

TOWN OF WELLESLEY, MASSACHUSETTS

Developing Fixed-Route Bus Service in the Town of Wellesley

A Report & Recommendations of the Public
Transportation Working Group

September 14, 2011

Town of Wellesley - Public Transportation Working Group

Ellen Gibbs, Board of Selectmen

Owen Dugan, Board of Selectmen

Christopher Ketchen, Deputy Director of General Government

Frank DeMasi, Metropolitan Area Planning Council, Town Representative

Meghan Jop, AICP, Planning Director

Molly Fairchild, Sustainability Coordinator

Michael Zehner, AICP, LEED Green Associate, Assistant Planning Director

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Executive Summary September 14, 2011

Introduction

Transportation considerations play a key role in the quality of life provided by any community. Residents place high value on their ability to conveniently access employment, commercial, education and recreation centers, as well as medical and social services. Access to Wellesley's local commercial and education areas has particular influence over our local economy, daily traffic volumes, and continued parking issues. Transit services can provide mobility to elderly and disabled residents, and residents and students without easy access to a private automobile, and provide a community with a wide range of economic opportunities and environmental benefits.

For many years the Town has been grappling with transportation related issues. These issues include, but are not limited to, the following:

- Increased traffic volumes, especially during commuting hours;
- Limited transportation alternatives;
- Limited regional public transportation connectivity;
- Limited access to social and medical services, as well as employment, commercial and educational centers, by segments of the Town's population;
- High parking demands in commercial areas; and
- Increased Greenhouse Gas emissions and general sustainability concerns.

Previous Town transportation studies, as well as the recently completed *2007-2017 Comprehensive Plan* and *Sustainable Energy Plan*, conclude that increased access to public transportation services, specifically a fixed-route bus service, would assist in solving these issues. Therefore, as part of its FY2011 Work Plan, the Board of Selectmen ("Selectmen") established two objectives related to the provision of public transportation:

- To conduct a *Public Transportation Study*; and
- To provide *actionable* recommendations to advance the provision of public transportation within the Town of Wellesley.

To advance these objectives the Selectmen convened the Public Transportation Working Group ("PTWG") in June, 2010. The PTWG is a seven-member group comprised of representatives from the Selectmen, Selectmen's Office, and Planning Department, as well the Town's Metropolitan Area Planning Council ("MAPC") Representative and Sustainability Coordinator.

The mission of the PTWG is to address the Selectmen's objectives by determining how best to achieve policy goals supporting expanded public transit services and address public demand for a broader array of transportation alternatives.

Specific recommendations regarding public transportation were to provide more focused attention to transportation issues in town government, renew participation in regional transportation planning, explore the possibility of an intra-town transit system, and implement stronger transportation development management strategies. Additionally, in 2009, the Green Ribbon Study Committee challenged the Town to reduce overall equivalent carbon dioxide emissions, including those generated from automobiles, by 10% – a goal Town Meeting overwhelmingly endorsed. In 2010 Town Meeting approved the formation of the Sustainable Energy Committee, established the Sustainable Energy Coordinator position, and adopted the town-wide *Sustainable Energy Plan* as a guide to meeting the 10% emissions reduction goal.

Town Transportation Goals

The Town's public transportation policy goals are largely established within two documents, the *2007-2017 Comprehensive Plan* and the *Sustainable Energy Plan*; additionally, several other initiatives inform the Town's public transportation goals. The Selectmen, along with the Planning Board and the Sustainable Energy Committee, recognize the benefits of enhancing existing public transportation services and/or providing new services to achieve Town goals. The Town's established goals include the following:

- Reduce traffic volumes;
- Encourage alternative means of transportation;
- Participate in improving regional transportation;
- Reduce Greenhouse Gas emissions;
- Enhance mobility;
- Encourage "healthy" transportation initiatives;
- Increase economic vitality and relevance;
- Reduce parking demands; and
- Provide students and the community with a transportation policy and public transportation services for a sustainable future.

Method of Analysis

Assisted by research conducted by the Central Transportation Planning Staff ("CTPS", staff to the Boston Regional Metropolitan Planning Organization), financed by funds acquired under the Linden Square Development Agreement to support transportation initiatives, the PTWG conducted a thorough review of previous Town studies, examined existing transit services and opportunities, analyzed current and future transportation needs, and evaluated available transportation alternatives. This report is a culmination of the group's investigations, with the

resulting recommendations providing an action plan to enable the Selectmen to further advance the provision of public transportation within the Town of Wellesley.

The PTWG separated its initial review of public transportation into two sections:

1. A review of existing public transportation services and conditions, and
2. A review of existing and potential public transportation demand.

Following these reviews, the PTWG evaluated the status quo and alternative transportation systems to determine which system or model is most viable for purposes of advancing the provision of fixed-route bus service within the Town. To reach such a determination and recommended course of action, the viability of each transportation alternative was evaluated based on four criteria: Cost, Effectiveness, Local Control, and Risk.

Study Components

The specific research components of the Public Transportation Study are summarized below:

1. Review of Existing Conditions
 - Inventory of Existing Transportation Services
The PTWG endeavored to understand the full range of services and solutions currently available to Wellesley residents and other intra-town travelers. The CTPS analysis provided important insights into the town's inventory of public and private commuter and other traveler options.
 - Town Expenditures on Transportation
The PTWG analyzed the Town's current budgeted expenditures on transportation and costs associated with specific services.
2. Analysis of Existing and Potential Public Transportation Demand
 - Analysis of Demographic and Employment Data
CTPS analyzed U.S. Census data, such as population and employment density, household income, vehicle ownership, and resident age, to determine those areas within Wellesley that hold the greatest promise of success for the establishment of new transportation amenities.
 - Town of Wellesley Transportation Surveys
To further determine existing and future public transportation demand, the PTWG supplemented the CTPS analysis with surveys of existing and potential users of public transportation. The PTWG conducted six (6) separate surveys of eight (8) distinct groups within Town; these groups included residents of the Town (as households), non-residents working in the Town, and students and employees of

Wellesley College, Babson College, and MassBay Community College. The groups were selected based on the recognition that any eventual public transportation system would, at a minimum, need to provide service to these populations to meet the Town's public transportation goals and objectives. Respondents to the surveys were asked a series of questions to determine respondent characteristics and existing behavior as well as potential behavior, destination preferences and public transportation demand.

3. Analysis of Alternatives

To identify options for the provision of fixed-route bus service and evaluate the ability of such systems to realistically provide fixed-route service to the Town, the study analyzed three common bus system models utilized throughout the Greater Boston region, Regional Transit Authorities (RTAs), Transportation Management Systems (TMAs), and Town-Run Systems, as well as the system currently serving the Town (Status Quo). To determine a recommended course of action, the study ranked available transportation alternatives according to the following criteria:

- Cost - What is the cost of each alternative to the Town of Wellesley? The most viable alternative in terms of cost will be one that has the smallest tax impact exposure to the Town.
- Effectiveness - Does the alternative have the potential to help reduce traffic congestion, improve parking, enhance mobility, meet transportation demands, and reduce pollution based on past performance? The most viable alternative in terms of effectiveness will be one that can best achieve identified Town goals.
- Local Control - What control over the system does the Town retain under each alternative? The most viable alternative in terms of local control will be one that offers the Town flexibility and a level of authority to direct the service in a manner that addresses Town transportation goals and identified demand.
- Risk Exposure - What are the potential exposures to risk inherent with each alternative? The most viable alternative in terms of risk will have the least potential of subjecting the Town to financial liability and similar risks.

Key Findings

The PTWG's study revealed a number of key findings as summarized below:

1. Existing Conditions

- Wellesley has limited access to fixed-route service in particular, relative to peer and neighboring communities of similar population and employment densities.
- While there are several transportation systems operating within the Town, only a few of these warrant consideration as a means of serving town-wide transportation needs based on their ability to be expanded and/or meet identified public transportation goals; these systems include the MetroWest Regional Transit Authority ("MWRTA") and Local Business Shuttles.
- Transportation provided by some existing services could be expanded to supplement fixed-route service or offer linkages in the future.
- Potential exists for enhanced service and regional network connectivity at no substantial cost beyond the town's current MBTA assessment.

2. Existing and Potential Demand

- Market potential exists for increased and improved services and alternatives.
- Sufficient demand exists to justify the establishment of one or more fixed-route bus services along major transportation corridors in Wellesley to serve residents, reverse-commuters and college populations, and provide linkages to commercial centers and transit hubs.
- Fixed-route bus service should serve high density neighborhoods and employment centers, recreational and transportation centers, and preferred destinations identified by survey responses.
- Fixed-route bus service may provide or supplement services currently provided by public and private entities, allowing potential cost saving or cost sharing options for entities such as the colleges, the Council on Aging, Wellesley Schools, and businesses.

3. Analysis of Alternatives

- Uncertainty surrounding initial ridership, combined with the understanding of taxpayers' low tolerance for short and intermediate-term subsidies, creates the

need for a cautious financial model that minimizes, or eliminates, the need for tax-impact funding.

- The status quo, while stable in terms of cost, is ineffective at meeting Town transportation goals, allows for minimal local control, and is significantly risky based on a reliance to the MBTA's continued provision of all services to the Town, with chief concern being for continued service by THE RIDE to Town residents.
- A Town-Run System, while being effective and allowing for relatively autonomous local control, would constitute a high cost and high risk option for the Town based on initial startup costs and needs.
- Town membership within and service provided by a Regional Transit Authority would present minimal risks and initial costs, an effective option towards achieving Town goals, and a measure of moderate local control.
- A Transportation Management Association would result in moderate costs, risk, and effectiveness to the Town, while offering minimal local control.

Recommendations

Phase 1

Join the MetroWest Regional Transit Authority

The PTWG recommends that the Selectmen vote to join the MWRTA. The short-term goal of joining the MWRTA is to allow the Town opportunities to achieve a fixed-route bus service, opportunities that the Town does not currently have under the status quo or could not reasonably expect to achieve under other alternatives considered. Additionally, it is believed that membership in the MWRTA offers the Town the best ability to enhance connectivity between Wellesley and the surrounding region, including Boston.

Selection of the MWRTA as the preferred alternative allows the Town flexibility in the implementation of public transportation options. Also, MWRTA membership absent of service results in zero initial costs to the Town, allowing the Town to gradually consider service provision options. Once service is initiated, financing of the service results in little or no tax impact. Joining the MWRTA also allows the Town to leverage the experience of an established, successful system without exposing Wellesley to the financial and service risks associated with other alternatives.

Phase 2

Establish Permanent Platform to Ensure Sustained Effort on Public Transportation

The PTWG recommends that the Selectmen establish a permanent "Transportation Analysis Group" ("TAG") to provide ongoing assessments of transportation demands, pursue the

provision of a fixed-route bus service, and, if such service is established, explore opportunities to expand public transportation modes and routes. The PTWG makes this recommendation in recognition of the dynamic nature of transportation and the need to perform regular, consistent analysis of existing public transportation demand and utilization, as well as to identify opportunities to better serve residents and commercial taxpayers in the future. The establishment of the TAG is a modest way of sustaining efforts in this arena.

The TAG should be a multidisciplinary body that incorporates representation by staff and/or board members from the Selectmen's Office, Planning Board, School Committee, Department of Public Works, Council on Aging, Sustainable Energy Committee, and Police Department, as well as representatives from the community. If the Town joins the MWRTA, a representative from Wellesley will be appointed to the Advisory Board; it is proposed that this individual also chair the TAG.

Once MWRTA service is ultimately established, it is recommended that the TAG monitor demand and operational effectiveness, seek approval for expanded service (where warranted), and facilitate the immediate and ongoing need to promote and evaluate ridership. As part of the TAG's charge, a comprehensive set of metrics must be established to help track key indicators of transportation demand and system performance. The expectation is that the TAG will establish appropriate intervals at which these metrics will be updated and the trends analyzed. Additionally, the TAG may identify funding sources, such as the CMAQ grant program, to assist in employing one or more of the alternatives described in "Section 3, Analysis of Alternatives" to buttress the services provided by the MBTA and MWRTA.

Conclusion

Future Considerations

Based on the results of the analysis performed by CTPS and the surveys conducted, the PTWG finds that sufficient demand exists to support the establishment of one or more fixed-route bus services along major transportation corridors in Wellesley to serve residents, commuting employees, and students of the colleges. After joining the MWRTA, the PTWG would suggest that the Town request that the MWRTA investigate the establishment of the following fixed-routes and/or services. The PTWG recommends that priority be given to those routes within MWRTA's capacity to provide service with no tax-impact to the Town.

1. A fixed-route bus service that would generally travel along an east-west route through the Town. The route as mapped (Please refer to "MAP 1 - CONCEPTUAL FIXED-ROUTE BUS MAP" included in "Section 5, Conclusion" for a depiction of this route) would consist of a 10.3 mile loop that, without traffic, could be travelled in 25 minutes. The route would travel or provide access to the destinations and/or activities preferred by the majority of survey respondents. In terms of accessibility of the route to residents, 10,308 individuals live within ¼ mile/5-minute walk of the route; based on the 2010 U.S. Census, the Town's population is 27,982, thereby allowing 37% of the Town's population

to be reasonably served by the conceptual route.

2. A route along Weston Road, recommended in the CTPS *Suburban Transit Study - Phase II*, to connect neighborhoods north and west of the Route 9 & 16 interchange to the Wellesley Square Commuter Rail Station and commercial districts to the south and west.

Closing Thoughts

Given Wellesley's suburban location, settlement and land use patterns, and demographics, our reliance on automobiles for travel will likely persist in the foreseeable future. However, changing economic and environmental conditions, and the emerging and evolving lifestyles of our population, challenge us as a community to address our public transportation needs as we plan for the future. Transportation considerations are likely to play an increasingly significant role in addressing some of our most challenging issues and future needs related to the mobility, safety and health of our residents, vitality of our commercial districts and regional economic development interests.

The provision of fixed route service along a single route at minimum is a critical component in the development of a broader, more effective system in which coordination with other public and privately financed linkages and services can be integrated over time. Such a core service should provide transit opportunities at least initially to those populations with the greatest ridership potential.

Introduction

For many years the Town has been grappling with transportation related issues. These issues include, but are not limited to, the following:

- Increased traffic volumes, especially during commuting hours;
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Specific recommendations regarding public transportation were to provide more focused attention to transportation issues in town government, renew participation in regional transportation planning, explore the possibility of an intra-town transit system, and implement stronger transportation development management strategies. Additionally, in 2009, the Green Ribbon Study Committee challenged the Town to reduce overall equivalent carbon dioxide emissions, including those generated from automobiles, by 10% – a goal Town Meeting overwhelmingly endorsed. In 2010 Town Meeting approved the formation of the Sustainable Energy Committee, established the Sustainable Energy Coordinator position, and adopted the town-wide *Sustainable Energy Plan* as a guide to meeting the 10% emissions reduction goal.

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1. A review of existing public transportation services and conditions, and
2. A review of existing and potential public transportation demand.

Following these reviews, the PTWG evaluated the status quo and alternative transportation systems to determine which system or model is most viable for purposes of advancing the provision of fixed-route bus service within the Town. To reach such a determination and recommended course of action, the viability of each transportation alternative was evaluated based on the following criteria:

1. Cost - What is the cost of each alternative to the Town of Wellesley? The most viable alternative in terms of cost will be one that has the smallest tax impact exposure to the Town.
2. Effectiveness - Does the alternative have the potential to help reduce traffic congestion, improve parking, enhance mobility, meet transportation demands, and reduce pollution based on past performance? The most viable alternative in terms of effectiveness will be one that can best achieve identified Town goals.
3. Local Control - What control over the system does the Town retain under each alternative? The most viable alternative in terms of local control will be one that offers the Town flexibility and a level of authority to direct the service in a manner that addresses Town transportation goals and identified demand.
4. Risk - What are the potential exposures to risk inherent with each alternative? The most viable alternative in terms of risk will have the least potential of subjecting the Town to financial liability and similar risks.

Section 1 Existing Conditions

This section provides an inventory of the existing transportation systems serving the Town, and identifies existing expenditures and budgeting by the Town for transportation. The identification of these systems and associated funding will assist in determining whether certain systems are viable options to advance the provision of fixed-route bus service within the Town. The conclusion of this section includes an analysis of those existing systems found to be viable candidates for the provision of fixed-route service due to their ability to be expanded or otherwise address Town transportation goals, objectives and demands.

1.1 Inventory of Existing Public Transportation Services

Various transportation services currently operate within the Town of Wellesley. These services range from public mass transit, such as the Massachusetts Bay Transportation Authority (“MBTA”) Commuter Rail, to those serving limited segments of the Town’s population, such as the shuttles operated by Wellesley College and Babson College. A brief summary of each of the transportation services currently operating in the Town is provided below; a memorandum prepared by CTPS describing the services in detail is provided in Appendix A.

MBTA Commuter Rail

The Framingham/Worcester Line provides direct service to and from Wellesley from the Wellesley Square, Wellesley Hills, and Wellesley Farms stations. On weekdays, 17 inbound trips and 16 outbound trips serve Wellesley. Also, each station is served by 9 inbound and outbound trips on Saturday and 8 inbound and outbound trips on Sunday.

