3225 MAIN STREET • P.O. BOX 226
BARNSTABLE, MASSACHUSETTS 02630

(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org

CAPE COD COMMISSION

Buzzards Bay Commuter Rail Extension

Local Impact Report

April 2015

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Executive Summary

The Town Bourne is considering an extension of the Middleborough/ Lakeville commuter rail line to Buzzards Bay, Bourne's downtown corridor. The 18-mile extension would run on existing track. Various scheduling scenarios have been discussed for trains departing Buzzards Bay in the morning to reach the Boston area during the traditional start-of-day time and returning to Buzzards Bay accommodating the traditional leave-work time.

While beginning an assessment of such a proposal, Bourne's Transportation Advisory Committee (BTAC) and the Bourne Board of Selectmen requested technical assistance from the Cape Cod Commission. The BTAC members were familiar with a 2007 Central Transportation Planning Staff (CTPS) study of a similar extension of service. A number of recent and proposed upgrades to the infrastructure necessitated a close review of the 2007 data. Additionally, the BTAC was looking at several new questions about potential impacts to Bourne's downtown.

FIGURE 1: PROPOSED MBTA EXTENSION TO BUZZARDS BAY

Discussions between the BTAC and the Cape Cod Commission began in the summer of 2014; however much of the work began in November 2014 after coordinating with the Buzzards Bay Commuter Rail Extension Feasibility Study scope of work performed by the Massachusetts Department of Transportation (MassDOT) Central Transportation Planning Staff (CTPS) . Their Buzzards Bay Commuter Rail Extension Feasibility scope of work showed some overlap with the Cape Cod Commissions work but omitted several areas that the BTAC was interested in. The CTPS study is targeted for completion in June, after critical dates defined by the town of Bourne. The Buzzards Bay Commuter Rail Extension is not currently programmed for funding through MassDOT or the MBTA. A critical step in moving this project forward is MassDOT Rail and Transit placing this item on their project list in the Capital Improvement Plan (CIP).

This report was compiled in anticipation of a Bourne Town Meeting vote in February 2015 about placing a question regarding possible admission to the Massachusetts Bay Transportation Authority (MBTA) assessment district on the ballot in May 2015. In February 2015 the town voted in favor of placing the question on the May 19th ballot. Presented below is the current status of the Cape Cod Commission study:

- Two detailed parking scenarios were developed.
- Intersection traffic impacts were evaluated at Academy Drive/Main Street, the entrance and exits to the parking areas, and St. Margaret's Street/Main Street
- Traffic impacts on the Main Street corridor between Academy Drive and St. Margaret's Street were evaluated.
- A localized economic analysis based on case studies for commuter rail was prepared.
- Public outreach was performed by presenting materials at Bourne Transportation Advisory Committee meetings, who reports to the Bourne Board of Selectmen, and through local newspaper articles.
- A parking policy including access to the Army Corps Canal Viewing lot, on-street parking, and other existing parking lots is discussed.
- Assessment estimates for the Town of Bourne were received from the MBTA and MassDOT in the case that the town is admitted to the assessment district or if service is extended to Buzzards Bay.

Relevant Studies and Projects

Canal Area Railroad Track Improvements

Rail track improvements on the north and south side of the Cape Cod Canal have been proposed in the canal area that will increase overall operation of the rail network. Improvements include sidings that allow multiple trains to be on track in the canal area at the same time. This will decrease the wait time to cross the Cape Cod Canal Rail Bridge for rail users including Mass Coastal Energy Trains, Cape Cod Central Railroads Excursion Trains and the CapeFLYER.

Canal Area Study

The Canal Area Study is currently being performed by MassDOT. This study looks at the complex seasonal transportation issues in the Canal Area and evaluates potential solutions for all modes of transportation.

2007 and 2015 Central Transportation Planning Staff (CTPS) studies

The CTPS studies look at the statewide financial and transportation impacts of extending commuter rail to the Buzzards Bay area from the MassDOT perspective. The 2015 study is expected to conclude in June 2015 and is an update of the 2007 study.

TABLE 1: DRAFT CTPS RIDERSHIP ESTIMATES

Estimated Inbound Weekday Trip Origins on a Buzzards Bay Extension At 2015 Travel Levels

Origin Town	2015 Origins
Bourne	170
Barnstable	105
Sandwich	90
Falmouth	60
Mashpee	30
Yarmouth	30
Other Barnstable County	50
Subtotal Barnstable County	535
Wareham	235
Rochester	40
Mattapoisett	35
Marion	20
Carver	10
Subtotal Selected Plymouth County	340
Total	**875**

The 2015 CTPS study scope of work includes updating the ridership estimate in the 2007 study with up-to-date data and methods. The 2007 study concluded that parking was the constraining issue and estimated an initial ridership of 1,776 passengers, projected to 2,750 passengers in 2020.The table to the right, showing updated ridership estimates for the 2015 report, was presented to the Cape Cod Commission staff as a draft document. The draft estimated ridership of 875 passengers on the extension. Of this ridership 535 passengers would come from Barnstable County. CTPS states that this estimate could be reduced if maximum service (extending all trains from Middleborough to Bourne) is not provided. Cape Cod Commission staff agrees with the conclusions presented in the draft, even though the ridership estimates used in the traffic impact analysis section of this report differ and use a value of 800 passengers per day. At the time that the traffic impact analysis was performed the draft conclusions in the 2015 CTPS study were not available, but Cape Cod Commission staff and CTPS recognized that the conclusions in the 2007 study would be improved by in the 2015 study.

Estimated Ridership and Parking Demand

This study assumes ridership of 800 passengers per day for the Buzzards Bay Station. This assumption is not dependent on the size of the parking lot or availability of other stops on the line. The estimate of 800 passengers per day was reduced from the ridership estimates in the 2007 CTPS study following review of existing MBTA ridership data and user cost estimates for competing commuter options. The 2007 CTPS estimate is for the entire extension from Middleborough/Lakeville and does assume that a stop could be added in Wareham in addition to Buzzards Bay, Bourne. Current studies confirm the 2007 CTPS Study estimate was an overestimate and suggest that 800 passengers per day could be conservative for traffic impact analysis.

A sample of MBTA ridership data from 37 of the 138 MBTA stations can be found on the following page. This data was compiled from the MBTA website or the MBTA Blue Book (see appendix A). The data is separated by commuter line extensions. Within the commuter line extensions, the data is organized by distance from Boston starting with the closest stations. Locations were selected based on general comparisons to a potential stop at Buzzards Bay. Not all of the MBTA stations are presented. Buzzards Bay would be added to the first group of stations following Middleborough. This table shows the owner of the parking lot, the type of parking lot, the number of spaces, the cost to park, an audit from April 2013 of inbound passengers, and the average availability of the parking lot.

The data suggests that the number of parking spaces and the inbound ridership from an April 2013 audit at MBTA stations does not have reliable correlation. The data also suggests that parking lots are not always filled. In the case of Greenbush, a station that was recently added to MBTA service, the ridership is about half of the available parking spaces. In the case of Beverly Depot, the ridership is almost 20 times the available parking.

Based on data provided in Appendix A, it does not appear that ridership would grow predictably. The data suggests that ridership is relatively consistent from year to year. The data shows that the highest ridership audited in April 2013 was at the Providence Station at 2,325 inbound passengers. The report also presents data for ridership by distance to Boston. This data shows that a station located farther from Boston is likely to have more ridership and parking demand than one that is close.

In short, ridership for a new station is difficult to estimate. The best way to know how a new station will perform is to start with a small scale of associated infrastructure and have a plan for expansion.

TABLE 2: SAMPLE OF EXISTING MBTA COMMUTER RAIL DATA

Existing Commuter Rail Station Examples						
STATION	Owner	Facility Type	Parking Spaces 2014	Parking Rate	Inbound Boardings (2013 audit)	Average Week Day Availability
HOLBROOK	LAZ Parking	Honor	369	$4.00	584	57%
MONTELLO	LAZ Parking	Honor	347	$4.00	655	50%
BROCKTON	Town/City	Surface	200	$1.00	778	
CAMPELLO	LAZ Parking	Honor	535	$4.00	692	79%
BRIDGEWATER	LAZ Parking	Honor	504	$4.00	1036	63%
MIDDLEBOROUGH	LAZ Parking	Honor	769	$4.00	886	54%
KINGSTON / ROUTE 3	LAZ Parking	Honor	1039	$4.00	683	50%
PLYMOUTH	LAZ Parking	Honor	96	$4.00	30	64%
GREENBUSH	LAZ Parking	Honor	1000	$4.00	527	79%
WORCESTER	Town/City	Garage	500	$8.25	1475	60%
WESTBOROUGH	Central Parking	Honor	443	$4.00	759	42%
WEST NEWTON	Town/City	Surface	45	Free	284	
LOWELL	Local RTA	Garage	695	$5.00	1770	
WINCHESTER CENTER	Town/City	Surface	237	Permit	789	
WEST MEDFORD	Town/City	Off-Street	30	Free	819	
FORGE PARK / 495	AIM Parking	Honor	716	$4.00	747	44%
ENDICOTT	Town/City	Surface	45	Free	350	
ROUTE 128	LAZ Parking	Garage	2589	$5.00	853	25%
NEEDHAM HEIGHTS	Town/City	Surface	243	$4.00	1104	
SALEM	LAZ Parking	Honor	340	$4.00	2122	
BEVERLY DEPOT	LAZ Parking	Honor	122	$5.00	2058	
BEVERLY FARMS	MBCR	Surface	25	Free	207	
MANCHESTER	Town/City	Off-Street	71	Free	307	
NEWBURYPORT	LAZ Parking	Honor	814	$4.00	812	79%
ROCKPORT	Town/City	Surface	88	Free	323	
IPSWICH	Town/City	Surface	170	Free	579	
GLOUCESTER	LAZ Parking	Honor	100	$4.00	590	77%
CONCORD	Town/City	Surface	86	Free	592	
LITTLETON / 495	MBCR	Off-Street	47	Free	313	69%
KENDAL GREEN	Town/City	Off-Street	57	Free	162	
SHIRLEY	Town/City	Off-Street	25	Free	315	
AYER	Town/City	Surface	30	Free	435	
FITCHBURG	Local RTA	Garage	400	$3.00	516	
HASTINGS	Town/City	Off-Street	6	Free	44	
HAVERHILL	Five Star Parking	Honor	159	$4.00	576	78%
NORTH WILMINGTON	Town/City	Off-Street	20	Free	310	
BRADFORD	Five Star Parking	Honor	303	$4.00	278	78%

RIDERSHIP AND PARKING CORRELATION

As discussed in the previous section, the relationship between the number of parking spaces and inbound passengers for stations in Massachusetts does not show predictable correlation based on data presented by the MBTA. It appears that each station has unique characteristics. Some MBTA stations show less ridership than available parking but several stations show more ridership than parking.

Institute of Transportation Engineers (ITE) data shows that for light transit stations in suburban areas, the correlation between ridership and parking demand has a high variation. Data presented by ITE in the table below suggests that there are 20-490 vehicles parked for every 1,000 daily boarding, based on 30 study sites. The average peak period demand for parking is 136 vehicles per 1000 daily boardings (passengers). This metric suggests average demand for 109 parking spaces and a range of 16 to 392 parking spaces for 800 daily boardings. This study was for light rail transit stations which are different than commuter rail transit stations. Light rail is classified as short distance passenger trains or subway. Heavy rail is classified as inter-state passenger trains such as Amtrak. Commuter rail is in between these two classifications because it is a medium distance passenger train.

As stated previously, ridership from a single station is difficult to estimate. The relation between ridership and parking demand is also uncertain. The best way to know how a new station will perform is to start with a small scale parking lot and have a plan for expansion.

TABLE 3: 4TH EDITION ITE PARKING GENERATION DATA

Statistic	Peak Period Demand
Peak Period	9:00 a.m.–3:00 p.m.
Number of Study Sites	30
Average Size of Study Sites	2,200 daily boardings
Average Peak Period Parking Demand	136 vehicles per 1,000 daily boardings
Standard Deviation	117
Coefficient of Variation	86%
95% Confidence Interval	94–178 vehicles per 1,000 daily boardings
Range	20–490 vehicles per 1,000 daily boardings
85th Percentile	212 vehicles per 1,000 daily boardings
33rd Percentile	72 vehicles per 1,000 daily boardings

EXISTING PARKING

Currently, there are several areas to park a vehicle in Buzzards Bay while visiting local businesses, attending higher education or for commuting purposes. Several parking lots in proximity to the potential commuter rail station are listed below:

- Approximately 60 spaces at the current Buzzards Bay Station occasionally used by Mass Maritime Academy students outside of the summer months and by intercity bus passengers traveling to Providence. This parking lot is owned by MassDOT.
- Approximately 180 spaces in the Army Corps Cape Cod Canal parking lot that is connected to the Buzzards Bay Station parking lot is used for recreational purposes year round including access to the town park and canal bike path
- Approximately 100 spaces in the dirt lot at the National Marine Life Center owned by the Town of Bourne
- Approximately 200+ free on-street parking spaces on Main Street
- Approximately 100 spaces in a large fenced-in, paved, privately owned space north of Main Street that is used by Mass Maritime students outside of the summer months
- Approximately 100 space lot at St. Margret's Church
- Approximately 100 space lot at the marina to the south of the station that is used by Mass Maritime students outside of the summer months and boaters during the summer
- Approximately 100 spaces in a large open, privately owned paved space/parking lot near Liberty Liquors off of St. Margret's Street
- Park and Ride Facility in Sagamore (5.5 miles away) with approx. 250 spaces, consistently at capacity with intercity bus passengers traveling to Boston and carpoolers

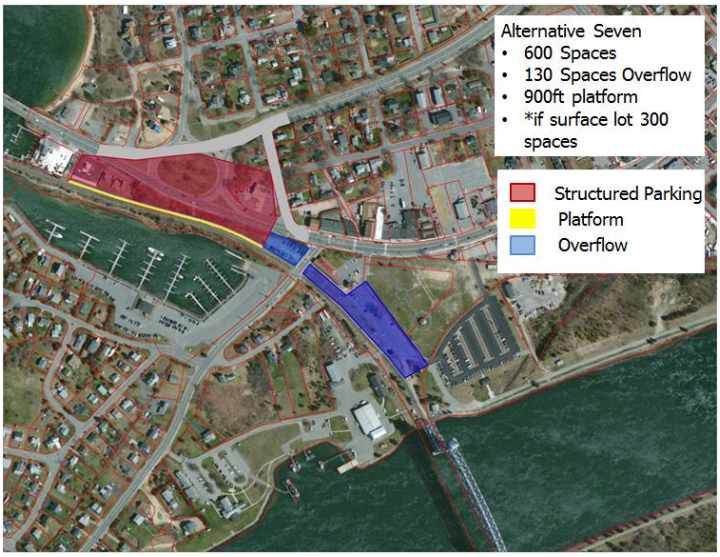
While this list shows the potential for adequate parking in the start-up phase of extending commuter rail, one issue needs resolving: how to reserve the spaces for commuters and at other parking locations preserve spaces from being used by commuters. This issue is discussed on page 13 but needs further study, perhaps assisted by professional parking planners.

