



Capitol Region Council of Governments

ENFIELD TRANSIT STUDY

Final Report

August 2012

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1 INTRODUCTION/PROJECT PURPOSE

The Capitol Region Council of Governments (CRCOG) is pursuing a series of projects funded in part with the assistance of a Housing and Urban Development (HUD) Sustainable Communities Regional Planning Grant. The combined projects seek to build on past efforts to strengthen the region's public transportation services along the Knowledge Corridor. The CRCOG retained a consultant team to work with a Technical Advisory Committee and conduct the technical elements of the project; this team was led by Nelson\Nygaard Consulting Associates with assistance from Fitzgerald and Halliday and URS Corporation. This particular project, the Enfield Transit Study, examines transit needs and opportunities within the Town of Enfield, a community located along the Knowledge Corridor just south of the Massachusetts border.

The Town of Enfield was selected for further study because; despite being a town of just under 50,000 people – including a relatively high population of people with a higher proclivity to use transit – it has no local bus service. Enfield is served by CTTRANSIT's No. 5; however this route provides express service only between Enfield and Hartford. The route stops at the commuter parking lot on Freshwater Boulevard, in Enfield just north of Hazard Avenue (Route 190). The route does provide some limited local service for people traveling in Thompsonville, but not around other parts of Enfield.

Enfield is also slated for several transportation improvements projects in the near term. In particular, an intermodal facility is proposed for the Thompsonville section of Enfield. This new facility, the Thompsonville Transit Center, will be located on the proposed New Haven-Hartford-Springfield (NHHS) commuter rail line. This facility places a new emphasis on improving local connectivity and mobility by providing local bus service in the area.

In addition, there are local efforts to expand transit service in Enfield. A transit circulator was briefly explored in the Thompsonville Transit Center Feasibility Study Report and since that initial study; the Town has applied for and received federal funding to operate local transit service in the town.

The purpose of this study to investigate the demand for transit in Enfield and develop different models for how transit service could best be provided efficiently and effectively. The study builds on previous work conducted by the Town and follows a standard transit planning process that includes understanding demand and need, developing and evaluating service options, and preparing detailed recommendations for the implementation of future service.

METHODOLOGY

As discussed, the Enfield Transit Study adhered to a standard transit planning process guided by a Technical Advisory Committee (TAC) and managed closely by CRCOG staff. Working together, the TAC and the study team considered and documented the needs of Enfield residents and stakeholders, defined transit markets within the community, and prioritized community preferences. Building on these analyses, the study team developed service recommendations,

worked with the TAC and members of the public to vet and evaluate these options, and ultimately finalized a set of service recommendations.

This draft final report summarizes the study process and documents the study recommendations. It is organized into seven chapters, immediately following this introductory piece:

Chapter 2: The Community Profile provides a broad analysis of the density, size and distribution of Enfield’s population and employment. The chapter also examines the size and location of population groups typically associated with higher use of public transportation services.

Chapter 3: Existing Transit Services documents transportation services from public, private, and nonprofit sectors, including CTTRANSIT, Pioneer Valley Transit Authority, and the Town of Enfield. Ridership data, schedules, funding, and operational statistics are detailed as available.

Chapter 4: Outreach and Needs Assessment details the results of the outreach activities conducted as part of this study, including interviews with stakeholders, surveys with members of the public and employers as well as public meetings.

Chapter 5: Service Options and Route Development describes the planning process undertaken to determine initial route alternatives.

Chapter 6: Service Evaluation outlines the methods utilized to evaluate each route alternative.

Chapter 7: Recommendations and Next Steps further details the recommended alternative that resulted from the route analysis as well as additional considerations for implementation.

Appendix A: Background Document Review

Appendix B: Survey Summary

Appendix C: Meeting Minutes

Appendix D: Stop Analysis

Appendix E: Transit Planning Principles

Appendix F: Technical Evaluation of Proposed Options

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2 COMMUNITY PROFILE

The Town of Enfield is a dynamic environment that continues to change. Even under recent slower economic conditions, Enfield has continued to change – populations shift to new areas, demographic groups expand and contract, neighborhoods are revitalized and jobs centers move. An essential aspect to designing and developing effective transit services lies in understanding these changes that transit services reflect local and regional conditions and circumstances.

The community profile focuses on identifying and understanding the potential market for transit service. The demographic profile reviews Census data to determine the likely residential origins for transit trips. Starting with simple population density, a number of additional factors that have been recognized to indicate potential transit use (households without vehicles, income, percentage of youth or older adults) were reviewed for the Town and compiled into a Transit Propensity Index showing the areas of Enfield more likely to generate transit riders. The study team also mapped and analyzed potential transit attractions such as employment centers, shopping areas, schools and social service facilities.

POPULATION AND AREA OVERVIEW

This chapter utilizes demographic data from the American Community Survey (ACS) that was collected over the years 2005-2009. This is the most recent data set available on the block group level that contains information about household income and vehicle ownership (the 2010 Decennial Census no longer includes these questions).¹

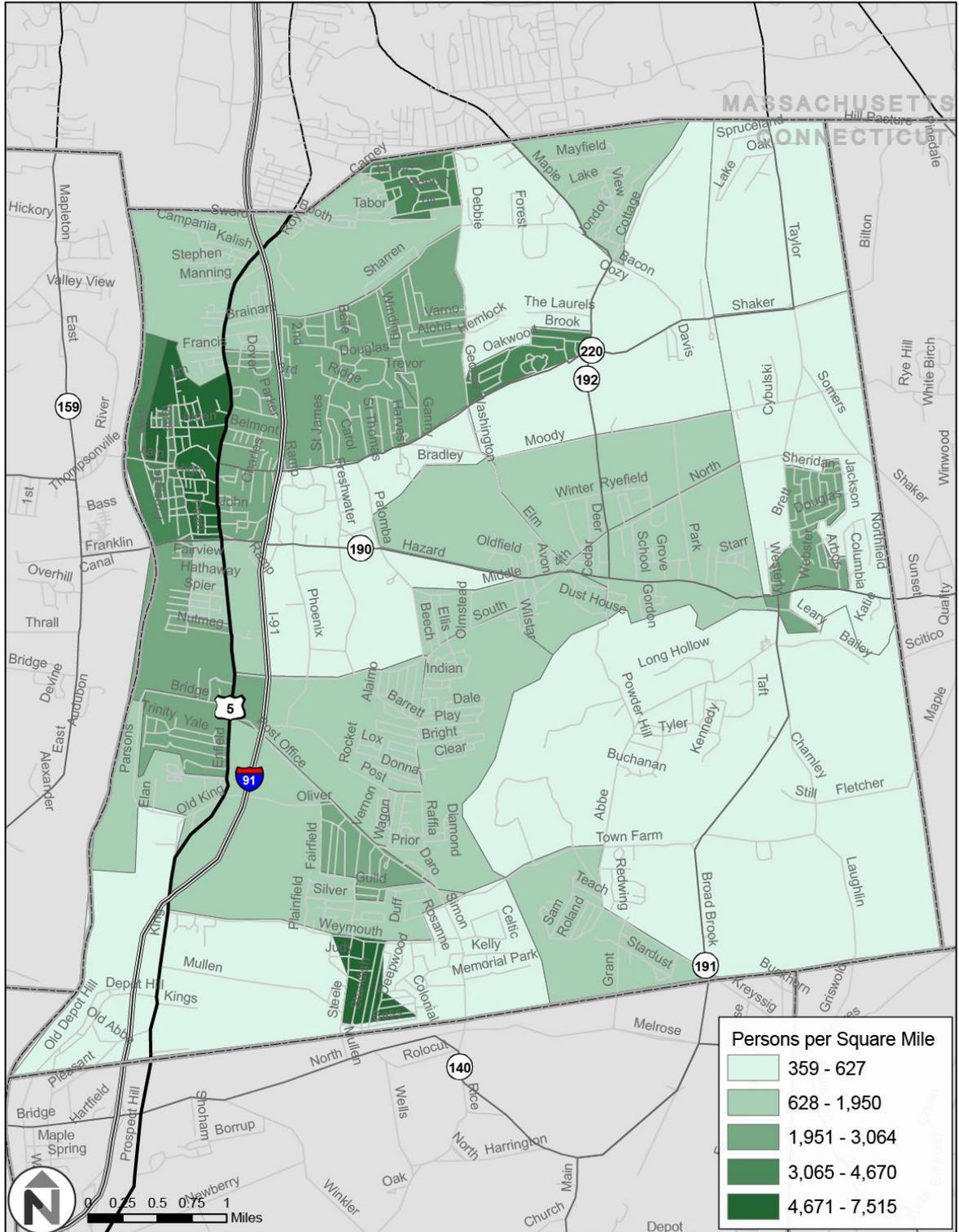
Enfield is home to nearly 45,000 residents, a population that has remained relatively stable over the past decade with approximately 45,000 residents in both 2000 and 2010 Census.

Overall, the Town has a population density of 1,323 people per square mile. Figure 1 shows the population density by block group. One of the two densest block groups in Enfield is the heart of Thompsonville, just west of the intersection of Main Street and Route 5. The other highly dense block group is in South Wood Acres, in southern Enfield.

¹ Transit dependent analyses also typically include data about residents with disabilities. The Decennial Census no longer includes these questions, and the data is also not available in the 5-year ACS data used for the other measures in this chapter. Questions to ascertain disability type were changed in 2008 and will therefore not be available in 5-year ACS data for several more years. Current disability data is only available in the 2009 1-year ACS estimates, and 1-year estimates are only available for geographies with populations of 65,000 or more, which excludes Enfield.

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Figure 1 Population Density in Enfield



Data Sources: US Census American Community Survey 2005-2009

DEMOGRAPHIC PROFILE

When considering transit service design and meeting local demand, it is important to consider the two primary markets for public transportation:

- **Discretionary riders** who have adequate resources and abilities to operate a private vehicle but choose to use transit because public transit offers them comparable convenience and/or because of other personal lifestyle and value choices. Discretionary riders are also more likely to use transit for commuting purposes, or in situations where transit offers an advantage over driving, such as where parking fees are high and/or roads are congested.
- **Transit-dependent riders** who use public transportation services because they lack access or are unable to operate a private vehicle. By definition, transit-dependent riders use the bus for many trips, including for travel to/from work, but also to get to appointments, shop, and visit friends or family.

The travel behavior of discretionary riders is generally understood as part of the broader community's travel patterns and is primarily reflected in the analysis of population and employment. Understanding the travel behaviors of transit-dependent riders, on the other hand, involves looking at specific demographic groups that tend to have a higher proclivity to use transit and understanding the size and distribution of these groups. Typically, as part of the analysis, special needs that may be associated with different demographic groups are also considered; older adults, for example, tend to travel during the day and may have special service needs, such as shorter walks to/from their bus stop. This compares with youth, who are more likely to travel during the afternoons and on weekends. This next section examines the size and distribution of demographic groups typically associated with a higher use of transit. The presence of three separate Connecticut Department of Corrections Facilities on Shaker Road in the northeast part of Enfield tends to skew some of the demographic results as compared to the rest of the Town. These facilities have been indicated on all demographic maps for reference.

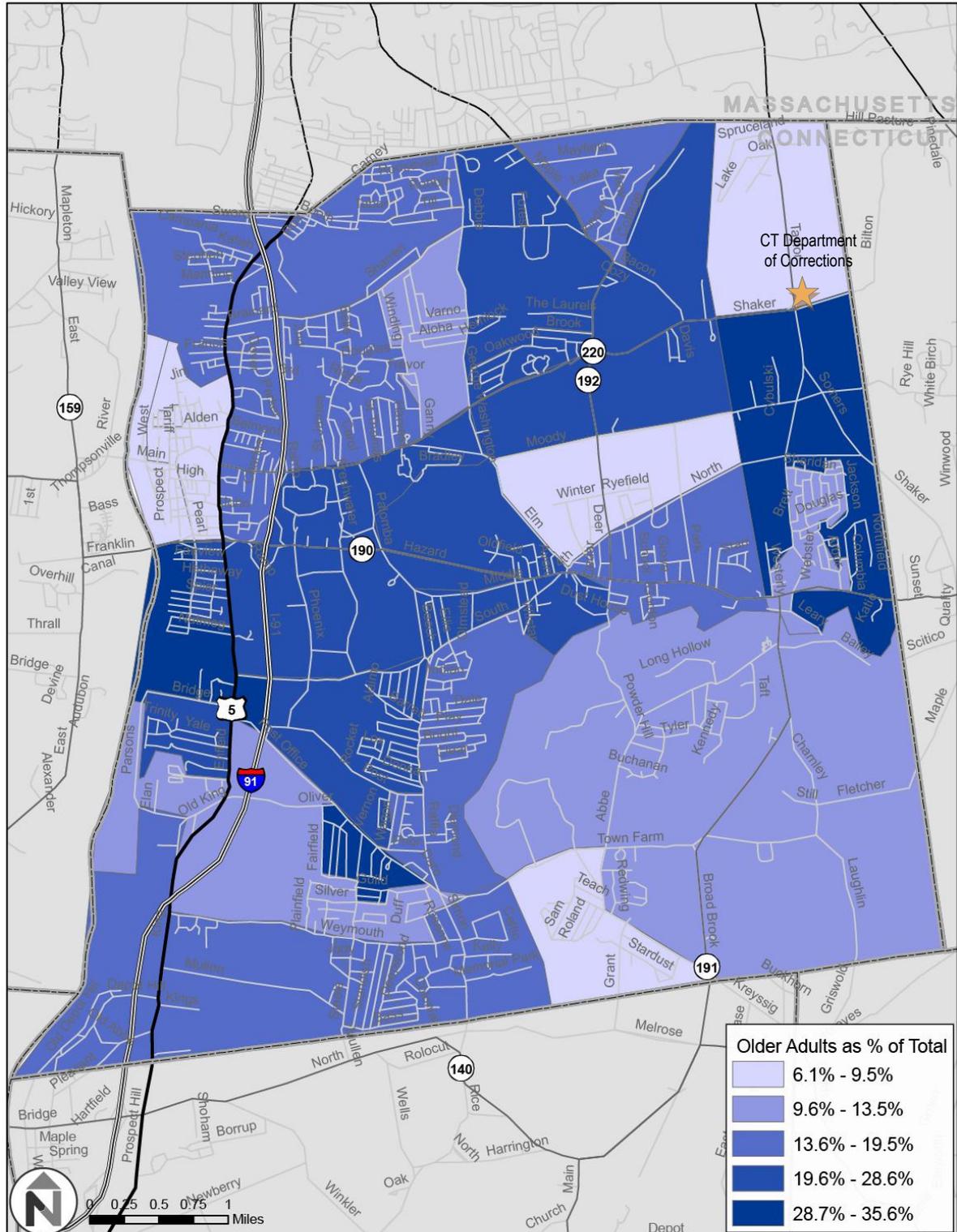
Older Adults

Older adults are more likely to ride transit than some other demographic groups, largely because as people age they tend to become less comfortable or unable to drive themselves. Enfield has a high proportion of older adults. The median age in Enfield is 39.9. In Connecticut overall, the median age is 39.5. Both are much higher than the United States median age of 36.9. Accordingly, Enfield's over 65 population comprises 16.7% of the total, compared to just 13% of the US.

Older adults are relatively concentrated in a few block groups in Enfield. As a percentage of the total population within the block group, seniors make up a higher percentage of three block groups: one in Thompsonville, one north and east of Scitico, and one further south in the town, east of I-91. Several block groups in eastern and central-northern Enfield also have a relatively high percentage, and the rest of the town lesser amounts.

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Figure 2 Older Adults as a Percentage of the Population, by Block Group

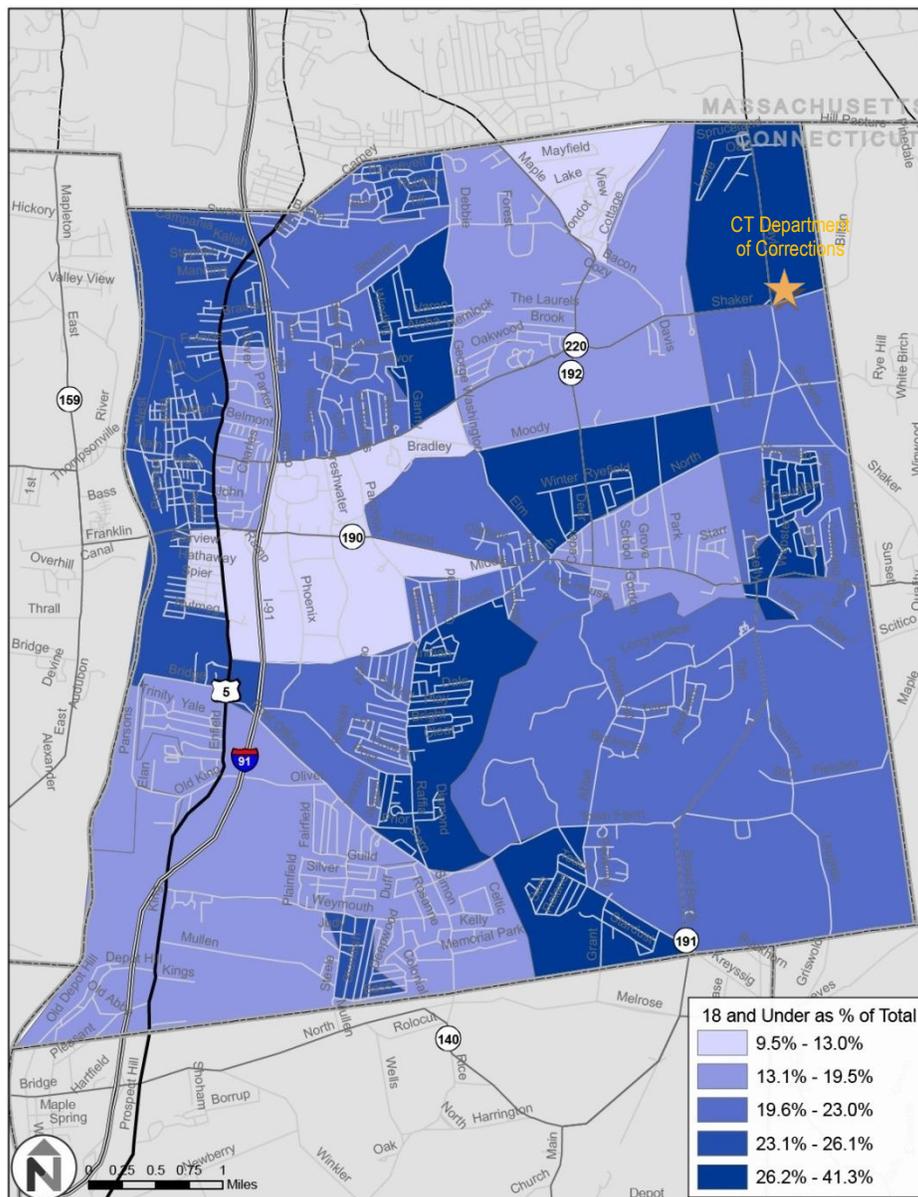


Data Sources: US Census American Community Survey 2005-2009

Youth Under 18

Youths aged five to 18 are considered part of the transit-dependent population because while many have a need or interest in traveling independently, most are not old enough to drive or do not reliably have access to an automobile. Unlike seniors, the percentage of youth under 18 living in Enfield varies highly by block group - much more than the other demographic measures illustrated in this chapter. Six block groups rank in the highest percentage category for individuals under 18, and none are contiguous. One is in central Scitico, another Hazardville, one each in south-central and north-central Enfield, and the northeastern-most block group. Three block groups have a low percentage - two near Enfield Square Mall, and one in the northeast of the town, along the state border.

Figure 3 Youth Under 18 as a Percentage of the Population, by Block Group



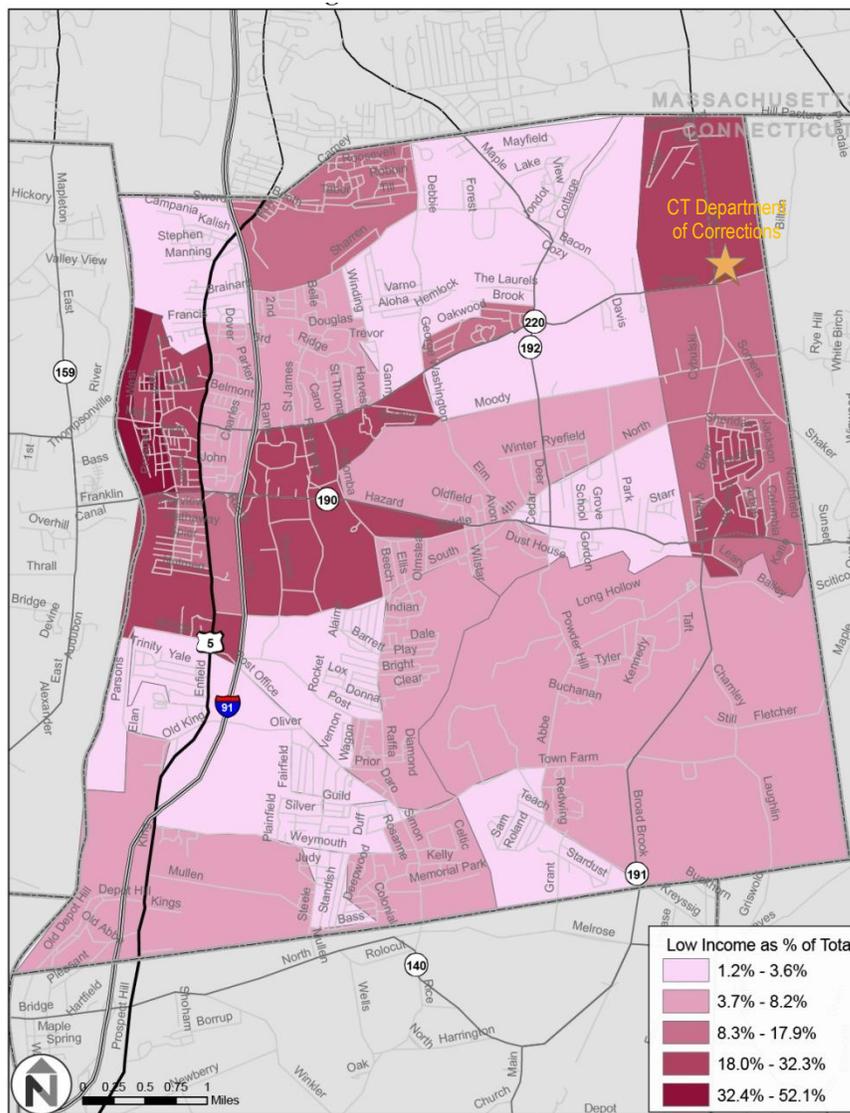
Data Sources: US Census American Community Survey 2005-2009

Persons with Low Income

Financial constraints mean persons with lower incomes are less likely to sometimes or always have access to a vehicle. As a result, they are more likely to use transit as compared with other members of the population. The median household income in Enfield is \$67,402, much higher than the national average of \$50,221, and about the same as Connecticut's average of \$67,740. In Connecticut, 9.3% of the population lives below the poverty line. In Enfield, this number rises to 11%.

One block group in Thompsonville stands out distinctly in Figure 4 as having the greatest percentage of residents with low income in the Town of Enfield. The remainder of Thompsonville, as well as block groups along Hazard Avenue, east of the interstate, also has high percentages. The core of Scitico and the northeastern-most block group in the town have relatively high percentages, as well.