Flexible Service and Paratransit Service

Qualifying residents with disabilities may use the MBTA’s THE RIDE service, a door-to-door, shared-ride, paratransit service. The fee for the service is \$2.00 for a one-way ride. It is important to note that comparable paratransit service, such as THE RIDE, is only required of the MBTA by federal law when fixed-route bus service is also provided. Since the MBTA does not provide fixed-route bus service within Town, the MBTA is not required to provide THE RIDE service to residents of the Town.

MetroWest Regional Transit Authority (“MWRTA”) - Route 1 Bus

While the MWRTA generally operates fixed-route bus services, the system also operates a commuter shuttle, the *Route 1* bus, during morning and evening peak periods that travels through Wellesley and makes 2 stops, one on Cedar Street and one on Walnut Street. Drivers will provide flag stops for riders at additional locations along Route 9 when it is safe to do so.

College Shuttles

Wellesley College, Babson College, and MassBay Community College operate shuttles limited to use by enrolled students and employees. With the exception of a shuttle between the Wellesley, Babson, and Olin campuses, these shuttles provide service from these campuses to destinations outside of Town.

Local Business Shuttles

Sun Life Financial and Wellesley Office Park both provide shuttle service from the business establishments to Riverside Station during the morning and afternoon commuting hours as a service to their employees. Partners Healthcare operates a shuttle between Brigham and Women's Hospital and Harvard Pilgrim Health Care on an hourly basis on weekdays from 7:30 AM to 6:30 PM.

Wellesley Council on Aging ("COA") Bus

The COA Bus provides service to senior residents, age 60 and over. Service is available weekdays from 9:00 am to 4:00 pm within Wellesley and to Newton-Wellesley Hospital. A one-way fare is \$1.00. The COA also provides free service from residents' homes to Roche Brothers at 10:00 am every Wednesday.

Springwell Senior Medical Escort Program

This program matches frail seniors with a volunteer to drive and accompany them to medical appointments for a donation of \$4.00 each way.

Busy Bee Transportation

This program is funded through a grant from the Springwell Senior Medical Escort Program and provides seniors with advance-request, door-to-door transportation to destinations outside of Wellesley for a donation of \$4.00 each way.

School Busing

This service, provided by the Town, is offered free of charge to children in grades K-6 who reside 2 miles or more from school (as required by M.G.L. Ch. 71, Section 68) and to some who are income eligible for the School lunch program; the service is provided for a fee to students in grades K-6 residing less than 2 miles from school and all students in grades 7-12. During FY09 the service was used by approximately 225 elementary school students (10%), 439 middle school students (40%), and 246 high school students (20%). The current contract for 8 buses provides 8 routes for elementary school students to arrive by 8:30 am, 8 routes for middle school students to arrive by 7:45 am, and 4 routes for high school students to arrive by 7:30 am and either departs at 2:45 pm or 3:45 pm. There is currently no school bus service for high school students arriving at 8:30 am or 9:30 am, and no bus service for late dismissal from after school activities, meetings, and sports from 4:00 pm to 6:00 pm.

1.2 Town Expenditures on Transportation

The Town's total current budgeted expenditure on transportation is \$1,087,689. This expenditure covers costs associated with the services provided to the Town's schools and the Council on Aging, as well as those services provided by the MBTA. The following is a summary of the expenditures associated with each service:

MBTA Assessment

Town residents' use of the Commuter Rail stations and THE RIDE are financed through the Town's MBTA Assessment. Each municipality within the MBTA service district is assessed an annual fee, which is collected by the State and transferred to the MBTA. The assessment rates are based on a formula which takes into account population and distance from Boston, not by the number of services provided. The Town's MBTA Assessment for FY12 is \$550,628, a change of -0.9% from the previous year. The MBTA is limited to increasing the aggregate amount of assessments from all member cities and towns by a maximum of 2.5% from year to year. Since FY08, the annual change in Wellesley's assessment has ranged from a 5.7% increase to this year's 0.9% decrease.

Council on Aging Bus

The total cost to operate the COA bus for FY2012 is \$104,000. The Town allocates \$32,000 of the total cost of operation; the remaining \$72,000 is paid through fares, a grant from the State, charitable donations, and requirements from Development Agreements with the Town.

Schools

The school bus systems costs approximately \$450,000 annually, based on an annual cost per bus contract of approximately \$55,000. Most of this cost is recouped in fees paid by those not eligible for a free pass. Under state law, the Town may assess a fee to the transported student up to an amount sufficient to cover the costs incurred by the Town. Therefore, the fee amount paid by students not eligible for free bus service varies annually based on the total users. For instance, in FY09 there were a total of 910 bus-riders, and the fee was \$473 to meet the budgeted cost. The cost per trip for students based on the 180 day school calendar is between \$1.25 and \$1.50 per trip, in recent years.

1.3 Analysis and Conclusion

While there are several transportation systems currently operating within the Town, the PTWG finds that only two of these systems or models warrant further consideration as viable means of providing fixed-route bus service due to their ability to meet Town transportation goals, objectives and demands; these systems are the MWRTA and Local Business Shuttles/TMA.

Service provided by other systems could be expanded to supplement fixed-route service or offer linkages in the future. While the expansion of the Commuter Rail system is limited by infrastructure constraints, with the potential of increased ridership generated by a fixed-route bus service, expansion of service times may be necessary and beneficial. Fixed-route bus service may also help alleviate Commuter Rail issues related to parking constraints and proximity to users.

Any increase of existing services would presumably result in increased costs to user groups; likewise any reduction in service would result in savings that could possibly be used to support other services. Expansion of service provided by the MWRTA and Local Business Shuttles would presumably result in additional costs to the Town; however, if the Town were to become a member of the MWRTA, Town assessed funds currently used by the MBTA, or a portion thereof, could be transferred to the MWRTA to cover potential service provision.

Section 2

Existing and Potential Public Transportation Demand

As referenced in the “Introduction”, in order to determine an actionable plan for advancing public transportation, a review of existing and potential public transportation demand is necessary. The PTWG believes that only after such review, and comparison relative to existing services, is it possible to determine the best course of action.

To determine existing and potential public transportation demand and need, both an analysis of demographic and employment density data by CTPS (See Appendix B - CTPS Memo) and a number of surveys by the Town of Wellesley PTWG were conducted. These sources viewed and measured potential transportation demand differently. CTPS performed a strictly quantitative analysis of U.S. Census data based on predictive measures of ridership; the Town’s surveys were qualitative in nature to determine the origin and destination demands of potential riders, and the characteristics and behavior of such riders. Combining these measures, the PTWG was able to determine what type of fixed-route system is best able to meet transportation demands.

2.1 CTPS Study

Methodology

To determine existing and potential demand for public transportation, CTPS analyzed demographic and employment data to rate the twenty-three (23) U.S. Census Block Groups (“block groups”) that comprise the Town. The criteria and scoring system used by CTPS to rate the block groups is provided in “TABLE 1 - CRITERIA USED TO RATE BLOCK GROUPS FOR TRANSPORTATION SERVICE”; scoring is based on a 0 to 3 point range, with criteria determined by CTPS as increasing the potential for transit use receiving a higher score.

To summarize the CTPS scoring system, the block groups with the greatest transit demand potential would be those that have higher population and employment densities, a lower median household income, a lower number of vehicles owned per household, a greater number of zero-vehicle households, a greater number of residents between the ages of 10 and 17, and a greater number of residents age seventy (70) and older.

Transit Value Rating and Location

The total scores of the block groups ranged from 2 to 14, with CTPS defining those block groups receiving a score of 9 or greater as having the greatest potential transit value, those with a score ranging from 5 to 8 having a median potential transit value, and those with a score of 4 or less having the least potential transit value. A complete record of the scoring can be found in the CTPS Memorandum dated April 29, 2011 re: Wellesley Transit Study: Transit Potential Maps, contained herein as Appendix B.

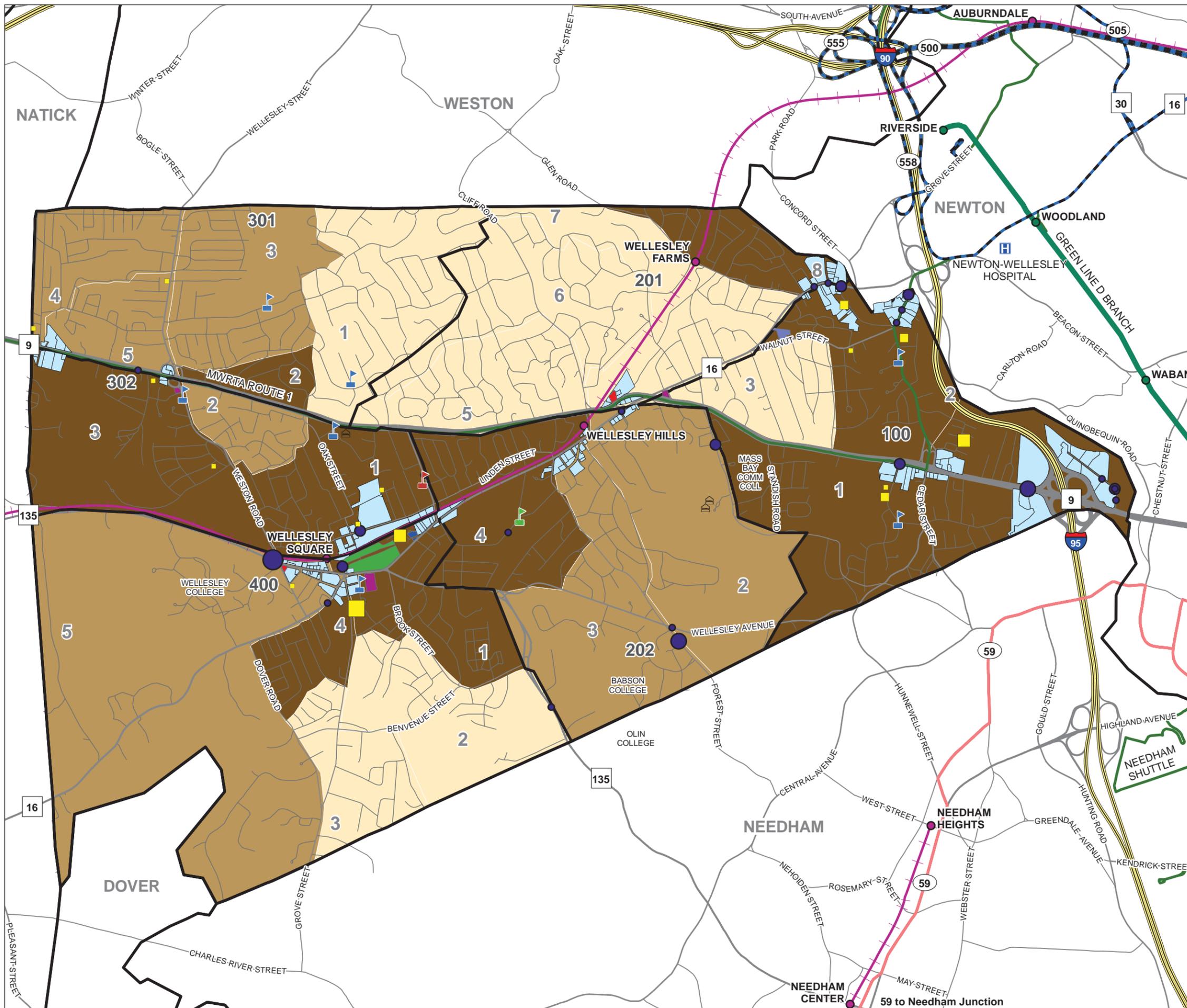


FIGURE 3
Transit Potential and
Activity Centers

- Transit Potential Value (Lowest to Highest)**
-
- Census Tract Boundary**
Census Block Group Boundary
- MBTA Light Rail and Commuter Rail**
- Green Line
 - Commuter rail line
- Bus Routes**
- MBTA route
 - MBTA express route
 - Non-MBTA route
- Public Schools**
- Elementary school
 - Middle school
 - High school
- Hospitals and Long-Term-Care Facilities**
- Hospital
 - Long-term-care facility
- Businesses with More than 100 Employees**
- 100-200
 - 201-450
 - 451-900
 - 901-1,700
- Subsidized Housing Units**
- 1-15
 - 16-60
 - 61-90
 - 91-125
- Parcels**
- Town Hall and Hunnewell Park
 - Library
 - Fire station
 - Police station
 - Warren Recreation Center
 - Commercial



Wellesley Transit Study

CTPS



TABLE 1 - CRITERIA USED TO RATE BLOCK GROUPS FOR TRANSPORTATION SERVICE				
Criterion	Score			
	0	1	2	3
Residents per square mile	Fewer than 2,000	2,000-3,999	4,000	-
Employees per square mile	Fewer than 625	625-1,300	More than 1,300	-
Median household income	\$135,000 or more	\$105,000-\$134,999	\$95,000-\$104,999	\$95,000 or less
Number of vehicles owned per household	More than 2.0	1.8-2.0	Fewer than 1.8	-
Number of zero-vehicle households	Fewer than 1	1-16	More than 16	-
Residents age 10-17	90 or fewer	91-140	More than 140	-
Residents age 70+	Fewer than 75	75-164	More than 164	-

Source: CTPS Memorandum, dated April 29, 2011, re: Wellesley Transit Study: Transit Potential Maps, Table 2 - Transit Criteria Ratings: By Criterion and Composite

Nine of the block groups are rated as having the greatest potential transit value (a total score of 9 or greater). Six of these blocks groups, including those with the greatest and second greatest values, are located in the center to western portion of Town, generally to the south of Worcester Street/Route 9 (one block is located on the northern side of Route 9, on the eastern side of Weston Road) and centering on the Wellesley Square and Linden Street area of Town; the three remaining blocks groups with the greatest potential transit value are located on the eastern side of Town, generally running from the Lower Falls area southward along the I-95/128 corridor and including area as far west as MassBay Community College.

In addition to the highest rated census blocks, CTPS also indicates that the census blocks in which Wellesley College and Babson College are located (404400.5 and 404202.3 respectively), which scored in the mid-range for transit potential (6 and 5 respectively), warrant consideration given their “unique concentrations of potential riders in their large student resident populations.”

The following map, titled “FIGURE 3 - TRANSIT POTENTIAL AND ACTIVITY CENTERS”, is taken from the CTPS memo included as Appendix B. The map indicates the transit potential of the Town’s block groups as determined by CTPS, with those block groups identified as having a higher potential transit value (a score of 9 or greater) shown in darker brown and lighter shades indicating lessened potential transit demand.

2.2 Survey Analyses

Methodology

To further determine existing and future public transportation demand, the PTWG found it essential to supplement the quantitative study conducted by CTPS with surveys of existing and potential users of public transportation. The resulting responses aid in the identification of potential public transportation users, opportunities for transportation system linkages and shared services, trip origin and destination preferences, and possible transit routes, all of which will assist in determining the best way for the Town to advance the provision of a fixed-route bus system.

The PTWG conducted six (6) separate surveys of eight (8) distinct groups within Town; these groups included residents of the Town (as households), non-residents working in the Town, and students and employees of Wellesley College, Babson College, and MassBay Community College. The groups were selected based on the recognition that any eventual fixed-route bus system would, at a minimum, need to provide service to these populations to meet Town public transportation goals and objectives.

Survey questions can be classified into two basic groups, those used to determine respondent characteristics (location/origin and type) and existing behavior, and those used to determine potential behavior, destination preferences, and public transportation demand.

Response Rate

The surveys were drafted and responses were largely received through the online survey website SurveyMonkey (www.surveymonkey.com). The majority of the respondents were notified of the survey by e-mail or newsletter, with distribution including, but not limited to, the following target groups: Town employees and Boards, Town Meeting members, parents of Wellesley Public School students, members of the Wellesley Chamber of Commerce, and students and employees of the colleges. Additionally, hardcopies of the survey were made available at the Wellesley Free Library (Main Branch) and the Council on Aging. The surveys resulted in a total of 2,528 responses; the following table (TABLE 2 - SURVEY RESPONSE RATES) indicates the survey type, respondent type, respondent population, number of responses and response rate for each survey.

TABLE 2 - SURVEY RESPONSE RATES

Survey Type	Respondent Type	Approximate Respondent Population	Number of Responses	Response Rate
Town of Wellesley Transportation Survey	Residents (households)	8,182* (occupied housing units)	970	12%
	Commuters	Not Available	138	Not Available
Wellesley College Student Transportation Survey	Full-time and Part-time Resident and Commuting Students	2,300	634	28%
Wellesley College Employee Transportation Survey	Full-time and Part-time employees (both residents and commuters)	1,100	268	24%
Babson College Student Transportation Survey	Full-time and Part-time Resident and Commuting Students	3,300	444	13%
Babson College Employee Transportation Survey	Full-time and Part-time employees (both residents and commuters)	849	27	3%
MassBay Community College Student & Employee Transportation Survey	Full-time and Part-time students Full-time and Part-time employees	5,672 (5,009 Students, 663 employees)	47	0.8%

**Based on U.S. Census Bureau, American Community Survey, 2009 Estimate for the Town of Wellesley.*

Respondent Type

To assist in the identification of trends and to better understand destination and origin demands, survey respondents have been separated into three (3) potential user types: Residents, Resident College Students, and Non-Resident Students and Employees; the following table (TABLE 3 - RESPONDENT TYPE) indicates the number of responses per user type.

