Green Line Extension to Medford

Potential Station Sites Study

Prepared by Medford Green Line Neighborhood Alliance (MGNA)

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I. EXECUTIVE SUMMARY

The Medford Green Line Neighborhood Alliance (MGNA) is a group of citizens who support the proposed Green Line extension to Medford, and who advocate for proactive involvement from the city, its residents and all stakeholders to ensure that the extension is completed in a manner that is most beneficial to the community.

MGNA views the Green Line extension as a historic opportunity for Medford residents, businesses and institutions to gain a major improvement to the region’s transportation infrastructure that will serve the community well for decades. Executed properly and carefully, the Green Line will provide thousands of Medford residents with an efficient, environmentally friendly alternative to automobile use; provide better access to employment, cultural, educational and health care opportunities; improve air quality; and make Medford overall a better place to live, work and visit.

For the past 2½ years, MGNA has been actively reaching out to all segments of the community to encourage active participation in the planning process – whether individually, as part of a neighborhood or constituency group, or as part of our alliance – and also striving to become more informed itself about the many complex issues that this project comprises.

The results of that effort include this document, the Green Line Extension to Medford: Potential Station Sites Study. (An initial, incomplete draft of this document was published in October 2006 in order to be considered during the comment period for the project’s Expanded Environmental Notification Form, which determined the geographic boundaries of the project area.)

This draft of the Potential Station Sites Study incorporates information and analysis gathered in more than 40 meetings conducted by MGNA, including three workshops devoted to specific areas of the extension corridor; two neighborhood forums; meetings with city, state and federal elected officials and departments/commissions; meetings and discussions with representatives of private businesses; meetings with transportation advocates in Somerville and Cambridge; testimony at public hearings conducted by state transportation agencies; and public feedback expressed directly to MGNA and in other public forums, including the Station Workshops and General Informational meetings held by the Executive Office of Public Transportation and Public Works (EOTPW) this past January and February.

The starting point for the MGNA Potential Station Sites Study was the Beyond Lechmere Northwest Corridor Study, published in August 2005. This study presented a concept of an enhanced Green Line extension to West Medford, with four possible station location areas in the city, and was endorsed by state transportation officials. Given this general concept, MGNA then took a closer look at the extension route to gauge the potential positive and negative impacts, and make recommendations to maximize the project’s benefits, minimize any possible detrimental effects, and address ways to improve related existing conditions. MGNA approached the Potential Station Sites Study to try to achieve the following objectives:

• Provide the maximum number of Medford residents an alternative means of transportation by

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bringing the Green Line as far as possible into Medford, while retaining the integrity, character, look
and feel of the Medford neighborhoods the extension will impact – Ball Square, South Medford,
Tufts University, Medford Hillside and West Medford.

• Do no harm; the Green Line Extension Project must be a net benefit to the city as a whole and
reduce – not worsen – existing problems such traffic congestion, parking issues and pedestrian
safety.

This study includes analysis of seven potential station location areas – Ball Square; Harvard
Street/Boston Avenue; College Avenue/Boston Avenue; Boston Avenue both northwest and
southeast of College Avenue; Winthrop Street/Boston Avenue; North Street; and Mystic Valley
Parkway/Route 16.

The study assesses the pros and cons of each location, keeping in mind the two objectives stated
above, and the following overarching goals:

• Eliminate or minimize the need for private land acquisition
• Limit and mitigate all noise, vibration and air pollution impacts from commuter rail relocation,
project construction and land alterations
• Address current and future parking and traffic volume and congestion issues
• Accentuate and improve access to public transit for pedestrians, bicyclists and persons with
disabilities
• Capitalize on and enhance bus connectivity to the Green Line
• Consider potential related improvements to existing commercial centers

Bearing in mind these goals, this report rates highest the potential for Medford station locations at:

• Ball Square, on the Medford/Somerville line
• College Avenue at Boston Avenue
• Winthrop Street near Boston Avenue
• Mystic Valley Parkway/Route 16

These areas would place stations approximately one-half mile apart, which is the optimum distance
for providing neighborhood coverage while maintaining desired service levels; have the highest
potential for boardings from riders reaching the stations on foot, by bicycle or by bus; and can
accommodate station platforms with the least amount of intrusion on private property.

While supportive of the Route 16 area as a terminus station location, MGNA strongly opposes the
concept of a large-scale parking structure there – or parking at any other station stop along the
extension route.

MGNA also calls for a commitment from the EOTPW, both in writing and financially, for the highest
quality mitigation measures for noise, vibration, air pollution and green space impacts from the
project. MGNA also recommends that the EOTPW consider the viability of using a single track for
the Green Line trains in the area(s) where residences are in closest proximity to the corridor, such as along Orchard Street and Piggott Road in Medford.

With the crucial work now well under way on the Draft Environmental Impact Report for the project, to be followed by Conceptual Engineering, MGNA hopes this document provides useful information, analysis and recommendations for project planners, transportation agency staff, elected officials, business owners, citizens and other stakeholders as important decisions and recommendations are evaluated and eventually made.

**Medford Green Line Neighborhood Alliance Station Study Committee**

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II. PROJECT HISTORY

The Green Line extension is one of a group of projects that were created through the extensive planning and permitting process of the Central Artery/Third Harbor Tunnel Project (the Big Dig). The projects were identified to improve and expand the existing transit system in the commonwealth for the purpose of offsetting the negative air quality impacts of the Central Artery Project and mitigating for construction impacts from the project on surrounding communities. In its 1991 State Implementation Plan (SIP) for conformity with the federal Clean Air Act, the commonwealth committed to build the Green Line extension through Somerville to Medford Hillside by 2011.

In 2004-05, the MBTA conducted the *Beyond Lechmere Northwest Corridor Major Improvement Study/Alternatives Analysis*. Its purpose was to re-evaluate the alternatives for improving public transit service and air quality in the corridor, given that 13 years had passed since the original commitment to the Green Line extension to Medford Hillside. The analysis was conducted with the assistance of an advisory committee that included 10 representatives from Medford, as well as representatives of Somerville and Cambridge.

