

A. BACKGROUND DOCUMENT REVIEW

Locally Coordinated Plan

The Locally Coordinated Public Transit - Human Services Transportation Plan for the State of Connecticut includes appendices with locally coordinated plans for regions described in the main document.

Enfield falls within the North Central Region, which covers the Greater Hartford area. The Capitol Region Council of Governments prepared the plan with support from the Midstate Regional Planning Agency and Central Connecticut Regional Planning Agency. The Coordinated Plan provides a brief inventory of existing transit services in the region, though Enfield's Dial-A-Ride system is not specifically cited.

Identified gaps as they relate to Enfield include:

- Lack of transit service in Enfield for low income populations
- Dial-A-Ride service from Enfield to Rockville hospital
- Thompsonville has a high concentration of low income residents and people with disabilities who need transit service to access jobs

Other needs relating to transit-dependent populations were listed, as well, and included more general issues such as unaffordable fares, insufficient service in the evenings and on weekends (in areas with existing transit service), and lack of last-minute service for older adults and persons with disabilities.

The Plan lists the Town of Enfield as a respondent to a request for proposals, requesting \$62,000 to shift a part-time driver to full-time and to accommodate an expanded rider population. (Enfield Dial-A-Ride carries older adults, but requested funds to allow persons with disabilities to ride, too.) The Plan states that Enfield received \$48,500 to realize these service improvements.

Thompsonville Transit Center Feasibility Study Report

This feasibility study of an intermodal transit facility in Thompsonville was prepared for the Town of Enfield, CT, and the Greater Hartford Transit District by McMahon Associates, including Baker/Wohl Architects and Diversified Technology Consultants (March 2008). In recent planning conducted by the Connecticut Department of Transportation, Enfield was recommended as a stop on the New Haven-Hartford-Springfield (NH-H-S) commuter rail line. The Town anticipates that a bus facility, coupled with the future train service, will serve as a catalyst for supporting redevelopment goals identified through its ongoing planning. The report provides a representative layout for the Thompsonville Transit Center and recommends a phased approach (p45) to developing the facility as funding becomes available over the next several years. The

report concludes that there is an immediate demand for a bus intermodal center in Thompsonville Village.

Capitol Region Council of Governments Regional Transit Strategy

February 2001

This study was prepared by a team led by Parsons Brinckerhoff (February 2001) for CROCOG, and takes a comprehensive look at the transportation needs and possibilities in the Hartford Region. It recommends construction of four new busways that radiate out from Hartford, significant new investment in commuter rail service linking Hartford with New Haven and Springfield, MA, including a new spur to Bradley International Airport, a downtown circulator and numerous other improvements to existing bus service in the region. The report also analyzes various funding options.

Local Bus Service Improvements

- More hours of service.
- More timed transfer centers.
- Increased service frequency to provide timed transfers at the new centers.
- Increased service frequency on express routes.
- New routes: to provide for greater suburb to suburb service, to provide circulators within activity centers where appropriate, and to provide a circumferential route in the region's inner ring suburbs.
- Modifications to existing routes: to create more direct service, improve operation efficiency or to prevent duplication of route segments.
- Integration of alternate fueled vehicles in the transit fleet as soon as practicable.

Buckland Area Transportation Study

Team led by Dewberry (July 2009) for CROCOG and CTDOT

The Buckland Area Transportation Study began in 2006 to identify near and long-term transportation improvements for the roadway network in the Buckland commercial area which encompasses portions of the Towns of Manchester, South Windsor and East Hartford. The study was conducted by a team led by Dewberry for CROCOG and CTDOT and was published in July 2009.

The large concentration of retail and commercial development in Buckland generates significant volumes of traffic, especially during the Friday peak, weekends and winter shopping season. The area also experiences significant commuter and regional through traffic volumes. The study was initiated to improve operation and safety of the transportation system (including roads, transit, bicycles and pedestrians), plan for future growth and development and to ensure transportation equity and balance. The report makes various recommendations for roadway design and expansion, TSM/TDM, transit, bike and pedestrian facilities, and land use strategies.

Transit Alternatives Recommendations

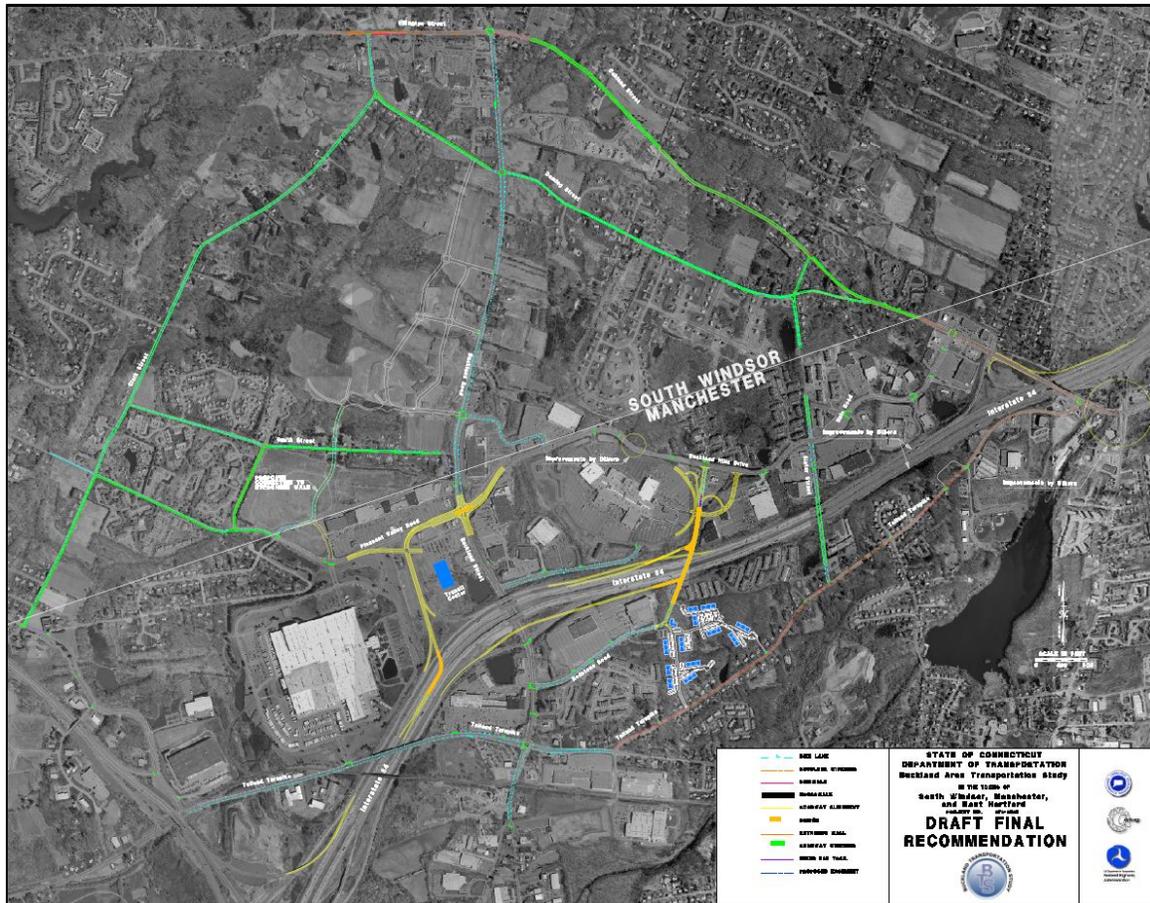
- Improve bus stop signage and shelters;
- Improve/consolidate existing bus routes;
- Consolidate existing bus stops;
- Provide Circulator Shuttle bus service;
- Replace bus radio system;
- Maintain/improve level of para-transit service;
- Implement Intelligent Transportation Systems;
- Construct multi-modal transportation center; and
- Provide Bus Rapid Transit to Manchester and Vernon.

Bike/Pedestrian Facilities Recommendations

- Maintain continuity of sidewalks on all the streets in the study area;
- Improve the riding surface of existing mixed use trails;
- Provide exclusive bike lanes on the roads identified in the study;
- Provide crosswalks and pedestrian signals at intersections identified in the study
- Provide a bike station in the proposed transit center;
- Provide weather protected bike shelters at locations identified in the study.

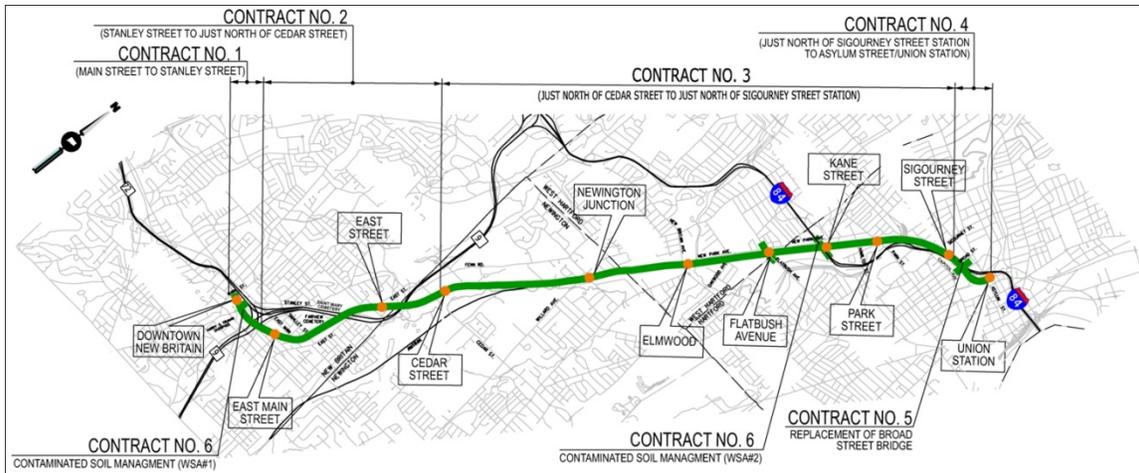
Land Use Recommendations

- Land use management techniques can complement other congestion mitigation efforts by creating a critical mass of mixed-use and more options for travel;
- The greatest potential impact from best land use management strategies for Buckland may be the reduction of internal automobile trips within the study area to offset current conditions where people are now making multiple short trips amongst retail and service destinations;
- A pattern of mixed-use concentrated activity nodes within the Buckland study area in an organized pattern relative to one another can achieve car-trip reductions much more effectively than a random general increase in density and land use types consistent with the current zoning.