TABLE 3 - RESPONDENT TYPE			
Respondent Type	Number of Respondents/% of Responses	Total Responses Per Category	Percent of Responses
RESIDENTS			
Town of Wellesley Survey	970/38%	1,032	41%
Wellesley College Employee Survey	62/2%		
RESIDENT COLLEGE STUDENTS			
Wellesley College Student Survey	631/25%	987	39%
Babson College Student Survey	355/14%		
MassBay Survey	1/0.04%		
NON-RESIDENT STUDENTS AND EMPLOYEES			
Town of Wellesley Survey	138/5%	509	20%
Wellesley College Employee Survey	206/8%		
Babson College Employee Survey	27/1%		
MassBay Survey	46/2%		
Wellesley College Student Survey	3/0.12%		
Babson College Student Survey	89/4%		
TOTAL	2,528/100%		

Survey Results

Survey results have been categorized into the following three types based on the nature of the information gathered from the responses: Responses Identifying Residence Location and Commuting Destination, Responses Identifying Existing Transportation Use, and Responses Identifying Potential Transportation Demand. In this instance, the term *use* refers to the respondent's current transportation use; the term *demand* refers to potential use based on the provision of adequate service.

Furthermore, responses are separated based on the aforementioned user type, where applicable, to further understand the demands of the Town's various potential public transportation users. The PTWG believes that organizing responses in this manner will assist in

the determination of existing and potential transportation demand, and therefore ultimately assist in the determination of the best fixed-route bus service provider or model to meet such demand.

Responses Identifying Residence Location and Commuting Destination

Location of Residence:

The following survey results, as well as the respondent types listed in Table 3, are in response to several questions asking whether survey takers reside in Town, reside on a campus in Town, or commute to Town for work or school. Additionally, commuters responding to the MassBay and Town surveys were asked to approximate the time it takes to travel from their residence to their place of work or school within Town.

- Based on the survey responses, 2,019 respondents (80%) reside in the Town of Wellesley (1,032 Resident respondents and 987 Resident College Student respondents); 509 respondents (20.1%) commute to Town to attend work or school.
- Of the 184 Non-Resident respondents to the MassBay and Town Surveys, 95 (51.6%) live more than a 30-minute drive from MassBay or their place of work; 56 (30.4%) live between a 15 and 30-minute drive from MassBay or their place of work; 31 (16.85%) live between a 5 and 15-minute drive from MassBay or their place of work; and 2 (1.09%) live 5 minutes or less from MassBay or their place of work.

Commuting Destination:

The following survey results are in response to several questions asking survey takers who reside in Town whether a resident in their household works in Town or outside of Town; those with someone working in Town were asked for the address of their place of employment; those with someone working outside of Town were asked for the name of the city or town where the individual(s) were employed. Additionally, survey takers who indicated that they commute to Town for Work or School were asked to identify the address of their place of employment.

- 256 (25%) Resident respondents indicated that they or someone in their household works in Town (other than a home occupation); of these 256, the majority indicated that they work at locations along Central Street (99/39%) or Washington Street (58/23%).
- 589 (57%) Resident respondents indicated that they or someone in their household works outside of Town; the majority of these respondents commute to work in Boston (256/43%), Cambridge (43/7%), or Waltham (28/5%).
- Of the 509 Non-Resident Student and Employee Respondents, the majority indicated that they work or attend school at locations along Central Street (234/46%), Forest Street/Wellesley Avenue (90/18%), Washington Street (57/11%), or Worcester Street (50/10%).

Responses Identifying Existing Transportation Use

Existing Primary Mode of Transportation:

The following survey results are in response to the question (with wording differences among surveys) “Of the following modes of transportation, please select your primary mode of transportation (more than half the time) when travelling from your residence.”

Respondents were able to select from a presumed list of common transportation modes or could select “Other” to insert a mode not listed.

- 953 (92%) Resident respondents indicated that they or someone in the household drives as their primary mode of transportation (more than half the time) when travelling directly from the home; 235 (23%) indicated that a resident of their household currently uses some form of public or private transportation service (school bus, The Ride, Council on Aging Bus, etc.) when traveling directly from their home.
- 338 (34%) Resident College Student respondents indicated that walking is their primary mode of transportation when traveling to or from campus, with 271 (27%) utilizing public or private transportation services. Only 206 (21%) considered driving to be their primary mode of transportation.
- 454 (89%) Non-Resident Student and Employee respondents indicated that driving is their primary mode of transportation (more than half the time) when travelling directly to or from work or campus; only 25 (5%) of these respondents indicated that a public or private transportation service is their primary mode of transportation.

Current Private Transportation Service Use:

The following survey results are in response to a question asked only to respondents of the three college surveys, since all of the colleges operate shuttles reserved for their populations. Survey respondents were asked which of their college’s private transportation services they used at least once a week; respondents were able to select from those shuttles provided by their specific institutions.

- 752 (76%) Resident College Student respondents indicated that they use a private transportation service at least once a week; the majority of these respondents are Wellesley College students (569/76%) using the weekend bus to Cambridge/Boston (500/66%) or the Wellesley-MIT Exchange Bus (396/53%); Babson College student respondents using a private transportation service at least once a week (183/24%) indicated that the weekend shuttle to the Woodlands MBTA station was the most used service (156/21%).

Current Public Transportation Service Use:

The following survey results are in response to the question (with wording differences among surveys) “Of the following public transportation services, please select those that you use to reach” your desired destination when travelling from a residence.

- 287 (28%) Resident respondents indicated that someone in the household utilizes a public transportation service to commute to work (directly/indirectly) at least once a week; the majority of these respondents use either Commuter Rail via a station in Wellesley (223/78%) or the MBTA Green Line (82/29%).
- 864 (87.5%) Resident College Student respondents indicated that they use public transportation services to directly/indirectly reach their destination; the majority of these respondents use either Commuter Rail via a station in Wellesley (651/75%) or the MBTA Green Line (622/72%).
- 96 (19%) Non-Resident Student and Employee respondents indicated that they use public transportation services to directly/indirectly reach their destination; the majority of these respondents use either Commuter Rail via a station in Wellesley (75/78%) or the MBTA Green Line (40/42%).

Responses Identifying Potential Transportation Demand*Location/Activity Access with Public Transportation:*

The following survey results are in response to the question “Which of the following location/activities would you like to be able to travel to by using public transportation?” Respondents were able to select from a presumed list of common locations and activities (with some variation among the surveys) or could select “Other” to insert a mode not listed.

- 940 (91%) Resident respondents indicated that they or a member of their household would like to travel to a particular location or activity by using public transportation (92/9% indicated that they would not like to access any locations or activities because they would not ride public transportation); the majority of these respondents would like to travel to an MBTA Green Line Station (518/55%), Wellesley Square (511/54%), School & School Related Activities (449/48%), the Linden Square Area (448/48%), and Commuter Rail Stations (339/36%).
- 979 (99%) Resident College Student respondents indicated that they would like to travel to a particular location or activity by using public transportation (8/<1.0% indicated that they would not like to access any locations or activities because they would not ride public transportation); the majority of these respondents would like to travel to an MBTA Green Line Station (724/74%), the Linden Square Area (605/62%), Whole Foods (592/60%), Commuter Rail Stations (545/56%), and Locations West of Wellesley (446/46%).

- 437 (86%) Non-Resident Student and Employee respondents indicated that they would like to travel to a particular location or activity by using public transportation 72(14%) indicated that they would not like to access any locations or activities because they would not ride public transportation); the majority of these respondents would like to travel to an MBTA Green Line Station (256/59%), Commuter Rail Stations (232/53%), and the Linden Square Area (96/22%),

Public Transportation Cost:

The following survey results are in response to the question “how much would you be willing to pay per ride” on public transportation if it were available to one or more of your preferred destinations. Respondents were able to select from a range of fare amounts, indicate that the fare should be provided as a benefit, or they could select “None, I would not use public transportation.”

- 937 (91%) Resident respondents indicated they would be willing to pay to ride public transportation; 95 (9%) would be unwilling to pay any amount or would not ride public transportation. Of those respondents that indicated they would be willing to pay, 432 (46%) would be willing to pay \$1.50 or less, 369 (39%) would be willing to pay \$1.50 to \$3.00, 87 (9%) would be willing to pay \$3.00 to \$5.00, and 12 (1%) would be willing to pay greater than \$5.00; 327 (35%) are of the opinion that the amount of the fare should vary by destination; 190 (20%) indicated that fares should be reduced or waived as a benefit provided by an employer or educational institution.
- 871 (88%) Resident College Student respondents indicated they would be willing to pay to ride public transportation; 116 (12%) would be unwilling to pay any amount or would not ride public transportation. Of those respondents that indicated they would be willing to pay, 528 (61%) would be willing to pay \$1.50 or less, 479 (55%) would be willing to pay \$1.50 to \$3.00, 96 (11%) would be willing to pay \$3.00 to \$5.00, and 19 (2%) would be willing to pay greater than \$5.00; 267 (31%) are of the opinion that the amount of the fare should vary by destination; 533 (61%) are of the opinion that they should receive a reduced rate through a discounted semester pass or that a charge should be included as part of student fees.
- 409 (80%) Non-Resident Student and Employee respondents indicated they would be willing to pay to ride public transportation; 100 (21%) would be unwilling to pay any amount or would not ride public transportation. Of those respondents that indicated they would be willing to pay, 165 (40%) would be willing to pay \$1.50 or less, 147 (36%) would be willing to pay \$1.50 to \$3.00, 41 (10%) would be willing to pay \$3.00 to \$5.00, and 11 (3%) would be willing to pay greater than \$5.00; 55 (13%) are of the opinion that the amount of the fare should vary by destination; 179 (44%) indicated that fares should be reduced or waived as a benefit provided by an employer or educational institution.

Public Transportation Daily Demand:

The following survey results are in response to the question “During what days of the week would you be most likely to use public transportation when traveling to or from...?”

Respondents were able to select as many of the days of the week as applicable or they could select “None, I would not use public transportation.”

- 924 (89%) Resident respondents indicated at least one day of the week that they would be most likely to use public transportation 108(11% indicated that there would be no days that they would be likely to use public transportation because they would not use public transportation); of those respondents who indicated that they would be most likely to use public transportation on a particular day of the week, 771 (83%) indicated Friday, 742 (80%) Wednesday, 727 (79%) Monday, 724 (78%) Thursday, 721 (78%) Tuesday, 521 (56%) Saturday, and 360 (40%) Sunday.
- 984 (99%) Resident College Student respondents indicated at least one day of the week that they would be most likely to use public transportation 3 (>1% indicated that there would be no days that they would be likely to use public transportation because they would not use public transportation); of those respondents who indicated that they would be most likely to use public transportation on a particular day of the week, 917 (93%) indicated Saturday, 881 (89%) Friday, 782 (79%) Sunday, 466 (47%) Thursday, 337 (34%) Wednesday, 234 (24%) Tuesday, and 216 (22%) Monday.
- 431 (85%) Non-Resident Student and Employee respondents indicated at least one day of the week that they would be most likely to use public transportation 78(15%) indicated that there would be no days that they would be likely to use public transportation because they would not use public transportation); of those respondents who indicated that they would be most likely to use public transportation on a particular day of the week, 359 (83%) indicated Thursday, 356 (83%) Monday, 354 (82%) Wednesday, 343 (80%) Tuesday, 339 (79%) Friday, 74 (17%) Saturday, and 46 (11%) Sunday.

2.3 Conclusion

The information contained in this section will be useful to evaluating the alternative transportation systems available to effectuate fixed-route bus service in the Town, as discussed in the following section. Based on the CTPS analysis of potential demand based on demographics, the effectiveness of a system should be evaluated by its ability to provide service primarily within the highly rated U.S. Census Block Groups. Additionally, based on survey responses, the effectiveness of a potential system should be further evaluated by its ability to serve principal commuting destinations within Town, the colleges, school activities, commercial areas, and the preferred locations and activities.

Section 3 Analysis of Alternatives

The previous sections of this report discuss the existing transportation systems serving the Town and the existing and potential demand for public transportation. The intent of this section is to identify alternative options for the provision of fixed-route bus service and to analyze the ability of such systems to realistically provide fixed-route bus service to the Town. This analysis was performed by taking into account the ability of a particular service to affordably and effectively provide service that meets and exceeds existing and future public transportation demands.

Methodology

To perform an evaluation of alternatives, the PTWG reviewed three common bus systems utilized throughout the Greater Boston region, along with the current public transportation system serving the Town (Status Quo). These systems and a description of the typical service model are as follows:

Status Quo

The Town is currently served by limited bus service. The Town is a member of the MBTA, but receives no fixed-route bus service from the MBTA. Much of the bus service currently available in the Town is provided by private operators and/or is limited to certain segments of the Town's population. The PTWG is aware of no comparison communities in the immediate area that are members of the MBTA, have Commuter Rail stops within the municipality and receive no fixed-route bus service from the MBTA

Town-Run System

Town-run systems take many forms, but generally involve Town funding supplemented by grants and other local assistance. Many of these systems are privately operated and offer limited hours of operation to limited destinations. Comparable systems include the Town of Lexington's *LEXPRESS*, the Town of Burlington's *B-Line*, and the Town of Bedford's *Bedford Local Transit*.

Regional Transit Authorities (RTAs)

Authorized by M.G.L. Chapter 161B, Regional Transit Authorities are groups comprised of cities and towns for the purpose of providing fixed route bus service to the residents thereof. Comparable systems include the *Cape Cod Regional Transit Authority*, *MetroWest Regional Transit Authority*, and *Worcester Regional Transit Authority*.

Transportation Management Associations (TMAs)

TMAs operate by providing employees of member businesses access to alternative transportation by providing connections to public transit systems. TMAs are funded by members businesses, and are also eligible for state and federal grants. While there are several TMAs in the Boston metropolitan area, such as the *MetroWest/495-TMA* and the

Charles River TMA, the most relevant TMA to the Town of Wellesley is the *128 Business Council*. The *128 Business Council* provides shuttle services to employees of member businesses, connecting them to MBTA commuter rail and T stations. The Town of Wellesley could engage the *128 Business Council* in several ways, including subcontracting for shuttle service.

After identifying these four alternatives, the merits and draw-backs of each alternative were evaluated based upon the following criteria:

1. Cost - What is the cost of each alternative to the Town of Wellesley? The most viable alternative in terms of cost will be one that has the smallest tax impact exposure to the Town.
2. Effectiveness - Does the alternative have the potential to help reduce traffic congestion, improve parking, enhance mobility, meet transportation demands, and reduce pollution based on past performance? The most viable alternative in terms of effectiveness will be one that can best achieve identified Town goals.
3. Local Control - What control over the system does the Town retain under each alternative? The most viable alternative in terms of local control will be one that offers the Town flexibility and a level of authority to direct the service in a manner that addresses Town transportation goals and identified demand.
4. Risk - What are the potential exposures to risk inherent with each alternative? The most viable alternative in terms of risk will have the least potential of subjecting the Town to financial liability and similar risks.

The following subsections provide a description of each alternative and a discussion of performance against our established criteria, beginning with the Status Quo.

3.1 Status Quo

With few exceptions, Wellesley's transportation system and culture today can be broadly characterized as car-dependent. However, Wellesley does benefit from access to the MBTA network via three commuter rail stations with service along the Worcester-Framingham line, as well as paratransit service provided by THE RIDE program. Additionally, the Council on Aging contracts with a private company to provide transportation for senior citizens and the Town provides bus service to certain segments of the school-aged population. There are also a number of transportation alternatives provided by private entities, such as the services provided by the *128 Business Council* TMA. A complete listing of the existing transportation systems serving the Town can be found in "Section 1.1, Inventory of Existing Public Transportation Services" of this report.

Criteria #1 - Status Quo and Cost

The MBTA charges an assessment to the Town each year through the “State & County Assessment” portion of the Cherry Sheet distributed by the Department of Revenue. The assessment figure is established by the Commonwealth through the Governor’s budget proposal and the final figure approved by the legislature is non-negotiable. In the current fiscal year (FY2011) Wellesley’s MBTA assessment is \$555,689. Given that the assessment is compulsory, future cost increases or savings will be subject to the Commonwealth’s budget process, as opposed to actions within the Town’s span of control. The senior bus, which the Council on Aging contracts-out through a private company, is partially subsidized by the Town (tax-impact of \$32,000 in FY2011). Additionally, the Town allocates approximately \$500,000 towards the school bus program. Remaining transportation alternatives are provided by private entities with no tax-impact subsidy being provided by the Town.

PTWG Assessment

From a cost perspective, the outlook for the Status Quo alternative appears stable, though there are some risks discussed below.

