North Suburban Commuter-Oriented Transit Opportunities Study Phase II

A report produced by the Central Transportation Planning Staff for the Boston Region Metropolitan Planning Organization

North Suburban Commuter-Oriented Transit Opportunities Study Phase II

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1.0 INTRODUCTION

Phase I of this study, completed in 2002, examined the feasibility of new commuter-oriented transit services connecting major employment destinations along the Route 128 corridor with commuter rail stations or connecting MBTA bus lines in Stoneham, Reading, and Burlington with other transit services such as commuter rail; it also examined the feasibility of a number of changes to the existing transit network. The suggested new services and changes to current services were intended to be the non-capital-intensive ideas with the most merit for improving mobility for study area residents and reducing single-occupant-vehicle use; it was not within the project's scope to make ridership projections or estimate operating costs.

The primary objective of the present, Phase II study is to further develop the transit service improvement ideas identified in Phase I, at a greater level of detail. This includes identifying specific markets of potential riders, reconfirming exact routings, developing schedules, identifying operating and capital costs, and estimating ridership.

The study area consists of the towns of Bedford, Burlington, Reading, Stoneham, Wakefield, Wilmington, and Woburn.

2.0 DEMAND ASSESSMENT FOR NEW TRANSIT SERVICES

The 1990 U.S. census journey-to-work figures were the latest available data when the Phase I report was prepared. Some results from the 2000 census are now available. Changes in travel patterns since 1990 could increase or decrease the desirability of operating some of the new services discussed in the report. Therefore, these changes are examined here (Table 1).

The Phase I report also examined the distribution of employment within the study area. One of the study's findings was that the largest single area of employment concentration is the Burlington Mall/New England Executive Park/Lahey Clinic area in Burlington. A second area of high concentration is the Mishawum area of Woburn, particularly the Commerce Way businesses north of Mishawum Road and the Cummings Park area south of I-95. This chapter looks at types of employment within these areas as well as several small site concentrations typical of town centers.

2.1 Overview of Travel Patterns by Municipality

Burlington

Between 1990 and 2000, the number of residents of Burlington employed in Boston and Cambridge increased by 1% (17), compared with a population decrease of 1.8%. In the same span, reverse-commuting trips to Burlington from Boston increased by 23% (270), compared with a 19% gain in total employment in Burlington. The Phase I study did not recommend any new transit services for work trips from Burlington to Boston or from Boston to Burlington. The findings above would not significantly change conclusions as to the need for such service.

North Reading

Between 1990 and 2000, the number of North Reading residents employed in Boston and Cambridge increased by 51% (488), compared with a population gain of 15%. In the same span, reverse-commuting trips to North Reading from Boston increased by 480% (245), compared with an overall increase of 83% in total employment in North Reading. The Phase I report noted that in 1993, employer-sponsored shuttle vans to North Reading from Mishawum Station were used by nearly one in four reverse commuters from Boston to North Reading. Ridership on such service would potentially be even greater now, but connections at the Anderson Regional Transportation Center would be more convenient.

North Reading currently has no public transportation service for the general public. The Phase I report did not consider such service, but the growth in Boston and Cambridge work travel from North Reading since 1990 suggests that such service should be considered now. One possibility would be to extend either MBTA Route 136 or Route 137 north from Reading Station. This would require use of more vehicles on the extended

TABLE 1

Demographic Characteristics, North Suburban Transit Opportunities Study Area

Community	Population			Employment			Residents Employed in Boston and Cambridge			Boston Residents Employed in Community		
	1990	2000	Change	1990	2000	Change	1990	2000	Change	1990	2000	Change
Burlington	23,302	22,876	-2%	33,103	39,350	19%	1,846	1,863	1%	1,185	1,455	23%
North Reading	12,002	13,837	15%	3,454	6,326	83%	957	1,445	51%	51	296	480%
Reading	22,539	23,708	5%	6,060	7,455	23%	2,223	2,552	15%	271	193	-29%
Stoneham	22,203	22,219	0%	8,107	8,032	-1%	2,799	2,593	-7%	305	358	17%
Wakefield	24,825	24,804	0%	10,904	15,078	38%	2,401	3,002	25%	317	402	27%
Wilmington	17,651	21,363	21%	19,771	21,736	10%	1,548	1,928	25%	442	583	32%
Woburn	35,943	37,258	4%	35,608	41,212	16%	3,227	3,155	-2%	1,312	1,351	3%

route, as the present schedule does not have enough layover time at Reading to allow for an extension.

Reading

Between 1990 and 2000, the number of Reading residents employed in Boston and Cambridge increased by 15% (329), compared with a population gain of only 5%. In the same span, reverse-commuting trips to Reading from Boston decreased by 29% (78), despite a 23% gain in total employment in Reading. The Phase I study did not suggest any new traditional, radial feeder bus connections to commuter rail from points in Reading. Changes in travel patterns since 1990 would be insufficient to require a reconsideration of such service.

Stoneham

Between 1990 and 2000, the number of Stoneham residents employed in Boston and Cambridge decreased by 7% (206) despite little change in the total population of the town. In the same span, reverse-commuting trips to Stoneham from Boston increased by 17% (358), compared with an overall 1% decrease in total employment in Stoneham. The Phase I study suggested a possible extension of MBTA bus Route 132 north from the Redstone Shopping Center in Stoneham to state Route 128 to serve some commercial development in the vicinity of Exit 38. Most of this development is actually in Reading rather than in Stoneham, so the findings above would have little impact on the ridership potential on such an extension.

Wakefield

Between 1990 and 2000, the number of Wakefield residents employed in Boston and Cambridge increased by 25% (601) despite a slight decrease in population. In the same span, reverse-commuting trips to Wakefield from Boston increased by 27% (85), while total employment in Wakefield grew by 38%. The Phase I study did not suggest any new feeder bus connections to commuter rail from points in Wakefield. It is already possible to make fair-to-good peak-period connections between commuter rail trains and MBTA Route 137 buses at Wakefield Station, either for commuting to Boston or for reverse commuting to Wakefield. (The Route 137 buses also stop at the Orange Line.) However, passenger counts and survey data indicate that few, if any, passengers make such transfers regularly. This suggests that despite increased overall travel between Boston and Wakefield, new feeder bus service in Wakefield would not be successful. Improved coordination of existing train and bus schedules at Wakefield might be beneficial if it did not result in less convenient service for passengers who did not want to transfer.

Wilmington

Between 1990 and 2000, the number of Wilmington residents employed in Boston and Cambridge increased by 25% (380), slightly outpacing a population gain of 21%. In the same span, reverse-commuting trips to Wilmington from Boston increased by 32% (141),

compared with an overall increase of only 10% in total employment in Wilmington. The Phase I study found that new feeder routes to Wilmington Station from the state Route 38 and Route 62 corridors, continuing into Tewksbury and Billerica, were worth considering. Population and employment growth in Wilmington since 1990 would improve the ridership potential for such routes.

Woburn

Between 1990 and 2000, the number of Woburn residents employed in Boston and Cambridge decreased by 2% (72), compared with a population gain of 3.7%. In the same span, reverse-commuting trips to Woburn from Boston increased by 3% (39), compared with a 16% gain in total employment in Woburn. In the Phase I report, it was estimated that close to 1,500 Boston residents worked in Woburn in 2002. The 2000 census figures show a total of only 1,350, and the low increase since 1990 suggests that the additional growth after 2000 would have been small. Therefore, the potential ridership on connecting service from commuter rail to work locations in Woburn would be somewhat less than anticipated by the Phase I report. Nevertheless, it remains one of the more promising locations for such service.

2.2 Feeder Service to/from Rail Stations

Wilmington/North Wilmington Stations

Phase I concluded that if feeder service to either Wilmington Station or North Wilmington Station were to be implemented, Wilmington Station would be the better connecting point of the two. A route from Tewksbury via Route 38 was found to have the best ridership potential of possible feeder routes to Wilmington Station, followed by one from Billerica via state Routes 3A and 62.

As discussed above, population and employment increases in Wilmington since 1990 should improve the ridership potential on the segments of these feeder routes within the town. Between 1990 and 2000, total work trips to Boston from Tewksbury increased by 44% (488), but trips from Billerica increased by only 4% (54). Work trips from Boston to Tewksbury increased by 50% (82), but work trips from Boston to Billerica increased by 140% (343). The bus route from Billerica that was considered in the Phase I study would serve segments of the town with predominantly residential development. The most dense employment development is closer to North Billerica Station. Overall, these findings support a conclusion that a feeder route to Wilmington Station from Tewksbury should have higher priority than a route from Billerica.

Anderson Regional Transportation Center

As discussed above in the overview, work travel from Woburn to Boston and Cambridge decreased slightly between 1990 and 2000. Most of the loss was in trips to Cambridge, with Boston trips being almost unchanged. Overall, commuter rail feeder service for

Woburn residents would be slightly less beneficial than assumed in the Phase I study. That study concluded that existing express bus service to Boston and feeder service to rapid transit served Woburn residents' traditional radial commutes adequately, and no new commuter rail connection for this market was recommended.