After studying all modes of transit and their potential ridership, traffic mitigation, pollution reduction, construction costs and costs per rider, the MBTA concluded that a Green Line extension through Somerville to Medford, along the existing commuter rail right-of-way, would have the greatest overall positive impact on the region's transportation system and air quality. Further, at the conclusion of the study in May 2005, the MBTA and the Executive Office of Transportation (EOT) recommended that the Green Line extension be enhanced, extending beyond Medford Hillside to West Medford, and adding a spur line to Union Square in Somerville. The study identified potential Medford station locations in the area of Ball Square, College Avenue at Boston Avenue, Winthrop Street and Boston Avenue, and between Canal Street and High Street.

In August 2005, the MBTA issued its Draft *Beyond Lechmere Northwest Corridor Study*. Subsequently, the Boston Metropolitan Planning Organization announced its support for the enhanced Green Line extension, but it proposed moving the target completion date to 2014 in order to address the many complex issues related to the project. The EOT concurred with this timetable and it was reflected in the revised SIP commitment project list it submitted to the Massachusetts Department of Environmental Protection and the federal Environmental Protection Agency.

In January 2006, the state legislative delegation representing Medford appeared by request before the Medford City Council to provide an update on the project. The delegation stated that it would not support financing of the extension beyond Route 16/Mystic Valley Parkway, citing citizen opposition and the cost of bridge replacements over Route 16 and Mystic Valley Parkway.

In October 2006, the EOT released its Expanded Environmental Notification Form (EENF), which outlined its plan for conducting the Environment Impact study for the project. This notice indicated EOT's intention to study the extension to the Winthrop Street area. Public hearings were held on
the EENF in Somerville in October and in Medford in November. On December 1, 2006, the state Executive Office of Environmental Affairs released its certificate on the EENF. This certificate, under the Massachusetts Environmental Policy Act (MEPA), provides the guidelines for the Environmental Impact Report. It also defined the geographic scope of the Green Line extension study as extending to Route 16/Mystic Valley Parkway at the Medford/Somerville line.

The Environmental Impact Study began in September 2007 and is expected to be completed by April 2009. It is being conducted by the EOTPW and lead consultant Vanasse, Hangen, Brustlin (VHB), other consultants, and with input from a Project Advisory Group that includes four Medford citizens.

III. PROJECT ASSUMPTIONS AND OBJECTIVES

In analyzing potential station sites, the MGNA used the MBTA’s 2005 Beyond Lechmere Northwest Corridor Study as its foundation document, as well as the 2006 EENF document and MEPA certificate. Each of these documents is available online at www.greenlineextension.org.

We have adopted the basic assumptions of the 2005 MBTA proposal. They are that:

- The Green Line will be extended through Somerville to Medford Hillside
- The Green Line will run within the existing Lowell Line Commuter Rail right-of-way
- The existing Lowell Line commuter rail tracks will be shifted to the northeast side of the right-of-way, while the new Green Line tracks and station platforms will be placed on the southwest side of the right-of-way (Boston Avenue/Tufts University campus side).

We evaluated the potential station location areas as described in the Beyond Lechmere study and the MEPA certificate as well as those suggested by the public:

- Ball Square (Broadway at Boston Avenue)
- Harvard Street at Boston Avenue
- College Avenue at Boston Avenue
- Along Boston Avenue between College Avenue and Winthrop Street
- Winthrop Street near Boston Avenue
- North Street (as an entrance to the Mystic Valley Parkway station, not a station in its own right)
- Mystic Valley Parkway (Route 16)

We attempted to evaluate each potential station area with these objectives:

- Provide the maximum number of Medford residents with convenient access to the Green Line without the need of a car.
- Offer full accessibility and comply with the Federal Americans with Disabilities Act (ADA) and Massachusetts Architectural Access Board (MAAB) guidelines.
- Respect the character and scale of the surrounding community neighborhoods.
- Eliminate or minimize all private land acquisition requirements.
- Limit and mitigate all noise, vibration and air pollution impacts from commuter rail relocation, project construction and land alterations.
• Address current and future parking and traffic volume and congestion issues.
• Accentuate and improve access to public transit for pedestrians, bicyclists and persons with disabilities.
• Capitalize on and enhance bus connectivity to the Green Line.
• Consider potential related improvements to existing commercial centers.
• Feature stations that are pedestrian- and neighborhood-oriented, not automobile-oriented.
• Provide well-designed and convenient connections to existing bus routes.
• Connect both sides of any Green Line station with its surrounding neighborhood.
• Create safe, welcoming transportation environments with high-quality station design.
• Connect all stations to existing and planned pedestrian and bike paths.
• Exclude the construction of any parking garage.
• Do no harm.

Three of these keys to the success of the extension deserve special emphasis:

• To eliminate or minimize the need for private land acquisition.
• To create stations that facilitate and encourage riders who will approach via walking, biking or bus, not automobiles, so as to not worsen existing parking and traffic problems.
• To limit and mitigate the impacts of any increases in noise, vibration and pollution, particularly because of relocation of the commuter rail tracks closer to people’s homes.

Careful planning and site selection will go a long way toward avoiding the need for any land acquisitions. It was encouraging that the EOTPW stressed during the Station Workshops that it was trying to minimize all land takings as it considers potential station sites.

The second two issues, Parking and Traffic and Mitigation, are dealt with in the following two sections.

IV. PARKING AND TRAFFIC

Medford’s parking and traffic problems are acute, particularly in densely populated South Medford, the Hillside, and on Route 16. They should be of central concern to all planning and development in the city, in particular the Green Line extension, which has the potential of reducing – but also of adding to – the number of cars driving and parking on Medford streets.

One of the primary rationales for extending the Green Line to Medford is that it would help improve the city’s parking and traffic problems by offering residents a convenient, affordable alternative to automobile use. Medford residents are rightfully concerned that the Green Line could exacerbate parking and traffic problems by attracting additional cars to streets already overburdened by cars and trucks. However, proper execution, careful site selection and station design that discourages access by car and encourages travel by other modes, can bring the Green Line deep into Medford without that ill effect.
All stations must be first and foremost pedestrian-oriented – not stations with garages that would serve as automobile magnets. MGNA specifically opposes the idea of a large parking structure on the existing U-Haul site in Somerville, which the EOTPW proposed at the Route 16 Station Workshop.