New Britain Hartford Busway

The FEIS for the New Britain-Hartford Busway was released in December 2001 by the FTA and CDOT. The 9.4 mile busway consists of 11 stations along an abandoned railroad right-of-way and an easement along an Amtrak right-of-way. The busway will include many BRT features, like an exclusive right-of-way, level boarding platforms, off-board fare collection, high quality stations with real-time travel information and unique branding. The busway will bypass congestion on I-84 and local arterial roads, reducing trip time by more than half from Hartford to New Britain. Buses will be able to enter and exit the busway at multiple points, creating a flexible system that will provide greater access to downtown and the suburbs. The project is expected to cost \$567 million, 80% of which will come from Federal sources, and construction is anticipated to begin in Spring 2012.



Griffin Busway Feasibility Study

2004

BRT from downtown Hartford to Bradley International Airport in Windsor Locks

BRT was selected to meet long-term goals for: improving mobility, preserving roadway capacity; supporting economic growth as well as smart growth development

Griffin busway does not rate high enough to be eligible for funding - additional planning and design deferred

waiting on performance of New Britain Busway - will monitor for cost-effectiveness and performance, then re-evaluate Griffin

do want to use input to improve local bus service in the short term to accommodate current needs and support growth in ridership to airport

Short-term improvements

1) Shelters and Stops:

- Relocate stops on Albany Avenue to provide better spacing and better service.
- Provide shelters on Albany Avenue as needed and as appropriate.
- Provide some limited stop service on Albany Avenue.
- Provide a transfer facility with comfortable passenger waiting areas in the vicinity of Copaco.
- Provide a bus shelter in Bloomfield center, on Jerome Avenue.

2) Service modifications:

- When Mark Twain Drive opens, serve the University of Hartford via this street, then continue service to Bloomfield via Bloomfield Avenue.
- Establish a new route linking Copaco, the University of Hartford, Bishops Corner, and West Farms Mall.
- Expand service to Bradley Airport to ensure that it meets the needs of air travelers.
- When development expands in the International Drive area, it will be important to

have service to this location. International Drive can be served with a route extending north from a Griffin Office Center Park-and-Ride lot, and with a route from downtown, via Interstate 91 and Route 20.

3) Park-and-Ride:

- Locate a Park-and-Ride lot near Griffin Office Center in the vicinity of Blue Hills Avenue and Day Hill Road. Examine whether a new route is needed or if existing routes can adequately service this location.
- When International Drive service is established, a Park-and-Ride lot should also be established in the center of East Granby.

Figure ES-2: Near-Term Transit Improvements

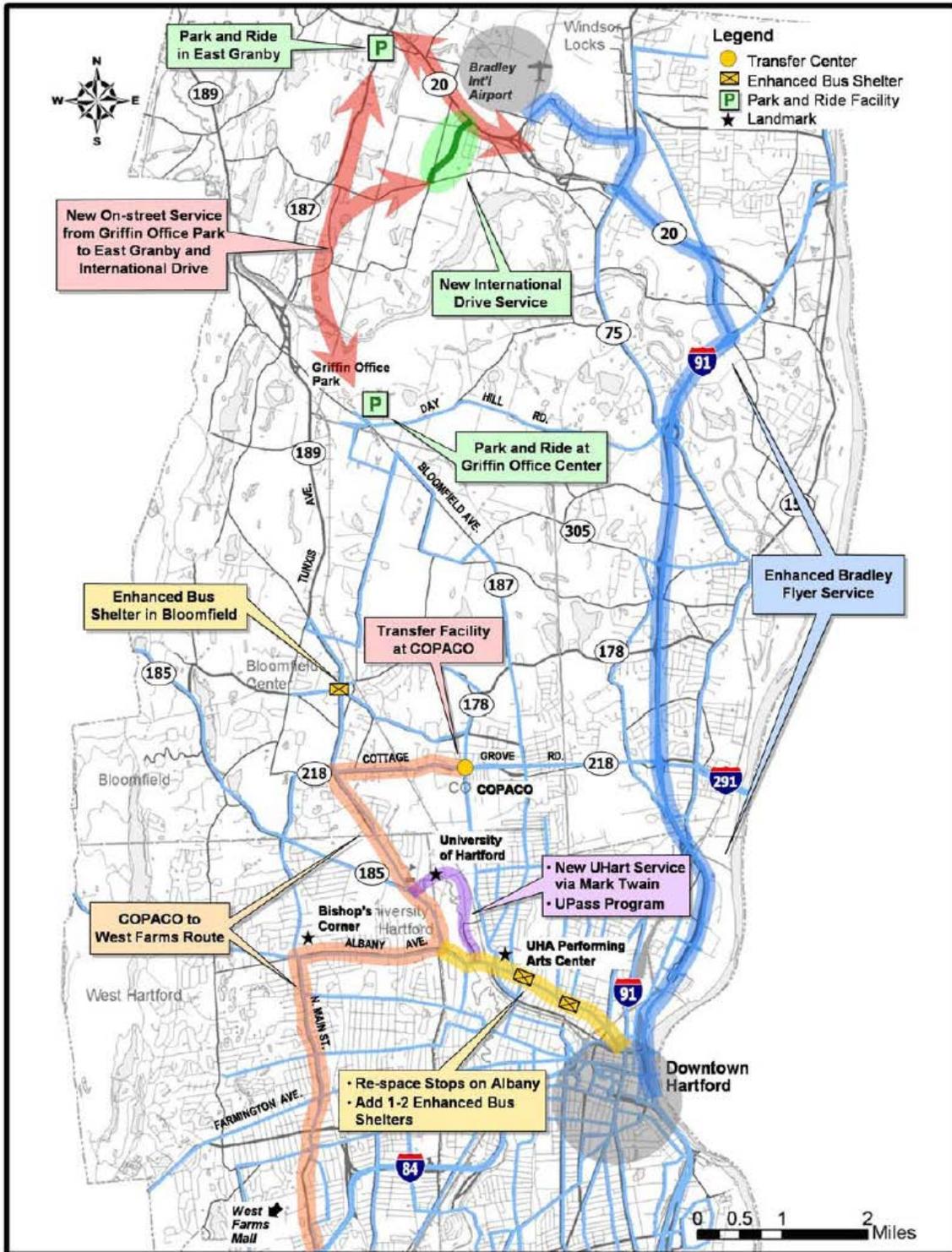
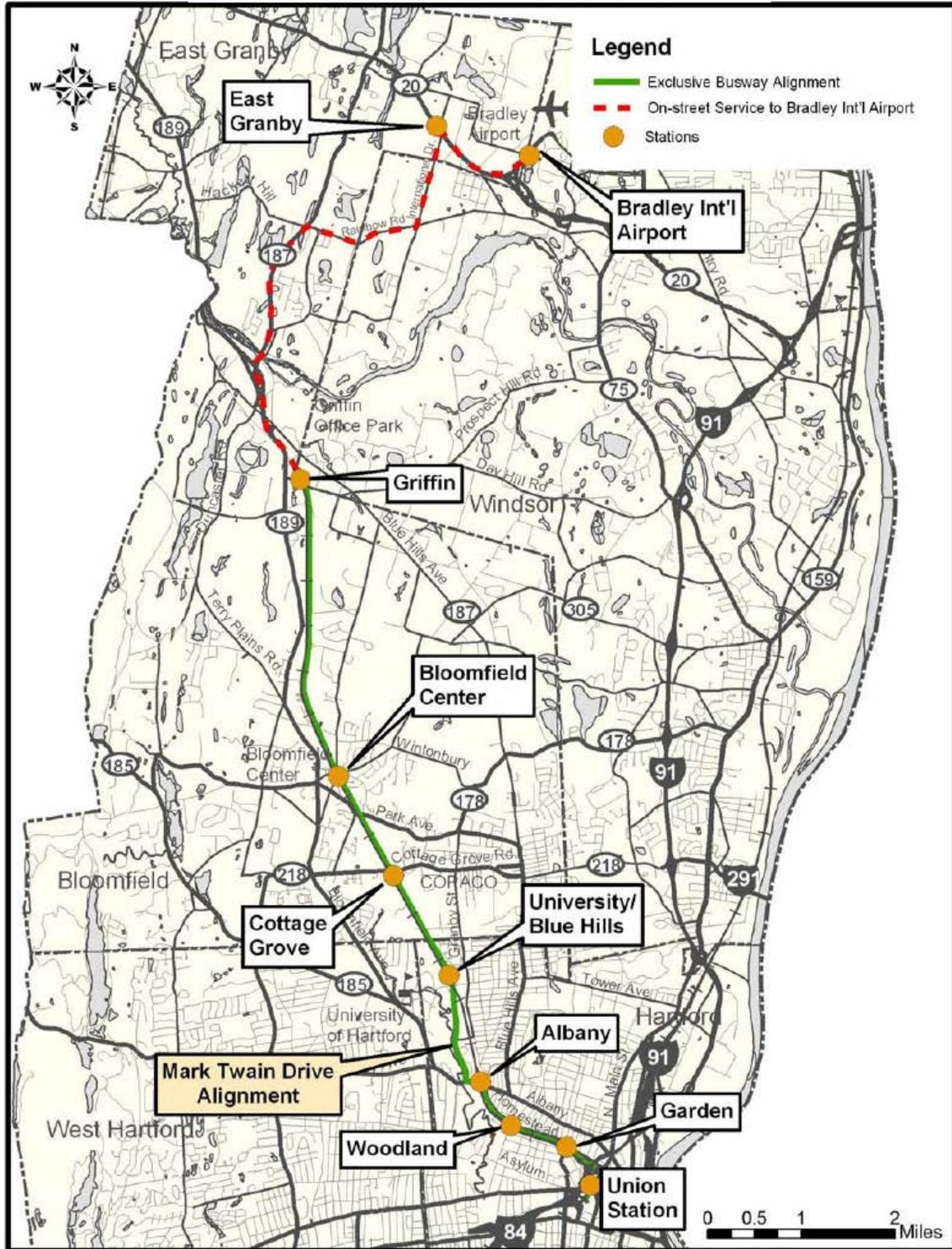


Figure ES-1: Recommended Busway



Northwest Corridor Transit Study

The Northwest Corridor Transit Study was undertaken to preserve the viability of the Griffin (or northwest) corridor for future busway deployment. The project was designed to build transit ridership in the corridor (Part 1, June 2009), insure the viability of Union Station as the busway terminus (Part 2, April 2010), and insure that busway buses can be efficiently added to downtown transit traffic (Part 3, August 2009). A consulting team, led by TranSystems, assisted with this project and the study was completed in May 2010.