The Phase I study did conclude that connecting service from the Anderson Regional Transportation Center (RTC) for reverse commuters going to work locations in Woburn and the southern edge of Wilmington had good potential. The above overview found that total work travel to Woburn from Boston is somewhat lower than estimated in the study, though still substantial. Work travel from Boston to Wilmington was found to be higher than expected, though in absolute terms the gain was less than the shortfall in Woburn trips. Overall, the Anderson RTC still appears to be one of the best locations for reverse-commuting connections in the study area.

Wakefield Station

The Phase I study did not recommend any new feeder service connections to Wakefield Station. It is already possible to transfer between commuter rail and two MBTA bus routes in Wakefield. However, only one of the routes serves Wakefield Station directly, and many of the bus trips do not allow close connections with trains. Before attempting to run any new feeder routes, improved coordination between schedules of existing bus routes and trains should be considered. Changes should not be made if they would significantly inconvenience present riders who do not want to transfer to commuter rail.

Reading Station

The Phase I study did not recommend any new feeder service connections to Reading Station for trips beginning or ending in Reading. It did suggest operating a route from Reading Station to employment areas in Woburn to serve residents of Reading and points further north on the Haverhill/Reading commuter rail line. According to the Phase I study, 1990 census figures indicated that over 1,000 Reading residents worked in Woburn. However, the 2000 results show only 892 such trips, a decrease of 12.5%. Mostly residents of cities and towns served directly by the rail line would use a connection from commuter rail service from points north of Reading. These communities are Wilmington, Andover, Lawrence, and Haverhill. Wilmington also has a station on the Lowell Line and is also a possible candidate for direct bus service to the Woburn employment areas, so it should be excluded from calculations of transfers at Reading. In the 2000 census figures, Andover, Lawrence, and Haverhill had 349, 497, and 367 work trips to Woburn, respectively, ranking them 26th, 16th, and 23rd overall in importance as sources of workers for that city.

A bus connection from Reading Station could also be used by reverse commuters from points south of Reading. For workers from Boston, a bus connection from the Anderson RTC on the Lowell Line would be more convenient for travel to Woburn, because train and bus times would both be faster than via Reading, and the Lowell Line has more frequent service.

Stations between Boston and Reading are located in Malden, Melrose, and Wakefield. In the 2000 results, Malden, Melrose, and Wakefield had 612, 474, and 678 work trips to Woburn, respectively, ranking them 14th, 17th, and 11th overall in importance as sources of workers for that city. Together, they were more important sources than Andover, Lawrence, and Haverhill combined, but none of them has good transit connections to Woburn at the present time. Currently, only two outbound trains arrive at Reading early enough for most work trips. Their arrival times are not close enough to those of inbound trains to be served by the same connecting buses.

2.3 Intersuburban Circulator Services

Reading–Wakefield

The Phase I study stated that a service from Wakefield would have the greatest potential for a town-to-town service to employment areas in Reading. The 2000 census figures show that, as is typical of suburban towns, Reading was the largest individual source of workers to jobs within its borders. However, Reading had an unusually high share, at 32% (2,263). Woburn was a distant second, with 4.1% (290), and Wakefield was third, with 3.4% (242). The study concluded that since there are already two MBTA bus routes between Wakefield and Reading that attract a relatively small number of riders traveling between those towns, additional service is not called for. The 2000 census figures support this conclusion.

Reading–Stoneham

The Phase I study suggested that bus service between Stoneham and Reading be implemented, either as an extension of existing MBTA Route 132 or as a connecting private-carrier service. (The MBTA ran a route between Stoneham and Reading until 1971. The service was discontinued because the town of Stoneham was unwilling to pay the local share of the operating subsidy.) The 2000 census figures show that Stoneham was in fourth place, just below Wakefield, as a source of Reading workers, with 3.4% (236). Almost as many Reading residents worked in Stoneham (222), but this was only the ninth-largest source of Stoneham workers, at 2.6%. Census figures are not broken down finely enough to show how many of these workers would have origins and destinations both within convenient distance of a bus route.

Stoneham–Wakefield

The Phase I study did not suggest that a new route be operated between Wakefield and Stoneham. Rather, it noted that if service between Stoneham and Reading were implemented, as discussed above, passengers could transfer between that route and MBTA Route 136 or 137 to travel between Stoneham and Wakefield. Such an alternative would be somewhat indirect for most trips, as Stoneham borders Wakefield to the southwest and Reading borders Wakefield to the northwest. It would, however, be more direct than present transit alternatives.

The 2000 census figures show 295 work trips to Stoneham by Wakefield residents, compared with only 222 by Reading residents. In the opposite direction, Stoneham residents made 382 work trips to Wakefield, compared with only 236 to Reading. This suggests that instead of a route from Stoneham directly to Reading, it would be preferable to run either a route from Stoneham to Wakefield with connections there for Reading, or a route from Stoneham to Reading via Wakefield.

Stoneham has no direct commuter rail or express bus service. Nevertheless, the 2000 census showed 2,593 work trips to Boston and Cambridge from Stoneham, slightly exceeding the total from Reading. The 1993 commuter rail survey showed a relatively small number of Stoneham residents (137) using commuter rail stations in other towns, but Wakefield Station captured the largest individual share of these, at 51 (38%). This suggests that some Stoneham residents might use feeder bus service to that station.

Reading–Woburn

This service would be similar to the one discussed above under feeder service from rail stations. However, the schedule would not necessarily be tied to that of the train service on the Haverhill/Reading Line, and the route would be intended to serve Woburn residents working in Reading as well as Reading residents working in Woburn. As discussed above, however, the latter is a much larger market. The 2000 census figures show 290 Woburn residents working in Reading, compared with 892 Reading residents working in Woburn.

Burlington–Billerica

The Phase I study identified Billerica as having the greatest potential for town-to-town service to employment areas in Burlington. It did not recommend implementation of additional service because of the existence of the Lowell Regional Transit Authority (LRTA) route serving this corridor. The 2000 census figures show Billerica as the third-largest source of Burlington workers, with 1,664 (4.9%), behind Burlington itself (3,315, 9.8%) and Woburn (1,805, 5.3%). The Billerica–Burlington total is much greater than most of the other suburb-to-suburb totals discussed in the study. Therefore, ridership figures for the LRTA service would be useful as an indication of ridership potential for proposed new services.

Burlington–Woburn

The Phase I study suggested extending LRTA Route 19 from the Lahey Clinic to Van DeGraff Drive to provide a connection with MBTA Route 354. The objective of this extension would be to improve access to work locations along the western edge of Burlington for residents of Woburn. As noted above, the 2000 census figures show Woburn as the second-largest source of workers (1,805, 5.3%) going to jobs in Burlington. The figures currently available do not show origin-destination pairs below the town level. However, the town-to-town level is so large that it is likely that the total from

any densely populated residential areas in Woburn to any densely developed employment areas in Burlington would be fairly substantial.

Burlington–Lexington

The Phase I study suggested extending the hours of operation of Lexpress Route 5, which runs between Lexington and the Burlington Mall. In the 2000 census figures, with 546 (1.6%), Lexington ranked only 14th as a source of Burlington workers. However, most of the cities and towns that were ahead of Lexington either already have transit service suitable for work trips to Burlington or would be much more costly to serve because of the greater distance involved.

Stoneham–Woburn

The Phase I study suggested rerouting reverse-peak trips on MBTA bus Route 354 to add service along Main Street and Montvale Avenue in Stoneham. The purpose of such a change would be to allow work travel from homes in Stoneham to work locations along Route 354 in Woburn and Burlington. If LRTA Route 19 were extended to the end of Route 354, as discussed above, this would provide additional travel possibilities from Stoneham. At present, there is no direct transit service from Stoneham to either Woburn or Burlington. Stoneham adjoins Woburn directly, but the 2000 census figures show Stoneham as being only the eighth-most important source of work trips to Woburn, with 848 (2.5%). As a source of Burlington workers, Stoneham ranked only 17th, with 429 (1.3%).

A diversion of Route 354 would bring service within a convenient walking distance of only a small segment of the population in Stoneham. Available figures are insufficiently detailed to show how many residents of this area are employed at locations served by Route 354 or by LRTA Route 19. Nevertheless, since this diversion could be done at little cost, it could be worthwhile running it experimentally.

Bedford–Woburn

The Phase I study did not suggest any new service between these points other than what would be provided by a connection between MBTA Route 354 and LRTA Route 19, discussed as a Burlington–Woburn service improvement. In the 2000 census figures, Woburn ranked 11th as a source of Bedford workers, with 474 (2.2%). This was much smaller than the number of Burlington workers from Woburn, but it would help strengthen the case for a connection between Route 354 and Route 19. Stoneham residents boarding a diverted Route 354, as discussed above, could also use this connection. However, as a source of Bedford workers, Stoneham ranked only 27th, with 177 (0.8%) in the 2000 census.

