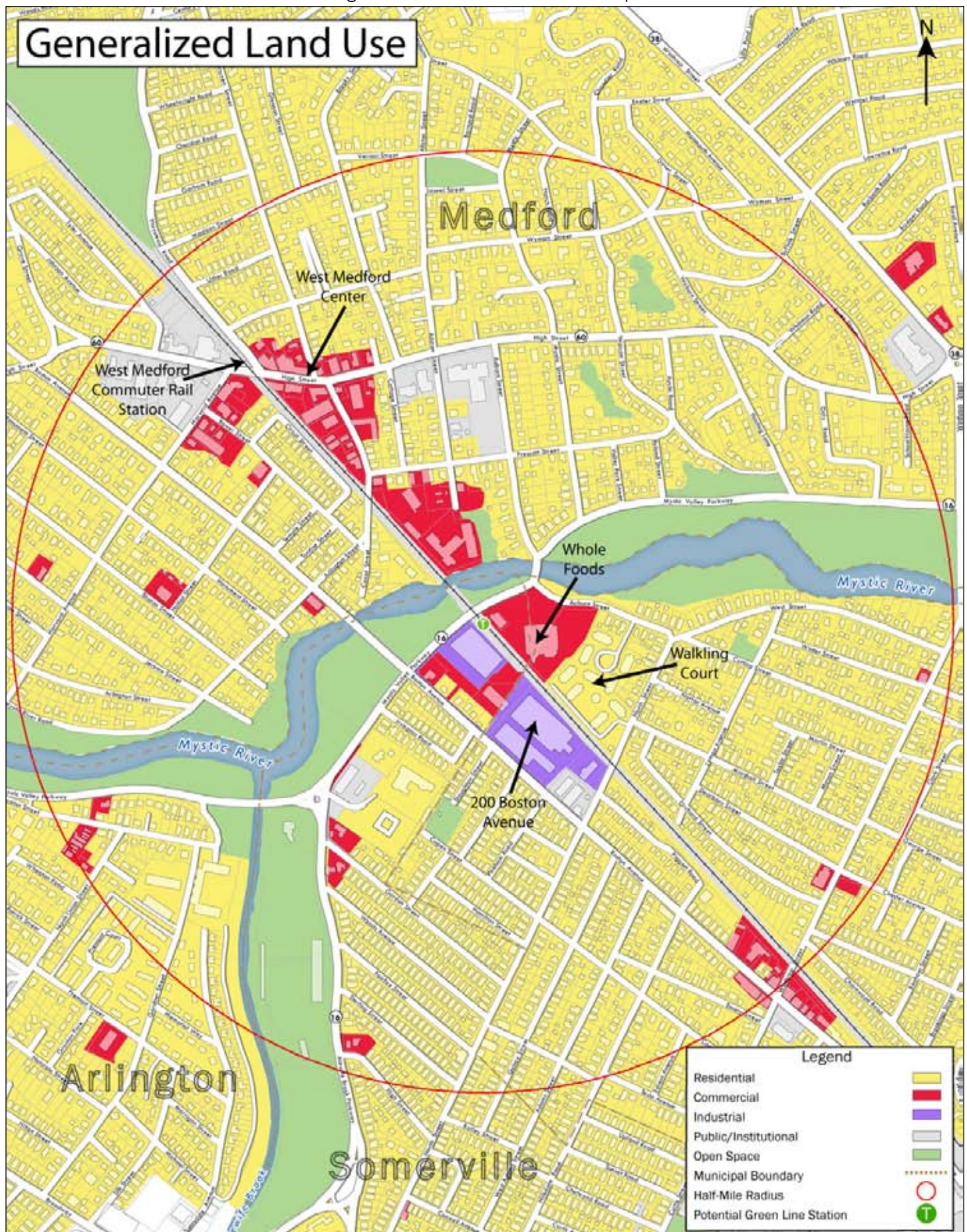
Table 2.1: Land Use Summary within Study Area (Medford and Somerville)

Land Use	Medford	Somerville	Total
Residential	79.3%	37.2%	72.8%
Commercial	6%	6.2%	6%
Industrial	1.3%	2.4%	1.5%
Public/Institutional	5.4%	5.4%	7.9%
Open Space	8%	32.7%	11.8%

\*Source: MassGIS, City of Somerville, City of Medford



Figure 2.11: Generalized Land Use Map





## **Existing Zoning**

Zoning is the legal framework that regulates land use. Medford and Somerville have adopted zoning ordinances to control how development occurs. The ordinances regulate uses, building or structure dimensions such as building setbacks and height, and required parking. Zoning laws enable a community to confirm and support existing land uses, and to promote desired future land uses and development patterns.

This section summarizes uses, parking and height. These are key elements to consider in implementing the vision for the station area. It is necessary to know what the current regulations allow in order to assess if the recommended vision can be accomplished within the existing zoning. If not, it may be necessary to implement changes to the zoning.

Allowed uses are land uses that are permitted or permissible in a particular zoning district. If all other zoning requirements are met (parking, height limits, etc.) no additional approvals, other than approval of the building permit, is required. By contrast, a Special Permit use requires review and approval by either the Medford City Council or the Medford Board of Appeals, or in Somerville the Zoning Board of Appeals or the Planning Board. These uses may be subject to conditions, or the Council/Board may determine the use is not appropriate for a specific location. Tables with the zoning and uses allowed can be found in Appendix 1 Tables A1 and A2.

### **Medford**

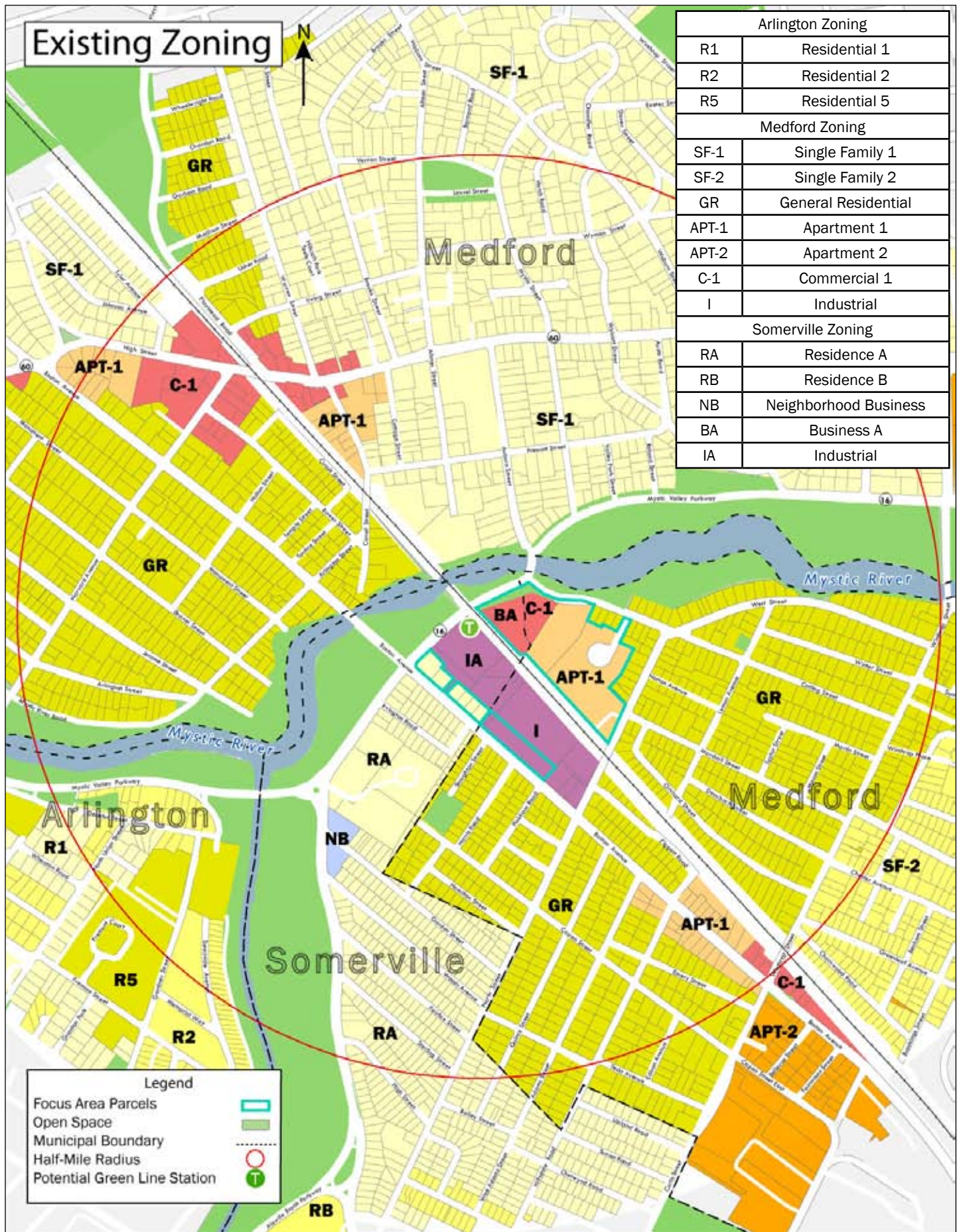
The zoning in Medford is generally consistent with the existing land use pattern. For example, West Medford Square is zoned Commercial 1 with a few blocks east and west of the Square zoned Apartment 1. Outside of this area, parcels south of the commuter rail tracks are zoned General Residence, and comprised of detached two and three family houses. The area north of the tracks is zoned Single Family 1, the most restrictive zoning in Medford.

The majority of the area south of the Mystic River is zoned General Residence, with Walkling Court zoned Apartment 1 and a small area east also zoned Apartment 1. The shopping area is zoned Commercial 1, as is the Medford portion of the Whole Foods site. The block between the Medford/Somerville municipal boundary and North Street, including 200 Boston Avenue and the Elizabeth Grady offices is zoned Industrial. This zoning does not match the current land uses, which are primarily office/commercial.

### **Somerville**

The land within a half-mile of the proposed station in the City of Somerville is comprised of five zoning districts. Starting from the northern edge of the study area in Somerville, the zoning is Business A. Moving south, there is a small Industrial A zone and then the land is zoned Residence A. The majority of the land is within the Residence A District. The zoning reflects the actual land use, with the exception of the NB district, which anticipates a business use for this area. Land adjacent to the Mystic River is zoned Open Space.

Figure 2.12: Existing Zoning Map





## **Existing Off-Street Parking Requirements**

The overdevelopment of surface parking can have negative impacts on the aesthetics, functionality and environment of an area. Too much parking can lead to:

- Increased housing costs if spaces are rented or paid for upfront
- Increased traffic congestion by making parking readily accessible to drivers
- Reduced open space on development parcels
- Additional surface runoff which can carry pollutants to local bodies of water

Medford requires two spaces per dwelling unit for residential development, the type of requirement consistent with a suburban-type development pattern where public transportation choices are limited. In those areas served by bus routes, particularly for two and three family homes, the two spaces per unit required may be above what is needed. There is a provision that allows for fewer parking spaces for multiple dwellings under six stories by grant of a special permit by the Board of Appeals {Sec. 94-191(b)(1)}. In addition, for the Mixed-Use District near the Wellington MBTA Orange Line station, a reduced amount of parking is required because of the proximity of the Station Landing development to Wellington Station. It is reasonable to expect that Medford would review its parking requirements and possibly reduce them for developments adjacent to the potential Green Line station. Tables A3 and A4 in Appendix 1 show the parking requirements by zoning category within the study area.

## **Height Limits**

The heights listed for both Medford and Somerville in similarly zoned districts are nearly identical to each other which make building heights on parcels abutting municipal lines consistent. This policy can also be carried forward into future planning for the study area on parcels adjacent to the potential Green Line station. An important note on height in Medford is that no structure within 100 feet of the boundary of an SF-1, SF-2, GR, or APT-1 district shall exceed four stories, or 50 feet in height.

Within Somerville, where a lot abuts an RA, RB or RC zoning district line, any structure (or portion of a structure) within 30 feet of said district line shall be limited to three stories and 40 feet in height. This also includes a provision for setbacks for rooftop installations including elevators, stairwell penthouses and roof-mounted mechanical equipment. Within the Neighborhood Business district (NB) 4 stories up to 42 feet is allowed for buildings where all four stories are residential or where the first floor is commercial/business use and the top three floors are residential. For buildings which are two or more stories of commercial business use, the maximum height limit shall be three stories and 40 feet. Finally, a minimum setback of five feet from the front lot line for the top story is required if the building is above 40 ft. in height in NB districts. Table A5 in Appendix 1 compares the height limits by zone in Medford and Somerville.

## **Economic Development**

The study area is primarily residential with a small, but healthy and diverse concentration of office and retail uses. While the retail component can be characterized as primarily neighborhood retail, the office component focused in and around the 200 Boston Avenue site features an established and thriving cluster of biotech and business services companies. These companies play an important role in bringing non-locally derived revenue into the community, a portion of which can be captured by the local retail and service businesses. A map of commercial centers within and around the study area is shown in Figure 2.13.

The following section focuses on the half-mile study area and looks at the existing economic activity, considering in detail the primarily neighborhood retail and non-local office segments separately.

## **Retail Market**

Retail in the vicinity of the potential Green Line station is generally concentrated in a handful of existing village



centers or small strips along Boston Avenue. The most prominent nearby retail concentrations are located in West Medford Square and Medford Square. These centers appear to primarily serve the local neighborhoods with perhaps a greater balance of service businesses. Medford Square serves a more city-wide market, anchored by Medford City Hall. Boston Avenue south of Mystic Valley Parkway has a scattering of commercial businesses with a small concentration near the intersection with Winthrop Street adjacent to the Tufts campus. A review of the mercantile inventory of the two closest retail areas, summarized in Tables 2.2 and 2.3, provides a sense of the character and concentration of each area.

Table 2.2: Inventory for West Medford Square

<b>Retail Shops</b>	<b>Restaurants</b>	<b>Services</b>
10	8	36

*\*A full listing of businesses by name is shown in Appendix 1*

Table 2.3: Inventory for Boston Avenue and Winthrop Street

<b>Retail Shops</b>	<b>Restaurants</b>	<b>Services</b>
6	10	10

*\*A full listing of businesses by name is shown in Appendix 1*

With attractive buildings expressing historic character and pedestrian-friendly streetscapes, West Medford Square supports a few higher value retail spaces that are destination businesses serving a larger market area which include: a custom jeweler, stained glass studio and restaurants. The attractiveness of buildings in this area lends itself to sustaining a destination retail area, where customers might travel from other parts of the region to visit and shop. However, the majority of retail, restaurant and service businesses in West Medford Square are local, neighborhood serving establishments whose competitive edge is their immediate proximity to a customer base and their capacity to attract pass-through traffic that might be generated by nearby roadways and the commuter rail station.

The small retail cluster on Boston Avenue near the Tufts campus is almost entirely devoted to serving the student-customer base of the University. The area is dominated by inexpensive fast food and other services. Student customers may not be sufficient to support higher value retail investment in this location, as evidenced by the recent announcement of Boloco closing their location due to an inability to sufficiently cover operating costs. It is interesting to note that national chain fast food outlets are not a significant part of this local business ecosystem. In Davis Square, spending by the large local student population seems to support a more vibrant and fully occupied commercial environment. This existing condition, coupled with direct access to the Red Line, creates a very compelling business environment. Absent the Green Line drawing students to the Boston Avenue side of the campus, there is not likely to be a sufficient or appropriate customer base to support higher value investment in this small retail area.

Based on the number of businesses and levels of employment, a comparison of the relative strength of West Medford Square and Boston Avenue at Winthrop Street demonstrates that West Medford Square is currently the stronger and larger retail district in this area. Tables 2.4 and 2.5 show this comparison.

Table 2.4: Mercantile Composition for West Medford Square

<b>Total Establishments</b>	<b>Total Employees</b>	<b>Establishments with 20+ Employees</b>
52	233	2

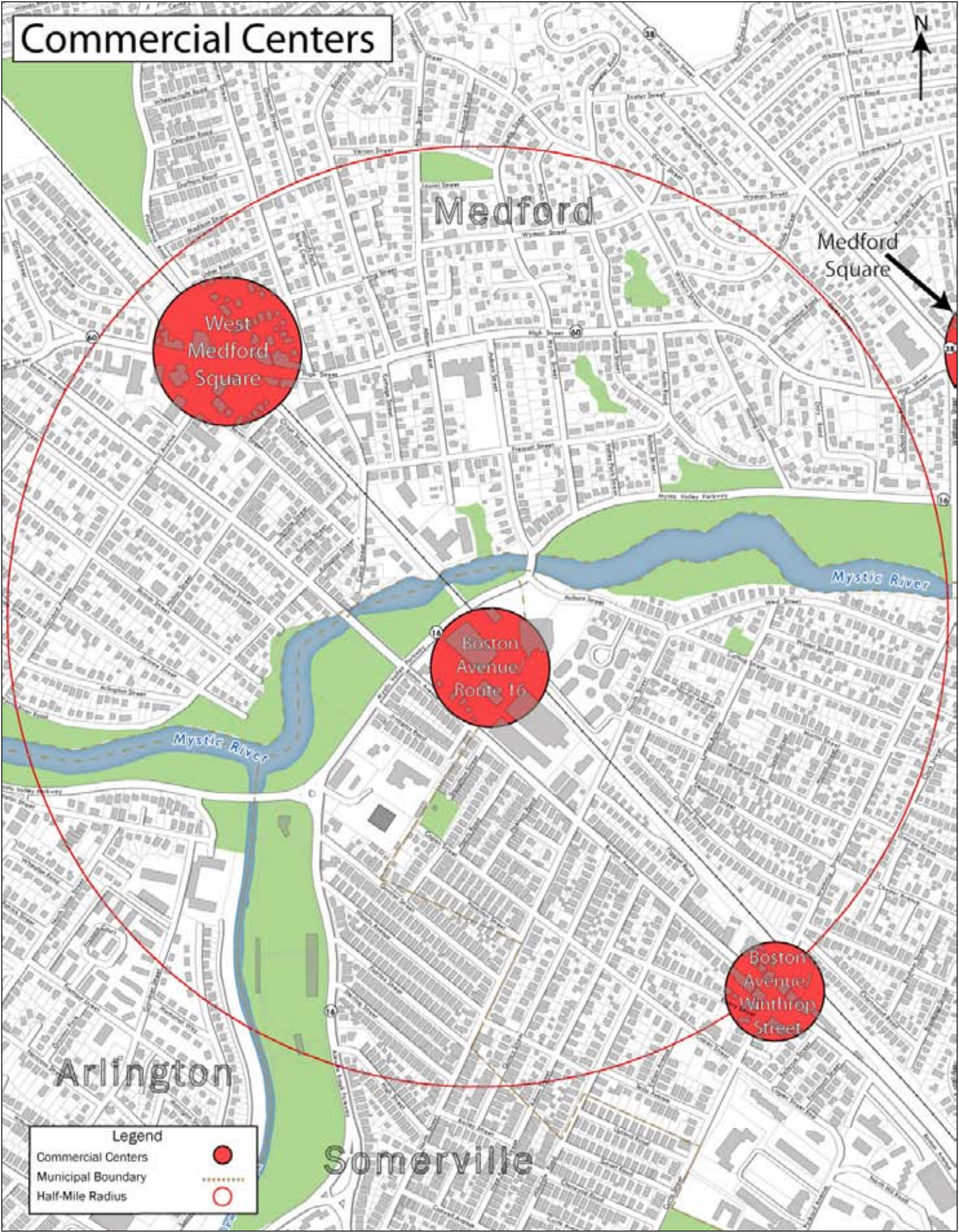
*\* A complete listing of establishments and compositions is shown in Appendix 1*

Table 2.5: Mercantile Composition for Boston Avenue and Winthrop Street

<b>Total Establishments</b>	<b>Total Employees</b>	<b>Establishments with 20+ Employees</b>
26	129	1

*\* A complete listing of establishments and compositions is shown in Appendix 1*

Figure 2.13: Commercial Center Locations Map





Potential retail development in the identified study area will most successfully develop as an extension and a complement of the existing retail ecosystem in West Medford Square, rather than a dramatic expansion of the student-customer based retail available on Boston Avenue. The area immediately adjacent to the potential station is farther from the campus and would be focused on neighborhood-serving retail and services, anchored by the Whole Foods Market. This is not to say students will not play a role in the success of new retail in the area, but they will not be the primary source of spending support.