Part 1 covers the town of Windsor and was initiated in 2007. Windsor has been experiencing increased development and congestion on its roads and the town has expressed support for regional transit options including a link to the proposed Springfield commuter line. While many workers reside in Windsor itself, the relatively low residential densities and lack of pedestrian accessibility offer a significant challenge to providing mass transit options. An improved pedestrian environment, bus stops, additional marketing efforts and future land use and development decisions could be used to increase the desirability of the services being provided. The report proposes numerous specific service upgrades for the region.

Part 2 of the report addresses upgrading and modernizing historic Union Station in downtown Hartford. Union Station promises to become more important as the New Britain Busway and the New Haven-Hartford-Springfield Commuter Rail are implemented in the near future. This study was undertaken to evaluate the existing conditions at the station and the ways the station could be improved, including the goals of encouraging transit oriented development. The study analyzed several alternatives for the development of Union Station and the immediate area as a dense, walkable work/live neighborhood oriented around transit.

Part 3 was undertaken to better understand downtown Hartford travel patterns which could then be used to develop a downtown circulation plan and the location(s) of one or more downtown transit center(s). The prevalence of transfers in downtown Hartford emphasizes the need to make the new service work for the majority of downtown local bus riders who are in the downtown for the purpose of transferring to another local bus route. Any transit center built would be safe, dry, convenient and informative. The preferred alternative was determined to be a dual node transit center with through routing.

Figure 10-2: Downtown Circulation Alternative #2

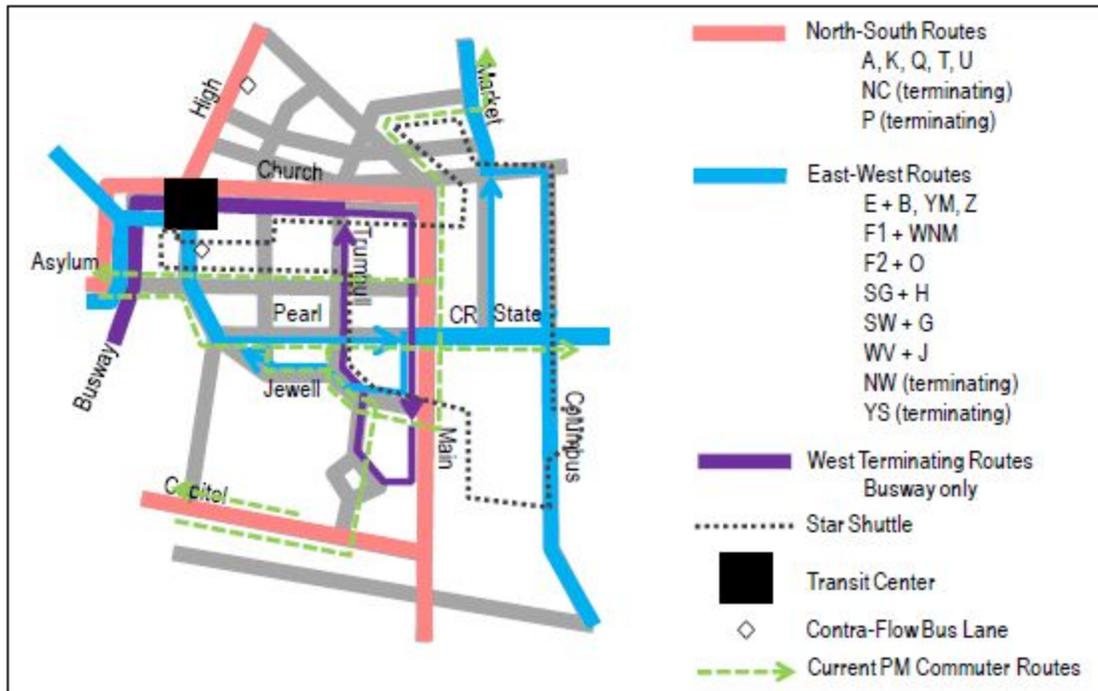
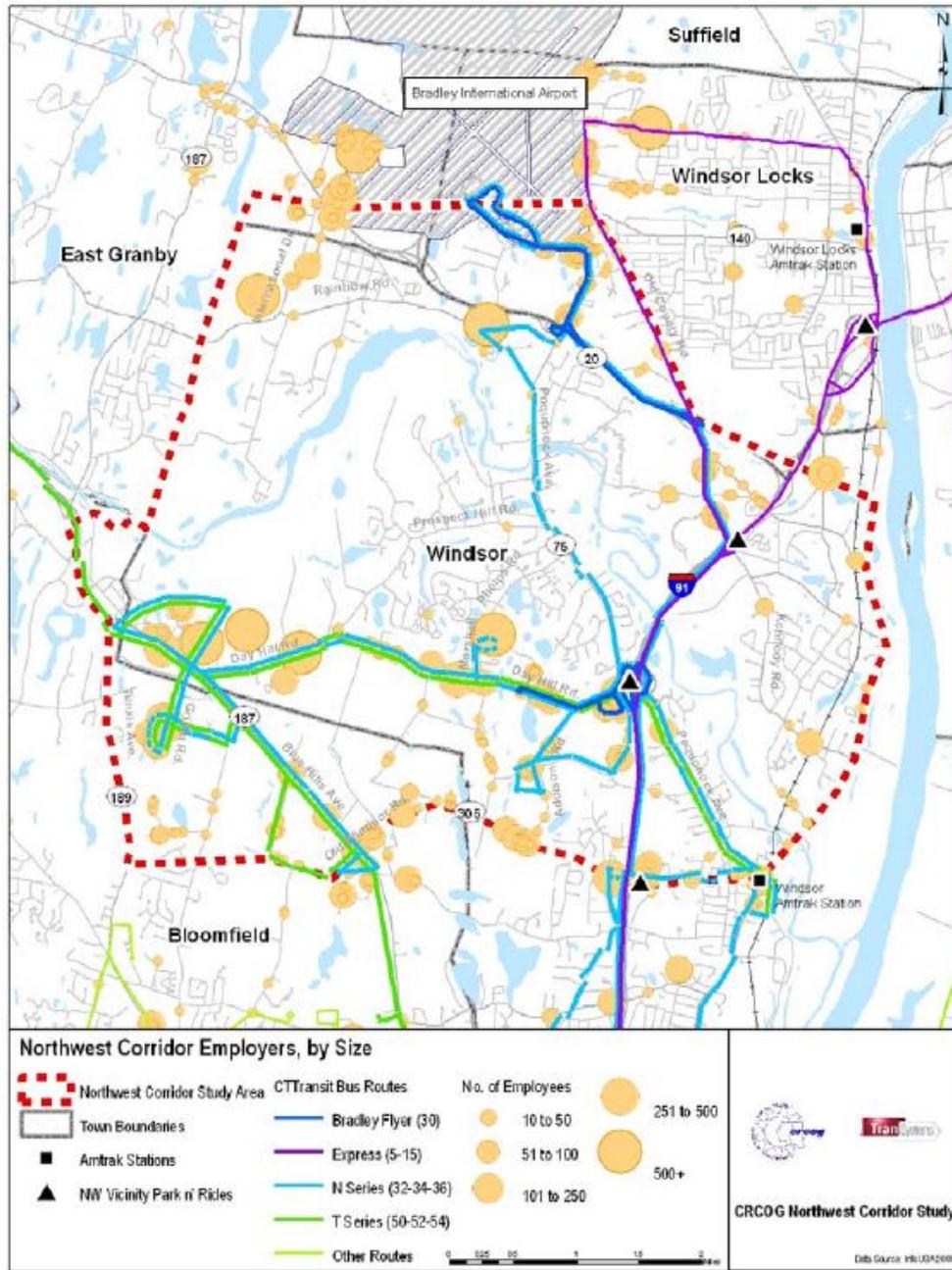


Figure 8: Bus Routes and Key Locations in the Study Area



New Freedom & Job Access Reverse Commute Program Application

February 2010

Grant amount \$1,010,144 requested over two years.

application completed by Pam Brown @ DSS

Proposal for Enfield fixed route bus to serve the Thompsonville and Hazardville villages of Enfield. The service will connect residents of these villages to PVRTA and CT Transit service and area destinations, including medical centers, Asnuntuck Community College, and grocery stores. The fare is proposed to be the same as CT Transit local fares - \$1.25.

Service is proposed to operate Monday-Saturday from 6:30 AM to 6:30 PM. The route is designed as a loop. On weekdays, the proposed service operates at 30-minute headways. On Saturday, only one vehicle operates at 60-minute headways.

The Town of Enfield's Dial-A-Ride is proposed as the ADA service provider, using existing buses and drivers.

The application requests funding for two 20-passenger wheelchair-accessible buses to be used for the service.

The application states that prior year funds have been set aside by the Town in order to start service as soon as vehicles are ready.

The application outlines a public awareness campaign that will be undertaken to advertise the new service, including:

- Local access television information, including at least two shows to explain the new service
- Town website
- 20,000 fliers and maps in both English and Spanish distributed to various organizations
- Partnerships with Enfield Community Services Network, Asnuntuck Community College, and the Chamber of Commerce to assist in advertising
- Provision of phone interpretation through the Town's Language Line
- Press releases to local newspapers and online news publications

Annual ridership was estimated to be 35,640. Total operating expenses are estimated at \$885,144, with operating subsidy requested of \$814,164.

B. SURVEY SUMMARY

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.

Two institutions – Asnuntuck Community College and Enfield Adult Education – had such high levels of survey participation that they are analyzed here 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
- All groups expressed a strong preference for a longer span of service (expanded hours of operation)

The last two pages of this summary contain 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.

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).