Figure 4 Low Income Individuals as a Percentage of the Population, by Block Group



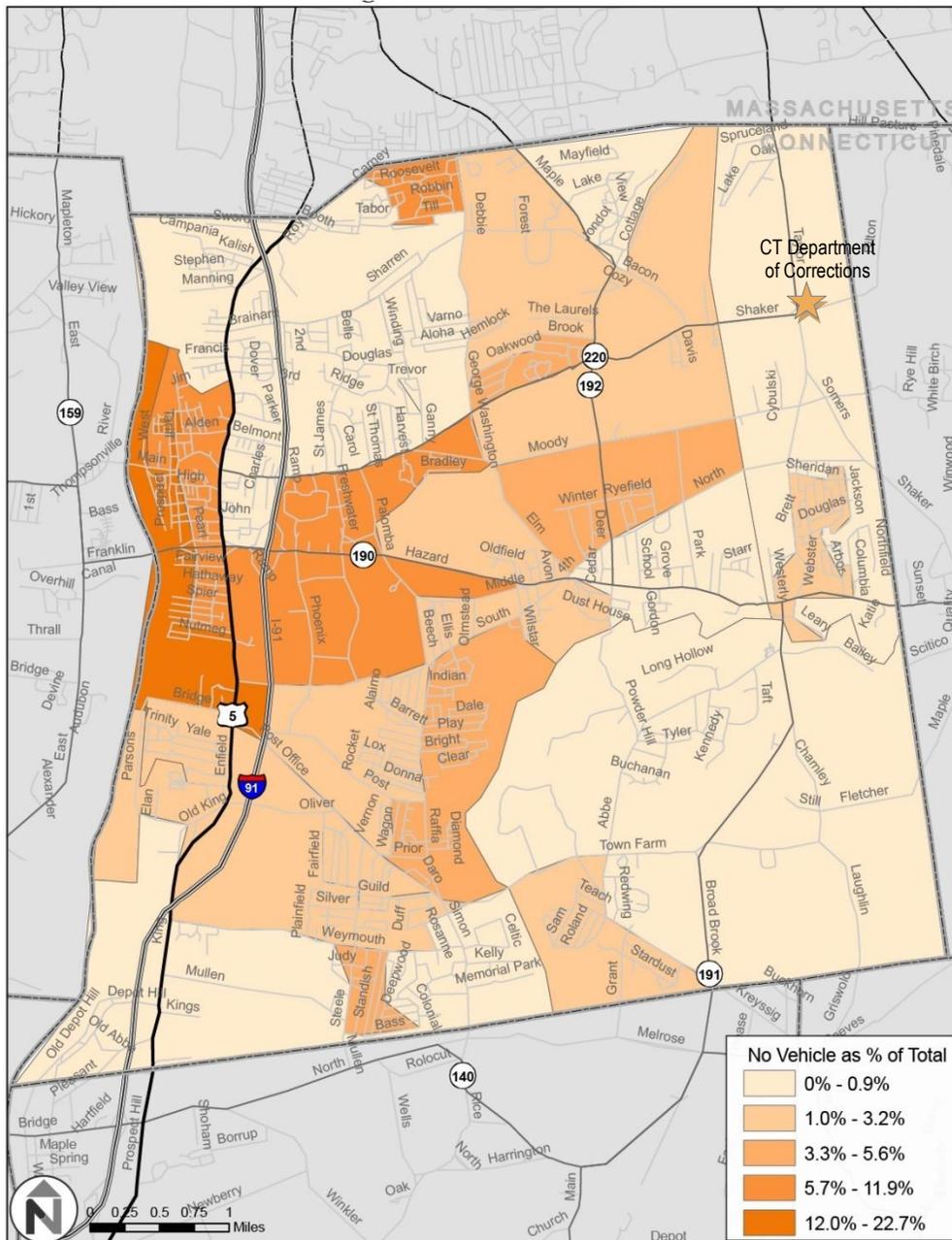
Data Sources: US Census American Community Survey 2005-2009

Households without a Vehicle

Enfield has relatively high car-ownership rates, with just 4.3% of households owning no vehicle, compared to 8.5% of households in Connecticut and 8.9% of those in the US.

The block groups with the highest percentage of households with no vehicle are in Thompsonville. Several other block groups east of Thompsonville, in west-central Enfield; also have a slightly higher percentage of vehicle-less households than the rest of the town. In most of the town, however, at least 97% of households have at least one vehicle.

Figure 5 Households without a Vehicle as a Percentage of Total Households, by Block Group



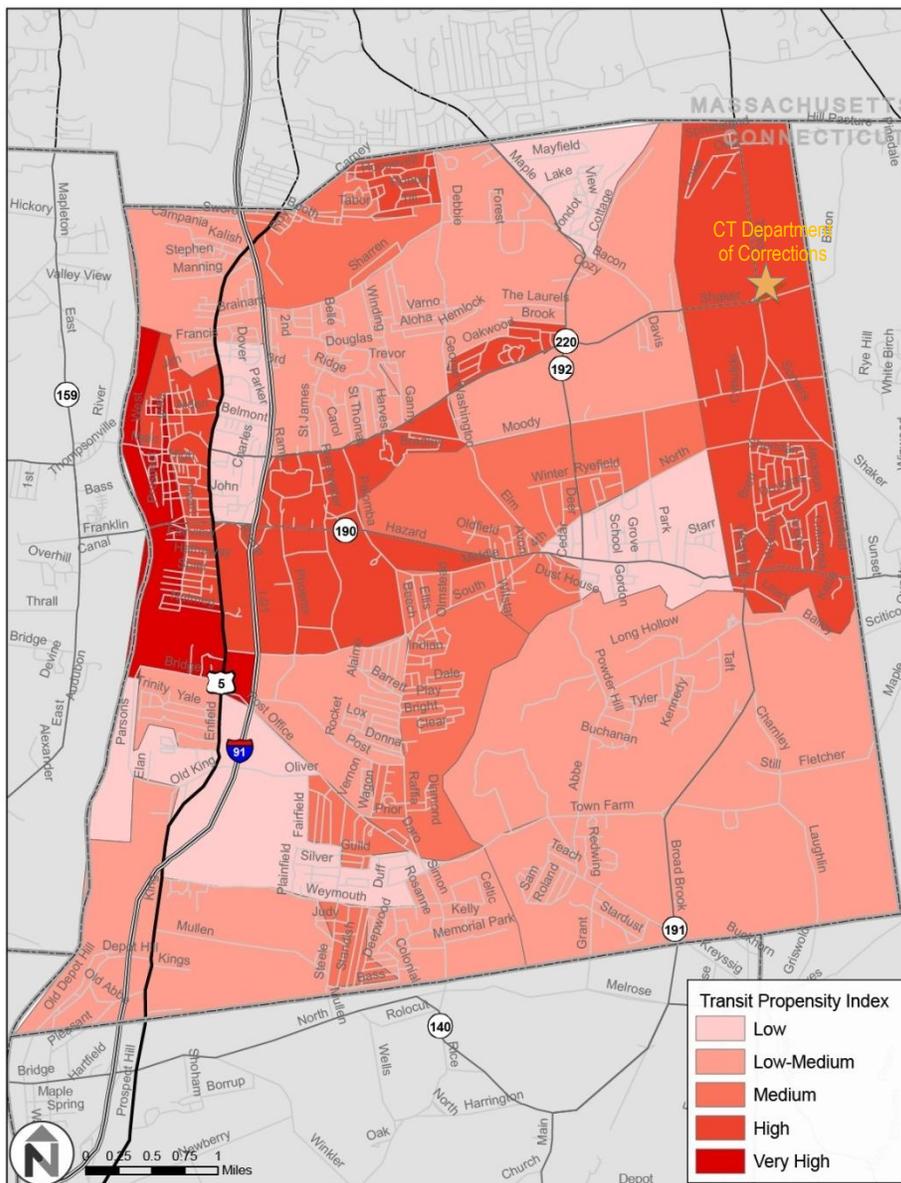
Data Sources: US Census American Community Survey 2005-2009

TRANSIT PROPENSITY INDEX

To create the Transit Propensity Index, the previous four indicators - older adults, youth under 18, persons with low income, and households without a vehicle - are combined to create an index showing the relative level of need as a percentage of the population, by block group. This analysis allows a look at the combined impact of these four population groups and represents relative need within Enfield itself. This index is not relative to other national or statewide indices.

This index shows that the highest composite need exists in two block groups located in Thompsonville, west of Route 5. Block groups of medium need make up the rest of Thompsonville and are also present in Scitico and northeastern Enfield, as well as around Enfield Square Mall, west of Hazardville.

Figure 6 Transit Propensity Index



Data Sources: US Census American Community Survey 2005-2009

Major Employers

Enfield is home to a number of large employers, the largest by far being MassMutual, situated in the northwestern part of the town along I-91. MassMutual is the terminus of the existing CTTRANSIT express Route 5, and is also the last stop on PVTA's Route G5 from the north.

Other employers with a prominent presence in Enfield include Hallmark Cards, which has one remaining distribution center in eastern Enfield after consolidating a second location; the US headquarters of Lego Industries, which closed its production plant but has retained its administrative and marketing functions in Enfield; and the Retail Brand Alliance, which supplies men's and women's clothing for Brooks Brothers. The Connecticut Department of Corrections also employs a large number of individuals at its facility on Shaker Road in northeastern Enfield. Martin Brower, a major food distributor for McDonald's, also employs a large number, as does STR, a solar manufacturer.

One historically large employer - Precision Camera - shed a majority of its 500 employees in 2010 and now supplies only a few jobs. CUNO Industries was recently purchased by 3M, though the ramifications for the Enfield facility are not known.

In 2011, a new insurance company, Symetra, announced a move to southern Enfield along Route 5. Symetra Insurance will employ approximately 100 individuals.

Most employers are situated in industrial or office parks areas located in northeastern Enfield and in southern-central Enfield, and not along primary trunk routes where many other destinations, such as shopping centers and hospitals, are located.

Figure 8 Major Employers

Company	Address	Industry	No. of Employees
Comcast	90 Phoenix Avenue	Telecommunications	Unknown
Community Health Resources	153 Hazard Avenue	Medical	Unknown
CT Department of Corrections	289 Shaker Road	Detention Facilities	300
Cox Communications	5 Niblick Road	Telecommunications	Unknown
CUNO Incorporated	400 Research Parkway	Water Filters	400
Eppendorf	175 Freshwater Boulevard	Medical Equipment	Unknown
Hallmark Cards	100 Bacon Road	Greetings Cards	800
Johnson Memorial Outpatient Center	148 Hazard Avenue	Medical	Unknown
Lego Industries	55 Taylor Road	Games & Toys	400
Martin Brower Company	191 Moody Road	Transportation	250
MassMutual	41 Brainard Road	Insurance	1,900
New England Bank	855 Enfield Street	Bank	Unknown
Precision Camera	89 Moody Road	Camera Repair	Formerly 500
Retail Brand Alliance	100 Phoenix Avenue	Retail	400
STR / United Laboratories	504 Hazard Avenue	Solar	276
Symetra Insurance	1699 King Street	Insurance	100
Town of Enfield	820 Enfield Street	Government	800
Turf Products / Toro	157 Moody Road	Soil and Irrigation	Unknown
World Color Inc	96 Phoenix Avenue	Printing Services	Unknown

Source: Town of Enfield Economic Conditions Report, 2009

Medical, Retail, and Community Destinations

A majority of Enfield's major destinations are along three main thoroughfares - Route 5, Main/Elm Street, and Hazard Avenue (see Figure 9). Several markets that transit would serve in Enfield - including seniors traveling to medical appointments or shopping centers, youth traveling to school, or residents connecting to CTTRANSIT service to Hartford - have most destinations situated along these thoroughfares. The exceptions, along with many major employers discussed above, include the Senior Center, DMV, and other destinations near the Public Safety Complex, Enrico Fermi High School, and CREC Public Safety Academy.

The following sections and accompanying tables list major destinations by category.

Education and Training Facilities

There are four primary education and training facilities in Enfield. Asnuntuck Community College is an important part of the Enfield community and is located on Elm Street. Enfield High School is along Route 5. Enrico Fermi High School and CREC Public Safety Academy are both in more distant locations, along North Maple Street and Post Office Road, respectively.

Figure 9 Education and Training Facilities

Name	Address
Asnuntuck Community College	170 Elm Street
CREC Public Safety Academy	117 Post Office Road
Enfield High School	1264 Enfield Street
Enrico Fermi High School	124 North Maple Street

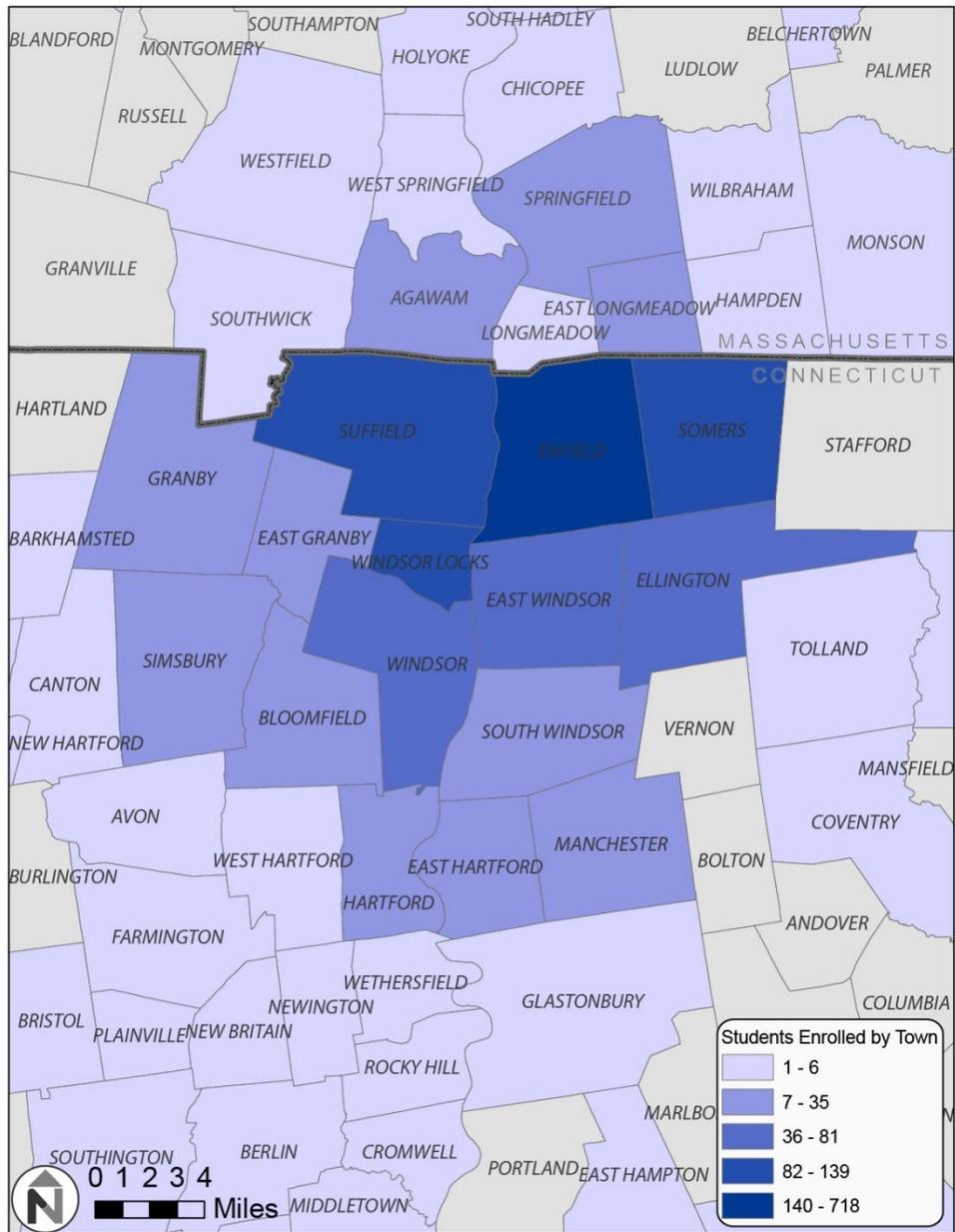
Several elementary and middle schools also exist in Enfield, though elementary and middle school students are typically less likely to utilize transit than high school students. These schools are not on the major destinations map, but are listed below:

- Edgar H. Parkman School, 165 Weymouth Road
- Eli Whitney Elementary School, 94 Middle Road
- Enfield Street Elementary School, 1318 Enfield Street
- Hazardville Memorial School, 68 North Maple Street
- Henry Barnard School, 27 Shaker Road
- John F. Kennedy Middle School, 155 Raffia Road
- Nathan Hale School, 5 Taylor Road
- Prudence Crandall School, 150 Brainard Road

Asnuntuck Community College

With over 3,000 students serving multiple towns, Asnuntuck Community College is both an important resource for Enfield and a critical destination for transit. Asnuntuck runs a number of programs beyond its Community College curriculum, including certification programs in partnership with area businesses and employers. With day and evening classes across all disciplines, Asnuntuck is continually active, yet has no current transit access. In the following map, the home towns of the 3,000 students attending Asnuntuck Community College are displayed. The majority, 718, live in Enfield, with a significant number in Suffield and Somers, and a number traveling from more distant towns to attend.

Figure 10 Asnuntuck Community College Students by Town



Data Sources: Asnuntuck Community College

Housing Facilities

Enfield has several large housing facilities, both private and public. Several large developments are located in Thompsonville, including Windsor Court, Bigelow Commons, and Freshwater Pond Apartments. Scitico Garden Apartments are in Scitico, and a cluster of developments are near Asnuntuck Community College on Elm Street. The Oldefield Farms Condominiums are just west of Hazardville town center.

Figure 11 Major Housing Facilities

Name	Address
Bigelow Commons	55 Main Street
Enfield Condominiums	56 Elm Street
Enfield Housing Authority	1 Green Valley Drive
Enfield Housing Authority - Freshwater	4 Thistle Lane
Enfield Housing Authority - Windsor Court	183 Windsor Street
Enfield Terrace	Enfield Street
Fox Hill Apartments	212 Elm Street
Freshwater Pond Apartments	95 High Street
Georgetown Condominiums	184 Elm Street
Grasso Manor	Central Street
Green Valley	Green Valley Drive
Mark Twain Congregate Living	110 South Road
Oldefield Farms Condominiums	11 Oldefield Farms Road
Scitico Gardens Apartments	601 Hazard Avenue
Windsor Court	Windsor Street
Woodside Park	Raffia Road

Medical Facilities and Hospitals

Most medical facilities and hospitals are in central Enfield, concentrated on Hazard Avenue just west of Hazardville. A neighborhood clinic is in the center of Thompsonville, and St. Francis Care Facility is north on Elm Street.

Figure 12 Medical Facilities and Hospitals

Name	Address
Community Health Resources	155 Hazard Avenue
Enfield Orthodontics	137 Hazard Avenue
Enfield Wellness Center	143 Hazard Avenue
Hartford Hospital Outpatient Facility	100 Hazard Avenue
Johnson Memorial Surgery Center	142 Hazard Avenue
Krishna Medical Center	170 Hazard Avenue
M.L. Strom Community Health Center	9 North Main Street
Saint Francis Care Facility	140 Elm Street

Shopping Centers

Shopping destinations are highly concentrated around Enfield Square Mall. Though technically the various plazas and malls are separate entities, all are in the same area of Enfield, just off the interstate along Elm Street and Hazardville Avenue. The one exception is Scitico Plaza, located in east Enfield in Scitico.

Figure 13 Shopping Centers

Name	Address
Big Y Plaza	65 Palomba Drive
Brookside Plaza	10-38 Hazard Avenue
Enfield Commons	25 Hazard Avenue
Enfield Square Mall	90 Elm Street
Kohls Plaza	95 Elm Street
Scitico Plaza	585 Hazard Avenue
Stateline Plaza	130 Elm Street
Stop & Shop Plaza	54 Hazard Avenue

Government Facilities

Finally, government facilities are spread the most evenly across Enfield. The Town of Enfield offices are located in Thompsonville, as is the Department of Labor and several other offices. The Senior Center is in central Enfield, as is one library and the Lamagna Activity Center. Enfield Superior Court is further south, near many business sites.

Figure 14 Government Facilities

Name	Address
Department of Labor / ETC	660 Enfield Street
Department of Motor Vehicles	4 Pearson Way
DOJ / Enfield Superior Court	111 Phoenix Avenue
Enfield Central Library	100 Middle Road
Enfield Family Resource Center	110 High Street
Enfield Housing Authority	1 Pearson Way
Enfield Neighborhood Services	100 High Street
Enfield Public Safety Complex	293 Elm Street
Enfield Senior Center	299 Elm Street
Enfield Town Hall / Probate Court	820 Enfield Street
Lamagna Activity Center	13 North Main Street
North Central Health District	31 North Main Street
Pearl Street Library	159 Pearl Street

CONCLUSIONS

Through a review and analysis of the demographic, economic, and geographic data, several key findings are apparent:

- Thompsonville is relatively dense and has a relatively high concentration of individuals likely to use transit; thus it is expected to have the greatest need and demand for transit service in Enfield. Other neighborhoods, such as Scitico, also show potential as relatively strong transit markets.
- Major destinations are primarily aligned along Hazard Avenue and Main/Elm Street.
- Major employers are scattered throughout the town and are mainly outside the primary corridors of Main/Elm Street and Hazard Avenue. The malls and other retail establishments along Main/Elm Street and Hazard Avenue are also major employers, however, and may be more easily served than the others in less central locations.
- The configuration of destinations along these primary roads - Hazard and Main/Elm - is conducive to a fixed-route that can accommodate the needs of the transit-dependent populations needing to access employment, medical, and shopping destinations.

The configuration of major employment centers further away from these primary roads is less conducive to fixed-route transit planning that could accommodate employment trips.

3 EXISTING TRANSPORTATION SERVICES

Enfield has one express route operated by CTTRANSIT and limited fixed-route bus service to the MassMutual facility operated by the Pioneer Valley Regional Transit Authority (PVTA) out of Springfield, Massachusetts. In addition, the Town of Enfield operates a town-wide demand-response service available to older adults and persons with disabilities, and several private and nonprofit transportation providers also exist, primarily for a specific clientele and not for the general public. The following chapter describes the transportation services currently available in Enfield.

CTTRANSIT

The Connecticut Department of Transportation operates bus service throughout the state as Connecticut Transit (CTTRANSIT). In the greater Hartford region, CTTRANSIT operates more than 30 local routes and 12 express routes. Local bus service generally operates seven days per week with most routes available between 5:00 AM and midnight. Local bus fare is \$1.30. Express routes operate only on weekdays; fares vary by zone.

CTTRANSIT in Enfield

Currently there is one CTTRANSIT route serving Enfield, Route 5. Route 5 provides weekday express service between Enfield and Hartford and is one of the region's heaviest-traveled commuter routes. The route originally operated to/from a commuter parking on Freshwater Boulevard and Mass Mutual but traveled via I-91 between these locations. Recently, Route 5 was changed so a handful of trips include (in addition to the stop at the Freshwater Park and Ride and Mass Mutual) a stop in Thompsonville and a local routing along US 5. This local service is available on weekdays only. The route is express to Enfield, but most runs also include a stop on the way to Enfield at the Windsor Locks Park and Ride. Some trips also make two additional stops in Windsor before continuing to Enfield.

On the weekends, Route 5 provides service from Hartford to the CT Department of Corrections facilities in the northeast part of Enfield (see Figure 15).

On weekdays, Route 5 runs 12 southbound morning trips to Hartford from Enfield, with the first leaving the Enfield park and ride at Freshwater Boulevard at 6:04 AM, arriving at the first Downtown Hartford stop at 6:33 AM and continuing to two additional downtown stops. The last morning trip leaves the Enfield Park and Ride at 8:18 AM, arriving downtown at 8:53 AM. Three morning trips operate locally prior to stopping at the park and ride; two morning trips also stop at MassMutual. These two trips connect to PVTA Route G5.

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There are also six afternoon/evening southbound trips. The first leaves Enfield at 1:03 PM, arriving downtown at 1:38 PM. The last trip leaves Enfield at 6:30 PM and arrives downtown at 6:58 PM. In the afternoon, four trips operate locally before stopping at the park and ride and continuing downtown.