The same subsection of the Phase I report also noted that extended hours of service for Lexpress Route 5 would improve access for Lexington residents to work locations in

Bedford as well as in Burlington. In the 2000 census, Lexington was more important than either Woburn or Stoneham as a source of Bedford workers, with 489 (2.2%).

2.4 Types and Locations of Employment in the Study Area

The locations of concentrated employment in the study area are shown in Figure 1.

Larger Areas of High-Density Employment

Burlington Mall Road

The Burlington Mall/New England Executive Park/Lahey Clinic vicinity is the largest area of employment concentration in the study area. It encompasses the Burlington Mall, a series of large office parks, and buildings along Burlington Mall Road. Several developments, such as the mall itself and the Lahey Clinic, are areas of single-category employment (retail and health services, respectively). Others, such as the New England Executive Park, have a variety of employment types, including communications, insurance, banking, and business services.

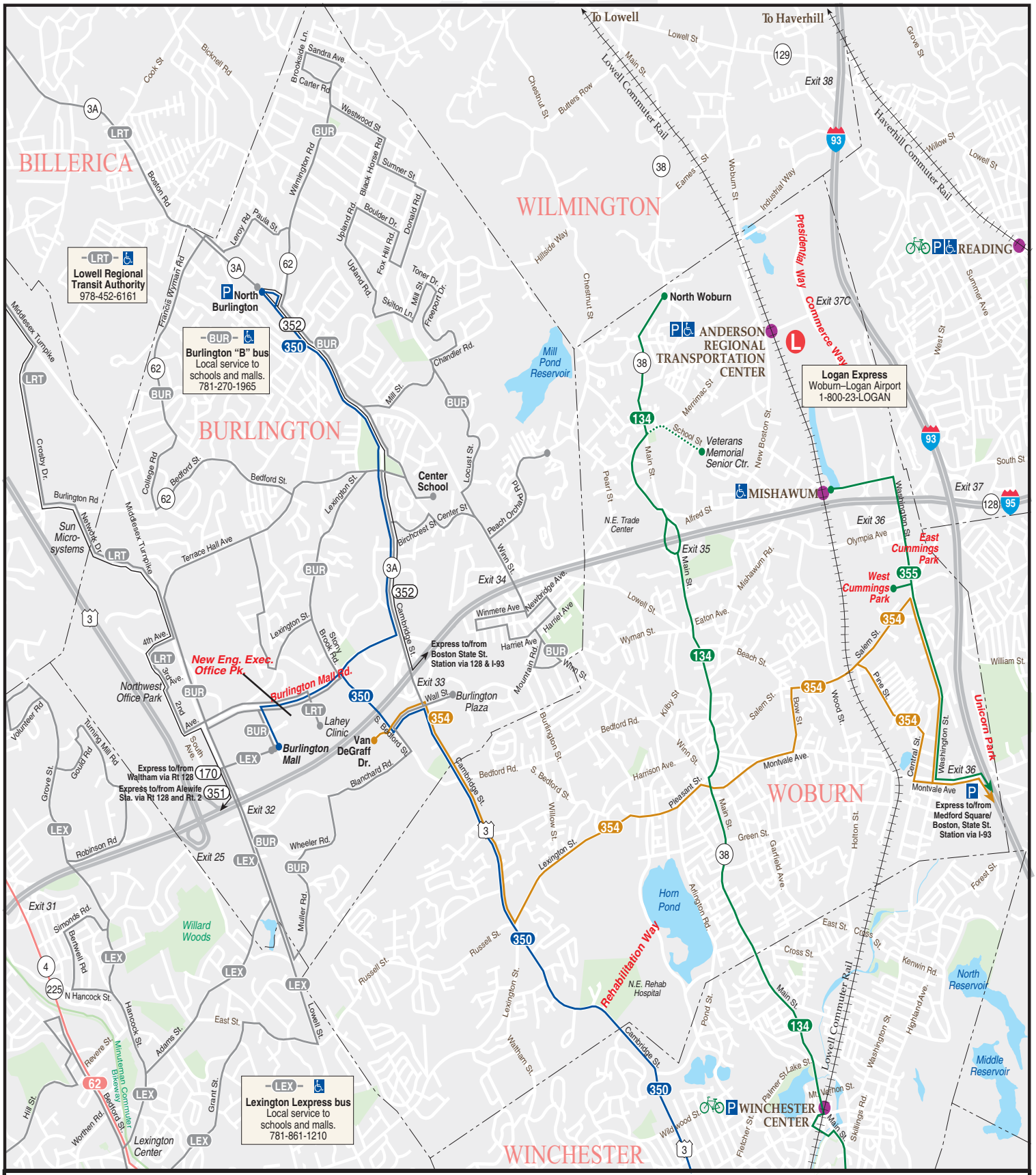
The Lahey Clinic and the Burlington Mall are the largest employment sites in this area and account for a major proportion of the total employment. The Lahey Clinic alone has approximately 2,300 employees. Both the hospital and the mall have several employee shifts as well as continuous arrivals and departures by clients and customers. These sites could possibly support transit services that operate outside of traditional peak periods.

Office parks along Burlington Mall Road include the New England Executive Office Park and Burlington Woods. At the former, the eleven employers with 60 or more workers have approximately 1,400 employees between them. Total employment in the office park is certainly higher. Employment in the park is mostly service related. The types of employment include engineering services, business consulting, insurance, computer services, and telephone communications, among others. The majority of trips to and from these businesses generally occur during peak periods. Burlington Woods is a much smaller office park, but it has the same types of employment.

Other, single-site employers are located along Burlington Mall Road. The larger ones include Fay, Spofford & Thorndike, with 250 employees, and the Marriott Hotel, with approximately 300 employees.

Mishawum Area of Woburn

The Mishawum area of Woburn also has a large concentration of employers. The highest employment densities occur at Commerce Way, Presidential Way, Rehabilitation Way, Cummings Park, and Unicorn Park Drive.



CTPS

Figure 1
Concentrated Employment Locations

xxx = Employment location

Several thousand people work or are headquartered at Commerce Way. Employment types are a mix of wholesale, retail, and business services. The largest employers are Marshall's, Inc., with approximately 1,150 employees at its warehouse location, and Commonwealth Maintenance Systems, with 600 employees. The latter company is classified as providing business services. If, as the name implies, its employees maintain various other buildings, they are not necessarily located here. This is also true for the New England Cleaning Corporation, with 125 employees, and Standard Building and Maintenance, with 120 employees.

Employment at Presidential Way is a mix of business services, management services, and retail, as well as several others. Level 3 Communications, an Internet-related company, is the largest employer, with approximately 1,000 employees.

Rehabilitation Way is mostly a health services complex. The largest employers here are the New England Rehabilitation Hospital and Kelleher Ambulatory Care Center. Their combined employment is approximately 1,400 employees.

Cummings Park (East and West) and Unicorn Park house a diverse assortment of small-to-mid-size employers. Transworld Systems, a collection agency with over 300 employees, is the largest employer at Cummings Park. Verizon Wireless, with approximately 330 employees, is the largest employer at Unicorn Park.

Smaller Areas of Development and Town Centers

The highest concentration of employment in Wakefield is the relatively isolated Edgewater Place/Edgewater Drive. Employment is a mixture of finance, insurance, wholesale, retail, and business services. There are also smaller employment concentrations along Main Street and along North Avenue.

Main Streets in Stoneham, Wilmington, and Reading, as is typical in town centers, have large concentrations of their communities' employment. Many employment categories are represented, but most are either retail or service related.

2.5 Employee Origins

Surveys were conducted at two office parks in the study area to determine where their employees live. A manual license plate survey was conducted in the parking lots of Cummings Park East and West in Woburn between 10:00 AM and 3:00 PM on Wednesday, July 7, 2004. All lots, except the one where a meeting or festival was in progress, were surveyed. Plate numbers were recorded for 601 vehicles. Of these plates, 57 were from other states and 544 from Massachusetts.

License plates of vehicles entering the New England Executive Office Park from Mall Road in Burlington were videotaped between 7:00 and 10:00 AM on the same day. Plate numbers for 1,152 vehicles were transcribed.

The observed license plate data was matched with Registry of Motor Vehicles files to determine the community in which each vehicle is garaged, under the assumption that this community is the point of origin. Of the Massachusetts plates, 79% were matched for the Cummings Park locations and 70% were matched for the New England Executive Park location. The matched number of vehicles from each community was adjusted to reflect unmatched plates.

Tables 2 and 3 and Figures 2 and 3 present the locations from which, respectively, vehicles parked in the Cummings Park lots and vehicles entering the New England Executive Office Park originated. Only origins with five or more vehicles are included. Many of the Cummings Park origin communities are located along the I-95 and I-93 corridors. Therefore, it appears that Cummings Park is a good candidate for bus service from the Anderson RTC. The top five origins are Woburn, other states as a group, Stoneham, Boston, and Billerica. Over two-thirds (71%) of the out-of-state plates are from New Hampshire.