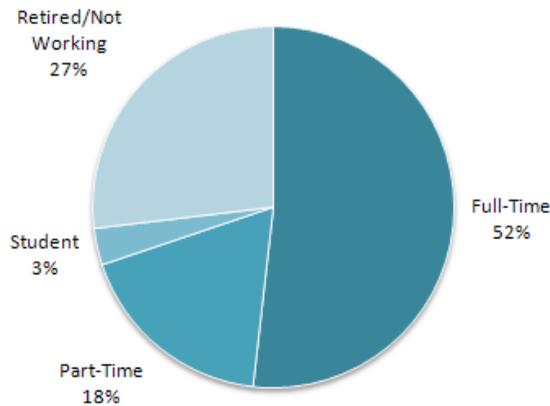


GENERAL PUBLIC RESPONSES

A total of 432 surveys were received from members of the general public, that is those not associated with a specific collection. A majority of these respondents filled out the survey using the online version

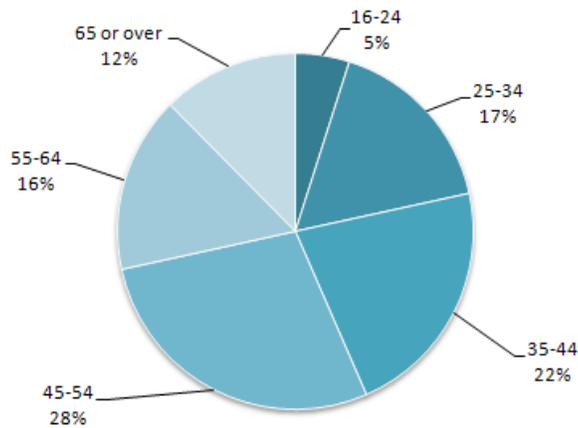
General Characteristics - Employment

A total of 73% of respondents work either full-time or part-time or attend school. Twenty-seven percent (27%) are retired or are not currently working.



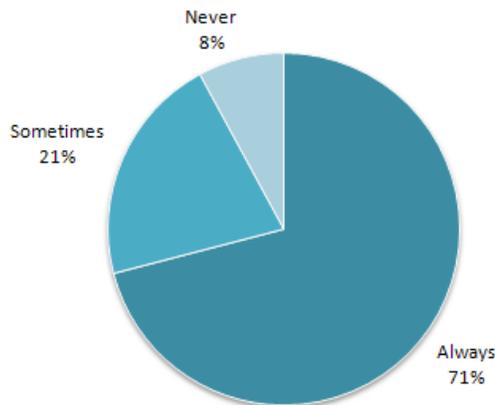
General Characteristics - Age

The ages of respondents track fairly closely to the ages of the overall Enfield population. About 12% are over 65. Only 5% of general respondents are between 16 and 24, though for other groups responding to the survey, especially responses from Asnuntuck Community College, the proportion is far higher.



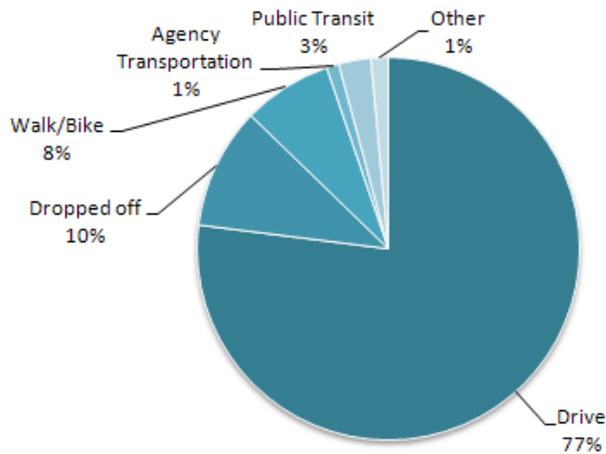
Transportation Characteristics - Access to a Vehicle

Nearly three-quarters of Enfield survey respondents always have access to a vehicle. But 29% report that they only sometimes have access, or never do. Per request, this memo also outlines the expressed behavior of respondents based on whether they have vehicle access. Thus, survey respondents likely represent a more transit propensent population that the Town at large, as overall Enfield has relatively high car-ownership rates. Census data indicates that just 4.3% of Enfield households do not own a vehicle.

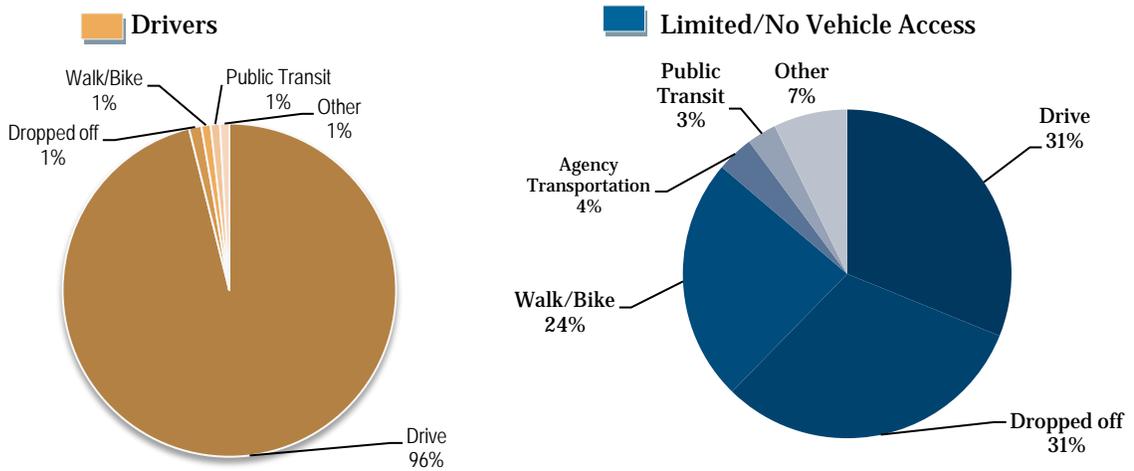


Transportation Characteristics - Primary Mode of Transportation

For the general respondents overall, 77% drive to their most frequented destinations. About 10% are dropped off, and another 8% bike. Only 3% use public transit. These figures are consistent with expectations as most respondents have access to a vehicle.

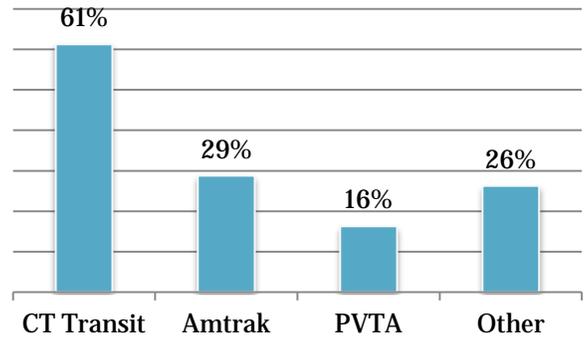
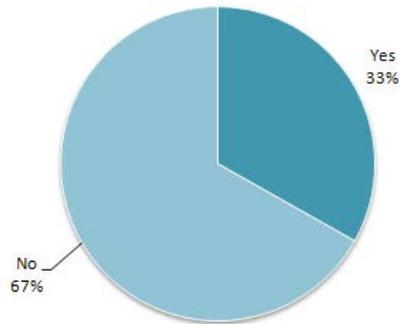


However, between non-drivers and drivers, these travel mode choices are significantly different. While 96% of those with access to a vehicle drive, only 32% of those with limited access indicated that they drove to their destinations. Of this group, an additional 32% are dropped off and 24% walk or bike. A more limited segment either use agency transportation and public transit. Most answering "Other" likely carpool with family or ask others for rides.

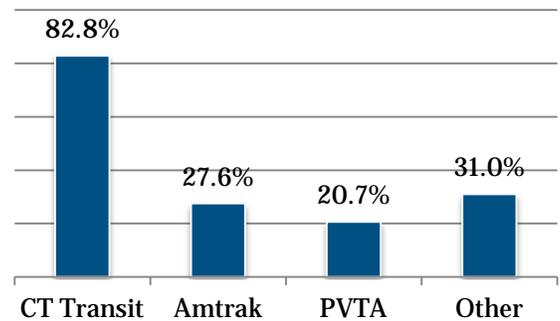
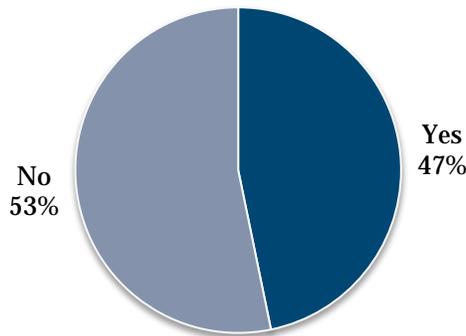


Transportation Characteristics - Transit Use

Most respondents do not use transit regularly for travel, and only one third of respondents have even used transit at all in the past six months. Of those, most reported using CTTRANSIT service, and some reported using Amtrak or PVTA service. Most of the "Other" responses likely indicate that they are using transit in areas outside of the Greater Hartford region.



For respondents with limited or no access to a vehicle, nearly 50% had used transit in the past six months. These respondents were far more likely to have used CTRANSIT, though many had also used Amtrak and PVTA service, as well as systems outside of the region.



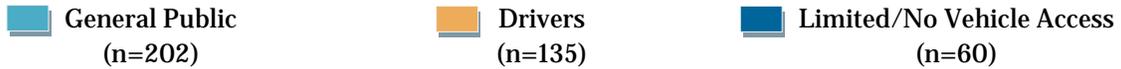
Transportation Tradeoffs - Service Design Preferences

The survey sought responses from potential users on their preferences for a number of typical tradeoffs in transportation service planning. The responses below are from the general public responses and are tallied by the total number of responses, and then divided into those who always have access to a vehicle and those that have limited or no access to a vehicle.

We note that many respondents did not answer these questions at all - the number answering totaled 202.

Geographic Coverage vs. Frequency

The first question asked about service coverage versus frequency. Both groups responded uniformly: nearly 70% prefer a route that covers more geography, as opposed to overall more frequent service.



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).

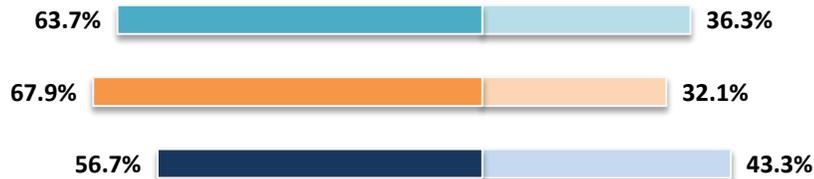


Loop Route vs. Linear Route

The next question asked if respondents preferred a loop system or a linear out-and-back route. Overall, the respondents preferred a one-way loop. However, drivers prefer this more strongly than those with limited vehicle access; since drivers number more than the others, their preference skews the overall findings. Those with limited vehicle access still prefer the loop, but less so.