Within the study area, the existing retail market draws upon the support of approximately 4,300 households, with an average household income of \$77,303<sup>5</sup>. According to the U.S. Department of Labor, Bureau of Labor Statistics 2009 Consumer Expenditure Survey, U.S. households spent approximately 13.3% of household income on General Merchandise, Apparel and Accessories, Furniture and Other Sales (GAFO) goods, 10.9% on convenience goods/services, and 6.2% on eating and drinking places. Year to year, these estimated spending levels have held generally constant and are universally accepted as a standard. Estimated total spending in each of these categories by residents of the study area is included in Table 2.6.

Table 2.6: Spending on Goods and Services in Study Area

Category	Percent of HH Income	Study Area Resident Spending
GAFO – “Comparison goods” such as apparel, furniture, general merchandise, sporting goods, etc	13.3%	\$42,338,680
Convenience – groceries, prescription drugs, health and beauty, laundry, household cleaning products, etc	10.9%	\$34,698,617
Eating & Drinking – Places to purchase meals and alcoholic beverages consumed outside the home.	6.2%	\$19,736,828
<b>Total</b>		<b>\$96,774,127</b>

By this mode, residents spend a total of \$96,774,127 per year on goods and services. However, the entirety of this amount is not spent solely within the study area. Given the relatively small size of the study area and the presence of a much larger neighborhood shopping district at Medford Square, critical assumptions were made as to the amount of resident spending within the study area. The typical market area for convenience retail is closer to 1.5 miles in which residents generally spend 50% of their total convenience spending. Given the half mile study area, which is one-third the size of the typical market area, 15% represents one third of that 50%. Thus, while study area residents are estimated to spend just under \$35 million annually on convenience goods, only 15% of this amount is expected to be spent in the study area. Similarly, eating and drinking places have closer to a five mile market area, which equates to a 5% spending estimate for the study area.

Absent firm numbers regarding sales totals within the study area, estimates based on spending and area populations provided the percentage of total sales and therefore total spending of residents within the study area. From that number MAPC could then estimate total spending of non-residents in the study area by estimating the percentage of total spending in the category attributable to residents with the remaining being non-resident spending. Again, the small size of the study area and the nature of the businesses represented factored into these estimates – so that, if resident spending is 30% of total convenience spending than non-resident spending is 70% of the total. Staff reviewed the list of businesses, the size and nature of the study area, and other factors in order to create this estimate. From these two estimates, total spending within the study area can be projected. These calculations are shown in Table 2.7.

<sup>5</sup> The average household income figure was used for this analysis instead of median household income to remain consistent with industry practices.

Given the very small amount of GAFO merchandise retail in the study area, this type of spending was considered to be minimal and was excluded from further consideration. Significant numbers of GAFO type stores tend to concentrate in larger shopping districts and malls and are rarely found in small neighborhood-serving retail locations.

Table 2.7: Study Area Market Capture

Category	Resident's Spending in this Category in the Study Area		% of Total Spending in this Category in the Study Area Made up of Resident's Spending	Total Spending in Study Area by Residents and Non-Residents
GAFO	0%	\$0	N/A	
Convenience	15%	\$5,204,792	30%	\$17,349,308
Eating & Drinking	5%	\$986,841	15%	\$6,578,942
<b>Total</b>		<b>\$6,191,634</b>		<b>\$23,928,251</b>

The final step in assessing the existing retail market within the study area is to convert the estimated spending numbers into square feet of retail space. This conversion is done using estimates of sales productivity per square foot necessary to support retail space development at different investment levels by retail category. Tables 2.8 and 2.9 illustrate this conversion and present estimated supportable retail.

Table 2.8: Estimated Supportable Retail

Sales Productivity/Square Foot, Convenience		Study Area Spending	Square Feet
Low Investment Grade	\$175	\$17,349,308	99,139
Investment Grade	\$225	\$17,349,308	77,108
High Investment Grade	\$250	\$17,349,308	69,397
Sales Productivity/Square Foot, Eating & Drinking		Study Area Spending	Square Feet
Low Investment Grade	\$200	\$6,578,942	32,895
Investment Grade	\$250	\$6,578,942	26,316
High Investment Grade	\$325	\$6,578,942	20,243

For this study area, it was determined that the investment grade level for the convenience category and the higher investment grade for eating and drinking places were most accurate.

Table 2.9: Sales Productivity per Square Foot (total)

Retail Category	Grade	Supportable Square Feet
Convenience	Investment Grade	77,108
Eating & Drinking	High Grade	20,243
<b>Total</b>		<b>97,351</b>
Existing		82,056
Remainder		<b>15,295</b>

Based on this analysis of the local retail market within the study area, MAPC estimates there is the potential for approximately 15,000 additional square feet of retail space in the convenience or eating and drinking places categories under existing conditions, assuming appropriate and desirable space was available for retail development or redevelopment.

Looking toward the future, MAPC estimates that an additional 117 new households occupying market rate apartments and 55 new senior households occupying affordable housing units are possible. The additional spending power of these units generates sufficient demand to support another roughly 4,000 square feet of retail space, for a total of 19,000 square feet<sup>6</sup>.

### Office Market

Within the study area there is an interesting and promising office/R&D market, which includes the complex of buildings located at 196 and 200 Boston Avenue. This particular site has been able to carve out a niche for itself in the regional office/R&D market that takes advantage of lower cost space, high quality services, and proximity to Cambridge and Tufts. It offers a viable alternative to larger office/R&D markets in Boston's Innovation District, Kendall Square and other parts of Cambridge. The vibrancy of this well-leased business complex demonstrates its success in capitalizing on its location to maintain low vacancy rates and even anticipate market support for a 30,000 square foot expansion which began in September 2011. An analysis of the business types operating out of this space is shown in Table 2.10.

Of the total employment within the study area, the technology, healthcare, education, and biotech categories represent the strongest assets. Biotech is especially interesting. Traditionally associated with Kendall Square, its concentration in this location demonstrates the ability of this site to act as a low cost alternative to the more expensive space in Kendall. Biotech that does not require proximity to MIT or Harvard has the option to locate in less expensive office and lab space, such as we see at 196 and 200 Boston Avenue. The proximity to Tufts is also an important factor, both for the ability of this institution to directly lease office space as well as spin-off businesses from research activities occurring on campus.

Table 2.10: 196 & 200 Boston Avenue Mercantile Compositions, 2011

Business Type	Total Establishments	Total Employees	Establishments with 20+ Employees
Computer & Software Stores	3	72	1
Healthcare	8	60	2
Biotech	8	43	1
Fitness Centers	2	36	1
Business Consulting	5	32	
Engineering Services	1	20	1
Accountants & Tax Services	2	12	
Office Supplies	2	6	
Law Offices	1	6	
Specialty Food Store	1	5	
Beauty Salon	1	4	
Wireless Telecom	1	3	
Real Estate Office	1	3	
Business Association	1	3	
<b>Total</b>	<b>37</b>	<b>305</b>	<b>6</b>

<sup>6</sup> An explanation of future spending power and supportable retail is provided in Appendix 1.

The concentration of healthcare businesses within the study area reflects a combination of medical practitioner offices serving the local population, and more specialized businesses serving a larger professional services role to the regional healthcare industry.

General business services make up the other large category, with business consulting leading in the number of jobs represented. These business categories are being priced out of the Cambridge and Boston commercial and office rental markets, and should continue to provide potential tenants for office space in the study area.

There may be some benefit to the small office niche in the area from the potential Green Line station, although this idea must be considered in the context of significant office space development occurring or predicted to occur in Boston, Cambridge and Somerville, and with awareness that the commercial neighborhood is already served by MBTA bus transportation. Significant expansion of office and lab space is proposed in Kendall Square and will most certainly be proposed for the new Boston Innovation District and North Point in Cambridge. Somerville will likely be looking to position itself as a lower cost Cambridge alternative for office space in conjunction with the extension of the Green Line within the city. As anticipated job growth is realized and new office development occurs within the general vicinity of Kendall Square, office space in this area will do well if the space continues to be high quality and lower cost. Expansion of office space here can be expected, but it will occur over a longer period of time as office development keeps pace with market demand. While the area may see additional office and commercial redevelopment, it is likely to be modest in size.

While rental fees are a significant determining factor for businesses regarding location or relocation, the private sector will also consider the nature and character of the (in this instance) urban fabric that surrounds the office space in question. Important location factors include proximity to other offices, particularly in related industry clusters, the presence of a vibrant and safe streetscape and the quality and relevance of public amenities. Regionally, downtown Boston and Kendall Square command some of the highest rental fees, nearly twice those of suburban office space. High occupancy levels in these more costly areas spotlight the desirability of that office space, indicating that the urban amenities found within these locations are a positive factor for businesses choosing office space. Access to convenient and reliable light rail transit is one of these amenities. To the extent that the potential Green Line station can serve as a catalyst for carefully planned redevelopment, this already desirable site stands to benefit.

### **Existing Jobs**

There are an estimated 1,227<sup>7</sup> jobs within the half-mile study area. There is no single major employer within the area, rather a range of businesses employing anywhere from one to 60 people. Only 13 of the businesses in the study area employ more than 20 people and these employers range from taxi companies to restaurants to professional business or engineering services companies. The study area does not take into account the most significant employer within close proximity the area, Tufts University. While they are on the edge of the study area, the University does create demand and support for small businesses and offices within a close proximity.

## **Transportation**

The existing transportation network connecting the station area to the surrounding neighborhoods and communities serves critical connections for moving people by multiple modes of transportation. The area's proximity to major employment centers in Boston and Cambridge, as well as Interstate 93 and Route 2 creates a need for strong transportation connectivity. Many existing roadways in the area are at or nearing their capacity and transit connections are limited to MBTA bus routes with hourly headways. This chapter will review the existing transportation network and provide background information on automobile, transit, bicycle, and pedestrian travel.

<sup>7</sup> MAPC analysis of InfoGroup Inc. data, 2011

## **Automobile Travel**

The proposed station area is well connected to a number of major regional roadways which provide access to adjacent municipalities and regional employment centers. Intersections and major roadways connecting the station area to the surrounding communities experience congestion during the morning and evening peak travel hours, in particular Route 16/Mystic Valley Parkway. Route 16 is an important connection to both I-93 to the east and Route 2 to the west, and carries an estimated 29,000<sup>8</sup> vehicles per day on segments close to the proposed station area. Boston Avenue, another key roadway in the area, carries an estimated 11,000<sup>9</sup> vehicles per day. Boston Avenue provides connections to Tufts University to the south and High Street/Route 60 to the north.

### **Level of Service**

Signalized intersections in and around the proposed station area also experience congestion during the morning and evening peak travel hours. To measure congestion and operations at various intersections, a level of service (LOS) analysis was completed as part of the Draft Environmental Impact Report (DEIR) for the Green Line Extension in 2009. Level of service is measured on a scale of A to F. LOS A is indicative of an intersection that has free flowing traffic and experiences little to no congestion, while LOS F represents an intersection that is congested and experiences significant delay. In reality, LOS D is generally acceptable in most urban environments.

The level of service analysis completed in the DEIR indicates that the two major intersections in the study area along Mystic Valley Parkway (Boston Avenue and Winthrop Street) are experiencing heavy congestion and delay during peak travel hours. The signalized intersections along Mystic Valley Parkway are operating at LOS E and F, respectively. These results are not surprising when comparing the daily traffic to the capacity of these roadways and intersections. Traffic volumes along Route 16 are reaching the capacity of the roadway along many of its segments. Boston Avenue, a smaller two lane roadway, does experience some peak period congestion but these intersections are operating at or above a LOS D. Figure 2.14 shows the locations of the intersections analyzed near the proposed station at Mystic Valley Parkway.

### **Crash Data**

According to the crash analysis completed in the DEIR, two of the intersections around the proposed Mystic Valley Parkway station area experienced an average of 10 crashes or more per year<sup>10</sup>.

- Mystic Valley Parkway at Winthrop Street
- Boston Avenue at Winthrop Street

Since the MassDOT Highway Division switched to a reporting system which only lists the top 200 crash locations, the most recent list from March 2010 did not list any of the intersections in and around the station area.

<sup>8</sup> Source: Green Line Extension DEIR, MassDOT 2009

<sup>9</sup> Source: Green Line Extension DEIR, MassDOT 2009

<sup>10</sup> Source: Green Line Extension DEIR, MassDOT 2009





## Transit

The proposed station area has three existing transit connections via the MBTA's regular bus service. The No. 80, No. 94 and No. 96 buses all traverse the study area providing transit service within at least a half-mile of the proposed station. A map of bus routes is shown in Figure 2.15.

### Service and Headways

Currently, parts of both cities are not well served by rapid rail and residents rely on the MBTA bus service or travel to other rapid rail stations that might be within a reasonable proximity to their residence or job. Throughout the visioning process, people spoke highly of the bus service in the study area. The reliance on MBTA bus service creates a need for frequent headways and on-time departures. Table 2.11 shows the three MBTA bus routes which traverse the station area and their headways.

Table 2.11: MBTA Bus Route Weekday Headways

MBTA Bus Route	Weekday Headways (in minutes)			
	AM Peak Hours	AM Base Hours	PM Peak Hours	PM Base Hours
Route 80	20 Minutes	35 Minutes	20 Minutes	35 Minutes
Route 94	12/22 Minutes	48 Minutes	20 Minutes	48 Minutes
Route 96	20 Minutes	48 Minutes	20 Minutes	48 Minutes

#### *No. 80 – Arlington Center to Lechmere Station*

The local Route 80 bus connects Arlington Center to Lechmere Station utilizing a route that serves Medford Hillside, Powderhouse Square and Gilman Square. This bus links these areas to the Green Line station at Lechmere providing a connection to rapid transit to Downtown Boston and beyond. This route has an average weekday ridership of 1,872 boardings<sup>11</sup>. Trip time from the study area to Lechmere is about 20 minutes during peak hours.

#### *No. 94 – Medford Square – Davis Square Station*

The local Route 94 bus connects Medford Square and Davis Square. This route provides connections to the commuter rail station in West Medford as well as the Red Line station at Davis Square. This route has an average weekday ridership of 1,336 boardings<sup>12</sup>. Trip time from the study area to Davis Square is about 13 minutes during peak hours.

#### *No. 96 – Medford Square – Harvard Station*

The local Route 96 bus connects Medford Square and Harvard Square. This route provides connections to the commuter rail station in West Medford as well as the Red Line station at Harvard Square. The 96 also connects to Davis Square and Porter Square. This route has an average weekday ridership of 1,781 boardings<sup>13</sup>. Trip time from the study area to Harvard Square is about 15 minutes during peak hours.

The maximum load factor was calculated for each of the three bus routes<sup>14</sup>. The MBTA defines maximum load ratio at 140% during the peak travel periods on buses. The maximum load factor for each of the three routes is shown below<sup>15</sup>:

- Route 80 - 87%
- Route 94 – 138%
- Route 96 – 146% (**over maximum load factor**)

<sup>11</sup> MBTA Blue Book 2010

<sup>12</sup> MBTA Blue Book 2010

<sup>13</sup> MBTA Blue Book 2010

<sup>14</sup> Maximum load factor is the ratio of passengers to seated capacity on a transit vehicle at its maximum load for a given trip. It also includes standing room on buses

<sup>15</sup> CTPS, Paths to a Sustainable Region, 2011

### Commuter Rail

Along with MBTA bus service, the MBTA's Lowell Line commuter rail service runs through the station area connecting North Station to Lowell. The closest station to this area is in West Medford about a half-mile from the proposed Green Line station at Mystic Valley Parkway. Current service along the Lowell Line includes 26 inbound trains which stop in West Medford, and 23 outbound trains which stop in West Medford. Weekend service includes 8 inbound and 8 outbound trains. The West Medford Station generates approximately 643<sup>16</sup> inbound boardings on weekdays. Prior to the early 1980's the Lowell Line included a station at Tufts University, but was closed due to the low number of boardings at the station and the need to reduce the travel time to Boston.

### Access to Employment and Travel Time

MAPC estimated the number of workers living within a one-mile radius of the potential station to be close to 13,000. Of those 13,000 workers, approximately 4,300 have employment destinations within a half-mile of Green Line stations between Mystic Valley Parkway and Copley Square. Currently, these employees must travel by car, bus, other train line, walk, or bike to get to work. The Green Line Extension would provide a significant increase in access to jobs, as well as a decrease in travel time. For comparison purposes, MAPC estimated travel time between Mystic Valley Parkway and Park Street MBTA Station in downtown Boston using different modes of transportation. These are shown in Table 2.12.

Table 2.12: Travel Times by Mode

Travel Mode	Route	Estimated Travel Time
Driving	Route 16 to I-93 South	15-30 Minutes (Depending on traffic)
Green Line Extension	MVP Station to Park Street Station	30 Minutes
Existing Bus and Subway	Route 94 Bus to Davis Square, Red Line to Park Street	35-60 Minutes (Depending on connections and headways)

These estimated travel times do not take into account traffic, missed transit connections and changes in peak and non-peak headways. There are also significant monetary benefits to traveling on the Green Line such as the cost of a one-seat ride versus multiple transit transfers, and if you are driving the cost of gas and parking can be prohibitive.

The potential Green Line station will also continue to benefit from excellent MBTA bus connections in the area. Bus lines are not expected to change significantly, but there may be suggested improvements to arrival/departure times for buses in the station area to align better with Green Line arrival/departure times, but that should be determined by the MBTA at the appropriate time.

<sup>16</sup> MBTA Blue Book 2010



Figure 2.15: Map of Existing MBTA Transit Routes



## Bicycle and Pedestrian Facilities

In communities with moderate to high density that experience high levels of traffic congestion, the ability of residents to bike and walk to nearby destinations or places of employment becomes more important. Not only is it important to have infrastructure that supports walking and biking, it must also be safe for all users. Active modes of transportation, such as walking or biking, not only cut down on short distance vehicle trips but also reduce carbon emissions and improve air quality.

### Bicycle Facilities

The study area does not have many existing bicycle facilities, in particular any on-street bike lanes. The major bike path system in the area is the shared-use paths along the Mystic River and Alewife Brook. These two shared-use paths eventually connect to the Minuteman Bikeway. Both the Mystic River and Alewife Brook paths are shown in yellow in Figure 2.14.



*Example of a Shared-Use Path*

### Pedestrian Facilities

Sidewalk coverage and connectivity in and around the station area is excellent, with most streets having sidewalks on both sides. There are very few roadways that do not have sidewalks on at least one side. The existing sidewalk infrastructure will facilitate safe pedestrian travel to and from the potential Green Line station. A key component to the mobility of residents in and around the station area is their ability to walk to access different destinations. The existing sidewalk coverage in and around the proposed station area is shown in Figure 2.16.

In many locations along both Boston Avenue and Mystic Valley Parkway, the striping for crosswalks has faded and signage denoting pedestrian crossings are not present. Proper striping and signage plays an important part in identifying safe crossing locations for pedestrians as well as raising the awareness of drivers to pedestrian activity in the area.