Criteria #2 - Status Quo and Effectiveness

Whereas the Town values reducing traffic congestion, improving parking, enhancing mobility and eliminating pollution, the Status Quo, by definition, offers more of the same. Perhaps most surprising, current service provision provides no convenient, reliable connection to the Green Line stations nearby in Newton (Riverside and Woodland), which would provide residents with more frequent service than the commuter rail. The Council on Aging bus, while providing an average of 488 rides per month in FY11, only serves a narrow population, as does the bus service provided to students of the Town’s schools. Private providers meet the specific needs of their clients, but access is not made available to the broader public.

PTWG Assessment

Due to its inability to further reduce traffic congestion, improve parking, enhance mobility, meet demands identified through the CTPS analysis and Town surveys, and reduce pollution from current levels, the Status Quo is found to be ineffective in terms of providing a viable fixed-route public transportation system.

Criteria #3 - Status Quo and Local Control

While the Town maintains control over the services provided by the Council on Aging and the schools, the majority of the existing services operating within the Town are outside of the Town’s immediate span of control. The Town exercises minimal influence over the MBTA’s provision of rail and

paratransit service. The MBTA is a sub-division of the Massachusetts Department of Transportation (“MassDOT”) and influence is exercised through our legislative delegation. All other transportation amenities are controlled by the private entities that sponsor them.

PTWG Assessment

While the Town does maintain a level of authority over the services provided by the Council on Aging and the schools, the administration of a majority of the existing services do not offer the Town the authority to direct service in a manner that furthers transportation goals or addresses transportation demands. Therefore, it was found that local control over the Status Quo alternative is best characterized as “minimal”.

Criteria #4 - Status Quo and Risk Exposure

The largest area of risk for the Town revolves around the dependence on services provided by the MBTA, namely with regard to THE RIDE, the MBTA’s paratransit service. The MBTA may elect to reduce services offered to Wellesley to help reduce costs for the financially strapped agency. The Ride is particularly vulnerable because it is a significantly costly program that exceeds federally mandated service provisions for paratransit. Additionally, since the MBTA provides no fixed-route bus service to the Town, there is no obligation to provide The Ride service to the residents of the Town.

PTWG Assessment

Given the MBTA’s ongoing financial issues, maintaining the Status Quo presents the Town with valid risk concerns related to loss of service without a similar reduction in the Town’s assessment. In other words, maintaining the Status Quo may not even be possible and may result in the Town contributing the same, if not more, for fewer services. Therefore, it was found that risk exposure associated with the Status Quo alternative is best characterized as “significant”.

3.2 Town-Run System

A Town-run system would consist of establishing a fixed-route bus service, to be operated by the Town or under a contract with a third-party operator. The most relevant example of this alternative in the region is the Town of Lexington’s *LEXPRESS*. The tax-impact of *LEXPRESS* to the Town of Lexington in FY2011 is \$284,152, with additional funding coming via fares, grants and other sources for a total annual budget of \$538,186. This amount does not take into account initial expenditures associated with start-up costs.

Criteria #1 - Town-Run System and Cost

The cost of a Town-Run System will depend on the level of service the Town elects to provide. Towns using this approach rely on a combination of fare

box revenue, state/federal grants and a local, tax-impact subsidy. It should further be noted that the PTWG considered the availability of funding through the Congestion Mitigation and Air Quality (CMAQ) program, a grant program administered jointly by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). CMAQ is a common source of funding for new transportation systems to help overcome the barriers created by initial start-up costs. However, this is a competitive grant program that takes applications once per year and, therefore, requires substantial work and planning on the part of the Town, with an uncertain outcome.

PTWG Assessment

From a cost perspective, responsibility for funding a Town-Run System would ultimately be born entirely by the tax-payers. While grants and private funding opportunities are undoubtedly available, should the Town not attain these funding sources or if they were to diminish in any way, the Town would need to compensate financially in the same way that it would for any other budgetary line item. Therefore, due to the potential tax impact exposure, the town-run alternative would not be considered the most viable in terms of cost.

Criteria #2 - Town-Run System and Effectiveness

Whereas the Town values reducing traffic congestion, improving parking, enhancing mobility and eliminating pollution, the limits to a Town-Run System's effective deployment of resources would be that of the Town's internal capacity to identify transportation demands and to finance a system that addresses such goals and demands. Additionally, because the Town would be operating a closed system (i.e. non-regional, Wellesley-specific), the Town may not be able to take advantage of the benefits related to system integration and connectivity with other, larger networks.

PTWG Assessment

On balance, assuming the Town adequately funds the system, we find that the Town-Run alternative could be an effective solution.

Criteria #3 - Town-Run System and Local Control

A Town-Run System offers total control to deploy resources to the areas with greatest demand and/or need for mitigation. Policy direction would be provided directly by Town residents serving on boards and committees, and appropriate Town employees, all being ultimately accountable to Town Meeting and the voters, generally.

PTWG Assessment

Due to the sole authority that would be offered under the Town-Run alternative, the Town would have the ability to independently tailor service in a manner that best meets transportation goals and demand. Therefore, it was

found local control over the Town-Run alternative best characterized as “autonomous”.

Criteria #4 - Town-Run System and Risk Exposure

The following areas of risk have been associated with the Town-Run alternative:

- Operational - The Town’s lack of experience and personnel to operate a transportation service may lead to sub-optimal service deployment.
- Financial - Responsibility for balancing year-to-year revenue and expenses must be handled by the Town.
- Administrative - Additional burden of supporting the administrative needs of the system and its personnel would be borne by other Town departments, including Human Resources, Treasurer/Collector, Financial Services and General Government.

PTWG Assessment

Due to the Town’s lack of experience in operating such a system, and given the initial and long-term capital and personnel needs of such a system, a Town-Run system is not considered viable in terms of potential for risk.

3.3 Regional Transit Authority (RTA)

Regional Transit Authorities offer a geographically contiguous group of communities the opportunity to formally collaborate on meeting the shared transit demands of a region. For Wellesley, the only practical RTA option would be the MWRTA, headquartered in Framingham. The MWRTA has been operating since 2006, incorporating the former Framingham-operated LIFT service and absorbing the Natick Neighborhood Bus in 2008. The MWRTA also provides paratransit service to the disabled by providing a system similar to the MBTA’s THE RIDE program.

Criteria #1 - RTA and Cost

RTA financing is governed by M.G.L., Chapter 161B, which allows the Town to offset the costs of RTA services by redirecting all or a portion of its annual MBTA assessment. The RTA can also seek additional funding from state, federal or private sources to pay for services. A direct subsidy from the Town or user-groups within the Town, are also options, though subject to the Town’s approval. Membership within an RTA, without the provision of any services, would generally not result in any costs to the Town.

PTWG Assessment

While the RTA bears responsibility for obtaining funds to support system operations, the level of service based on this funding may not address the Town's goals or demands. However, considering that much of the funding to support a system meeting the Town's goals and demands could be shifted from the Town's current MBTA assessment, there is minimal concern that such a system would result in an increased tax-impact to the Town. Therefore, the RTA alternative would be considered the most viable alternative in terms of cost.

Criteria #2 - RTA and Effectiveness

Whereas the Town values reducing traffic congestion, improving parking, enhancing mobility and eliminating pollution, the RTA alternative offers an opportunity to access a regional bus network that will increase connectivity with both MetroWest communities and Boston through connections to the MWRTA network and MBTA stations, respectively. There is further potential to develop intra-town routes to connect residential neighborhoods and college campuses with the Town's commercial districts.

PTWG Assessment

Based on the potential of the MWRTA system to address goals, the RTA alternative is found to be the most viable alternative in terms of effectiveness.

Criteria #3 - RTA and Local Control

As a member of the MWRTA, the Town would be granted a vote on the MWRTA Advisory Board, which is the Authority's governing body. Membership provides Wellesley equal representation on the Board, and allows the Town to more closely participate in establishing transportation plans and programs with the 11 other member towns of the MetroWest area.

PTWG Assessment

Given the MWRTA governance structure, the PTWG believes that the system would afford the Town a moderate ability to maintain local control over a fixed-route system.

Criteria #4 - RTA and Risk Exposure

The following areas of risk have been associated with the RTA alternative:

- Provision of some services will be subject to the ability to successfully negotiate routes with other regional partners (i.e. the MWRTA member communities).
- Achieving the same or better level of paratransit services currently provided via THE RIDE.

PTWG Assessment

Given the Town's inability to currently establish any fixed-routes and given THE RIDE's lack of long-term viability, the risks associated with the MWRTA alternative are considered minor in nature.

3.4 Transportation Management Association (TMA)

TMA's operate by providing member businesses access to alternative transportation by connecting employers to public transit. Funding for the TMA is funded through member businesses. TMA's are also eligible for state and federal grants.

For Wellesley, the only practical TMA would be the *128 Business Council*, headquartered in Waltham. The *128 Business Council* was established in 1987 and was the first TMA in Massachusetts. Shuttle service is provided from commuter rail and subway stations to members businesses along Route 128. The Town of Wellesley could engage the *128 Business Council* in several ways, including subcontracting for shuttle service.

Criteria #1 - TMA and Cost

Responsibility for costs associated with the TMA option depends on the level of engagement the Town seeks to have with the *128 Business Council*. If the Town wishes to contract with the TMA (which is a unique approach), then the TMA would function much like the third party referenced under the Town-Run alternative. The Town would take full budgetary responsibility for cost of service provision. However, the structure of the *128 Business Council*, and TMA's in general, is different from that of a traditional contractor. The *128 Business Council* specializes in cultivating clientele among major employers. Its funds are derived from charges to members of the association. Under this arrangement, the Town would incur none of the financial costs or responsibilities described in the discussion of third-party contractors in the Town-Run alternative.

PTWG Assessment

While the TMA bears responsibility for all costs borne by the TMA, the level of service without Town contribution may not address the Town's goals or demands. The Town could subsidize TMA service, which would result in an increased tax-impact to the Town. Therefore, the RTA alternative would be considered a moderately viable alternative in terms of cost.

Criteria #2 - TMA and Effectiveness

Whereas the Town values reducing traffic congestion, improving parking, enhancing mobility and eliminating pollution, the TMA alternative offers an opportunity to access a regional bus network that will increase connectivity to business destinations along Route 128 between Woburn and Needham.

There is also the possibility of utilizing the 128 Business Council services through a contract arrangement. However, the service provided by the TMA is limited by location and is geared to a specific population, without presumed additional costs to the Town.

PTWG Assessment

Given the limited mission of the TMA in terms of service area and customers, the TMA alternative would be considered moderately viable in terms of effectiveness.

Criteria #3 - TMA and Local Control

Under a traditional TMA model, the Town would retain “minimal” control, as route planning and service provision would be determined by representatives of the association membership. However, if the *128 Business Council* were retained as a contractor, the Town would exercise full control for those contracted services.

PTWG Assessment

Under the traditional TMA model, the TMA alternative is considered minimally viable in terms of local control. Under a contractor model, the TMA alternative would be considered viable in terms of local control.

Criteria #4 - TMA and Risk Exposure

The following areas of risk have been associated with the TMA alternative:

- Route selection and service provision are based on the needs of TMA members, not Town policy. In all instances, member priorities will supersede the desires of the Town to provide improved and/or expanded transportation options to the public.

PTWG Assessment

Due to service priorities, Town needs could serve to undermine the mission of the TMA. Therefore, the TMA alternative is considered moderately viable in terms of risk.

3.5 Summary of Alternatives Analysis - Outcomes Matrix

TABLE 4 - OUTCOMES MATRIX summarizes the evaluation of the four alternatives against the four criteria in an “Outcomes Matrix”.

TABLE 4 - OUTCOMES MATRIX				
ALTERNATIVES	CRITERIA			
	Additional Cost (to taxpayers)	Effectiveness (towards goals)	Local Control (governance)	Risk & Other Tradeoffs
Status Quo	Minimal - Expected to remain stable	Ineffective	Minimal Local Control	Significant
Town-Run System	High - Responsibility for all costs borne by Town	Effective	Autonomous Local Control	High Risk - Ability to run new program with no experience or organization
Regional Transit Authority (RTA)	Minimal - Responsibility for all costs borne by RTA; Town may elect to subsidize services	Effective	Moderate Local Control	Minimal Risk
Transportation Management Association (TMA)	Moderate - Responsibility for all costs borne by TMA; Town may elect to subsidize services	Moderately Effective	Minimal Local Control	Moderate Risk

Section 4 Recommendations

The PTWG is of the opinion that the recommendations discussed in this section address the Selectmen's objective "to provide *actionable* recommendations to advance the provision of public transportation within the Town of Wellesley". These recommendations are being made based on the PTWG's study of public transportation in the Town of Wellesley and the recognition that these recommendations will offer the Town the best opportunity to achieve public transportation goals and meet public transportation demands in the Town.

To summarize, these recommendations will work towards:

- Providing more focused attention to transportation issues in town government,
- Renewing participation in regional transportation planning,
- Advancing the provision of a fixed-route bus service,
- Further exploration of an intra-town transit system,
- Allowing for stronger transportation development management strategies, and
- Work towards reducing the overall equivalent carbon dioxide emissions by 10 percent

Recommendation - Phase 1 Join the MetroWest Regional Transit Authority

The PTWG recommends that the Selectmen vote to join the MWRTA. The short-term goal of joining the MWRTA is to allow the Town opportunities to achieve a fixed-route bus service, opportunities that the Town does not currently have under the status quo or could not reasonably expect to achieve under other alternatives considered. Additionally, it is believed that membership in the MWRTA offers the Town the best ability to enhance connectivity between Wellesley and the surrounding region, including Boston. (*Please refer to "APPENDIX C" for more information about the MWRTA*)

Selection of the MWRTA as the preferred alternative allows the Town flexibility in implementation of public transportation options. Also, MWRTA membership absent of service results in zero initial costs to the Town, allowing the Town to gradually consider service provision options. Once service is initiated, financing of the service results in little or no tax impact. Joining the MWRTA also allows the Town to leverage the experience of an established, successful system without exposing Wellesley to the financial and service risks associated with other alternatives.

Impact of Joining MWRTA:

Existing MBTA Services

Since the MBTA currently provides no fixed-route bus service in Wellesley, the Town does not need to be concerned with the possibility of conflicting or competing service

provision by joining the MWRTA. However, given the assessment mechanism that funds the MWRTA, throughout our process of assessing Wellesley's public transportation needs and options, the PTWG was cognizant of the potential impact any new program might have on services currently available. Indeed, the commuter rail and paratransit service via THE RIDE are both necessary components of meeting the Town's overall transportation needs. Furthermore, if funds from Wellesley's public transportation assessment were diverted from the MBTA to pay the costs of MWRTA services, then it stands to reason that MBTA would consider reducing services within the Town to compensate for lost funding. However, a number of unique and intervening circumstances make the decision to join the MWRTA less threatening financially than initially appears. A discussion of potential impacts to both programs in Wellesley is provided below.

Underlying the following discussion of both the Commuter Rail and THE RIDE is the fiscal reality facing the MBTA, itself. The Town needs to be better positioned to respond to the needs of its residents regardless of what measures the MBTA takes regarding service provision within Wellesley. Joining the MWRTA provides some measure of flexibility and allows the Town to respond in a more proactive way than it is currently able.

Commuter Rail

The PTWG is of the opinion that joining the MWRTA will actually *benefit* ridership on the commuter rail in Wellesley. An important part of the strategy to reduce reliance on personal vehicles is to increase use of MBTA services by targeting commuters. By providing fixed route bus service to commuter rail and Green Line stations, options to enhance residents' and reverse-commuters' convenience are increased, resulting in increased ridership.

Furthermore, given the fixed geographic nature of the commuter rail, service reduction at the three Wellesley stations seems self-defeating. Under such a scenario, the MBTA would stand to lose a portion of the aforementioned assessment, and lose revenue resulting from fewer fares along the growing Worcester-Framingham line. Therefore, as part of the recommendation to join the MWRTA, the PTWG also recommends that Town leaders meet with officials from both MassDOT and MBTA as part of the process, with the intention of maximizing cooperation and buy-in from these agencies moving forward.

The Ride

THE RIDE is an important program for Town residents who are unable to drive themselves or access other forms of public transportation due to disabilities. It is also the MBTA's most expensive service to operate, and the financial impacts incurred by doing so are contributing to the MBTA's fiscal struggles. Additionally, the services provided, as well as the service area inclusive of Wellesley, far exceed federal requirements under the Americans with Disabilities Act. Therefore, while political will

may be sufficient to keep THE RIDE running in Wellesley, there are no legal impediments to it being discontinued.

Presumably, joining the MWRTA alone would not put the Town in a position of losing THE RIDE; in fact, the Town of Weston is a member of the MWRTA and continues to receive THE RIDE service from the MBTA. However, if the MWRTA were to initiate fixed-route bus service in town, the provision of a comparable paratransit transportation service would be required. In this instance, since it is presumed that the MBTA would lose a portion of Wellesley's assessment to the MWRTA to provide such fixed-route service, it is believed that the MBTA would reduce or eliminate the services of THE RIDE program. In this instance, Wellesley could respond by making use of the MWRTA paratransit program.