RAIL PLATFORMS

The MBTA has stated that a 900 foot raised platform is desired for new stations. This length will accommodate the most passenger cars that the MBTA dispatches. A raised platform provides handicap access. The current platform, which is less than 900 feet and is not raised, will need to be reconstructed. There is a temporary platform used by the CapeFLYER that is less than 100 feet in length at the Buzzards Bay Train Station site.

According to the MBTA Blue Book, the Middleborough station accommodates trains with six cars, each car 85 feet in length, at every scheduled stop. By this standard, a raised platform of 800 feet could access to all of the passenger cars. Since the Buzzards Bay Station would be at the end of the service line, all of the passenger cars may not need to be accessed due to capacity and demand. Currently the distance between Academy Drive and the Cape Cod Canal Rail Bridge is estimated to be between 800 and 900 feet. Realigning Academy Drive, as presented in a parking alternative in the next section, would allow for more space.

The location of the platform was initially discussed with the Bourne Transportation Advisory Committee but it was identified that the most feasible location where the platform could be placed is in its current location. Furthermore, the design of the platform is outside of the scope of work for this study. Two concepts that were further investigated are presented below; the image on the left shows a platform alternative location that was removed from the consideration.



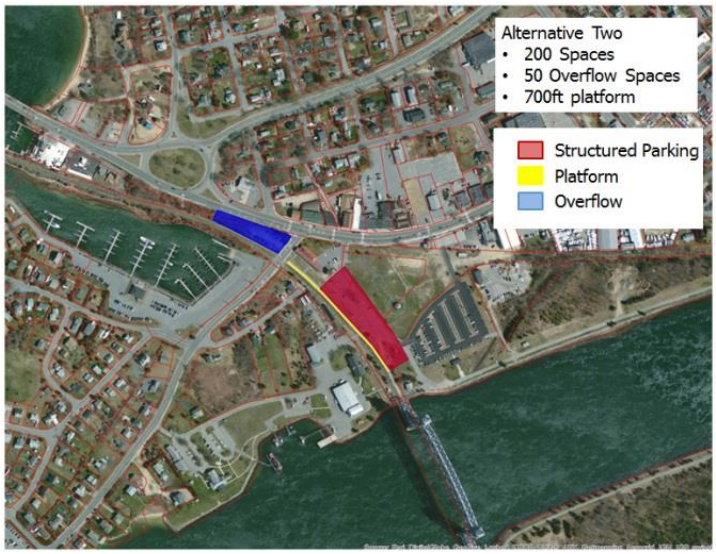


FIGURE 2: SAMPLES OF PRELIMINARY PARKING LOT CONCEPTS

120 SPACE ALTERNATIVE

The alternative below presents a low cost retrofit to the existing state-owned parking lot. In this layout, the existing lot is expanded towards the canal and a few feet to the north into the town park to include 120 spaces. In addition to the 120 spaces, the lot to the west of Academy Drive could be used for up to 30 additional spaces. Since this option has a minimal amount of parking, it is important that a drop-off area and bike parking are provided and that pedestrian and transit access is available.

In this layout, a drop-off area is located south of the parking lot access point and bike parking is located in the red shaded area. Also, in the red shaded area are space amenities such as picnic tables and small retail kiosks. This parking alternative keeps the current access point from Main Street and shows a connection to the Army Corps parking lot. Providing this through way could alleviate some of the traffic impacts by providing an alternative entrance and exit.

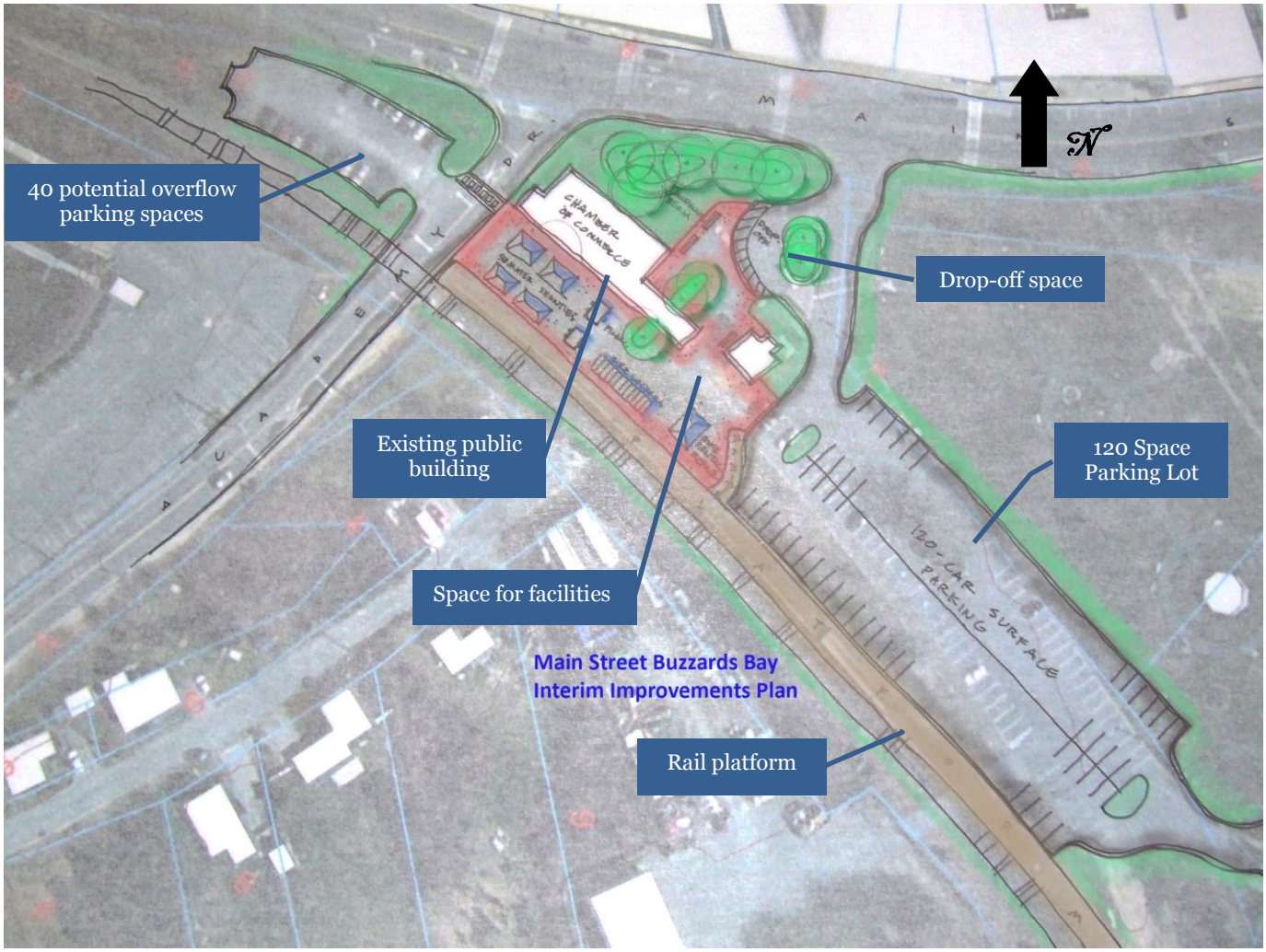


FIGURE 3: 120 SPACE PARKING ALTERNATIVE

400-600 SPACE ALTERNATIVE

A structured parking lot is shown in Figure 7. The allotted space allows for approximately 200 spaces per floor. Two floors will result in 400 spaces, and three floors will result in 600 spaces. If additional parking is warranted, future expansion near Memorial Circle or an additional level of parking could be added. It has been suggested that a remote structure on the current Memorial Circle could have multiple uses, including housing or retail shops above parking.

A one-way entrance to the station is located south of the Academy Drive intersection. Providing a one way entrance and a drop-off area at the depicted locations could alleviate some of the congestion. The drop-off area in this alternative is located west of the current Chamber of Commerce building. The exit of the commuter lot is located at the connection to the Army Corps Canal Area Parking Lot. Bike parking is also provided adjacent to the Chamber of Commerce building.

In addition to the proposed parking area, this alternative includes two other major infrastructure changes that are not dependent on the parking structure but could be a benefit if the parking structure is constructed. The first is the connection of Academy Drive and the neighborhood to the north of the Bypass. This will introduce a new southbound leg on the Academy Drive intersection and a four-way intersection at the Bypass. Introducing the new southbound leg at this intersection will require realigning Academy Drive, moving the current location of the intersection to the west. This could take some space from the town marina but not enough to take away the availability of the launch ramp or a significant number of trailer parking spaces. The realignment could also result in more space for a commuter platform. The new intersection at the Bypass could warrant intersection control by a traffic signal. The second major infrastructure change will be to replace Memorial Circle with a safer and more accommodating intersection control method. The new network will create a grid network. This type of network is historically recognized as an effective way of supporting an urbanized area.

This alternative is recommended if a smaller build option is determined insufficient and the town desires to expand. A similar case occurred on the Rockport line resulting in the expansion of parking at several commuter rail station parking lots on that line. Replacing Memorial Circle with a different traffic pattern was proposed in 2007 and adopted in a concept by the Bourne Board of Selectman.

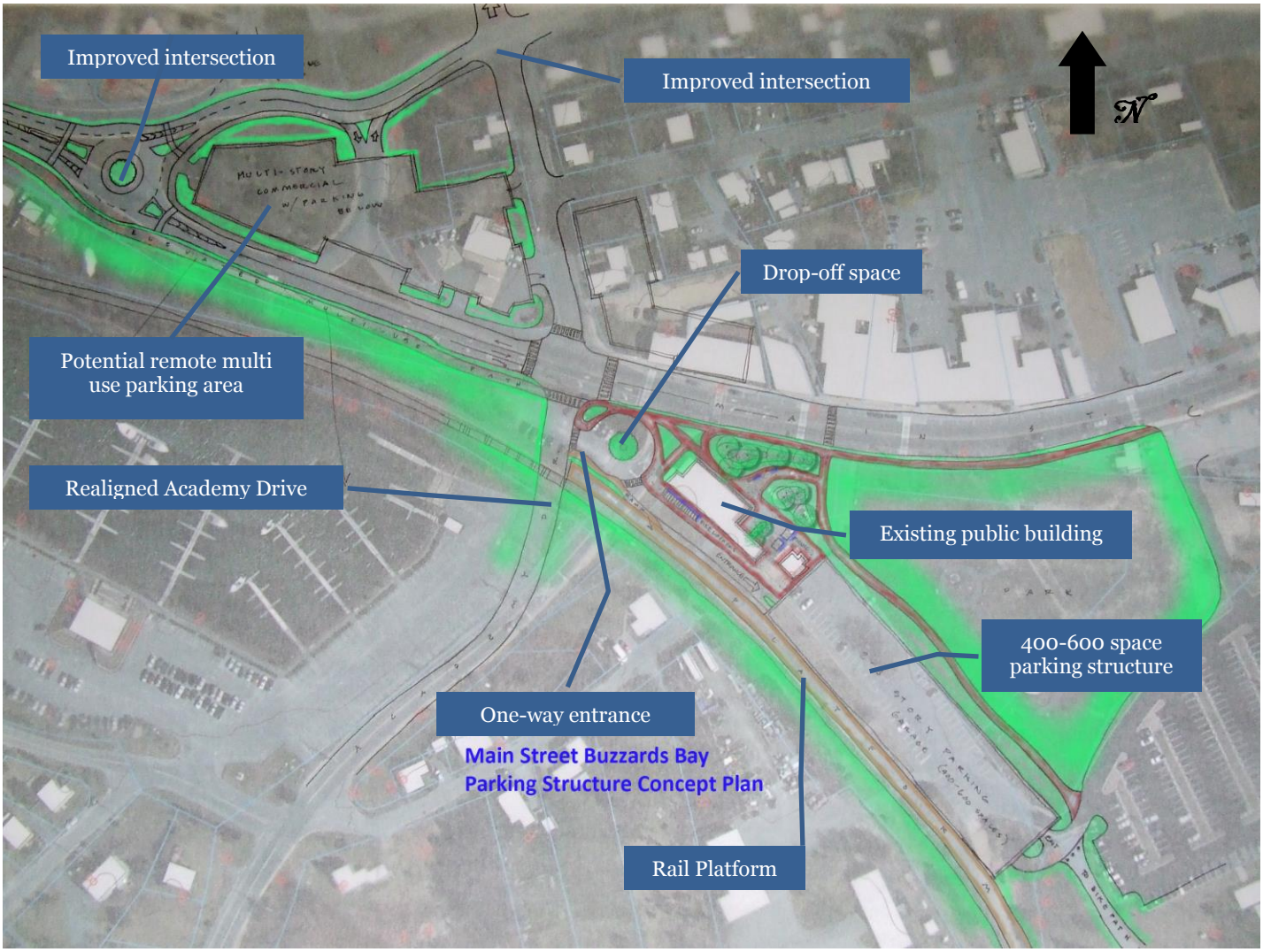


FIGURE 4: 400-600 SPACE PARKING ALTERNATIVE

PARKING STRUCTURES

In recent years, many communities have constructed aesthetically pleasing and context-sensitive parking structures. There are several aesthetic enhancements such as traditional housing facades look or screening with landscaping. It was suggested at a Bourne Transportation Advisory Committee meeting that an exterior wall of a structure could even be used to screen to movies. Below are some pictures of aesthetic enhancements that could be constructed with parking garages.