*Crossing at Mystic Valley Parkway/Boston Avenue*

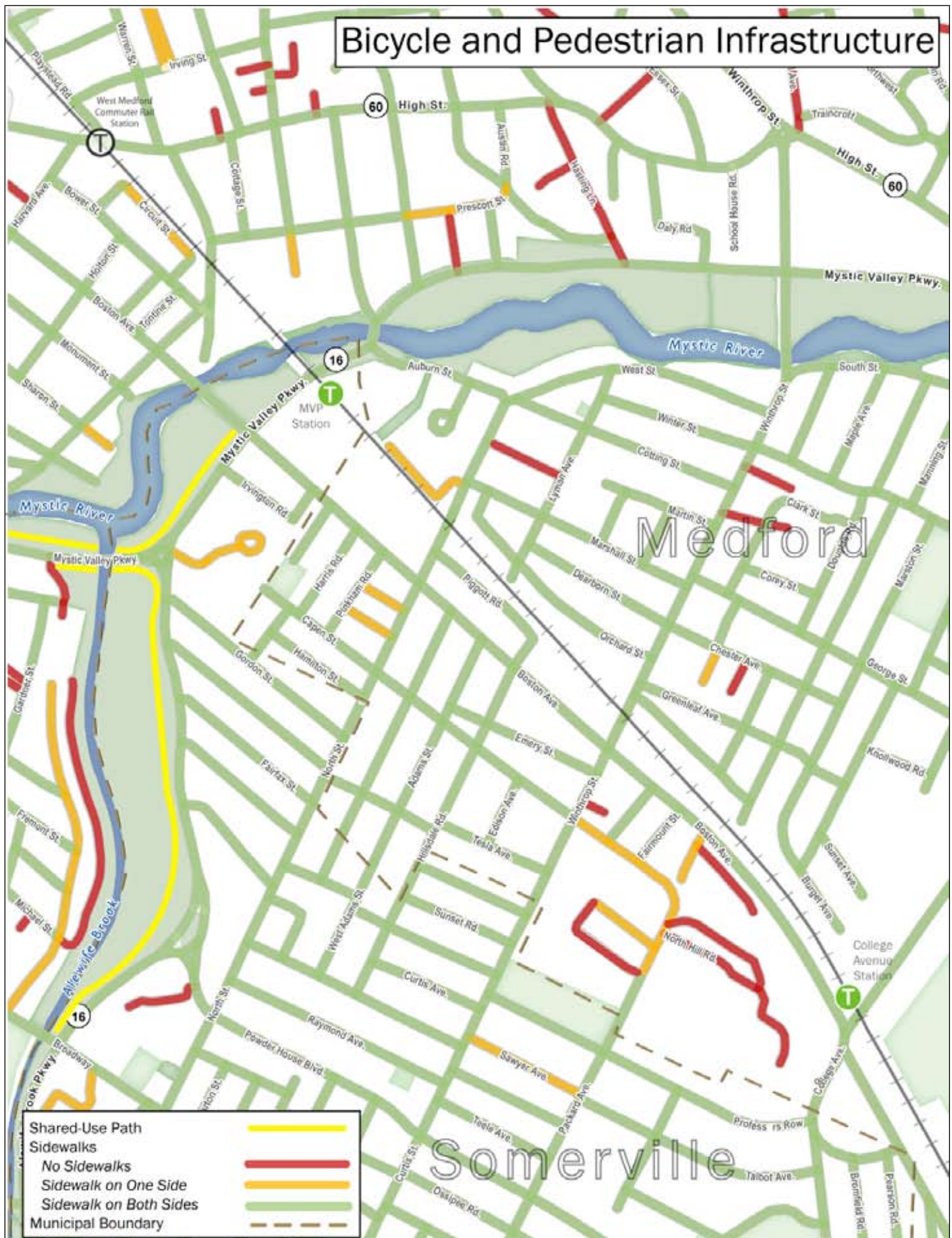


*Crossing at Mystic Valley Parkway/Auburn Street*

<sup>17</sup> A shared-use path is an off-street pathway that is used, or “shared”, by both bicyclists and pedestrians with a standard width between 8’ and 10’



Figure 2.16: Existing Bicycle and Pedestrian Infrastructure



Pedestrian compliance with crosswalk adherence and pedestrian signalization is an important factor in maintaining safety for pedestrians. One way to measure the pedestrian experience is to look at Pedestrian Level of Service (PLOS). PLOS is ranked similar to vehicular LOS with PLOS A (<10 seconds) representing excellent conditions and PLOS F (>60 seconds) representing unacceptable levels of delay.

As part of the Green Line Extension DEIR, a PLOS analysis was completed for signalized intersections along the length of the Green Line extension, including a number of intersections with walking routes in and to the study area. Table 2.13 shows the PLOS values for seven intersections based on data collected in 2007.

Table 2.13: Pedestrian Level of Service at Key Intersections

Intersection	Crosswalk	Morning Peak Hour		Evening Peak Hour	
		Avg. Delay (sec)	PLOS	Avg. Delay (sec)	PLOS
Mystic Valley Parkway at Auburn Street	North	60	E	60	E
	South	56	F	56	F
Mystic Valley Parkway at Winthrop Street	North	58	F	68	F
	South	64	F	64	F
	East	60	E	60	E
	West	65	F	65	F
Mystic Valley Parkway at Boston Avenue	North	54	E	54	E
	South	54	E	54	E
	East	54	E	54	E
	West	55	E	55	E
Boston Avenue at North Street	North	40	D	40	D
	South	39	D	39	D
	East	37	D	37	D
	West	36	D	36	D
Boston Avenue at Winthrop Street	North	37	D	37	D
	South	35	D	35	D
	East	35	D	35	D
	West	32	D	32	D
Boston Avenue at College Avenue	North	59	E	59	E
	South	59	E	59	E
	East	55	E	55	E
	West	56	E	56	E
Boston Avenue at Harvard Street	North	52	E	42	E
	South	52	E	42	E
	East	55	E	45	E
	West	55	E	45	E

This table shows that the three crossing points at Mystic Valley Parkway are among the worst in the area due to short pedestrian crossing times and high volumes of traffic. Values along Boston Avenue range from PLOS D to E, with wait times lower than those found along Mystic Valley Parkway.



## **On-Street Parking**

Another key area of concern noted by residents was the regulation and enforcement of on-street parking. Because the current design for the potential station at Mystic Valley Parkway does not include any parking facilities, there were concerns from residents about people driving to the station and parking on the local streets creating on-street capacity issues for residents. The existing lack of metered spaces, permitted streets and active enforcement add to residents' concerns that parking could become an issue if the station is constructed. While this concern is valid, commuting hours coincide with hours when residents are likely also at work. If residents in the area are driving to work destinations during the day, this could free up on-street capacity for some commuters to drive, park and walk to the station.

A number of streets in the station area, in both Medford and Somerville, are currently permitted for residential parking only. Streets such as Piggott Road, Orchard Street and Irvington Road have signage notifying drivers of residential permitted parking areas. Currently, there are no metered spaces in the station area.

## **Open Space**

Throughout the planning process, an overwhelming number of participants commented on the excellent natural open space and park resources that exist within close proximity to the potential Green Line station. Many view open space as a critical amenity and future opportunity to connect existing and future residents to recreation locations in the community. The following section explains the different public open spaces within the study area.

### **Existing Open Spaces**

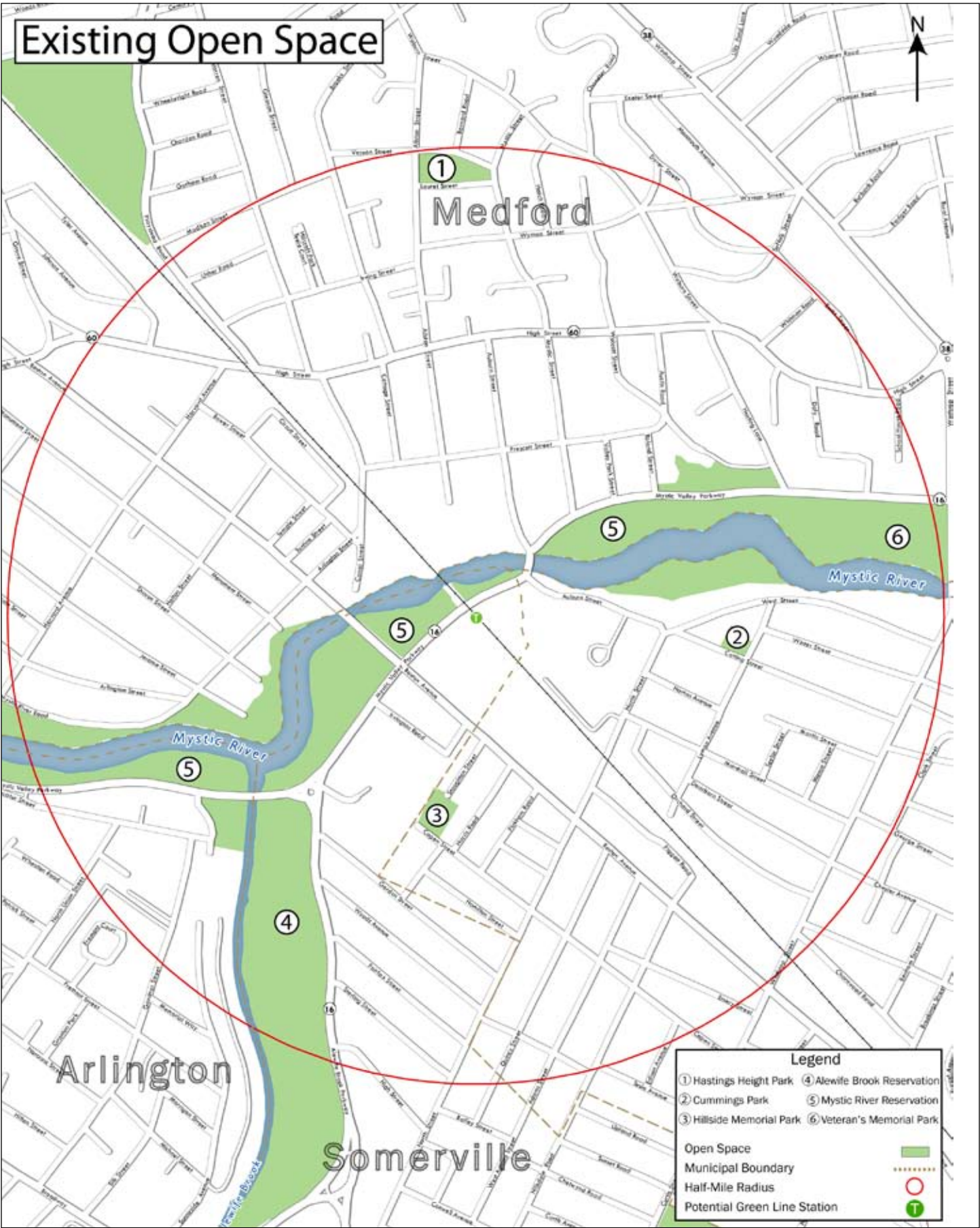
There are four city-owned parks in Medford that fall within the study area, and are mostly small parks that serve local neighborhoods. Veterans Memorial Park is the largest of the four and tends to have a larger draw because the park includes two little league fields.

A review of Somerville parks showed there are no city-owned parks or open spaces within the study area. The City has a 2008-2013 Open Space and Recreation Plan which serves as a public record of Somerville's open space data, goals and strategic vision. The Plan is also used to help the city secure state grants. The plan is available on the City's webpage.

The Department of Conservation and Recreation (DCR) owns and manages the Mystic River Reservation and Alewife Brook Reservation in both Somerville and Medford. These recreational and open space resources are the largest ones in the study area. The land comprising the Mystic River Reservation is the closest in proximity to the proposed Green Line station and would potentially stand to be impacted the most any by station development.

This initial review of existing parks and open spaces within the half-mile study area revealed a significant number of public areas available for both passive and active recreation. The open spaces within the study area also play an important part in water management and maintaining a natural environment for wildlife. Figure 2.17 shows the location of the open spaces within the study area.

Figure 2.17: Location of Existing Open Space



## Chapter 3: Public Participation Process

Over the course of the visioning process, MAPC engaged residents and key stakeholders in the area through a series of five public meetings. Each meeting was designed to focus on specific topics that informed decisions for future public meetings and ultimately the recommendations put forth in this report. At the outset of the visioning process, MAPC also held individual or small group stakeholder meetings with staff from Medford and Somerville, business owners, residents, legislators, community organizers, and institutions. These initial meetings helped develop contacts in the community and began to inform our public engagement process and outreach strategies. MAPC used a number of different outreach tools and strategies to promote each of the public meetings which included: website postings, emails, social media sites, city email listservs, community group lists, reverse 911, media press releases, public notices in newspapers, direct mailings, notices that ran on local cable access channels, and posting of flyers at area businesses. MAPC also contracted with the Massachusetts Office of Public Collaboration (MOPC) to assist with meeting planning and facilitation.

MAPC also held three additional public meetings, two at the West Medford Community Center and one at Walkling Court, to solicit additional feedback on opportunities and concerns with extending the Green Line to Mystic Valley Parkway.

During each public meeting, participants had opportunities to comment and have questions answered in person. Comments and questions could also be submitted through email or postal mail. MAPC used this running dialogue to develop content and diversify outreach efforts throughout the process. Listed below is an overview of each public meeting and a summary of the feedback received.

### Public Meeting #1 – Kick Off

On February 16, 2011 MAPC held a kick off meeting at the Brooks Elementary School in Medford attended by over 150 people. MAPC made a brief presentation outlining the scope of the project and identifying points during the process when public input would be critical. The presentation was followed by a facilitated breakout session where participants discussed key community opportunities and concerns associated with the Extension.

#### Meeting Objectives:

1. Introduce visioning process to meeting participants
2. Gather feedback from participants on key community opportunities and concerns associated with the Green Line Extension

#### Outcomes:

- Meeting participants gained an understanding of the visioning process and the goals of the study
- MAPC gained an understanding of the key opportunities and concerns in the community regarding the Green Line Extension
- MAPC identified four top community questions to focus on in Meeting #2

### Public Meeting #2 – Community Questions and Answers

On March 30, 2011 MAPC held a second public meeting in Medford focused on answering some of the key community questions that came out of Meeting 1. The topics covered during this meeting were: traffic and parking, air quality, land acquisitions, and managing neighborhood change. Staff from MAPC and MassDOT prepared presentations with information on each of the topics and time was allotted after each presentation for a question and answer session with participants. Over 80 people attended this public meeting.

**Meeting Objectives:**

1. Present existing and new information on the four key community topics
2. Enhance the community's understanding of each topic
3. Provide answers to questions from meeting participants

**Outcomes:**

- Meeting participants gained a better understanding of the information presented on each community topic
- Meeting participants had an opportunity to ask additional questions of MAPC and MassDOT staff
- MAPC used the feedback from Meeting 2 to develop the format and materials for Meeting 3

**Public Meeting #3 – Community Opportunities and Concepts**

On May 17, 2011 MAPC held a third public meeting on the campus of Tufts University in Medford to introduce the concept of transit-oriented development (TOD) and provide participants with examples of TOD from around the Greater Boston region. MAPC presented a variety of examples that differed by size, mix of uses, levels of affordability, and location. For each example an assessment of the type of housing, level of affordability, overall design, and financing was provided for context. After the presentation on TOD, meeting participants took part in a visual preference poll where they scored a series of photos of residential, office, commercial, and mixed-use development based on their visual reactions. Photos were also shown of open spaces, parks, plazas, sidewalks, and crosswalks. Finally, participants were assembled in smaller groups and asked to identify key assets. This exercise was meant to help MAPC identify assets in the community that the public viewed as critical for preservation and assets that could be enhanced through change if a station were constructed. Participants were encouraged to note on a map any assets they thought were of particular importance to their neighborhood or to the cities as a whole. Over 80 people attended this public meeting.

**Meeting Objectives:**

1. Help participants gain a better understanding of transit-oriented development and provide examples of TOD from the Greater Boston area
2. Gain feedback on what types of development, public space, and pedestrian infrastructure participants liked and did not like
3. Identify key community assets for preservation and change

**Outcomes:**

- Meeting participants gained a better understanding of transit-oriented development in relation to projects in the Greater Boston area
- MAPC received preferences on development and infrastructure
- MAPC received information on key community assets for preservation and change
- The visual preference poll results and recorded assets were used to identify potential sites for preservation and change around the proposed station and helped guide what development aesthetics might be acceptable on each site

**Public Meeting #4 – Community Visioning**

On June 23, 2011 MAPC held a fourth public meeting in Medford with the purpose of gathering feedback on the community's vision for the area immediately adjacent to the proposed Green Line station. MAPC developed a 3-D visualization model of the existing buildings around the proposed station area, as well as a series of development alternatives for four specific sites adjacent to the proposed station. Meeting participants worked together in small groups to discuss the various options for each of the four sites while providing feedback to MAPC staff about what they liked and did not like. The model also generated indicators for each scenario choice such as housing units, office square footage, job creation, tax revenue, etc. Participants were able to see how their choices affected the indicators and were then able to weigh choices based on what was more important to them (i.e., more housing developments versus job creation). Over 40 people attended this meeting.



### **Meeting Objectives:**

1. Develop a series of land use scenarios for the station area
2. Create an understanding of the associated benefits and impacts for each land use scenario
3. Inform MAPC's understanding of participant's preferences for land use and development changes in the immediate station area

### **Outcomes:**

- Meeting participants developed a set of land use scenarios for the station area
- Meeting participants engaged in a robust discussion of benefits and impacts associated with land use and development choices
- MAPC received input about which alternatives were preferred by the public and the reasoning behind those choices
- MAPC used the input from participants to develop the vision and recommendations for the station area

## **Public Meeting #5 – Recommendations**

On November 2, 2011 MAPC held the fifth and final public meeting at Medford City Hall with the purpose of presenting the draft vision and recommendations. Meeting participants were able to see and listen to the draft recommendations and ask questions and provide comments to MAPC staff. Over 100 people attended this meeting.

### **Meeting Objectives:**

1. Present MAPC's recommendations to the public
2. Answer questions and take comments on the draft report

### **Outcomes:**

- Meeting participants were provided with MAPC's draft recommendations
- Meeting participants asked questions and provided comments and feedback on MAPC's draft recommendations
- MAPC answered questions and recorded comments provided by meeting participants

## **West Medford Community Center and Walkling Court**

In September, October and November of 2011, MAPC held three public meetings to hear from residents of the West Medford neighborhood and the Walkling Court senior housing development. Attendees at the two West Medford meetings expressed concerns about the potential of the Green Line Extension raising property values and thereby raising property taxes. Concerns were expressed that some residents are on a fixed income and may not be able to afford a rise in housing costs over time. Concerns were also expressed about home owners being able to pass on their homes to children and/or grandchildren in the future, if the affordability of the neighborhood were to decrease. Approximately 33 people attended the two meetings at the Community Center.

Walking Court residents expressed concern over the proximity of some existing housing units to the commuter rail tracks. Noise, vibration and air pollutants were of concern to abutting residents. Many residents however were optimistic about the possibility of improving and modernizing the housing over time if the site were to be redeveloped. Many residents cited elevators, communal dining facilities, new gathering spaces/recreation spaces, computer access, and modernized housing units as key opportunities for improvement on the site. Approximately 30 people attended the meeting at Walkling Court.

## Key Themes and Take-Aways

Throughout the public engagement process, MAPC created opportunities to learn from the public and collect feedback which was incorporated directly into the planning process. A number of key concerns and opportunities were expressed, from which a few major themes emerged:

### Key Concerns and Opportunities

- Key community concerns included: parking on neighborhood streets and the need for enforcement, associated traffic impacts, abutter impacts (air quality, noise, and vibration), land acquisition, and concerns around how to manage possible changes that could occur in neighborhoods near the potential station
- Key community opportunities included: improvements to pedestrian and bicycle access in the area, access to open space in the area, traffic reduction as a result of the Green Line, potential for increased tax base and job growth, potential to increase diversity in housing choices, better air quality, better access to Boston, and the extension adds another transportation choice

### Major Themes

- New development should keep with the character of the existing neighborhood and should not add significantly to existing traffic and parking issues
- Preserve or enhance existing developments such as Whole Foods, 200 Boston Avenue and Walking Court
- Preserve or enhance the small shops and walkable environment that currently exists
- Maintain the affordability of the housing stock in the area
- Mixed-use development around the station is preferable and can add both market-rate and affordable housing units to the neighborhood
- Pedestrian and bicycle connections should be improved if a station is constructed
- Connectivity to existing open space should remain or be enhanced
- The Mystic River is a key open space asset to the community and a natural corridor for wildlife

The major themes were used as guides throughout the recommendation sections of the report to ensure MAPC answered many of the question areas that arose throughout the public engagement process. The following sections of the report build upon feedback provided by the public, stakeholders, the two cities, and MassDOT to create a vision for the station area should the Green Line be extended to Mystic Valley Parkway.

## Chapter 4: A Vision for the Future

The main goals of this planning process were to:

1. Develop a vision for the area around the potential station
2. Analyze opportunities for maximizing benefits to the two cities and their residents
3. Minimize impacts to the extent possible

The extension of the Green Line would create an opportunity to redefine the area adjacent to the station as an area for neighborhood scale transit-oriented development. Through discussions with both cities, residents, employers and property owners in the area and during our engagement meetings with the public, MAPC developed a vision that incorporates this input in combination with best planning practices and the guiding principles of the regional plan, *MetroFuture*.

Most residents and stakeholder we spoke to share a common vision for the station area:

**A well-connected, walkable, bike-able, neighborhood scale transit-oriented development node that provides new opportunities for mixed-income housing, job creation, increased tax revenue, and access to quality public transit. New development must knit into the fabric of the existing neighborhood and provide opportunities for increasing access to affordable housing and quality jobs. Connectivity from the surrounding area is critical in making the potential station a part of the neighborhood.**

The possible extension of the Green Line would provide the catalyst to increase demand for these neighborhood opportunities and generate added community value. Both new and existing residents stand to benefit greatly from new rapid transit service and from increased access to new housing and job opportunities.