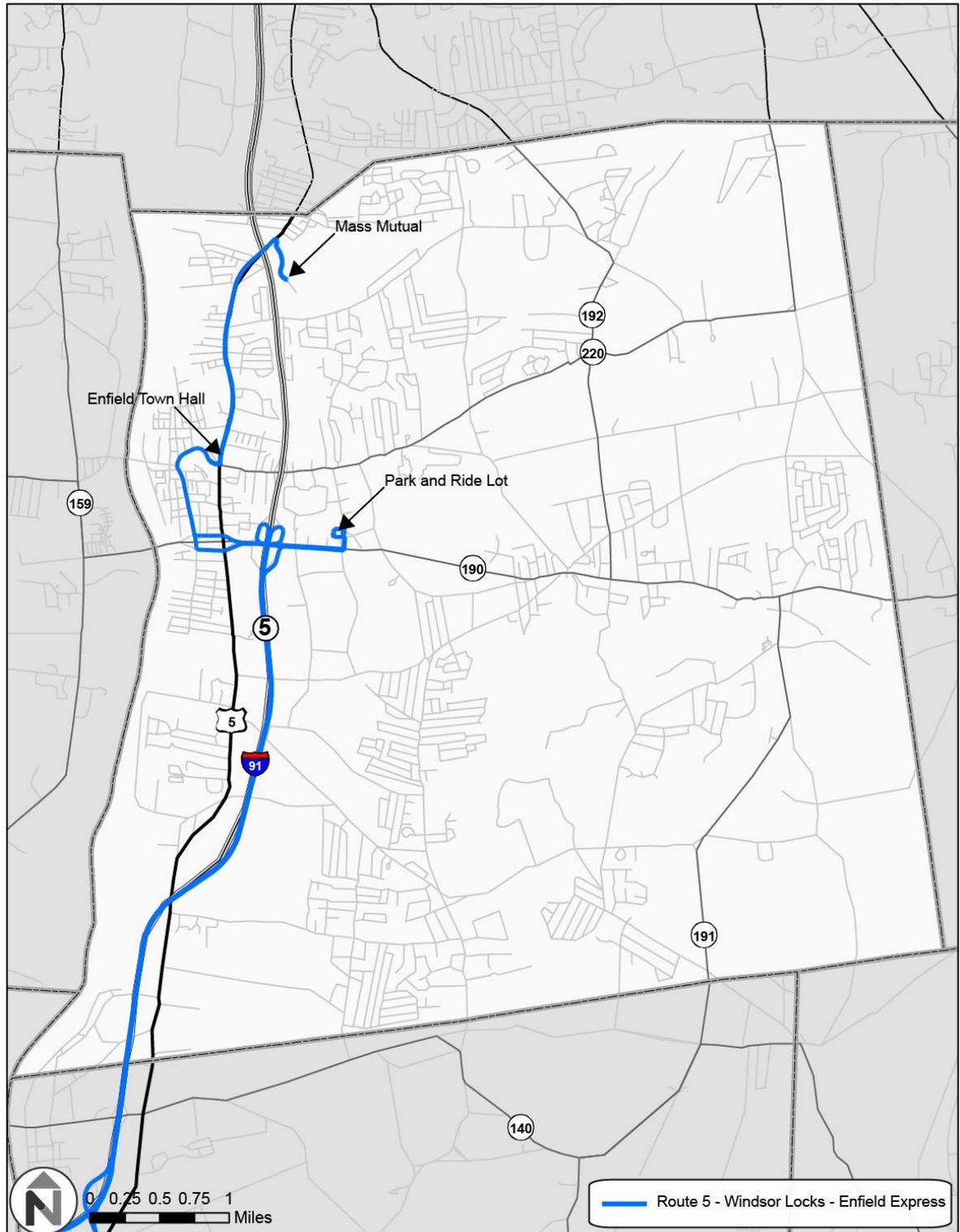
The first northbound trip from Hartford to Enfield departs at 6:00 AM and operates locally, arriving at the Enfield Town Hall at 6:37 AM and continuing to the MassMutual. This first trip does not stop at the Enfield park and ride. The first trip to the park and ride leaves downtown at 6:25 AM and arrives at 6:52 AM. There are six northbound AM trips that stop at the Enfield Park and Ride; there are two that operate locally and serve MassMutual, only one of which also stops at the park and ride.

In the afternoon and evenings, there are 14 trips from Hartford to the Enfield Park and Ride. Eight of these trips operate locally along Route 5, and six to MassMutual. The last trip from Hartford to Enfield leaves downtown at 6:35 PM and arrives at the park and ride at 7:13 PM.

On Saturdays and Sundays, Route 5 makes one northbound run at 12:00 PM, looping from the Enfield Park and Ride through the area correctional institutions, then back to the park and ride. At 2:20 PM, the bus leaves from the park ride to make the loop to the institutions and continues southbound, leaving the park and ride for Hartford at 3:20 PM.

Route 5 is an express service and located at the edge of the CTTRANSIT service district. As a result, Enfield stops are in Zone 3 of CTTRANSIT's express route service zones, making the adult cash fare for a one-way trips \$3.05. The fare is based on the route's express service and distance traveled, but no discounts are available for individuals wishing to take a local trip. CTRANSIT's adult cash fares for a one-way trip on other local services is \$1.30.

Figure 15 CTRANSIT Routes in Enfield



Data Sources: CT Transit

Ridership reflects the commuting patterns into Hartford; 223 boardings were recorded at the Enfield Park and Ride, with only a few boardings at either other Enfield location (see Figure 16 for boarding and (alighting) data by stop). Similarly, the vast majority of riders disembarked at the Enfield Park and Ride (206), with only a few waiting to disembark at Enfield Town Hall or MassMutual.²

Figure 16 Route 5 Boardings and Alightings

		AM Peak	Midday	PM Peak
Inbound/ Southbound	Boardings at MassMutual	2	0	8
	Boardings at Enfield Town Hall	1	0	0
	Boardings at Enfield Park and Ride	223	5	7
	Alightings in Downtown Hartford	(352)	(5)	(24)
Outbound/ Northbound	Boardings in Downtown Hartford	51	15	346
	Alightings at Enfield Park and Ride	(10)	(11)	(206)
	Alightings at Enfield Town Hall	0	0	(1)
	Alightings at MassMutual	(7)	0	(3)

AM Peak is 5:30 AM to 8:30 AM. Midday is 8:30 AM to 2:30 PM. PM Peak is 2:30 PM to 5:30 PM

Boardings are shown as positive numbers and alightings in parentheses to differentiate activity only.

PIONEER VALLEY TRANSIT AUTHORITY

The Pioneer Valley Transit Authority (PVTA) serves 24 communities in Massachusetts and is the largest regional transit authority in terms of ridership in the Commonwealth of Massachusetts. Service is based around Springfield, and both fixed-routes and paratransit serve Springfield and surrounding communities. One route extends across the state border into Enfield.

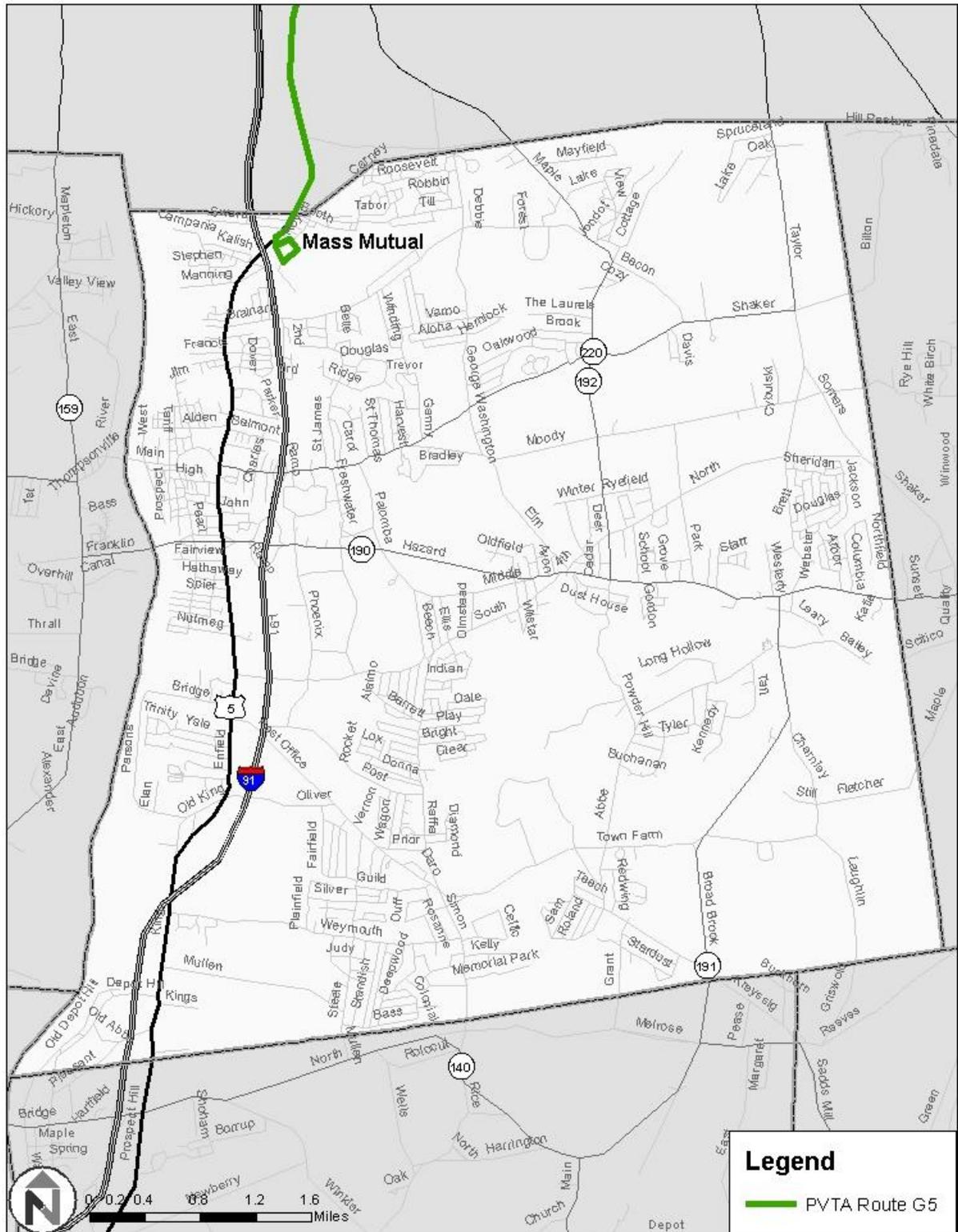
PVTA Route Green 5 (Dickinson Street) operates from Springfield to Longmeadow daily, and continues to MassMutual in Enfield on most trips (see Figure 17). The first trip to MassMutual leaves the Springfield Bus Terminal at 6:15 AM and arrives at MassMutual at 6:50 AM, returning to the Springfield Bus Terminal at 7:45 AM. The route makes a total of eight stops at MassMutual each day, the final trip leaving Springfield at 5:35 PM, arriving at MassMutual at 6:15 PM, and arriving back in Springfield at 6:50 PM. Two trips during each weekday connect with CTTRANSIT Route 5 - the 7:20 AM trip and the 4:15 PM trip. Two additional trips - the 6:15 AM and the 3:45 PM - will hold for a connection to the CTTRANSIT route upon request.

Route Green 5 is also available on Saturdays for six trips that stop at MassMutual. The first leaves Springfield at 8:30 AM and arrives at MassMutual at 9:10 AM, arriving again in Springfield at 10:00 AM. The last trip leaves Springfield at 5:00 PM, stops at MassMutual at 5:40 PM, and arrives in Springfield at 6:30 PM. Since CTTRANSIT express routes do not operate on Saturday, this Saturday PVTA service does not make any CTTRANSIT connections. One-way adult fares are \$1.25.

² Other boardings and alightings on Route 5 occur at the park and ride in Windsor Locks; this stop is not included in the table, thus totals listed in Figure 16 do not tally.

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Figure 17 PVTA Transit Routes in Enfield



Data Sources: PVTA

Previous Service

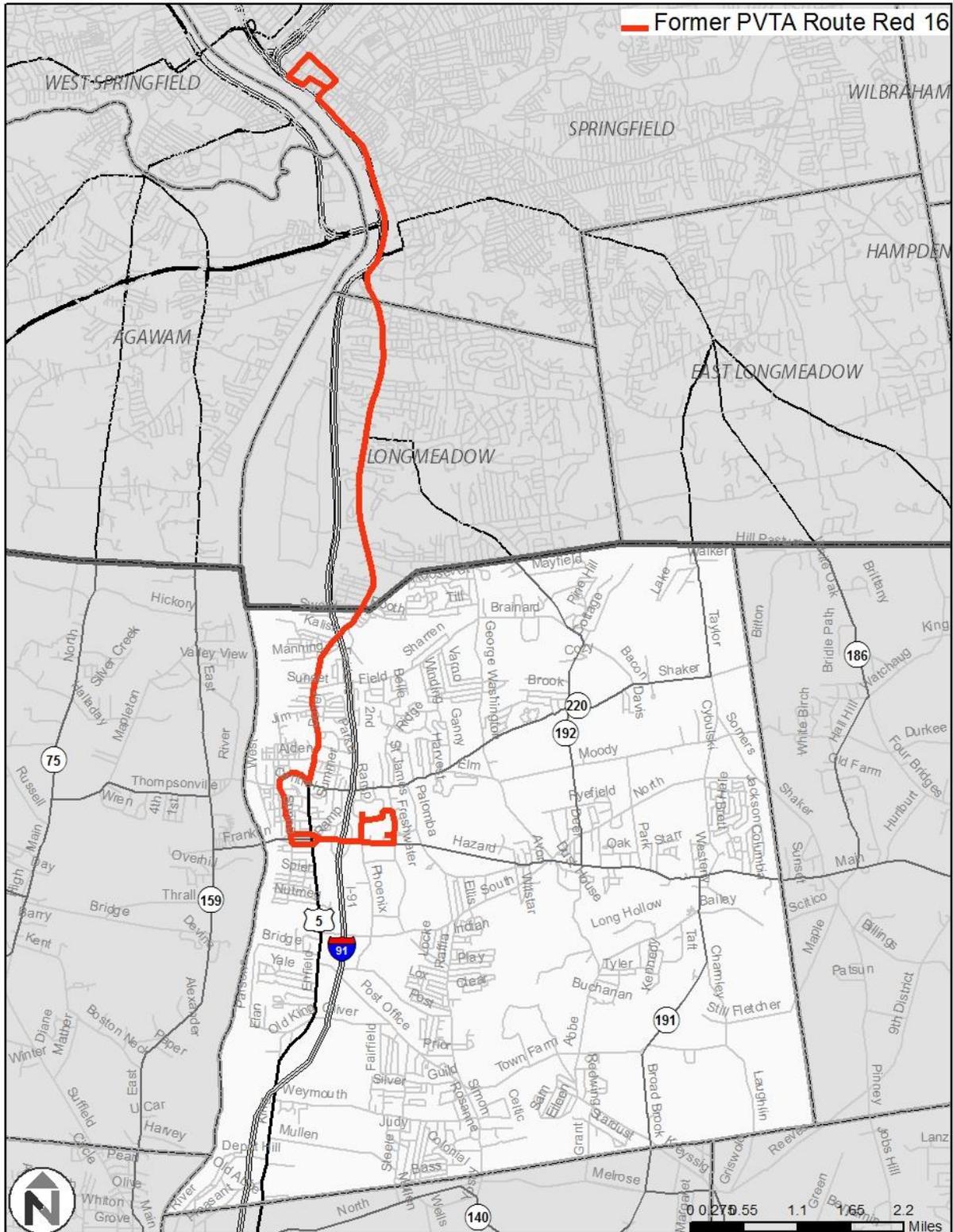
The PVTA Red 16 route once extended through the Thompsonville area to service Asnuntuck Community College and the Freshwater Boulevard Park and Ride (see Figure 18). Service was cut back to the current MassMutual turn-around location in 2002. When service existed, the portion of the fixed-route operating in Enfield was fully funded by the Town of Enfield. PVTA supplied the ADA service at no cost to the Town. In Connecticut, cities and towns are not required to make contributions toward transit service provided by CTTRANSIT.

Because Red 16 was operated by PVTA, however, a different cost sharing agreement was followed. Survey data revealed that 26% of respondents were Enfield residents, and nearly all of the 74% remaining passengers were Massachusetts residents, thus cost were roughly shared according to that split. In the first year of service (1992), Enfield provided \$38,500 to PVTA for the Red 16 route. By 2000, costs increased to \$86,700 in 2000 and annual ridership was just over 16,600 (see Figure 19). PVTA worked with the Town to reduce service costs, but Enfield was still responsible for \$70,000 of the service costs.

Ultimately, the Red 16 route was terminated because the Town was not able to provide the full cost of service, even though ridership was growing at the time. The previous route also provided a more direct connection along Route 5 to downtown Springfield, whereas the current service takes a more circuitous route serving the neighborhoods of Longmeadow as it travels between downtown Springfield and the MassMutual facility.

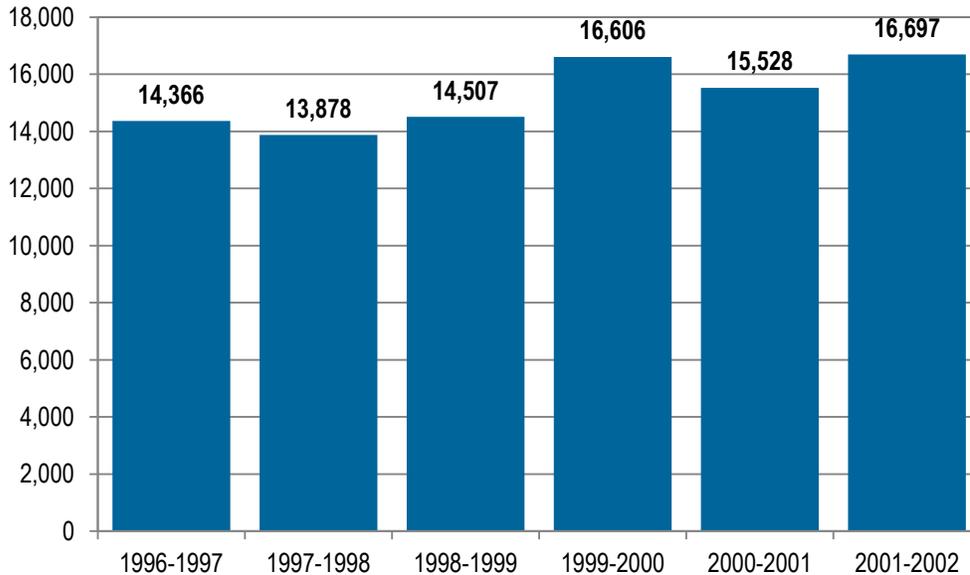
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Figure 18 Former PVTA Red 16 Route



Source: PVTA

Figure 19 Former PVTA Red 16 Annual Ridership – 1996-2002



TOWN OF ENFIELD DIAL-A-RIDE

The Town of Enfield operates a Dial-A-Ride program for residents 60 years of age or older as well as persons with disabilities. Rides are available Monday through Friday from 8:00 AM to 4:00 PM. Individuals must call the Town by noon the previous day to reserve a spot.

The Town does not charge a fare for service, but does charge an annual membership fee of \$80 to subscribe to the service. Since the Town vehicles do not enter driveways and drivers cannot offer assistance, escorts may ride for free if passengers require assistance. Guidelines for trip purpose place priority on trips to medical and dental appointments; to the bank or grocery store; to lunches and Senior Center events; and finally for social visits, dining out, or library visits. The Town does not accommodate Medicaid trips on the service.

The Town employs four full-time drivers who operate vehicles daily. Each driver carries between 40 and 60 passengers per day; this equates to approximately 52,000 trips annually.

The Town also coordinates volunteer drivers to provide rides for medical appointments outside of the Town. For out-of-town rides, two-week notice is necessary. Volunteers use the Town's town cars for these trips; individuals who use wheelchairs cannot be accommodated in these cars.

Passenger trip origins and destinations for the Town's Dial-A-Ride service are shown in Figures 18 and 19. The maps indicate that a majority of travel on the Dial-A-Ride system is between scattered home sites, with a concentration at Mark Twain Congregate Housing and



other housing developments such as Enfield Terrace, and the senior center or shopping and recreational destinations. Several dialysis patients use the Dial-A-Ride, and many individuals take the service to appointments; however, most use it to access retail establishments or, most prominently, the Senior Center.

As with other analysis, many of the Dial-A-Ride destinations appear to be on the main loop between Thompsonville and Hazardville along either Elm Street or Hazard Avenue. Though this data shows that fixed-route service in this corridor may have the ability to shift riders to fixed-route service, conversations with Town staff indicate that this is unlikely. Many of the Dial-A-Ride customers experience fairly good service that today meets their unique needs, and are using this for access to necessary appointments. With many riders either older or mobility challenged, the current service is likely to remain the best option. Additionally, the Town is not expecting to alter the level or operations of its Dial-A-Ride service with the implementation of fixed-route service.

OTHER TRANSPORTATION SERVICES

Joshua Center

The Joshua Center is a social services organization providing intensive youth therapy services. The center transports clients to agency services from their school or home and back to their homes in the evening. The center transports clients from homes throughout north-central Connecticut. Joshua Center has four vans, three 7-passenger and one 11-passenger.

Allied Transportation Services

Allied Transportation provides transportation for older adults, persons with disabilities, and persons receiving Medicaid. Allied operates a fleet of vans, both standard and wheelchair-accessible.

First Transit

First Transit is Enfield's nonemergency transportation provider, providing rides for Medicaid patients to and from medical appointments.

United Cerebral Palsy of Greater Hartford

Persons with cerebral palsy or other disabilities are eligible for transportation assistance to medical appointments through United Cerebral Palsy.

ITN North Central Connecticut

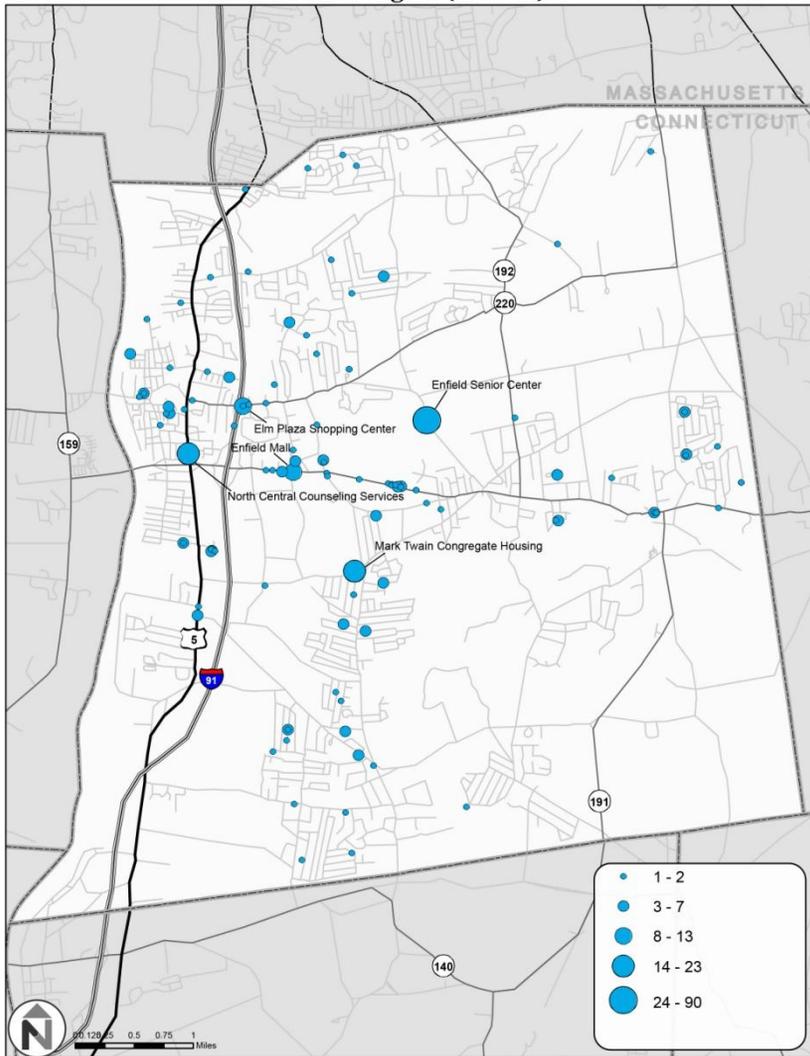
ITN North Central Connecticut provides transportation to people over the age of 65 and the visually impaired 24/7. It is a volunteer based service that charges a low fee for rides within its ten-town service area.