FIGURE 5: EXAMPLES OF ATTRACTIVE PARKING STRUCTURES AND SCREENING

PARKING POLICIES AND ACCESS OPTIONS

There are several policies that should be investigated while discussing commuter rail parking. These policies will help to control the dispersion of parking to unwarranted areas and reserve the commuter rail parking for commuter rail passengers. In addition, transit, bike and pedestrian connections should be investigated to influence passengers to access the station in ways other than driving themselves. The policies and commuting options listed below should be further investigated by the town.

- Parking fees for existing commuter rail stations in Massachusetts were observed to be free, permit required, or within the range of $2-$30. The standard fee is $4.00. Installing a fee or requiring a permit in the commuter lot would help reserve the space for commuter rail passengers but could encourage commuters to seek free parking elsewhere. Providing free parking in the commuter lot may not reserve spaces for the commuters.
- A time sensitive parking restriction along Main Street would discourage commuter rail passengers from parking along Main Street. In some cases, time restrictions also bring economic benefits to roadside businesses by encouraging parking turnover.
- A parking fee on Main Street would discourage commuter rail passengers from parking on Main Street. In some cases, parking fees also bring economic benefits to roadside businesses by encouraging parking turnover.
- Signs stating “No Commuter Rail Parking” along Main Street or in the Army Corps Lot could discourage commuter rail passengers from parking at these locations
- Parking lots and structures can be owned publicly by the town, city or a transit authority. A parking lot can also be owned privately by organizations including Five Star Parking, LAZ Parking, or AIM Parking. If the parking lot is privately owned, it typically has a parking fee.
- Currently the GATRA Route “Onset/Wareham Link 2” and CCRTA Route “Bourne Run” provide service to Main Street, Buzzards Bay. Bus connections could reduce the demand for parking because they could allow people to park remotely or travel from their homes if the transit routes are located nearby.
- East and west bike and pedestrian connections are provided by the Canal Bike Path. Connections to Wareham and residential neighborhoods to the north need to be developed. To the east there is sparse housing development but to the north there is more dense housing.

Traffic Impact

EVALUATED LOCATIONS

Intersections, including Academy Drive at Main Street, St. Margret's Street at Main Street, and the train station entrance and exits at Main Street, were evaluated for impacts. The Main Street corridor between Academy Drive and St. Margret's Street was also evaluated. These locations were chosen because they were likely to have the most severe impacts.

Academy Drive at Main Street is a semi-actuated, signalized intersection that provides access to Taylor's Point and the Massachusetts Maritime Academy. The signal timing phases were obtained from local records. The most recent file was from 1989 and showed actuation on the west-bound approach only. A visit to the intersection revealed that actuation was added to the northbound leg, with timing similar to the westbound. In the parking alternative that includes re-alignment of this intersection and new southbound leg signal timing was optimized.

St. Margaret's Street at Main Street is an un-signalized intersection east of the Buzzards Bay Station. St. Margret's Street connects the Bypass and neighborhoods to the north of Main Street to Main Street. It is currently difficult at times to take a left hand turn off of St. Margret's Street on to Main Street due to traffic volumes and nearby business access.

The existing Buzzards Bay Station parking lot entrance is located to the east of Academy Drive. There is also access to the east of this location through the Army Corps Lot. Maintaining this connection could disperse traffic impact but could also encourage passengers to park in the Army Corps lot. It was assumed in the analysis that both access points would remain for the 120 space alternative. The 400-600 space parking alternative changes the entrance to south of Academy Drive. For analysis on this alternative, it was assumed that traffic entered from this access point and exited through the Army Corps Lot.

Main Street is the central business area in Buzzards Bay. It has two lanes, no turning pockets and a shoulder of 4-5 feet. The street was recently reconfigured with lighting, improved sidewalks and bump-outs. Properties along Main Street are comprised of public facilities, retail, restaurants, offices, residential housing and green space.

METHODS OF ANALYSIS

A Level of Service (LOS) model was used for analysis. LOS is defined by the Highway Capacity Manuel (HCM), published by the Transportation Research Board (TRB), as a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Analysis for signalized intersections is measured as the average delay or the time it takes to pass through the intersection for all movements; for un-signalized intersections each movement is analyzed individually. Roadway segments are measured by the reduction in speed, time spent following another

vehicle and volume to capacity ratio. LOS analysis is appropriate for both freeway and local roads to determine congestion impacts.

Traffic volumes are modified by a peak hour factor. For this analysis high peak hour factors were used with the assumption that all of the train station traffic will occur in a 30 minute period in the morning, and a 15 minute period in the afternoon. Outside of these pulse intervals, traffic will function near normal levels.

The 2007 CTPS study identified that the running time from Middleborough to Buzzards Bay will be 20 to 25 minutes. The 2007 CTPS study also defines minimum, medium and maximum service schedules. At minimum service in the morning, the earliest train will depart Buzzards Bay at approximately 5 am and the latest will depart at approximately 7am, with two in between. In the afternoon, the earliest train will access Buzzards Bay at approximately 6:30pm and the latest will access at approximately midnight, with three in between. The medium service level included several trains around noon. The maximum service level extended all trains from Middleborough, accessing hourly. Numerous traffic volume counts on Main Street show that the existing peak hour typically happens from 4pm to 5pm. Based on proposed scheduling in the 2007 CTPS study, it was assumed that the peak traffic caused by the train will happen from 6am to 7am and 6pm to 7pm, outside of the peak hours of the existing traffic.

Traffic volumes were also assumed for 2024 projections during the peak season in the month of July. Monthly adjustment factors were used to inflate volumes collected outside of the summer months to peak season volumes.

The analysis examined peak season for a short period of the day and does not present the normal operations of the locations. The normal operation will likely have minimal effects because commuter traffic typically arrives in pulses outside of the typical peak hours.

TRIP GENERATION

Trip generation patterns are assumptions on how passengers would access the train station. MBTA ridership data shows that when parking capacity is lower than the demand, passengers may access the station by other means such as bus, walking, carpool, remote parking and drop-offs. It was assumed that for the 120 space parking lot, the majority of passengers would use these methods to access the station if 800 passengers per day is achieved. The larger parking alternative will allow the majority of passengers to drive and park individually.

Different modes of access to the station generate a different number of trips. A passenger that drives and parks is assumed to have two trips per day, one in the morning arriving to the station and one in the afternoon departing the station. Carpoolers also make two trips per day but it was assumed that two passengers would arrive per vehicle. Passengers that are dropped-off were assumed to have four trips per day, because the driver arrives and departs the station twice per day. Walkers and bus passengers were assumed not to have a roadway impact. How passengers access the station and the occupancy for each vehicle are presented in a table on the following page. In this table a Transportation Research Board (TRB) study on park and ride facilities suggests how passengers access park and ride facilities. This data was collected from about 100

different park and ride facilities of all different types and shows a high range of percentages.

For the 120 space alternative, a high number of walkers was assumed. This includes both the people walking from their house and those parking at an off-site location. Off-site locations have not been identified in this study. Several businesses in the area have expressed interest in accommodating MBTA commuters.

TABLE 4: ASSUMED METHODS OF ACCESS TO THE TRAIN STATION

	120 space lot access	600 space lot access	TRB Study (Average and Range)
Drop-offs (1 passenger/veh)	60%	15%	11.1% (0 to 31%)
Bus	2.5%	2.5%	1.3% (0 to 10%)
Walk	17.5%*	2.5%	4.4% (0 to 21%)
Carpool (2 passenger/veh)	10%	15%	11.0% (3 to 36%)
Single Driver (1 passenger/veh)	10%	65%	72.6% (38 to 91%)
Total Percentage	100%	100%	100.4%
Parked Cars	120 cars	580 cars	-

* Includes estimated number of people walking from off-site parking (135 cars)

The following table shows the new traffic incoming and exiting the parking area for the 120 space and 600 space alternatives. The 120 space alternative has more outgoing vehicles traveling away from the station in the morning and to the station in the afternoon as it was assumed that, for this alternative, more passengers will likely be dropped off due to parking constraints.

TABLE 5: PEAK HOUR VEHCILE VOLUMES GENERATED BY MBTA COMMUTER RAIL SERVICE

Time	120 space parking additional Vehicles	600 space parking additional Vehicles
6am to 7am Incoming	258	301
6am to 7am Outgoing	206	52
6pm to 7pm Incoming	192	48
6pm to 7pm Outgoing	240	280
4pm to 5pm Incoming	19	5
4pm to 5pm Outgoing	24	28

TRIP DISTIBUTION

The new vehicle trips will draw from two directions. From the west, cars will access from Wareham through Memorial Circle. From the east, cars will access from Belmont Circle traveling on the Bypass or Main Street. Based on the estimates of passengers from each town in the CTPS study, it was assumed that 20 percent will come from the west and 80 percent from the east. The 80 percent is further split into 50 percent traveling from Main Street and 30 percent traveling from the Bypass. It was assumed that of the cars traveling from the Bypass, 90 percent will continue to the Memorial Circle and 10 percent would turn left on St. Margret's Street. In the morning, this includes all passengers who are going to be dropped off, carpool, and be picked up. In the evening, this includes only those vehicles that will be picking up passengers.

Departing from the station it was assumed that 25 percent of vehicles will travel west towards Memorial Circle and 75 percent will travel east towards the Belmont Circle. Of the 25 percent traveling west, 80 percent were assumed to travel into Wareham and 20 percent will turn onto the Bypass. It was assumed that vehicles traveling to Belmont Circle will all travel on Main Street. In the evening, this includes those vehicles that will be picking up passengers, and passengers that parked themselves or carpooled. It was assumed that 15 cars per hour will turn left and right, into and out of the entrance/exit locations to use the Army Corps lot in addition to the MBTA commuter traffic.

The first image below shows the distribution for the first alternative. The star represents the second exit/entrance. It was assumed that this will divide traffic in half at access points to the station. The turns associated with each intersection are not presented in these graphics.

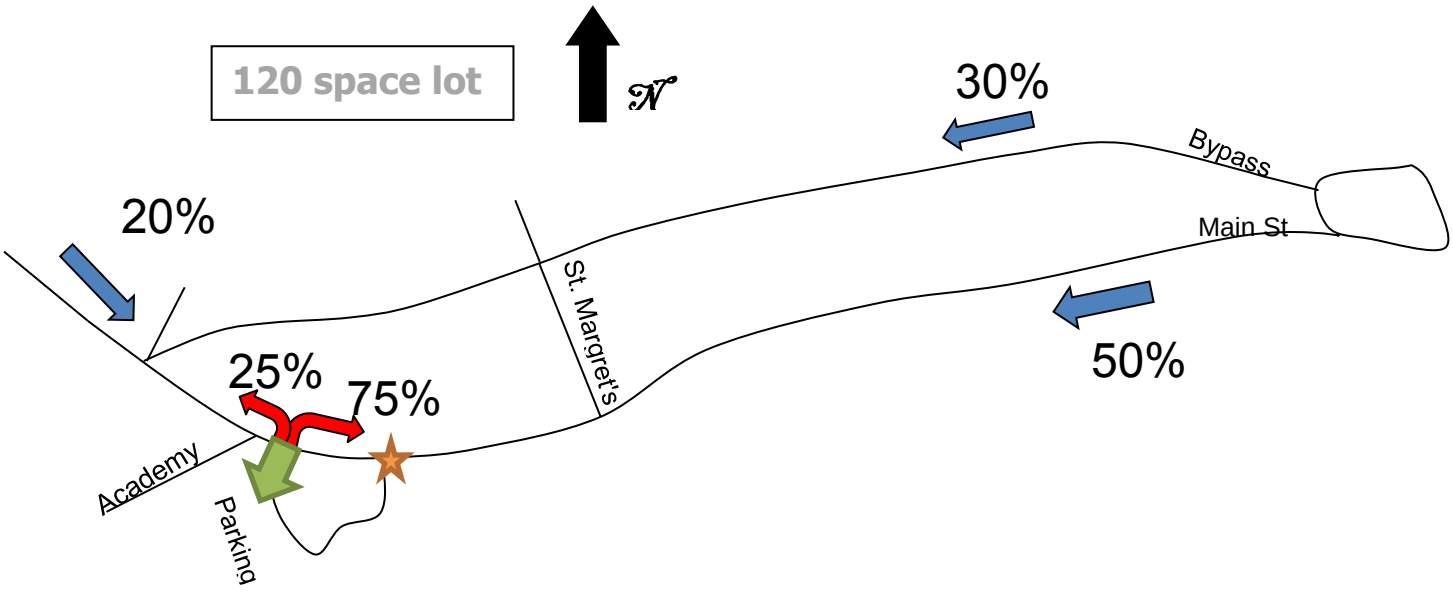


FIGURE 6: 120 SPACE ALTERNATIVE TRIP DISTRIBUTIONS

The second image presents the distribution for the second parking alternative. In this alternative, the entrance is one-way off of Academy Drive, represented by the green arrow. There is also only one exit for the parking location. The distribution of where cars come from is the same, however the new geometry at Academy Drive changes the pattern of cars turning on and off the Bypass through Memorial Circle. Assumptions for background traffic on the southbound leg were made using a turning movement count performed at Memorial Circle. Also it was assumed that 15 cars per hour will make each movement at the entrance/exit locations to use the Army Corps lot in addition to the MBTA commuter traffic.