### Benefits of Transit-Oriented Development

Investment in the expansion of transit service is a costly and time consuming effort which is not undertaken often in the Commonwealth of Massachusetts. Therefore, it is imperative that plans are formed to capitalize on the opportunities provided by an expansion project. Transit-oriented development (TOD) is defined as “higher-density mixed-use development within walking distance of transit stations.”<sup>19</sup> This approach to development produces an important link between the built environment and the transit investment creating an active neighborhood.

Transit-oriented development has a number of benefits to individual residents and to the community as a whole, which include but are not limited to the following<sup>20</sup>:

- Increase location efficiency so people can walk and bike to transit
- Boost transit ridership and minimize traffic
- Provide a rich mix of housing, shopping and transportation choices
- Generate revenue for the public and private sectors and provide value to both new and existing residents
- Create a sense of place

<sup>19</sup> Center for TOD, <http://www.ctod.org>

<sup>20</sup> Center for TOD, <http://www.ctod.org>

Throughout the visioning process, key themes emerged which were incorporated into the vision and recommendations for this area. The key themes, as described in Chapter 3, carried throughout the vision include:

- Added housing opportunities
- Increased job access
- Added tax revenue
- Added open space
- Improved bicycle and pedestrian facilities

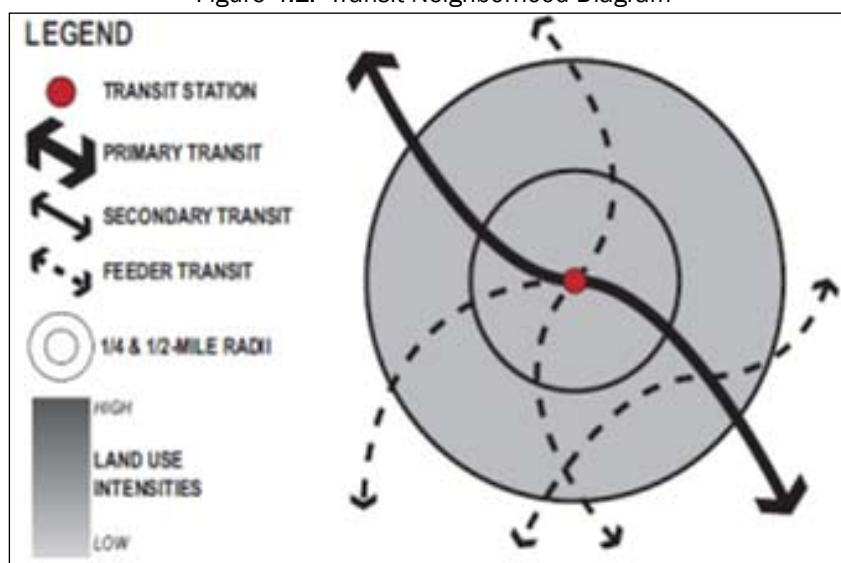
## A Neighborhood Approach

Typically, TOD studies focus on an area about a half-mile around existing or proposed rapid transit stations. This is considered the radius in which people feel comfortable walking to and from the station, equivalent to about a ten minute walk time. For this study, MAPC focused direct planning efforts on four focus areas immediately adjacent to the proposed station and did not propose land use and zoning changes to a majority of the area within the half-mile radius. This approach was taken because much of the area is residential with small pockets of commercial development disbursed throughout. The character of the residential areas are a value added to the neighborhood and suggesting changes seemed inappropriate at this point in time. The housing and building stock in the neighborhood is also of high quality suggesting homeowners and landlords are keeping up with property maintenance.

Transit-oriented development varies in size from entire downtowns served by multiple fixed-route transit lines to small mixed-use corridors on a single street. The scale of the area adjacent to the Mystic Valley Parkway station is one of a “transit neighborhood”. A transit neighborhood is defined by the Center for Transit Oriented Development as an area “primarily residential served by rail service or multiple bus lines that connect at one location. Transit neighborhoods have low-to-moderate densities, and the transit stations are often more a minor focus of activity than more intense place types.” Figure 4.1 depicts the transit connectivity of a transit neighborhood where a primary transit line is supported by less frequent feeder bus service.

Examples of transit neighborhoods in the Metro Boston area include: Newton Centre in Newton, Station Crossing in Melrose and Gerrish Avenue in Chelsea. Transit neighborhoods are not as intense as locations like Davis Square in Somerville or Station Landing in Medford.

Figure 4.1: Transit Neighborhood Diagram<sup>22</sup>



<sup>21</sup> “Station Area Planning Manual”, Center for TOD, October 2007

<sup>22</sup> “Station Area Planning Manual”, Center for TOD, October 2007



The density of development and frequency of existing and future transit service make the proposed station area an ideal location for the creation of a transit neighborhood. Transit neighborhoods are typically located in older urbanized areas originally developed around the streetcar and have consistent residential densities throughout the entire half-mile radius. The TOD area also includes some small pockets of retail, but scaled to be supported by the local residential market and by riders of the transit service. The vision for the station area is also consistent with the description of a transit neighborhood and builds off the suggested scales, densities and services that would fit the character of a transit neighborhood.

### **Characteristics of Mixed-Use Development**

The vision describes creating a mix of uses that can be accessed by new and existing residents within the station area and surrounding neighborhoods. The term “mixed-use” refers to developments that combine different types of land uses either in a single structure or in a group of buildings on a single lot. The types of uses typically include residential and commercial. The commercial can be either retail, office or a combination of both. The uses can be arranged vertically, in a multi-story building or horizontally adjacent to one another in one of more buildings. The benefits of mixed-use zoning include expanded housing opportunities and the opportunity to redevelop commercial areas to maximize revenue potential. Mixed-use developments typically reduce auto dependency, particularly if they are in close proximity to walking, biking or transit routes.

### **Station Area Defined**

As was previously mentioned, MAPC reduced the focus area of this study down from the half-mile radius to four focus areas directly adjacent to the potential station. The areas with the highest potential for change are those that are closest to the station with existing uses or underlying zoning that would allow for a higher density mixed-use node to be developed over time. A map showing the four focus areas is shown in Figure 4.2.

## **Focus Area Recommendations**

The vision identified through this process includes some development that may not be allowed under current zoning. This section will describe the opportunities for development change and economic development benefits, as well as the necessary changes to the land use and zoning regulations that would be needed to allow change in the area to occur.

### **Opportunities for Change**

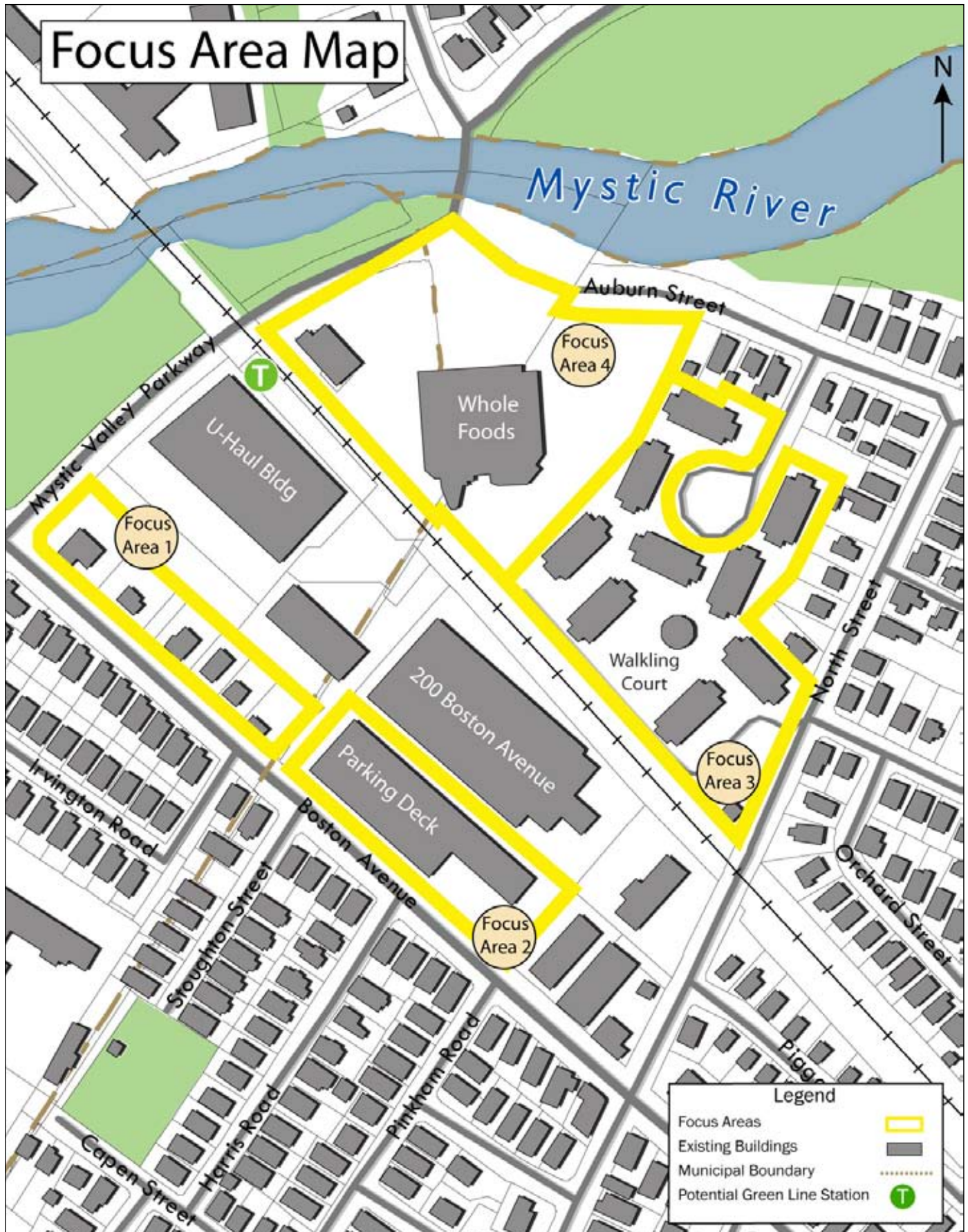
MAPC generated land use and development alternatives for the four focus areas adjacent to the proposed Green Line station, estimated potential benefits and impacts of each alternative, and compared the benefits and impacts to the vision for the area. In order to envision this area with a Green Line station and with changes to the built environment, MAPC had to make certain assumptions when modeling each scenario:

1. Assumed a time horizon of 20-25 years for full development potential to be realized
2. Assumed the Green Line Extension would be constructed to Mystic Valley Parkway
3. Assumed zoning could be modified to reflect the vision for the area

As MAPC developed alternatives for each focus area, many critical elements were considered including:

- Existing and proposed land use for each site
- Surrounding neighborhood character
- Proposed height, bulk and siting of the building(s)
- Potential for job creation and tax revenue benefit or loss
- Number of market-rate and affordable housing units created or lost
- Cost feasibility from the standpoint of the City, property owner or developer
- Impact on existing automobile traffic in the area and on ridership for future Green Line Extension
- Possible new or improved connections to bicycle and/or pedestrian facilities
- Ability to access existing open space or create new open space

Figure 4.2: Focus Area Map



MAPC identified one recommended development alternative for each of the four focus sites shown on the previous page in Figure 4.2. The recommendation is based upon input received from residents and stakeholders during the visioning process and MAPC's analysis of development potential in each area. It is important to note that MAPC is not recommending eminent domain of existing properties in order to facilitate redevelopment of these sites. The recommendations are reflective of a long term vision for the area and any land use or zoning recommendations are meant to facilitate change to occur consistent with the vision. Ultimately, the decision to develop or redevelop a site falls to the property owner.

An additional important note is that MAPC did not look at development or reuse alternatives at the station site itself because the preliminary planning and engineering for the Phase II Extension is not at a stage where MAPC could say definitively what options were feasible. Suggestions have been made during this process to possibly incorporate the station into the existing U-Haul structure. These options should be explored in more detail if station planning/engineering is resumed.

### **Focus Area 1: 166-194 Boston Avenue**

Focus Area 1 comprises Simon's gas station at the corner of Boston Avenue and Mystic Valley Parkway and five residential structures running southeast down Boston Avenue. Given the proximity of these parcels to the proposed station, the opportunity to add housing, retail, office, and open space would be high. With this opportunity in mind, MAPC recommends allowing four-story mixed-use buildings and changing the existing gas station use into additional public open space. The open space would create a continuous connection from the Mystic River Reservation across Mystic Valley Parkway. The recommended mix of uses within each new building would be 50% retail and 50% office on the first floor and three stories of residential uses above. The retail and office components are envisioned to be neighborhood scale retail providing daily service needs and small professional offices. Examples of these uses are small convenience retail, coffee shop, dry cleaners, insurance, accountants, etc.

#### **Site and Building Design Components**

In order to create a more engaging and walkable environment around the proposed Green Line station, it is recommended that new buildings along Boston Avenue be located closer to the street or facing the new open space at the corner of Mystic Valley Parkway and Boston Avenue to create an active frontage for pedestrians. Along Boston Avenue, a wider sidewalk should be constructed that would allow for more pedestrian space and the possibility of outdoor seating or cafes. Building-mounted and small monument signage<sup>23</sup> as well as canopies could be used to identify first floor businesses. Large commercial signage should be avoided in this residential area. Parking should be provided either behind the buildings or underneath the buildings to avoid front yard or side yard surface parking lots.

The building itself should be designed to step back after the first floor and the building massing should be broken up using balconies and outdoor areas for the upper story residential units. Step backs and massing elements will help to offset the additional one-story change in height from the existing structures across Boston Avenue. Table 4.1 shows the characteristics of the existing and future uses for this focus area. Figure 4.3 and 4.4 show the existing layout of the focus area site and the recommended future vision.

<sup>23</sup> Monument signage is a permanent, freestanding sign mounted on a base of other supports



Table 4.1: Focus Area 1 Recommendations

Focus Area 1	Land Use	Housing Units	Commercial SqFt	Office SqFt
Existing	Gas Station and Residential	8	1,100	0
Future	Mixed-Use (first floor retail/office with residential above)	40	10,000	10,000

Figure 4.3: Focus Area 1 Existing Conditions



Figure 4.4: Example Images of Potential Changes to Focus Area 1



<http://www.homedesignfind.com>

## **Focus Area 2: 200 Boston Avenue Parking Deck**

Focus Area 2 is the site of an existing one-story parking deck located in front of the 200 Boston Avenue office building. The existing deck provides free parking for employees and visitors to the offices at 200 Boston Avenue. Redevelopment potential of the garage will be higher if the Green Line is extended due to its proximity to the station and ease of access for workers coming from other areas along the Green Line. Given the potential for future expansion, MAPC is recommending zoning changes that would allow redevelopment of the parking deck as a three-story building with a mix of office and/or research and development (R&D) space, as well as a small retail space that could hold a coffee shop, sandwich shop or small restaurant on the first floor. This would provide an additional breakfast and/or lunch location to serve employees in the area as well as residents. As part of the redevelopment, a smaller three-story parking garage could be developed along the south side of the new building to replace parking lost through redevelopment. Parking demand on-site would be lower if the Green Line is extended to Mystic Valley Parkway due to employees and visitors using the new transit service for commuting.

### **Site and Building Design Components**

According to Cummings Properties, managing agent for the commercial buildings at 196 and 200 Boston Avenue, there is interest in eventually redeveloping the site's existing parking deck into an office/R&D building that may also include some accessory retail to serve as amenities to the buildings and surrounding neighborhood.

Similar to Focus Area 1, any new building on this site should have a minimal setback off Boston Avenue to create an active street front. A minimum 10' sidewalk should also be provided in order to create outdoor café space or a small plaza associated with the restaurant space on the first floor. This outdoor space could also be used by employees during lunchtime hours. Although the height of the new building and parking deck would be comparable to heights of structures across Boston Avenue, the new building and deck should be designed with appropriate window placement and massing along the front façade that will lessen the bulk of the building.

One critical point of concern for future consideration, however, is that the current version of the conceptual plan for a potential station shows all incoming traffic to the station traveling through the middle of the 196/200 Boston Avenue complex over its private driveways and parking areas. MassDOT should carefully evaluate the entire issue of providing access to the station during the station design process to create an access plan that will not negatively impact any existing or future development at the 200 Boston Avenue property.

Table 4.2 shows the characteristics of the existing and future uses for this focus area. Figure 4.5 and 4.6 show the existing layout of the focus area site and the recommended future vision.



Table 4.2: Focus Area 2 Recommendations

Focus Area 2	Land Use	Housing Units	Commercial SqFt	Office SqFt
Existing	One-story parking deck	0	0	0
Future	Office and R&D, restaurant, three-story parking deck	0	3,000	57,000

Figure 4.5: Focus Area 2 Existing Conditions



Figure 4.6: Example Images of Potential Changes to Focus Area 2



[www.urbanplanet.org](http://www.urbanplanet.org)

### **Focus Area 3: Walkling Court**

Focus Area 3 is the senior housing development at the corner of North Street and Auburn Street. This property is owned and operated by the Medford Housing Authority and contains 144 affordable senior housing units. The existing site is uniquely situated among single family homes and adjacent to the Whole Foods grocery store. The units are located in nine two-story garden style apartment buildings that were constructed in the 1950's. The buildings and units are in need of modernization, which includes the construction of elevators for ADA accessibility to units above the first floor. Currently, some units are going through a modernization process to update interior aesthetics. Throughout our public engagement process, Walkling Court was viewed by the public as a key asset in the neighborhood and should not be converted into any use other than senior affordable housing. The demand for senior housing will continue to grow, not only in Medford, but throughout much of the Metro Boston region. As Baby Boomers and the Millennials behind them retire, senior housing availability will become scarcer if the issue is not addressed.

Demographic trends indicated demand for senior housing will continue to grow; therefore MAPC recommends that the existing site be redeveloped into two new 3-4 story buildings specifically for senior affordable housing. By increasing the height of the two buildings, more senior housing units can be provided on this site which is a benefit to the housing authority and the growing senior community. Increasing the height of the buildings and adding more units helps to offset costs from redevelopment and costs for providing elevators in each building. Redeveloping the site will also create new modernized buildings that are fully ADA compliant and could include updated amenities for residents. A similar modernization project was recently completed in Somerville with the development of Capen Court and the VNA building along Mystic Valley Parkway. Finally, the site could also include four townhome units that could be used to house families in need of larger affordable housing.

#### **Site and Building Design Components**

The site design of the new Walkling Court should have new buildings located at the rear of the site adjacent to the MBTA right-of-way to provide a buffer between the buildings and the single family houses located on North Street and Auburn Street. This would help minimize any shadowing that may occur from these taller buildings. Also, by orienting the buildings to the rear of the site, it opens up additional land for open space, the construction of a new community center and more area for walking paths around the site. The townhome units should be constructed facing into the site. The site should also have open access points between Walkling Court and the adjacent Whole Foods property to allow residents easy walking access to the grocery store. Currently, there is a wooden fence that separates the two properties and cuts off connectivity.

The recommended building heights are a mix of three to four stories and step down from four to three stories on the sides toward existing single family homes. Surface parking associated with the buildings should be kept to a minimum considering car ownership and driving are much lower for seniors than for the general population. A small area for parking should be made available for employees and visitors on site. Table 4.3 shows the characteristics of the existing and future uses for this focus area. Figure 4.7 and 4.8 show the existing layout of the focus area site and the recommended future vision.



Table 4.3: Focus Area 3 Recommendations

Focus Area 3	Land Use	Housing Units	Commercial SqFt	Office SqFt
Existing	Senior Affordable Housing	144 Senior Units	0	0
Future	Senior Affordable Housing and Townhomes for Families	195 Senior Units, 4 Townhomes	0	0

Figure 4.7: Focus Area 3 Existing Conditions



Figure 4.8: Example Images of Potential Changes to Focus Area 3



## **Focus Area 4: Whole Foods**

Focus Area 4 is located at the intersection of Mystic Valley Parkway and Auburn Street. The existing Whole Foods is a 31,000 square foot building situated in the center of the site surrounded by a large surface parking lot. To the west of the Whole Foods is a 4,500 square foot stand alone liquor store. The Whole Foods is a significant asset to the surrounding neighborhood and provides a high quality walkable grocery store within close proximity to the 9,000+ residents in the study area and beyond. This site stands to gain significantly from the possible extension of the Green Line and has the highest potential for redevelopment. The existing layout of the buildings on the site leaves vast amounts of surface parking undeveloped, and added demand generated by the Green Line Extension could create an opportunity to intensify development on this site.