Financial Implications

The statute governing regional transit authorities provides a mechanism for funding the systems by allowing municipal MBTA assessments to be redirected to the regional authorities. In Wellesley's case, the Town pays a compulsory assessment - \$555,689 in FY2011. If the Town joins the MWRTA, this assessment, or a portion thereof, could be redirected to cover the costs of new services. Additionally, the MWRTA could seek state and federal grants for services that benefit Wellesley. There is also the possibility of receiving financial assistance from private entities, such as colleges and the business community. The potential to off-set the costs of new services by using assessment proceeds that the Town already pays, makes the MWRTA a financially attractive alternative. However, as a consequence to the redirecting of funds, there are some important considerations regarding MBTA service provision that policy-makers need to consider. These and other considerations are discussed in the next section.

Recommendation - Phase 2

Establish Permanent Platform to Ensure Sustained Effort on Public Transportation

The PTWG recommends that the Selectmen establish a permanent "Transportation Analysis Group" ("TAG") to provide ongoing assessments of transportation demands, pursue the provision of a fixed-route bus service, and, if such service is established, explore opportunities to expand public transportation modes and routes. The PTWG makes this recommendation in recognition of the dynamic nature of transportation and the need to perform regular, consistent analysis of existing public transportation demand and utilization, as well as to identify opportunities to better serve residents and commercial taxpayers in the future. The establishment of the TAG is a modest way of sustaining efforts in this arena.

The TAG should be a multidisciplinary body that incorporates representation by staff and/or board members from the Selectmen's Office, Planning Board, School Committee, Department of Public Works, Council on Aging, Sustainable Energy Committee, and Police Department, as well as representatives from the community. If the Town joins the MWRTA, a representative

from Wellesley will be appointed to the Advisory Board; it is proposed that this individual also chair the TAG.

Once MWRTA service is ultimately established, it is recommended that the TAG monitor demand and operational effectiveness, seek approval for expanded service (where warranted), and facilitate the immediate and ongoing need to promote and evaluate ridership. As part of the TAG's charge, a comprehensive set of metrics must be established to help track key indicators of transportation demand and system performance. The expectation is that the TAG will establish appropriate intervals at which these metrics will be updated and the trends analyzed. Additionally, the TAG may identify funding sources, such as the CMAQ grant program, to assist in employing one or more of the alternatives described in "Section 3, Analysis of Alternatives" to buttress the services provided by the MBTA and MWRTA.

Section 5 Conclusion

5.1 Future Considerations

Based on the results of the analysis performed by CTPS and the surveys conducted, the PTWG finds that sufficient demand exists to support the establishment of one or more fixed-route bus services along major transportation corridors in Wellesley to serve residents, commuting employees, and students of the colleges. After joining the MWRTA, the PTWG would suggest that the Town request that the MWRTA investigate the establishment of the following fixed-routes and/or services. The PTWG recommends that priority be given to those routes within MWRTA's capacity to provide service with no tax-impact to the Town.

1. A fixed-route bus service, as shown in "MAP 1 - CONCEPTUAL FIXED-ROUTE BUS MAP", that would generally travel along an east-west route through the Town. The route as mapped would consist of a 10.3 mile loop that, without traffic, could be travelled in 25 minutes. The route would travel or provide access to the destinations and/or activities preferred by the majority of survey respondents. In terms of accessibility of the route to residents, 10,308 individuals live within ¼ mile/5-minute walk of the route; based on the 2010 U.S. Census, the Town's population is 27,982, thereby allowing 37% of the Town's population to be reasonably served by the conceptual route.
2. A route along Weston Road, recommended in the CTPS *Suburban Transit Study - Phase II*, to connect neighborhoods north and west of the Route 9 & 16 interchange to the Wellesley Square Commuter Rail Station and commercial districts to the south and west.

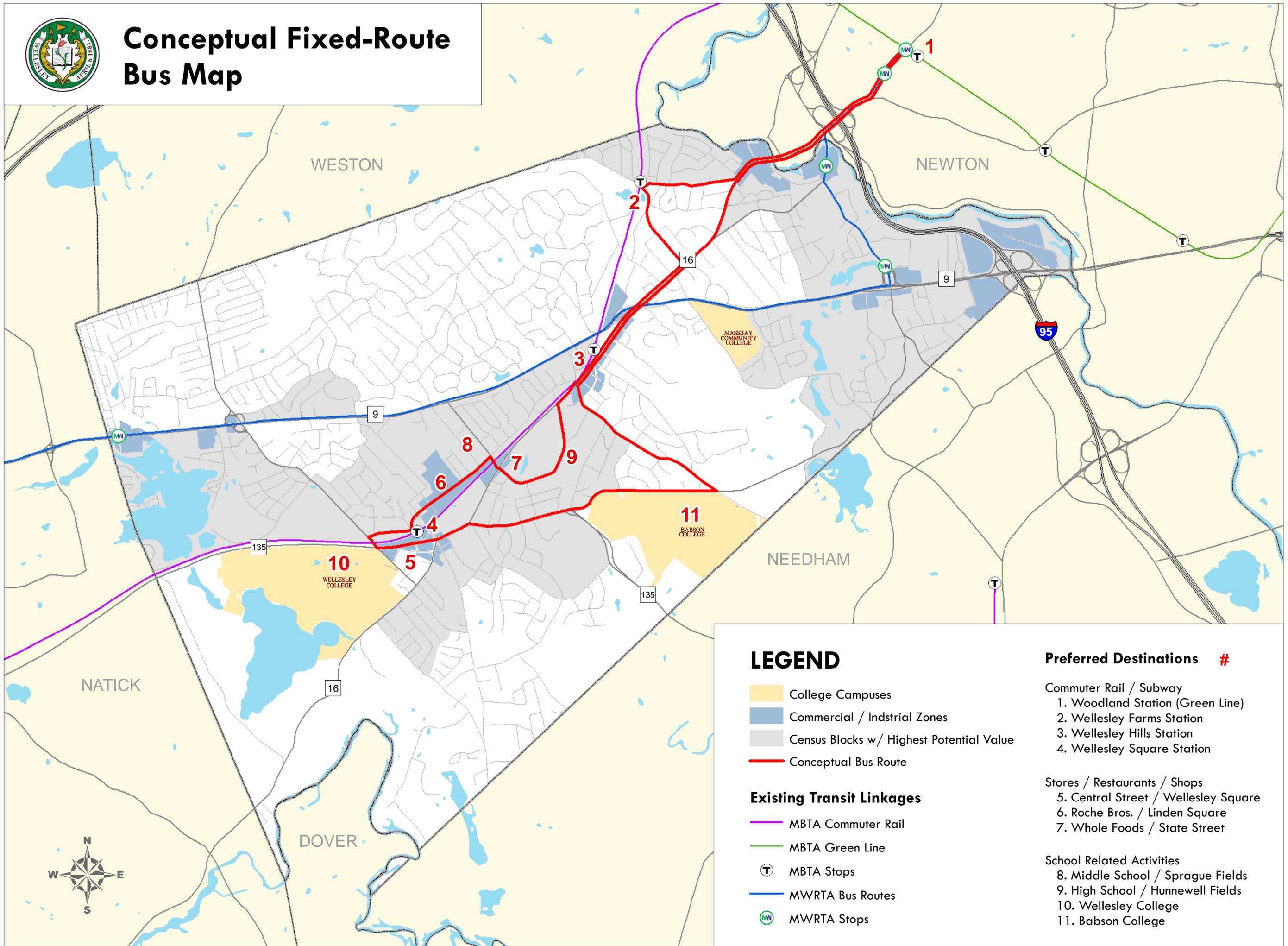
5.2 Closing Thoughts

Given Wellesley's suburban location, settlement and land use patterns, and demographics, our reliance on automobiles for travel will likely persist in the foreseeable future. However, changing economic and environmental conditions, and the emerging and evolving lifestyles of our population, challenge us as a community to address our public transportation needs as we plan for the future. Transportation considerations are likely to play an increasingly significant role in addressing some of our most challenging issues and future needs related to the mobility, safety and health of our residents, vitality of our commercial districts and regional economic development interests.

The provision of fixed route service along a single route at minimum is a critical component in the development of a broader, more effective system in which coordination with other public and privately financed linkages and services can be integrated over time. Such a core service should provide transit opportunities at least initially to those populations with increased ridership potential.



Conceptual Fixed-Route Bus Map



LEGEND

- College Campuses
- Commercial / Industrial Zones
- Census Blocks w/ Highest Potential Value
- Conceptual Bus Route

Existing Transit Linkages

- MBTA Commuter Rail
- MBTA Green Line
- T MBTA Stops
- MWRTA Bus Routes
- MW MWRTA Stops

Preferred Destinations

- Commuter Rail / Subway
 1. Woodland Station (Green Line)
 2. Wellesley Farms Station
 3. Wellesley Hills Station
 4. Wellesley Square Station
- Stores / Restaurants / Shops
 5. Central Street / Wellesley Square
 6. Roche Bros. / Linden Square
 7. Whole Foods / State Street
- School Related Activities
 8. Middle School / Sprague Fields
 9. High School / Hunnewell Fields
 10. Wellesley College
 11. Babson College



APPENDIX A

MEMORANDUM

**To: Christopher J. Ketchen, Deputy Director of
General Government, Town of Wellesley** **April 29, 2011**

From: Elizabeth M. Moore, Manager of Transit Service Planning

Re: Wellesley Transit Study: Inventory of Existing Transit Service

The purpose of this memorandum is to describe the various transit services operated in Wellesley and surrounding municipalities. The documentation of this information serves as the foundation for the Wellesley Transit Study, which will explore possible local transit services in Wellesley.

Several types of transit serve Wellesley, including commuter rail, fixed-route bus, private and public shuttles, and various flexible services. The MBTA provides service to Wellesley via the Framingham/Worcester commuter rail line and THE RIDE, a paratransit service for people with disabilities. Wellesley is not served by MBTA local or express bus service; however, the MetroWest Regional Transit Authority (MWRTA) has one local bus route that operates through the eastern end of the town. The local colleges and several employers operate various shuttle services, but restrict ridership to their affiliates. Several social service organizations provide flexible or paratransit service for qualifying residents.

The municipalities adjacent to or near Wellesley have varying levels of transit service. Like Wellesley, some have MBTA commuter rail service, private shuttles, paratransit service, and limited fixed-route bus service. Some have less service than Wellesley. Others, however, are served extensively by MBTA or MWRTA bus routes and/or MBTA rapid transit lines.

This memorandum provides an inventory of the transit services that operate in Wellesley, followed by those found in surrounding communities.

EXISTING TRANSIT SERVICES IN WELLESLEY

The transit services operating in Wellesley, commuter rail, fixed-route bus, shuttles, and flexible services, are described below and shown in Figure 1.

Commuter Rail

The Framingham/Worcester Line provides direct service to Wellesley with three stations, all of which are in commuter rail zone 3: Wellesley Farms, Wellesley Hills, and Wellesley Square. A zone 3 monthly pass costs \$163.00, and a single one-way fare is \$5.25. Discounted fares are available for senior citizens, people with disabilities, and students.

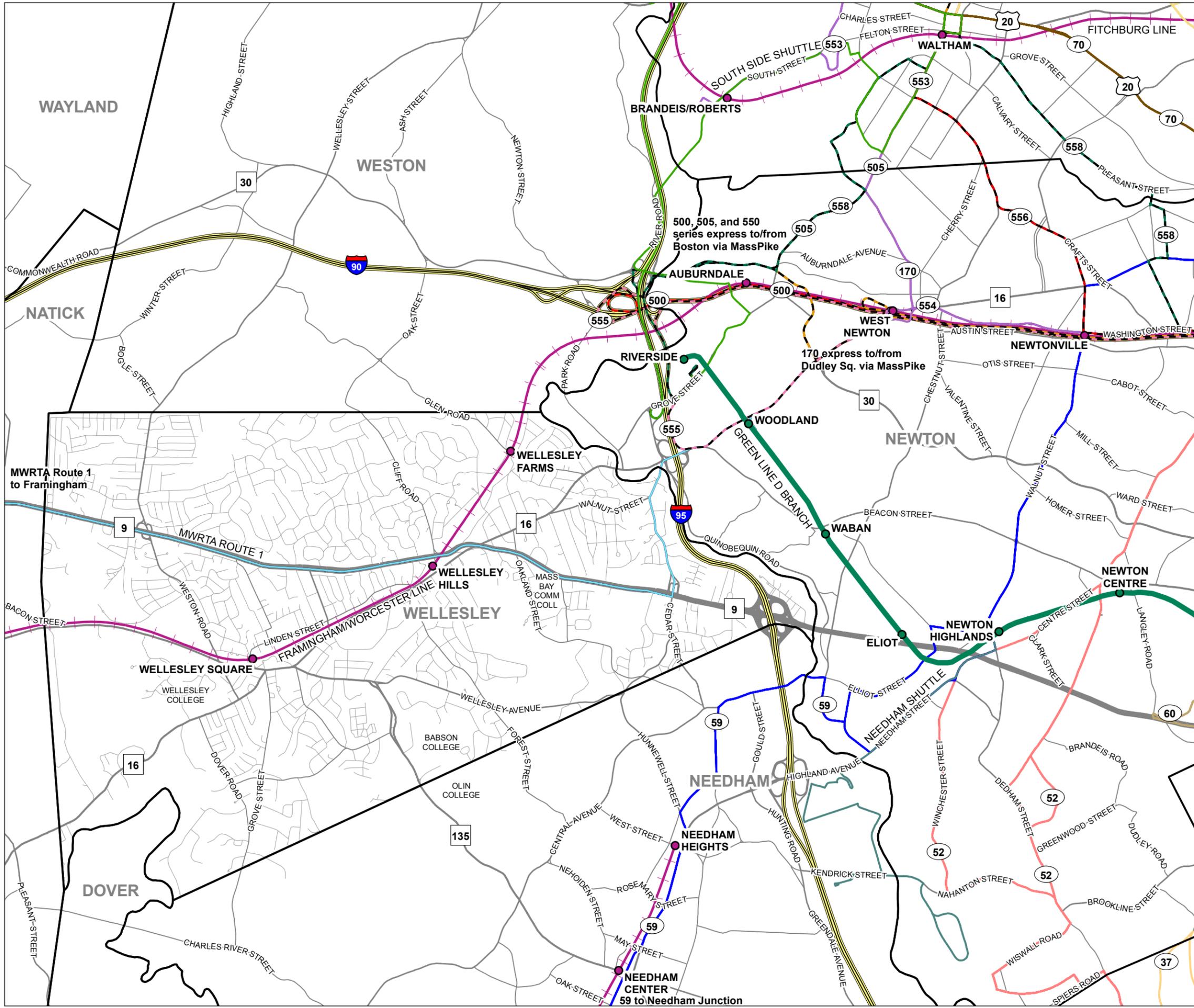
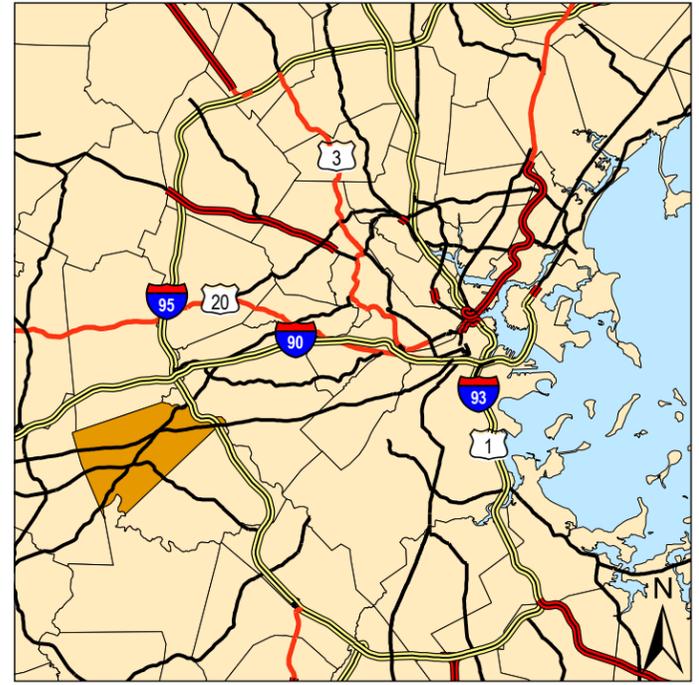


FIGURE 1
Inventory of Existing
Transit Service

- | | |
|--|------------------------|
| MBTA Light Rail and Commuter Rail | MBTA Bus Routes |
| Green Line | 37 |
| Commuter rail line | 52 |
| MWRTA Bus Route | 59 |
| Route 1 (Green Line Shuttle) | 60 |
| 128 Business Council Shuttles | 70 |
| Needham Shuttle | 170 Express |
| South Side Shuttle | 500 Express |
| Waltham Center Winter Street Shuttle | 505 Express |
| | 553 |
| | 554 |
| | 555 Express |
| | 556 Express |
| | 558 Express |



Wellesley Transit Study
CTPS



There are six stations on the Framingham/Worcester Line to the east of the study area: Auburndale, West Newton, Newtonville, Yawkey, Back Bay, and South Station. Eight stations lie to the west: Natick, West Natick, Framingham, Ashland, Southborough, Westborough, Grafton, and Worcester.