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.

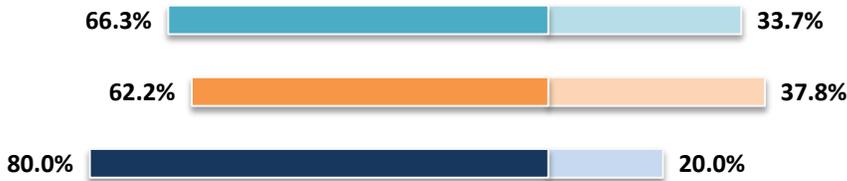


Frequent Stops vs. Faster Travel Time

The third question asked about frequency of stops versus travel time. The town overall prefers frequent stops with the resulting shorter walking times; those with limited access to a vehicle strongly prefer this option.

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.

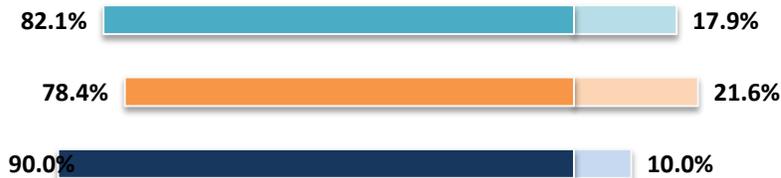


Hours of Operation vs. Frequency of Service

Finally, the survey asked about preferences for frequency versus span of service. This question yielded the strongest preference of all tradeoffs, and the clear preference is for a longer span of service. The preference is even stronger for the residents who do not always have access to a vehicle.

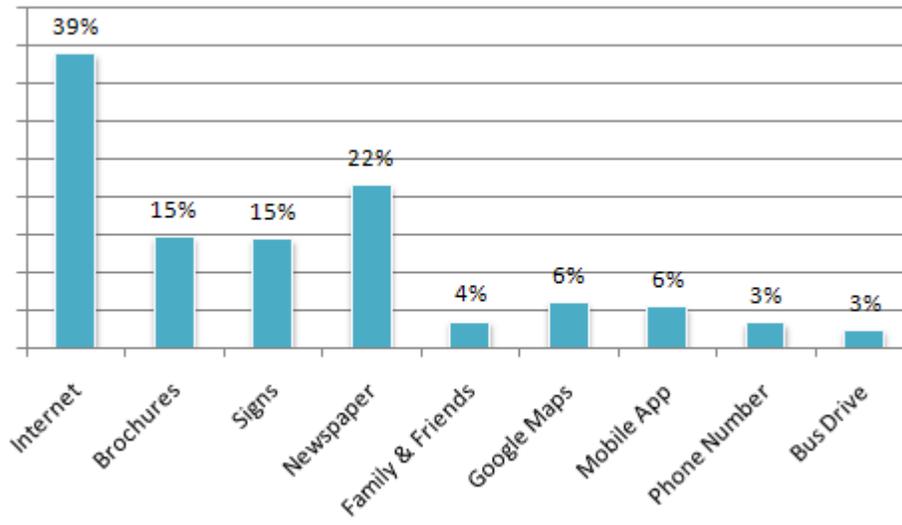
The bus comes less often but has longer hours of operation (begins earlier in the morning and ends later in the evening).

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



Advertising Preferences

The survey also asked respondents about ways to promote service among potential users. In the general responses, the most prevalent identified preferences were to use the internet and newspapers. Brochures and signs received some support. Google maps, mobile apps and relying on family and friends or bus drivers received little support.



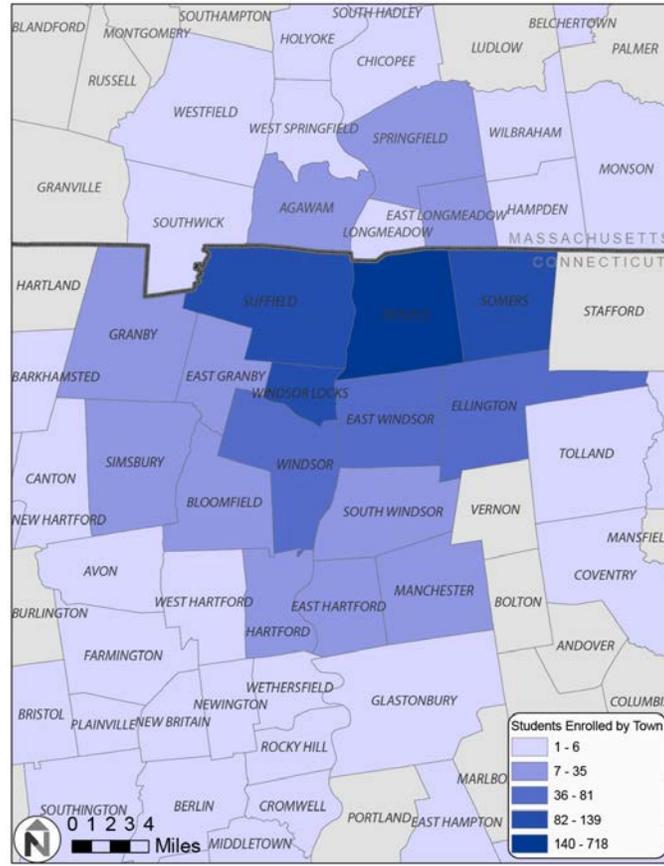
ASNUNTUCK COMMUNITY COLLEGE RESPONSES

Asnuntuck Community College (ACC) has approximately 3,000 students enrolled, and is one of the larger potential destinations and source of ridership for the proposed Enfield service. It has been expressed that even with limited current public transportation available, there are some students who commute to school via the CT-5 and walk from the park and ride on Freshwater Boulevard.

Asnuntuck Community College undertook a considerable effort to distribute and collect surveys to their students and they have already indicated a willingness to provide a contribution to the implementation of future transit service in Enfield.

A total of 581 surveys were received from the college, nearly 20% of their total student body. A majority of these students are Enfield residents (see Figure X below), but Asnuntuck also draws students and staff from surrounding towns. The survey responses may indicate slightly different preferences of those traveling in from out of town.

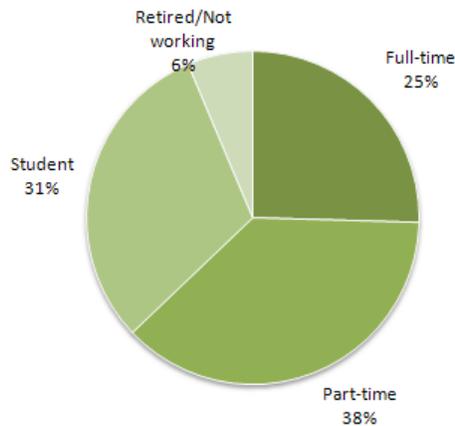
Figure X: Asnuntuck Community College Enrollment



Data Sources: Asnuntuck Community College

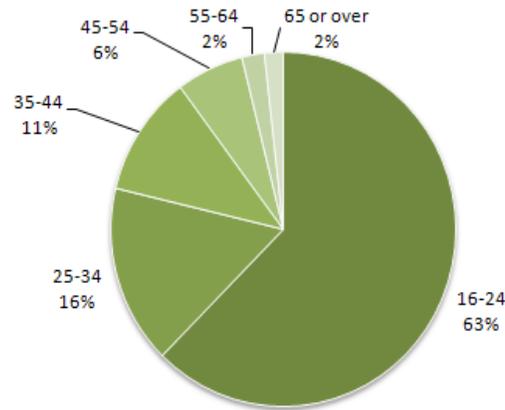
General Characteristics - Employment

Compared to the general population, the ACC group are far more likely to be full-time students, and only 6% identified as retired or not currently working.



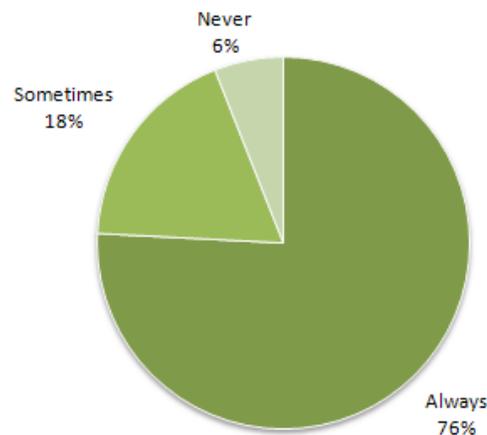
General Characteristics - Age

The age distribution of the ACC respondents is starkly different from the population in general. Over 60% are between 16 and 24 years of age, and only 2% are over 65, compared to 5% and 12%, respectively in the general respondents.



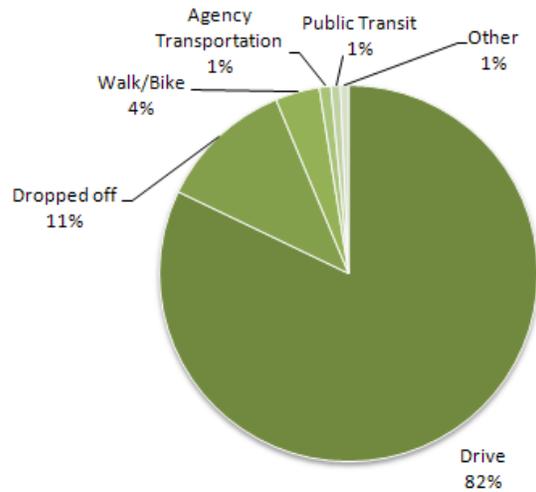
Transportation Characteristics - Access to a Vehicle

As with the general respondents in Enfield, about three-quarters of the students at ACC always have access to a vehicle. Slightly fewer never have access (6% compared to 8% in Enfield), and 18% have limited access.