Throughout the visioning process, residents identified Whole Foods as a key community asset that should be preserved. Given the development potential, MAPC recommends allowing a six-story mixed-use building that would have a Whole Foods and small retail space on the ground floor with residential above. This recommendation takes into account the preservation of the Whole Foods use and incorporates a housing component to create residential opportunities in close proximity to the station. Since this is an area of high opportunity, it was important to allow sufficient density of housing on site to make the development financially attractive for redevelopment. Allowing for added residential on this site creates the opportunity for a mixed-use mixed-income development that could provide more affordable housing options for residents.

### **Site and Building Design Components**

The recommended site design for Focus Area 4 brings the building closer to the intersection of Mystic Valley Parkway and Auburn Street, but does leave some space in front of the building for parking. A majority of the parking for the Whole Foods would be located on the sides of the building with parking for the residential units provided in an underground parking lot. The location of the building itself is important because the site is constrained by two wide sewer and water easements running along the perimeters of the parcel. New structures cannot be built on top of the easements, therefore the building needs to be located closer to the street and kept in the center of the parcel.

A new six-story building would be consistent with heights of the U-Haul building (5 stories) and 200 Boston Avenue (4 stories). To cut down on the height and bulk of the building, window and door placement and massing must be considered. Massing could be addressed by creating a large cut out in the center facing the street for a rooftop deck for use by residents, and by creating outdoor terraces for upper story units. The illustration in Figure 4.10 is one example of what form a new building could take on if Whole Foods were to be redeveloped into a mixed-use building. Table 4.4 shows the characteristics of the existing and potential future uses for this focus area. The map in Figure 4.11 shows the recommended buildings and site layouts for each of the four focus areas.



Table 4.4: Focus Area 3 Recommendations

Focus Area 3	Land Use	Housing Units	Commercial SqFt	Office SqFt
Existing	Whole Foods and Liquor Store	0	35,000	0
Future	Whole Foods, Small Retail Space, Residential Above	85	37,500	0

Figure 4.9: Focus Area 3 Existing Conditions



Figure 4.10: Example Images of Potential Changes to Focus Area 3



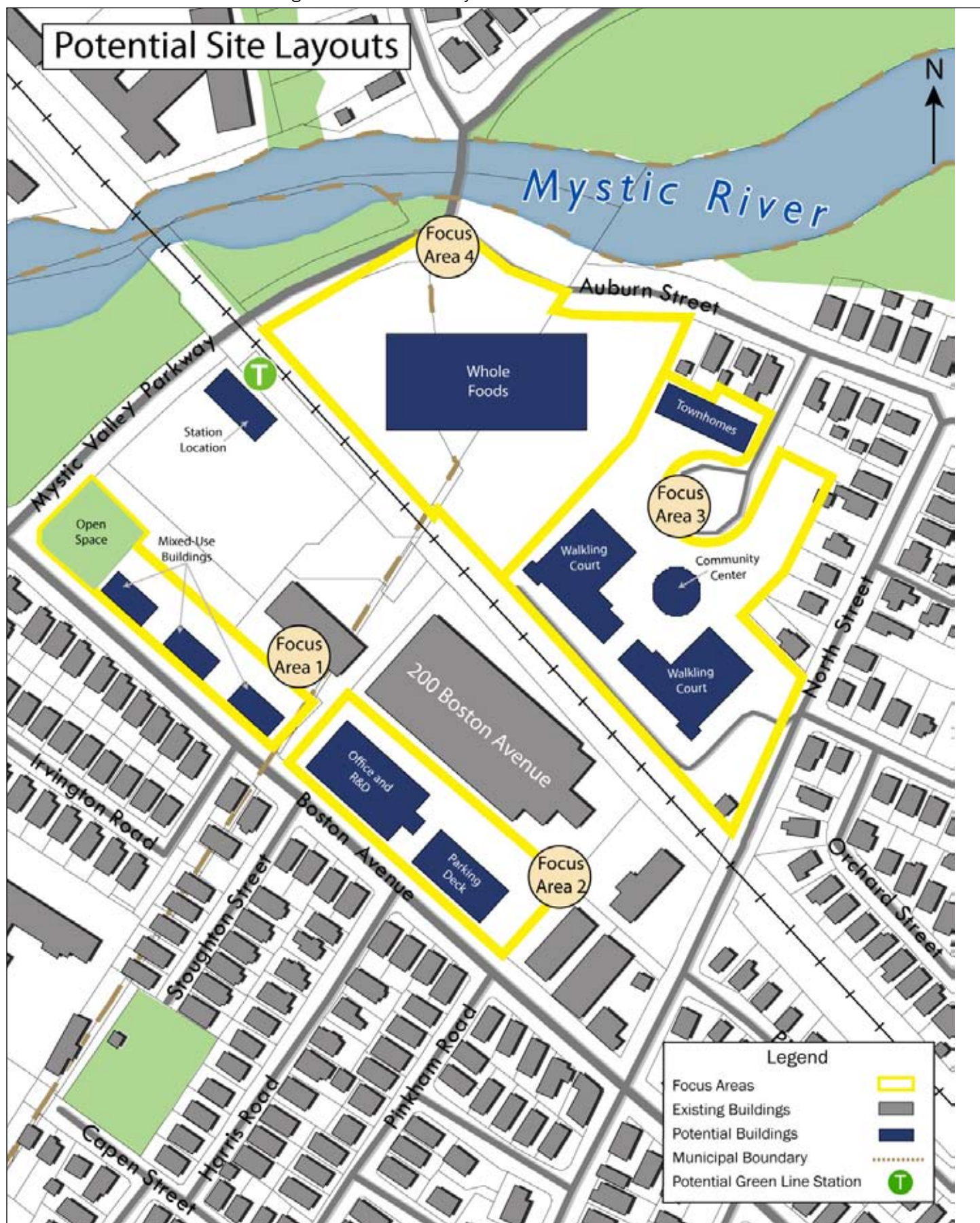
<http://www.rainiervalleypost.com>



<http://www.prlog.org>



Figure 4.11: Potential Layout for Each Focus Area Site





## Projected Jobs and Tax Revenue

MAPC estimated future annual tax revenue and job growth based on the vision for the four focus areas. The estimated increase in tax revenue is \$435,000<sup>24</sup>, which is almost double the estimate for these four focus areas under existing conditions. The estimated employment is expected to grow by approximately 240 jobs.

## Potential Impacts to Traffic

The recommended alternatives could bring many added benefits at the neighborhood and city-wide scale. However, there are potential transportation impacts that could be associated with new development in the area, namely additional auto trip generation. With the existing levels of congestion on Route 16 and Boston Avenue, it is important to understand what the level of added auto traffic may be. Using the Institute of Transportation Engineers (ITE) Trip Generation Manuals, MAPC estimated the existing and future trip generation for each of the four focus areas.

Under the existing conditions, the estimated adjusted trip generation in the area is around 2,850 trips per day. The trip generation was adjusted down to account for transit, walking and biking trips in the area<sup>25</sup>. The adjusted trip generation estimate for the preferred vision for the station area is approximately 4,257, around a 49% increase over the existing condition<sup>26</sup>. Table 4.5 shows the difference between the existing and future conditions.

Table 4.5: Existing and Future Trip Generation Estimates

Timeframe	Adjusted Daily Trips	Adjusted Peak Hour Trips	Vehicles During Peak Hour	Vehicles per Minute During Peak Hour
Existing	2,850	285	143	2.5
Future	4,257	426	213	3.5

When comparing the estimated traffic impacts to the existing peak hour volumes along major roadways like Route 16 (3,100 cars) and Boston Avenue (800 cars), the increase is modest. Future traffic and congestion can be further mitigated by making improvements to roadways, intersections, transit routes, and bicycle and pedestrian facilities. The recommended changes in parking requirements suggested in the land use section of this report would also help to keep vehicular traffic down if new developments provided fewer parking spaces.

## Ridership, Mode Shift and Air Quality

The additional access to jobs, housing and destinations along the Green Line Extension will help to drive ridership along the line, especially as new developments begin to come online. If the full Green Line Extension is constructed between Lechmere and Mystic Valley Parkway it is anticipated to have a total of 8,900 daily boardings, with 2,000 daily boardings at the Mystic Valley Parkway station alone<sup>27</sup>. The Green Line and its associated ridership will not only help residents by opening up new travel options; it will also reduce dependency on automobiles and help reduce vehicle trips on local and regional roadways. The Central Transportation Planning Staff (CTPS) developed estimates during the peak travel hours on how many new Green Line trips were previously taken by other modes of travel. It was estimated that 74% of projected peak hour Green Line riders would otherwise be driving. This equals approximately 592 people who were previously driving on local roads during the peak hour commute times. Based on the vision for the focus areas, new housing units near the station could produce an additional 180 trips per day if the Green Line were to be extended.

A secondary result of Green Line ridership and vehicle reduction is the projected changes in travel patterns of daily auto commuters. Currently, congestion on Route 16 and Boston Avenue is considerable during the AM and PM peak

<sup>24</sup> Methodology for calculating tax revenue is included in Appendix 2

<sup>25</sup> Mode share data taken from 2000 Census for Medford and Somerville

<sup>26</sup> Mode share data taken from 2000 Census for Medford and Somerville and adjusted to account for Green Line service

<sup>27</sup> 2009 Draft Environmental Impact Report, Green Line Extension Project, MassDOT

rush hours. This current congestion creates pressure on drivers to find alternative travel routes which often lead to increased traffic on parallel neighborhood streets not designed to handle higher volumes of traffic. This in turn creates added congestion on smaller streets and increases safety risks to drivers, pedestrians and cyclists. With the possible extension of the Green Line, auto trips will be diverted to transit trips creating freed capacity on major roads like Route 16 and Boston Avenue. The freed capacity will allow drivers who are currently using neighborhood streets to return to the major roadways. While congestion may only improve slightly on major roadways in the area, neighborhood level streets should see a more significant improvement.

### **Overall Connectivity**

Connectivity, among the four focus areas and the surrounding neighborhood, are extremely important considerations for integrating any new development in the existing context. Improvements to the transportation network in the area are critical to ensure the safe and efficient movement of all modes. Accessibility for pedestrians not only relies on improved infrastructure and connectivity for those modes, but also relies on improvements to the roadway network as well. Connectivity also relies on well planned site design, building orientation and landscaping which can help shield pedestrians from busy streets and create a more walkable environment. As new development is integrated into the existing neighborhood fabric, the cities must ensure strong connections are made which will foster a safe and walkable environment.

### **Areas for Potential Future Development**

MAPC focused its analysis on the four focus areas directly around the potential station because those sites have the clearest potential for redevelopment, and will be the areas most susceptible to change over time if the Green Line is extended to Mystic Valley Parkway. However, there are other existing retail, commercial and office developments along Boston Avenue, both north and south of the potential station area, that have the possibility of benefitting from added access to rapid transit and may see demand for increased services. For example, during the public comment period the Elizabeth Grady company commented that their parcels, located near the corner of Boston Avenue and North Street, may have the potential to expand if the Green Line was extended to Mystic Valley Parkway. Other sites, such as the one and two story retail buildings north and south of the potential station area, could also benefit from the extension and hold the potential for possibly adding one or two stories of residential above.

While it is much less clear how much potential these sites have for redevelopment, it is possible that increased demand could lead to site-specific plans by property owners interested in increasing the size of existing buildings or even changing the uses associated with those buildings. MAPC recommends that if the Green Line Extension occurs, property owners work closely with the appropriate city to go through the local plan approval process and assess potential impacts such as traffic, parking, access, public utilities, and others.

## **Zoning Recommendations**

The most significant changes to the existing zoning, if the recommendations are implemented for the four sites, are the increase in height and the emphasis on mixed-use development within the focus areas. Zoning is an important tool for stimulating land use change through the adoption of new regulations. Zoning can also help increase property owner interest in development or redevelopment, can help to implement a community vision by influencing land use decisions in the real estate market, and can help create neighborhoods that include nodes of mixed activity such as living, working and shopping.

The vision for the station area seeks to maximize the opportunities that could be created if the Green Line is extended to Mystic Valley Parkway while keeping these opportunities compatible with the surrounding neighborhoods. The Focus Area recommendations discussed in the previous section all increase the development density over what currently exists, and in some cases, what is currently permitted by the zoning for the area. In order to achieve the vision, modifications to existing zoning regulations are recommended. Table 4.6 presents existing zoning issues related to the implementation of the vision for each Focus Area.

Table 4.6: Zoning Issues in Relation to Overall Vision

Focus Area	Vision for Focus Area	Characteristics	Existing Zoning	Implementation Issues with Current Zoning
Area 1 Somerville	4-story mixed-use	Ground floor retail/office, residential above	Residence A	Mixed-use not allowed
Area 2 Medford	3-story office and R&D	Compatible with existing office/R&D at 200 Boston Ave	Industrial	Business or professional office by Special Permit
Area 3 Medford	3-4 story senior housing, with townhomes	Increase in height; addition of townhomes	Apartment 1	Height limited to 35 feet
Area 4 Medford and Somerville	6-story mixed-use	Supermarket and retail on ground floor, residential above	C-1 in Medford; Business A in Somerville	Parcel is in both cities and subject to two different zoning codes

### **Rezone Properties Adjacent to the Proposed Station**

#### **City of Medford**

The City of Medford currently has a mixed-use zoning district, the Mixed Use Zone (MUZ), which was enacted to guide development in the Station Landing project. MAPC does not believe that this zoning district could be applied to the Mystic Valley Parkway station area as written. The provisions require that more than one lot be included in the zone – there is a “benefitted lot” that may be granted additional development (Floor Area Ratio) due to the transfer of development potential from a “burdened lot”. Among the four focus areas where transit-oriented development is likely to occur, there are not enough lots to utilize the Mixed Use Zone successfully as it is currently written.

During the review of Medford’s existing zoning districts, MAPC found that the Commercial-1 zoning district can function as a mixed-use zone, providing flexibility for development and allowing increased height. Within the C-1 district, multiple dwelling units which do not exceed 75 feet or 6 stories in height are allowed along with retail sales, eating places, and business or professional offices. In this case, the C-1 zoning district would be able to accommodate the development alternative described for Focus Area 4.

The issue of mixed-use zoning becomes a key issue in Focus Area 2, where the development alternative identifies mixing office, laboratory and restaurant space within the same building. MAPC recommends rezoning the 200 Boston Avenue parcel from Industrial to C-1 which would allow medical, business, professional, or governmental office uses and eating places. The C-1 zone would allow more flexibility to the property owner and could support a mix of uses on site. Furthermore, if the property is rezoned to C-1, the City should consider revising the Zoning Ordinance to allow by special permit the “research and testing laboratory” use in the C-1 zone. This would allow for the continuance and potential expansion of the lab and office space currently established in the existing 200 Boston Avenue building.

The City may want to specify the type and/or designated level of laboratories it will consider for special permits. Existing laboratories are grandfathered, and would not be impacted by a zoning change unless they wanted to expand. If the City does not wish to allow laboratories by special permit, use variances are allowed by the Ordinance. While an applicant for a variance must meet specific criteria, including one for “hardship”, the fact that existing laboratory space exists and operates without any detrimental effects can help allay community and city concerns.

Because the C-1 zone also has a height limit of 75 feet or 6 stories, existing buildings would conform and the preferred development alternative for Focus Area 2 would be allowed. Re-zoning the Industrial area to C-1 would

<sup>28</sup> Text cited from Article 7, Permitted Uses, Somerville Zoning Ordinance

create a continuance of the C-1 district which is currently located at the Whole Foods site directly across the commuter rail tracks.

#### City of Somerville

Somerville defines “Mixed-Use Building” in its Zoning Ordinance (SZO) as: “A building intended and designed to be used for at least two (2) separate uses<sup>28</sup>. Mixed-use is utilized in the Assembly Square Mixed-Use District, and within Planned Unit Developments. Mixed-use is also a feature of Section 6.5 of the Somerville Zoning Ordinance, Transit-Oriented Districts (TODs) and Section 6.1.22, Corridor Commercial Districts (CCDs). The purpose of the TOD is “to encourage mixed-use transit-oriented development with well-designed pedestrian access near transit connections...” This zone was developed for property in the vicinity of new Green Line stations in Somerville. Corridor Commercial Districts are “established to promote appropriate infill development along heavily traveled transportation corridors.... and present opportunities for an active mix of uses...”

MAPC recommends rezoning Focus Area 1 and the Somerville portion of Focus Area 4 to either TOD or CCD, customizing the zoning to reflect the adjacent height and density of surrounding development. This process should include coordination with the City of Medford, especially for parcels that are along the municipal boundary in the station area. Appropriate height limits would reflect the recommended redevelopment scenario for Focus Area 4. The TOD/CCD zoning is also appropriate because there are requirements and incentives for community benefits, such as publicly-accessible open space, affordable housing and “green” design.

### Other Considerations and Recommendations

#### Access

Connectivity to the potential station, surrounding neighborhoods and the Mystic River should be emphasized as appropriate to specific developments. This could be done through the site review/design review process. More details about connectivity are provided in the Transportation section.

#### Site Review/Design Review

Guidelines for site review, as well as design review if not a component of site plan review, should be developed and coordinated between Medford and Somerville. This process is essential for sites such as Focus Area 4 where a development is likely to span the municipal boundaries of both cities.

#### Off-Street Parking

New parking associated with residential development must take into account the proximity to the potential station and provide less parking than typically required under traditional zoning. MAPC recommends restricting parking to a maximum of one parking space per dwelling unit. In addition, new development should utilize underground parking where feasible to reduce the amount of impervious surface within the station area. Parking for retail and/or restaurants should be located in the rear of the lots. Required parking should be carefully evaluated focusing on impacts to the surrounding roadway network and potential Green Line station. If a station is constructed, it is not anticipated to include any structured parking.

#### Develop a policy on additional units in existing dwellings

Land use change can also occur without formal re-zoning through incremental changes in land use in an area. If enough variances and/or special permits are granted by a municipality an area may undergo a “de facto” zoning change. For example, one property owner petitions the city to include a third dwelling unit in a predominantly two-family area. The area is zoned for one and two families, but there may be existing three and even four unit dwellings. The request is granted, and over time other owners do the same. The area gradually changes to be predominantly two and three family in character, and could be rezoned eventually to reflect the actual conditions. Discussing and planning for accessory dwelling units in advance is one way to allow for these changes over time in a controlled manner.



Affordable Accessory Dwelling Units are a desirable way to maintain affordable housing and provide financial stability of homeowners at risk of displacement. A specific zoning bylaw could be adopted for specific geographic areas to accomplish the creation of this housing. Further details on managing neighborhood change are described in Chapter 5.

#### Somerville Comprehensive Plan

Somerville is currently undergoing a process to complete their first ever Comprehensive Plan. Significant efforts are being made to plan for potential changes around Green Line stations by encouraging mixed-use mixed-income transit-oriented development. Updated land use categories will specifically call out the locations and details of varying scales of transit-oriented development across the City.

Somerville was also the recipient of a HUD Community Challenge Grant which will be used to fund station area planning efforts around all stations along the Green Line Extension. During 2012-2013, Somerville will be engaging in neighborhood-scale planning around each station to flesh out local-level land use policy recommendations based on the outcomes of the Comprehensive Plan process. These two planning processes should help to inform future land use and zoning decisions within Somerville, and feed into the implementation of the vision in the study area, should the Green Line be extended to Mystic Valley Parkway.

## Economic Development Recommendations

While the benefits of increased mobility and expanded transportation options that will come with a potential Green Line station at Mystic Valley Parkway are in fact significant, the economic development impacts may be more modest. New retail and office development within the study area cannot be supported by the Green Line Extension alone. Rather, MAPC must assume that increased spending power in the vicinity of a new transit station comes from improved access to job centers which translate into higher income residents and additional housing units. Increased spending power translates into increased demand for retail space. Currently, job center access from the study area is not difficult, existing incomes are high and there are limited opportunities to add significant density. Therefore, current conditions suggest only a modest change in retail demand may result from the potential station.

### Recommendations

The following recommendations are suggested ways in which the two cities, property owners and businesses in the area can work to increase the scale and competitiveness of retail and office markets within the study area.