Taxi Services

A number of taxi services are available in Enfield. Fares vary, but often are too high for low income individuals to take frequently (see Figure 22).

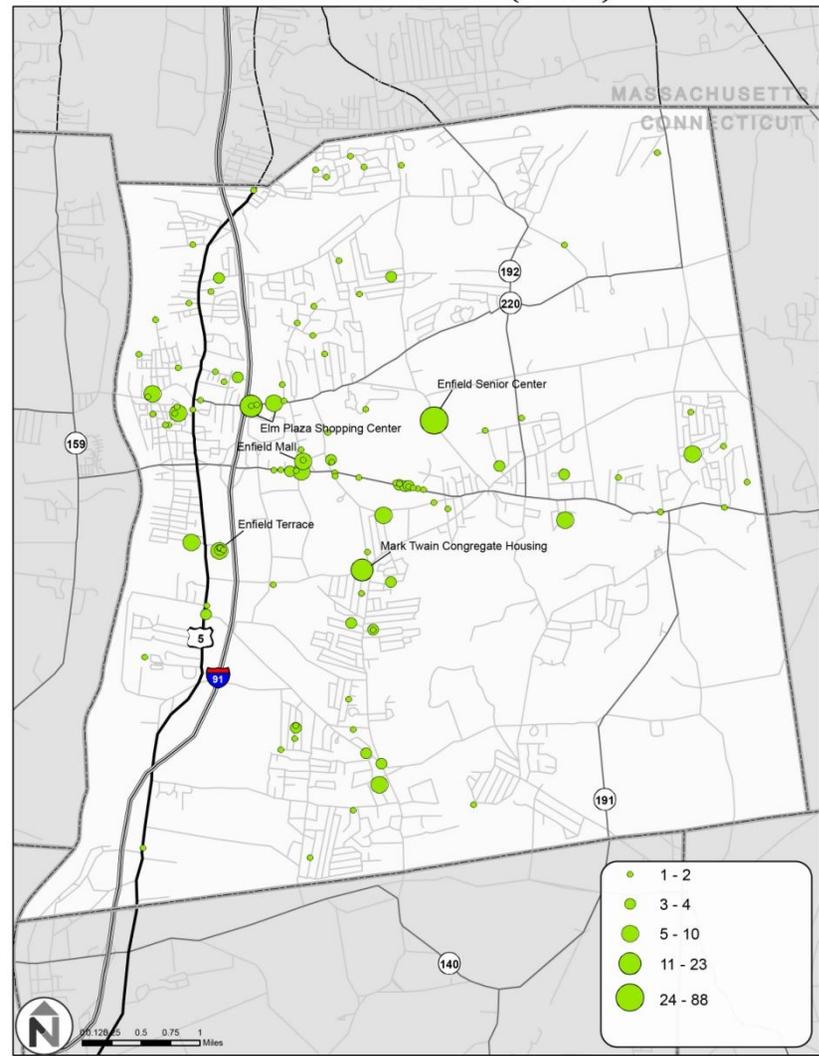
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Figure 20 Dial-A-Ride Origins (1 Week)



Data Sources: Town of Enfield, Department of Social Services

Figure 21 Dial-A-Ride Destinations (1 Week)



Data Sources: Town of Enfield, Department of Social Services

Figure 22 Taxi Companies in Enfield

Name	Base Location
Americab Taxi of Enfield	Enfield
Enfield Taxi Service	Enfield
Yellow Cab Company	Hartford
Ace Taxi Cab Service	Manchester, Springfield
Mym Transportation	Springfield
Tommy's Taxi	Springfield
Liberty Airport Taxi	Springfield
Ampak Cab	Windsor
City Cab	Windsor
AAA Cab & Livery LLC	Windsor Locks
Airport Express	Windsor Locks
Best Cab	Windsor Locks
Executive Cab Company Inc.	Windsor Locks
Peace Cab LLC	Windsor Locks

PLANNED TRANSPORTATION SERVICES AND FACILITIES

In addition to the array of existing transportation, the Town of Enfield currently has two significant transportation projects slated for development. These projects include a rail connection along the proposed New Haven-Hartford-Springfield rail line and a local community bus circulator.

New Haven-Hartford-Springfield (NHHS) Rail Project

Historically, Enfield was a transportation center, and even today the rail corridor on the western edge of town along the Connecticut River remains an active freight line, with Amtrak service that stops at nearby Windsor Locks. The proposed New Haven-Hartford-Springfield (NHHS) Rail Project (see Figure 23) is anticipated to run along this corridor which passes just west of the Thompsonville section of Enfield. An Environmental Assessment has been completed for this initiative, and preliminary design is underway. As envisioned, the corridor will provide commuter rail service and include stops in 10 cities and towns between New Haven and Springfield, including Enfield (others are North Haven, Wallingford, Meriden, Berlin, Newington, West Hartford, Hartford, Windsor, and Windsor Locks) with a shuttle bus connection to Bradley International Airport.

The NHHS Project will be funded through a combination of federal and state funds. Enfield Station, like North Haven, Newington, and West Hartford stations, is part of the overall project design, but to date, no funding has been designated for the construction of the stations. The Town and other advocates are making efforts to identify funding for station construction in Enfield and the Town completed a separate feasibility study that identified and recommended a station and

intermodal center in the Thompsonville area. The recommended site for the Thompsonville Transit Center (see Figure 24) is near Bigelow Commons.

The Town of Enfield is currently pursuing a phased approach for the completion of the Thompsonville Transit Center, with bus and taxi service providing the initial components, with expansion to include the commuter rail station as funding and service become available.

New Freedom Grant Proposal and Award

As part of the Human Service - Public Transit Coordinated Plan development process conducted in 2007, the Town of Enfield identified the need for local transportation services to better serve older adults and persons with disabilities living in the community. Following this finding, the Town applied for New Freedom funding first in 2007, and again in 2009 and 2011. The proposal was based on a fixed circulator route that would serve the high-need villages of Thompsonville and Hazardville, plus an express connection to CTTRANSIT along Route 5 and PVTA service at MassMutual.

All three applications were successful, and the state awarded Enfield approximately \$1 million to purchase vehicles and operate transit service. The Town plans to use the grant funds to purchase two 20-passenger, wheelchair-accessible vehicles and provide 12 hours of transit service Monday through Saturday. Both vehicles would operate on weekdays traveling in opposite directions along a loop (see Figure 25), creating 30-minute headways. Saturday service would be operated with a single vehicle and one-hour headways. The proposed hours are 6:30 AM to 6:30 PM. Service is anticipated to beginning the Summer or early Fall of 2012.

The Town's Dial-A-Ride service is designated in the application as the complementary ADA paratransit provider. The proposal assumes an additional six trips per day on the Town's Dial-A-Ride as a result of providing ADA service. These trips can be easily incorporated into the Town's existing Dial-A-Ride system, and no additional changes to the system are anticipated to accommodate ADA service.

The Town estimated an annual ridership of 35,640 passengers and annual operating costs of \$450,572, including ADA. Annual hours are estimated at 6,552.

CONCLUSIONS

Transportation service, while not extensive, is available in some capacity in Enfield. Below are several key findings:

- Local Dial-A-Ride service is only available for seniors and persons with disabilities. Local transit service is only available for the general public on a limited number of trips on CTTRANSIT Route 5.
- Express, fixed-route buses to Hartford operate only during peak hours, and only some runs make connections to PVTA service at MassMutual to accommodate any commuters traveling to Springfield.
- With the exception of taxis, other transportation services available are targeted to specialized populations or a specific client base.
- Future projects, including the new commuter rail service and the Thompsonville Transit Center, have the potential to serve regional travel needs more fully. Plans by the Town for local transit service have the potential to enhance local utilization of these regional services.

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- Ridership on the local segments of CTTRANSIT routes has been low, likely because of limited frequency and since the express fare charged for local service is too high for many who may want to use the service.

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Figure 23 Proposed NHHS Alignment



**PROPOSED NEW HAVEN - HARTFORD - SPRINGFIELD
COMMUTER RAIL SERVICE**



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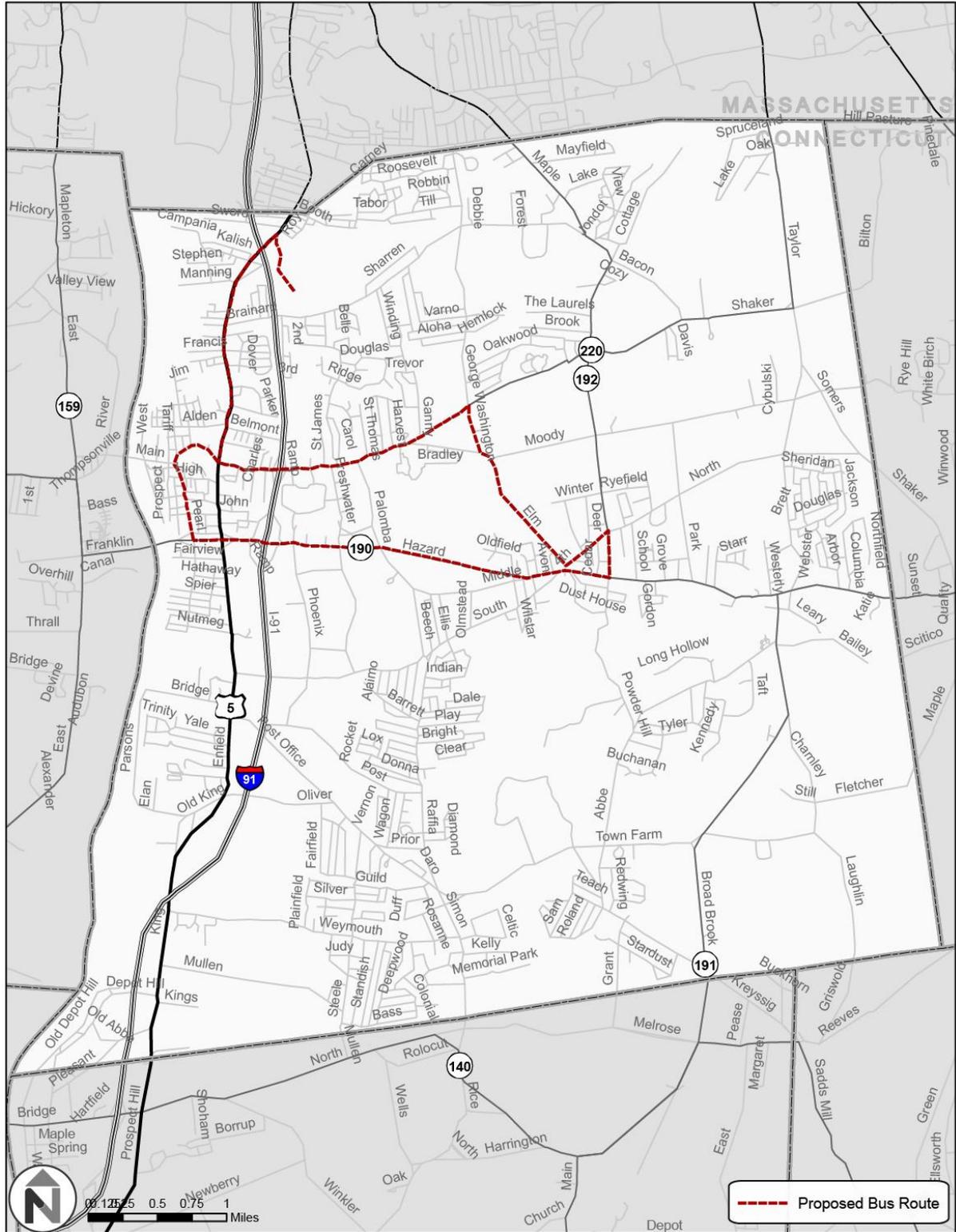
Figure 24 Plan for Thompsonville Transit Center



Source: *Thompsonville Transit Center Feasibility Study Final Report*, 2008, McMahon and Associates

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Figure 25 Proposed Bus Route from New Freedom Grant Application



Data Sources: Town of Enfield

4 OUTREACH AND NEEDS ASSESSMENT

The study team, under the direction of the CRCOG, Town of Enfield and TAC, undertook an extensive outreach effort to develop and review alternatives for how best to provide local transit service in Enfield. The team is also working closely with the Town of Enfield to build upon the initial work completed by town staff on both the proposed intermodal center and the federal grant application. Part of this effort involved reviewing existing documents; including outreach efforts conducted by the Town (see Appendix A for the document review).

To gather initial input on transit needs and potential service, the study team adopted a three-tiered approach that includes surveys with members of the public, interviews with stakeholders, and telephone surveys with employers. These are in addition to a Technical Advisory Committee that has been established to help shepherd the planning process to an implementation recommendation. Public meetings have also been part of the outreach effort and provided opportunities to receive feedback and explore service alternatives.

SURVEYS WITH GENERAL PUBLIC

Conducting a survey with the general public is a significant part of the analysis of the local demand for transit service as it provides more detailed information that supplements demographic and other analysis. A survey was placed online, and paper copies were distributed to a number of community organizations in Enfield. With the help of the Town of Enfield, the Community Services Network and Asnuntuck Community College, the study team received 1,160 responses in total, a very high response considering the total population of Enfield is around 45,000. A copy of the survey instrument and a summary of the survey analysis is included with this report as Appendix B.

Two institutions – Asnuntuck Community College and Enfield Adult Education – had such high levels of survey participation that they were analyzed separately, to ensure the results of the responses of the general public at large are not skewed toward the needs of one particular group. Asnuntuck Community College returned 581 surveys of students, and Enfield Adult Education returned 147.

Several overall themes are apparent across all three groups:

- There is a broad and deep range of interest in transit among all age groups and populations, including those with access to a vehicle.
- While many respondents expressed a preference for greater geographic coverage, the destinations identified were consistently in previously identified areas in Thompsonville, on Elm Street and Hazard Avenue.

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- All groups expressed a strong preference for a longer span of service (expanded hours of operation).

Below are maps that display answers to two questions about destinations within Enfield. The first shows destinations where respondents currently travel often. The second shows destinations to which respondents believe the bus should travel. Responses from all three groups are shown and reflect a strong pattern of where major destinations in Enfield lie.

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Figure 26 Destinations Traveled to Often

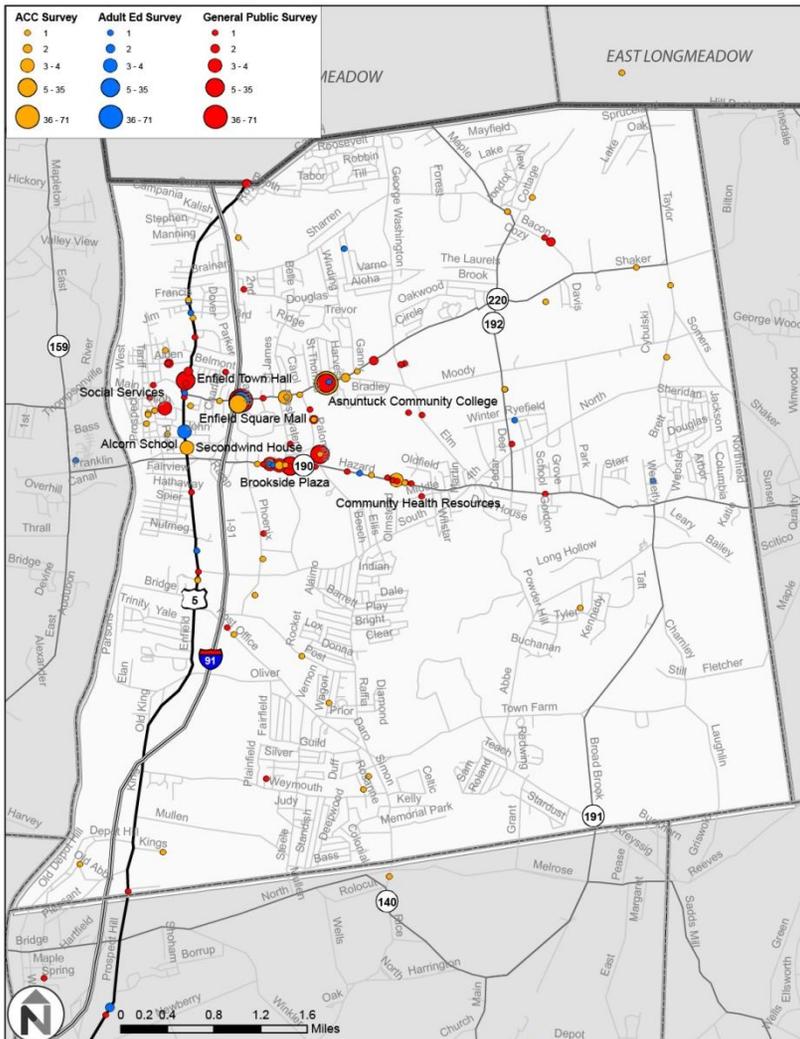
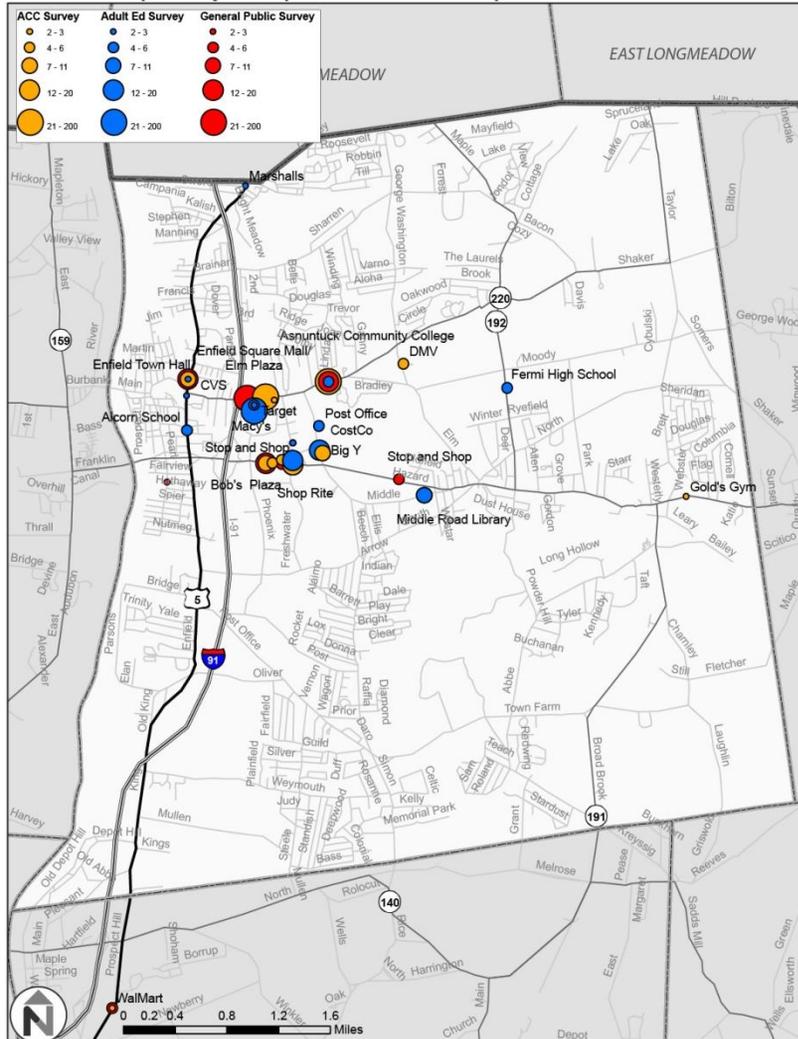


Figure 27 Destinations Where the Bus Should Travel



Transportation Trade-Offs – All Respondents

In order to help design transit coverage within a limited budget, the survey sought responses from potential users on their preferences for a number of typical tradeoffs in transportation service planning. While shown separately by user group within this memo, responses to the tradeoff questions from all respondents are aggregated below.

Geographic Coverage vs. Frequency

The first trade-off question asked respondents about geographic coverage versus frequency. Responses showed a slight preference for coverage over frequency – a route serving many places, but that has less frequent headways.

A route that goes to many places, but the bus comes less often (for example, once an hour).

A route that goes to fewer places, but comes more often (for example, every 30 minutes).



Loop Route vs. Linear Route

Respondents also showed a slight preference for a service plan with a one-way loop system that has many destinations, as opposed to an out-and-back route with fewer destinations, traveling in both directions.

A bus route designed as a one-way loop. The bus goes to many places but travels in one direction.

A bus route designed to go out and back on one street. The bus goes to fewer places but travels in both directions.



Frequent Stops vs. Faster Travel Time

The respondents showed a slightly stronger preference for a service with frequent stops and thus shorter walk times over faster travel and less frequent stops.

The bus stops frequently, so walking time to and from the bus is short, but the bus travels slower.

The bus stops less frequently, so walking time to and from the bus is longer, but the bus travels faster.



Hours of Operation vs. Frequency of Service

The most prominent preference across all survey groups was that the bus have longer service hours, even if it means lower overall frequency.

The bus comes more often but has shorter hours of operation (begins later in the morning and ends earlier in the evening).

The bus comes less often but has longer hours of operation (begins earlier in the morning and ends later in the evening).



A full survey summary is included in Appendix B.

INTERVIEWS WITH STAKEHOLDERS

The study team reached out to a cross-section of key organizations in Enfield, with the assistance of the Town's Director of Social Services and Director of Community Development. Both Directors were integrally involved in building support for public transportation in Enfield, and have worked with many of the identified stakeholders previously on the proposed Intermodal Center and the New Freedom Grant Application.

All stakeholders were familiar with the proposal for transit service in Enfield and excited about the prospect of future service. There was general consensus on the need for transit service, with access to jobs and services among the key aspects of potential service highlighted. During the interview process, the team gathered information on current needs and potential demand, while highlighting the kinds of tradeoffs and choices that would come with implementing service. The overall need for service was a unifying theme of responses, and though most understood the choices to be made, there were many common elements cited amongst stakeholders. Among these were the need to:

- Serve Thompsonville
- Connect to existing transit services
- Provide access to jobs and services, especially in the mall area and along Hazard Avenue

- Make the service easy to understand and accessible to use

As many of the stakeholders have been involved with trying to bring service to Enfield, they were also familiar with the draft route that the Town had proposed. There seemed to be general consensus that this route hit the major areas of need. However, in describing potential tradeoffs in providing service, and through discussions, opinions on where service should go, and how it would operate began to vary. Even these particular requests or opinions often were in addition to the need to serve the areas highlighted in the draft route plan prepared by the Town. Furthermore, the stakeholders were eager to assist in bringing service questions to their membership and assist in the outreach for the user survey.

Stakeholder Overview

A list of potential stakeholders to meet with was prepared as part of the study, and was reviewed with the Technical Advisory Committee and Town of Enfield staff. Many of the identified stakeholders were providers of social services in Enfield that participate regularly in Town meetings. Therefore, the study team attended a special meeting of the Community Services Network to discuss the Enfield Transit Study and gather input. The meeting was held on January 19th in Enfield and included over a dozen participants, who were able to give direct feedback, and complete a questionnaire used as the basis for Stakeholder Interviews. In addition, the study team met with the management of a large residential complex (Bigelow Commons), the Chamber of Commerce, and the President of Asnuntuck Community College. A full list of Stakeholders met with as part of outreach efforts is included below:

Figure 28 List of Stakeholders Interviewed

Contact	Organization
Rosalind Swift	Ministries of Love & Hope
Peter Bryanton	Enfield Community Development Corporation
Christine Amsden	Enfield Youth Services
Abbie Vita	Community Health Resources
Kathy Minicucci	East Hartford WIC Program
Chris Gomeau	KITE- Key Initiatives to Early Education
Amy Morales	Enfield Family Resource Center
Joseph Randall	Community Health Resources
Paul Kindall	Joshua Center - Natchaug Hospital
Annette Reed	Enfield Dial-a-Ride
Julie Cotnoir	Asnuntuck Community College
Joan Lawson	Calvary Presbyterian Church
Evans Farrell	Calvary Presbyterian Church
Pamela Brown	Enfield - Community Services Director
Ed Lamontaigne	North Central CT Chamber of Commerce

Contact	Organization
Dr. Martha McLeod	Asnuntuck Community College
Steven Boucher	Bigelow Commons

Stakeholder Needs and Service Goals

As described above, stakeholders were both knowledgeable and excited about the coming transit service to Enfield. Many had participated in planning efforts to date, and have supported efforts by the town of Enfield to secure the grant that will bring service to the community. Stakeholder conversations revealed many common themes and service needs, including:

- The need to provide service to the Thompsonville area.
- The lack of service in Enfield hampers mobility for all, but especially for more vulnerable populations (low income, youth, elderly, special needs).
- Access to jobs, especially in the mall areas is critical.
- Access to medical services and social services is very important.
- Service should connect to other routes, especially the CT route to Hartford, and the proposed Intermodal Center.