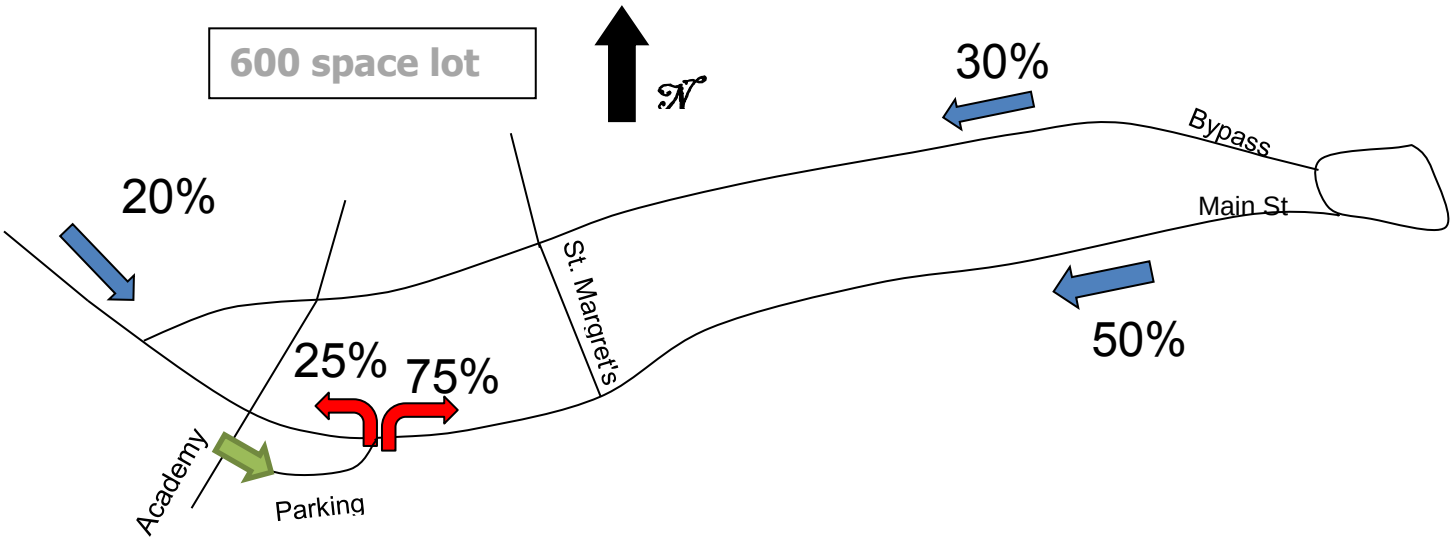


FIGURE 7: 400-600 SPACE ALTERNATIVE TRIP DISTRIBUTIONS

LEVEL OF SERVICE

The tables below present the traffic impacts for the 120 space alternative. The most significant impact is to the exiting traffic at the train station access points in the afternoon. St. Margaret's Street also shows significant impacts for the southbound movement turning onto Main Street. The roadway segment between Academy Drive and St. Margret's Street shows potential to be near capacity but the downtown nature of the segment allows for this behavior. In addition to the LOS analysis, volume to capacity ratio is presented for the segment. Analysis was also performed for the 4pm to 5pm hour as this is the typical peak hour. Since there is not a large amount of additional traffic at this time, this analysis is a good estimation of how the intersections operate during current peak conditions in July. This level of impact is not representative of the normal operation of the roadway, but is a representation of the worst case in July for 30 minutes in the morning and 15 minutes in the afternoon outside of typical peak hours.

TABLE 6: INTERSECTION IMPACTS FOR 120 SPACE ALTERNTAIVE FOR YEAR 2024

Location/ Movement	6am to 7am no build	6pm to 7pm no build	6am to 7am LOS Build at 120 spaces*	6pm to 7pm LOS Build at 120 spaces**	4pm to 5 pm LOS Build at 120 spaces**
Academy Drive (Total Intersection)	A	B	A	B	B
EB Left/Through on Main Street at St. Margaret's	A	A	A	A	A
SB Left/Right on St. Margaret's at Main Street	B	C	C	F	E
WB Left/ Through on Main Street at Parking lot Entrance/ Exit (Two access points)	A	A	A	B	A
NB Left/Right on Parking lot Entrance/Exit at Main Street (Two access points)	B	D	C	F	D

TABLE 7: ROADWAY IMPACTS FOR 120 SPACE ALTERNTAIVE

Location/ Movement	6am to 7am no build	6pm to 7pm no build	6am to 7am LOS Build at 120 spaces*	6pm to 7pm LOS Build at 120 spaces**	4pm to 5pm LOS Build at 120 spaces**
Between Academy and St. Margret's on Main Street	C (0.17 v/c)	E (0.35 v/c)	D (0.32 v/c)	F (0.69 v/c)	E (0.38 v/c)

*Morning impacts are for 30 minute period **Afternoon impacts are for 15 minute period

The tables below show the potential impacts of a 600 car parking structure. The impacts are similar to those shown in the smaller build alternative with more cars in total, but fewer trips due to the reduction of drop-offs. As stated previously, this level of impact is not representative of the normal operation of the roadway but is a representation of the worst case.

TABLE 8: INTERSECTION IMPACT FOR THE 600 SPACE ALTERNATIVE IN 2024

Location/ Movement	6am to 7am no build	6pm to 7pm no build	6am to 7am LOS Build at 600 spaces*	6pm to 7pm LOS Build at 600 spaces**	4pm to 5 pm LOS Build at 600 spaces**
Academy Drive (Total Intersection)	A	B	A	B	B
EB Left/Through on Main Street at St. Margaret's	A	A	A	A	A
SB Left/Right on St. Margaret's at Main Street	B	C	C	F	E
WB Left/ Through on Main Street at Parking lot Entrance/ Exit (Two access points)	A	A	A	A	A
NB Left/Right on Parking lot Entrance/Exit at Main Street (Two access points)	B	D	C	F	D

TABLE 9: ROADWAY IMPACTS FOR THE 600 SPACE ALTERNATIVE IN 2024

Location/ Movement	6am to 7am no build	6pm to 7pm no build	6am to 7am LOS Build at 120 spaces*	6pm to 7pm LOS Build at 120 spaces**	4pm to 5pm LOS Build at 120 spaces**
Between Academy and St. Margret's on Main Street	C (0.17 v/c)	D (0.35 v/c)	D (0.26 v/c)	F (0.69 v/c)	E (0.42 v/c)

*Morning impacts are for 30 minute period

**Afternoon impacts are for 15 minute period

MBTA Assessments

Below are the assessment estimates presented by MassDOT. An assessment will result if Bourne becomes a MBTA assessment district member. The Estimated Net Assessment is the additional charge to the town. Wareham has an Estimated Net Assessment of zero because the town is currently a member of the MBTA assessment district.

TABLE 10: ASSESMENT DATA

	Bourne	**Wareham**
Population estimate	19,806	22,339
Weight Factor	1	1
Percentage of total MBTA district population	0.0804%	0.0907%
Preliminary assessment	$128,751	$145,217
Regional Transit Authority	CCRTA	GATRA
RTA Credit	**($46,829)**	**($189,891)**
Interim assessment amount	$81,922	0
Paratransit credit impact	$34	0
Estimated Net Assessment	**$81,956**	**0**

- Assessments are estimates and subject to change from year to year.
- Each town that is a MBTA assessment district member is allotted a position on the MBTA Advisory Board.
- The table above shows all direct factors that affect the assessment, excluding the total MBTA deficit. Other factors such as the level of service or distance to Boston are not included.
- Each town already pays an assessment for regional transit authority (RTA) service which is deducted from the preliminary assessment. The Estimated Net Assessment is the amount to be paid to the MBTA.
- The Town of Bourne's RTA assessment is expected to increase in the next year. This would decrease the Estimated Net Assessment by the amount that the RTA assessment increases.
- The original definition of the MBTA assessment district included towns that abut towns that have service to them. This legislative provision does not apply to new towns that join the MBTA assessment district. Sandwich and Falmouth would only be assessed if they received service directly or voted to join the MBTA. They would not be assessed if Bourne was admitted into the MBTA assessment district or received commuter rail service.
- Joining the MBTA district does not automatically result in receiving MBTA service. MBTA service expansion is programmed through the MassDOT capital improvement plan.
- The estimated budget for the Town of Bourne is approximately $57 million in fiscal year 2016.

Economic Impacts

METHODS OF EVALUATION

If commuter rail is extended to Buzzards Bay, the impact could affect local businesses, property values and revenues, and create a demand for new residential and commercial development. The methods used to measure the impact included evaluating literature reviews and case studies. Models such as Regional Economic Models, Inc. (REMI) and Impact Analysis for Planning (IMPLAN) were not used because they are not designed for this local level of analysis but rather for large regions or statewide analyses. Operators of the models advised against their use for this project.

CAVEATS FROM EVALUATION

The investigation into case studies and literature reviews concluded the following items:

- Very little research exists on the impacts of commuter rail – most research looks at light rail or heavy rail.
- Most research focuses on Transit Oriented Development (TODs).
- Positive economic and fiscal impacts are not an automatic result of commuter rail; much depends on local initiative by the public and private sectors.
- Historic patterns matter. Stations located in communities that in the past developed around rail where the most successful at creating vibrant mixed use TOD communities.
- Nationally, transit investments do have a positive return on investment in terms of business sales, productivity and personal income.

TRANSIT ORIENTED DEVELOPMENT (TOD)

Transit Oriented Development (TOD) encourages transit ridership by providing shopping, work, entertainment and living opportunities in close proximity to transit. A review of existing TOD locations suggests that areas that have a gross housing density of greater than 8 units per acre within a half mile of the transit station and a Walk Score* of 70 or greater, maximize the economic benefits of local transit systems. Walk Score is calculated by assessing amenities in walking distance and by analyzing population density and road metrics. Buzzards Bay has a Walk Score of 43 and a gross housing density of 2.53 units per acre. The map on the following page shows the current housing density of Buzzards Bay in a half mile radius from the proposed commuter rail site.

*Walk score provided by www.walkscore.com

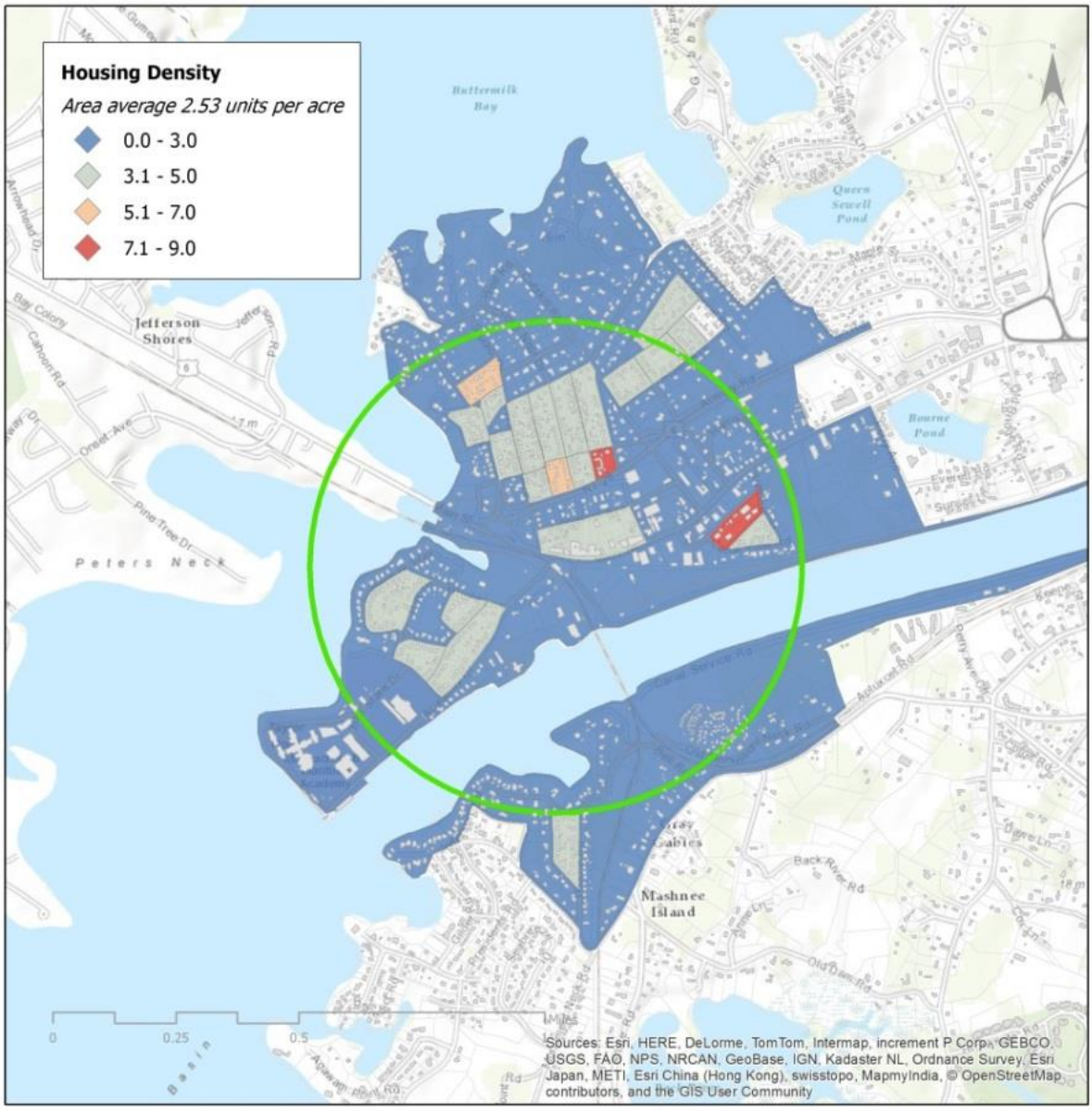


FIGURE 8: HOUSING DENSITY IN BUZZARDS BAY

The communities that have seen the greatest investment are those that focused mixed use high density development around the transit station. Examples are listed below:

- Concord, MA – mixed use project around historic train station
- Brockton, MA – transit center and police substation adjacent to rail station; spurred private 64-unit housing development
- Canton, MA – economic development overlay district with higher density and reduced parking led to five new housing developments (207 units)
- Other TOD examples include Lawrence and Lowell however, these areas are large urban areas.
- A local example of a TOD planning effort is at the Hyannis Transportation Center as outlined in the 2013 Transit Oriented Development Master Plan Study.

Successful TODs show the following characteristics, many of which are already found in the Buzzards Bay downtown district:

- Coordinated land use and transportation policies among state, region, and local levels are essential to the success of a TOD
- Development ready sites next to or near the proposed station must be identified and marketed
- Zoning for mixed-use development at high densities in limited area with down-zoning outside of the TOD
- Focus public facilities and urban services in the TOD
- Parking caps and lot restrictions to limit total number of parking spaces in TOD
- Reduced parking requirements for development including, lower parking ratios, smaller distributed parking lots, on street parking, and shared parking

It has been identified that TOD areas boost home and rental values*. The graphs on the next page show the increase from the national average. Transit Assisted Development (TAD) and Hybrid values are also presented. The vertical axis shows the percentage of the home value in January 2012 as a result of the economic recovery. The different lines show different groups of housing compared to the National Zillow Index.

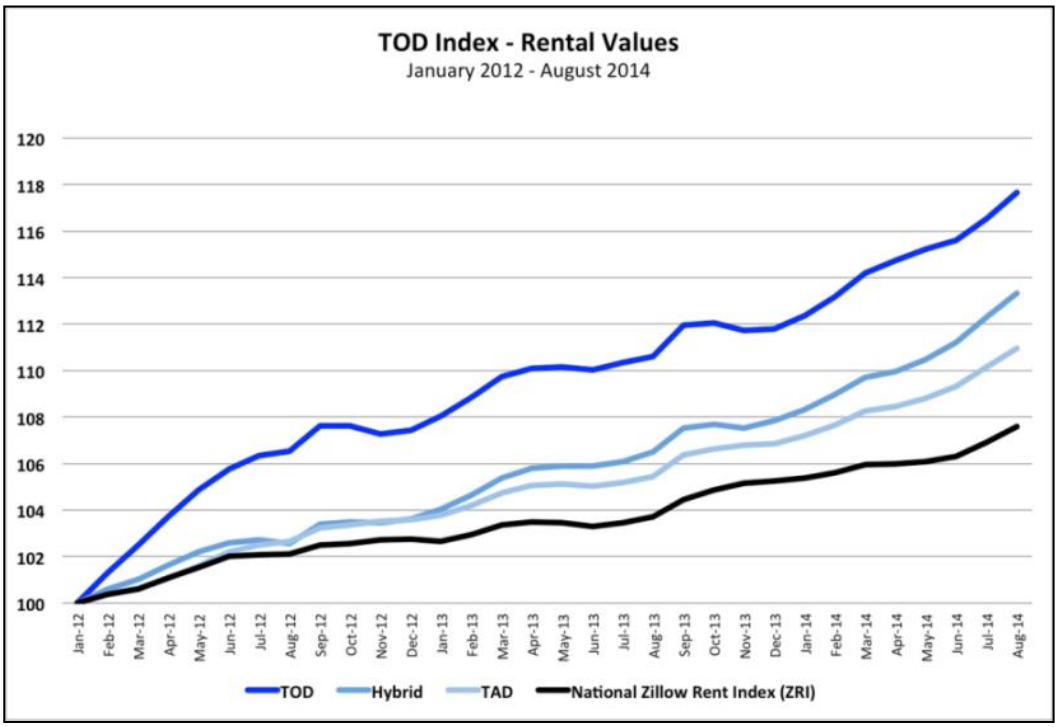


FIGURE 9: RENTAL VALUES OF TOD

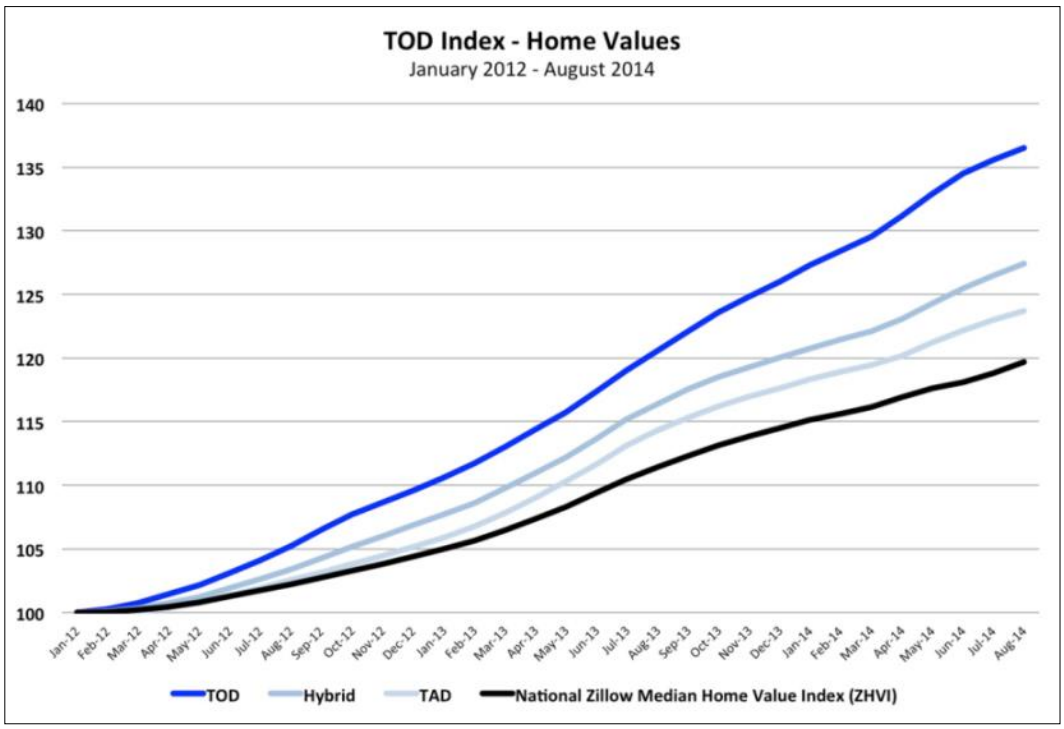


FIGURE 10: HOME VALUES OF TOD

TOOLS FOR DEVELOPMENT

There are several funding tools that are helpful in Massachusetts to achieve TOD status in addition to a TOD master Plan.

- Chapter 40R Districts (Smart Growth Zoning Overlay District Act)
  - Mixed use development as-of-right or through a limited plan review process akin to site plan review.
  - Communities become eligible for payments from a Smart Growth Housing Trust Fund, as well as other financial incentives.
  - Examples include Haverhill, Northampton and Reading.
- Chapter 40B
  - Enables local Zoning Board of Appeals to approve affordable housing development under flexible rules if at least 20-25 percent of the units have long-term affordability restrictions.
- District Improvement Financing (DIF)
  - A financing model that enables municipalities to fund public works, infrastructure and development project by allocating future, incremental tax revenues collected from a predefined district to pay project costs.

The Town of Bourne has already taken several steps in creating a Downtown District Zoning By-Law that is based on Smart Growth principles that position the town to redevelop and avoid conducing sprawl. In addition to this effort, Bourne has been used Chapter 40B effectively to promote affordable housing.

GROWTH INCENTIVE ZONE

The Buzzards Bay downtown district is currently recognized as a Growth Incentive Zone (GIZ) by the Cape Cod Commission. This allows for development to occur without Development Regional Impact (DRI) review and approval by the commission under certain circumstances. This status can assist the town in creating Transit Oriented Development (TOD).

Conclusion

The purpose of this study was to answer questions from the Bourne Transportation Advisory Committee regarding a commuter rail extension to Buzzards Bay with a local focus. Parking demand, traffic impact, and economic impacts were evaluated.

Two parking alternatives have been developed. For each, it was assumed that the station could achieve 800 passengers per day. The first alternative is an immediate fix to supply 120 spaces to passengers. This alternative suggests that passengers will seek other ways to access the station since parking has low capacity. This could result in a high number of drop-offs and offsite parking. To accommodate commuters, a parking policy needs to be defined to reserve spaces for commuters and avoid conflict with shoppers or residents.

The second alternative provides 400 to 600 spaces in a parking structure. This alternative provides enough spaces to accommodate the 800 passengers per day estimate but should not be implemented until a smaller build option is explored first.

The traffic impacts for both parking alternatives have been conservatively identified. Impacts were analyzed using July numbers and assuming a 15 to 30 minute arrival period. The locations with the most impact were the train station entrance/exit locations and the St. Margret's Street at Main Street intersection. These impacts will be for a short duration of 15 to 30 minutes.

The estimated assessment was not a significant amount in comparison to the town budget and factors that influence the assessment were identified.

Historically, Buzzards Bay developed when commuter rail service was active. It is recognized that bringing commuter rail back to Buzzards Bay could have positive economic impacts. The Town of Bourne has already taken action by implementing mechanisms to manage and induce growth. The presence of commuter rail will be beneficial in attracting new residents into the Buzzards Bay downtown district. To maximize the positive economic impacts, the town needs to continue to encourage Transit Oriented Development and encourage housing for working age persons near the station.

The CTPS ridership estimates of 535 passengers from Barnstable County and 875 passengers on the entire extension suggest the Buzzards Bay Station is formable location for MBTA expansion in comparison to ridership at existing commuter rail stations. Following the completion of the CPTS study statewide impacts will be determined. The Buzzards Bay Commuter Rail Extension is not currently programmed for funding through MassDOT or the MBTA. A critical step in moving this project forward is MassDOT Rail and Transit placing this item on their project list in the Capital Improvement Plan (CIP).

CAPE COD
COMMISSION

APPENDIX A

Chapter 4 of the 2014 MBTA Blue Book regarding Commuter Rail Data

Chapter 4 - Commuter Rail

A third party contractor operates and maintains the MBTA' s Commuter Rail service.

Commuter Rail service is provided along 14 active trunkline routes essentially split into two districts. They are:

North Side: North Station Routes

- Newburyport Line ("Eastern" Line)
- Rockport Line
- Haverhill Line ("Western" or " B&M" Line)
- Lowell Line ("New Hampshire" Line)
- Fitchburg Line

South Side: South Station Routes

- Framingham/Worcester Line ("Boston and Albany" Line)
- Needham Line
- Franklin Line
- Providence Line ("Northeast Corridor" or "Shore" Line)
- Stoughton Line
- Fairmount Line ("Midlands" or "Dorchester" Line)

And three routes also referred to as the Old Colony Railroad:

- Middleborough/Lakeville Line
- Plymouth/Kingston Line
- Greenbush Line

Heavy maintenance on trains is performed at the Commuter Rail Maintenance Facility (at the former Boston Engine Terminal site) in Somerville. Dispatching for North Side routes is controlled at the nearby Cobble Hill facility, while South Side dispatching is coordinated with Amtrak's Centralized Electric and Traffic Control (CETC) system at South Station. Running maintenance and special work are performed at the Southside Service and Inspection Facility near South Station, and at the Readville Interim Repair facility in Hyde Park, Boston.

In addition to regular service, railroad operations special trains are operated for major events such as sporting events, First Night, and chartered trains.

The MBTA owns over 500 pieces of commuter rail rolling stock, including passenger locomotives, utility locomotives, work train equipment (such as flat cars, hopper cars, etc.), snow plows, midtrain coaches, and cab cars. Operation, staffing, and maintenance of this equipment are the responsibility of the contractor.