Other states, as a group, account for more vehicle origins at the New England Executive Office Park than any one Massachusetts community. The video transcriber did not identify other states, however it is probably safe to assume that the majority of out-of-state vehicles come from New Hampshire. The other origins in the top five are Burlington, Boston, Billerica, and Woburn. Overall, origins are much more dispersed at this location. Only 39% of all vehicles originate in the top ten communities, whereas 58% do so at Cummings Park. Even so, there is probably a greater chance for carpooling or a transit route here, because more vehicles originate from each community.

TABLE 2

Cummings Park: Origin Locations with Five or More Vehicles

Origin	Vehicles	Percent Total
Woburn	74	12.3
Out of state	57	9.5
Stoneham	24	4.0
Boston	23	3.8
Wilmington	23	3.8
Billerica	20	3.4
Wakefield	18	3.0
Methuen	17	2.8
Malden	15	2.5
Arlington	14	2.3
Saugus	13	2.1
Lawrence	11	1.9
Medford	10	1.7
Reading	10	1.7
Salem	10	1.7
Winchester	10	1.7
Lexington	9	1.5
Lynn	9	1.5
North Andover	9	1.5
Revere	9	1.5
Tewksbury	9	1.5
Amesbury	8	1.3
Chelmsford	8	1.3
Dracut	8	1.3
Somerville	8	1.3
Andover	6	1.1
Framingham	6	1.1
Haverhill	6	1.1
Lowell	6	1.1
Melrose	6	1.1
Peabody	6	1.1
Everett	5	0.8
Ipswich	5	0.8
Newton	5	0.8
Westford	5	0.8

TABLE 3

New England Executive Office Park: Origin Locations with Five or More Vehicles

Origin	Vehicles	Percent Total
Out of state	73	8.3
Burlington	60	5.2
Boston	57	5.0
Billerica	53	4.6
Woburn	43	3.8
Lexington	36	3.2
Waltham	36	3.2
Lowell	32	2.8
Arlington	31	2.7
Tewksbury	28	2.4
Chelmsford	25	2.2
Newton	22	1.9
Wilmington	22	1.9
Cambridge	21	1.8
Wakefield	21	1.8
Andover	20	1.7
Peabody	20	1.7
Reading	20	1.7
Bedford	18	1.6
Malden	18	1.6
Westford	17	1.5
North Reading	15	1.3
Somerville	15	1.3
Lynn	14	1.2
Concord	13	1.1
Methuen	13	1.1
Beverly	11	1.0
Sudbury	11	1.0
Winchester	11	1.0
Danvers	10	0.9
Medford	10	0.9
Salem	10	0.9
Stoneham	10	0.9
Acton	8	0.7
Belmont	8	0.7
Marlborough	8	0.7
Saugus	8	0.7
Dracut	7	0.6
Everett	7	0.6
Haverhill	7	0.6
Leominster	7	0.6
Needham	7	0.6
Revere	7	0.6
Brookline	6	0.5
Chelsea	6	0.5
Lawrence	6	0.5
Lynnfield	6	0.5
Melrose	6	0.5

Figure 2
Massachusetts Origins from License Plate Survey:
Vehicles at Cummings Park