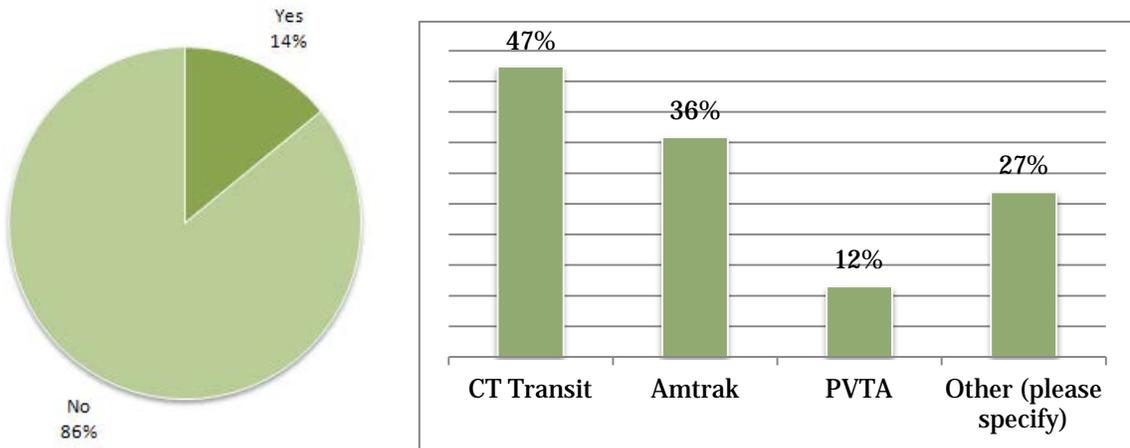
Transportation Characteristics – Primary Mode of Transportation

An even higher percentage of ACC students drive to their major destinations than the overall population in Enfield (82% compared to 77%). Only 11% are dropped off, 4% walk or bike, and very small percentages use agency transportation or public transit.



Transportation Characteristics - Transit Use

Only 14% of ACC students have used public transit in the past six months, compared to 33% of the overall population. Of these, nearly 50% have used CTTRANSIT. More have used Amtrak than those residing in Enfield. Those indicating use of PVTA and other transit systems are about the same as the town overall.



Transportation Tradeoffs - Service Design Preferences

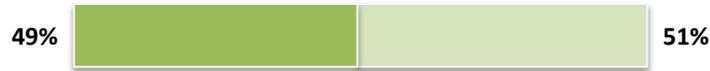
Students at Asnuntuck Community College were more evenly split on most preference issues than the town as a whole.

Geographic Coverage vs. Frequency

Students slightly preferred a route that travels to more places than a bus that arrives more frequently, similar to the general survey, but with a much smaller preference.

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

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



Loop Route vs. Linear Route

As with the general responses, students preferred a one-way loop over an out-and-back design, though the preference was much less strongly displayed.

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

Also as with the general survey, ACC respondents preferred more frequent stops with shorter walks to the bus, knowing that the bus will travel more slowly.

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 only trade-off question in which students truly showed a strong preference was for a bus with a longer span of service, even with a lower frequency. Though the preference was not as strong as for the general survey, it still shows a strong desire for a longer span of hours over frequency.

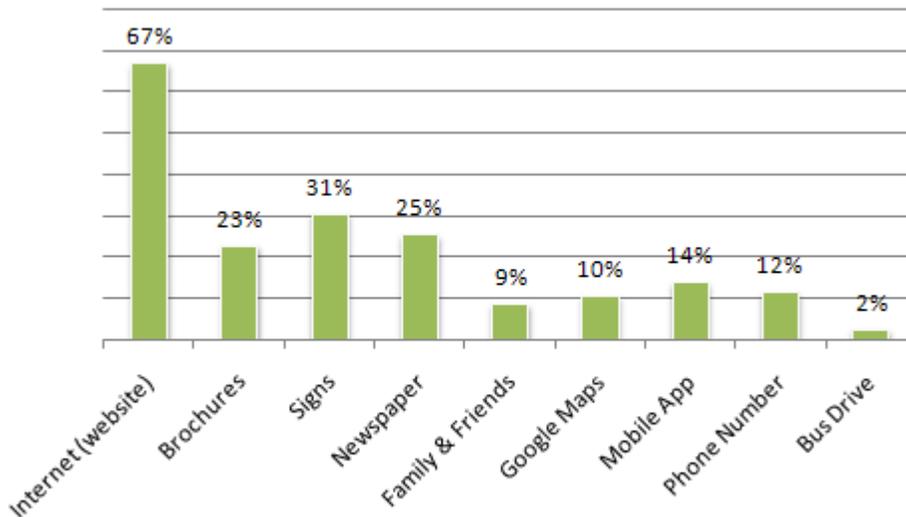
The bus comes less often but has longer hours of operation (begins earlier in the morning and ends later in the evening).

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



Advertising Preferences

Most students prefer the internet as a way of finding out about service, and at a much higher percentage than the general responses. Other means of information sharing ranked generally the same as the overall responses, though mobile phone apps received much more support. Because of the high percentage of students in the younger age ranges, this makes sense.

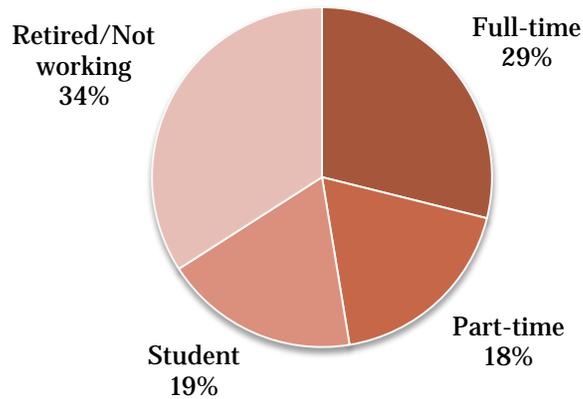


ENFIELD ADULT EDUCATION

Besides the Asnuntuck Community College, a significant number of survey responses were collected by Enfield Adult Education (AE). AE collected 147 surveys, about 10 of which were completed in Spanish (no other responses in Spanish were received, though the Spanish version was available online and to other institutions).

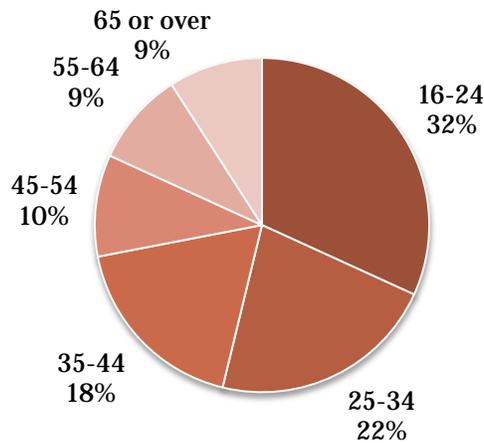
General Characteristics - Employment

A larger percentage of the AE population is retired or not currently working. Nearly 50%, however, do work full- or part-time. Nineteen percent (19%) are students.



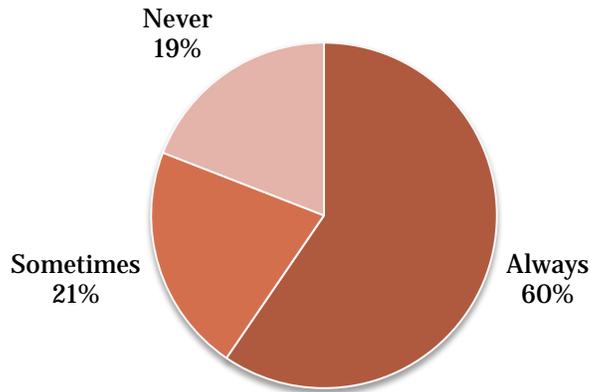
General Characteristics - Age

The AE respondents are also younger as a group than the general responses received, though not as young as students at Asnuntuck. Still, 54% are under 35, and only 9% are over 65.



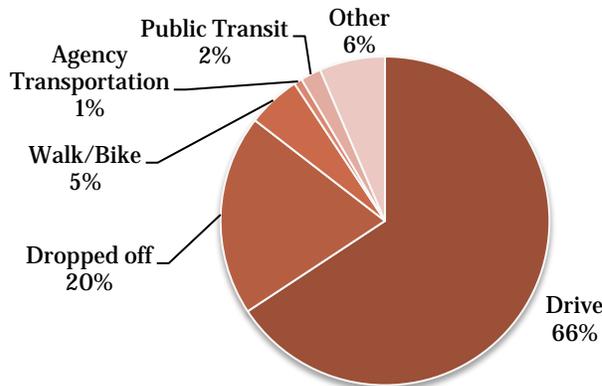
Transportation Characteristics - Access to a Vehicle

A significant difference between the AE respondents and the general public responses is access to a vehicle. Only 60% of AE respondents, compared to 71% in Enfield and 76% at ACC, always have access to a vehicle. Exactly 40% have limited or no access to a vehicle.



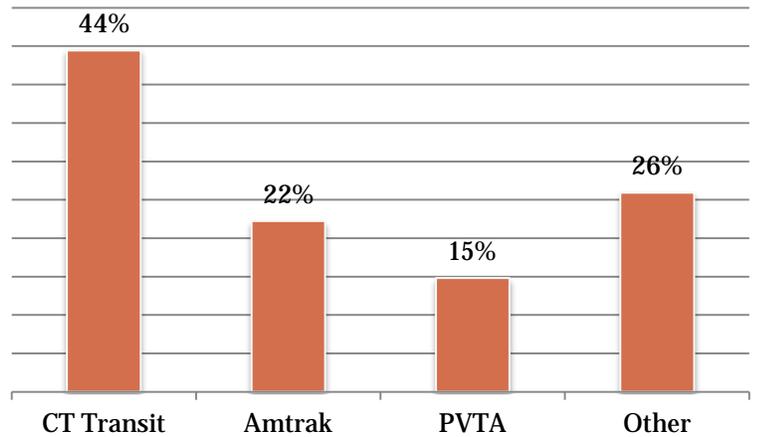
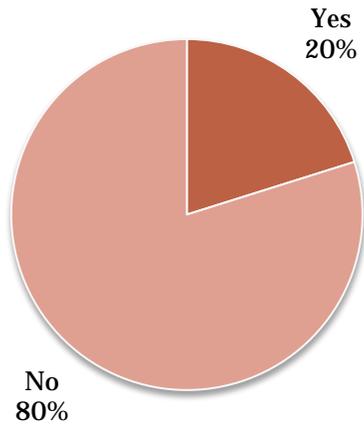
Transportation Characteristics - Primary Mode of Transportation

Far fewer AE respondents drive to their major destinations than in the other groups identified, possibly due to the lower level of vehicle access. Most others are dropped off, and some walk or bike. Most in the "other" category receive rides from family.