The MBTA also owns the majority of the trackage upon which commuter rail service is provided, including the "Wildcat" branch that links the Haverhill and Lowell lines near Wilmington. Several trains per day use this route variation. Exceptions to MBTA track ownership include:

- Worcester Line - Back Bay to Newton, owned by MassDOT
- Worcester Line - Framingham to Worcester, owned by MassDOT
- Foxboro Station - Connecting trackage owned by CSX Transportation
- The "Grand Junction" Line - Beacon Park to Somerville, used in non-revenue service to transfer trains from one district to another, owned by MassDOT

Rail freight service is provided along many commuter rail lines by agreement with private railroad corporations. Carriers include the Providence and Worcester Railroad, CSX Transportation, the Bay Colony Railroad, Guilford Transportation, and Fore River Transportation.

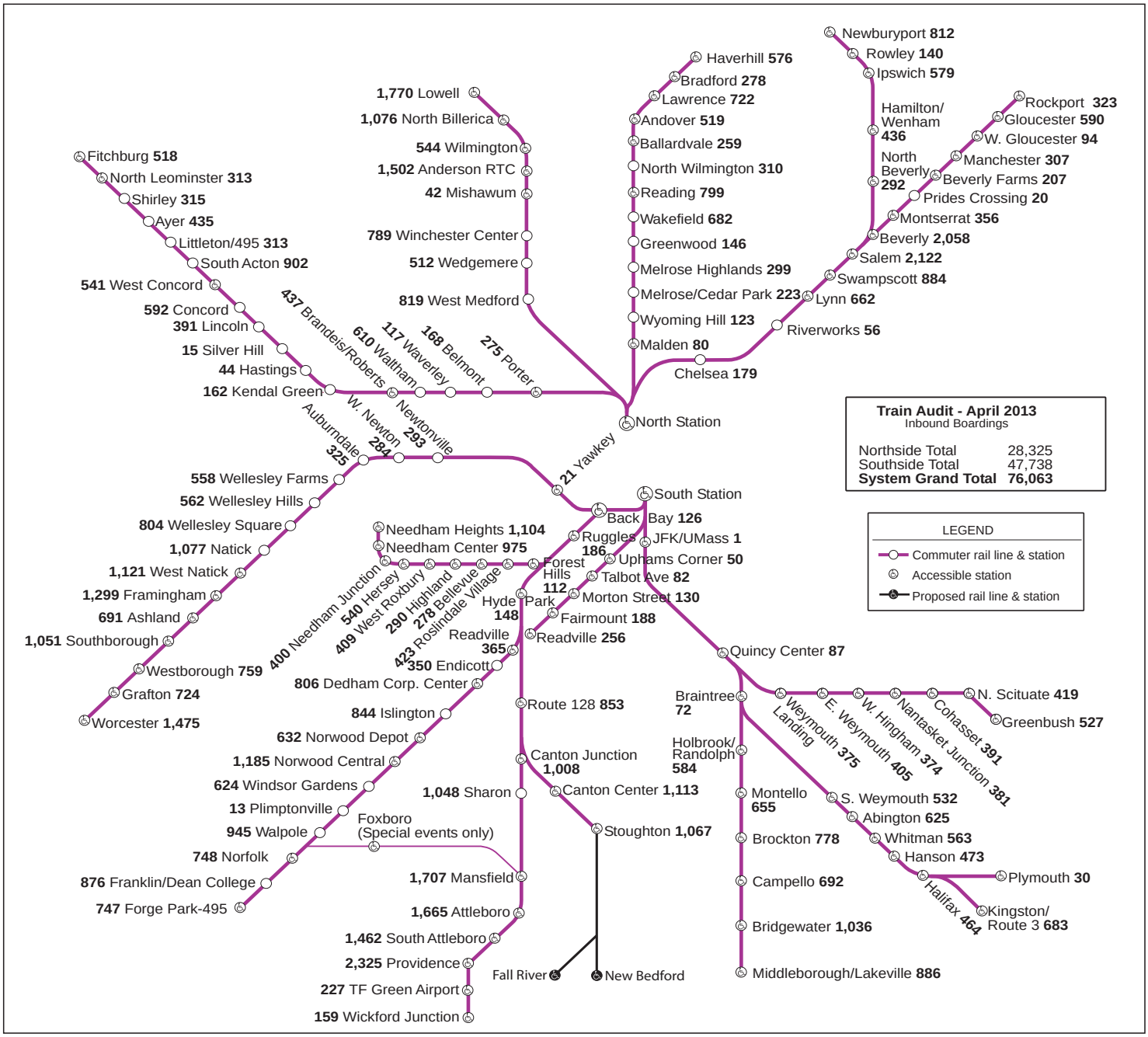
Railroad Operations Statistical Highlights

- Revenue Vehicle Fleet Size: 82 Passenger Locomotives, 421 active coaches
- Number of Stations: 138*
- Route Miles of Service: Approximately 388
- Approximate ridership (inbound + outbound boardings) is as follows:

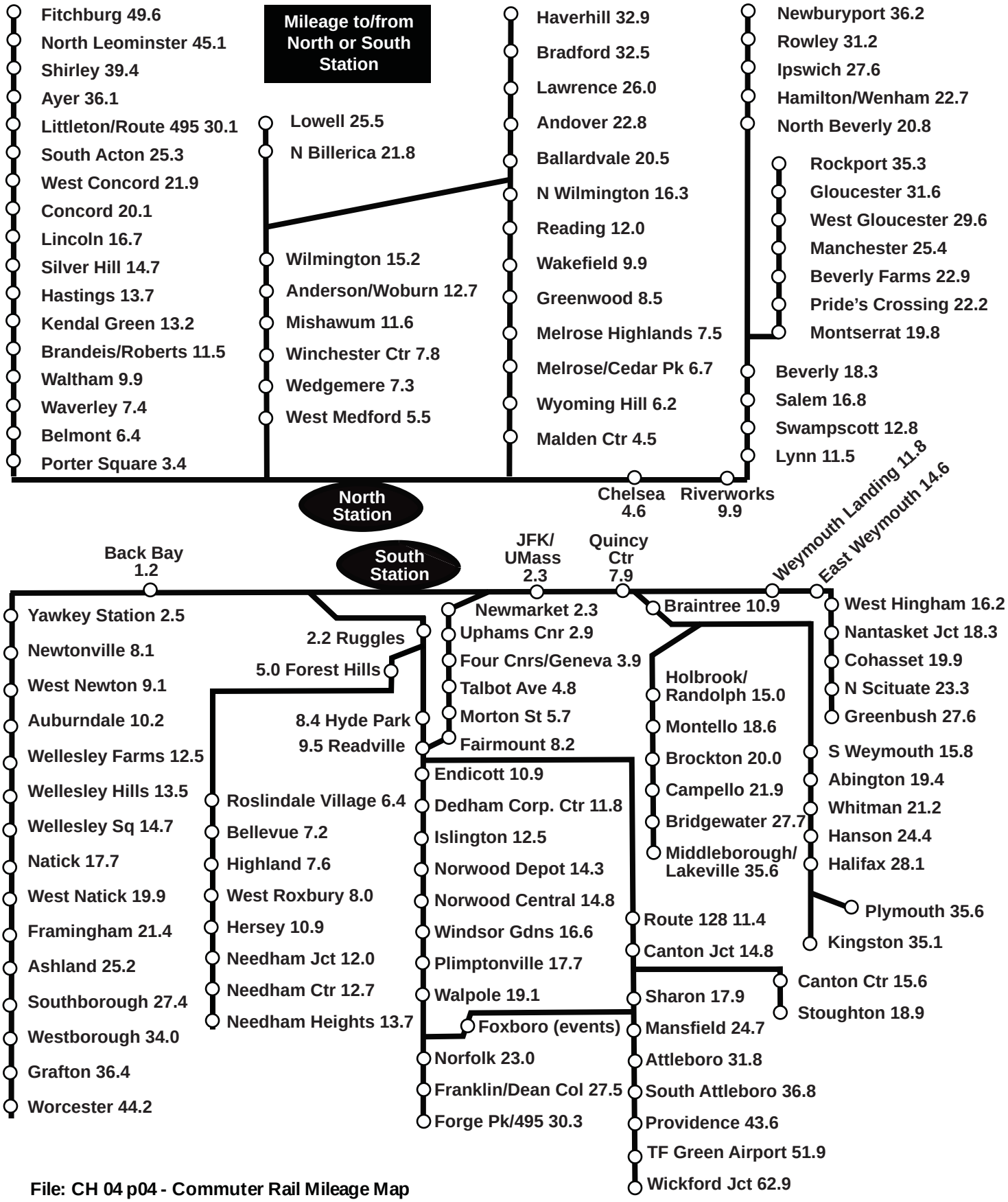
	Weekday	Saturday	Sunday
FY 2013	129,019	25,703	20,907
FY 2012	131,161	28,903	20,691
FY 2011	130,375	30,458	21,984
FY 2010	132,594	32,298	24,326
FY 2009	146,961	33,783	25,793
FY 2008	138,928	30,680	23,134
FY 2007	140,825	33,072	24,039
FY 2006	136,805	31,319	23,460

* Includes limited-service stations at Foxboro, Riverworks, and Mishawum.

Commuter Rail System Map
Typical Boston Bound Weekday Boardings
April 2013



Commuter Rail Mileage
April 2014



File: CH 04 p04 - Commuter Rail Mileage Map

Commuter Rail
Annual Train and Coach Mile Totals
Ridership Highlights

Year	Span	Train Miles	Coach Miles	Annual Ridership	Typical Weekday Inbound Boardings
2013	FY	3,934,034	22,072,553	35,323,276	66,244
2012	FY	3,947,903	22,767,563	36,422,108	66,124
2011	FY	4,027,065	22,869,602	36,259,421	65,835
2010	FY	4,075,626	23,509,418	36,909,924	66,933
2009	FY	4,113,978	23,974,827	40,582,915	74,267
2008	FY	4,041,791	23,421,385	39,207,383	73,590
2007	FY	3,890,433	22,746,973	38,815,838	71,609
2006	FY	3,845,887	22,407,017	37,797,601	69,547
2005	FY	3,860,082	22,339,203	37,890,179	69,487
2004	FY	3,847,504	22,152,273	39,965,738	72,831
2003	FY	3,812,416	22,592,151	40,633,172	73,939
2002	FY	3,794,662	22,694,155	39,224,061	71,010
2001	FY	3,705,112	22,177,182	36,992,648	66,449
2000	FY	3,672,656	21,710,012	36,416,818	63,147
1999	FY	3,605,613	21,372,889	35,873,060	61,163
1998	FY	3,338,080	19,749,127	31,348,078	60,711
1997	FY	2,901,799	17,044,374	27,813,050	51,123
1996	FY	2,854,986	16,229,262	26,978,444	49,187
1995	FY	2,837,913	15,482,442	25,495,214	47,415
1994	FY	2,730,361	15,998,668	23,280,075	42,582
1993	FY	2,717,180	15,730,206	21,595,853	41,928
1992	FY	2,592,315	14,898,376	19,949,255	38,280
1991	FY	2,573,775	14,614,062	19,855,272	37,486
1990	FY	2,573,922	13,186,129	19,207,977	38,659
1989	FY	2,523,374	13,125,016	18,536,535	32,525
1988	FY	2,327,763	10,983,437	16,270,282	32,466
1987	FY	2,153,959	8,516,780	13,618,004	26,359
1986	FY	1,840,664	7,729,163	11,577,221	22,713
1985	FY	2,007,063	8,430,927	11,274,177	21,713
1984	CY	2,035,048	8,598,204	11,158,170	20,261
1983	CY	1,929,554	8,001,501	11,346,012	
1982	CY	1,882,692	7,101,669	10,043,486	
1981	CY	1,834,299	6,879,071	9,153,089	