The MBTA has a history of wisely adhering to citizen opposition to large parking structures at neighborhood train stations. When the MBTA extended the Red Line to Porter Square, Davis Square and Alewife in the early 1980s, a large parking garage and high-rise office building were proposed for the heart of Davis Square. Residents vehemently opposed this, believing the structures would wreak havoc in their neighborhood and worsen their own traffic and parking problems. They did not want to become a car-commuter destination. The garage and office tower ideas were ultimately rejected and replaced with a senior housing development, and Davis Square is better for it. Moreover, even without a parking structure, Red Line ridership at Davis Square greatly exceeded original projections, due in large part to access to the station for walkers and bicyclists on the immensely popular Somerville Community Path.

The lesson learned from this is that if the community gets involved and makes its wishes heard, a better project will result. The people in Davis Square who opposed parking garages and more traffic did not kill the entire project but guided it in a direction that would mitigate problems and improve their overall quality of life. Medford needs to do the same.

The City of Medford also needs to act and establish reasonable parking and traffic restrictions and, more importantly, ensure that they are consistently enforced, in order to preserve the character of the neighborhoods where the Green Line stations will be built. This will benefit the city at-large, as the issue of illegal commuter parking already exists in portions of Medford. Extending the Green Line to Medford will worsen parking problems only if the city’s ineffective parking rules and lax enforcement were to remain unchanged. The solution is not to reject the Green Line; it is to fix the existing problem now with a long-overdue parking enforcement system across the city. Simply put, people will not park their cars illegally in Medford if they are ticketed daily (with a fine larger than the cost of downtown parking) and towed if necessary. The cost of a non-resident commuter parking sticker, currently only $100 annually, also should be raised significantly. Medford must change its antiquated and ineffective approach to parking and it should do so now, several years before the Green Line is completed.

V. Mitigation

Effectively dealing with increases in noise, vibration and air pollution is crucial to the success of the Green Line extension project. In some areas of the extension corridor, particularly northeast of College Avenue in Medford, the existing commuter rail tracks will be relocated closer to people’s homes; the existing sloping, earthen berm will be cut into and replaced with vertical walls; and a significant amount of trees and vegetation will be removed.

A wide array of measures is available to mitigate these issues that must be utilized to maintain – and in many cases improve – the quality of life in the affected neighborhoods. These include:
• Utilizing a single track for the Green Line in strategic areas where abutting homes are closest to the corridor, such as the stretch between Orchard Street and Piggott Road in Medford; this would decrease the distance the commuter rail tracks would need to be moved toward residences.
• The construction of sound-absorbing barriers on both sides of the right-of-way. Reflective products like concrete should not be used for sound barriers, as they simply bounce sound waves in different directions. This project, with its close proximity to dozens of residences, demands high-quality sound-absorbing barriers such as those produced by LSE Barrier System or Sound Fighter Systems (See Appendix).
• Installation of ballast mats under the tracks to dampen vibration.
• Decking over portions of the corridor where the height is sufficient, particularly in the area of College Avenue and Boston Avenue.
• Re-introduction of vegetation – including mature trees and evergreens – along the length of the extension corridor, as soon as construction allows.

In addition, transit projects often reimburse abutters for improvements to their homes (such as new windows, insulation and landscaping) that the abutters make to eliminate negative consequences of the transit project. On the recently completed Greenbush commuter rail line project, 120 property owners were eligible for noise mitigation funding.

The MBTA has a standing policy to commit up to 2 percent of the project construction budget on noise mitigation. This amount would not be sufficient and should not be deemed the limit for a budget line item on noise mitigation.

It is important that these mitigation measures be not only an integral part of the planning and design process, but also be expressed in a separate chapter in the DEIR, and be included in the project budget. Such expenditures were not included in the Major Capital Project Costs outlined in the Beyond Lechmere study, a major oversight that must not be repeated in the DEIR and its project cost estimates.

IV. ANALYSIS OF POTENTIAL GREEN LINE STATION SITES

A. BALL SQUARE.

The first station location identified in the Beyond Lechmere study that would serve Medford is in the area of Ball Square, which is at the intersection of Broadway and Boston Avenue. Broadway is roughly the dividing line between Somerville and Medford (Somerville property actually extends about 80 feet north of Broadway; the property line bisects the next-to-last building on Boston Avenue (Ball Square Auto Repair). The last building along Boston Avenue is a former veterinary clinic at 675 Broadway.

A station in this area would serve densely populated residential areas of Somerville and South Medford, the Ball Square retail area, and the Magoun Square area to the southeast, all of which are in an easy walking distance. It also could be a catalyst for redevelopment of the retail/commercial area and for the creation of additional housing.
a. **Land overview.** The existing commuter rail tracks are essentially at grade on the north side of Broadway, and below grade on the south (Somerville) side, after passing under the Broadway bridge. There is a foundation for a former commuter rail platform along the tracks on the north side of the Broadway bridge. Trains stopped here until about the 1960s. The MBTA does not own this property; the auto repair shop recently purchased it. There is more available land, and less need to acquire land, for a station on the north side of Broadway.

b. **Major abutters.** North of Broadway: The Ball Square Medical Building along Broadway at the bridge, east of the tracks; Ball Square Auto Repair, a bowling alley and an abandoned veterinary clinic along Boston Avenue, west of the tracks; residential/commercial mix on Newbern, Morton and Granville Avenues, which dead end into the railroad right of way on the east side. South of Broadway: A gas station on the east side, and commercial/residential on the west side.

c. **Traffic.** The diagonal intersection at Broadway/Boston Avenue is dangerous and often difficult to navigate. Vehicles travel at a high rate of speed, particularly coming over the bridge from east to west. There are pedestrian crosswalks across Boston Avenue, but not across Broadway at Boston Avenue. There is a crosswalk a short westerly distance up Broadway, at Josephine Avenue.