Transportation Characteristics - Transit Use

Only 20% of AE respondents had used transit in the last six months; fewer than the overall Enfield survey respondents and slightly more than ACC students. Most had used CTTRANSIT, though the percentage was fewer than either of the other categories of respondents. Of those that listed "other", most had used transit systems in other cities or intercity services.



Transportation Tradeoffs - Service Design Preferences

Like the students at Asnuntuck, the AE group showed less particular preference on the tradeoff questions than the general respondents.

Geographic Coverage vs. Frequency

The AE respondents also slightly preferred a route that goes to many places, with a bus coming less often.

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

The group of AE respondents did prefer the out-and-back design for transit instead of a one-way loop, which is unique in that the other two groups preferred a one-way loop.

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

Like the other two groupings, the AE respondents preferred more frequent stops and thus shorter walk times to a bus that stops less frequently and travels faster.

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

Lastly, the AE group strongly prefers longer hours of operation to frequency, reflecting the trend of the other two groups.

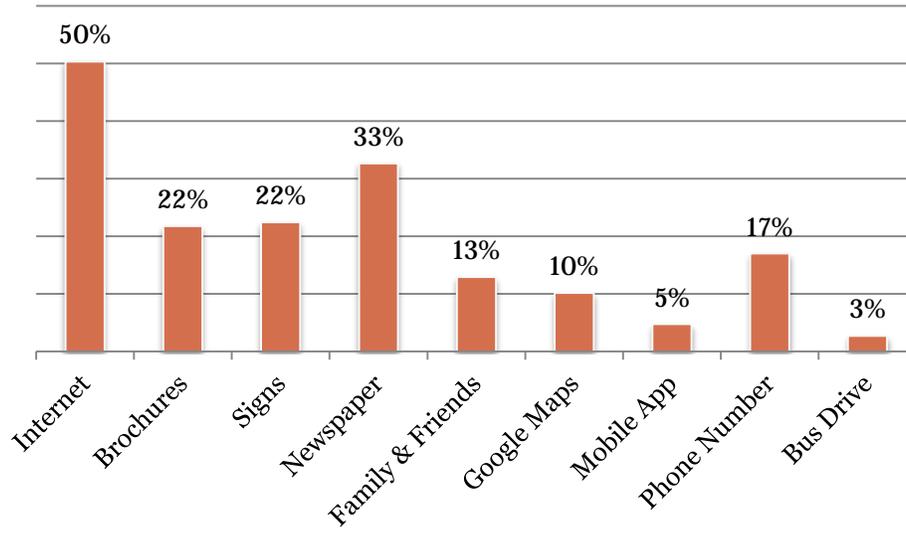
The bus comes less often but has longer hours of operation (begins earlier in the morning and ends later in the evening).

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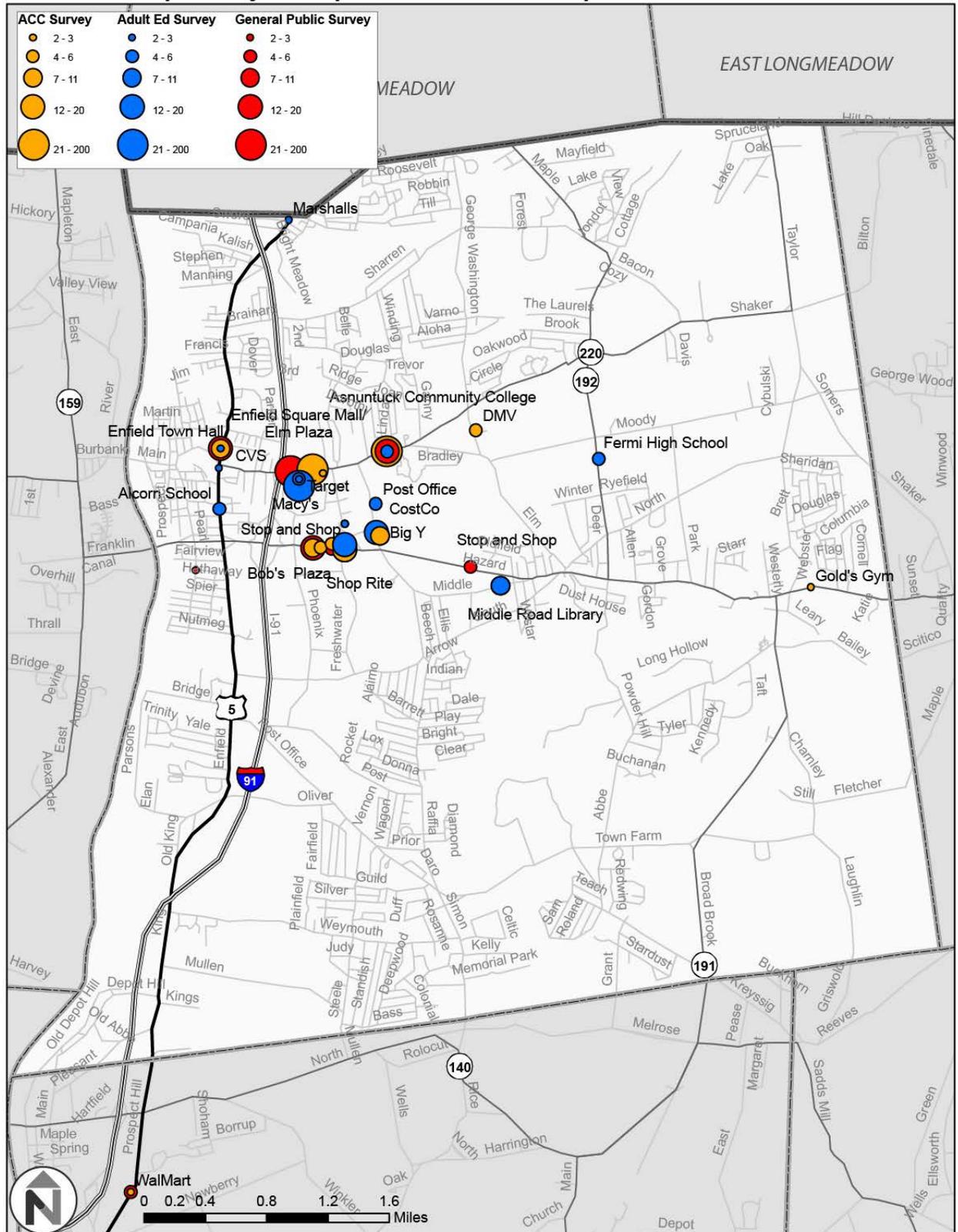


Advertising Preference

The Adult Education group also preferred the use of the internet for advertising service, with one-third also supporting using the newspaper. Fewer supported mobile apps than in the other groups, and more supported a phone number to call and learn about service.



Destinations to which Respondents Believe the Bus Should Travel



C. MEETING MINUTES

TECHNICAL ADVISORY COMMITTEE MEETING SUMMARIES

Kick-off Meeting Minutes

December 8, 2011

Meeting Summary

The Enfield Transit Study Steering Committee met at 9 AM at the Village Community Center on High Street.

The Steering Committee discussed the tasks to be performed as part of this study and described the planning efforts to date for establishing transit in Enfield. Though the new Transit Center will not be constructed for several more years, the Town's Department of Social Services office is prepared to operate public transit along a route that has been vetted over a planning process of several years. The New Freedom funding received will fund this initial service, and the work of this study is, in part, to determine the route and parameters of service that will be managed by the Town of Enfield. The group discussed the proposed route and how the study's schedule can be adjusted to enhance the planning of this new service.

The group also made several recommendations for revisions to the draft outreach materials presented by Nelson\Nygaard and provided the consultants with a list of stakeholders and employers to contact for the study.

Meeting Notes

Introductions and Project Goals

Sandy Fry introduced the project consultants, Nelson\Nygaard, and all attendees introduced themselves. Bethany Whitaker of Nelson\Nygaard asked that each member of the Steering Committee share their goals for the project and what they would ultimately like to see happen. Among the goals listed by the group were:

- Receiving technical assistance for existing service plans that have not yet been implemented, including addressing safety and efficiency issues;
- Coordinating with the Transit Center project and all of the involved agencies on the federal, state, and local levels;
- Reviewing proposed plans and providing technical evaluation and comparative analysis
- Studying Enfield as an example project to use for similar towns in the region with no local transit service; Enfield is the largest town in the region with no transit.
- Developing a service with long-term flexibility
- Finding opportunities for expansion and connecting to commuter services, including the future rail service;
- Calculating the complementary ADA paratransit obligation when transit service begins;
- Identifying coordination opportunities with other services (i.e., PVRTA) and connections at intermodal centers;

- Identifying need for the service and designing the appropriate service (deviated fixed route had been considered)
- Past studies have shown little demand for Enfield connections to the CT system, but high demand for intra-Enfield connections.

Overview of Project Tasks and Methods

Bethany then reviewed the main project tasks and explained Nelson\Nygaard's approach.

Primary tasks include:

1. Review background documents and existing studies: All of the planning completed to date about the proposed transit route, the Transit Center, the New Haven Hartford Springfield (NHHS) passenger rail, and others will be reviewed.
2. Compile a community profile: Nelson\Nygaard will research and create maps of population and employment density, creating a transit-dependent index of populations most likely to rely on transit. Major destinations data will also be mapped.
3. Conduct outreach activities: The study team will conduct stakeholder interviews, an employer telephone survey, and a survey of the general public. The general public survey will use a range of distribution strategies, including providing the survey online, using stakeholders to distribute paper copies at meetings/sites, reaching out at community events. The consultants brought draft copies of each type of outreach for discussion. The team is willing to staff community events and clinics to ensure that enough surveys are distributed and returned.
4. Develop alternative service concepts: This will include the route already designed by the Town as well as two or three other potential alternatives.

The following month (December and early January), the study team will be working on numbers 1 and 2 - the background document review and community profile. Outreach activities will begin in full in February and likely extend into March. The team proposed to complete strategy development and a draft plan in the summer.

Discussion of Study Tasks and Methods

Members of the Steering Committee suggested that the general public survey be available in Spanish to ensure feedback from the Spanish-speaking population in Enfield.