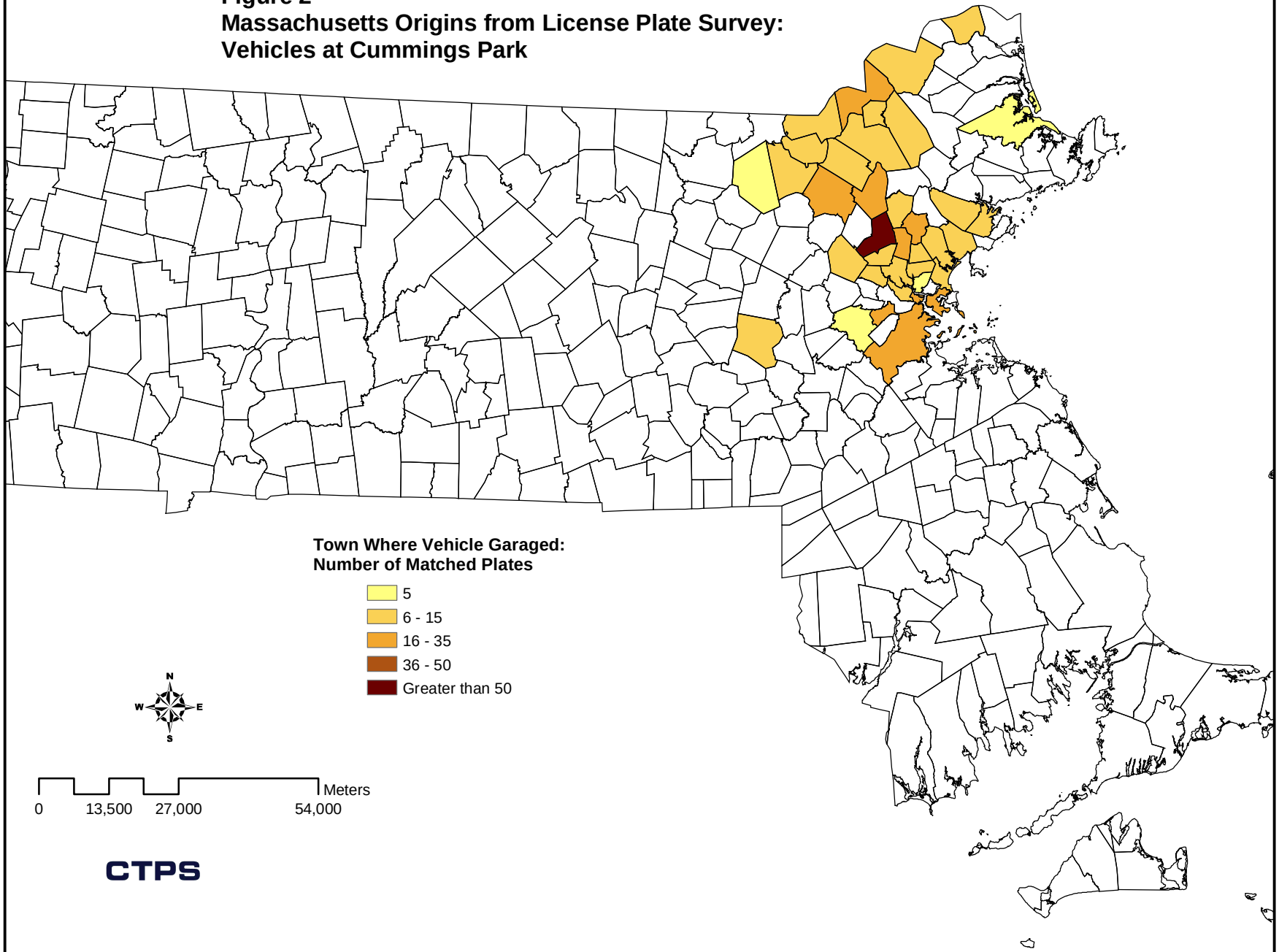


Figure 3
Massachusetts Origins from License Plate Survey:
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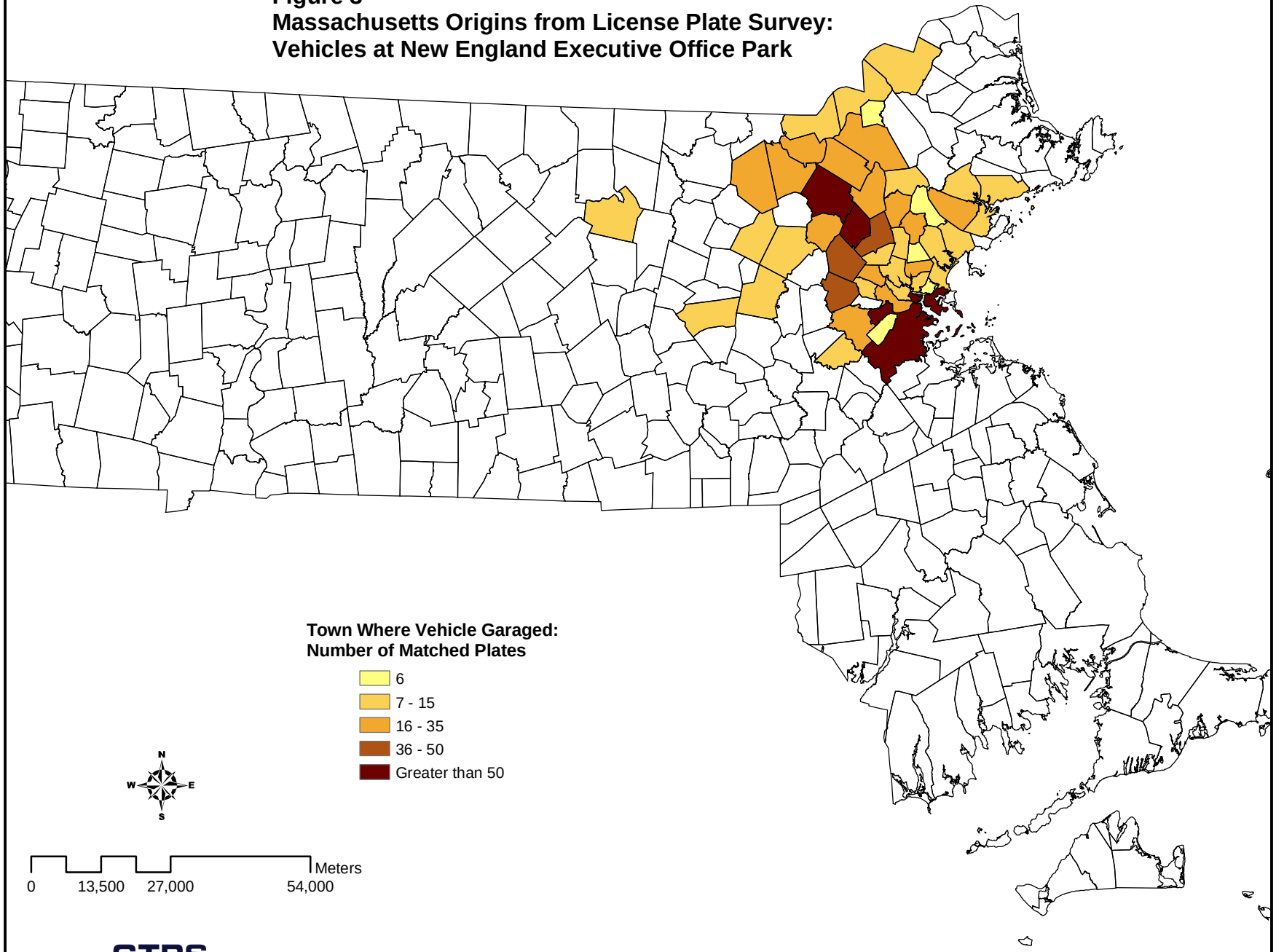


3.0 POTENTIAL NEW SERVICES

The Phase I study identified several potential new or modified transit services that could improve mobility in the region:

- Creating a new shuttle from Anderson RTC to surrounding employment areas in Woburn.
- Expanding the Anderson RTC shuttle to provide connections to Reading Depot.
- Extending existing MBTA bus Route 132 service from Stoneham to Reading.
- Extending existing Lowell Regional Transit Authority (LRTA) service from Lahey Clinic to Van DeGraff Drive in Burlington to connect with MBTA bus Route 354.
- Operating earlier Burlington B-Line bus service to Lahey Clinic.
- Extending existing LRTA service from Tewksbury to Wilmington.
- Expanding the service hours of Lexington's Lexpress bus service to Burlington.
- Modifying MBTA bus Route 354 to provide service from Stoneham to employment areas in Woburn.

This section further develops these proposals. Since the initial development of the suggestions, there have been some changes in existing transit service in the study area, and there are additional changes planned for implementation in 2005. These changes may have an impact on the feasibility of some of the services proposed in Phase I. A description of these changes and their impacts is also included within this section. Figure 4 presents the potential routes for the services in map format.

3.1 Anderson RTC–Woburn Employment Area Shuttle (#1 on Figure 4)

CTPS staff investigated several possible routings for a shuttle service connecting Anderson RTC with employment areas in Woburn. A loop route operating from Anderson RTC via Atlantic Avenue to Commerce Way, to Mishawum Road, to Washington Street, into Cummings Park West, to Cedar Street, to Salem Street, to Wildwood Avenue, to Olympia Avenue, to Mishawum Road, to Commerce Way, and returning to Anderson RTC was found to take approximately 26 minutes during the peak. Such a loop would provide access to employment areas along Commerce Way, near the Woburn Mall, at Cummings Park, along Wildwood Street and along part of Olympia Avenue, and to the hotels along Mishawum Road. An additional segment could be added to provide service to New Boston Street. This would add 5 to 6 minutes to the total travel time.

An additional spur to serve the "Metro-North" development was investigated. This could consist of a loop that would add 5 minutes' running time. However, because Metro-North is in the opposite direction from Anderson RTC compared to the remainder of the proposed service, it would be difficult to add this segment without impacting the travel time to all other locations.

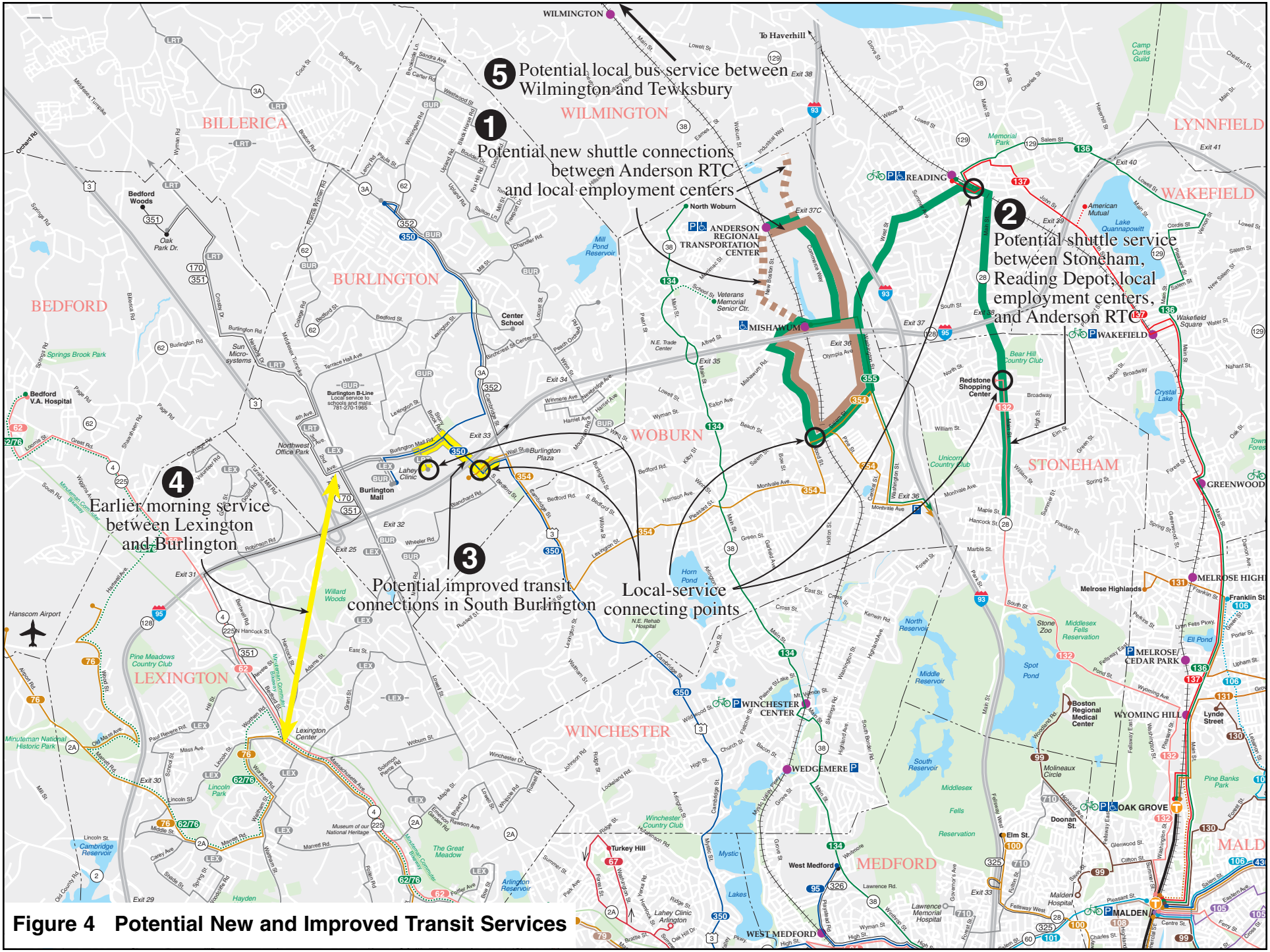
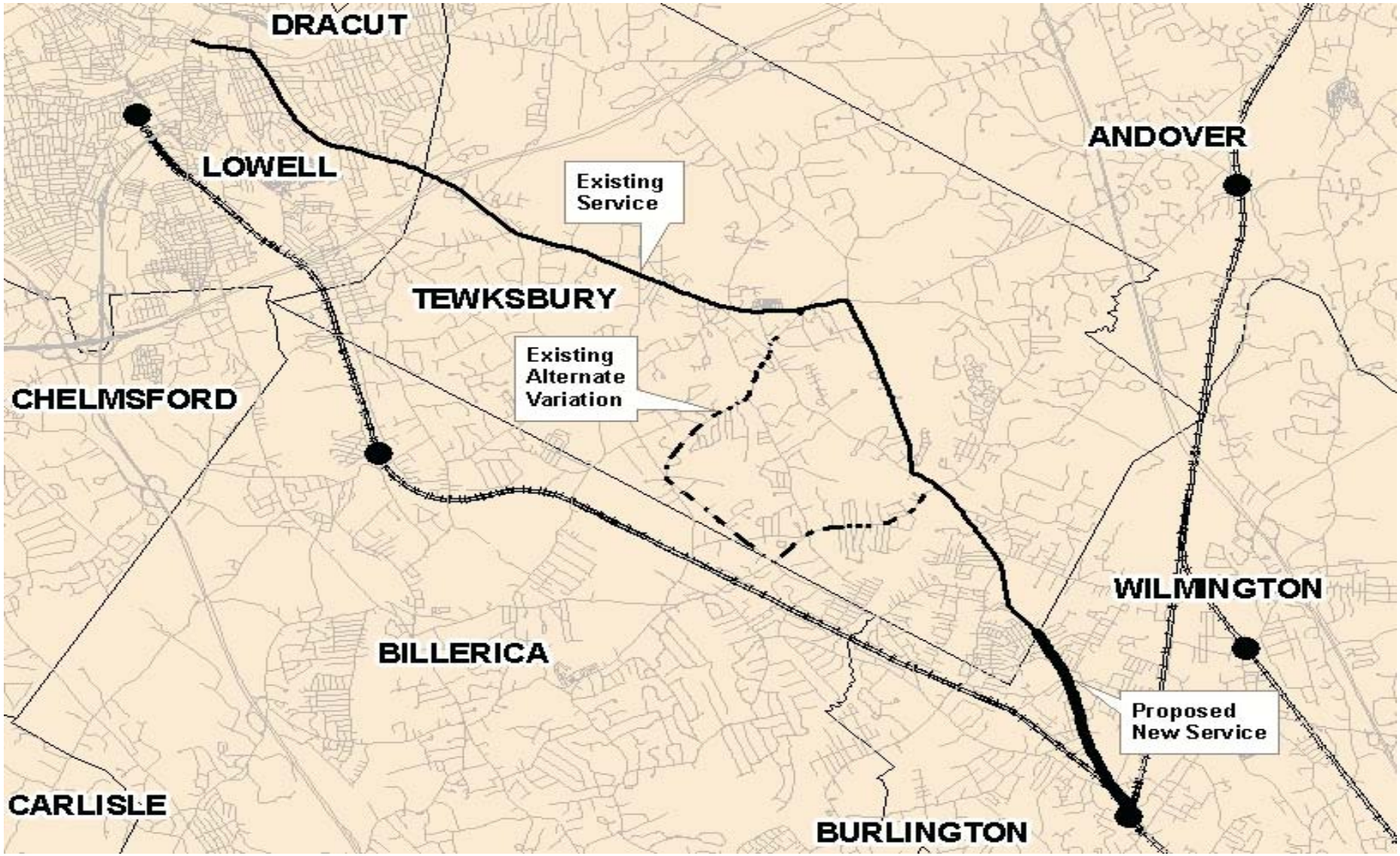