d. **Connectivity/access.** The MBTA 80 (Lechmere/Arlington) and 89 (Clarendon Hill/Sullivan Station) buses connect to this area. There are no marked bicycle lanes on Broadway or Boston Avenue. Access to a station should be provided from both sides of Broadway. A good example of a pedestrian underpass is on the Fitchburg Line at Porter Square in Cambridge.

e. **Broadway Bridge.** The bridge would likely have to be rebuilt to create the horizontal clearance needed for the Green Line tracks to pass underneath. It should be re-engineered to better accommodate vehicular, bicycle and pedestrian traffic. There should be places for buses (and cars) to drop off connecting passengers on Broadway in either direction.

f. **Development.** The square has significant potential for revitalization and redevelopment in conjunction with a Green Line station, including possible air rights construction.

g. **Tufts studies.** A 2007 analysis of integrating a Green Line station in the Ball Square area, conducted by graduate students in the Tufts University Urban and Environmental Policy and Planning program, rated the area on the north side of Boston Avenue (near the former veterinary clinic) highest in its evaluation of four possible station sites at the Broadway/Ball Square intersection. The study sited the location’s proximity to the two main streets and retail areas, visibility, and manageable grade change among its positive characteristics. The Tufts report may be viewed online at: [http://ase.tufts.edu/uep/degrees/field_project_reports/2007/Team8_Greenline_Report.pdf](http://ase.tufts.edu/uep/degrees/field_project_reports/2007/Team8_Greenline_Report.pdf)

A second Tufts graduate student study, in December 2007, examined this location in more detail. This report can be viewed online at: [http://www.unionsquaremain.org/Committee%20Work/Greenline_support_materials/Ball%20Sq%20Tufts%20UEP%20Station%20Design%20Study%202007.pdf](http://www.unionsquaremain.org/Committee%20Work/Greenline_support_materials/Ball%20Sq%20Tufts%20UEP%20Station%20Design%20Study%202007.pdf).
h. Other. Another option being proposed in Somerville for a station location that would serve the Ball Square and Magoun Square area is at the current Somerville Department of Public Works yard, which is a few hundred yards southeasterly down the corridor, between Cedar Street and Ryan Road and behind Trum Field. This site is closer to residential areas in Somerville, and farther from residential areas in Medford, as well as bus routes.

i. Analysis: A Green Line Station in Ball Square would require the rebuilding of the Broadway/Boston Avenue intersection, including the Broadway bridge; it would also require much more pedestrian-friendly circulation for safety reasons getting to and from the station via bus or foot from both sides of Broadway. A new station in Ball Square would likely spur new businesses and investment in Ball Square as it would receive much higher foot traffic from both Somerville and South Medford residents. The bus connectivity for a Ball Square Station is strong as the 80 and 89 buses along Broadway would feed the station. The biggest challenge with a Ball Square Green Line Station is safety, both for cars and pedestrians. A traffic study would have to be undertaken to identify existing traffic and safety concerns and propose solutions for them. Space for bus pick-up and drop-offs would have to be found along Broadway. There is little doubt that a Green Line Station directly in Ball Square would transform the Square over time and become the new image and focus of Ball Square. The option to build a Ball Square Green Line Station at the Somerville Public Works has several strong positives and negatives. On the positive side, the bus and pedestrian safety issues would be easier to solve primarily because there is sufficient open space at the Public Works facility for bus drop-offs that are far removed from busy Broadway. However, pedestrians coming from South Medford would have to cross Broadway to access the station. In contrast, if properly designed the Ball Square Station in Ball Square could provide access from both sides without crossing Broadway.

j. Recommendation: Ball Square is a very attractive site for a station, with many potential benefits. The area cited in the Tufts studies, near the former veterinary clinic and former commuter rail platform, appears to be the most desirable as it is the least intrusive on abutters, and provides visibility and access. Providing pedestrian access under a rebuilt Broadway Bridge would segregate pedestrians from vehicle traffic.

B. HARVARD STREET/BOSTON AVENUE

Harvard Street was not identified as a potential station location in the Beyond Lechmere Study, but was recommended by some residents in the neighborhood. The area is overburdened with traffic, particularly vehicles cutting through the area on Harvard to/from Mystic Avenue/I-93, and also is plagued by a parking shortage. It currently has no direct public transportation service.

a. Land overview. This intersection is just west of the rail right-of-way, which is elevated at this point in order to cross over Harvard Street. A station platform also would have to be elevated.

b. Major abutters. All four corners on the intersection are occupied: St. Clement School and rectory on the west corner of Boston Avenue and Harvard Street, a former factory/commercial building at 574 Boston Avenue (owned by Walnut Hill Properties, an arm of Tufts University) on the north corner, and a gas station/car-wash on the east corner, next to Erickson Fuel Co. The rest of
the neighborhood to the east, south, north and west is residential; Tufts’ campus property
dominate from this point to the northwest. As of April 2007, a property on the northeast side of the
tracks, AC Disposal, was for sale, which could potentially accommodate a station. Tufts also has a
Science and Technology Center on the northeast side of the tracks, at 4 Colby Street. Within the
next two years, Tufts intends to demolish the former factory building at 574 Boston Avenue, as well
as the adjacent building it also owns, to construct a new science lab/research building.

c. **Traffic:** Traffic is extremely heavy on two-lane Harvard Street at virtually all hours of the day. It
is a popular access route to Main Street and Mystic Avenue/I-93 to the east, and Powderhouse
Square/Somerville to the West. Boston Avenue provides access to the Tufts campus northbound
and to Somerville southbound. There are signalized pedestrian crossings at the intersection, which
is very busy and dangerous.

d. **Connectivity/access:** No bus routes serve this area. There are no bike lanes on Boston
Avenue or Harvard Street. A station here would be within an easy walk from College Avenue, Ball
Square, and all points in between. Conversely, a station at Ball Square or College Avenue would
also be within a convenient walk of this neighborhood. An important factor to keep in mind while
evaluating potential stations at Ball Square, Harvard Avenue and College Avenue is that these
three intersections are quite literally the only gateways that South Medford residents have to
access the Green Line because the existing commuter rail right-of-way creates an impassable
barrier that can be crossed only at these three points. All of South Medford traffic – both pedestrian
and vehicular – must funnel through these three points to cross the commuter rail and access
Somerville and vice versa.