The schedule for the Framingham/Worcester Line is attached to this memorandum. On weekdays, 17 inbound trips serve the study area. Eight of these trips (one during the morning peak) run express from Wellesley Farms to Boston. The train takes anywhere from 30 to 40 minutes to travel between Wellesley Square and South Station, the terminus of the line.

Sixteen weekday outbound trips serve at least one station in Wellesley. Two trips serve only Wellesley Hills and Wellesley Square; one trip serves only Wellesley Square. Travel times from South Station to Wellesley Square are also 30 to 40 minutes, depending on the time of day. Each of the nine Saturday inbound and outbound trips and the eight Sunday inbound and outbound trips serve all three stations in Wellesley.

Fixed-Route Bus

Fixed-route buses follow set routes, and they may operate on regular headways or on a posted schedule. Shuttles, although they may be fixed-route services, are described in a separate section.

MetroWest Regional Transit Authority (MWRTA)

The MetroWest Regional Transit Authority (MWRTA) operates bus *Route 1*, the Green Line shuttle, between western Framingham, downtown Framingham, and Woodland Station on the D branch of the MBTA's Green Line (in Newton) during the morning and evening peak periods. The shuttle serves Staples Drive, follows Route 9 between its intersection with Interstate 90 and Cedar Street (with a spur off the main bus route alignment on Route 126 to take riders to downtown Framingham), and then follows Cedar Street to Walnut Street to Wales Street, where it turns onto Route 16 (Washington Street) to serve Newton-Wellesley Hospital and Woodland Station. The route offers two stops in Wellesley: one on Cedar Street and one on Walnut Street, although drivers will provide flag stops for riders at any location along the route when it is safe to do so. The fare for riders disembarking at Woodland Station is \$3.00; the fare for riders alighting at other stops is \$1.50. Discounted fares are available for senior citizens, people with disabilities, students, and riders purchasing multi-ride passes.

In the morning, the MWRTA runs seven eastbound trips on *Route 1* at 30-minute headways (departures between 5:45 AM and 8:40 AM). The first four eastbound buses begin in downtown Framingham and end at Woodland Station; the remaining ones begin at Staples Drive in western Framingham. Westbound, the first five morning buses serve Staples Drive, and one of these continues on to the central hub on Waverley Street (Route 135) in Framingham, near the Natick town line. The final two westbound runs in the morning do not serve Staples Drive, and instead operate directly from the Flutie Pass park-and-ride facility to the central hub. Each morning bus stops at the two official stops in Wellesley.

In the afternoon, the MWRTA runs two eastbound trips with 60-minute headways and six eastbound trips with 30-minute headways (departures between 2:30 PM and 6:25 PM). Four of

these trips begin in downtown Framingham, one trip begins at the Flutie Pass park-and-ride facility, and the final three trips begin at Staples Drive. Westbound, the first and the final four trips end in downtown Framingham, and the other three trips end at Staples Drive. Only one of the trips that end in downtown Framingham serves Staples Drive. Each afternoon bus stops at the two official stops in Wellesley. There is no weekend service for this route. The current schedule for this route is shown in Figure 2.

Shuttles – College and Private

Wellesley College, Babson College, and Massachusetts Bay Community College operate shuttles within Wellesley. Several other private operators also provide service in the study area.

College Shuttles

Wellesley College offers several shuttle routes between locations inside and outside of Wellesley. The current schedules for these shuttles are attached to this memorandum. The college also provides an evening shuttle to transport students throughout campus.

The Wellesley-MIT Exchange Bus provides 18 trips between 7:00 AM and 11:00 PM on weekdays, except on Fridays, when the last trip departs Wellesley at 5:00 PM. It takes approximately two hours for a shuttle to make a round-trip between Wellesley and MIT. An MIT or Wellesley ID is required to ride this service. The one-way fare is \$3.00.

On Saturday afternoons, the college operates the Movie/Mall Shuttle between several entertainment and shopping destinations in the area. For \$3.00, riders are able to take the shuttle from Wellesley to the AMC movie theater and the Natick Collection mall. The shuttle operates on 120-minute headways between 3:00 PM and 11:00 PM.

The Senate Bus operates on Fridays, Saturdays, and Sundays and provides service between Wellesley College and Cambridge/Boston, with stops at Harvard, MIT, and the corner of Massachusetts Avenue and Commonwealth Avenue in Boston. On Fridays, buses leave Wellesley from 6:00 PM to 2:20 AM on 20-, 40-, or 60-minute headways. Three of the 17 trips stop at Woodland Station on the way to Cambridge. Before 6:00 PM on Saturday, the shuttle operates between the Wellesley campus and Riverside Station with 60-minute headways. After 6:00 PM, the schedule follows the Friday schedule and stops. The Sunday schedule is similar to Saturday's, except that the final departure from Wellesley is at 11:00 PM. The one-way fare is \$3.00.

The Babson-Olin-Wellesley shuttle operates between the three named colleges. Only students from Babson, Olin, and Wellesley are allowed to use the service; a valid student ID is required. The shuttle provides nine trips in the morning with 30-minute headways, beginning at 7:40 AM. After a short lunch break, service resumes at 12:40 with 30-minute headways; there are 12 trips after lunch. JFK Transportation operates the shuttle.

FIGURE 2
MWRTA Route 1 (Green Line Shuttle) - Weekday Schedule

Weekday Morning (AM)								
	Natick / Framingham	1A	1B	1C	1D	1A	1B	1C
Eastbound	Central Hub (37 Waverley St.)	5:45	6:15	6:45	7:00			
	Concord and Howard	5:50	6:20	6:50	7:05			
	Staples Drive					7:40	8:10	8:40
	Flutie Pass P&R	6:00	6:30	7:00	7:30	8:00	8:30	9:00
	Mathworks	6:07	6:37	7:07	7:37	8:07	8:37	9:07
	Overbrook (Natick Line)	6:25	6:55	7:25	7:55	8:25	8:55	9:25
	Cedar Street	6:35	7:05	7:35	8:05	8:35	9:05	9:35
	Walnut Street (Wellesley)	6:38	7:08	7:38	8:08	8:38	9:08	9:38
	Newton - Wellesley Hospital	6:42	7:12	7:42	8:12	8:42	9:12	9:42
	Woodland T Stop	6:45	7:15	7:45	8:15	8:45	9:15	9:45
Natick / Framingham								
Westbound	Newton - Wellesley Hospital	6:48	7:18	7:48	8:18	8:48	9:18	9:48
	Walnut Street (Wellesley)	6:52	7:22	7:52	8:22	8:52	9:22	9:52
	Cedar Street	6:55	7:25	7:55	8:25	8:55	9:25	9:55
	Overbrook (Natick Line)	7:05	7:35	8:05	8:35	9:05	9:35	10:05
	9/27 Plaza	7:10	7:40	8:10	8:40	9:10	9:40	10:10
	Natick Collection	7:13	7:43	8:13	8:43	9:13	9:43	10:13
	Flutie Pass P&R	7:15	7:45	8:15	8:45	9:15	9:45	10:15
	Rt. 9 / California Drive	7:35	8:05	8:35	9:05	9:35		
	Staples Drive	7:40	8:10	8:40	9:10	9:40		
	Central Hub (37 Waverley St.)				9:25		9:55	10:25
Weekday Evening (PM)								
	Natick	1A	1B	1C	1D	1A	1B	1C
Eastbound	Central Hub (37 Waverley St.)	2:30	3:30		4:30	5:00		
	Concord and Howard	2:35	3:35		4:35	5:05		
	Staples Drive						5:25	5:55
	Flutie Pass P&R	2:45	3:45	4:15	4:45	5:15	5:45	6:15
	Mathworks	2:50	3:52	4:22	4:52	5:22	5:52	6:22
	Overbrook (Natick Line)	2:53	3:56	4:26	4:56	5:26	5:56	6:26
	Cedar Street	3:00	4:05	4:35	5:05	5:35	6:05	6:35
	Walnut Street (Wellesley)	3:02	4:10	4:40	5:10	5:40	6:10	6:40
	Newton - Wellesley Hospital	3:04	4:13	4:43	5:13	5:43	6:13	6:43
	Woodland T-Stop	3:05	4:15	4:45	5:15	5:45	6:15	6:45
Natick								
Westbound	Newton - Wellesley Hospital	3:07	4:18	4:48	5:18	5:48	6:18	6:48
	Walnut Street (Wellesley)	3:10	4:23	4:53	5:23	5:53	6:23	6:53
	Cedar Street	3:13	4:26	4:56	5:26	5:56	6:26	6:56
	Overbrook (Natick Line)	3:23	4:48	5:18	5:48	6:18	6:48	7:18
	9/27 Plaza	3:26	4:53	5:23	5:53	6:23	6:53	7:23
	Natick Collection	3:30	4:58	5:28	5:58	6:28	6:58	7:28
	Flutie Pass P&R	3:32	5:00	5:30	6:00	6:30	7:00	7:30
	California Drive		5:20	5:50	6:20	6:50		
	Staples Drive		5:25	5:55	6:25	6:55		
	Central Hub (37 Waverley St.)	3:40				7:10	7:15	7:40

Source: MetroWest Regional Transit Authority, www.mwrta.com/index.cfm?event=Schedules&RouteID=17

On Fridays and Saturdays, Babson College operates several shuttles that ferry students to Woodland Station and on to several locations throughout downtown Boston. Between 12:00 noon and 3:00 PM, the shuttle only operates between Babson College and Woodland Station. At 5:00 PM and 7:20 PM, the shuttle travels to Woodland Station and five stops in downtown Boston. After the 7:20 PM trip, the shuttle no longer stops at Woodland Station and only makes two stops in Boston. On Sunday afternoons, shuttles make several trips between the campus and Woodland Station, and between the campus, Wellesley Center, and the Natick Collection. A Babson ID is required to ride these shuttles.

The Massachusetts Bay Community College operates two shuttles Monday through Friday when the college is open. One shuttle provides service between Riverside Station, the terminus of the D branch of the MBTA's Green Line, and the Massachusetts Bay Community College campus in Wellesley Hills. From 7:15 AM to 10:00 AM, one vehicle operates continuously between Riverside Station and that campus; there is no fixed schedule. At 10:00 AM, a second vehicle operates to provide service with 15-minute headways until 5:00 PM (with the exception of two 30-minute headways). In the evening, Monday through Thursday, 5:15 PM and after, several vans make the trip between Riverside and the campus. Two vans operate from the Wellesley Hills campus to the college's other campus, in Framingham (one at 7:45 AM and the other at 2:15 PM). The vans make the reverse trip 45 minutes after departing Wellesley Hills (8:30 AM and 3:00 PM). Limited service is offered during school vacations.

Other Shuttles

Partners Healthcare operates a shuttle between Brigham and Women's Hospital and Harvard Pilgrim Health Care at Wellesley Gateway (near the intersection of Route 9 and Interstate 95) on weekdays. Service begins at 7:30 AM at Brigham and Women's. It operates on 60-minute headways; the final trip arrives at Brigham and Women's at 6:30 PM.

Sun Life Financial provides shuttle service between Riverside Station and the Sun Life Financial office (near the intersection of Route 9 and Interstate 95). Beginning at 6:45 AM, shuttles depart from Riverside Station. Shuttles follow with approximately 20-minute headways until the final morning departure at 9:05 AM. After a midday break, service resumes from the Sun Life Financial office at 3:15 PM. The shuttle operates with 20-minute headways until the final trip departing from the office at 6:55 PM.

Wellesley Office Park (also near the intersection of Route 9 and Interstate 95) provides shuttle service between the Wellesley Office Park, the MBTA's Riverside Station, and the Auburndale commuter rail station, from 7:00 AM to 9:00 AM and from 5:00 PM to 7:00 PM. There is also one round-trip per day between the Auburndale commuter rail station and Riverside Center (adjacent to Riverside Station). One morning trip goes from Auburndale Station to Riverside Center, and one evening trip from Riverside Center to Auburndale Station.

The Wellesley Chamber of Commerce operates the Holley Trolley in the weeks leading up to Christmas. The Holly Trolley makes several trips through the town to transport riders between shopping centers.

Flexible Service and Paratransit Service

THE RIDE

Qualifying Wellesley residents may (once registered) use the MBTA's THE RIDE service to get to their destinations. THE RIDE is a door-to-door, shared-ride paratransit service (using lift-equipped vehicles if required) for customers who cannot use subways, buses, or trains due to a physical, mental, or cognitive disability. Registered riders call from 1 to 14 days in advance to schedule rides. Same-day service is provided when feasible but is not guaranteed. One-way rides cost \$2.00. THE RIDE operates 365 days a year from 6:00 AM to 1:00 AM.

Wellesley Council on Aging

The Wellesley Council on Aging provides transportation (contracted through M&L) Monday through Friday from 9:00 AM to 4:00 PM within Wellesley and to Newton-Wellesley Hospital in Newton, Beth Israel-Deaconess Hospital in Needham, MetroWest Medical Center in Natick (Leonard Morse), and the Woodland MBTA station in Newton. It also offers shopping trips the last Thursday of the month (every other month to the Natick Mall and on the alternate month to Walmart in Framingham or Christmas Tree Shop Plaza in Natick). The one-way fare for the Wellesley Council on Aging service is \$1.00.

The Council on Aging also provides a free service from residents' homes to Roche Brothers and Star Market at 10:00 AM every Wednesday.

Springwell Senior Medical Escort Program

The Springwell Senior Medical Escort Program matches frail seniors with a volunteer to drive and/or accompany them to medical appointments between 9:00 AM and 5:00 PM in Boston and the Springwell area (Belmont, Brookline, Needham, Newton, Waltham, Watertown, Wellesley, and Weston). Trips should be scheduled a week in advance, and a donation of \$4.00 each way is requested. The individual must pay tolls.

Busy Bee Transportation

The Busy Bee service, funded through a grant from the Springwell Senior Medical Escort Program, provides advance-request, door-to-door transportation to destinations outside of Wellesley, such as Belmont, Brookline, Needham, Newton, Waltham, Watertown, and Weston, and to hospitals and medical appointments in Boston. Busy Bee service is available Monday through Friday from 9:00 AM to 4:30 PM, and requests for service should be made at least three days in advance. Busy Bee requests a donation of \$4.00 each way.

TRANSIT SERVICES IN SURROUNDING MUNICIPALITIES

The municipalities surrounding Wellesley have varying levels of transit service. Some, similarly to Wellesley, have MBTA commuter rail service, private shuttles, paratransit service for populations who are unable to use general public transportation, and limited fixed-route bus service. Some have less service than Wellesley. Others, however, are served extensively by

MBTA or MWRTA bus routes and/or MBTA rapid transit lines. This section presents a broad overview of the current transit services operating in the surrounding municipalities.

Dover

There is no general public transit service in Dover. Existing service is limited to THE RIDE and Dover Senior Transportation Service for medical trips.

Weston

The Fitchburg commuter rail line provides service to Weston at three stations; 14 outbound trains and 14 inbound trains serve Kendal Green Station, and the other two stations (Hastings and Silver Hill) are only served a few times a day. All three stations are in zone 3.

THE RIDE, the Weston Council on Aging, and the Springwell Senior Medical Escort Program all provide services to Weston residents.

Needham

Needham's transit options are similar to those in Wellesley. The Needham commuter rail line has four stops in Needham. All four stops are in commuter rail zone 2, and 16 inbound and 16 outbound trips serve the stations.

The only MBTA fixed-route bus stop operating in Needham is *Route 59*, which provides service between Needham Junction and Watertown Square via Newton Highlands and Newtonville.

The 128 Business Council runs a commuter shuttle between the Newton Highlands Green Line station and the New England Office Park in Needham, Monday through Friday, during the morning and evening peak commuter periods. There is no charge for Business Council members, and the fare is \$3.75 for nonmembers.

Eligible Needham residents can use THE RIDE. The Needham Council on Aging provides rides to the Senior Center and to a grocery store on Wednesday mornings as well as a Dial-a-Ride service for residents age 65 and over to destinations within Needham, to the Newton Highlands and Waban MBTA stations, and to Dedham Medical Associates. Several other organizations provide services that give residents access to medical facilities and help them run errands.

North Hill, a life-care retirement community in Needham, offers its residents transportation to a number of locations in Needham and Wellesley to provide access to shopping and other activities. Car service is available for medical appointments. Service is provided Monday through Friday from 8:30 AM to 4:30 PM, and on Sundays from 8:00 AM to 1:00 PM. In addition, flexible service is provided to any Needham destination all day Tuesday and on Thursday mornings, and to any Wellesley destination on Monday mornings and Thursday afternoons. Daytime and evening trips are offered to Boston-area cultural events. From April 1, 2009, to March 31, 2010, North Hill provided 3,168 rides.

Natick

The Worcester/Framingham commuter rail line provides service to Natick at two stations. Nineteen inbound and outbound trains serve the stations. The stations are in commuter rail zone 4.