Figure 4 Potential New and Improved Transit Services



CTPS

Figure 5
Potential New Tewksbury–Wilmington Service

Potential Stop Locations

Potential stops of the route include:

1. 74 Commerce Road
2. 30 Commerce Road
3. Commerce Road adjacent Woburn Mall
4. Washington Street at Olympia Avenue
5. 400 West Cummings Park
6. 277 Salem Street
7. 240 Salem Street
8. 300 Wildwood Avenue
9. 482 Wildwood Avenue
10. Wildwood Avenue at Olympia Avenue
11. Mishawum Road
12. Marriott Hotel on Mishawum Road
13. Hampton Inn on Mishawum Road
14. Commerce Way at Loews
15. Commerce Way at Constitution Road
16. Commerce Way at Marshall's

Potential additional stops if service were also provided on Boston Street include:

17. 130 New Boston Street
18. 150 New Boston Street
19. 155 New Boston Street

The timetable for the shuttle should be based on existing train arrival times at Anderson RTC.

Potential Shuttle Schedules

A potential shuttle schedule was developed in Phase I of this study. Tables 4 and 5 present a modified potential schedule that is designed to meet additional trains and provides slightly more "recovery time " per trip than the original. The shading in the tables helps delineate which shuttles meet with which trains.

TABLE 4

Anderson RTC–Woburn Employment Area Shuttle: Morning Schedule

Train Arrives at Anderson		Shuttle Leaves Anderson
Time	**From**	**Time**
5:55 AM	Lowell	
6:10 AM	Boston	6:10 AM
6:40 AM	Lowell	6:40 AM
	Boston	
6:58 AM		
7:12 AM	Lowell	7:15 AM
7:39 AM	Boston	
7:44 AM	Lowell	
7:52 AM	Boston	7:53 AM
8:12 AM	Lowell	
8:27 AM	Maine	
8:30 AM	Boston	8:30 AM
8:45 AM	Lowell	9:00 AM
9:27 AM	Lowell	
9:35 AM	Boston	9.35 AM

TABLE 5

Anderson RTC–Woburn Employment Area Shuttle: Afternoon Schedule

Shuttle Leaves Anderson	Shuttle Arrives Anderson	Train Leaves Anderson	To
3:00 PM	3:30 PM		
		3:30 PM	Boston
		3:35 PM	Lowell
4:00 PM	4:30 PM		
		4:35 PM	Boston
		4:38 PM	Lowell
4:30 PM	5:00 PM		
		5:03 PM	Boston
		5:08 PM	Lowell
5:00 PM	5:30 PM		
		5:30 PM	Boston
		5:38 PM	Lowell
5:30 PM	6:00 PM		
		6:05 PM	Boston
		6:13 PM	Lowell
6:00 PM	6:30 PM		
		6:34 PM	Boston
		6:37 PM	Maine
		6:45 PM	Boston
		6:52 PM	Lowell

Since the heaviest demand for the service is likely to come from Cummings Park, the route should be set up to minimize the travel times between Anderson and Cummings. The morning routing should proceed first from Anderson to Cummings and then in a clockwise direction to Mishawum and New Boston Street. In the afternoon, the route should operate first from Anderson to Mishawum Road and New Boston Street, and then in a counterclockwise direction to Cummings Park.

Potential Demand and Cost Estimates

Data from the 2000 census indicates that a total of 6,005 work trips to Woburn originate in communities served by the Lowell commuter rail line. Table 6 shows the number of commuters from each community.

TABLE 6

Work Trips to Woburn from Communities Served by the Lowell Commuter Rail Line

City or Town	Work Trips
Boston	1,350
Billerica	1,135
Lowell	1,115
Medford	1,020
Wilmington	805
Winchester	580
Total	**6,005**

In addition, work trips made to Woburn from communities near Lowell include:

TABLE 7

Work Trips to Woburn from Communities Near Lowell

City or Town	Work Trips
Nashua, N.H.	345
Chelmsford	340
Dracut	340
Tyngsborough	135
Total	**1,160**

The service would require one vehicle operating seven revenue hours per day. Based on per-vehicle costs of $48.00 per hour and providing service for 250 weekdays, the annual cost would be $84,000. This is slightly higher than the estimate in Phase I of this study, as service would now also meet several late-morning trains.

Ridership Estimate

The "Rail Link" service operating between Route 128 Station in Westwood and employment areas in Norwood and Westwood is one of those that are most closely comparable to the proposed Woburn shuttle. Past observations have found morning ridership to vary between 52 passengers in 2000 and 29 passengers in 2002. A 2003 survey of Rail Link passengers found that close to 50% lived in Boston, while the remainder came from various other communities served by the MBTA network. Total employment in the parts of Norwood and Westwood served by this shuttle was 8,844 in 2000. The total employment in the area of Woburn surrounding Anderson RTC and south to Cummings Park was 16,324. Given the greater number of jobs in the comparable area of Woburn, if ridership patterns similar to those found in Norwood developed, morning ridership could range from 53 to 95 passengers (106 to 190 daily passengers).

3.2 Stoneham–Reading–Woburn Service (#2 on Figure 4)

The Phase I study suggested two changes to existing MBTA bus service. One proposal was to extend MBTA bus Route 132 from its Stoneham terminal (Redstone Plaza) to Reading Square via Main Street. This service would provide access to commercial areas along Main Street in Reading and improve connections between Stoneham and Reading and between Stoneham and Wakefield (via transfers to MBTA Routes 136/137). It would also provide a connection to a possible shuttle service to Woburn employment areas.