e. **Harvard Street bridge.** The bridge needs to be rebuilt to accommodate the Green Line tracks
whether there is a station stop located here or not.

f. **Other:** The Lincoln-Kennedy school complex, a few blocks east of Boston Avenue on Harvard
Street, was recently sold and is likely to be converted into 50 to 80 housing units. Neighbors are
concerned about the additional vehicle traffic this will create on an already congested street. How a
Green Line station at Harvard Street would affect vehicular traffic introduced by a Lincoln-Kennedy
housing complex must be studied. Flooding under the railroad bridge over Harvard is a regular
occurrence after heavy rains and creates a hazard for travelers of all modes.

g. **Analysis:** While this area would greatly benefit from the shifting of trips from autos to transit, the
constraints posed by limited land, and the need to build an elevated station, make this site less
desirable. Add in the traffic congestion along Harvard Street, the lack of bus connectivity and the
small-scale residential scale of the surrounding area and it is difficult to see a successful station
being located here. Further, proposed Green Line stations at Ball Square and in the vicinity of
College Avenue would be within a convenient 10-minute walk of this area, making this location far
less desirable than either the College Avenue or Ball Square Stations, both of which are better
sites for Green Line stations.

h. **Recommendation:** No further consideration of a Green Line Station at Harvard/Boston Avenue
is warranted. Both College Avenue and Ball Square are superior locations for station stops.
C. COLLEGE AVENUE/BOSTON AVENUE
The second Medford station location area identified in the Beyond Lechmere study is at the intersection of Boston Avenue and College Avenue. The location has many strong points but many challenges as well. A direct Green Line link from the Tufts campus to Boston is appealing. Among the benefits would be more-flexible housing opportunities for students and a commuting alternative for the entire university community, especially if a transfer point between the Green Line and the commuter rail could be realized somewhere short of Boston.

a. Land overview. For much of the distance between Harvard Street (which they pass over) and College Avenue (which they pass under), the existing commuter rail tracks are roughly at grade. Northwest of College Avenue, they are far below grade on the southwest (Boston Avenue) side of the tracks and below grade on the northeast side of the tracks (running parallel to part of Burget Avenue and Charnwood Road). The College Avenue bridge has sufficient span to accommodate Green Line tracks. There is a long steep slope between Boston Avenue/College Avenue and the floor of the railroad right-of-way and a steep but shorter slope to the land to the northeast.

b. Major abutters. This intersection is within the Tufts University campus and is surrounded by university buildings, athletic fields and a parking lot. There is a U.S. Post Office branch in Curtis Hall, at 474 College Avenue.

c. Traffic. The College Avenue/Boston Avenue intersection’s traffic and pedestrian crossings have historically been very dangerous. Though improved through a redesign about five years ago, it is still a difficult pedestrian crossing due to road alignments and poor sight lines for pedestrians, bicyclists and drivers. This safety issue is one of the biggest challenges for a Green Line station located at College/Boston Avenues.

d. Connectivity/access. The MBTA 80 (Lechmere/Arlington), 94 (Davis Square/Medford Square via West Medford) and 96 (Harvard Square/Medford Square via George Street) bus lines run along Boston and College Avenues. The buses approach on Boston Avenue from Arlington and from Medford Square (via West Medford or via George Street and Winthrop Street); buses approach on College Avenue from Powderhouse Circle, Somerville (via College Avenue originating at Davis Square or Harvard Square), and from Somerville and Cambridge Lechmere (via Broadway, et.al.) Buses do not travel along Boston Avenue south of College Avenue. Pedestrian access from the south and west to a station stop located here is well served by sidewalks on both sides of Boston Avenue and College Avenue. The neighborhood to the north (Burget Avenue, Hume Avenue, Woodbine Road, Wedgemere Road) is less well served due to the barrier that the Tufts athletic facilities present (Cousens Gym, Halligan Hall). Likewise the neighborhoods due east, which have access obstructed by Tufts Alumni Fields. The station site is slightly less than one mile from Medford Square.

e. Other. Tufts University’s master plan (http://ase.tufts.edu/faculty-meetings/2005-2006/ase/10-19-05/master-plan.pdf) calls for possible new buildings to be constructed at the intersection of Boston and College Avenues on Tufts property on the southwest side of Boston Avenue, and on the northeast side of the commuter rail tracks and either side of College Avenue. In addition, a
plaza is envisioned over the commuter rail tracks that would link the two labs and provide a safe and direct pedestrian bridge access from the plaza to the main Tufts campus. It is not difficult to see a Green Line station integrated into this development, forming a new gateway to the Tufts campus in addition to serving the Hillside and South Medford neighborhoods that surround it.

**e. Analysis:** There appear to be two reasonable locations for a Green Line Station – just northwest or just southeast of College Avenue facing Boston Avenue. As mentioned above, the station located just northwest of College Avenue would integrate well with planned future Tufts development and the pedestrian bridge over Boston Avenue appears to be a strong solution to pedestrian safety, the biggest challenge of this site. Connectivity with buses would be greatly enhanced with a plaza over the tracks. However, the traffic safety and site line issues would still largely remain a problem.

The second possible site south of College Avenue would be less visible and less-well connected to the buses that run along College Avenue and the Tufts campus than the site north of College Avenue. One possible idea that could partially solve the College/Boston Avenue intersection is to completely re-think the intersection so that a portion of Boston Avenue south of College Avenue is pedestrian-only – closed to traffic other than service and fire access vehicles. Traffic on Boston Avenue would be reconnected at a new signalized intersection at College Avenue/Professor’s Row/Dearborn Road. This would simplify a difficult four-way traffic intersection into a much simpler three-way intersection where most of the traffic (and all bus traffic) flows along Boston to College Avenues. Of course, this idea would have to be vetted by traffic engineers and city departments to see if it is viable. It should also be noted that this idea’s is MGNA’s alone and has not been discussed with Tufts.