The MWRTA operates several routes in Natick. *Route 1*, the Green Line shuttle that operates between Framingham and Woodland Station, provides service along Route 9 in Natick. *Routes 2* and *3*, the Framingham Circuits, provide service between the central hub on Waverley Street (Route 135) in Framingham and the Natick Mall in opposite directions. *Route 4* provides service between the central hub and the Natick Collection. *Route 9* provides service between the Natick Collection and Staples Drive in Framingham. *Routes 10* and *11* follow the same path (in opposite directions) from the central hub and several shopping centers to both Natick commuter rail stops. The MWRTA also operates the Natick Commuter Shuttle, which carries riders between Natick Station and various workplaces in Natick.

In addition, the MWRTA offers the MW RIDE (the MetroWest equivalent of the MBTA's THE RIDE) and a grocery shopping service on Tuesdays and Thursdays. The Natick Council on Aging organizes volunteers to transport elderly residents for medical appointments, shopping, and errands.

Newton

The MBTA's Framingham/Worcester commuter rail line makes three stops in Newton: Auburndale, West Newton, and Newtonville. Newtonville is in commuter rail zone 1; Auburndale and West Newton are in zone 2. Nine inbound trains and 12 outbound trains serve the stations.

Newton is also served by seven stops on the Riverside branch of the MBTA's Green Line. Trains on the Riverside branch operate with 6-minute headways during the peak period and about 10-minute headways in the off-peak.

Six non-express MBTA bus routes operate in Newton. *Route 52* operates between Watertown Yard and the Dedham Mall. *Route 57* operates between Watertown Yard and Kenmore Station via Newton Corner and Brighton. *Route 59* operates between Needham Junction and Watertown Square. *Route 60* operates between Chestnut Hill and Kenmore Station.

The MBTA operates numerous express bus routes between Newton and downtown Boston (*Routes 500, 501, 502, 503, 504, 505, 553, 554, 555, 556, and 558*). Most of these services operate exclusively on weekdays in the peak commuting periods. *Route 500* provides express service between Riverside Station and downtown Boston on weekdays during the peak periods. *Route 501* operates weekdays between Brighton Center and downtown Boston via Newton Corner. *Route 502* provides service between Watertown and Copley Square via Newton Corner. *Route 503* operates weekdays between Brighton Center and Copley Square via Newton Corner. *Route 504* operates weekdays between Central Square in Waltham and downtown Boston via West Newton. *Route 505* operates between Central Square in Waltham and downtown Boston via Moody Street in West Newton. *Routes 553* and *554* provide service between Central Square

Waltham and Newton Corner and then continue on the Massachusetts Turnpike to downtown Boston. *Route 553* serves Brandeis/Roberts and Children's Hospital on its way to Central Square. *Route 554* serves Waverley Square (and Waverley Station) in Belmont and Bentley College on its way to Central Square. From Central Square both *Routes 553* and *554* serve Moody Street in West Newton, after which they continue to Newton Corner before running express to downtown. *Route 555* operates weekday evenings between Riverside Station and downtown Boston and provides local service outbound between Newton Corner and Riverside. *Route 556* serves Waltham Highlands, Central Square, Newtonville, and Newton Corner before traveling express via the Massachusetts Turnpike to downtown Boston. *Route 558* operates between Riverside Station in Newton, Central Square, and downtown Boston.

The MWRTA operates *Route 1* between Framingham and Woodland Station in Newton with stops in Wellesley and at Newton-Wellesley Hospital. This route is described in more detail in the Existing Transit Services in Wellesley section of this memo.

The 128 Business Council runs a commuter shuttle (the South Side Shuttle) between Riverside and Waltham Center via Auburndale Station and Brandeis University and a shuttle between the Newton Highlands Green Line station and the New England Office Park in Needham. Both shuttles run Monday through Friday, during the morning and evening peak commuter periods. Partners runs a shuttle between Brigham and Women's Hospital and Chestnut Hill, Monday through Friday, from 5:45 AM to 8:30 PM.

Like the other nearby municipalities, Newton has various transportation services for senior citizens and riders who are limited in their mobility options. Both THE RIDE and the Springwell Senior Medical Escort Program operate in Newton. Newton Senior Services provides transportation to medical appointments for riders over the age of 60. They also provide service to the senior center, long-term care facilities, houses of worship, and grocery stores.

Waltham

Waltham, while not directly adjacent to Wellesley, is a nearby city that offers numerous transit options. The MBTA's Fitchburg Line serves Waltham with two stops: Waltham (located in Central Square) and Brandeis/Roberts (located adjacent to Brandeis University). Both stops are in commuter rail zone 2. Sixteen inbound trips and 16 outbound trips serve Waltham Station; 15 in each direction stop at Brandeis/Roberts. Headways vary from about 45 minutes during the peak periods to approximately 90 minutes in the off-peak.

Numerous MBTA bus routes also serve Waltham. All of the bus routes in the city provide service to the commuter rail station in Central Square (Waltham Station). *Routes 70* and *70A* operate between Waltham and University Park in Cambridge. *Route 70* serves Cedarwood in western Waltham before stopping at Central Square, and *Route 70A* serves North Waltham before stopping at Central Square. After each route stops at Central Square, they follow the same alignment through Watertown to Cambridge. *Route 170* offers two reverse-commute trips in each direction between Oak Park and Dudley Square via Central Square in Waltham. *Routes 505*, *553*, *554*, *556*, and *558* provide service between Waltham and downtown Boston. *Route 505* is an express route that operates between Central Square and downtown Boston via Moody Street

in West Newton. *Route 553* serves Brandeis/Roberts and Children's Hospital on its way to Central Square. *Route 554* serves Waverley Square (the location of Waverley Station) in Belmont and Bentley College on its way to Central Square. From Central Square both *Routes 553* and *554* serve Moody Street in West Newton, after which they continue to Newton Corner before running express to downtown. *Route 556* serves Waltham Highlands, Central Square, Newtonville, and Newton Corner before traveling express via the Massachusetts Turnpike to downtown Boston. *Route 558* operates between Riverside Station in Newton, Central Square, and downtown Boston.

Paratransit services are available in Waltham for riders who cannot use general public transportation. Both THE RIDE and the Springwell Senior Medical Escort Program are offered. In addition, the Waltham Council on Aging provides free transportation to medical appointments and a few other destinations.

The 128 Business Council is a Transportation Management Association (TMA) that provides shuttle services in the Route 128 West corridor. It operates two shuttles between member companies in Waltham and Lexington, and Alewife Station (in Cambridge). The cost of a one-way trip is \$2.50 for members and \$4.75 for nonmembers. It also operates a shuttle (the South Side Shuttle), which connects Waltham Station (at Central Square) with Brandeis/Roberts Station, Auburndale Station (on the Worcester Line in Newton), and Riverside Station (on the Green Line in Newton). The fare on the South Side Shuttle is \$1.00. The 128 Council Connection shuttle connects companies in the Winter Street area to Waltham Center and is scheduled to facilitate connections with the Fitchburg commuter rail line. The fare is \$1.75 for members and \$2.75 for nonmembers. The 128 Business Council also operates the Bentley College CitiBus, which offers two routes for Bentley College ID holders. One route operates between the campus and Windsor Village; the other operates between the college, Waverley Square (in Belmont), and Harvard Square (in Cambridge).

EMM/SPA/spa

Encl.

APPENDIX B

MEMORANDUM

**To: Christopher J. Ketchen, Deputy Director of
General Government, Town of Wellesley**

April 29, 2011

From: Elizabeth M. Moore, Manager of Transit Service Planning

Re: Wellesley Transit Study: Transit Potential Maps

The purpose of this memorandum is to present the results of analyses of data useful in evaluating where the potential demand for transit service is expected to be greatest in Wellesley. These analyses utilized U.S. Census 2000 demographic data about the characteristics and geographic distribution of the residents of Wellesley and the geographic distribution of employment in Wellesley. This information was used to plot maps of Wellesley's population and employment densities as well as a summary map of transit potential. Additionally, activity generators in the town of Wellesley, such as employment centers, shopping centers, public schools, colleges, medical centers, government service centers, and existing transit services, were plotted on the summary map. This information will be used along with analyses of U.S. Census Journey-to-Work data, the parking lot survey data, and the student transportation survey data to develop potential transit service.

TOWN DEMOGRAPHICS

Both population density and employment density are important considerations when planning transit service. Each route has a limited service area (usually defined as a distance from a stop), and the number of riders it will carry is limited by the origins and destinations in the service area. The more densely developed the area is, the greater the potential ridership. Furthermore, higher densities allow for higher levels of service.

Information about the characteristics of residents is useful for identifying areas where concentrations of people who are most likely to use transit live. The people with the highest propensity to use transit have traditionally been defined by socioeconomic characteristics that are related to transit dependency (such as having a low income, minority status, not having an automobile available for the trip, and age [too young or too old to drive]).

According to the 2000 U.S. Census, the population of Wellesley was 26,613. Of the total Wellesley population, 2,795 (11%) were 70 years of age or older, and 2,768 (10%) were age 10 to 17. There were 8,614 households in Wellesley, and 314 (4%) households did not own a vehicle. The number of jobs in Wellesley was 18,650, and 4,343 of these were held by Wellesley residents.

TRANSIT POTENTIAL

The individual criteria used to evaluate the relative transit potential of U.S. Census block groups in Wellesley are described below. In order to provide relative rankings for transit potential, data from the 2000 Census were scored for each block group according to value ranges for each variable and then tallied to provide a cumulative rating for each block group (higher scores reflect greater potential for transit). Value ranges for each criterion were designed to provide useful distinctions between Wellesley block groups, given the general characteristics of Wellesley. The methodology used for scoring each criterion is summarized in Table 1 and described below.

TABLE 1
Criteria Used to Rate Census Block Groups for Transit Service

Criterion	Score			
	0	1	2	3
Residents per square mile	Fewer than 2,000	2,000-3,999	4,000 or more	-
Employees per square mile	Fewer than 625	625-1,300	More than 1,300	-
Median household income	\$135,000 or more	\$105,000-\$134,999	\$95,000-\$104,999	\$95,000 or less
Number of vehicles owned per household	More than 2.0	1.8-2.0	Fewer than 1.8	-
Number of zero-vehicle households	Fewer than 1	1-16	More than 16	-
Residents age 10-17	90 or fewer	91-140	More than 140	-
Residents age 70+	Fewer than 75	75-164	More than 164	-

Population Density

Population density is the most commonly used criterion for evaluating the potential for transit service. Wellesley is not densely populated; the population density of the town is 2,614 residents per square mile, and it ranges by block group from 1,527 to 5,920. Figure 1 maps the population density (by U.S. Census block group) in Wellesley. As shown in Figure 1, there are four block groups with population densities over 4,000 residents per square mile. Roughly half of the town falls within 2,000 to 3,999 residents per square mile.

Block groups with fewer than 2,000 residents per square mile were assigned a score of 0; block groups with 2,000 to 3,999 residents per square mile were assigned a score of 1; block groups with 4,000 or more residents per square mile were assigned a score of 2.

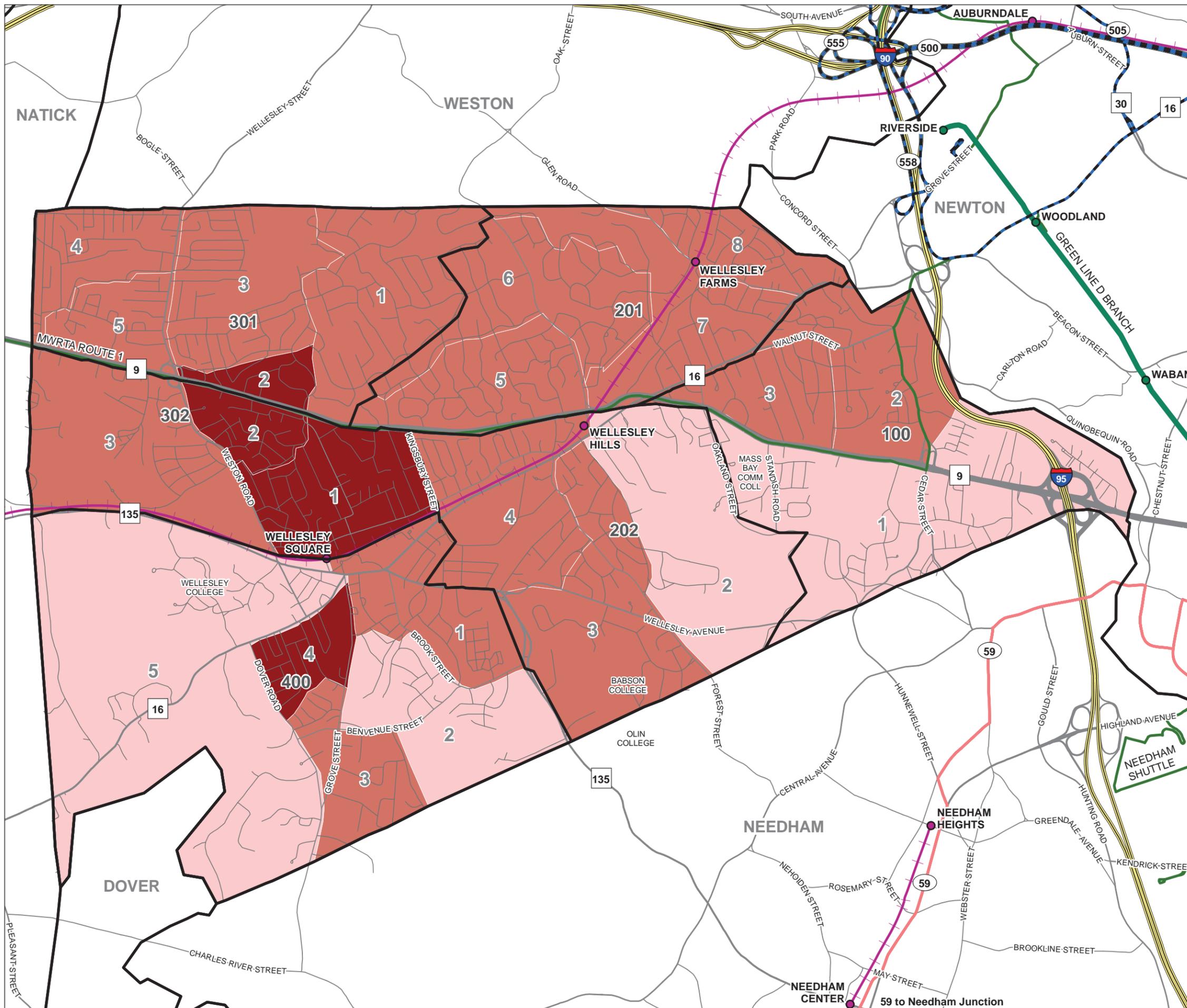


FIGURE 1
Population Density

Population Density (people per square mile)

- Fewer than 2,000
- 2,000-3,999
- 4,000 or more

- Census Tract Boundary
- Census Block Group Boundary

MBTA Light Rail and Commuter Rail

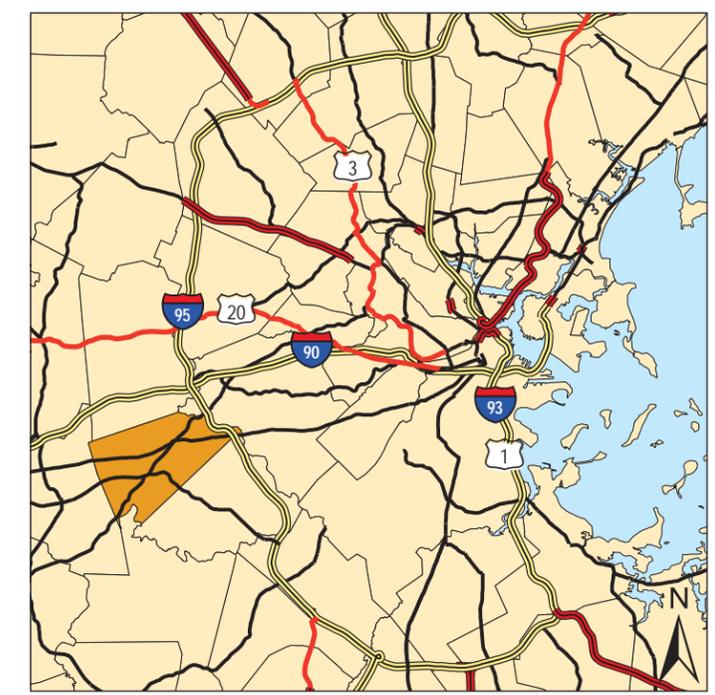
- Green Line
- Commuter rail line

Bus Routes

- MBTA route
- MBTA express route
- Non-MBTA route



Wellesley Transit Study
CTPS



Employment Density

Employment density is another major factor used to evaluate transit potential, since work trips typically account for more than one-half of transit system ridership. The employment density in Wellesley is 1,983 employees per square mile, and the density by block group ranges from 119 to 5,753. Figure 2 maps the employment density (by U.S. Census block group) in Wellesley. As shown in Figure 2, there are eight block groups with employment densities over 1,300 employees per square mile. These include Wellesley College, Wellesley Square, Babson College, Massachusetts Bay Community College, and much of the east end of town along Route 9 near Route 128, Cedar Street, and Route 16.