These themes were reinforced through stakeholder conversations. As expected, these were also reflected in the preliminary route developed and proposed by the Town of Enfield. Beyond these identified issues, a number of additional needs were expressed by the stakeholders. These were then incorporated into route alternatives and evaluated. Highlights of these additional comments included:

- Many social service providers provide some sort of transportation, but demand well exceeds their capacity or funding.
- Access to jobs is very important, but especially challenging is providing access to lower skilled jobs.
- Service should access the schools in Enfield, as even though school buses handle general transportation, there is a need for parents to get to schools for meetings or services, and for students to travel to services or jobs after school.
- There is a need for service throughout the day and until after the stores close in the evening.
- Connections or connecting service, to additional destinations such as the airport and train stations may be used by choice riders.
- Some choice riders would use transit, but mostly service would fill an existing need.
- Service should be designed to hit important nodes, and could be further developed once a strong base was established.
- Service should be integrated with walking and bicycling access, and allow for bike racks on vehicles and/or at major stations.

Asnuntuck Community College

Asnuntuck Community College was also interviewed as a stakeholder, and has identified the need for transit service in Enfield. Serving over 3,000 students in a variety of programs that are spread

throughout the day, the Community College would greatly benefit from service, and expects to provide significant ridership to support it. Many students are part-time, or work in addition to taking classes, and require access throughout the day. Anecdotally, Asnuntuck said that a number of students take the CT express route to the park and ride facility and walk along roads with no sidewalks to reach the school. Providing a link to that service is important to the college and safety of students. Asnuntuck also provides a number of certification programs that draw regionally, but also have direct links to the medical facilities on Hazard Avenue. Most significantly, the Student Government has already agreed to provide some sort of funding to support local bus service in Enfield. The details and fees of any partnership or contribution need to be explored in further detail, but this demonstrates a clear understanding of the need for transit and willingness to help make it a reality.

TELEPHONE INTERVIEWS WITH EMPLOYERS

The study team attempted to interview the largest employers in Enfield, and ultimately was able to gather responses from five major employers located in the Town. Employer surveys were used to identify work commute trends and learn about attitudes towards transit use for employees. Questions were also asked to gauge interest in partnerships to provide transit for employees.

Overall, all employers responded that the vast majority of their employees drive to work, and most employers were unsure whether the availability of transit would shift their employees' travel behavior. Nonetheless, the majority of employers thought that their companies would be willing to financially support transit service, especially by subsidizing passes to their employees.

Employer Overview

Businesses interviewed employ a range of seven to 1,500 workers. Two businesses operate just one shift from 9:00 AM to 5:30 PM during the weekday, and an additional business also operates 8:00 AM to 12:00 PM on Saturdays. One employer operates two shifts; one shift from 7:00 AM to 3:30 PM and one from 11:30 AM to 7:00 PM. Three employers have temporary or seasonal employees, either interns throughout the year, temporary employees during the holiday season, or summer-only employees. Figure 29 displays the locations of the employers interviewed.

Figure 29 Location of Employers Interviewed

Business Type	Business Location	Number of Employees at Enfield Location
Health and Human Services	North Main Street, Enfield	7
Tools & Equipment	Moody Road, Enfield	About 100
Retail	Phoenix Avenue, Enfield	240
Finance	Bright Meadow Boulevard, Enfield	1,500
Bank	Enfield Street, Enfield	40

Employee Commute Habits

Most businesses reported that the majority of their employees live within the Greater Hartford Area and many live in or near Enfield. The second place that many employees live is just over the

state border in Western Massachusetts, many in or near Springfield, Massachusetts. Other areas where employees live include Suffield, Ellington, and Manchester in Connecticut.

All businesses report that their employees overwhelmingly drive to work alone and park in free parking lots on-site. Only one business responded that about 5% of employees carpool, walk or bicycle to work. That same business offers a carpool matching service for its employees. No businesses were aware of any employee using CTTRANSIT to travel to work.

Most employers cited the price of gas, insurance, and other costs associated with driving as a major challenge many employees face in traveling to work, especially those employees who work in entry-level or low-paying positions. Many employers also noted that the length of the commute was a challenge for employees who live outside of Connecticut. One business cited traffic congestion as a problem for employees who commute from other towns, especially along Route I-91.

Future Transit Use and Sponsorship

Employers were asked if they believed their employees would use transit service to commute to work if it were available. Only one employer responded that they did think their employees would use transit, especially if there was a commuter express route from West Hartford to Enfield, and connections to and from local Enfield communities. But the other employers were unsure if their employees would use transit, mainly because they are accustomed to the convenience and flexibility of driving a personal vehicle. Other reasons employers were not optimistic about employee use of transit was because there are currently too few transit stops in the local communities where people live. One employer suggested that trolley service and improved walking and biking facilities along Route I-91 would be extremely beneficial for the community, but did not think bus service would benefit employees.

When asked about willingness to support a transit service - either through promoting transit with employees, purchasing of ad space, distributing materials, or contributing financial support directly – three employers responded that their companies would likely be willing support transit service through one or more of those measures, most likely subsidizing transit passes. One of these three employers added that their company already contributes financially through subsidized passes at another company branch. One employer was unsure if they would be able to support transit, and one would not be willing to support it.

TECHNICAL ADVISORY COMMITTEE

The Technical Advisory Committee (TAC) met three times during the course of the study, and a core group of project advisors held an additional meeting to conduct detailed service alternative evaluation between the first and second TAC meetings. The kick-off meeting, which consisted of a project overview and outlining of goals, was held in December 2011. The second meeting was held in February 2012, and involved a detailed review of alternative service strategies. The final TAC meeting was held in March 2012, and focused on finalizing details of the recommended strategy.

Full meeting minutes are available in Appendix C.

PUBLIC MEETINGS

Two public workshops were held in Enfield to receive feedback on the preliminary route alignments as well as on the recommended route and service plan. Approximately 25 people

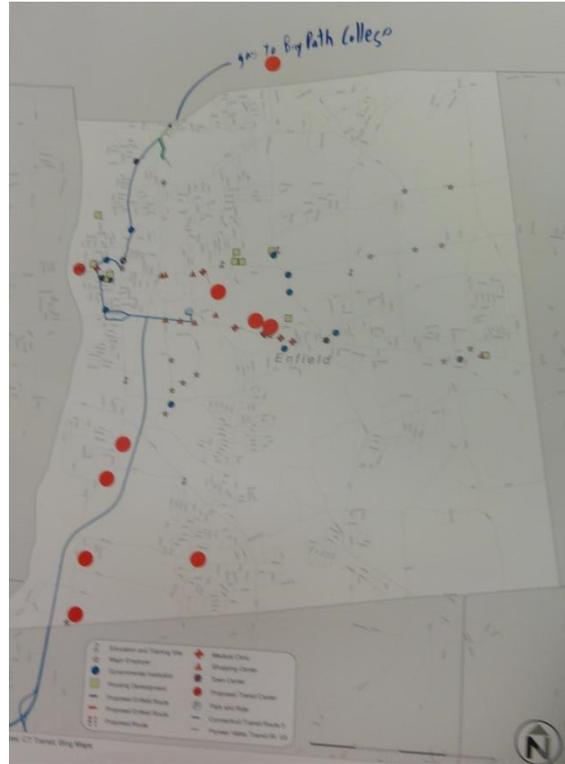
attended the first meeting and 14 attended the second. Summaries of the public workshops are provided below, a list of meeting attendees, and full meeting minutes are available in Appendix C.

Public Workshop #1

The Capitol Region Council of Governments (CRCOG) and the Town of Enfield hosted a public meeting to present information and gather input on the initiation of a new bus service for Enfield. The meeting and open house was held at the Enfield Town Council Chambers the evening of February 15, 2012. The meeting introduced the public to the study and aimed to gather input on where the bus should go as well as the times of day the service should operate. The meeting also provided an opportunity for the public to obtain information about the transit study and shape the route and schedule of the new service early in the process.

The meeting and public workshop consisted of three parts. During the first, members of the public were invited to engage study team members at large, wall posted maps of the Town of Enfield and asked to use sticker dots to indicate transit preferences and their primary destinations within Enfield. The second part consisted of a presentation from the consultant, Nelson\Nygaard, and the third was a group discussion about the potential routing options and characteristics of the coming transit service.

Attendees were also allowed to “vote” on service preferences using the same questions from the user survey. These are broken down for meeting attendees by the percentage below each option (see following page):



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<p>A route that goes to fewer places, but comes more often (for example, every 30 minutes)</p> <p>69%</p>	or	<p>A route that goes many places, but the bus comes less often (for example, once an hour).</p> <p>31%</p>
<p>A bus route designed to go out and back on one street. The bus goes to fewer places but travels in both directions.</p> <p>30%</p>	or	<p>A bus route designed as a one-way loop. The bus goes to many places but travels in one direction.</p> <p>70%</p>
<p>The bus stops less frequently, so walking time to and from the bus is longer, but the bus travels faster.</p> <p>54%</p>	or	<p>The bus stops frequently, so walking time to and from the bus is short, but the bus travels slower.</p> <p>46%</p>
<p>The bus comes less often but has longer hours of operation (begins earlier in the morning and ends later in the evening).</p> <p>92%</p>	or	<p>The bus comes more often but has shorter hours of operation (begins later in the morning and ends earlier in the evening).</p> <p>8%</p>

Public Workshop #2

The second workshop was held on March 15, 2012, at the Thompsonville Village Center in Enfield. This meeting focused on gathering feedback about the preferred route and service plan, which the study team described to the attendees. The team received a number of questions and comments on the recommended route, including:

- The route does not travel close enough to everyone's homes in Enfield. The study team noted that resources prevent the bus from stopping at everyone's house and that the route will likely grow as it becomes more utilized.
- ACC classes last until 8:30 or 9:00 PM in the evenings, and the service span should accommodate these students.
- Bicycle racks on the buses were requested. The study team noted that the buses will have these racks.
- Bus stops should all have laminated schedules posted on them. Schedules should be simple to read, such as stating that the bus stops here at 0:22 minutes after each hour.
- There were suggestions to use ETV, smartphones, web, and newspapers to notify people about the service.
- Most students at Asnuntuck Community College (ACC) have cars and service may not be needed there. The study team noted that survey results from ACC indicated strong interest in the service.
- When asked about bus shelters, the study team responded that shelters are not planned for the stops initially. The Town, however, has started thinking about what other improvements (lighting, sidewalk, shelters, etc.) might be needed with the service, to be implemented at a later date. Funding for operating the transit service does not currently cover infrastructure improvements.
- When asked about carrying bags on the bus, the study team noted that a person can only take on the bus what they can carry. The route is planned to stop as close to the door of grocery stores as possible, and there will be bench seats in the back of the buses where room is available for those portable grocery carts.

- Routes should also be clearly identified, such as branding them the Red Route and Blue Route. Also, the buses should be painted so that they are clearly different than the Dial-A-Ride vehicles to avoid confusion.
- Bus passes will likely be available for sale in multiple places, such as at all Enfield social services offices.
- The fare will be the same as for a CTTRANSIT ride - \$1.30.

CONCLUSIONS

There is significant anticipation for transit service in Enfield, with general consensus on many issues, but an understanding that additional tradeoffs may be necessary. Takeaways from the interviews and outreach are:

- The greatest need is to provide service to the Thompsonville area.
- The lack of service in Enfield hampers mobility for all, but especially for more vulnerable populations (low income, youth, elderly, special needs).
- Access to jobs, especially in the mall areas is critical, and access to medical services and social services, on Hazard Avenue, is very important.
- Service should connect to other routes, especially the CT route to Hartford, and the proposed Thompsonville Transit Center.
- Though the connection from Thompsonville along Route 5 to MassMutual initially appeared important, most outreach efforts identified little demand for this connection.
- The initially proposed route by the Town of Enfield is a very good starting point.
- With an absence of local transit resources, employees drive alone to work.
- There is a willingness to support transit from employers and institutions.
- Most understand that there will be tradeoffs in service between frequency, span of service, and geographic coverage.

5 SERVICE DEVELOPMENT

An important part of the Enfield Transit Study involved developing service options and a final service concept for a route transit circulator in Enfield. Prior to this study, as discussed, the Town had already completed extensive work towards developing a service plan (“Town Plan”). This current study built on the Town Plan to create a series of alternative service options that built tried to incorporate most of the Town’s major service goals, but offer different ways a new service could be operated. Also consistent with the Town Plan, the study team initiated the service development task by reviewing the Town’s objectives and priorities for future service:

- Local service should focus on serving the most vulnerable members of the community. The highest concentration of these individuals is in Thompsonville.
- Access to jobs, especially in the mall area is critical, as is access to the medical and social services along Hazard Avenue.
- Several employers and major destinations in the community are located along Main and Elm Streets as well as Hazard Avenue.
- Connections to CTTRANSIT and PVRTA routes are desired.
- Members of the general public prefer longer hours of operation, even if the service comes less often when it is available.
- There is a lot of support for the service in Enfield, both from potential users, but also community resources and major employers.

TOWN OF ENFIELD “TOWN PLAN”

As described previously, the Town Plan for the proposed service was based on completed extensive work towards the design of potential transit service, including analysis and community review. It was also designed to focus on the areas with the greatest need and to match current and historic transit service in Enfield.

The Town Plan operating plan is based on a two-way looping service that operates along Elm Street, stopping at the Westfield Shopping Center and Asnuntuck Community College, to Route 220 on Shaker Road, turning right onto Washington Road and continuing in to Hazardville. In Hazardville, the route would a loop around 4th Street, North Street, and North Maple Street before traveling west on Hazard Avenue before exiting onto Franklin Street. The route turns right onto Pearl Street and returns to Thompsonville, ultimately looping on North Main Street and returning to Town Hall. The proposed loop also includes a bi-directional spur to connect with the PVRTA bus at MassMutual.

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Figure 30 Town Plan

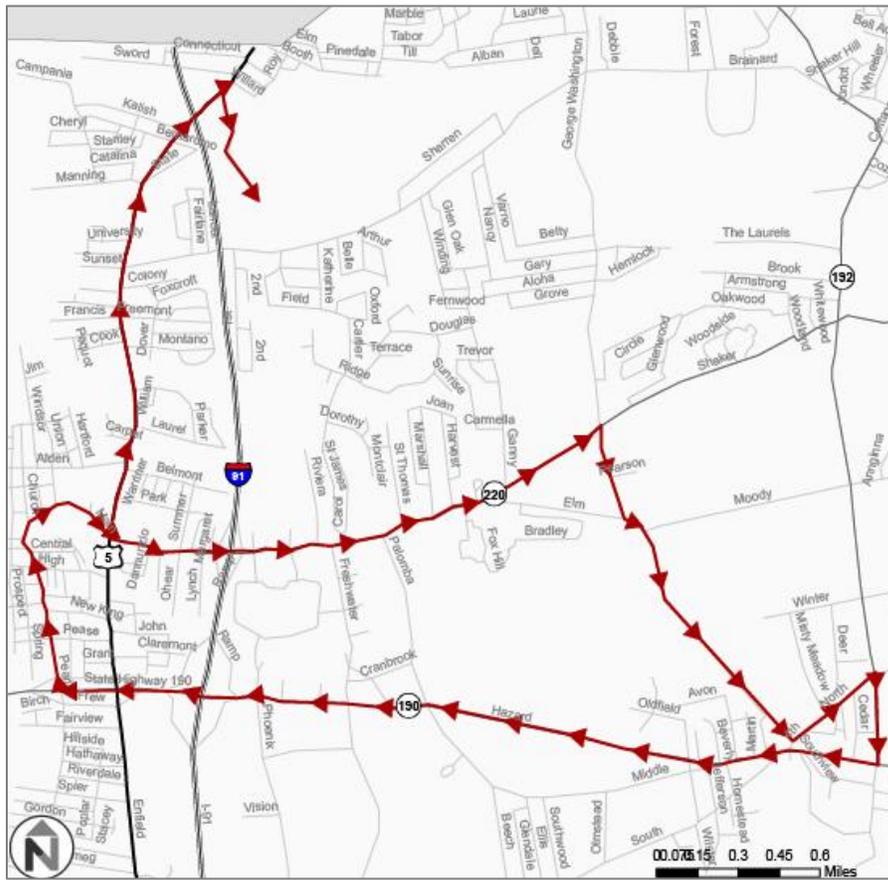


Figure 31 MassMutual Gate



Although MassMutual is an important regional employer, buses are only able to drop off passengers outside the main security gate.
Source: NelsonNygaard

STUDY SERVICE OPTIONS

Working with the TAC, three service options were developed for further testing and evaluation. These routes were based on the community outreach and survey work, review of important connections and potential destinations, as well as a series of service planning guidelines suggested by the study team (see Appendix E). As part of developing service concepts the study team considered the following:

- **Routes should travel in two directions:** Service should be provided in both the east and west directions on the main streets and areas served, in order to provide:
 - Efficient connections so that riders could travel the shorter distance around the loop
 - More frequent service headways at any location along the route with most stops receiving 30 minute service at peak
 - Service to both sides of the major streets, minimizing the need for pedestrians to cross
- **Service should be easy to use and schedule:** Each route is designed to be relatively simple and understandable. Service is intended to operate on regular headways with some recovery time, for ease of use by potential riders.
- **Use Pearl Street instead of Route 5:** Between Thompsonville and Hazard Avenue, all alternatives use Pearl Street which offers more direct connections and better coverage for the resident population of Thompsonville, as opposed to Route 5, which is more heavily trafficked and difficult to cross roadway that has limited adjacent residential density. The current CTTRANSIT Route 5 also uses Pearl Street when traveling locally.
- **Proposed service should not extend to MassMutual:** The Town’s original plan included a regular connection north on Route 5 from Town Hall to MassMutual. The surveys and analysis showed that there is little regular demand for this connection, and the added time and cost would greatly impact the ability to provide consistent service at frequent headways on the more promising sections of the route. Other options to better serve this connection through CTTRANSIT and PVRTA are explored in Chapter 7 of this report.
- **Service should be expandable to other Enfield destinations:** Many of the large employers in Enfield are not directly on the proposed routes, but indications are that other connections are more critical and should be served initially. Proposed routes are expandable to the Thompsonville Transit Center and to other parts of Enfield once established and if additional funds become available.

Option 1 – Single Loop

The Single Loop is very similar to the Town Plan, without the spur to MassMutual. It serves the Thompsonville to Hazardville loop, providing connections along Elm Street and Hazard Avenue to the most critically identified destinations. The Single Loop as proposed would run both clockwise and counterclockwise, with each route running at regular headways. Clockwise service could begin at the top of the hour, with counterclockwise service beginning on the half-hour. The figure below shows the route in both the clockwise and counterclockwise directions, which would run essentially as follows:

Clockwise

Town Hall (Thompsonville) to Elm Street (Westfield Shopping Center, Asnuntuck Community College) to Shaker Road to Washington Road to Elm Street (Enfield Senior Center) to North Street to N. Maple Street (Hazardville) to Hazard Ave (supermarkets, medical facilities, Enfield Mall) to Franklin Street to Pearl Street (Thompsonville) to North Main Street (Town Hall).

Counter-clockwise

Town Hall (Thompsonville) to North Main Street (Town Hall) to Pearl Street (Thompsonville) to Frew Terrace to Hazard Ave (supermarkets, medical facilities, Enfield Mall) to N. Maple Street (Hazardville) to North Street to Elm Street (Enfield Senior Center) to Washington Road to Shaker Road to Elm Street (Westfield Shopping Center, Asnuntuck Community College) to North Main Street (Thompsonville) to Town Hall

Benefits

- Serves most major destinations at 30 minute headways (in alternating directions)
- Is simple to understand
- Most destinations would be served
- Alternating loops can serve destinations on either side of major streets
- Connects to existing CTTRANSIT service

Challenges

- One-way service may be time consuming depending on the direction of travel
- Does not provide service to Enfield High School or the Courthouse
- Does not provide a direct connection between the CTTRANSIT Park and Ride and Asnuntuck Community College

Figure 32 Option 1: Single Loop



Option 2 – Dual Loops with Enfield High School

Through the community process, stakeholders requested consideration of service to Enfield High School and the employment centers along Phoenix Avenue. In addition, study findings suggest that Thompsonville, Asnuntuck Community College, and the mall and supermarket areas could support more service than the Hazardville area. This second option, Dual Loops with Enfield High School, seeks to address these needs.

The Dual Loop option, as indicated, consists of two loops (see Figure x). The clockwise (East-West) loop would be identical to the primary loop described Option 1, with the exception of continuing on Elm Street instead of the Shaker Road/Washington Road jog. The smaller (North-South) loop would travel further south along Pearl Street to the edge of Enfield high. It would also provide a connection through the Phoenix Avenue area, and a direct connection between the Park and Ride and Asnuntuck Community College.

East-West Loop (Clockwise)

Town Hall (Thompsonville) to Elm Street (Westfield Shopping Center, Asnuntuck Community College) to Elm Street (Enfield Senior Center) to North Street to N. Maple Street (Hazardville) to Hazard Ave (supermarkets, medical facilities, Enfield Mall) to Franklin Street to Pearl Street (Thompsonville) to North Main Street (Town Hall).

North-South Loop (Counter-clockwise)

Town Hall (Thompsonville) to North Main Street (Town Hall) to Pearl Street (Thompsonville) to Nutmeg Avenue to Enfield Street/Route 5 (Enfield High School) to South Street to Phoenix Avenue (Courthouse) to Hazard Ave (Enfield Mall) to Freshwater Boulevard (Park and Ride) to Cranbrook Drive (Big Y Supermarket) to Palomba Drive to Elm Street (Asnuntuck Community College, Westfield Shopping Center) to North Main Street (Thompsonville) to Town Hall.