- Somerville and Medford should continue their business loan programs and storefront improvement programs, but target and prioritize funding for investments in station areas. These two programs could help retain existing businesses, and provide financial assistance to expand new business in the area.
- Encourage the formation of a retail association in West Medford Square, extending to include the Whole Foods shopping center and new businesses in the area. Strengthening this district will depend on its ability to draw people to it through neighborhood events, joint marketing and other initiatives. Alternatively, this may be an opportunity for a Main Streets Program that would both focus on the study area and link the study area to nearby commercial, retail and recreational opportunities. The Whole Foods represents a very strong anchor for this area and it would be to the benefit of businesses in West Medford to build a connection to this store through local business marketing efforts. This association would also become an important partner for identifying and safeguarding the interest of local businesses if station design and area redevelopment plans proceed.
- Initiate a dialogue with the Tufts University Office for Technology Licensing and Industry Collaboration. The primary purpose of this dialogue is to establish a relationship that may lead to opportunities for collaboration. Some of the questions to ask include: What kind of office space needs come with commercialization of research at Tufts? Is there unmet demand for office space close to the campus? Are there ways Medford and/or Somerville could support research commercialization?
- Streetscaping, public space design and the overall quality of the pedestrian environment will be essential to building the attractiveness of the urban fabric in this area for all types of businesses that might consider locating here. Consistent design features, and complimentary signage and wayfinding across the study area and West Medford will create a street level familiarity that both pedestrians and motorists will find reassuring and will highlight the potential connection between these two areas.
- Ensure the long-term success and sustainability of new development by providing for needed infrastructure (transportation, water, sewer, utilities, etc.) and a high quality design. This can be achieved through a strong locally-driven design review process and a clear long-term strategy for infrastructure investment within the municipality.

## Transportation Recommendations

The benefits and impacts to the overall transportation network are substantial when the possibility of extending a rapid rail line is being considered. This section looks at the possible benefits and impacts of extending the Green Line to Mystic Valley Parkway and offers recommendations for improvements to the overall network if the Green Line is extended.

### Roadway and Intersection Recommendations

To help improve the conditions of roadways in the area if the Green Line is extended, the 2009 Draft Environmental Impact Report (DEIR) for the Green Line Extension project identified improvement recommendations at a number of intersections around the proposed stations at College Avenue and Mystic Valley Parkway. MAPC listed some roadway and intersection improvements outside the immediate vicinity of the Mystic Valley Parkway station because traffic congestion does have a wider impact than just immediate intersections and roadways. One item that was not discussed in the DEIR is the need to upgrade the signal controller equipment at the intersection of Boston Avenue and Winthrop Street. The current equipment is too old to enable variable signal timing and signal coordination. This improvement must be considered along with those listed in Table 4.7.

Table 4.7: Roadway and Intersection Recommendations

Intersection	Proposed Recommendation
Boston Avenue at Mystic Valley Parkway	Exclusive southbound left turn lane along Boston Avenue to accommodate vehicles entering station.
Boston Avenue at Winthrop Street	Striping of exclusive left-turn lane and a shared through/right-turn lane. Adjust signal timing and phasing.
Boston Avenue at College Avenue	Widen College Avenue westbound to provide an exclusive right-turn lane to Boston Avenue.
Mystic Valley Parkway at Alewife Brook Parkway	Upgrade of roundabout to modern design standards, includes signage, striping, and minor geometric modifications.

### On-Street Parking Recommendations

A concern expressed by many residents throughout the process was the potential impact of the station on parking, in particular the impact of people driving to the station and parking on residential side streets. Concern also stems from the decision to not construct any dedicated parking at the station. The absence of station parking helps to keep traffic down during the AM and PM peak hours as commuters are arriving and leaving the train station.

In order to maintain an appropriate level of on-street parking for residents and customers of local businesses, MAPC recommends the development of a stronger parking ordinance for both cities, which MassDOT has agreed to work on should the Green Line be extended. Coupled with a stronger ordinance should be a more robust enforcement system to ensure that the policies established in each city are followed by people parking on the street. There are two primary ways in which on-street parking could be regulated: Residential Permitting and Metered Spaces. Both methods require strict enforcement to maintain compliance with the regulations. MAPC recommends the following on-street parking guidelines:

- Develop a policy for establishing on-street residential permitted parking for roadways within a half-mile of the station area. This program should work to carefully evaluate the demand of on-street parking by both residents and commuters to determine the capacity for on-street parking, the number of residential off-street spaces available, and the potential demand for on-street parking for commuters. People will drive and park to access the Green Line station. This should not be considered a negative impact when it occurs in moderation. Commuters help ridership and often spend money at local commercial/retail/restaurant establishments. Capacity for commuters to park in the area should not be completely eliminated.



- Install parking meters along Boston Avenue between Mystic Valley Parkway and Winthrop Street.
- Establish a two hour parking limit for parking meters along Boston Avenue. This will promote turnover of spaces and prevent commuters or residents from paying the meter and parking all day. This is especially important in areas near businesses where customer parking on-street is highly valued, and turnover of spaces is critical.
- Revenues from both metered parking spaces, the purchase of residential permits, and ticketing should be placed into a Parking Improvement District for the station area. Revenues would be reinvested first in paying for enforcement officers, second in paying for equipment and maintenance costs, and third for District level public improvements (i.e., streetscape, sidewalks, parking spaces, signage, etc.). Revenues from the District help to benefit not only the city but residents and businesses as well. The establishment of a District would also make it easier to create new parking policies for new development like unbundled parking or fees in lieu of private parking.

### **Pedestrian and Bicycle Recommendations**

The location of a station at Mystic Valley Parkway would certainly create added demand and use of pedestrian and bicycle facilities. Since there will not be any parking associated with the station, it is anticipated that this proposed station would be accessed mainly by walking or biking with small numbers of vehicle pick up/drop offs. As discussed in the existing conditions transportation section, sidewalk coverage in the area is excellent with very few streets missing sidewalks. However, there are improvements needed at intersections and mid-block crossings that would make the pedestrian experience safer. The DEIR identified a number of pedestrian improvements that should be completed if a station is constructed at this location. Table 4.8 lists the improvements in and around the station area.

Table 4.8: Pedestrian/Bicycle Recommendations

Intersection	Proposed Recommendation
Mystic Valley Parkway at Alewife Brook Parkway	Install crosswalk and warning signage across Capen Street
Mystic Valley Parkway at Boston Avenue	Increase pedestrian walk/flashing don't walk time
Mystic Valley Parkway at Auburn Street	Signalize side street crossing and increase pedestrian walk/flashing don't walk time
Mystic Valley Parkway at Winthrop Street	Increase pedestrian walk/flashing don't walk time
Boston Avenue at North Street	Upgrade pedestrian signal heads and increase pedestrian walk/flashing don't walk time
Boston Avenue at Harvard Street	Restripe crosswalk markings

#### **Pedestrian Recommendations**

Striping of the crosswalks at each intersection and the two mid-block crosswalks on Boston Avenue must be well maintained and striped on a consistent basis to ensure safe pedestrian crossings and visibility for motorists. Pedestrian ramps at intersections and mid-block crossings must be ADA accessible with proper slopes and the installation of truncated dome pads. At intersections with pedestrian signals, push button actuation should be installed to ensure that pedestrians receive a walk phase.

At the two mid-block crossings along Boston Avenue, near the 200 Boston Boston Avenue building, striping should be repainted and signage should be added along the roadway leading up to the crossing indicating the requirement need to yield to pedestrians in



*Crosswalk and ramps with truncated domes*

the crosswalk. Road-mounted signage, like the example shown to the right, should be installed in the center lane striping noting the requirement to yield to pedestrians in the crosswalk. The enhanced striping and additional signage are added safety measures to increase visibility of the mid-block crossing at these locations.



*Road mounted sign*

Finally, proper and consistent snow removal is a key factor that can contribute to the pedestrian experience during winter months. It is essential that snow removal on sidewalks within the station area be cleared in a timely manner so pedestrians do not have to walk in the street or on snowy/icy sidewalks. Both cities must work closely with MassDOT and/or the MBTA to determine who is responsible for snow removal on sidewalks in and around the station area and create a snow removal plan that can be implemented during inclement weather conditions.

### Bicycle Recommendations

Currently, the station area has very few existing bicycle facilities and connectivity is provided by a dedicated path along the Mystic River or by riding on the shoulders or in the travel lanes of local roads. Plans to improve both on-street and off-street bicycle paths are recommended in the Department of Conservation and Recreation's Mystic River Master Plan which is discussed in detail in the next section. The plan includes recommendations for improvements to the Mystic River shared-use trail and the addition of on-street bike lanes along some sections of Mystic Valley Parkway where a shared-use trail is not feasible. MAPC also recommends painting Sharrows<sup>29</sup> along Boston Avenue to mark the shared-use of the travel lane among both vehicles and bicycles. Sharrows are a cost effective way to include bike facilities on roadways where on-street bike lanes may not be appropriate. MAPC is not recommending the addition of on-street bike lanes along Boston Avenue since that would require the elimination of on-street parking which will be needed for future businesses or short-term Green Line parking.



*Example of a Sharrow*

Bicycle parking must be included as part of any future station design at Mystic Valley Parkway, and MassDOT should ensure that ample bike parking is provided. Since the potential station will be accessed primarily by walking and biking, bike parking is a critical piece to ensure riders have a place to park their bikes. The cities should also work with new and existing businesses in the area to ensure bike parking is provided on-site for employees and patrons. Any new larger residential buildings should also have dedicated secure bicycle parking to complement vehicular parking on-site.

### Other Connectivity Considerations

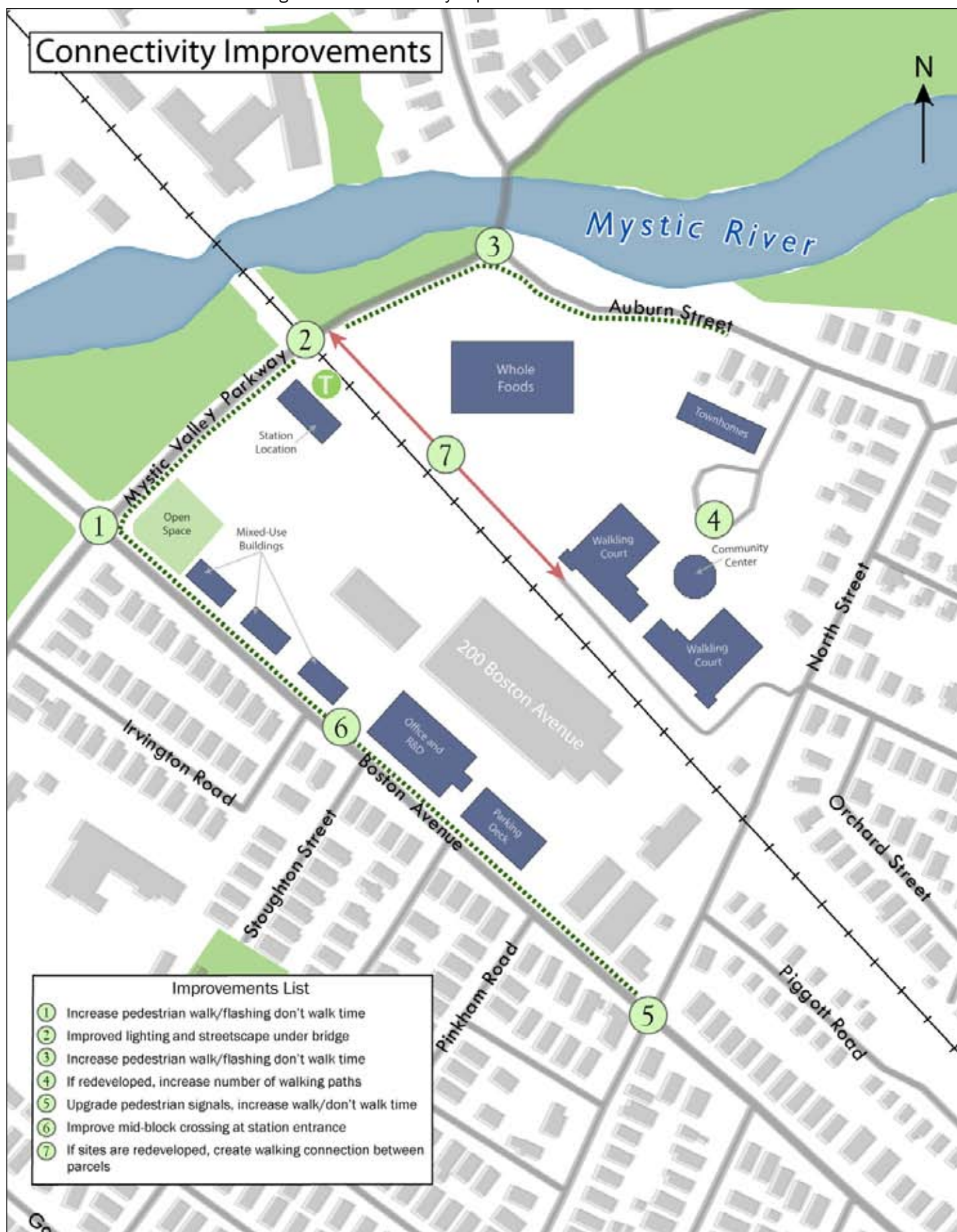
Suggestions were made during this process to include pedestrian crossing accommodations either as part of the rail bridge over Mystic Valley Parkway or constructing a separate pedestrian bridge over Mystic Valley Parkway. Both options have considerable cost and engineering constraints. The existing rail bridge over Mystic Valley Parkway is listed as a historic structure and modifying the bridge could be costly and time consuming if it is even feasible. A pedestrian bridge over the roadway is also constrained in many locations due to the proximity of the river and its banks as well as developed areas on the other side of Mystic Valley Parkway. In order to create an ADA accessible pedestrian bridge, space is needed to accommodate the slope requirements for ramps which can take up significant space. Suggestions were also made regarding the provision of a tunnel connection from the potential station to the Whole Foods parcel. This option is also cost prohibitive and an engineering challenge going underneath and existing active railroad line. Studies show pedestrians will not use an overpass or underpass if other crossing accommodations are within close proximity<sup>30</sup>.

Figure 4.12 shows recommended improvements that could help site specific and neighborhood connectivity in the station area.

<sup>29</sup> On-street pavement markings indicating a shared travel lane for both vehicles and bicycles

<sup>30</sup> [www.walkinginfo.org/engineering/crossings-overpasses.cfm](http://www.walkinginfo.org/engineering/crossings-overpasses.cfm)

Figure 4.12: Connectivity Improvement Recommendations



## Open Space Recommendations

Plans for future improvements to open space and parks are generally included in each community's open space and recreation plan. The plans for both Medford and Somerville were reviewed to determine if any future plans for facilities within a half-mile of the possible Green Line station had been identified. Future plans developed by DCR were also reviewed for recommendations given their large land ownership in the immediate vicinity of the possible station.

### Medford

The Medford Open Space Plan is in the process of being updated and is available in draft form. The relevant portions of that draft were shared with MAPC by the planning department. The current draft, as well as previous plans, has as a goal to develop a continuous pathway system along the Mystic and Malden Rivers. The plan notes that extensive portions of this pathway currently exist, but segments are still missing. The plan notes deficiencies in the path system on the south bank of the Mystic River, as well as limited accessibility near the railroad bridge over Mystic Valley Parkway.

### Somerville

The only recommendation from the 2008-2013 Open Space and Recreation Plan that is relevant to this study is for the transfer of the operation of Dilboy Field from DCR to the City of Somerville. This action item has been accomplished.

### Department of Conservation and Recreation

#### The Mystic River Master Plan

In November 2009, DCR released the "Mystic River Reservation Master Plan" which covers parts of Medford and Somerville. One of the goals of the plan is to "strengthen the open space network with links to adjacent public open space and neighborhoods<sup>31</sup>". Another key element of the plan is a "continuous river corridor trail system which would be designed to provide safe access to the Mystic River from MBTA subway and bus stops and surrounding neighborhoods<sup>32</sup>". The full report can be viewed on the DCR website, a review is provided in the Appendix of this report. Figures 4.13 and 4.14 show improvements along the Mystic River as recommended in the DCR Master Plan. These recommendations are also supported by MAPC.

<sup>31</sup> DCR, Mystic River Reservation Master Plan, 2009, Page 4

<sup>32</sup> DCR, Mystic River Reservation Master Plan, 2009, Page 28



Figure 4.13: Open Space Recommendations

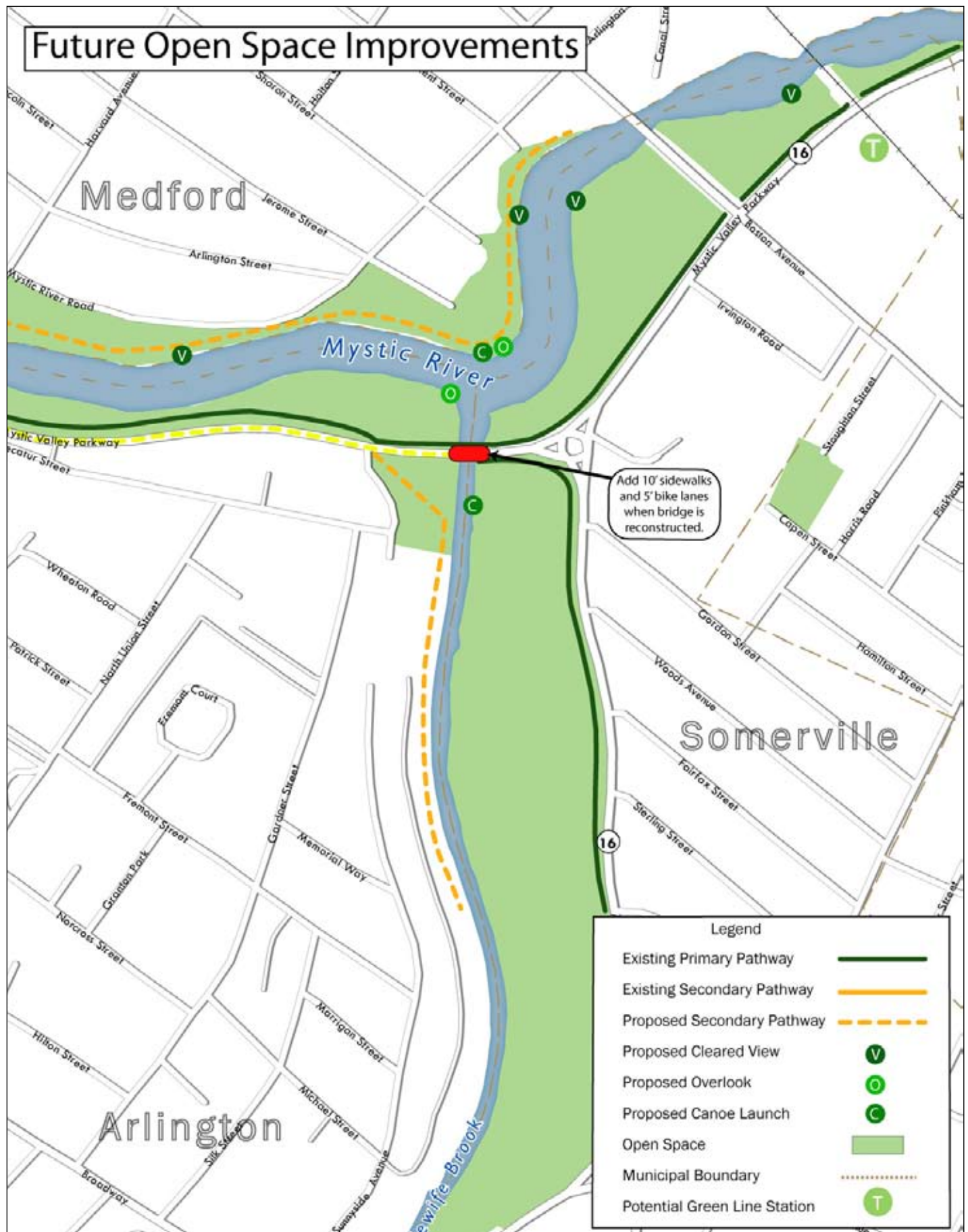
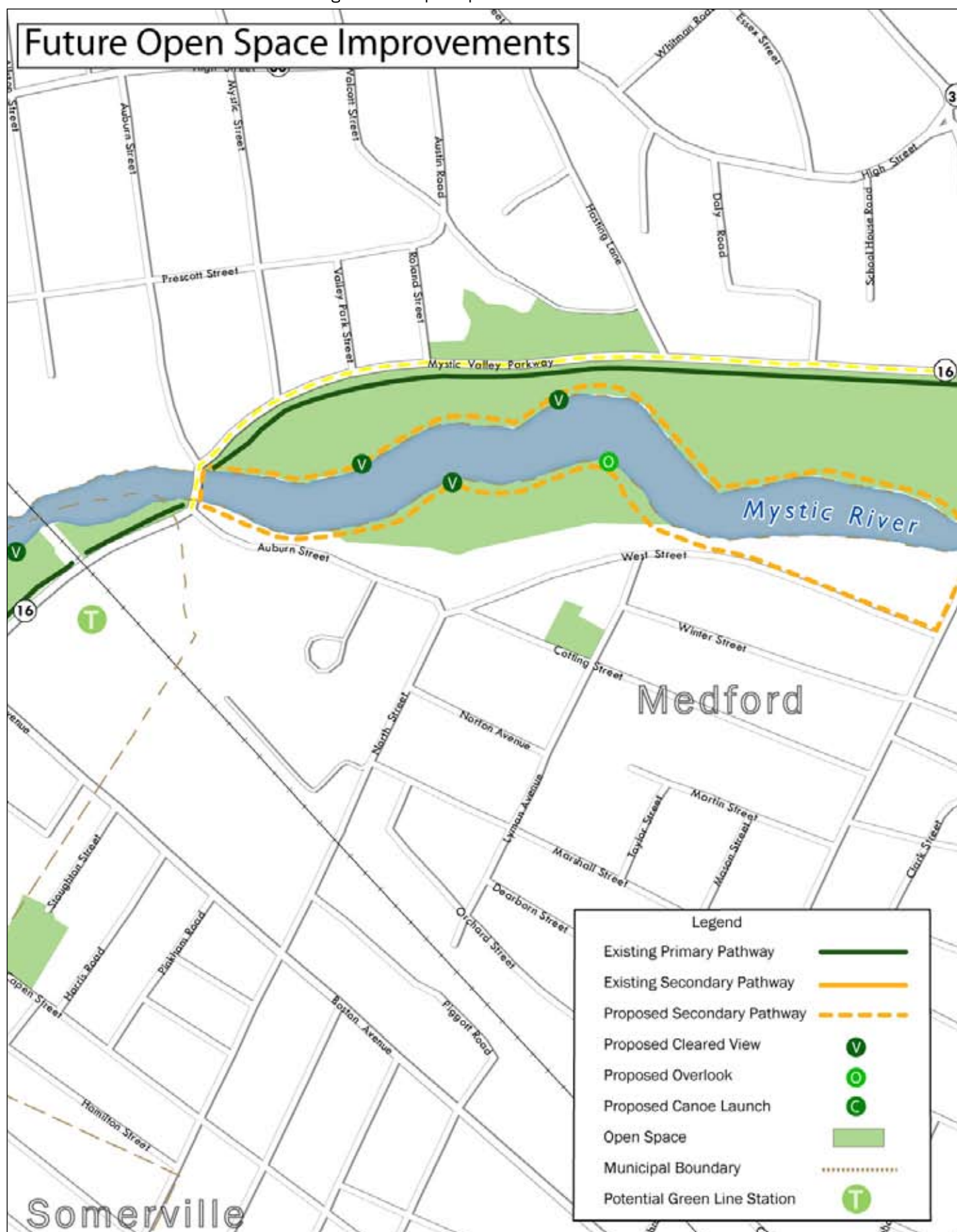