The other proposal was to operate reverse-peak-direction service on MBTA Route 354 (Woburn–Boston via I-93) via Stoneham Square to provide Stoneham residents with access to jobs in Woburn. Reverse-peak trips on MBTA Route 354 could leave I-93 at Roosevelt Circle in Medford instead of Montvale Avenue in Woburn and make stops on Main Street in Stoneham. This would provide access from Stoneham to employment at Cummings Park in Woburn and Wayside Drive in Burlington.

The MBTA considered extending Route 132 to Reading as part of its 2004 Service Plan, but rejected the proposal. In order to maintain existing frequencies on Route 132, an additional vehicle would have been required. The MBTA determined that this was not cost-effective.

There would be little to no added cost for the MBTA to reroute reverse-commuting trips on Route 354. There would, however, be some increase in travel times for existing riders traveling between Boston and Woburn. As part of the MBTA's 2004 Service Plan, Route 354 reverse-peak trips were added, with an additional stop in Medford Square. The MBTA expects this will improve the access by transit from Medford, Malden, and Somerville to job locations in Woburn served by Route 354, especially Cummings Park.

"Journey to Work" census data for 2000 shows 1,020 people commuting from Medford to Woburn each day, while 695 travel from Stoneham to Woburn. The additional travel time resulting from this change makes an additional diversion of the route to serve Stoneham less feasible, as the MBTA would be concerned that the additional travel time would make the service undesirable for those traveling between Boston and Woburn.

As an alternative to modifying these MBTA services, improving access from Stoneham to Woburn and Reading may be practical by modifying another service suggestion from Phase I of this study. A shuttle from Reading Depot to Cummings Park and other employment areas in Woburn was proposed as an expansion of the initial proposed shuttle service from Anderson RTC to Woburn. Starting the proposed Reading service at Stoneham Square and then proceeding to Reading Depot would provide an alternative service connecting Stoneham to Reading and Woburn. The Stoneham–Reading–Woburn shuttle would also connect with MBTA bus 354 in Woburn, providing connections to Woburn Square and Van DeGraff Drive in Burlington.

Potential Routing

A fixed-route shuttle connecting Stoneham Square and Reading Depot would start at Stoneham Square, proceed north on Main Street (Route 28) to Lincoln Street (Reading Depot), proceed on Woburn Street to West Street, to Washington Street in Woburn, and then loop in a similar fashion to the proposed shuttle from Anderson RTC, serving Cummings Park West, Cedar Street, Salem Street, Wildwood Avenue, Olympia Avenue, Mishawum Road, and Commerce Way. The bus could then "deadhead" (run empty) back to Stoneham Square via either Washington Street or I-93 and Montvale Avenue. The afternoon route would be the inverse of this, starting at Anderson RTC and proceeding to Commerce Way, Mishawum Road, Wildwood Avenue, Cummings Park West, Reading Depot, and Stoneham Square, returning to Anderson via I-93 or Washington Street.

A CTPS road test of this potential route found it took 35–40 minutes to travel in a loop from Stoneham Square to Reading Depot, to Cummings Park, to Mishawum Road, to Commerce Way and Anderson RTC, and back to Stoneham. In the morning, trains from Haverhill arrive at Reading Depot at 6:04, 6:40, 7:05, 8:02, and 9:17. A single vehicle operating in a loop could meet all of these trains except for the 6:40 arrival. In the afternoon, trains depart Reading at 3:28, 4:54, 5:42, 6:23, and 6:48. A single vehicle operating a loop could serve all of these trains except for the 6:23 departure (Table 8). Shadings in the table delineate possible connections.

TABLE 8

Stoneham–Reading–Woburn Fixed-Route Shuttle Schedule (Potential)

Morning	
Shuttle Leaves Stoneham	**Train Arrives Reading**
5:50 AM	6:04 AM
	6:40 AM
6:50 AM	7:05 AM
7:47 AM	8:02 AM
9:02 AM	9:17 AM
Evening	
Shuttle Leaves Anderson	**Train Leaves Reading**
3:00 PM	3:28 PM
4:20 PM	4:54 PM
5:10 PM	5:42 PM
	6:23 PM
6:12 PM	6:48 PM

Potential Demand and Cost Estimate

Census data for 2000 indicates a total of 4,715 daily commuters to Woburn from towns served by this shuttle or other services directly connecting with the shuttle. Table 9 shows the number of commuters from each community.

TABLE 9

Work Trips to Woburn from Communities Served by Potential Stoneham–Reading–Woburn Service

City or Town	Work Trips
Reading	890
Stoneham	850
Wakefield	680
Malden	610
Lawrence	495
Melrose	475
Haverhill	365
Andover	350
Total	**4,715**

Although commuter rail trains from Boston do stop at Reading Depot, the majority of Boston commuters traveling to employment locations in Woburn would likely find it more convenient to transfer at Anderson RTC or ride directly via Route 354. The majority of potential riders for this service would be commuters going to Reading coming from commuter rail stations in Haverhill, Lawrence, and Andover, commuters from Melrose and Wakefield transferring from MBTA bus or rail service at Reading, and local pickups in Stoneham and Reading.

Eight hours of service per day would be required. Based on a per-hour cost of $48.00 and providing service for 250 weekdays, the annual cost would be $96,000. Operating initial service as a demand-responsive service with smaller vehicles could reduce costs. National Transit Database information for 2002 found costs of $30.00 to $40.00 per vehicle hour for contracted demand-responsive service provided by regional transit authorities in eastern Massachusetts.

Ridership Estimate

A comparable service in the region to this proposed service is the City of Peabody's Peabody Transit service. Peabody operates several rush-hour trips connecting Salem Station with employment areas at the North Shore Mall and Centennial Park. This service also makes local stops in Peabody and connects with several MBTA bus routes. There were 13,900 jobs located in this area of Peabody based on year 2000 data. This compares with 16,324 jobs in the area surrounding Anderson RTC and Cummings Park. In 2002, Peabody Transit was found to have 9 morning riders, or 18 daily total riders. If a Stoneham–Reading–Woburn service attracted a similar number of riders compared with employment, morning ridership would be 12, with 24 passengers for the entire day. Given the potentially much smaller demand for the service compared with an Anderson RTC shuttle, it may be more suitable to use small vans instead of small buses. A demand-responsive service requiring reservations might also be more appropriate for this service.

3.3 Woburn (Montvale)–Burlington (Oak Park) Service (#3 on Figure 4)

This proposal would provide a connection between MBTA bus Route 354 (Woburn–Boston) and Lowell Regional Transit Authority (LRTA) Route 19 (Lahey Clinic–Lowell). This would simplify trips made from Montvale and Woburn Square to Lahey Clinic, Burlington Mall, and the employment areas in Burlington, Bedford, and Lowell. Passengers would only need to make one transfer between MBTA Route 354 and LRTA Route 19.

There appears to be sufficient recovery time within the LRTA schedule for that route to be extended without requiring additional resources beyond a minor increase in fuel costs to operate the route. LRTA would have to determine if a suitable layover location is available at the end of the line and if it needs to make arrangements with private property owners.

3.4 Earlier Service to Employment Areas in Burlington (#4 on Figure 4)

There were two proposals in Phase I suggesting earlier service to employment areas in Burlington. One was to operate earlier AM peak Burlington B-Line service to serve Lahey Clinic, and the other was to operate earlier Lexpress service between Lexington and Burlington.

The Town of Burlington initiated earlier service on the B-Line in September 2002. Service to Lahey Clinic began at 6:30 AM with the expansion; it had previously started at 8:30 AM. Demand for the earlier service was low, and some of the added expenses were difficult to fund. The B-Line has retained service at 7:30 AM, but discontinued the earlier trips at 6:30 AM. The concept of providing earlier trips to improve access to daytime work shifts at Lahey Clinic, though at a higher cost per rider, should not, perhaps, be entirely discarded.

Phase I of this study suggested the possibility of operating earlier service on Lexpress bus Route 5 between Lexington and Burlington. Lexpress is the Town of Lexington's local bus network, which is partially funded by the MBTA. The first Lexpress Route 5 trip to Burlington arrives at 8:45 AM. Earlier operation of the route would improve connections to LRTA Route 19 and provide improved access to employment in Burlington and Bedford. The annual increase in costs to begin service one hour earlier would be approximately $10,000.

Lexpress service was suspended between June and September 2003 because of funding issues. When service was restored, the network was consolidated to reduce expenses. In September 2004, the network was returned to its original extent. However, because of difficulties funding present operations, expanding the Lexpress service hours to improve access to Burlington may be a difficult task.

An alternative method to provide transportation between Lexington and Burlington during peak hours is to reroute some trips of MBTA Route 351 via Lexington Center instead of operating express via Routes 2 and 128. As part of the MBTA's 2004 Service Plan, two trips on Route 351 in the morning peak and two trips in the PM peak began providing this service in the winter of 2005. This provides direct service between Lexington and employment areas in Burlington and Bedford along the Middlesex Turnpike with minimal additional costs.