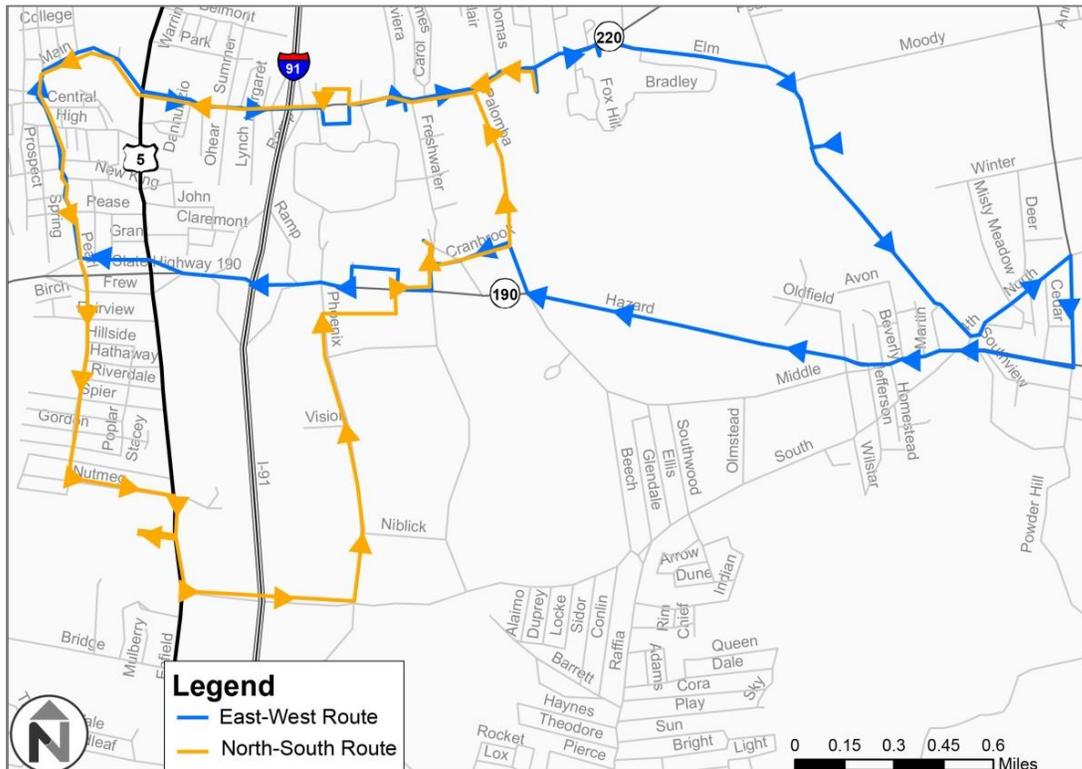
Benefits

- Serves Enfield High School and the Phoenix Avenue area
- Provides a direct connection between Park and Ride and Asnuntuck Community College
- Provides 30 minute headways in Thompsonville, at Asnuntuck and along the western parts of Hazard Avenue and Elm Street
- Connects to existing CTTRANSIT service

Challenges

- Provides hourly service to most destinations
- Only serves one side of the street, thus requires cross the street on the reverse trip
- Service is more complicated
- Demand at Enfield High and on Phoenix Avenue will occurs at peak times only

Figure 33 Option 2: Dual Loop with Enfield High School



Option 3 – Freshwater Boulevard Crossover

Previous options (the Town Plan and Options 1 and 2) are based on looping alignments, while the third alternative is organized as a linear service. The Thompsonville to Hazardville connection remained of primary importance, but destinations along both Hazard Avenue and Elm Street were also identified as critical for Enfield’s likely transit population. Additionally, the Park and Ride is an important connecting destination for Enfield residents, and was seen as important for Asnuntuck students. Initially, the project team looked at linear routes on Elm and Hazard, converging at each end in Hazardville and Thompsonville. However, to make the connections described above, and provide more connections for residents, Option 3 crosses these routes using Freshwater Boulevard. Each route then would operate eastbound, then westbound following the alignments shown in Figure 34 and described below:

Pearl – Hazard Route

Pearl Street (Thompsonville) to Frew Terrace to Hazard Ave (supermarkets, Enfield Mall) to Freshwater Boulevard (Park and Ride) to Elm Street (Asnuntuck Community College) to Elm Street (Enfield Senior Center) to North Street to N. Maple Street (Hazardville) to Hazard Avenue.

Elm – Freshwater Route

Pearl Street (Thompsonville) to N. Main Street (Town Hall) to Elm Street (Westfield Shopping Center) to Freshwater Boulevard (Park and Ride) to Cranbrook Drive (Big Y) to Palomba Drive to Hazard Avenue (medical facilities) to N Maple Street (Hazardville) to North Street.

Benefits

- Linear routes allow for ease of access
- More frequent service in overlapping area (Freshwater Blvd/Park and Ride)
- Provides direct connection between Park and Ride and Asnuntuck Community College
- Connects to existing CTTRANSIT service

Challenges

- Cross-over alignment requires riders to choose service based on ultimate destination, with some connections missing
- Requires buses to turnaround at end points
- Parts of Thompsonville have more limited service

Figure 34 Option 3: Freshwater Boulevard Crossover



EVALUATION OF PROPOSED OPTIONS

In addition to developing service options, the TAC and study team were also tasked with evaluating the options and determining which option, or combination of options, held the most promise for Enfield. The evaluation process involved a series of iterative steps, rather than a highly structured screening process. In order to fully evaluate each option, however, the study team completed more detailed analysis on several key service parameters:

- **Create Bus Stop and Detailed Routing Plan:** One of the main concerns raised by stakeholders involved the safety of stopping on major roads and the need to provide front door service. These needs were balanced with maintaining an efficient and reliable service schedule. Keeping these concerns in mind, the study team developed a bus stop plan that identified where the bus would stop and, based on these stops, create draft final bus routes. Because the service is designed to provide door-to-door service, where the bus stops depends on direction of travel. Details of the stop plans by service option and fieldwork conducted for each are included in Appendix D.

- **Travel Time Estimates:** Given the unique stop plan developed for each route, travel time estimates were completed in the field by project staff. Planners estimated travel times by driving each route, traveling at speeds not exceeding the speed limit (30 mph), and stopping at each identified stops for 30 seconds. This process created a draft final estimate of overall service time and supported development of a service schedule.
- **Ridership Estimates:** The study team also broadly estimated ridership by service option using demographic information, a weighted review of destinations, and consideration of transit planning principles to evaluate ridership by service option.

Each option serves very similar geography, thus much of the technical analysis shows more similarities than differences. Figure 35 summarizes the results of this analysis, and the details of each of these are included in the appendices. Each service option is able to run in less than an hour, with projected times ranging from 40 minutes to 54 minutes. With similar service patterns, and coverage areas, ridership estimates are also similar with only Option 2 (Dual Loops) showing slightly less ridership.

The iterative process then considered input and comment from stakeholders and members of the public together with costs, ridership and consistency with Enfield's stated goals and priorities. Comments and input from members of the public and stakeholder feedback were among the most important considerations.

Most people who participated in the outreach process appreciated the opportunity to provide input, and nearly all had constructive ideas for how the Town of Enfield could develop effective bus service. Comments on the proposed scenarios may be generally summarized as:

- Overall, there was a very high level of interest and support for transit services in the community.
- People, including both stakeholders and potential riders, wanted the service designed to meet the needs of their target audience and in consideration of the operating environment. As a result, the community prioritized door-to-door service over faster service that would stop on the street and requiring people to walk from their bus stop to their destination.
- Stakeholders and members of the public also prioritized the span of service over frequency; or they would prefer to have buses arrive less often in order to operate service over a longer period of time.
- Likewise, riders and stakeholders also wanted to provide evening and weekend service, even if the service would be less frequent.

In addition to considering comments from the public, Town of Enfield staff also reviewed the service options in greater detail and in consideration of community goals and priorities. This review also provided ideas for improvements and changes. Additional details on the technical evaluation are included as Appendix F.

Impacts on ADA Paratransit Service

In accordance with the Federal Americans with Disabilities Act (ADA), operating fixed-route transit requires the Town of Enfield to also provide complementary paratransit service for individuals who are unable to use local fixed-route service. Under ADA, transit operators must offer complementary paratransit service for ADA eligible individuals unable to use fixed-route services and taking a trip that begins and ends within $\frac{3}{4}$ of a mile from a fixed-route. Travel must

occur during the operating hours of regular transit service. ADA also sets fares for complementary paratransit service at not more than twice the adult cash fare.

As a result, the evaluation process also considered the impact of the service design on ADA paratransit services. In general, longer routes that serve a larger area are more expensive to serve with ADA paratransit service. Likewise, longer operating hours, including service operated into the evening and on weekends, tend to increase ADA costs. In nearly every case, however, the service design options would serve a roughly similar geographic area and would be operated according to a similar schedule. Thus, the differences between options on the cost to provide ADA service is not expected to be significant. Consequently, this was not a key consideration in the evaluation process.

EVALUATION RESULTS

Ultimately, Option 1, the alternative most closely resembling the Town Plan, was selected to be carried forward to implementation because:

- It is the simplest to schedule, understand and operate.
- It serves most of the major destinations in Enfield, including Thompsonville, Hazardville, Park and Ride, Asnuntuck Community College, Senior Center, Malls, Shopping Center, Supermarkets and Medical Facilities.
- The potential importance of the direct connection from the Park and Ride to Asnuntuck Community College was not borne out by survey results (less than 1% of over 580 ACC respondents made this connection).
- It provides hourly service in both directions (clockwise and counterclockwise) meaning that any point on the route has 30 min service at peak.

The Town and other TAC members, however, wanted to alter the service parameters in order to accommodate the needs identified as strong community preferences in the public survey, especially expanded evening hours. Several significant changes were incorporated into Option 1:

- An evening service was added, to serve the hours of 6:00 PM to 11:00 PM, in order to accommodate ACC students and mall employees.
- A shorter version of the primary clockwise loop was considered for evening and Saturday service given some of the destinations at the eastern of the route (i.e. Senior Center) would be closed. However, when limited cost or travel time savings were realized, the Town of Enfield decided to maintain service to Hazardville and operate the full loop.
- To maintain costs, service on the counter-clockwise loop was shortened to cover only peak periods (7:30 AM-10:30 AM and 2:30 PM to 5:30 PM).

The preferred alternative concept is described in more detail in the following chapter.

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Figure 35 Benefits and Challenges of Route Alternatives

Option	Service Efficiency	Hours and Frequency	Strengths	Challenges
Option 1: Single Loop	<ul style="list-style-type: none"> ▪ 32,777 annual riders ▪ Annual costs: \$351,367 ▪ Cost per rider: \$10.72 	<ul style="list-style-type: none"> ▪ 24 service hours daily ▪ 60-minute headways ▪ 47-minute run time ▪ 13-minute recovery (6 at Senior Center, 7 in Thompsonville) 	<ul style="list-style-type: none"> ▪ Major destinations are served at 30-minute headways, alternating directions ▪ Simple to understand ▪ Resident survey indicated most preferred destinations are served by this option 	<ul style="list-style-type: none"> ▪ Enfield High School and Courthouse not along either route
Option 2: Dual Loops	<ul style="list-style-type: none"> ▪ 30,772 annual riders ▪ Annual costs: \$351,367 ▪ Cost per rider: \$11.42 	<ul style="list-style-type: none"> ▪ 24 service hours daily ▪ 60-minute headways ▪ <u>East-West:</u> <ul style="list-style-type: none"> – 47-minute run time – 13-minute recovery (6 at Senior Center, 7 in Thompsonville) ▪ <u>North-South:</u> <ul style="list-style-type: none"> – 40-minute run time – 20-minute recovery (10 at Senior Center, 10 in Thompsonville) 	<ul style="list-style-type: none"> ▪ Serves Enfield High School ▪ Serves Courthouse 	<ul style="list-style-type: none"> ▪ One-way loops require riders to travel long distances to destinations closer in the other direction ▪ Some destinations have 60-minute instead of 30-minute headways (e.g., Senior Center) ▪ More confusing than Option 1 ▪ High School service not needed during some hours
Option 3: Freshwater Boulevard Crossover	<ul style="list-style-type: none"> ▪ 32,777 annual riders ▪ Annual costs: \$351,367 ▪ Cost per rider: \$10.72 	<ul style="list-style-type: none"> ▪ 24 service hours daily ▪ 60-minute headways ▪ <u>Pearl-Hazard:</u> <ul style="list-style-type: none"> – 54-minute run time – 6-minute recovery (in Thompsonville) ▪ <u>North-South:</u> <ul style="list-style-type: none"> – 49-minute run time ▪ 11-minute recovery (5 at Senior Center, 5 in Thompsonville) 	<ul style="list-style-type: none"> ▪ Linear routes allow for travel in both directions ▪ More frequent service for some stops (park and ride four stops/hr versus two in other options) 	<ul style="list-style-type: none"> ▪ Survey shows minimal demand for park and ride access to ACC ▪ Route can be confusing to new riders ▪ Terminal turnaround can be challenging

6 RECOMMENDED SERVICE PLAN

The Town of Enfield has been working over the last several years to plan and develop public transportation service. From participation in the New Haven-Hartford-Springfield Commuter Rail Initiative to the multiple efforts on the Thompsonville Transit Center to the successful New Freedom Applications, the Town has strived to meet the needs of its residents for public transportation within Enfield and achieve greater transit connections to the rest of the region.

After a decade without any true local service, Enfield is poised to implement new fixed-route service connecting its areas with the most dependent populations to most of the critical destinations in town. The project team, working on behalf of the CRCOG, with the Town of Enfield, and with a Technical Advisory Committee, has been helping to develop a preferred route and operating plan for the implementation of local service. The details of this process were developed through extensive outreach that began as part of previous Town transportation planning efforts, and continued through the surveys, interviews, and public meetings completed as part of this Study.

Through this process, several primary themes emerged, which are represented here in the final recommendations of this effort. The Town will ultimately be responsible for refining the specific details and operations of service. At this planning level, the Study recommends the following service plan:

RECOMMENDED SERVICE PLAN

The recommended service plan primarily follows the Single Loop option that operates along Elm Street and Hazard Avenue, with a series of additional services designed to meet specific needs. Each service is described in greater detail below and shown together with an indicative schedule and map (see Figure 37):

- **Primary Loop** – the primary “clockwise loop” that will operate in the clockwise direction only between 7:00 AM and 11:00 PM. The primary loop also operates all day on Saturday.
- **Peak Period Loop** – a secondary “counter-clockwise loop” that will operate along the same alignment as the primary loop but in the opposite direction. This service will operate during peak periods only (7:00 AM – 10:00 AM and 3:30 PM to 7:00 PM).

Figure 36 Weekday Temporal Coverage of Recommended Alternative

	7:00 AM	8:00	9:00	10:00	11:00	12:00 PM	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00
Clockwise Loop																
Counter-clockwise Loop																

Clockwise Service

Clockwise service begins at Pearl Street and High Street at 7:00 AM and operates until 11:00 PM. The last run departs Pearl and High at 10:00 PM. Service will run on the hour, with an estimated operating time of 47 minutes. Six minutes of recovery time are allotted at the Senior Center, and another seven minutes at the end of the route at Pearl and High Street. This recovery time is slightly longer than recommended industry standard of allocating approximately 10% of the travel time for recovery. However, the additional time is intended to be conservative during the early stages of implementation and allows for unexpected traffic levels or extra boarding time for passengers using wheelchairs.

The study team conducted additional fieldwork to estimate travel times, schedules and time points for the final service design. An indicative schedule is shown in Figure 37, with select time points highlighted for the clockwise loop. A full list of stops is available in Appendix F. The clockwise service requires 11 service hours per weekday.

Figure 37 Map of Recommended Alternative – Primary (Clockwise) Loop



Figure 38 Indicative Schedule Primary (Clockwise) Loop with Select Time Points

1	2	3	4	5	6	7	8
Pearl & High	Enfield Sq/ Elm Plaza	Asnuntuck	Senior Center	CHRC	Park & Ride	Brookside Plaza/ Enfield Mall	Pearl & High
7:00	7:07	7:12	7:19	7:36	7:40	7:44	7:53
8:00	8:07	8:12	8:19	8:36	8:40	8:44	8:53
9:00	9:07	9:12	9:19	9:36	9:40	9:44	9:53
10:00	10:07	10:12	10:19	10:36	10:40	10:44	10:53
11:00	11:07	11:12	11:19	11:36	11:40	11:44	11:53
12:00	12:07	12:12	12:19	12:36	12:40	12:44	12:53
13:00	13:07	13:12	13:19	13:36	13:40	13:44	13:53
14:00	14:07	14:12	14:19	14:36	14:40	14:44	14:53
15:00	15:07	15:12	15:19	15:36	15:40	15:44	15:53
16:00	16:07	16:12	16:19	16:36	16:40	16:44	16:53
17:00	17:07	17:12	17:19	17:36	17:40	17:44	17:53
18:00	18:07	18:12	18:19	18:36	18:40	18:44	18:53
19:00	19:07	19:12	19:19	19:36	19:40	19:44	19:53
20:00	20:07	20:12	20:19	20:36	20:40	20:44	20:53
21:00	21:07	21:12	21:19	21:36	21:40	21:44	21:53
22:00	22:07	22:12	22:19	22:36	22:40	22:44	22:53
23:00	23:07	23:12	23:19	23:36	23:40	23:44	23:53

Peak Period (Counter-Clockwise) Service

The counter-clockwise loop operates in the opposite direction from the clockwise loop, but provides parallel stops along the same routing. Since the Town and TAC prioritized bus stops as near to the entrances of the critical destinations as possible, stops on the counter-clockwise service do not exactly match those identified for the clockwise service. Consequently, the counter-clockwise loop pulls into the mall areas at different points, serving Elm Plaza instead of Macy's on Elm Street; and serving Brookside Plaza instead of Enfield Mall along Hazard Avenue (see Figure 39).

This loop departs Pearl and High at 7:30 AM and operates until 10:30 AM, with the last run departing at 9:30 AM. Service resumes for the evening peak at 2:30 PM, running until 5:30 PM. Operating time for this loop is also estimated to be 47 minutes; like the clockwise loop, the recovery period of 13 minutes is split between the Senior Center and Pearl and High Streets. Select time points are shown in the Figure 40. Total service hours for the counter-clockwise loop are six hours per weekday.

Figure 39 Map of Recommended Alternative – Peak Period (Counter-Clockwise) Loop



Figure 40 Indicative Schedule Peak Period (Counter-Clockwise) Loop with Select Time Points

1	2	3	4	5	6	7	8
Pearl & High	Brookside Plaza/ Enfield Square	Park & Ride	CHRC	Senior Center	Asuntuck	Enfield Sq/ Elm Plaza	Pearl & High
7:00	7:07	7:09	7:14	7:25	7:38	7:43	7:53
8:00	8:07	8:09	8:14	8:25	9:38	9:43	9:53
9:00	9:07	9:09	9:14	9:25	10:38	10:43	10:53
15:30	15:37	15:39	15:44	15:55	16:08	16:13	16:23
16:30	16:37	16:39	16:44	16:55	17:08	17:13	17:23
17:30	17:37	17:39	17:44	17:55	18:08	18:13	18:23
18:30	18:37	18:39	18:44	18:55	19:08	19:13	19:23

Saturday Service

The recommended service plan for Saturdays includes operation of the primary loop (the clockwise loop) in one direction only between the hours of 7:00 AM to 9:00 PM. The schedule reflects public and stakeholder input and is designed to accommodate mall employees and patrons. While the current recommendation involves serving the longer primary loop, as this option provides additional service coverage and community connections; however, this option may be re-evaluated after the service has been in operation for six to 12 months to make sure the longer distance loop is needed. The Saturday service requires 14 hours of service.

Figure 41 Saturday Temporal Coverage of Recommended Alternative

	7:00 AM	8:00	9:00	10:00	11:00	12:00 PM	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00
Clockwise Loop															

Service Considerations

The Town of Enfield will build upon the recommendations of this study to develop and implement the service. As Enfield moves from planning to implementation, additional factors and adjustments will likely be needed. Included below are a number of service considerations that must be continually evaluated as service is realized.

- Travel time estimates are based on extensive field work; however, the Town will need to review and evaluate the time points once passengers are using the service. In some cases additional time may be required, while at others times may be shortened.
- The proposed service alignment assumes that the bus will stop on private property, including at the front of several businesses. Prior to implementation, the Town of Enfield should contact these establishments to gain permission and potentially to negotiate bus stops and shelters or benches. This process could affect the service alignment and schedule.
- The primary clockwise loop assumes a running time of 47 minutes with 13 minutes allocated to recovery time. While this is more than what would typically be recommended, the Project Team felt it important to maintain hourly headways, thus simplifying the service, and allowing for potential service unknowns.
- Recovery time has been split between the Pearl/High stop and the Senior Center with seven minutes allocated to Pearl/High and six minutes at the Senior Center. Splitting the travel time helps ensure the bus does not get ahead of schedule, provides a break for the driver mid-way through the route and gives passengers boarding/alighting at the senior center extra time. The Town of Enfield may also negotiate with the Senior Center to allow the vehicle to layover at this location and allow the driver to use the bathroom as needed.
- Schedules are shown with a few key time points, rather than a scheduled time at each stop, to account for some variability in running time. This approach to developing a schedule is easier for service operations, but requires that passengers estimate the timing of interim stops.
- As discussed, the service plan prioritizes stopping at the front door of the most important destination. During peak periods, the shuttle operates in both directions and thus minimizes the need to cross the street. However, during the mid-day and evenings, the service will operate in one direction only and thus require riders to cross the street. In the long term, the Town of Enfield should work towards improving pedestrian infrastructure to ensure street crossings are comfortable for transit riders.
- The number and general location of stops was developed in close coordination with the Town and includes all of the existing CTTRANSIT stops. Once service is implemented, stop locations should be re-evaluated based on ridership and service implications, with a focus on stops that are fairly close to each other. Stop spacing is generally closer than typically recommended for local service.

- Evening service should be continually evaluated. It is currently proposed as operating with the full primary loop. One of the main reasons for operating it with this alignment is that a shorter alignment does not save significant amounts of time to support more frequent headways and the longer loop maintains service into Hazardville. This approach also keeps the bus route fairly simple with one main alignment that is available all the time. However, the eastern end of the evening loop (past ACC) is unlikely to generate significant amounts of ridership. If the travel time estimates prove to be too conservative and a shorter loop could operate on 30-minute headway, it will be worth revisiting a shorter evening service. .
- Saturday service as shown includes the full clockwise loop in service until 9:00 PM. Similar to the discussion above, the Town should evaluate if Saturday service should transition to a shorter alignment, similar to the evening service. The primary reason for operating a shorter loop would be if travel time savings and lack of boardings at some stop meant a 30 minute travel time is possible. This would allow the bus to provide 30 minute service, which would be preferred over a longer, not well used trip.
- Transit services, especially in places where no service existed previously, take time to build ridership and become established. While the enthusiasm in Enfield may mean that ridership builds quickly, most routes will require several months of service before ridership is sufficiently established. Small changes, such as scheduled adjustments or moving stops, may be required. However, the Town should allow at least six months and up to one year to allow ridership to build before making major service changes

Fares

Fares for the Town service are assumed to be consistent with CTTRANSIT (see Figure 42 for a full overview of CTTRANSIT’s Local Fare Policy). This means an adult cash fare will be \$1.30 and transfers are good when continuing a one way trip on a local bus.

There are, however, several policy considerations that the Town of Enfield should consider internally and discuss with CTTRANSIT before finalizing their fare structure. For example, CTTRANSIT currently issues transfers, which are valid for 90 minutes from the time of issue. The Enfield service design anticipates there will be some transfers at the Enfield Park and Ride lot as some riders transfer from regional to local service. While allowing transfers may be a good policy, there are limited opportunities to share fare revenue across agencies. The loss of fare revenue for either party may be manageable, but this issue should be considered. In addition, the ability of the Town of Enfield to fully adopt the CTTRANST fare structure depends on if the Town installs fareboxes in their vehicles, so vehicles in Enfield may read different types of passes. Fareboxes are an important piece of equipment for medium and large transit operators; the cost is prohibitive for many small operators. Many small or single route systems instead have drivers collect fares and store them in a lock box, a system that is sufficient for many operators. Assuming Enfield does not purchase fare boxes, at least in the short term, will impact the service fare structure.

Figure 42 CTTRANSIT Local Fare Policy

Local Service Fare Policy	Effective 1/1/12
Regular Cash Fare	\$1.30
Children (Age 4 & under) <i>Maximum of three with each adult.</i>	FREE
Youth (Age 5-18) <i>Proof of age may be requested.</i>	

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Local Service Fare Policy	Effective 1/1/12
Cash	\$1.05
10-Ride Ticket <i>Proof of age may be requested.</i>	\$9.50
Transfers: <i>Transfer is good for continuing a one way trip on local bus and is valid for 90 minutes from the time issued. Doubling back over any part of the original route is prohibited. Issued upon boarding only.</i>	FREE
Fare Structure: Senior/Disabled	
Cash	65¢
10-Ride Ticket	\$5.85
31-Day Pass: <i>Medicare card or state-issued Reduced Fare ID card must be shown upon boarding.</i>	\$23.50
10-Ride Ticket: <i>Save! Multi-ride ticket with no expiration date.</i>	\$11.70
All-Day Pass <i>May be purchased on bus. Please tell bus operator you want a pass before depositing money. Bus tokens have no cash value and cannot be combined with cash to purchase All-Day passes.</i>	\$3.25
3-Day Pass	\$7.80
5-Day Pass	\$11.70
7-Day Pass	\$15.60
31-Day Pass	\$47.00

Source: CTTRANSIT website

Service to MassMutual

One of the most significant changes between the Town Plan and the proposed service is that the service does not operate along Route 5 to meet the PVTA service at MassMutual. Instead, it is recommended that PVTA extend their services into downtown Thompsonville. PVTA has agreed in principle to this arrangement, provided they are reimbursed for the extra service costs. The spur is estimated to include roughly 5 miles of service and 0.33 service hours per roundtrip; assuming five trips per day on weekdays only and PVTA's estimated hourly cost of service of \$88, the additional cost for the PVTA extension is estimated at \$37,752.