Figure 4.14: Open Space Recommendations





## “Walking Routes to the River” Recommendations

On September 15, 2011, MAPC hosted a Walking Route to the River workshop. Both Medford and Somerville staff attended the workshop and participated in a mapping exercise to identify routes to the Mystic River. The recommendations that came out of the workshop were:

- Improve access from the Whole Foods site to the DCR land along the river
- Improve connections from the potential station along the park land and crossing the river at Boston Avenue
- The need for a safe pedestrian crossing near the tennis courts at Dilboy Stadium



*Unimproved pathway along Mystic River*



*A view of the Mystic River*

## Incorporating Open Space into New Development

One additional way to incorporate open space into a neighborhood is to ensure larger development projects include public plazas, sidewalk cafes or pocket parks as part of the site plan. While these public and private spaces are smaller than typical parks and open space reservations, they do provide sanctuaries for people in the area and a break from the otherwise urban environment. With the potential station location and extension of the Green Line to Mystic Valley Parkway, riders will be looking for places to relax as they wait for a train, have a bite to eat in the area or just space to spend time outdoors.

- The vision for each focus area recommends different ideas for incorporating open space, which include:
- Creating an park at the corner of Mystic Valley Parkway and Boston Avenue with café space looking out onto the park
- Providing wider sidewalks along Boston Avenue for the incorporation of sidewalk cafes and outdoor seating
- Consolidating the buildings at Walkling Court to provide more open space and walking paths for residents
- Adding outdoor rooftop space and terraced private patios in the design of the building on Focus Area 4

It is critical that smaller outdoor spaces and sidewalk cafes are designed with full accessibility in mind. If sidewalk cafes are designed as part of any new or existing commercial development, proper sidewalk widths are necessary to ensure that enough room is provided for wheelchairs to pass by. A minimum of five feet should be provided as a clear zone between the edge of the sidewalk café and the beginning of the roadway curbing. If street furniture is provided in public outdoor space, it is recommended that it be movable furniture which provides for flexibility in arrangement and the furniture can be locked up or removed at night. If movable furniture is not possible, fixed furniture should be positioned to allow enough room for a wheelchair to pass between.



*Small public park space*



*Public plaza space*



*Sidewalk cafe*

## **Air Quality, Noise and Vibration**

Throughout the public engagement process, MAPC heard specific concerns about potential air quality, noise and vibration impacts on abutters and surrounding residents. Overall, the Green Line Extension will have air quality benefits at the local and regional level by reducing the number of automobile trips and replacing them with transit trips. This has a direct benefit on air quality by reducing greenhouse gas emissions that those auto trips would have created.

At this time, the engineering and design of the portion of the Green Line Extension from College Avenue to Mystic Valley Parkway is not far enough along to determine the exact impacts on abutters from noise and vibration. The DEIR for the overall Green Line Extension does provide some details on potential noise and vibration impacts and also includes information on potential mitigation strategies. If the Green Line is extended to Mystic Valley Parkway, further engineering and design studies would be generated to identify any negative impacts and how they would be mitigated.



## Chapter 5: Mitigation Recommendations

### Managing Neighborhood Change

New transit service can present numerous opportunities that may bring forth changes in neighborhoods surrounding station areas. Major infrastructure investments, like new transit, can spur revitalization and create amenities that benefit residents of all income levels. At the same time, however, it can increase demand and may escalate housing prices, leading to displacement of low- and moderate-income households. The cities of Medford and Somerville can guide development opportunities in station areas by designing clear policies and programs to mitigate neighborhood changes - change that would result in loss of neighborhood diversity and limit housing choices. Strong regional policies and plans, such as *MetroFuture*, can bolster local policies and programs to help build local business and community support for equitable development. This chapter will explain anti-displacement strategies to mitigate potential displacement in Medford and Somerville and provide background information on tools and techniques to ensure that this potential transit opportunity is accessible for all.

While the previous chapters address issues related to land use, economic development and transportation, this section will focus on ways to create and preserve affordable housing as a way to mitigate potential displacement. This comprehensive list of strategies and policies is meant to act as a toolkit, and no one single policy or strategy on its own will mitigate impacts. Several policies and strategies will likely need to be implemented as a package to have the greatest impact for mitigation.

#### Recommendations for Existing Housing Stock and Protecting Households

Given the potential for rising property values in areas undergoing large-scale investments in transit, it is imperative to maintain the affordability of existing rental homes and mitigate potential property tax increases that may result from rising property values in adjacent neighborhoods. Loss or conversion of existing rental homes and rises in property taxes can make it more difficult for low-income homeowners to afford their housing costs. Local communities can take steps to preserve existing affordable rental homes and create new homeownership and rental opportunities for low- and moderate-income households over the long term.

##### Preserve Existing Affordable Rental Housing

The areas around Mystic Valley Parkway and College Avenue are heavily residential, but include other uses such as commercial and industrial. Preservation of existing affordable housing in this area is critical. Community Development Block Grant (CDBG) and HOME funds can be used for these activities – both housing rehabilitation and tenant-based rental assistance. Preservation of units ensures that housing is affordable to low- and moderate-income households by protecting the units in a deed restriction.

Somerville and Medford operate CDBG and HOME programs to fund activities such as housing rehabilitation. Guided by Consolidated Plans, each community allocates funds annually toward these activities and targets them to priority populations such as the elderly and disabled. The cities can choose to target neighborhoods for funding, including those along the Green Line Extension. This would enable at-risk, income-eligible owners along the corridor to qualify for priority access to housing rehabilitation funds. Funding might be targeted to preserve existing affordable housing resources and also minimize displacement of owners and tenants in single to four-family homes.

Whenever property values rise, there is a danger that owners of properties with federal housing subsidies may choose to opt out of their subsidy contracts and that owners of unsubsidized affordable rentals may raise rents or sell the buildings in preparation for conversion to condominiums or higher-priced housing units. The cities can consider adopting a preservation strategy that specifically targets location-efficient areas to help stem the loss of affordable rental homes in strong market neighborhoods, particularly around transit.

A preservation strategy may include the following elements:

- Creating a “preservation catalog” to identify and track subsidized housing near transit stations that is at the highest risk of loss (similar to the current work of the Somerville Community Corporation)
- Prioritizing the use of Low Income Housing Tax Credits and other funding sources to recapitalize and modernize location-efficient affordable homes
- Creating tax incentives to encourage the preservation of affordable rental housing
- Forging partnerships with area nonprofit organizations (including community-based organizations, housing nonprofit organizations, or community development corporations) to play an active role in the preservation of affordable housing units. This may include transferring the deed of a private property to a nonprofit organization to ensure that the property is affordable to low- or moderate-income households.

#### Create and Preserve Affordable Homeownership

“Shared equity” programs bring the cost of homeownership within reach of low and moderate-income households by using a formula to balance long-term affordability goals and individual asset accumulation. These programs provide an initial subsidy to lower the cost of a home and then split any price gains realized upon home resale between the seller and the city or a housing program sponsor. The sponsor’s appreciation share may either remain with the home to ensure affordability for the next qualified buyer (this is essentially a transfer of the deed restriction at the time of sale), or the appreciated value is returned to the program sponsor who might collect these funds into a larger pool to benefit other future lower-income buyers.

Homeownership programs that incorporate shared equity mechanisms are particularly useful for creating and preserving affordable homes in areas where new transit stations or other neighborhood improvements are expected to contribute to long-term home price increases. Common forms of shared equity homeownership include community land trusts, deed-restricted housing and limited equity cooperatives.

As the demand for neighborhoods around transit areas grows, existing residents can be impacted by increases in their assessed home values, leading to increases in property taxes. Those living on a limited or fixed income may be unable to find room in their budgets to cover these added costs. Some communities have taken steps to ensure that existing low-income homeowners can afford to remain in their homes as property values increase. “Circuit breaker” programs provide tax relief by freezing the assessed home value at an earlier level or freezing or reducing the overall tax bill to prevent dramatic increases. While these programs commonly target disabled households and elderly homeowners, some communities have broadened eligibility to include all low-income households<sup>33</sup>. The Circuit Breaker program also covers eligible renters.

#### Increase Public Housing Authority Units for Seniors and People with Disabilities

It is critical for long-term affordability planning to include public housing. Both cities have sizable portfolios of both state and federal public housing for families, individuals, seniors, and the disabled. Somerville continues to work with the Somerville Housing Authority (SHA) and other partners on the redevelopment of Capen Court, a 95-unit state senior/young disabled environment located in West Somerville directly off Route 16, and the adjacent Visiting Nurses Association (VNA) development.

In Somerville, the SHA demolished the existing Capen Court which was 64, one-bedroom Project-Based Section 8 units for the elderly and disabled. The SHA built 95 one-bedroom units and provided the VNA Assisted Living Residences with land to develop 99 additional units. The \$7.4 million project was funded by the Massachusetts Housing Partnership (MHP) Match Program, Massachusetts Department of Housing and Community Development (DHCD) public housing funds, HOME, Community-Based Housing funds through the Community Economic Development Assistance Corporation (CEDAC), MassDevelopment tax-exempt bond financing and bond cap allocated Low-Income Housing Tax Credits for the project. As part of this study, MAPC is recommending redeveloping the Walkling Court senior housing complex in Medford to expand the number of units from 144 to 200. The City of

<sup>33</sup> Information about Massachusetts Circuit Breaker Tax Credit Program can be found here <http://www.massresources.org/circuit-breaker-tax-credit.html>

Medford has also expressed interest in redeveloping the site to accommodate more senior public housing. If the Medford Housing Authority (MHA) does not have additional land or property to leverage for a redevelopment in the way that the Somerville Housing Authority did via their Capen Court redevelopment, then the MHA might consider forming either a separate non-profit or working in partnership with Medford Community Housing to carry out development. There are many successful examples of housing authorities forming a non-profit charitable arm or working in partnership with an existing non-profit organization to raise necessary funds to carry out new affordable housing development. Through their public comment process on their Five-Year Strategic Plan 2010-2015, Medford has been encouraged to look at the reuse and improvement of this property<sup>34</sup>.

Other examples of housing authorities increasing housing opportunities include the Manchester-by-the-Sea Housing Authority. The Authority formed a separate nonprofit 501(c)(3) corporation, the Manchester Affordable Housing Corporation, to achieve their mission to create additional affordable housing and mixed-use development near transit. Working in partnership with the Manchester Housing Authority, the Corporation secured funding from Wainwright Bank for construction financing and permanent financing from MassDevelopment, DHCD, the Federal Home Loan Bank of Boston, the State HOME program, and MHP. The development includes commercial units, condominiums and apartments. Cable Gardens in Ipswich, Lincoln Way in Cambridge, and Summer Street in Manchester are a few examples of successful redevelopments<sup>35</sup>.

#### Provide Additional Assistance to Very-Low-Income Households

Additional layers of assistance may be needed to reach the lowest-income households (at or below 30% of the area median income) who do not earn enough to afford the housing costs associated with a given unit. The cities can maximize benefits to very low- and extremely low-income households by combining a variety of approaches (of those listed above) while leveraging state and federal subsidy programs. It would be up to each city to determine the appropriate approaches which would work best in leveraging subsidies.

One example of this might be, using state or federal Section 8 Housing Choice Vouchers to help cover the gap between the amount extremely-low and very-low income households can afford to pay and the rent of a basic market-rate unit. Households often use vouchers wherever they choose (making the voucher mobile); however, the public housing agencies that administer the program can also attach up to 20 percent of their vouchers to specific developments, including those near transit and in other location-efficient areas. This authority to “project-base” vouchers can be used to ensure that very low-income households have access to well-located communities. MAPC recommends that both cities look at attaching vouchers to new development around transit and making a condition of development approval be based on a commitment to give voucher-holders first priority to rent a share of available units. A preference for funding could also be given to projects that set aside units for voucher recipients.

#### Provide Tenant Relocation Assistance

There is the possibility that with higher rates of development and redevelopment, changes may occur within the neighborhood which may necessitate tenant relocation. To help with tenant relocation, municipalities can adopt a relocation assistance program. This could come in the form of a Condominium Conversion Ordinance. This type of ordinance provides assistance to renters whose unit’s tenure is being converted from rental to ownership.

Somerville utilized Tenant Relocation Plans for past developments as part of the Somerville Condominium Conversion Ordinance. Under that ordinance, when a landlord’s tenants might be displaced by a conversion, they become eligible for assistance through the Tenancy Stabilization Program offered by the Somerville Community Corporation and funded through the Somerville Affordable Housing Trust. The Program helps tenants search for affordable rental housing opportunities throughout the City of Somerville. The program also helps income eligible tenants with utility arrearages, one time rental assistance and moving costs at a cap of \$3,000 per eligible household.

<sup>34</sup> City of Medford Five-Year Strategic Plan 2010-2015

[http://www.medford.org/Pages/MedfordMA\\_ComDev/StrategicPlan.pdf](http://www.medford.org/Pages/MedfordMA_ComDev/StrategicPlan.pdf), p. 30.

<sup>35</sup> For additional examples and models, refer to The Faces of 40B: Profiles of Families in Affordable Housing. Citizens’ Housing and Planning Association. 2003.



The PASS Program is administered by the Somerville Homeless Coalition (SHC) and funded with city HOME funds as well as funds from the Somerville Housing Trust Fund. The program provides rental assistance to households at risk of becoming homeless.

Somerville also makes owners of properties aware that some tenants are low- to moderate-income households, and others are elderly or disabled. In those cases, the owner is required to provide a 2-year notice to tenants prior to displacement per City of Somerville Code of Ordinances Chapter 7 Article IV §7-67, Notification of Conversion.

MAPC recommends that Medford consider adoption of a program such as the above-referenced Condominium Conversion Ordinance that addresses the loss of existing rental units and that Medford provide an accompanying Tenant Relocation Plan for the loss of any rental unit around station areas.

Tenants may be afforded the opportunity to purchase a converting unit. In Washington D.C., the Tenant Purchase Opportunity Act allows tenants the right-of-first-refusal when a landlord decides to sell their property. Under TOPA, a landlord must provide tenants with an offer of sale. This can occur either before or after the landlord has signed a contract with a third party. The offer must include the asking price, a statement regarding whether a third-party contract is in place, and a statement by the owner to make available to the tenants, within seven days after receiving a written request, certain information about the property, including a floor plan of the building if available, and monthly operating expenses<sup>36</sup>.

Another strategy for relocating lower-income households in transit areas to prevent displacement is through an Accessory Dwelling Unit (ADU) Program. A municipality can adopt two types of ADU Bylaws: a general ADU Bylaw and an Affordable ADU. In either case, the ADU is a self-contained housing unit within a single-family dwelling. The purpose of the bylaw is to provide the following:

- Safe and decent housing
- Provide financial stability to homeowners at risk of displacement
- Companionship and security for elderly homeowners and people with disabilities
- Housing for persons with disabilities

The Affordable ADU would provide the same benefits outlined above and also be rented to income-eligible households, whose gross household income does not exceed 80% of the area median income. The Affordable ADU is an additional means for cities to maintain their affordable housing stock. In order for affordable units to qualify for inclusion on the cities' Subsidized Housing Inventories they must have a deed restriction that outlines income-eligibility and rental limit requirements. Cities must also conduct affirmative outreach and fair marketing for the unit.

Requirements for either unit typically specify that:

- The property owner must reside in the home. Absentee landlords are not allowed
- The rental unit must be a complete, separate housing unit containing both a kitchen and a bathroom
- Only one accessory dwelling unit may be created within a dwelling
- The accessory unit shall contain no more than two bedrooms and may not be occupied by more than three occupants
- The accessory dwelling unit must meet the State Building Code, Title V of the State Sanitary Code, and local, state, and federal fire codes

As with market rate units, the homeowner may select their tenants. In this case, the selection pool is narrowed based on a list of interested and income-qualified tenants that would be maintained by the cities or a sponsor organization. Federal and State Fair Housing Laws would apply to these units and would therefore prohibit the discrimination of tenants on the basis of race, creed, color, sex, age, disability, marital status, familial status, veteran status, sexual orientation, national origin or any other basis.

<sup>36</sup> For more information about the effectiveness of this strategy, see <http://content.knowledgeplex.org/kp2/cache/documents/1834/183436.pdf>

## **Recommended Future Land Use and Policy Strategies**

### **Consider Land Banking and Disposition Policies**

Research by the Center for Housing Policy shows housing prices and land values are affected by transit in two instances: from the time a new line is announced but before it opens and from up to six years after new transit service becomes available<sup>37</sup>. Given the timeframe for the Green Line Extension, acquiring land and buildings along the transit corridor may have a long-term benefit for local efforts to ensure and preserve housing affordability. Because of the potential for speculation of land prices and values, acquisitions for the creation of affordable or mixed-income development would need to occur in the near term. Through the U.S. Department of Housing and Urban Development Community Challenge Grant, the City of Somerville is developing a Land Bank with the intent of preserving and developing affordable housing. With land and building values being potentially high, development scenarios would likely benefit from a mix of affordability levels such that the market rate units would offset a portion of the cost of affordable unit creation. Depending on how the Land Bank is structured, the City may choose to directly purchase property or might issue lower-cost loans, forgivable loans, or grants to enable a purchase by a third party, such as a community-based organization. Due to the potential for market shifts, either strategy involves an element of risk and loss. Public funding to capitalize a local fund is critical for this reason.