Commuter Rail Boardings
Typical Day, By Route

Fiscal Year	LINE	WEEKDAY INB	WEEKDAY OUTB	WEEKDAY TOTAL	SATURDAY INB	SATURDAY OUTB	SATURDAY TOTAL	SUNDAY INB	SUNDAY OUTB	SUNDAY TOTAL
FY 2013	ROCKPORT	3,554	3,313	6,867	1,794	1,893	3,687	1,550	1,424	2,974
ANNUAL	NEWBURYPORT	5,004	4,383	9,387	1,259	1,159	2,418	1,118	1,094	2,212
AVERAGE	HAVERHILL	4,737	4,106	8,843	1,098	1,282	2,380	865	920	1,785
	LOWELL	6,215	5,750	11,965	2,007	1,782	3,789	1,383	1,214	2,597
	FITCHBURG	4,757	4,799	9,556	1,254	1,551	2,805	1,003	985	1,988
	FRAMINGHAM/WORCESTE	8,474	7,819	16,293	1,438	1,569	3,007	1,484	1,524	3,008
	NEEDHAM	3,351	3,621	6,972	8	4	12	24	20	44
	FRANKLIN	6,329	6,151	12,480	1,133	1,012	2,145	818	822	1,640
	PROVIDENCE	10,435	9,199	19,634	2,125	2,195	4,320	1,695	1,623	3,318
	STOUGHTON	3,118	3,713	6,831	0	0	0	0	0	0
	FAIRMOUNT	483	555	1,038	0	0	0	0	0	0
	MIDDLEBOROUGH	3,809	3,373	7,182	546	570	1,116	598	554	1,152
	KINGSTON/PLYMOUTH	3,185	3,375	6,560	0	0	0	0	0	0
	GREENBUSH	2,793	2,618	5,411	0	0	0	0	0	0
	TOTAL SYSTEM	66,244	62,775	129,019	12,662	13,017	25,679	10,538	10,180	20,718
FY 2012	ROCKPORT	3,796	3,494	7,290	2,013	1,841	3,854	1,305	1,214	2,519
ANNUAL	NEWBURYPORT	5,514	4,813	10,327	1,456	1,421	2,877	1,100	1,098	2,198
AVERAGE	HAVERHILL	5,228	4,988	10,216	1,460	1,726	3,186	1,140	1,286	2,426
	LOWELL	6,733	6,085	12,818	2,019	1,921	3,940	1,518	1,376	2,894
	FITCHBURG	5,053	4,876	9,929	1,536	1,618	3,154	1,111	1,057	2,168
	FRAMINGHAM/WORCESTE	7,530	7,472	15,002	1,388	1,661	3,049	1,116	1,253	2,369
	NEEDHAM	3,049	3,588	6,637	436	413	849	0	0	0
	FRANKLIN	5,720	6,435	12,155	1,055	1,177	2,232	701	872	1,573
	PROVIDENCE	10,461	9,326	19,787	2,106	2,278	4,384	1,673	1,688	3,361
	STOUGHTON	2,997	4,111	7,108	0	0	0	0	0	0
	FAIRMOUNT	409	383	792	0	0	0	0	0	0
	MIDDLEBOROUGH	3,611	3,588	7,199	270	256	526	233	201	434
	KINGSTON/PLYMOUTH	3,338	3,224	6,562	246	235	481	240	194	434
	GREENBUSH	2,685	2,654	5,339	199	172	371	174	141	315
	TOTAL SYSTEM	66,124	65,037	131,161	14,184	14,719	28,903	10,311	10,380	20,691
FY 2011	ROCKPORT	3,586	3,359	6,945	1,749	1,883	3,632	1,286	1,145	2,431
ANNUAL	NEWBURYPORT	5,782	4,920	10,702	1,698	1,532	3,230	1,347	1,394	2,741
AVERAGE	HAVERHILL	4,930	4,827	9,757	1,114	1,485	2,599	1,164	1,246	2,410
	LOWELL	6,510	5,692	12,202	1,570	1,654	3,224	1,276	1,180	2,456
	FITCHBURG	4,783	4,812	9,595	1,437	1,593	3,030	1,063	1,130	2,193
	FRAMINGHAM/WORCESTE	7,508	7,379	14,887	1,181	1,554	2,735	1,062	1,241	2,303
	NEEDHAM	3,184	3,621	6,805	476	444	920	0	0	0
	FRANKLIN	5,828	6,484	12,312	1,364	1,328	2,692	800	872	1,672
	PROVIDENCE	10,260	9,010	19,270	2,905	2,808	5,713	1,625	1,564	3,189
	STOUGHTON	3,095	4,314	7,409	0	0	0	0	0	0
	FAIRMOUNT	511	452	963	0	0	0	0	0	0
	MIDDLEBOROUGH	3,625	3,699	7,324	550	531	1,081	629	577	1,206
	KINGSTON/PLYMOUTH	3,503	3,327	6,830	463	458	921	378	311	689
	GREENBUSH	2,730	2,644	5,374	338	343	681	359	335	694
	TOTAL SYSTEM	65,835	64,540	130,375	14,845	15,613	30,458	10,989	10,995	21,984
FY 2010	ROCKPORT	3,524	3,466	6,990	2,081	2,022	4,103	1,427	1,341	2,768
ANNUAL	NEWBURYPORT	5,710	4,825	10,535	1,985	1,792	3,777	1,608	1,549	3,157
AVERAGE	HAVERHILL	4,993	4,734	9,727	1,154	1,333	2,487	1,055	950	2,005
	LOWELL	6,146	5,823	11,969	1,706	1,660	3,366	1,290	1,152	2,442
	FITCHBURG	4,642	4,675	9,317	1,822	1,851	3,673	1,358	1,316	2,674
	FRAMINGHAM/WORCESTE	7,617	7,631	15,248	1,435	1,623	3,058	1,237	1,273	2,510
	NEEDHAM	3,266	3,557	6,823	430	419	849	0	0	0
	FRANKLIN	6,032	6,547	12,579	1,258	1,157	2,415	956	997	1,953
	PROVIDENCE	10,259	9,089	19,348	2,482	2,425	4,907	1,752	1,746	3,498
	STOUGHTON	3,391	4,225	7,616	0	0	0	0	0	0
	FAIRMOUNT	491	648	1,139	0	0	0	0	0	0
	MIDDLEBOROUGH	4,150	4,077	8,227	860	853	1,713	790	776	1,566
	KINGSTON/PLYMOUTH	3,738	3,439	7,177	552	533	1,085	544	414	958
	GREENBUSH	2,974	2,925	5,899	446	419	865	440	355	795
	TOTAL SYSTEM	66,933	65,661	132,594	16,211	16,087	32,298	12,457	11,869	24,326
FY 2009	ROCKPORT	3,694	3,643	7,337	2,009	1,938	3,947	1,599	1,469	3,068
ANNUAL	NEWBURYPORT	5,733	5,433	11,166	1,681	1,779	3,460	1,384	1,325	2,709
AVERAGE	HAVERHILL	5,540	5,505	11,045	1,366	1,468	2,834	1,256	1,190	2,446
	LOWELL	6,677	6,216	12,893	1,741	1,847	3,588	1,325	1,348	2,673
	FITCHBURG	4,776	4,872	9,648	1,493	1,612	3,105	1,242	1,220	2,462
	FRAMINGHAM/WORCESTE	8,846	8,536	17,382	1,669	1,790	3,459	1,437	1,418	2,855
	NEEDHAM	3,910	4,308	8,218	572	547	1,119	18	9	27
	FRANKLIN	6,755	6,736	13,491	1,483	1,470	2,953	991	1,163	2,154
	PROVIDENCE	10,923	9,450	20,373	2,421	2,507	4,928	1,762	1,728	3,490
	STOUGHTON	3,892	4,750	8,642	-	-	-	-	-	-
	FAIRMOUNT	691	870	1,561	-	-	-	-	-	-
	MIDDLEBOROUGH	5,034	4,896	9,930	918	920	1,838	884	856	1,740
	KINGSTON/PLYMOUTH	4,789	4,449	9,238	686	698	1,384	613	597	1,210
	GREENBUSH	3,007	3,030	6,037	564	604	1,168	488	471	959
	TOTAL SYSTEM	74,267	72,694	140,924	16,603	17,180	33,783	12,999	12,794	25,793

Commuter Rail
Station Boardings (Inbound)
Typical Weekday

	April 13	Nov 12	Nov 11	Nov 10	Feb 09	Feb 08	Jun 07
Newburyport/Rockport Line							
Rockport	323	337	245	278	390	291	421
Gloucester	590	554	468	479	438	531	497
West Gloucester	94	93	69	80	106	80	128
Manchester	307	309	266	303	297	314	349
Beverly Farms	207	192	147	166	158	136	263
Prides Crossing	20	18	6	20	24	14	244
Montserrat	356	346	203	308	297	317	507
Newburyport	812	703	661	534	568	497	610
Rowley	140	111	175	125	164	167	156
Ipswich	579	542	568	468	445	430	561
Hamilton-Wenham	436	406	453	371	384	416	356
North Beverly	292	306	570	253	190	346	232
Beverly	2058	1760	2187	2191	1,753	2,178	931
Salem	2122	1816	2464	2376	2,010	2,504	1,160
Swampscott	884	628	1347	1017	884	977	224
Lynn	662	560	957	714	573	612	266
Riverworks	56	68	72	35	140	26	31
Chelsea	179	118	183	114	156	117	36
TOTAL	**10,117**	**8,867**	**11,041**	**9,832**	**8,977**	**9,953**	**6,972**
Haverhill Line							
Haverhill	576	467	677	478	536	583	479
Bradford	278	299	380	276	391	480	365
Lawrence	722	586	690	523	780	738	602
Andover	519	473	939	412	557	553	562
Ballardvale	251	247	271	166	234	292	307
North Willmington	310	280	272	119	158	227	230
Reading	799	444	1010	898	927	898	868
Wakefield	682	450	866	781	773	795	678
Greenwood	146	236	289	300	193	185	158
Melrose Highlands	299	248	483	462	380	343	283
Melrose Cedar Pk	223	159	407	364	230	341	208
Wyoming Hill	123	131	299	236	184	220	188
Malden	80	40	60	54	26	72	56
TOTAL	**5,008**	**4,060**	**6,643**	**5,069**	**5,369**	**5,727**	**4,984**
Lowell Line							
Lowell	1770	1653	1932	2292	1412	1,398	1,364
North Billerica	1076	997	1377	1203	996	1,043	856
Wilmington	544	513	637	580	515	638	594
Anderson	1502	1235	1844	1101	1239	1,398	1,123
Mishawum	42	256	33	56	32	41	184
Winchester Center	789	629	939	762	801	746	741
Wedgemere	512	520	571	569	591	567	556
West Medford	819	491	752	657	643	603	620
TOTAL	**7,054**	**6,294**	**8,085**	**7,220**	**6,229**	**6,434**	**6,038**
Fitchburg Line							
Fitchburg	516	411	465	429	462	440	386
North Leominster	313	318	481	348	366	408	357
Shirley	315	297	240	189	144	218	191
Ayer	435	405	419	304	490	427	327
Littleton/495	313	318	311	216	250	244	223
South Acton	902	775	1104	830	856	885	796
West Concord	541	498	598	458	518	516	442
Concord	592	556	602	515	567	541	512
Lincoln	391	278	441	261	292	275	251
Silver Hill	15	15	75	9	21	15	10
Hastings	44	29	60	31	31	38	22
Kendal Green	162	144	269	125	250	165	139
Brandeis/Roberts	437	448	503	542	801	629	504
Waltham	610	572	590	445	545	556	526
Waverley	117	104	223	87	131	110	534
Belmont	168	139	354	101	159	154	151
Porter	275	243	268	227	250	206	212
TOTAL	**6,146**	**5,550**	**7,003**	**5,117**	**6,133**	**5,827**	**5,583**
Franklin Line							
Forge Park/495	747	1235	869	854	827	951	967
Franklin/Dean College	876	812	900	814	782	1,101	1,078
Norfolk	748	734	826	879	757	1,125	977
Walpole	945	782	763	789	802	949	779
Plimptonville	13	18	10	12	30	10	8
Windsor Gardens	624	464	423	414	313	454	309
Norwood Central	1185	1240	1025	1,098	1,040	1,334	1,064
Norwood Depot	632	569	536	441	433	599	372
Islington	844	285	189	173	167	229	225
Dedham Corp Ctr.	806	773	566	594	562	782	673
Endicott	350	350	457	318	287	346	258
Readville	365	352	429	324	283	304	231
Hyde Park*	148	628	705	602	760	662	928
Ruggles*	186	43	60	39	49	64	153
Back Bay*	126	310	245	159	266	411	468
TOTAL	**8,283**	**8,242**	**7,698**	**7,312**	**7,043**	**8,846**	**7,869**

* includes boardings from all lines serving station

	April 13	Nov 12	Nov 11	Nov 10	Feb 09	Feb 08	Jun 07
Fairmount Line							
Readville	256	223	270	430	223	399	321
Fairmount	188	232	246	386	218	344	300
Morton Street	130	163	198	205	203	253	275
Talbot Avenue	82	19		*station opened November 2012*			
Uphams Corner	50	113	119	105	154	142	171
TOTAL	**706**	**750**	**833**	**1,126**	**798**	**1,138**	**1,067**
Worcester Line							
Worcester	1475	1206	1044	1108	954	930	1,045
Grafton	724	662	532	520	644	723	640
Westborough	759	692	531	636	576	661	630
Southborough	1051	614	515	607	563	697	567
Ashland	691	550	553	604	557	596	521
Framingham	1299	1472	1295	1167	1,150	1,247	1,466
West Natick	1121	904	945	884	1,016	1,032	1,094
Natick	1077	809	796	675	700	783	830
Wellesley Square	804	747	653	526	548	778	805
Wellesley Hills	562	512	446	328	421	511	537
Wellesley Farms	558	440	385	291	350	397	430
Auburndale	325	295	235	245	301	415	459
West Newton	284	269	219	227	283	375	482
Newtonville	293	321	332	288	356	447	478
Yawkey Station	21	28	40	38	60	23	19
TOTAL	**11,044**	**9,521**	**8,521**	**8,144**	**8,479**	**9,615**	**10,003**
Needham Line							
Needham Heights	1104	1092	553	644	509	504	415
Needham Center	975	973	412	528	380	431	319
Needham Junction	400	401	583	733	359	563	426
Hersey	540	536	648	813	456	617	469
West Roxbury	409	429	540	681	433	477	394
Highland	290	298	436	621	292	434	355
Bellevue	278	279	355	418	209	330	256
Roslindale Village	423	414	424	571	401	391	368
Forest Hills	112	126	80	246	60	60	77
TOTAL	**4,531**	**4,548**	**4,031**	**5,255**	**3,099**	**3,807**	**3,079**
Providence/Stoughton Line							
Wickford Junction	159	163		*station opened November 2012*			
TF Green Airport	227	230	121	*station opened Decemeber 2010*			
Providence	2325	2413	1756	2308	1,346	1,960	2,014
South Attleboro	1462	1462	1576	1794	1,380	2,373	1,476
Attleboro	1665	1707	1657	1787	1,583	2,417	1,456
Mansfield	1707	1663	1901	1826	1,871	3,763	1,396
Sharon	1048	1044	1424	1281	1,061	2,275	1,447
Stoughton	1067	854	917	769	1,008	1,376	1,111
Canton Center	1113	596	678	588	600	1,955	921
Canton Junction	1008	1192	1645	1448	1,354	2,472	1,354
Route 128	853	1377	1885	1919	1,516	2,572	1,516
TOTAL	**12,634**	**12,701**	**13,560**	**13,720**	**11,719**	**21,163**	**12,691**
Middleboro/Lakeville Line							
Middleborough/Lakeville	886	877	1061	999	912	1,008	1,208
Bridgewater	1036	951	1147	1083	875	932	1,008
Campello	692	638	579	578	594	701	730
Brockton	778	808	858	863	806	905	1,006
Montello	655	711	534	634	631	702	738
Holbrook/Randolph	584	659	472	532	503	556	635
Braintree*	72	76	71	105	122	214	192
Quincy Center*	87	86	109	84	122	185	199
JFK UMass*	1	2	0	0	1	14	1
TOTAL	**4,791**	**4,808**	**4,831**	**4,878**	**4,566**	**5,217**	**5,717**
Plymouth/Kingston Line							
Plymouth	30	34	37	0	48	85	109
Kingston	683	764	817	972	1,109	1,132	1,068
Halifax	464	534	494	463	688	715	686
Hanson	473	490	460	524	698	731	717
Whitman	563	583	488	587	647	650	776
Abington	625	641	612	719	752	845	913
South Weymouth	532	788	555	654	721	959	930
TOTAL	**3,370**	**3,834**	**3,463**	**3,919**	**4,663**	**5,117**	**5,199**
Greenbush Line(opened October 2007)							
Greenbush	527	555	386	546	575	476	
North Scituate	419	422	325	465	532	380	
Cohasset	391	378	295	430	391	356	
Nantasket Junction	381	396	269	417	367	272	
West Hingham	374	302	261	432	410	325	
East Weymouth	405	425	319	458	420	420	
Weymouth Landing	375	366	302	509	386	393	
TOTAL	**2,872**	**2,844**	**2,157**	**3,257**	**3,081**	**2,622**	
SOUTH SIDE TOTAL	**48,231**	**47,248**	**45,094**	**47,611**	**43,448**	**57,525**	**45,625**
NORTH SIDE TOTAL	**28,325**	**24,771**	**32,772**	**27,238**	**26,708**	**27,941**	**23,577**
SYSTEM GRAND TOTAL	**76,556**	**72,019**	**77,866**	**74,849**	**70,156**	**85,466**	**69,202**