This arrangement is preferred from both a service design perspective and the Town's perspective because:

- The Town of Enfield's primary goal is to provide local circulation to employment and services in Enfield, rather than regional connections.
- Actual demand on CTTRANSIT Route 5 to MassMutual is low, with approximately five riders utilizing this segment of the route daily. Low ridership, however, may reflect the fare, which currently requires riders to pay and Express (\$2.25) rather than the local (\$1.30) fare.
- The purpose of having service extend to the MassMutual facility is to give Enfield residents access to employment opportunities at MassMutual and to provide connections to PVTA services, thereby expanding access to jobs and services available in the greater

Springfield area. The objective could be realized by either operating the Enfield bus to meet PVTA or extending the PVTA bus to meet the Enfield service.

- PVTA operates eight trips per day to MassMutual, which are roughly timed to meet the main works shifts at MassMutual. Of these trips, currently two are scheduled to meet CTTRANSIT's Route 5; for two additional trips, if requested, CTTRANSIT will wait for the PVTA bus.
- As a result, service to MassMutual and to meet the PVTA service is only needed at certain times of the day. Other trips would likely carry only a handful, if any, of riders. Offering occasional service to MassMutual would be difficult for riders to understand and would negatively impact the goal of creating even headways.
- Most of the trips to MassMutual would occur during the peak travel times for riders trying to get to and from work. The extra service time would not only make it difficult for the Enfield bus to stay on schedule, it would also erode the predictability of the proposed service pattern.

This study recommends that funding for the PVTA extension be provided by State of Connecticut Department of Transportation (ConnDOT) transit funds rather than Town of Enfield or New Freedom funds. The historical cost sharing agreement between the Town of Enfield and PVTA unfairly penalized Enfield for being located closer to Springfield than to Hartford, because the strategic position close to the Massachusetts border means the most advantageous regional connections are to both Springfield and Hartford, rather than just Hartford. If both routes operated entirely within Connecticut, ConnDOT would most likely pay the local share, but because the route crosses county lines, historically no state funding was provided. In recognition that ConnDOT transit resources fund the local share of regional connections for communities in Connecticut, ConnDOT and the Town of Enfield may negotiate a fare cost sharing arrangement. Part of the funding to pay for extended PVTA service may be available from cost savings achieved by eliminating the local portion of CTTRANSIT Route 5 (see below).

CTTRANSIT

Proposals for serving the MassMutual site also involve the CTTRANSIT service. CTTRANSIT's Route 5 was recently altered to provide a local connection between MassMutual, the Enfield Park and Ride, and Thompsonville. While this change was made to provide a measure of local service, ridership on these segments is low. As mentioned, low ridership may be at least partially attributable to the high fare associated with making the trip.

In the short-term, the best case scenario would be for CTTRANSIT to charge a local fare for travel within Enfield. Implementing a local fare, however, is complicated and would likely require the bus driver to monitor passengers paying a lower fare to make sure they get off at MassMutual.

A second consideration is the routing of CTTRANSIT's Windsor Locks – Enfield – Sommers Express Route 5. Riders currently use Route 5 to travel from the Enfield and Windsor Locks area into downtown Hartford; a smaller group of riders also use it to travel from Hartford to these areas, including Mass Mutual. The current alignment involves some local service between the Enfield Park and Ride Lot on Freshwater Boulevard and US Route 5 and Pearl Street. Once the local service is implemented, the local connections may be provided by the Town of Enfield operated community connector so the CTTRANSIT could operate directly from the Park and Ride into downtown Hartford via I-91.

PVTA service could also be scheduled to meet at the Park and Ride Lot and this extension could provide the local connection to MassMutual and Springfield. This would make the service faster and more direct for most riders, especially considering ridership on the local segments is currently low. It could also potentially save CTTRANSIT operating costs, which may be used to fund the PVTA extension. Scheduling all three services so they are coordinated and timed for easy transfers between routes, however, may be challenging. This is especially the case because there are three operating entities (PVTA, CTTRANSIT and Town of Enfield), each of which has their own operational considerations.

ADA Implications

In accordance with the Federal Americans with Disabilities Act (ADA), transit operators receiving federal funds must offer complementary paratransit service for ADA eligible individuals unable to use fixed-route services and taking a trip that begins and ends within $\frac{3}{4}$ -mile from the fixed-route service. Given that the Town of Enfield's proposed service will operate with federal (New Freedom) funds, the Town is obligated to provide complementary paratransit service.

The Federal ADA rules outline several service provisions, the most critical of which are listed as follows³:

- Service must be available during the same days and hours as the fixed-route bus system.
- Service areas extends $\frac{3}{4}$ mile on each side of a fixed-route.
- Trips must be scheduled at least 24 hours in advance and up to 14 days in advance.
- Transit agency must have staff available for reservations during regular business hours.
- Paratransit rides must be provided no more than one hour before or after a requested departure time.
- Service may be suspended for riders who establish a pattern or practice of missing scheduled rides.
- Personal care attendants (PCAs) cannot be charged a fare, when traveling with an ADA-eligible rider.
- Additional individuals may accompany the customer if space is available and the inclusion of these individuals will not result in denial of service to another ADA-eligible rider.
- Fares may not be more than twice the fixed-route fare.

As described previously, the Town of Enfield operates a Dial-A-Ride (DAR) service for residents aged 60 or more and individuals of any age with a disability. This service is available on weekdays between the hours of 8:00 AM and 4:00 PM. As outlined in their New Freedom grant application, the Town of Enfield is intending to use this service to meet the ADA complementary paratransit service obligations associated with their fixed-route. The Town is anticipating only a handful of ADA riders each day, which they will be able to easily incorporate into their existing service.

The existing Town DAR service, however, does not operate in the evenings nor does it operate on Saturdays. As a result, the Town DAR service will need to expand service for ADA customers only to operate on weekdays between 7:00 AM and 8:00 AM and between 4:00 PM and 11:00 PM, as

³ ADA Essential for Transit Board Members. Fundamentals of the Americans with Disability Act and Transit Public Policy.

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well as on Saturdays between 7:00 AM and 11:00 PM. This new service only needs to pick up and drop off passengers traveling within $\frac{3}{4}$ of a mile of the proposed route. Consequently, the ADA service area available during the evening will be small.

Per ADA regulations, reservations for the trips may be made during existing regular business hours, so additional dispatch hours are not needed. All trips will be scheduled in advance so driver requirements will be known ahead of time; nonetheless, the Town must allow scheduling of ADA trips during these hours and add evenings and Saturdays into their driver scheduling. The Town should also develop an “ADA Rider’s Guide” that should be published on their website and available as a paper copy (see Appendix X for sample).

7 IMPLEMENTATION PLAN/ NEXT STEPS

OVERVIEW

The Town of Enfield will be the implementing entity for the proposed service plan. This most recent study includes a recommended plan that is both operationally supportable and best meets the immediate needs of Enfield residents and stakeholders within the funding parameters of the New Freedom Grant. Funding is expected to support two years of local fixed-route service. The Town of Enfield will receive continual assistance and support from several agencies, including ConnDOT, CTTRANSIT, the CRCOG, PVTA and others, as it moves from planning to implementation to service management.

This chapter summarizes the results of the study process and provides guidance on a number of critical steps for the Town as they move forward with implementation. The implementation plan assumes implementation of the service will take place within the next four months and organizes a series of tasks into Immediate (completed at least 4 months prior to implementation), Short-Term (completed 3-4 months prior to implementation) and Medium Term (may be completed after implementation) (see Figure 43). As with any new service, significant planning and thought must be put into the initial operations, yet there will always be adaptations necessary as plans become more concrete and service goes into effect.

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Figure 43 Town of Enfield Transit Service Implementation Plan

Implementation Step	Overview	Indicative Schedule
Immediate Steps – To be completed 4 months prior to implementation		
Operations Plan	Finalize service design; prepare indicative schedule	Completed
Determine Final Route Alignment	Finalize route alignment and adjust to changes in park and ride lot location	Summer 2012
Vehicle/Fleet and Maintenance Plan	Purchase vehicles Create maintenance plan for vehicles (can be consistent with Town Dial-a-Ride system) and any passenger amenities (benches or shelters)	Completed
Identify and Mark Bus Stops	Identify preliminary stop locations; develop bus stop signage (conceptual design) Determine which stops are within public right-of-way and which are on private property; begin negotiations with land owners; adjust schedule as needed	Summer 2012
Fare Policy and Pass Sale Locations	Develop a clear fare policy that addresses fares, types of fare media to be sold and transfers between systems. Identify locations in Enfield where passengers may purchase bus tickets and passes	Summer 2012
Short-Term Tasks – to be completed 2-3 months before implementation		
Outreach Systems/Methods	Develop outreach system for service marketing and development	Summer 2012
Branding/Route Identification	Develop marketing plan for service brand (color scheme, route names, symbol) for use on bus routes and rider information	Summer 2012
Riders Information System	Create service map, schedule and rider guide consistent with branding; information should include information on riders behavior, fares, and customer service number	Summer 2012
Establish ADA Rider-Guide	Create ADA Rider Guide – this maybe similar to Dial-A-Ride documents, but should note additional service hours and service constraints (service area limits, fare) (See also branding task)	Summer 2012
Medium-Term Tasks – May be completed after implementation		
Establish Longer Term Governance Structure	Once service is operating, consider how service may best be managed – as town department (with oversight by town council) or with its own board of directors. Each option has merits/demerits and may help service sustainability.	Fall 2012

Performance Monitoring	Establish performance monitoring system; report on service accomplishments quarterly	Fall 2012
Sustainability Planning	Develop plan to ensure service operations beyond life of New Freedom Grant. Need to consider potential option of joining CTTRANSIT or operating as an independent entity.	Fall 2012
Expansion Potential	Consider need for service expansion	To be determined

IMMEDIATE TERM IMPLEMENTATION STEPS

There are several tasks, or implementation steps, that need to be completed at least four months prior to implementation. Most of these have been completed by the Town of Enfield already, but are callout here to create a complete checklist. The four major tasks required in the immediate term are: 1) operations planning; 2) vehicle/fleet and maintenance planning; 3) bus stop planning and 4) identifying pass sales locations. The first three steps are required to operate service; this compares with identifying pass sales locations, which is not required to operate service but has a relatively long lead time, so needs to be addressed as soon as possible.

Operations Plan

Most of the immediate term operational planning tasks have already been completed by the Town of Enfield. These primarily involve finalizing the bus route alignment, schedule and span of service as well as an ADA service plan.

Chapter 6 of this document lays out a clear plan for the service alignment (see Figure 44), span of service and service schedules. It also identifies bus stops, time points and locations for vehicle layover. Many of the other operational issues, such as hiring and training drivers, setting up and staffing a customer service desk and developing a marketing and outreach plan (see below), can be incorporated into the Town’s DAR operations and maintenance structure.

The operations plan also assumes that the ADA paratransit service will operate in conjunction with the Town’s DAR service, so that the primary steps required to implement that service involve setting up a process to determine ADA eligibility, developing a process so that riders can distinguish between DAR and ADA service when they schedule and request a trip, setting fares for ADA, creating a method to collect fares and publishing clear service guidelines (see rider’s guide below).

In the longer term, the bus route, dial-a-ride and ADA paratransit service may be jointly managed. However, during the first three months of service, the Town of Enfield should have a dedicated staff person available in the office during all hours of service. This individual would be available to address unexpected problems that occur as service is getting started as well as help riders understand and use the service. After this initial period, the Town may have a transit staff person on call, but not present during service hours outside of regular business hours. The Town should identify a dedicated liaison with the Enfield police department to be available as needed, especially during on-call hours.

It is also worth noting that operational support and guidance will be provided by CTTRANSIT, ConnDOT Transit, and CRCOG. It may also be advisable for the TAC assembled for this study to continue to meet on a monthly basis to assist in implementation planning.

Determine Final Route Alignment

While this report was in the draft final stages, CTTRANSIT announced a change to the location of the Enfield Park and Ride lot. These changes should be incorporated into the final service design.

CTTRANSIT currently serves a Park and Ride lot located by the Enfield Mall off Hazard Avenue. On October 1, 2012, the Park and Ride lot will be relocated to Enfield Square, west of Macy's Main Store and off of Elm Street. Relocating the Park and Ride lot also means that CTTRANSIT will no longer serve stops on Hazard Avenue and instead will stop along Phoenix Avenue, north of Hazard Avenue. The new location has some strategic advantages, especially for ACC students transferring CTTRANSIT and using the Town bus to get to school. The new location is also more accessible from I-91.

Serving the Park and Ride lot is a priority to the Town of Enfield, therefore, the service alignment will need to be reconfigured to travel into park and ride lot and serve the same pick-up location as CTTRANSIT. This service should be timed to meet the CTTRANSIT express (peak period) buses and does not need to serve the Park and Ride lot when there are no CTTRANSIT buses arriving and departing from the Park and Ride lot. Likewise, service to the existing Park and Ride lot should be discontinued. While it may take more time for the Enfield bus to serve the Macy's park and ride lot, there is sufficient time in the schedule to make this possible.

A final impact associated with the relocated Park and Ride lot is how the CTTRANSIT Windsor Locks – Enfield – Sommers Express Route 5 should travel locally within Enfield. As discussed, given the availability of the Enfield service to provide local circulation, CTTRANSIT may not need to operate locally within Enfield along US Route 5 and Pearl Street. Instead CTTRANSIT Route 5 could operate directly from the Park and Ride into Hartford via I-91. However, this alignment would eliminate the connection from Hartford to MassMutual, which is currently used by a handful of riders. Realigning CTTRANSIT should also be coordinated with potential changes to PVTA service that may be extended to offer the link between the Park and Ride lot and Mass Mutual. The final coordination of the three services – Town of Enfield, PVTA and CTTRANSIT – should be negotiated in the short-term. This conversation may best be facilitated by the CRCOG.

Vehicle/Fleet and Maintenance Plan

The proposed operations plan assumes a maximum of two vehicles for operation of the fixed-route service. While spare vehicles may be drawn from the existing Dial-A-Ride fleet, the fixed-route vehicles are an essential part of service marketing and should be differentiated from the DAR vehicles, either by color scheme or service logo (see branding).

The Town of Enfield is proposing to use smaller transit vehicles, similar to those currently in use for the Dial-A-Ride service. As the program will be run by the same staff, maintaining and operating similar vehicles appears to be the simplest, most cost efficient strategy. Conservative ridership estimates show that the vehicles will carry over 100 passengers per day, so the vehicle capacity of 16 should be adequate for initial service.

In developing the recommended implementation plan, a number of other preferred vehicle characteristics were raised and should be included in the specifications for the new vehicles.

- Vehicles should have exterior bicycle racks, allowing for greater overall coverage with riders.
- While all vehicles will be accessible, they should also allow for baby carriages, in the consideration of aisle widths being able to bicycle to other destinations from the stops.
- For safety and visibility reasons, vehicles should be branded and marked separately from the Town's Dial-a-Ride vehicle.
- For added safety, vehicles should include prominently displayed information on the rear of the vehicle announcing "Vehicle Stops Frequently" or "Vehicle Stops at Designated Bus Stops" to ensure adjacent motorists know to give transit vehicles adequate berth.
- Buses should include space, such as the bench seats in the rear, where riders can carry bags or provide for portable grocery carts.

Identify, Secure and Mark Bus Stops

The Town must finalize bus stop locations, including reaching agreements with private property owners, agencies and businesses where bus stops will be located. The Town should design bus stop signs and establish a minimum level of treatment at each stop, and install as needed.

Fixed-Route service in Enfield will use a combination of existing stops (served by CTTRANSIT) and new stops being created for this effort. New stops will be both on-street and off-street, stopping on private property where determined. The study reviewed proposed stop locations and made determinations on their applicability, using the following general guidance that bus stops should:

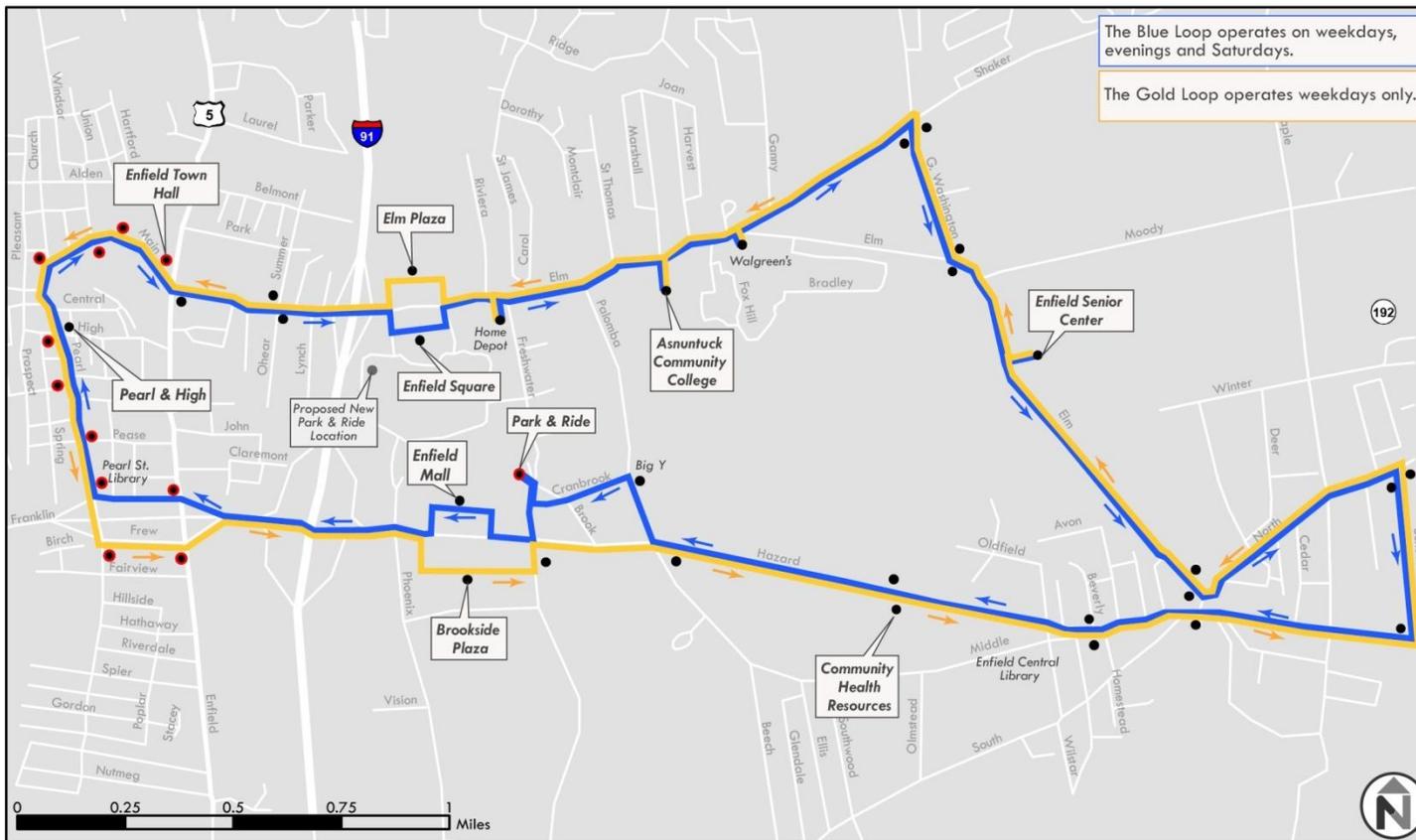
- Be placed in a comfortable and safe location
- Be visible and easily identifiable
- Provide information on available services
- Have good pedestrian access
- Be well integrated with their surroundings
- Provide amenities to make the wait comfortable



The Town of Enfield will be responsible for installing all bus stops and will look at the details of each location per the parameters above. A preliminary evaluation was conducted as part of this study and is available in Appendix D. As service is implemented and becomes successful, the Town may identify additional funds to add passenger amenities and complete pedestrian improvements to support transit riders. Where stops are on private property (e.g. Asnuntuck,

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Figure 44 Proposed Service Schedule and Alignment



Enfield Transit Service

Clockwise Loop

Weekday Hourly Service: 7:00 AM - 11:00 PM
Saturday Hourly Service: 7:00 AM - 11:00 PM

Pearl & High	Enfield Sq/ Elm Plaza	Asnuntuck	Senior Center	CHRC	Park & Ride	Brookside Plaza/ Enfield Mall	Pearl & High
0:00	0:07	0:12	0:19	0:36	0:40	0:44	0:53

Counter Clockwise Loop

Weekday Hourly Service: 7:30 AM - 10:30 AM
2:30 PM - 5:30 PM

Pearl & High	Brookside Plaza/ Park & Ride	CHRC	Senior Center	Asnuntuck	Enfield Sq/ Elm Plaza	Pearl & High
0:30	0:37	0:39	0:44	0:55	1:08	1:23

- Enfield Transit Stop
- Enfield Transit & CTRTRANSIT Stop

Enfield Mall), the Town should work with the property owner to site the actual stops in places that already are in keeping with the guidance above. The Town should develop a clear policy for stop maintenance as well as set guidelines for any additional amenities that may be provided by property owners.

Although the current plan does not call for development of full scale bus stops (i.e. shelters and benches) it is worth noting that bus stops are one of the most effective means of communicating the presence of transit service in the area. They provide an opportunity to post information about the available system, including both route schedules and system maps. In addition, well placed stops and shelters can help make passengers feel safer and more comfortable. Accordingly, careful maintenance of bus stops and especially shelters is important to projecting a clean and safe image of the system. Opportunities to improve passenger facilities include upgrading bus stops with some or all of the following amenities:

- Bus stop signs
- Route and schedule information
- Transit maps
- Sheltered waiting areas
- Benches/seating
- Lighting (ideally provided by existing source such as street lamps and/or store lighting)
- Trash receptacles
- Local area maps and local information
- Bicycle racks

Moving forward, the Town of Enfield should establish desired standards and specified amenities to be included at bus stops. These standards and guidelines should be incorporated into ongoing roadway and infrastructure projects, and included as part of any development plans as applicable. The Town should further identify key locations for needed improvements and allocate capital funds to complete these on an ongoing basis.

Fares and Pass Sale Outlets

The Town must develop a fare policy and determine where fare media will be sold. The Town should identify key ticket sale locations in Enfield, such as Town Hall and the Senior Center, and potentially at the major supermarkets along the route.

The Town of Enfield's fare structure is an important consideration. While many large transit agencies sell a variety of fare products – single day passes, weekly passes, monthly passes, etc. – this may be more complicated than necessary for the Town of Enfield. Selling fares and passes onboard is also an important consideration. CTTRANSIT allows this, but largely because it has sophisticated fareboxes that simplify transactions for the driver and the passenger. Some potential considerations for the Town of Enfield's fare policy:

- Assuming the Town of Enfield does not install fareboxes on its vehicles, they probably do not want to sell passes or tickets, or make change for customers.
- Accept the following fare media 1) cash fare; 2) single ride tickets or tokens; and 3) monthly passes.
- Accept transfers from CTTRANSIT but not offer them to local passengers.

- Accept CTTRANSIT monthly passes, even if fare revenue cannot be recovered. Town of Enfield may need to agree to sell CTTRANSIT monthly passes.
- Work out an agreement with CTTRANSIT so they will accept Town of Enfield passes.
- Develop single-ride tickets or tokens that can be sold to social and medical service organizations so they can help clients with transportation as needed.
- Determine the level of discount, if any, provided to individuals purchasing multiple ride fare media (ten-ride tickets or monthly passes).