Block groups with fewer than 625 jobs per square mile were assigned a score of 0; block groups with 625 to 1,300 jobs per square mile were assigned a score of 1; and block groups with more than 1,300 jobs per square mile were assigned a score of 2.

Median Household Income

Income levels can be used to assess the propensity to use transit. Incomes in Wellesley are high; the median household income in Wellesley is \$125,814, and by block group ranges from \$46,500 to \$267,442. Block groups with a median household income greater than \$135,000 were assigned a score of 0; block groups with a median household income between \$105,000 and \$134,999 were assigned a score of 1; block groups with a median household income between \$95,000 and \$104,999 were assigned a score of 2; and block groups with a median household income less than \$95,000 were assigned a score of 3.

Household Vehicle Ownership

The availability of a vehicle to make any given trip can also be used to assess the propensity to use transit. Vehicle ownership in Wellesley is high; the average number of vehicles per household is 1.86 overall and by block group ranges from 1.40 to 2.27. Block groups with more than 2.0 vehicles per household were assigned a score of 0; block groups with 1.8 to 2.0 vehicles per household were assigned a score of 1; and block groups with fewer than 1.8 vehicles per household were assigned a score of 2.

Number of Zero-Vehicle Households

Households that do not own vehicles have the greatest propensity to use transit. The use of both this factor and the number of vehicles per household identifies those areas where transit dependency is highest. The total number of households without a vehicle in Wellesley is 314 (4% of all Wellesley households) and ranges from 0 to 80 by block group. Block groups with no zero-vehicle households were assigned a score of 0; block groups with 1 to 16 zero-vehicle households were assigned a score of 1; and block groups with more than 16 zero-vehicle households were assigned a score of 2.

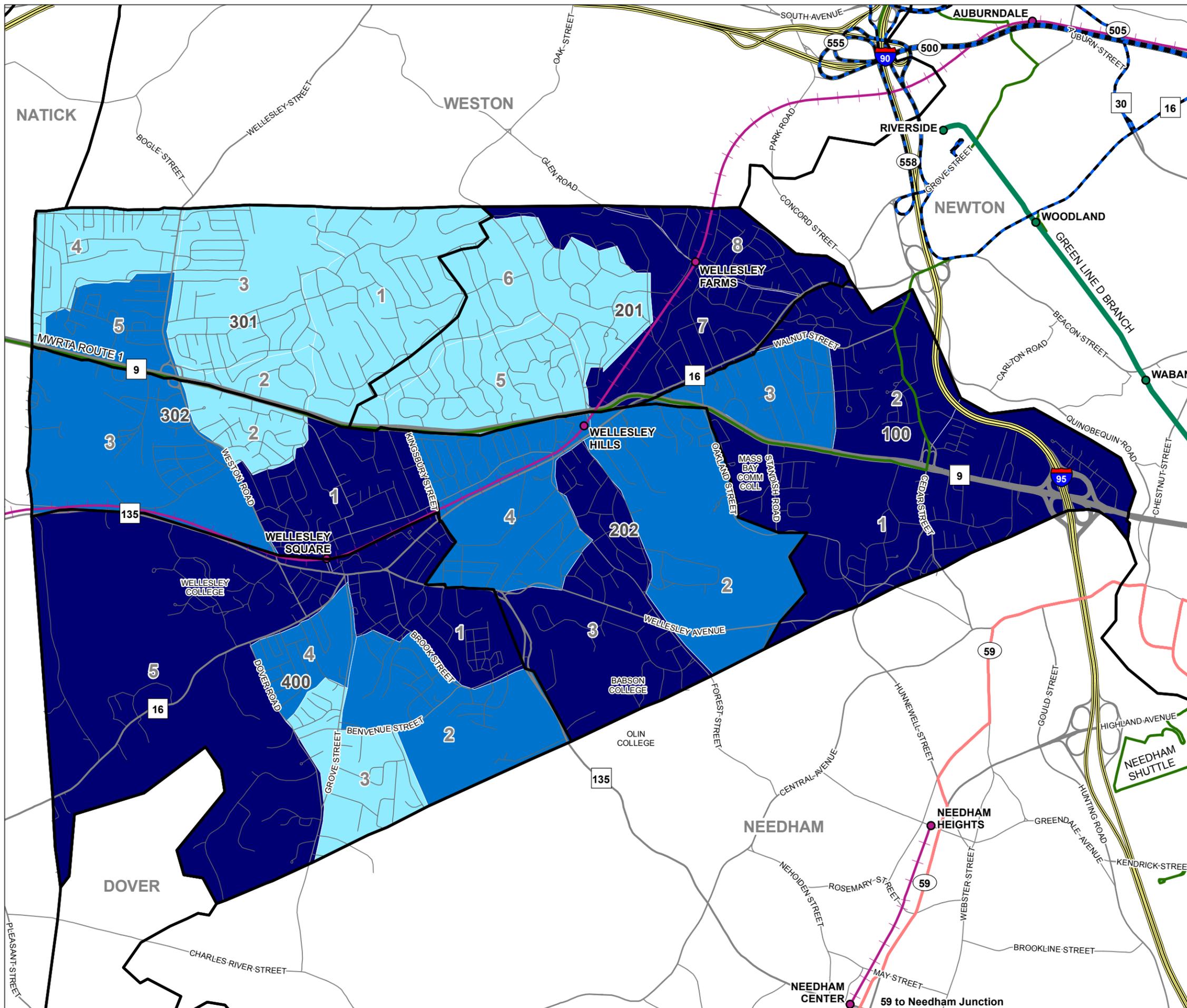


FIGURE 2
Employment Density

Employment Density (jobs per square mile)

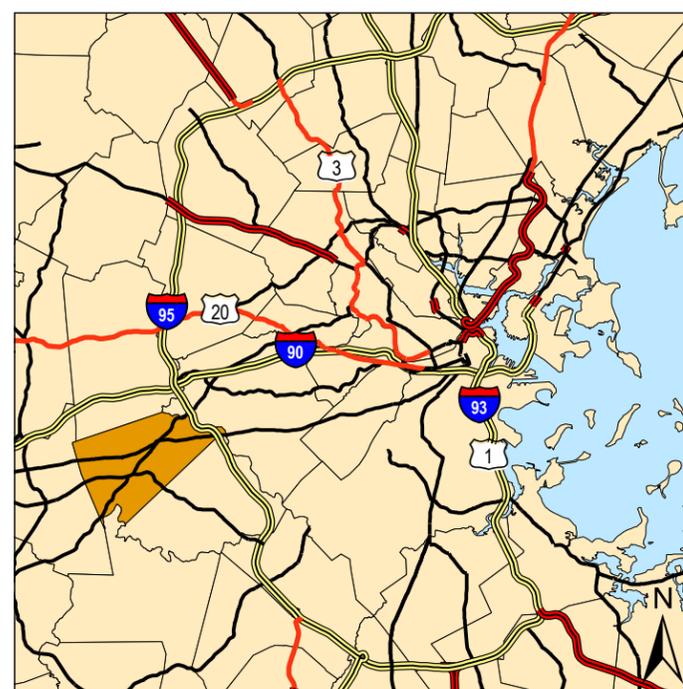
- Fewer than 625
- 625-1,300
- More than 1,300

Other Features:

- Census Tract Boundary
- Census Block Group Boundary
- MBTA Light Rail and Commuter Rail
 - Green Line
 - Commuter rail line
- Bus Routes**
 - MBTA route
 - MBTA express route
 - Non-MBTA route

0 0.2 0.4 0.8 1.2 Miles

Wellesley Transit Study
CTPS



Residents Age 10 to 17

The number of residents 10 to 17 years old in Wellesley is 2,768 (10% of the population) and ranges from 49 to 207 in the block groups. Block groups with 90 or fewer residents 10 to 17 years old were assigned a score of 0; block groups with 91 to 140 residents 10 to 17 years old were assigned a score of 1; and block groups with more than 140 residents 10 to 17 years old were assigned a score of 2.

Residents Age 70 and Older

There are 2,795 residents 70 years of age or older in Wellesley (11% of the population), and the number by block group ranges from 37 to 276. Block groups with fewer than 75 residents age 70 or older were assigned a score of 0; block groups with 75 to 164 residents age 70 and older were assigned a score of 1; and block groups with more than 164 residents age 70 and older were assigned a score of 2.

Composite Transit Criteria Ratings

A composite rating for each block group was calculated by summing the scores for all criteria. Table 2 shows, for each block group, the score on each individual criterion, the composite score, and a transit potential value of 1 (lowest), 2, or 3 (highest). The composite scores range from 2 to 14, and the median score is 8. Figure 3 shows the relative transit potential of each block group according to the three classifications. Those with the lightest shading received the lowest composite scores (0 to 4) on the transit potential criteria, and those with the darkest received the highest scores (9 to 14).

Figure 3 also shows activity centers in Wellesley. As shown in Figure 3, most of the block groups with the greatest transit potential (composite score of 9 to 14) are located (1) west of Wellesley Hills between Routes 9 and 135 and south of Wellesley Square, and (2) on the east edge of town. The map also shows that these block groups are home to most of the major employment, commercial development, and subsidized housing in Wellesley.

There are two additional block groups that score in the mid-range for transit potential that merit consideration: (1) the block group that houses Wellesley College and much of the commercial development of Wellesley Square (404400.5), and (2) the block group that houses Babson College (404202.3). The score for the block group that houses Wellesley College may be low because it is very large (in terms of area), and much of it is taken up by Lake Waban and undeveloped land. Both of these block groups offer unique concentrations of potential riders in their large student resident populations.

TABLE 2
Transit Criteria Ratings: By Criterion and Composite

Census Block Group	Population Density	Employment Density	Median Household Income	Vehicles per Household	Zero-Vehicle Households	Age 10 to 17	Age 70+	Minority Density	Composite	Transit Potential Value
404100.1	0	2	3	1	2	2	2	1	13	3
404100.2	1	2	3	2	0	1	0	2	11	3
404100.3	1	1	0	0	0	1	0	1	4	1
404201.5	1	0	1	0	0	0	2	0	4	1
404201.6	1	0	0	0	1	0	0	0	2	1
404201.7	1	2	0	0	0	0	1	0	4	1
404201.8	1	2	1	2	1	2	1	1	11	3
404202.2	0	1	2	1	1	2	1	0	8	2
404202.3	1	2	0	0	1	1	0	2	7	2
404202.4	1	1	3	2	2	0	2	1	12	3
404301.1	1	0	0	0	1	0	1	0	3	1
404301.2	2	0	2	2	1	2	2	2	13	3
404301.3	1	0	1	1	1	0	1	0	5	2
404301.4	1	0	2	1	0	1	0	2	7	2
404301.5	1	1	1	1	1	2	0	2	9	2
404302.1	2	2	2	2	2	1	1	1	13	3
404302.2	2	0	1	1	0	2	0	2	8	2
404302.3	1	1	2	2	1	2	2	1	12	3
404400.1	1	2	3	2	2	1	2	1	14	3
404400.2	0	1	0	0	0	2	1	0	4	1
404400.3	1	0	0	0	1	1	0	0	3	1
404400.4	2	1	3	2	2	2	2	1	15	3
404400.5	0	2	0	1	1	1	1	2	8	2

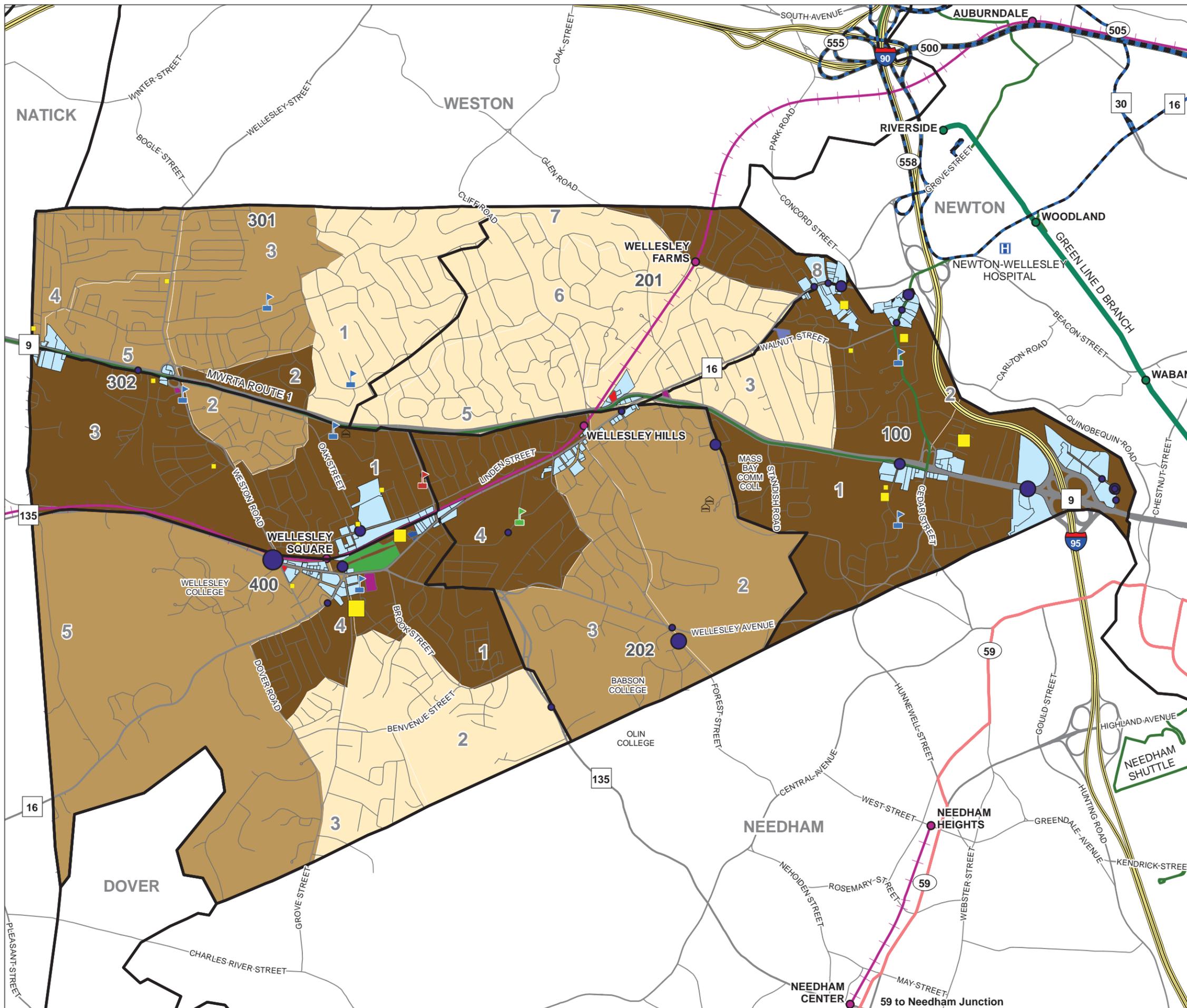


FIGURE 3
Transit Potential and
Activity Centers

- Transit Potential Value (Lowest to Highest)**
-
- Census Tract Boundary
 - Census Block Group Boundary
 - MBTA Light Rail and Commuter Rail**
 - Green Line
 - Commuter rail line
 - Bus Routes**
 - MBTA route
 - MBTA express route
 - Non-MBTA route
 - Public Schools**
 - ▲ Elementary school
 - ▲ Middle school
 - ▲ High school
 - Hospitals and Long-Term-Care Facilities**
 - Ⓜ Hospital
 - Ⓜ Long-term-care facility
 - Businesses with More than 100 Employees**
 - 100-200
 - 201-450
 - 451-900
 - 901-1,700
 - Subsidized Housing Units**
 - 1-15
 - 16-60
 - 61-90
 - 91-125
 - Parcels**
 - Town Hall and Hunnewell Park
 - Library
 - Fire station
 - Police station
 - Warren Recreation Center
 - Commercial



APPENDIX C

About the MetroWest Regional Transportation Authority

History

The MWRTA was established in 1996 and currently encompasses eleven communities in MetroWest (Ashland, Framingham, Holliston, Hopkinton, Marlborough, Natick, Sherborn, Southborough, Sudbury, Wayland and Weston). The Authority operates bus service based on the expressed needs of its members. The level of service provision varies from community-to-community. For example, the headquarters (or hub) of the system is on the Framingham/Natick town line along Route 135 and service to those communities is quite substantial. Whereas there are other member communities with less commercial activity, such as Sherborn and Holliston, modest levels of service are provided, primarily to transport residents to employment and commercial centers in the larger communities. Rather exceptionally, the Town of Weston has officially joined the MWRTA and has a voting member on the governing board, but at present receives no service from the MWRTA system. Diversity of system utilization across communities is a byproduct of the Authority's structure. That is, when new services are proposed by one or more communities, the Authority responds by assessing the cost of operating the new service to those same communities.

Governance Structure

The MWRTA is controlled by an Advisory Board currently consisting of twelve members representing the eleven member communities and one representative of the disabled community. The Advisory Board makes decisions regarding the provision of transportation services offered by the Authority and employs an Administrator to oversee day-to-day operations and personnel. Statutory governance for all RTAs is found in Massachusetts General Law Chapter 161B and additional regulations derived there from.