**f. Recommendation:** Unless there are major changes to the vehicle traffic and pedestrian circulation, siting a station on the southeast side of College Avenue (behind Curtis Hall) is very difficult. The site just north of College Avenue is the best location for a station, perhaps adjacent to or below the proposed plaza crossing the rail corridor. A combination station/plaza might benefit both facilities as well as the public and Tufts ridership and would provide excellent access from the Hillside and South Medford neighborhoods.

**D. BOSTON AVENUE BETWEEN COLLEGE AVENUE AND WINTHROP STREET:**
This section evaluates a station stop on Boston Avenue somewhere between College Avenue and Winthrop Street, probably as an alternative to stops at these intersections. This location was not identified as a potential station location area in the Beyond Lechmere study but was offered by the MGNA in the first draft of this study in October 2006.

**a. Land overview.** The existing commuter rail tracks are well below grade, running parallel to Boston Avenue. The grade level rises steadily from College Avenue toward Winthrop Street. Also in this area, the proximity of residences to the existing right-of-way increases; the sloping earthen berms on either side of the right-of-way will have to be cut back in order to accommodate the additional Green Line tracks.
b. **Major abutters:** Tufts University’s campus, particularly the parking garage/university police department office, is across Boston Avenue on the west side. A few hundred feet north on Boston Avenue is a retail/commercial strip that stretches beyond Winthrop Street. On the northeast side of the tracks is a residential area running parallel on the end of Burget Avenue and, farther northwest, Charnwood Road.

c. **Traffic.** Traffic is generally steady flowing along Boston Avenue, in between signalized intersections at Winthrop Street and Boston Avenue. There is parallel parking on the northeast side of Boston Avenue.

d. **Connectivity/access:** The MBTA 80, 96 and 94 bus lines run along Boston Avenue, approaching from the northwest from Arlington/West Medford and Medford Square and from the southeast from Davis Square/Powderhouse Circle in Somerville. Pedestrians in neighborhoods on the northeast side of the right-of-way currently have no safe, direct access across the commuter rail tracks and must travel to the Winthrop Street or College Avenue bridges and cross the right-of-way to have access to an entrance that is open only to Boston Avenue.

e. **Analysis:** The primary advantage of this location is that it serves the South Medford, Hillside and Tufts community while avoiding the traffic congestion at either the Winthrop Street and College Avenue intersections. If sited across from the Tufts Garage on Boston Avenue, it could serve as an entrance to the Tufts Campus. However, at several MGNA meetings, abutters directly across from the proposed station location expressed strong objections to a station just behind their back yards. A proposed pedestrian bridge connection was also objected to as a promoter of potential drop-off traffic. While we feel this site has many positive aspects, it appears that the College Avenue site is overall a better one, especially given Tufts future plans for this area as an additional campus gateway. Presumably, the College Avenue location would satisfy the abutters’ concerns since the station would not be within sight of their houses, although issues of noise, vibration and other issues still would need to be addressed. Pedestrian traffic from the neighborhood that should be best served by this station stop (the one to the northeast) would have a slightly longer walk to either a College Avenue station stop or a Winthrop Street station stop.

f. **Recommendation:** The negative impacts on residences whose back yards face the right-of-way outweigh the site’s positive aspects, such as avoiding the heavily trafficked and pedestrian-unfriendly intersections of Boston Avenue with Winthrop Street and College Avenue. If EOTPW were to select this area as a station location, the station must be designed to be oriented to the Boston Avenue side of the corridor, with no pedestrian access from Brookings Street (a previous suggestion), and look pleasing to abutters on the Burget Avenue/Charnwood Road side. A portion of the rail corridor in this area also could be decked over at its deepest point, and the railbed lowered, reducing noise and other impact on abutters.

**E. WINTHROP STREET/BOSTON AVENUE**

The third Medford station location area identified in the Beyond Lechmere Study is where the commuter rail passes under Winthrop Street. The location is convenient to the Medford Hillside residential and commercial area, and would provide the closest station to Medford Square (about a
15- to 20 minute walk), slightly closer than the College Avenue site. This site is also one of the
densest, with narrow streets and sidewalks.

a. Land overview: The commuter rail tracks steadily approach grade level between College
Avenue and Winthrop Street. The Winthrop Street bridge arches to span the commuter corridor,
and north of Winthrop, the tracks have essentially reached grade level with the residential
properties, particularly parallel to Orchard Street and Piggott Road. At this point, the line diverges
from Boston Avenue, with Piggott Road in between. In this area, residences are closest to the
right-of-way in the Medford section of the extension corridor.

b. Major abutters: Residential properties dominate the abutting two corners to the northeast of the
commuter rail right-of-way at the Winthrop Street bridge, and a retail parking lot (behind Hillside
Cleaners, Espresso Pizza, et al) occupies another corner. Retail properties dominate the two
corners on the Boston Avenue side, although one of these corners has a single residential
structure. There is also a church building abutting the rail corridor on Boston Avenue northwest of
Winthrop. At the intersection of Winthrop Street and Boston Avenue – approximately 75 yards from
the Winthrop Bridge/commuter rail line – is a busy retail area and the northwest edge of the Tufts
campus.

c. Traffic: Traffic is heavy on Boston Avenue and Winthrop Streets, particularly during the morning
and evening rush hours. Both are major thoroughfares to Tufts University, Medford Hillside and
Mystic Valley Parkway/I-93. The four-way intersection at Boston Avenue and Winthrop Street is
narrow with parallel parking on both sides of Boston Avenue and lacks turning lanes/arrows, which
creates backups and congestion. Though southeast-bound traffic on Boston Avenue could form
two lanes approaching Winthrop Street to allow left turns on Winthrop from Boston without stalling
the through traffic, illegally parked vehicles often preclude that. Regardless of whether a Green
Line station is considered at this location, the traffic signals at Boston/Winthrop should be
redesigned with left-turn arrows, turning lanes and changes to parking during rush-hour traffic close
to the intersection. Enforcement will be a challenge since much of the congestion arises from
customers or delivery vehicles double-parking at University Wine and Spirits or Hillside Hardware.