Individual fare tickets and passes should be made available for purchase at key locations in Enfield in addition to being sold on-board buses. Fare sale locations also represent opportunities to further publicize service and should include other service information such as maps and schedules as defined in this section. Selling passes and fares off-site can both raise overall awareness of the service and reduce variability and boarding time on buses as the more riders that have prepaid fares, the less time they will spend purchasing their fare on the bus. The Town of Enfield may want to start with a few preliminary locations, and expand as needed, such as:

- Town Hall
- Enfield Senior Center
- Asnuntuck Community College
- Supermarkets

Additionally, as part of the overall outreach effort, the Town should attempt to sell fares and passes, or enroll groups in recurring fare media. Whether working with employers, social service agencies, or other groups in Enfield, outreach efforts focusing on fares should be a key component of that effort.

SHORT-TERM IMPLEMENTATION STEPS

There are several tasks, or implementation steps, that need to be completed between two and three months prior to implementation. Similar to the immediate term steps, some of these tasks have already been completed by the Town of Enfield and/or represent areas where the town has given the topic consideration. These tasks primarily relate to outreach systems and developing communication materials to ensure riders know about the service and understand how to use it. The four major tasks include: 1) outreach systems/methods; 2) service branding; 3) rider information systems; and 4) ADA rider guides.

Outreach Systems and Methods

Enfield should capitalize on the excitement and support for new transit service to attract and continually grow ridership by developing a clear outreach strategy that will guide them in the short and longer term.

An effective outreach or communication strategy requires developing a strategy that increases awareness and understanding of the system, service and its benefits. Passenger information systems will provide clear, simple and straight-forward tools that will help individuals understand and use the bus service and help increase ridership. This contrasts with longer term efforts that will seek to communicate service benefits to stakeholders and funders (see below). Enfield has built strong support for public transportation, especially amongst its more transit-dependent populations. The large number of survey responses alone shows the level of anticipation for

transit service. Translating this excitement into riders and sustainable service is the primary challenge faced by the Town of Enfield.

The goal, therefore, is to let people know the service exists and teach them how to use it. This can be accomplished by developing a series of outreach materials to increase awareness:

- Provide online and printed information in a clear, easy to understand format as described in more detail below.
- Online information should be hosted on a separate, branded page on the Town of Enfield website, with links to other relevant agencies and providers such as CTTRANSIT, PVTA, ConnDOT, CRCOG, and others as determined.
- Build upon the existing Dial-A-Ride rider training programs to work with targeted groups or agencies to teach people how to ride fixed-route service. This may involve creating a bus buddy or travel training program and may also include specific activities such as bringing the bus to a senior center lunch to show potential riders the bus, explain the schedule to them and teach them how to board the bus and pay their fare.
- Work with PVTA, CTTRANSIT and ConnDOT to promote knowledge of all local and regional transit options for Enfield residents, employees, and visitors.
- Work closely with Asnuntuck Community College to promote ridership and establish an ongoing “UPass” system. ACC may provide a link to the bus service web-site on their student information guides, include bus information in new student guides and/or develop a bus shelter in a prominent location on campus.
- Making the service visible on the street with well-marked stops, specially painted vehicles, and branding techniques are critical.

Branding/Route Identification

Enfield should brand the overall service and the individual routes to maximize visibility, distinguish service from the Town’s Dial-a-Ride service, and unify all marketing and service materials (stops, schedules, vehicle, maps, etc.).

Creating a system that easily identifies transit routes and service types can significantly enhance the identity and accessibility of the system, especially a new system. While there are no strict standards or guidelines for creating an identity for routes, common practices include assigning individual routes one or more of the following:

- A unique number (Route 4)
- A unique name based on travel corridor (Route 43 Taylor’s Ferry Road)
- A unique name (or subtitle) based on route terminal points (171 Dudley Station/Logan Airport via Andrew Station)
- A unique character name (Valley Metro “Orbit” and “Jupiter” shuttles (Tempe, AZ) or Community Transit Network “Hop”, “Skip”, and “Jump” shuttles (Boulder, CO))
- A color (the red line) typically used to identify the route on a map.
- Or, a color, including a name based on color (Campus “Red Route”)

In Enfield, there will be three distinct services: 1) Primary Loop – all day, clockwise route; 2) Peak Period Loop – peak period, counter-clockwise loop; and 3) Evening Loop.

These three routes may be branded uniquely with either a color, a unique name, or both. Branding and naming should then be included on the vehicles in operation and also on the signage at individual stops. Many stops will serve only one route, while others will serve all three, especially ones that have front door drop-off on private property, such as at Asnuntuck Community College.

Unique names can contribute to the promotion of the service, and several ideas were generated through the community process (e.g. Magic Carpet – building off Enfield’s historic role as the center of the carpet industry) and could be combined with a directional reference, i.e., Magic Carpet to Senior Center; or Major Carpet heading East. Developing a unique logo for fixed-route service in conjunction with the naming will also help with outreach and visibility of service.

Rider Information Systems

Enfield needs to develop a simple map showing routes, stops, and schedules with time points should be developed for online and print use.

For a new service trying to attract riders, the system should be easy to use and understand. Most transit agencies provide a map, service schedule, and rider guides. Some systems provide this information as a combined brochure, while others issue information about routes individually, often as single sheets of paper, with or without accompanying system maps. Maps and schedules almost always include some “how to ride” information that outlines important system information, such as fares, rider conduct rules, and related services. In some cases, agencies will also provide tailored service information materials that are intended to help a specific rider group, such as college students or resort visitors; or to support a specific event or occasion. This can be an effective strategy for building ridership among a specific population group or market segment.

While no specific standards exist for designing and implementing transit maps and schedules, many transit systems have designed excellent informational materials and there are some common best practices, which are listed in Figure 47.

Industry trends also recommend using fewer rather than too many time points; this approach recognizes the difficulty in ensuring a bus can meet its time point and helps manage customer expectations; however, some agencies prefer to publish more stops. Another widely-used strategy is to schedule time points more aggressively at the beginning of the route as compared with the middle or end of the run. This approach reflects that passengers are less likely to miss their bus if it is slightly late as compared with a bus that is slightly early.

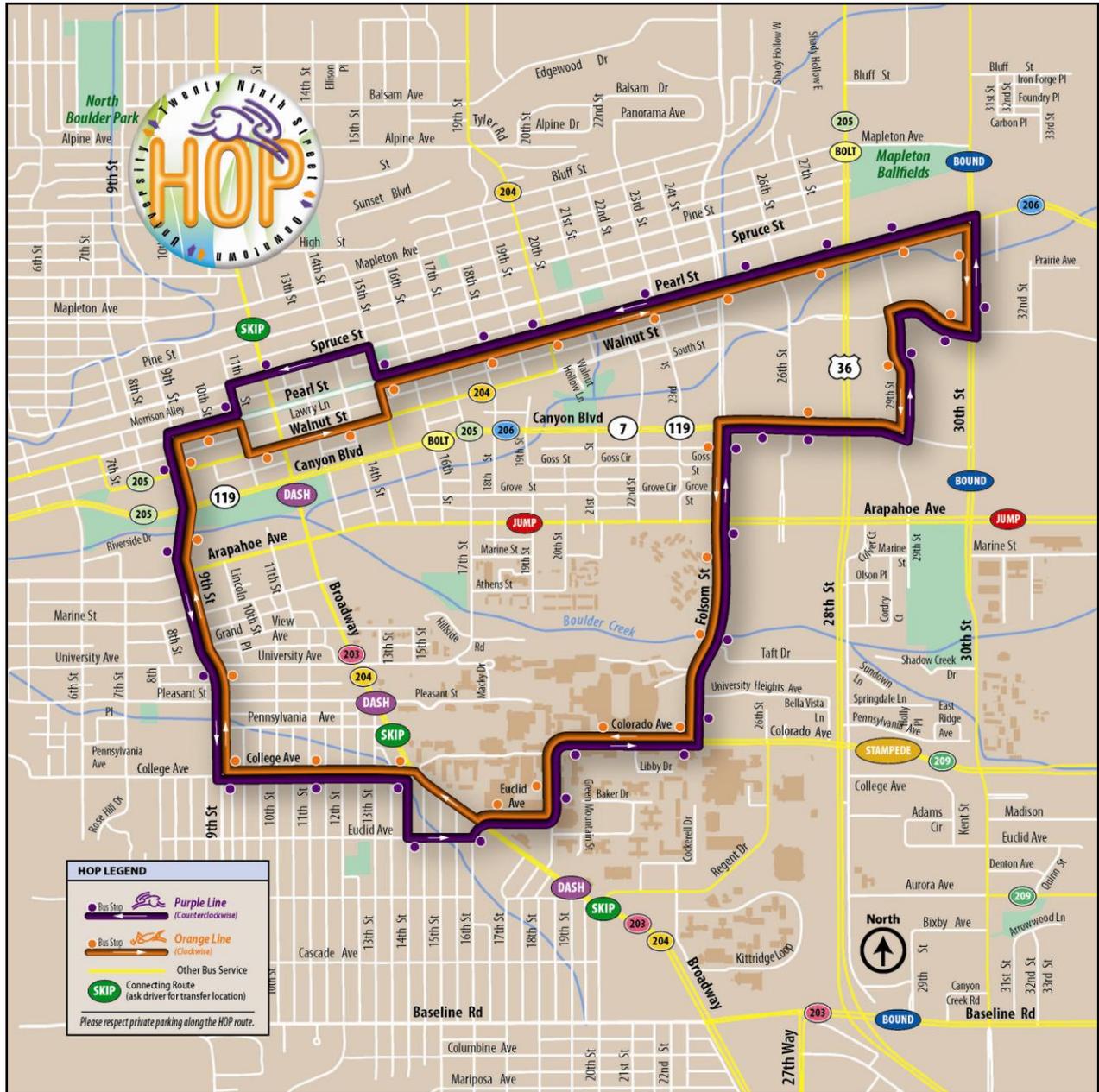
A sample map from a similarly scheduled bus route in Boulder Colorado (see Figure 46) provides a good example for how mapping may be prepared. The schedule includes a map of the routing, a timetable, and clearly marked references to the time points. This approach clearly highlights the route but also shows the underlying network, helping the reader to focus on this specific route or make connections to the wider network. Note the timetable is not shown in this figure but time points are highlighted along the route.

Figure 45 Best Practices in Map and Schedule Design

	Best Practices	What to Avoid
Font	Font point size between 10 and 16 Sans serif font	Print that is too small to be legible to readers with visual impairments
Colors	Black and white is acceptable for systems that do not rely on color coding of routes. If color is used, number of colors is limited and not too busy.	
Printing	Balance cost of printing (higher for color, lower for B&W) with higher level of distribution for less expensive materials.	High cost printing that result in low level of distribution.
Route Schedules	List time points for only key stops along the route. For linear routes, as few as three stops can be listed: two terminal points and a mid-point. (Riders interpolate arrivals at other time points.)	
Layout/Display	Focus on clear information. Similar content elements grouped together.	Focus on graphics or aesthetic elements.
Maps	Route lines do not overlap. Names of all streets on which the routes operate are visible and legible on the map. Names of key adjoining streets are also legible. Minor street names are provided when they do not otherwise interfere with overall map legibility. On map, streets are white on a grey background.	Street names omitted. Maps difficult to use for non-locals.
Data Included	System and route Route schedules with estimated arrival times and fixed time points Large destinations Fares Rider guides Information on accessible services Contact information	Ensure information is presented clearly and in a readable format.

Source: Nelson\Nygaard Consulting Associates

Figure 46 Route Map for the “Hop” Boulder Colorado



MEDIUM-TERM IMPLEMENTATION STEPS

A critical part of the Town of Enfield transit service is sustainability. While all current efforts are focused on successful implementation of the service, it is also critical to remember the longer term goals of sustaining the service after grant funds have been used. The primary method to make the service sustainable is to ensure it is well used and develops a strong constituency. At the same time, it is also worth taking some strategic steps to strengthening service constituencies and broadening support for the service. We have identified three such potential actions, each of which may be started as soon as possible after the service is implemented. These tasks include establishing a longer term governance structure, developing a performance monitoring and evaluation system, and considering expansion potential.

Establishing a Longer Term Governance Structure

The Town may consider developing an Advisory Committee or Board of Directors to oversee service development.

Currently, the Enfield transit service is set up to operate as a Town department. This may be an appropriate structure for service operations and maintenance. With the longer term goal of self-sufficiency and sustainability in mind, the Town may consider developing an Advisory Committee or Board of Directors to help oversee service management and set policy direction for the service. Such a committee or board will help ensure the service is truly a community service, help broaden support, and ensure decisions about service development are created with stakeholder input.

Advisory Council members or Board of Directors may be identified by Town staff and should include individuals that represent groups of riders or potential riders, such as ACC, the Senior Center, Enfield Mall, etc. The group may meet to oversee service implementation, monitor service productivity, and advise on service development efforts. They may also lead future efforts involved with helping to raise money to support ongoing operation of the service.

Performance Monitoring and Evaluation

The Enfield bus routes should be consistently monitored to ensure service productivity and so that services may be adapted to meet rider needs.

There is a clear desire for transit service in Enfield; this sentiment was strong throughout the planning effort. The initial service is designed to be simple and convenient to use, while serving the areas of greatest identified need. For service to be sustainable in the long term, whether by the Town or CTTRANSIT, constant efforts to maximize ridership and operate the service efficiently should be made. The Town (and or an Advisory Committee/Board of Directors) should review its service, operations and ridership on an ongoing basis, with more formal assessments occurring at least quarterly, if not monthly in the initial stages. Monitoring should use simple performance measures to track following service elements:

Service Reliability – With little recent service history, schedule estimates may be either conservative or aggressive, and only with a regular track record of running service time can these be evaluated. Once established, the Town may adjust the schedules, headways and time points accordingly. This effort will ensure the service is reliable and easy to use.

Evaluate ridership by route and stop – While some stops will certainly see higher ridership than others, the Town should track ridership by stop (boardings and alightings) and adjust as needed.

Some stops may be too close together, allowing one to be eliminated, while others may need to be slightly relocated, or changed to/from front door service to best serve riders. Also, high ridership stops are ideal candidates for Town investments in bus stop infrastructure and amenities.

Assess service span – Initial plans call for service to begin at 7 AM, end by 11 PM, and provide only clockwise service during mid-day hours. Monitoring ridership and running time, by time period may allow for adjustments to be made at the edges of service, where operational and cost savings are often easiest to achieve. Likewise, a need to extend service span may further be identified.

Service Sustainability

A critical part of short-term planning is developing a longer term funding strategy so the Town of Enfield bus service is sustainable after grant funds expire. This discussion should include if and when it might make sense to incorporate the local service into CTTRANSIT's network.

New Freedom funding is intended to provide start-up funding for new service, but not long term funding. As a result, almost immediately after the service is up and running, the Town of Enfield should consider how the service might be funded over several years. Among the considerations is for the route to be incorporated into the CTTRANSIT network. There are advantages and disadvantages with becoming part of CTTRANSIT and these considerations should be duly weighed, ideally by the Advisory Group or group overseeing the service. If the Town of Enfield would like to keep operating the bus route independently, it needs to identify potential funding sources and partners for an anticipated 50% match for operating costs.

Assuming the cost estimate of approximately \$350,000 per year is accurate and the Town is able to obtain Federal Section 5311 funding for service operations, the Town may be liable for \$175,000 annually. Depending on the success of the service, some of the funding may be raised through partnerships with community organizations, such as a U-Pass type of arrangement with Asuntuck Community College. While these types of partnerships will help, it is likely the Town will need to make a contribution. Discussions on how Town funding might be secured should begin as soon as possible. Bringing together the important parties (Connecticut DOT, CTTRANSIT, and Town of Enfield) and advancing this discussion may best be facilitated by the CRCOG.

Expansion Potential

The initial service covers the areas of greatest transit need in Enfield. Service expansion to cover missing connections and destinations should be continually evaluated.

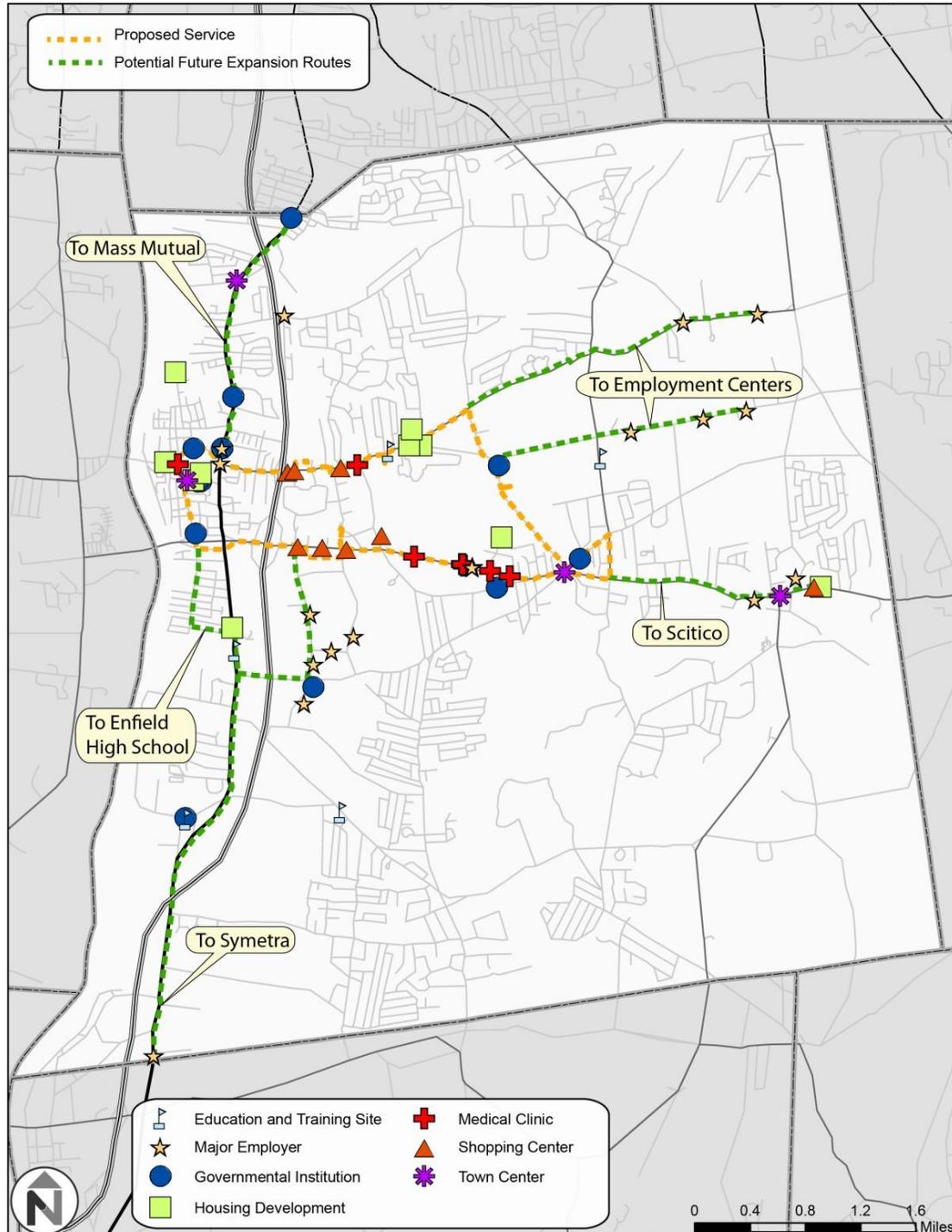
With the initial New Freedom funding, the Town of Enfield is able to implement limited fixed-route service. In all efforts with the Technical Advisory Committee, meetings with Enfield stakeholders, and even through the public process, all consistently endeavored to develop, recommend, and implement service that would be sustainable. Sustainable service must be simple to use, easy to understand and operate, and be able to attract ridership. With a history of substantive ridership on previous service in Enfield, there is clearly a market for service. Concentrating service as recommended on the Single Loop between Thompsonville and Hazardville where most destinations are is seen as the best way to attract and build ridership.

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Through the planning process, a number of additional destinations have been identified as either desiring service or having significant concentrations of residents, destinations or employment. Each of these is not directly adjacent to or easily served by the recommended route, and thus was not part of the initial recommendation. As service becomes successful and has the potential to expand over time, the following destinations have been identified as priority locations for expanded service (see also Figure 47):

- MassMutual and Route 5 North
- Enfield High School
- Scitico Plaza, extended East along Hazard Avenue
- Phoenix Avenue
- Office parks on Route 5 South
- Employment Centers (Hallmark, Lego, Turf Products, Martin Brower)

Figure 47 Potential Service Expansion



Thompsonville Transit Center

When built, the Thompsonville Transit Center (TTC) is expected to be the bus hub for service in Enfield. While also proposed as a commuter rail station on the New Haven – Hartford – Springfield (NH-H-S) Rail Project, the station is currently envisioned as a secondary phase through that effort. The Town of Enfield has independently completed both a Feasibility Study and Preliminary design plans for the TTC on the Connecticut River side of Bigelow Commons, just off Main Street.

The most recent plan (Phase 1) prepared by the Town of Enfield is shown below and builds upon the initial work completed by ConnDOT as part of the NH-H-S analysis.

Figure 48 Revised Site Plan for Thompsonville Transit Center



The Town of Enfield is pursuing funding and investigating necessary land acquisition to complete this initial phase. The TTC is not dependent on the completion of the NH-H-S Rail Project, and would stand independently as a hub for bus and taxi service in Enfield. When funding is obtained and the TTC complete, the proposed fixed-routes in Enfield would be extended to the TTC and would layover here. It is further expected that CTTRANSIT service, and/or extended PVRTA service would also reach the TTC, providing a seamless transfer between all services. It should further be noted that the Town of Enfield views the introduction and expansion of public transportation service in this area to be a catalyst for Transit Oriented Development in the vicinity of the TTC. With rail and bus connections, proximity to Bigelow Commons, and adjacency to the Connecticut River, the TTC area would likely be attractive and able to support substantive new development.

The map below shows the proposed route of all services from their presently proposed terminus near Town Hall in Thompsonville to the TTC.

Figure 49 Extension to Thompsonville Transit Center



The route shown would include vehicles turning from Pearl Street, west onto Main Street. Buses would travel west on Main Street, perhaps stopping to serve Bigelow Commons, and proceeding underneath the railroad bridge. Vehicles would then turn north on North River Street to access the TTC, where they would layover. Buses would return following the same pattern, and turning North or South on Pearl Street as per their route. In testing the various alignments proposed for fixed-route service in Enfield, the project also tested this extension. The analysis showed that the extension to the TTC would add five minutes to the overall trip time. Even with this extension, routes could still be run in less than one hour and leave the buses eight minutes of layover/recovery time at the TTC, maintaining consistent headways, while providing an attractive, convenient layover and transfer area to other services.

Other Connections

With only limited existing service, the need to provide connections from Enfield to points outside the town remains. Until the New Haven – Hartford – Springfield service is operational, this need will remain strong both to connect Enfield residents to Knowledge Corridor jobs, and to connect surrounding towns to the educational, employment, and retail centers in Enfield itself. Previous efforts and the outreach process identified a number of locations outside Enfield which should be prioritized.

- The Day Hill Road section of Windsor, CT, is home to a large number of major regional employers. As part of the Sustainable Communities Grant for the Hartford region, a separate study is underway to assess the demand for new transportation options in the area. Connections to Day Hill Road from Enfield may arise as a region transportation need from these efforts.
- Bradley International Airport, Windsor Locks, CT– Several stakeholders identified the need for a transit connection to this important regional facility
- Amtrak Station, Windsor Locks, CT – Even with limited service, several expressed that a transit connection to Windsor Locks Station would be popular.
- Springfield, MA – A more direct route from Enfield to downtown Springfield was previously provided by PVTA (with additional funding from the Town of Enfield) and attracted growing ridership. The current PVTA service takes a circuitous route through Longmeadow before terminating at MassMutual. Even if this route extended as recommended to Thompsonville, a more direct route to downtown Springfield would be desirable.