Once these changes to MBTA bus Route 351 have been in place for a period of time, data should be collected to determine how many riders are using the changed service and if there is potential to expand the service in the future to provide more trips.

There is an additional modification to MBTA bus Route 351 that could contribute toward what earlier B-Line and Lexpress service would be intended to accomplish. MBTA bus route 350 operating southbound between 6:36 AM and 8:26 AM and northbound between 5:01 PM and 6:52 PM does not serve Mall Road. Passengers desiring to travel between North Burlington and Mall Road in the morning must ride a southbound bus to

Cambridge Street at Wall Street and transfer to a northbound bus. In the evening, passengers must reverse this procedure. If some rush-hour trips of bus Route 351 were rerouted to serve Mall Road, this would provide more trip choices for passengers traveling to or from Mall Road and would reduce the waiting penalty of making this transfer.

3.5 Extend LRTA Lowell–Tewksbury Service to Wilmington (#5 on Figure 4)

While not identified as a specific proposal in Phase I of this study, a commuter rail feeder bus service to Wilmington Station from Tewksbury was found to have the greatest potential for a new commuter rail feeder service in the study area (see Figure 5 also). In a 1993 survey of commuter rail riders, 25% of those boarding in Wilmington came from Tewksbury. The LRTA already operates a service between Lowell and Tewksbury. It presently terminates at the Wilmington/Tewksbury town line. Extending this service a short distance to Wilmington Station could provide an initial service in this corridor.

The cost of extending existing trips on this route to Wilmington would be minimal. However, it would be necessary to operate an earlier trip to Wilmington and a later trip from Wilmington, and to change existing schedules to accommodate other train arrival and departure times. LRTA operates multiple routes into its transit center in Lowell, where connections can be made between services. If ridership data from LRTA suggests there are a large number of existing Tewksbury route passengers transferring to or from other services, then it may be necessary to add a vehicle to the route in order to:

- Maintain existing departure and arrival times at Lowell.
- Accommodate an extension to Wilmington.
- Coordinate bus arrival and departure times in Wilmington with train schedules.

According to 2002 data in the Federal Transit Administration's National Transit Database, it costs $58.90 to provide one hour of bus service of this kind. The annual cost in 2002 dollars to provide eight additional hours of service would be $117,800. Depending on existing bus utilization patterns and ridership patterns, it may be possible to decrease this cost by extending only some service to Wilmington and by meeting fewer trains. This determination will require more data from LRTA.

4.0 MARKETING NEW TRANSIT SERVICES

The *Suburban Transit Opportunities Study*, completed by CTPS in 2004, advised that new suburban services should develop and maintain an aggressive marketing strategy. The following is an excerpt on how to market these services:

> Many suburbanites tend to be unaware of transit service operating in their town, and even when they are aware, few actually know how to access it. Thus, marketing has emerged as a tremendous part of creating a successful service, and should not be confused with simply advertising a service. Marketing includes much more: broadly speaking, marketing is the art of transmitting the agency's "message" to both its current and potential customers and to the general public, who support the system with tax dollars. Marketing is effective in: creating consumer awareness, disseminating important information, causing trial or increased ridership, enhancing the service's image, and by extension, enhancing public support. For suburban transit operators, marketing has been shown to be key in the creation of a brand identity, the development of contact avenues or lines of communication, and creating promotional strategies. Because lack of information is often a barrier to suburban transit use, marketing's primary purpose should be to raise awareness of the service and its benefits among current and potential customers, potential sponsors, and even the general public.
>
> This should be an aggressive campaign that must include all information necessary to inform both the target market(s) and the general public as well. This should include activities such as: the creation of a "brand" image for the service, the creation and distribution of materials such as route maps and schedules that include both the brand image and mission statement, direct mailings to potential riders introducing the service and including schedules and route maps, promotional offers to potential customers and sponsors, and especially the clear marking of stops along the transit route. Additional marketing activities that have been found in case studies to work well are the staging of events such as Rider Appreciation Days, and attending employer or community-based events such as cookouts or fairs.
>
> Table [10] provides a listing of marketing techniques seen in the research and case studies. While they are broken down into three categories, it is important to note that all of these techniques are valuable and services should be attempting them all. The categories are defined as: "Must have" critical items that any agency should definitely be engaged in; "When available" activities that service providers should definitely seek to do but must wait for the opportunity to implement; and

"If budget allows" items that agencies would certainly benefit from, but which may require additional funding to initiate.[1]

TABLE 10

Suburban Transit Marketing Techniques and Items

Priority	Technique or Item	Description
Must have	Ride schedules and route maps	Distribute schedules and maps widely.
	Clearly marked bus stops	Ensure stops are well-marked and present attractive, high-quality appearance.
	Employer/business outreach and working relationships with land developers	Contact local business to seek partnership.
	Brand image	
When available	Display vital information on town Web site	Display routes and schedules, contact numbers, other directions.
	Attend community events	Maintain a high level of visibility for the service.
If budget allows	Newspaper/media advertising	
	Agency-specific Web site	Agency having its own Web presence is helpful.
	Wrapped vehicles	Paint buses in noticeable ways, which can be advertising for sponsors.
	Rider Appreciation Day	Provide free rides and gifts promoting the service.

[1] CTPS, *Suburban Transit Opportunities Study*, p. 5-4.

5.0 SUMMARY AND CONCLUSIONS

Phase I of this study identified seven potential new or modified transit services that could improve mobility in the region:

- Creating a new shuttle from Anderson Regional Transportation Center to surrounding employment areas in Woburn.
- Expanding the existing Anderson RTC shuttle to provide connections to Reading Depot.
- Extending existing MBTA bus Route 132 service from Stoneham to Reading.
- Extending existing Lowell Regional Transit Authority (LRTA) service from Lahey Clinic to Van deGraff Drive in Burlington, to connect with MBTA bus Route 354.
- Operating earlier Burlington B-Line bus service to Lahey Clinic.
- Expanding the service hours of Lexington's Lexpress bus service to Burlington.
- Modifying MBTA bus Route 354 to provide service from Stoneham to employment areas in Woburn.

The Phase II study further investigated these proposals and made ridership and cost estimates as appropriate.

Anderson RTC still appears to be one of the best locations for reverse-commuting connections in the study area. The best route would be a shuttle operating on a loop between Anderson and employment areas in Woburn along Commerce Way, near the Woburn Mall, at Cummings Park, along Wildwood Street, along part of Olympia Avenue, and at the hotels along Mishawum Road. Since the heaviest demand for the service is likely to come from Cummings Park, the route should be set up to minimize the travel times between there and Anderson RTC. Ridership could range from 106 to 190 daily boardings. The annual cost of operating the service would be approximately $84,000 (2002 dollars).

Phase I suggested two changes to MBTA service. One suggested change was to extend MBTA bus Route 132 from its Stoneham terminal to Reading Square via Main Street. Another was to operate reverse-peak-direction service on MBTA Route 354 (Woburn–Boston via I-93) via Stoneham Square. The MBTA considered extending Route 132 to Reading as part of its 2004 Service Plan. The proposal was rejected as not being cost-effective since an additional vehicle would be required to maintain existing frequencies. The MBTA added a reverse-commute stop in Medford Square (on Route 354) under its 2004 Service Plan. The additional travel time resulting from this change makes an additional diversion of the route to serve Stoneham less feasible, as the MBTA would be concerned that the additional travel time would make the service undesirable for those traveling between Boston and Woburn.

As an alternative to modifying these MBTA services, it may be practical to expand the initially proposed Anderson RTC–Woburn service to include a shuttle from Reading Depot to Cummings Park and other employment areas in Woburn. Starting the proposed

service at Stoneham Square and running via Reading Depot would also provide an alternative service between these two towns. The Stoneham–Reading–Woburn shuttle would also connect with MBTA bus 354 in Woburn, providing connections to Woburn Square and Van DeGraff Drive in Burlington. The route would operate at an annual cost of approximately $96,000 (2002 dollars), with an estimated ridership of approximately 25 daily boardings
. Initially operating as a demand-responsive service with smaller vehicles could reduce the cost to $60,000–$80,000.

While the Phase I study did not identify a specific proposal to provide traditional-commute feeder bus service to Wilmington Station, this second phase of the study found that such a service from residential areas in Wilmington and Tewksbury would have the greatest potential of any such feeder service in the study area. The LRTA service between Lowell and Tewksbury could provide initial service in this corridor if it were extended beyond the Tewksbury/Wilmington town line to Wilmington Station. The route could be extended at minimal cost but would require two additional trips and changing existing schedules to accommodate other train arrival and departure times. If LRTA ridership data suggests there are a large number of existing Tewksbury route passengers transferring to or from other services, it might be necessary to add a vehicle to the route. To do this would cost the LRTA approximately $117,800 per year (2002 dollars).