d. Connectivity/access: Three MBTA bus lines travel through this intersection – the 80 to
Lechmere/Arlington, the 94 to Davis/Medford Square via West Medford and the 96 to
Harvard/Medford Square via George Street. There is a bus stop at Winthrop Street. This is an area
of high pedestrian traffic, but the Boston Avenue/Winthrop Street intersection – despite having
short, signalized crossings – is quite hazardous, particularly due to narrow streets and sidewalks,
the number of vehicles and lack of turning lanes.

e. Winthrop Street bridge. The bridge needs to be reconstructed in order to provide the required
horizontal clearance for the Green Line tracks.

f. Analysis. A high pedestrian traffic area and existing bus connections create the potential for high
ridership for a station stop here. There is easy access to the Medford Hillside area and
neighborhoods along Winthrop Street toward Mystic Valley Parkway, High Street and Medford
Square. Closely abutting residential properties create a challenge to achieving the required width of
a station platform without the need to obtain additional land. The congested and hazardous intersection at Boston Avenue/Winthrop Street also needs to be re-engineered.

**g. Recommendation:** Although this area is in closest proximity to the Medford Hillside neighborhood, it also presents many challenges in terms of siting a station without imposing on abutters. Stations could be sited closer to College Avenue or North Street and still serve the Hillside community. Nevertheless, siting a station at this location should be considered as its high pedestrian and bus connectivity create significant ridership potential from non-car users. Traffic, safety and congestion problems need to be addressed, as well as accommodating pick-ups and drop-offs. In addition, street-level access to the station platform, possibly through an existing storefront on Boston Avenue, should be considered, rather than access strictly from the Winthrop Street bridge.

**F. NORTH STREET**

North Street was not identified as a potential station location in the Beyond Lechmere Study, but is worthy of study as an access point to a potential terminus station near Mystic Valley Parkway, which is the boundary line for the scope of the Environmental Impact Report study.

**a. Land overview:** The North Street bridge arches significantly to span the commuter corridor. By the time the tracks get to North Street, they have reached grade level with the abutting residential and commercial properties as the rail line ascends toward its overhead crossing of Mystic Valley Parkway and the Mystic River.

**b. Major abutters:** Southeast of North Street are residential properties at the end of Piggott Road and and Orchard Street. Northwest of North Street lie the Elizabeth Grady Building and Cummings’ Properties office building (200 Boston Ave) on the southwest side of the rail right-of-way, and the Walking Court residential complex operated by the Medford Housing Authority on the northeast side of the rail right-of-way.

**c. Traffic:** North Street traffic is largely that of neighborhood residents, although it handles some traffic that reaches it from Auburn Street after having exited Mystic Valley Parkway. There is a North Street entrance to the Elizabeth Grady Building.

**d. Connectivity/access:** The MBTA 80 (Lechmere/Arlington) and 94 (Davis Square/Medford Square via West Medford) bus lines run along Boston Avenue. There is a stop at North Street. This is an area of low to moderate pedestrian traffic, much of it heading toward Boston Avenue or to the grocery store or liquor store at Mystic Valley Parkway, or for recreation along the Mystic River.

**e. North Street bridge.** Horizontal and vertical clearances are adequate, but Green Line and commuter rail tracks will have to split in order to go around the piers. (Green Line tracks would have been widening in order to accommodate a center platform even if they hadn’t needed to split in order to straddle the bridge pier.)

**f. Analysis.** See Section G, Mystic Valley Parkway.
g. **Recommendation:** All stations – particularly the terminus station, which will likely see the most boardings – should provide the most opportunities for access and from as many directions and non-auto modes as possible. Access from North Street to a Mystic Valley Parkway area terminus station would be a crucial access point for pedestrians and bicyclists from a large portion of Medford Hillside and the neighborhoods between Boston Avenue, Winthrop Street and the Mystic River. There is potential for increased traffic and parking on neighborhood streets (Auburn, Norton, Marshall, North) that must be addressed with proper enforcement.

**G. MYSTIC VALLEY PARKWAY (ROUTE 16)**

Mystic Valley Parkway (Route 16) was not identified as a potential station location in the Beyond Lechmere Study; that study proposed a terminus station closer to West Medford Square, between Canal Street and High Street. However, due to public opposition in West Medford, the geographic boundary for the scope of the study for the Environmental Impact Report for the extension was stipulated to be Mystic Valley Parkway.

**a. Land overview:** The existing commuter rail tracks – which were as far as 15 feet below grade at College Avenue – are now approaching a height of approximately 15 feet above grade in order cross Mystic Valley Parkway and the Mystic River. The boundary line between the cities of Medford and Somerville also falls in this area, running north-south essentially through the former Wild Oats grocery store (now Whole Foods).

**b. Major abutters:** On the southwest side of the commuter rail tracks are a U-Haul storage and truck rental facility (600 Mystic Valley Parkway, Somerville); a vacant triangular lot (200R Boston Avenue, Somerville); and the Cummings Properties office buildings (198 and 200 Boston Avenue, Medford). On the northeast side of the commuter rail tracks is the Sav-Mor Liquor Store (2151 Mystic Valley Parkway, Somerville); the former Wild Oats grocery store, which is being converted to a Whole Foods store (2151 Mystic Valley Parkway, Medford); and the Walking Court complex operated by the Medford Housing Authority.

**c. Traffic:** Mystic Valley Parkway is a very heavily traveled road. The portion northeast of Auburn Street is one lane in each direction and provides a direct connection to I-93 less than one mile away; the portion southwest of Auburn Street widens to two lanes in each direction and provides access to Somerville, Arlington and Cambridge, as well as a direct connection to Route 2.