An accompanying strategy relates to the disposition of public land or buildings. Neither Medford nor Somerville has an official public land or building disposition policy that could lead explicitly to the preservation or creation of affordable housing. This type of strategy may be useful in areas around proposed stations. Either city might own undeveloped, surplus or underutilized land and buildings that might be re-purposed while accommodating higher density mixed-use or residential development that includes affordable homes.

Through this strategy, either City would define the type of affordable housing development they are seeking through a Request for Proposals (RFP) process. The RFP would provide prospective developers with direction regarding:

- The number of affordable units
- The affordability terms for units
- The tenure of units created
- The building program (e.g. housing for veterans or housing for seniors)
- Available subsidies for affordable units or residents
- Outline the ownership model: either the City would sell the land or building to a developer/owner or the City would provide a long-term lease for property disposition

Either method is viable; discussion with legal counsel is critical for compliance with state requirements applicable to the disposition of public property. Regardless of the chosen model, this strategy would help ensure that future land or buildings within the area include affordable housing<sup>38</sup>.

The Land Bank and Disposition Tool might eventually be supported by the Regional Transit-Oriented Development Fund; currently being studied by MAPC and eventually developed by Local Initiatives Support Coalition (LISC) and Conservation Law Foundation (CLF) Ventures, to support project debt and equity respectively. The Regional TOD Fund could potentially assist in the acquisition, construction, or rehabilitation of property near existing or planned transit. The eligibility and location guidelines for these funds are currently under development, but we hope they will lead to the development of new affordable homes and the preservation of existing rentals.

At the state-level, the Executive Office of Housing and Economic Development (EOHED) recently consolidated six separate funding programs into the new MassWorks Infrastructure Program. This program provides grant funding

<sup>37</sup> This literature review provides further information about transit impacts in a variety of settings. Wardrip, Keith, Public Transit's Impact on Housing Costs: A Review of the Literature. Center for Housing Policy. 2011.

<sup>38</sup> For more information about this strategy, refer to Developing Affordable Housing on Public Land: A Guide for Massachusetts Communities. Massachusetts Housing Partnership. 2005.

for publicly owned infrastructure with the specific aim of job creation and economic development. One of the focus areas of the program is funding infrastructure supporting transit-oriented development, which includes supporting projects that advance the development of affordable housing.

There are a range of zoning and financial tools that can be used to facilitate the development of new market-rate housing units while preserving affordability which include: inclusionary zoning, tax-increment financing with an affordable housing set-aside, linkage fees, affordable housing trust funds, and developer agreements.

#### Strengthen Inclusionary Housing Policies

Building off of recommendations in the 2006 Medford Housing Plan, MAPC recommends that Medford adopt an Inclusionary Housing policy. Inclusionary Housing would require or provide incentives for developers of new market-rate homes to set aside a percentage of units for low- and moderate-income households. Participating developers typically qualify for a variety of benefits to offset the cost of providing the affordable units, including expedited permitting and review processes, and density bonuses. Density bonuses allow the creation of more units on a site than would otherwise be permitted by the underlying zoning. Reduced parking requirements can also be applied. When tailored to local conditions, inclusionary housing can be an effective tool to increase the availability of affordable housing. These cost offsets would be especially effective near transit stations typically characterized by higher-density housing and a mix of uses with connectivity for walking or biking. The neighborhoods adjacent to the Green Line Extension would therefore be ideal locations for effective inclusionary housing.

While many municipalities allow, and occasionally encourage, developers to make payments in lieu of building on-site affordable housing, MAPC recommends that affordability be incorporated on-site into new developments. MAPC also recommends that more stringent inclusionary requirements be targeted toward station areas or have higher requirements directed toward areas and households with specific income thresholds vulnerable to displacement. The City of Somerville currently has an Inclusionary Housing program.

#### Develop Tax Increment Financing (TIF) Districts

Municipalities can create TIF districts to stimulate economic development within a targeted area<sup>39</sup>. Upon designation of a TIF district, the locality establishes a base property tax level, based on the assessed value of existing properties within the district, and then invests in infrastructure improvements intended to catalyze additional private investment. Over the life of the TIF district, the incremental increase in property tax revenues (above the base) is used to repay the cost of the improvements. In the context of transit-oriented development, tax increment financing can be an effective tool for covering the cost of infrastructure such as roadway improvements, streetscape improvements, and bike and pedestrian paths around new transit stations.

In addition to transit-related infrastructure, the Cities may decide to set aside a portion of TIF proceeds to support the creation or preservation of affordable homes within the district. The affordable housing funds help to ensure that affordable housing remains in these neighborhoods. Given the intense competition for TIF funds once they materialize, it is important to require the set-aside of TIF funds for affordable homes when the TIF District is first established.

#### Strengthen or Develop Linkage Fee Programs

Linkage fees are modest charges that are levied from new non-residential and/or market-rate residential construction at the time of development to help ensure that the creation of affordable homes keeps pace with local economic development and job growth. Fee revenue is typically deposited into an affordable housing trust fund, for use in accordance with local needs and priorities. For example, the City Somerville has a commercial linkage fee program which funds their Affordable Housing Trust Fund. In Somerville, a fee of \$3.91 per square foot on new development above 30,000 sq. ft. is collected. Neighboring communities have similar fee structures: Cambridge has

<sup>39</sup> For more information about TIFs, go to

[http://www.mass.gov/?pageID=ehedterminal&L=3&LO=Home&L1=Start%2C+Grow+%26+Relocate+Your+Business&L2=Taxes+%26+Incentives&sid=Ehed&b=terminalcontent&f=mobd\\_fin\\_fund\\_tif\\_info&csid=Ehed](http://www.mass.gov/?pageID=ehedterminal&L=3&LO=Home&L1=Start%2C+Grow+%26+Relocate+Your+Business&L2=Taxes+%26+Incentives&sid=Ehed&b=terminalcontent&f=mobd_fin_fund_tif_info&csid=Ehed)



a \$3.20 fee and Boston has a \$7.28 fee<sup>40</sup>. Linkage fees could be specifically tied to transit areas and then used to create affordable housing opportunities.

#### Consider the Role of Municipal Affordable Housing Trusts

A local housing trust allows municipalities to collect funds for affordable housing, segregate them out of the general municipal budget into a trust fund, and use the funds for local initiatives to create and preserve affordable housing. The City of Somerville's Affordable Housing Trust Fund (SAHTF) was established to "preserve and create affordable rental and homeownership units in Somerville and carry out programs to directly assist homeowners and renters. All of its activities must benefit low to moderate-income households (with incomes at or below 110% of area median income)." MAPC recommends that the City of Somerville amend the AHTF's annual action plan to allocate funds for preservation of properties along the transit corridor to lower-income households (at or below 60% of the area median income).

A new state law enacted in 2005, the Municipal Affordable Housing Trust Fund Law (MGL c.44 s.55C), effectively simplified the process of establishing a local housing trust fund. Under the new law, towns are no eligible to create their own trust funds and can do so through their local legislative body. The law also set guidelines on what local housing trusts can do and specifics as to who can serve on a local housing trust board and what powers a community can grant the board.

Examples of what a local affordable housing trust fund can do include:

- Provide financial support for the construction of affordable homes by private developers (non-profit or for-profit)
- Rehabilitate existing homes to convert to affordable housing
- Increase affordability in new housing development projects
- Develop surplus municipal land or buildings
- Preserve properties faced with expiring affordability restrictions
- Create programs to assist low- and moderate-income homebuyers
- Create programs to help low- and moderate-income households make health and safety repairs
- Educate and advocate advancing affordable housing initiatives

In conjunction with the above local tools, the cities of Medford Somerville have previously formulated Developer Agreements in order to gain community benefits from larger-scale developments. MAPC recommends that the cities consider formulating Developer Agreements that ensure a share of new development is affordable to low- and moderate-income households. To address the housing needs of households with lower incomes, a developer agreement might include the preservation of existing low-income housing or the development of new low-income housing near station areas.

#### Ensure Long-Term Affordability

Public funds will be needed to ensure that a portion of housing units near transit are affordable to low-and moderate income households. To protect this public investment and ensure that such households have continued access to sustainable communities, these public investments should be accompanied by legal requirements that ensure housing remains affordable over the long-term. The affordability requirements built into many inclusionary housing programs expire after a relatively short period, sometimes within 10 to 15 years, after which units may be rented or sold at market rates. In contrast, fixed-rail transit systems are designed to operate for many decades, outlasting even the 15- or 30-year federal affordability requirements. Once the below-market units are lost, the high cost of land around station areas will likely make it difficult to create additional affordable homes. Building long-term affordability requirements into inclusionary housing and other affordable housing programs can help to limit the loss of these units over time, preserving affordable housing opportunities for future generations.

<sup>40</sup> For more information about the Linkage Ordinance see An Act Establishing a Project Mitigation Contribution or Linkage Program for Affordable Housing in the City of Somerville

<http://www.malegislature.gov/Laws/SessionLaws/Acts/2005/Chapter159>

Affordable housing can take between five to ten years on average to develop and often requires between seven to ten funding sources. Many of the major programs that fund affordable housing do not require or effectively encourage long-term affordability. For instance, the HOME program—the largest federal program dedicated to affordable housing—requires a minimum affordability period of only 15 years for major investments in affordable homeownership and a minimum affordability period of only 20 years for new construction of rental housing. In addition, regulations for other major tools that support homeownership for lower income households, like FHA insurance, are not always compatible with programs that seek to provide long-term affordability, such as a community land trust. The Commonwealth of Massachusetts M.G.L. Chapter 40B requires a minimum 15-year term of affordability for units to be counted on the Department of Housing and Community Development’s Subsidized Housing Inventory.

A 15- to 20-year term of affordability may not be long enough to ensure that lower-income households are provided the opportunity to benefit from the transit opportunity. Given the price impact of transit access over time (according to studies by the Center for Housing Policy), it is recommended that affordability periods are extended for a longer-term 30 to 40-years or in perpetuity. Examples of programs that might effectively provide a longer term of affordability are shared-equity homeownership, community land trusts or longer term deed restrictions on rental housing.

#### Engage Residents in the Participation Process

Future development plans should include the participation of residents in the planning and approval process. Engagement during the planning process may ensure their long-term participation in planning activities and plan implementation. This may also assist with minimizing the displacement of residents with greater information about the planning and development process and the associated opportunities.

Achieving any of the aforementioned strategies may take effort to gain community agreement. Outreach and education helps existing residents to vocalize the need for affordable housing. Significant community reinvestments and investments in development around transit might benefit from the inclusion and support of community members. The community may be instrumental in designing community benefits agreements (CBAs) that include larger than required affordable housing set-asides and other assistance or offsets, including open space subsidies or parking set-asides.

#### Devise Community Benefits Agreements

CBAs are contracts executed between community-based organizations and one or more developers. They outline the developer’s commitment to provide mitigation to offset potential impacts associated with a proposed development. “CBAs are legally binding and are commonly incorporated into the City’s developer agreements.”<sup>41</sup>

The Partnership for Working Families contends that CBAs work because:

- Community benefits help generate public support for economic development projects
- CBAs hold developers accountable for their promises to local governments and residents
- Community benefits programs can transform regions through stronger, more equitable economies
- Public input results in better projects that benefit the whole community and attract local customers
- Time is money, and projects with CBAs often enjoy a faster, smoother entitlement process

One of the biggest challenges of community benefits agreements is enforcement. If components of the community benefits agreement are included in a Special Permit Order of Conditions, the developer of the property must meet all conditions prior to a Certificate of Occupancy is issued. This is often enforced by a Zoning Enforcement Officer in coordination with city planning officials.

<sup>41</sup> The Partnership for Working Families, <http://www.communitybenefits.org/section.php?id=155>, 2011

### Coordinate Long-Term Planning

The effective coordination of long-term housing and transportation plans is critical for the future success of many of the aforementioned programs and policies. To encourage housing agencies to consider locating affordable housing investments under HOME and CDBG near transit and in other location-efficient areas, Medford and Somerville could coordinate their individual Consolidated Plans with the Boston Metropolitan Planning Organization's Long-Range Transportation Plan, the Regional Housing Plan<sup>42</sup>, and *MetroFuture*.

Among other things, such coordination should involve consideration by city housing, economic development and planning officials responsible for submitting the Consolidated Plans of:

- The impacts of planned transportation investments on housing affordability
- How their plans advance regional housing affordability and fair housing goals
- How their plans will help to reduce the combined costs of housing and transportation for low- and moderate-income households, in light of the accessibility and affordability of transportation options near planned housing investments
- How they plan to ensure that low- and moderate-income households have access to permanently affordable rental housing and homeownership within close proximity to public transit stops, job centers and other essential destinations
- How their plans for both housing and economic development investments align with regional and neighborhood transportation investments

For example through the Comprehensive Plan process, Somerville has identified housing goals that align well with the aforementioned strategies including: providing housing choice; encouraging mixed-use transit-oriented development; mitigating displacement of low- and moderate-income residents by retaining the existing affordable housing stock; and creating policies that allow residents to remain in their homes in the face of a changing city. Further, the Comprehensive Plan states that the city wants to promote affordable housing and foster employment and economic opportunities for low and moderate income residents of Somerville.

Medford also clearly states in their Consolidated Plan their intention to increase affordable housing stock. They explain that “low to moderate income working people who do not qualify for housing subsidies are most affected by rapidly increasing housing prices in the City of Medford. The key to creating more affordable rental units is production.” Strategies include:

- Develop strong partnerships with local or regional for profit and non-profit organizations capable of developing low and moderate income housing.
- Encourage and partner with private developers to include affordable units in their projects via providing support and access to HOME and other federal and state incentives.
- Support housing development proposals that use project-based Section 8 vouchers
- Target the need for greater housing options for extremely low income and very low income households (from 0 to 50 percent of median income) by identifying state and federal resources that can provide deep subsidy for rental housing units in new projects
- Encourage the North Suburban Consortium to develop new Tenant Based Rental Assistance Program for individuals who need short-term rental assistance. This would help households who have significant housing cost burdens. The targeted population for this potential program would be for families who are at or below 60% median income and do not currently participate in another rental subsidy program<sup>43</sup>

The city has also recognized the potential impact on businesses and residents in stations areas of Medford. The Plan also states support for a strategy to create transit-oriented development related to the Green Line Extension to Medford Hillside and Mystic Valley Parkway as a component of expanded economic opportunity, livability and community well-being.

<sup>42</sup> The Regional Housing Plan, being developed by MAPC and other regional partners, is a regional assessment of housing needs and a regional housing policy action plan.

<sup>43</sup> City of Medford 5 Year Strategic Plan 2010-2015

[http://www.medford.org/Pages/MedfordMA\\_ComDev/StrategicPlan.pdf](http://www.medford.org/Pages/MedfordMA_ComDev/StrategicPlan.pdf), p. 44-49



## Strategies for Preventing Displacement of Businesses and Jobs

Business and job displacement may occur indirectly in an area facing development pressure or undergoing revitalization. This may be caused by changing demographics, shifting demand for retail products, rising commercial rents, or the challenge of maintaining business operations due to infrastructure and construction activity in a revitalization zone. Similar to the strategies focused on ensuring stable housing options, strategies to ensure business stability focus on ways to direct funding and programs while ensuring that local policies reflect the cities interest in preventing displacement.

### Preserve Local Commercial Activity

Increased property values can also result in the displacement of existing businesses. Business owners who are faced with higher rents or property taxes may be forced to move unless their incomes keep up with the increased costs. Businesses also rely on their customer base and may be challenged by a shifting base if the residential community they rely on is displaced from the neighborhood.

Strategies to prevent indirect displacement of businesses are similar to those that can be used to prevent indirect displacement of residents:

- **Inclusionary Business Development Policy** – Somerville and Medford should develop a policy that any new mixed-use development agreement require developers to set aside at least 10% of all retail spaces for locally-owned small businesses

### Boost Local Economy with Local Hiring

Local Chambers of Commerce might assist with job creation and business development by instituting a program that encourages local employers to hire local people. Businesses in the program could help identify potential employees and match them with employers. New businesses might be required to hire at least 50 percent of their workforce from the local community.

- **First Source Hiring** - First Source hiring programs are gaining popularity throughout the U.S. These programs help recruit and screen low-income job-seekers, coordinate job training and support services and most importantly, establish agreements with local employers to hire new employees through the First Source center before advertising positions to the public at large. A Community Benefits Agreements discussed on page 86 could outline specific First Source requirements
- **Wage Standards** - Jurisdictions throughout the U.S. have living wage requirements. These laws require businesses that receive government subsidies to pay their workers a family-sustaining wage. That wage might be related to housing and other needs, for example the National Low Income Housing Coalition provides a rental housing wage in their annual Out of Reach report<sup>44</sup>

Both the City of Medford and Somerville have taken steps to identify and prioritize economic development needs that address some of the potential issues outlined above. For example Somerville identifies the following economic development needs and priorities as high:

- Redevelopment of Under-Utilized Districts
- Improved Transportation Access
- Revitalization of Commercial Districts
- Increased Job Growth<sup>45</sup>

<sup>44</sup> Reports are available at [www.nlihc.org](http://www.nlihc.org) including a searchable database of housing wages by metro region

<sup>45</sup> City of Somerville Five Year Consolidated Plan 2008-2013, p. 89

The City of Somerville also discusses strategies to achieve these priorities, including that they will:

- Provide technical assistance to business owners to ensure health of businesses
- Facilitate access to capital and financing through programs such as the City's Small Business Loan Program
- Assist with physical improvement of commercial spaces, such as through the Storefront Improvement Program
- Encourage collaboration among businesses in commercial districts such as through a shared marketing program, area-wide events, and possible establishment of a Business Improvement District
- Inform businesses about federal and state programs that encourage and support local hiring
- Encourage local workforce development organizations to initiate programs and services in Somerville
- Increase the opportunity of jobs for youth and disabled in collaboration with business community
- Continue to support Main Street organizations<sup>46</sup>

The City of Medford states the following objectives to achieve their economic development goals:

- The Storefront and Business Improvement Program provides financial incentives toward storefront and related rehabilitation in economically deteriorating business areas and to those that create jobs for low and moderate income individuals
- A business and retention plan, as well as a parking plan, will be done to foster job growth and retention in the downtown area
- A partnership with ACCION, USA will enable the support of business expansion for low and moderate income persons<sup>47</sup>

The City of Medford commits to economic development and job creation goals in West Medford by, "...providing financial incentives towards streetfront rehabilitation in addition to providing parking, lighting, landscaping, tree planting, and related street and sidewalk improvements."<sup>48</sup>

Both cities might strengthen these goals and objectives by concentrating greater funding and other resources in areas where there is a displacement risk. When possible, the cities might strengthen their individual efforts by working collaboratively to achieve job creation and retention goals and goals to protect existing commercial districts, including joint participation in area workforce development programs, joint marketing and outreach programs to businesses, and joint business development and funding programs for local businesses.

<sup>46</sup> City of Somerville Five Year Consolidated Plan 2008-2013, p. 91-94

<sup>47</sup> City of Medford 5 Year Strategic Plan 2010-2015

[http://www.medford.org/Pages/MedfordMA\\_ComDev/StrategicPlan.pdf](http://www.medford.org/Pages/MedfordMA_ComDev/StrategicPlan.pdf), p. 113

<sup>48</sup> Ibid, p. 115

## Conclusion

This report presents an analysis of the potential land use and economic development benefits and impacts that could be associated with the extension of the Green Line to Mystic Valley Parkway. While development potential and associated benefits do exist, it has a limit in scale and service area.

If a station is constructed at this location in the future, steps should be taken to ensure that future planning for development and infrastructure take advantage of the investment made through the extension. These steps would include:

- The creation of a mixed-use overlay district to promote coordinated neighborhood-scale development outcomes
- Push for quality design of new buildings that enhances the existing neighborhood character and minimizes visual and physical impacts
- Continue to tap into emerging office markets such as biotech, healthcare and business-to-business services
- Develop retail that draws income from the surrounding neighborhoods, this area most likely will not draw a regional market
- Improve pedestrian and bicycle infrastructure to create a walkable and bike-friendly travel environment
- Build upon the excellent natural and recreational resources that connect the station area to surrounding neighborhoods and communities
- Adopt policies that both preserve existing affordable housing and create new affordable housing opportunities

The extension of the Green Line and the associated recommended vision matches well with established goals and objectives of the regional plan, *MetroFuture*, and with the existing and future plans of both the City of Medford and the City of Somerville.