Commuter Rail
Stations Ranked by Inbound Boardings
Typical Weekday

April 2013 Audit (Typical Weekday)

Rank	Station	Boardings	Rank	Station	Boardings
1	Providence	2325	68	Wedgemere	512
2	Salem	2122	69	Hanson	473
3	Beverly	2058	70	Halifax	464
4	Lowell	1770	71	Brandeis/Roberts	437
5	Mansfield	1707	72	Hamilton-Wenham	436
6	Attleboro	1665	73	Ayer	435
7	Anderson	1502	74	Roslindale Village	423
8	Worcester	1475	75	North Scituate	419
9	South Attleboro	1462	76	West Roxbury	409
10	Framingham	1299	77	East Weymouth	405
11	Norwood Central	1185	78	Needham Junction	400
12	West Natick	1121	79	Lincoln	391
13	Canton Center	1113	80	Cohasset	391
14	Needham Heights	1104	81	Nantasket Junction	381
15	Natick	1077	82	Weymouth Landing	375
16	North Billerica	1076	83	West Hingham	374
17	Stoughton	1067	84	Montserrat	356
18	Southborough	1051	85	Endicott	350
19	Sharon	1048	86	Auburndale	325
20	Bridgewater	1036	87	Rockport	323
21	Canton Junction	1008	88	Shirley	315
22	Needham Center	975	89	North Leominster	313
23	Walpole	945	90	Littleton/495	313
24	South Acton	902	91	North Willmington	310
25	Middleborough/Lakeville	886	92	Manchester	307
26	Swampscott	884	93	Melrose Highlands	299
27	Franklin/Dean College	876	94	Newtonville	293
28	Route 128	853	95	North Beverly	292
29	Islington	844	96	Highland	290
30	West Medford	819	97	West Newton	284
31	Newburyport	812	98	Bradford	278
32	Dedham Corp Ctr.	806	99	Bellevue	278
33	Wellesley Square	804	100	Porter	275
34	Reading	799	101	Ballardvale	251
35	Winchester Center	789	102	TF Green Airport	227
36	Brockton	778	103	Melrose Cedar Pk	223
37	Westborough	759	104	Beverly Farms	207
38	Norfolk	748	105	Fairmount	188
39	Forge Park/495	747	106	Ruggles	186
40	Grafton	724	107	Chelsea	179
41	Lawrence	722	108	Belmont	168
42	Campello	692	109	Kendal Green	162
43	Ashland	691	110	Wickford Junction	159
44	Kingston	683	111	Hyde Park	148
45	Wakefield	682	112	Greenwood	146
46	Lynn	662	113	Rowley	140
47	Montello	655	114	Morton Street	130
48	Norwood Depot	632	115	Back Bay	126
49	Abington	625	116	Wyoming Hill	123
50	Windsor Gardens	624	117	Waverley	117
51	Readville	621	118	Forest Hills	112
52	Waltham	610	119	West Gloucester	94
53	Concord	592	120	Quincy Center	87
54	Gloucester	590	121	Talbot Avenue	82
55	Holbrook/Randolph	584	122	Malden	80
56	Ipswich	579	123	Braintree	72
57	Haverhill	576	124	Riverworks	56
58	Whitman	563	125	Uphams Corner	50
59	Wellesley Hills	562	126	Hastings	44
60	Wellesley Farms	558	127	Mishawum	42
61	Wilmington	544	128	Plymouth	30
62	West Concord	541	129	Yawkey Station	21
63	Hersey	540	130	Prides Crossing	20
64	South Weymouth	532	131	Silver Hill	15
65	Greenbush	527	132	Plimptonville	13
66	Andover	519	133	JFK Umass	1
67	Fitchburg	516			

Commuter Rail Fleet Roster
April 2014

Passenger Coaches

Builder	Date	Fleet ID	Fleet Size	Classification	Seats	Restroom?	Dimensions	Notes
Bombardier	1987	350-389	40	BTC-1A	127	N	85'X126"	
Bombardier	1989-90	600-653	53	BTC-1B	122	N	85'X126"	
Pullman	1978-79	200-258	57	BTC-1C	114	N	85'X126"	Rebuilt 1995-96, Amerail
MBB	1987-88	500-532	32	BTC-3	86	Y	85'X120"	Rebuild planned
Kawasaki	1990-91	700-749	50	BTC-4	185	N	85'X120"	
Kawasaki	1997-98	750-766	17	BTC-4 (A)	182	N	85'X120"	
Kawasaki	2001-02	767-781	15	BTC-4 (B)	182	N	85'X120"	
Kawasaki	2005-06	900-932	33	BTC -4 (C)	178	Y	85'X120"	
Rotem	2012-14	800-846*	47	BTC -4 (D)	179	Y	85'X120"	
Total Blind (Trail) Cars:			**344**					
Bombardier	1989-90	1627-1652	25	CTC-1B	122	N	85'X126"	
Bombardier	1989-90	1600-1626**	27	CTC-1B(M)	122	N	85'X126"	
MBB	1987-88	1500-1533	33	CTC-3	96	Y	85'X120"	
Kawasaki	1990-91	1700-1724	24	CTC-4	175	N	85'X120"	
Rotem	2012-14	1800-1827*	28	CTC-5	173	N	85'X120"	
Control Cars Used as Control Cars:			**110**					
Control Cars Used as Blind Cars:			**27**		***371***		***Total fleet used as non-control cars***	
TOTAL FLEET:			**481*** **					

* A total of 75 coaches were ordered from Rotem; not all have been delivered at the time of this survey, but all are counted here.
** Cab controls have been deactivated. Coaches 1600 - 1626 are blind trailer cars.
*** Upon receiving all 75 coaches from Rotem, 60 coaches will be taken out of active service and stored.
Cars assigned to the Old Colony Lines are equipped with electric doors.
Coaches assigned to the Old Colony Lines are equipped with activated electric doors.
In general, Control Cars have 1000 series numbers. Kawasaki coaches are bi-level (double deckers).
Set protocol: Trainsets have at least one restroom-equipped coach.

Locomotives

Builder	Date	Fleet ID	Fleet Size	Model	Horsepower		Separate HEP?	Rebuilt
EMD	1978	1000-1012	13	F40PH	3000		No	1989-90 Bombardier
EMD	1980	1013-1017	5	F40PH	3000		No	1989-90 Bombardier
MK	1991	1025-1033	9	F40PHM-2C	3000		Yes	2003-04, Boise Loco.
MK	1993	1034-1036	3	F40PHM-2C	3000		Yes	2003-04, Boise Loco.
EMD	1987	1050-1067	18	F40PH-2C	3000		Yes	2001-03, Boise Loco.
EMD	1988	1068-1075*	7	F40PH-2C	3000		Yes	2001-03, Boise Loco.
GMD	1973-75 (x)	1115-1139	25	GP40MC	3000		Yes	1997 AMF Transport
EMD	1957-60	902, 904	2	GP9	1750		No HEP	
EMD	1971	3247	1	GP40-1	3000		No HEP	
MPI	2009	010-011	2	MP36PH-3C	3600		Yes	
NRE	2009	3248-3249	2	3GS21B	2100		No HEP	
TOTAL FLEET:			**87**					

* Unit 1073 was damaged in a collision at Back Bay Station in 1990 and scrapped.
Units 904, 3247, 3248, 3249 are utility/recovery locomotives not used in revenue service.
"HEP" stands for Head End Power - Light, Heat, and Air Conditioning power for the passenger coaches.
(X) - Original build date for Canadian National Railways; units were remanufactured for MBTA service in 1997 by AMF Transport.
40 locomotives are currently on order with MPI and are not counted here.

Commuter Rail
Scheduled Service (One-Way Trips)
April 2014

Line and Termini	Weekday Trips				Weekend Trips	
	AM Peak	PM Peak	Off Peak	Total	Saturday	Sunday
NORTH SIDE						
Newburyport, Rockport, Hamilton-Wenham, Beverly*	10	13	39	62	26	26
Haverhill, Andover, Reading**	8	10	30	48	12	12
Lowell, Anderson/Woburn	9	14	35	58	16	16
Fitchburg, South Acton	5	8	21	34	16	16
Total	**32**	**45**	**125**	**202**	**70**	**70**
SOUTH SIDE						
Worcester, Framingham	8	10	30	48	18	16
Needham Heights	6	7	19	32	0	0
Forge Pk, Franklin, Walpole, Norwood Central***	7	8	22	37	18	14
Providence, Attleboro, Mansfield	7	7	23	37	18	14
Stoughton, Canton Center	5	6	21	32	0	0
Readville via Fairmount Line****	7	6	28	41	0	0
Middleborough/Lakeville	3	5	16	24	16	16
Plymouth, Kingston, Whitman	5	6	13	24	0	0
Greenbush	3	5	16	24	0	0
Total	**51**	**60**	**188**	**299**	**70**	**60**
SYSTEM TOTAL	**83**	**105**	**313**	**501**	**140**	**130**

* Includes Weekday Beverly-Newburyport and Salem-Rockport (2 one way trips each) shuttles.
** Includes any trains via the "Wildcat" Branch
*** Includes any trains via Dorchester Branch (aka Fairmount Line)
**** Fairmount service includes "Readville Shuttles" only

Commuter Rail
Span of Service
April 2014

Line	Weekdays		Saturdays		Sundays	
	First IB Train Leaves Terminal	Last OB Train Leaves Boston	First IB Train Leaves Terminal	Last OB Train Leaves Boston	First IB Train Leaves Terminal	Last OB Train Leaves Boston
NORTH SIDE						
Newburyport	5:22 AM	10:40 PM (a)	8:48 AM	10:15 PM	8:48 AM	10:15 PM
Rockport	5:05 AM	12:10 AM	7:00 AM	11:30 PM	7:00 AM	11:30 PM
Haverhill	5:05 AM	12:10 AM	7:15 AM	11:30 PM	7:15 AM	11:30 PM
Lowell	5:35 AM	12:10 AM	7:00 AM	11:30 PM	7:00 AM	11:30 PM
Fitchburg	5:15 AM	12:10 AM	6:50 AM	11:30 PM	6:50 AM	11:30 PM
SOUTH SIDE						
Worcester	4:45 AM	11:25 PM	9:10 AM	11:00 PM	9:10 AM	11:00 PM
Framingham	5:35 AM	11:25 PM	8:10 AM	11:00 PM	9:50 AM	11:00 PM
Needham	6:10 AM	10:30 PM				
Franklin	5:05 AM	11:50 PM	6:35 AM	11:20 PM	10:40 AM	11:20 PM
Providence	5:07 AM	11:59 PM	6:35 AM	11:10 PM	11:20 AM	11:10 PM
Stoughton	6:28 AM	11:00 PM				
Fairmount	5:48 AM	9:40 PM				
Middleborough/Lakeville	5:20 AM	10:30 PM	6:30 AM	10:35 PM	6:30 AM	10:35 PM
Plymouth	10:48 AM	6:15 PM				
Kingston	5:32 AM	10:40 AM				

(a) - Transfer in Beverly from Rockport Train

CAPE COD COMMISSION

3225 MAIN STREET • P.O. BOX 226 • BARNSTABLE, MASSACHUSETTS 02630
(508) 362-3828 • Fax (508) 362-3136 • www.capecodcommission.org