**d. Connectivity/access:** The MBTA 80 (Lechmere/Arlington) and 94 (Davis Square/Medford Square) bus lines run along Boston Avenue, approaching from the northwest from Arlington and West Medford and approaching from the southeast from Davis Square and Powderhouse Circle in Somerville. There is a stop at Mystic Valley Parkway and at North Street. This is an area of low to moderate pedestrian traffic, much of it heading toward Boston Avenue, or to the grocery store or liquor store at Mystic Valley Parkway, or for recreation along the nearby Mystic River. Pedestrian access to this area will greatly increase in the coming years with the construction of two DCR all-purpose paths – the Minuteman to the Mystic Path, extending the Minuteman path from Alewife Station through Arlington to Medford, and a DCR path being proposed along the length of the Mystic River, from Route 16 to Wellington Station.
e. **Analysis:** The proximity to high-employee office buildings and a popular grocery store (Whole Foods) provide potential for high Green Line ridership from Boston, Cambridge and Somerville; The proximity to the Walking Court complex would provide improved public transportation to service to many car-less households, as well as to a significant population of persons with disabilities. A station in this area also will improve service to environmental justice communities.

The closer to Route 16 the terminus Green Line station is located (but not directly at Route 16), the better the chance of the populations of West Medford and East Arlington utilizing the station and increasing ridership. A safe, physical connection to West Medford across Route 16 is important, as there are thousands of potential users north of Route 16 who would need to safely cross what is a very dangerous road. If the Green Line tracks and platform are level with the existing tracks (i.e., 15 feet above street level) a pedestrian bridge across Route 16 to connect with the elevated platform might be worthy of consideration.

f. **Recommendation:** All stations – particularly the terminus station, which will likely see the most boardings – should provide the most opportunities for access from every direction and as many non-auto modes as practical. Pedestrian access will be enhanced by the planned construction by DCR of paths along Alewife Brook in Arlington to Route 16, and along the Mystic River in Medford. To fully serve local neighborhoods and businesses, pedestrian connections must be created from both sides of the rail corridor, and from both ends of the station area (North Street and Mystic Valley Parkway).

The location of the Route 16 platform behind the U-Haul building, as proposed by EOTPW at the Route 16 Station Workshop, would do well to blend into the surrounding area. However, it is important that access to the station be created in such a way that riders access the station without intruding on the neighboring Cummings office campus. This can be achieved through a walkway or corridor that would segregate pedestrians from the office campus.

However, MGNA strongly opposes the EOTPW’s concept of a large, Alewife-style parking garage at the Route 16 station site, as was proposed at the Route 16 Station Workshop. The MEPA Certificate for the Green Line project stated that “the project should be designed to maximize benefits for local residents while preserving the integrity and character of existing neighborhoods.” It also stated that “parking will not be provided.”

Construction of a large parking structure at Route 16 (or anywhere along the extension) would contradict both the MEPA Certificate as well as the intention of the project – to improve regional air quality by reducing the number of auto trips in the Northwest Corridor. Introduction of a large parking structure at Route 16 would increase, not decrease, the number of cars traveling through the already congested Mystic Valley Parkway/West Medford area and have a detrimental effect on air quality.

If the EOTPW desires to construct a building at the terminus location, it should be a small (two or three stories), attractive structure made of high-quality materials that provides exclusive pedestrian access to the station (to eliminate any disruption on the Cummings and adjacent business properties) from both sides of the corridor; allows a covered ticketing/waiting/boarding area;
provides a separate area for layover trains to be stored out of public view; and provides office space and parking only as needed for MBTA personnel.

V. CONCLUSION AND NEXT STEPS
The Green Line extension to Medford represents a historic opportunity for Medford residents, businesses and institutions to gain a major improvement to the region’s transportation infrastructure. Executed properly, the Green Line will provide thousands of Medford residents with an efficient, environmentally friendly alternative to automobile use; provide better access to employment, cultural, educational and health care opportunities; improve air quality; and make Medford overall a better place to live, work and visit.

For the Executive Office of Transportation and its consultants, the City of Medford, and all stakeholders, proper execution means:

- Providing the maximum number of Medford residents an alternative means of transportation by bringing the Green Line as far as possible into Medford, but while retaining the character, look and feel of the neighborhoods the extension will service
- Eliminating or minimizing the need for private land acquisition
- Limiting and mitigating all noise, vibration and air pollution impacts from commuter rail relocation, project construction and land alterations
- Addressing current and future parking and traffic volume and congestion issues
- Improving access to public transit for pedestrians, bicyclists and persons with disabilities
- Capitalizing on and enhancing bus connectivity to the Green Line
- Doing no harm; the Green Line Extension Project must be a net benefit to the city as a whole and improve – not worsen – existing problems such traffic congestion, parking issues and pedestrian safety.

As the Environmental Impact Report study and conceptual engineering work proceeds, community meetings continue, and decisions and recommendations ultimately are made, we hope you consider the information and recommendations in this report to formulate the best possible plan.

Medford Green Line Neighborhood Alliance

May 2008
APPENDIX

The following are selected drawings and diagrams from the MBTA’s 2005 *Beyond Lechmere Northwest Corridor Study*.

- **Figure 4-3 – Alternative 1-C Conceptual Alignment.** This plan diagram shows the MBTA’s original design for extending the Green Line along the existing Commuter Rail right-of-way through Somerville to Medford, with Medford stations at College Avenue, Winthrop Street and West Medford.

- **Figure 5-2 – Typical Section: Proposed LRT with Commuter Rail.** The new Green Line tracks are on the left-hand side of the diagram (Boston Avenue side) while the relocated Commuter Rail tracks are on the right side (the Whole Foods side), separated by a 2-feet thick concrete wall. This section diagram applies throughout the length of the Green Line Extension except where the Green Line stations are located.

- **Figure 5-3 – Typical LRT Station Plan and Elevation.** The dimensional requirement at a station is wider than the typical right-of-way width because the station platform is in-between the tracks. The diagram calls for a lengthy ramp to access the platform for a pedestrian crossover. Alternatively, elevators could be used instead of a lengthy ramp system.

- **Figure 5-4 – Typical LRT Station Section.** This diagram is a companion to Figure 5-3 showing in more detail the configuration of the Green Line platform in relation to the Commuter Rail tracks that pass by unchanged. It is also worth comparing this figure to Figure 5-2, which shows the same configuration at a typical non-station section of the track.

In addition, the Appendix includes:

- Examples of how Absorptive Noise Barriers are used in rail projects, including one instances where a track was added to an existing rail line.

- A question and answer matrix of common issues presented at MGNA community meetings.