Plans and studies suggested for review:

- Coordinated Plan for the region
- Plan of Conservation and Development
- McMahon and Associates Transit Center plan
- 2007 DOT survey

Stakeholders and employers recommended to contact:

- Community Health Resources & other medical facilities
- Community College
- CT Works
- DMV

- School District
- Chamber of Commerce
- Enfield Community Service Network
- Key Institute to Early Education (KITE)
- Community Health Center
- Community Development Corporation
- Enfield Housing Authority (Scott Bertrand)
- Bigelow Commons and large condo complexes

Comments on proposed outreach materials:

- The survey should be more focused to help plan with details of the transit service, not just feasibility of having a service.
- The survey should read as if service will begin soon and is definitely happening, not as though it is only a potential new service.
- There should be a question about how transfers will affect the trip and the desire to use transit since the Transit Center will eventually be a hub and likely will require transfers.
- Survey should add questions on willingness to pay and to determine value of tradeoffs (e.g. span of service vs. frequency)

Nelson\Nygaard agreed to begin reaching out to the suggested stakeholders and make revisions to the survey.

Town Transit Plan and Transit Center Discussion

The DSS and Enfield Community Planning have been working together to develop transit service in Enfield since the locally coordinated human services transportation plan revealed a large need, especially in the Thompsonville and Hazardville neighborhoods. The DSS applied for and received a New Freedom grant to operate service. The DSS has been working with the DOT and hopes to have service operating by September 2012 at the latest. The vehicles are supposed to arrive in March.

The planned route is a loop that runs between Thompsonville and Hazardville, serving the mall area and medical facilities. It does not serve many of the areas where large employers are in the northeast. The DSS and Town are open to options other than a loop, but can purchase a maximum of two buses and want to keep the route to one hour. The fare will be the same as local CT Transit routes - \$1.30.

A major concern is the spur running up to Mass Mutual, which poses significant costs of both time and funds to serve. The Town hopes to determine a way to serve Mass Mutual, possibly through a partnership with PVTA or CT Transit, rather than running the route along this spur. An additional concern is pedestrian safety at the potential stops - Route 5 and other roads along the suggested route are heavily traveled and do not have sufficient pedestrian safety measures for bus stops.

The study team agreed that speeding up the study to accommodate the Town's and DSS's planned service initiation date is a good idea.

The Transit Center plan and implementation are on a longer timeline, with the environmental assessment currently underway. The Town's goal is to have acquired the property in two years and begin construction then. The Transit Center must accommodate any bus service in Enfield since the Transit Center funds are specifically for bus service and not for rail.

Other

Riders on the CT Transit express route to Enfield currently pay a premium fare; recently CTTRANSIT modified the service to allow the express buses to serve local trips within Enfield. However, local riders still have to pay the full express fare, which is not conducive to local travel. Demand for this express route is extremely high - it is the second most heavily-traveled commuter route in the system - but even with the service change, not many people are using it to travel within Enfield.

The PVTA once provided hourly service to the Freshwater park and ride, but discontinued in the late 1990s. The PVTA route that terminates at Mass Mutual does not have very high ridership. The Committee asked the study team if they would be analyzing commuting patterns to Springfield, but that task will be taken on only as needed to inform the local transit planning for Enfield. The team did agree to look at boardings and alightings. The survey will also capture some residents' needs for travel to Springfield.

Committee members also suggested areas of potential need for transit:

- Brainerd and Elm, south of Thompsonville
- Orlando Development in the south of Enfield
- Demand to/from Suffield (The Committee said this has never been cited as a demand area.)
- Students from Enfield that travel to Springfield

Next Steps

The study team will write minutes for the kick-off meeting and distribute to the Steering Committee, along with a revised general public survey.

The study team will begin work on the background document review and the demographics and community profile research. They will also begin coordinating stakeholder and employer outreach by gathering contact information and further suggestions from the Steering Committee.

Meeting Attendees

Pam Brown, Department of Social Services, Town of Enfield

Peter Bryanton, Community Development, Town of Enfield

Phil Fry, CT Transit

David Lee, CT Transit

Sandy Fry, CRCOG

Mary Ellen Kowalewski, CRCOG

Mario Marrero, CRCOG

Sandra Sheehan, GHTD

Nicole Rohan, PVTA

Tom Narrigan, PVTA (First Transit)

Phil Scarozzo, CT DOT

Richard Gray, CT DOT

Bethany Whitaker, NN
Ellen Oettinger, NN
Ralph DeNisco, NN

Technical Advisory Committee Meeting #2

Overview

The Enfield Transit Feasibility Study is being completed on an expedited timeline in order to accommodate the Town's New Freedom funding acquisition process and ensure that service can begin as soon as funds are available. The Enfield study can also be expedited as it builds upon the planning work previously completed by the Town of Enfield.

Thus, the project team presented key findings from project activities to date and presented potential options for transit service in the Town.

Project Status and Technical Memorandum Review

Ralph DeNisco presented the project status and reviewed the key findings from the project team's work to date.

- The Project Team has been working closely with the Town of Enfield to complete outreach efforts as discussed at the previous Technical Advisory Committee (TAC) meeting
- A Technical Memorandum was distributed to the TAC, which summarized the following:
 - Demographic and destination analysis
 - Outreach efforts to gather input on transit needs
 - A public survey
 - An employer survey
 - Stakeholder interview summaries
- Draft routes were developed for review by the TAC and presentation to the public
- Objectives for the public meeting tonight (February 15th) are to review this research and receive feedback on the transit options presented.

Summary of Key Findings

- There is strong evidence of the need and excitement in Enfield about the provision of local transit service. Over 1,000 surveys have been collected so far, which is a large number considering the total population of 45,000 people in Enfield
- Demographic analysis, including a combined process to review transit propensity, showed a concentration of potential transit need in the Thompsonville area.
- Additional analysis of destinations, dial-a-ride origins and destinations, and preliminary results from the survey and outreach efforts shows that demand in Enfield is concentrated on the loop previously defined by the Town between Thompsonville and Hazardville, using Elm Street and Hazard Avenue

Based on the data collected from the surveys and in the demographics analysis, the project team created three options for transit service:

- Option 1 - Single, bi-directional loop along Elm Street and Hazard Avenue. This option does not serve Enfield High School and some major employers.
- Option 2 – Overlapping dual loops traveling in a single direction, one along Elm Street and Hazard Avenue, another along Pearl Street south to Enfield High School and back up to the mall area.
- Option 3 - Two out-and-back routes traveling along Elm Street and Hazard Avenue, respectively, but crossing Freshwater Boulevard and continuing along Hazard Avenue and Elm Street, respectively.

Ralph presented travel time statistics and mileage assumptions for each route. Each option also assumes that the PVTA will extend the G5 route south to Thompsonville to connect to Enfield service. PVTA previously provided service along this route which terminated about a decade ago. Analysis shows that there is limited demand along this extension, and providing regular service along Rte 5 to MassMutual is inefficient as part of any local Enfield route. Preliminary informal discussions with PVTA indicated an openness to providing this service on a cost basis.

Additional Discussion

- Discontinued PVTA Service and Potential Service - Previously, the PVTA route extended from Mass Mutual to the park and ride on Freshwater Boulevard, but the route was terminated about 10 years ago. The route was fully funded by the Town of Enfield, and the termination was strictly a budget decision. Ridership was growing at the time and met PVTA service standards. Service was limited and extended only to the park and ride. PVTA provided the ADA service for the route at no charge.

The estimates for the PVTA extension of Route G5 should be revisited. The report should also state that PVTA must be reimbursed, but this does not mean the funding should come from the Town itself.

If this route replaces CT Transit service, CT Transit should help pay, if that would be less expensive, since this route extension would be serving a documented transit need in the state. CT Transit could also run their service to MassMutual along I-91 as was done until last year's route adjustment to run on local streets

- CT Transit Link to Mass Mutual - A request from a resident was recently received by CT Transit to extend more Route 5 trips to Mass Mutual during the hours of 6 to 6:30. CT Transit reported that they denied the request. Ridership on this link of Route 5 is low - most riders board or disembark at the park and ride on Freshwater Boulevard.
- CT Correctional Institute and Demographic Maps - The report should include language about the Correctional Institute and how it may skew the appearance of need in the northeastern portion of Enfield. Regular direct service to this area is not recommended at this point
- Survey Results - The committee requested that the survey results show the answers of transit-dependent riders and car drivers separately since they may express different preferences in the survey and especially the trade-off questions.

A committee member asked if there had been any demand for out-of-town travel revealed in the data thus far; the study team responded that some individuals stated that travel to the airport or Hartford, but no major demand has been seen.

Another asked about demand for travel to Scitico, but few survey responses or other data has shown demand for this route.

- Community College Students and Transit - Asnuntuck Community College provided over 500 of the public surveys returned for this study. The surveys will be coded separately so that results do not skew the general public results.

Most students attend class at ACC three days per week, and many would like to use transit in order to save gas money or in order to avoid walking from Thompsonville or the park and ride. It was noted that the walking environment near the mall, park and ride, and ACC is poor.

Transit service at night is a key concern for ACC students, since some class do not end until 10:00 PM. (Mall workers have also expressed this sentiment.)

The College is discussing a partnership with Enfield High School to allow students to take free courses, much as Hartford and Norwalk do. This would become a transportation need from the high school to the community college.

Providing a connection between the park & ride and ACC was seen as important

- Connecting to Existing Transit - One committee member believed that a condition of the grant award was to connect to PVTA service. However, CRCOG confirmed that the grant required a connection to existing transit service, a requirement all three route options satisfy by connecting to CT Transit service. Connections to existing transit were seen as important to all
- Future of CT Transit Route 5 - Two potential options for Route 5 were discussed. If PVTA Route G5 is extended to Thompsonville, CT Transit could consider terminating Express Route 5 at the park and ride to avoid service duplication.

In the long term, if commuter rail to Hartford and Springfield becomes available in Enfield, Route 5 may be a duplicative service. One committee member did not believe that the commuter rail and express bus would serve the same purpose.

CT Transit representatives have not yet discussed either scenario as it affects Route 5.

- Service Sustainability – One of the key elements of planning and designing service is to develop a route that is sustainable in the longer term, once grant funding is exhausted. Building an initial route that is able to attract and retain riders is critical, and should at least initially allow for a “tighter”, more focused route. As service is established and successful, additional routes, or extensions of initial service could be explored further.

Option Preferences

Four committee members preferred the crossover option, but many with qualifications. This option will require education since it is a bit more complex than a simple loop.

Five members supported the single, bi-directional loop, most stating that its simplicity is best for the success of the system. Another suggested using a deviation to serve Enfield High School and some major employers.

One committee member preferred the dual loop system.

Two new options were suggested, as well, building on the three proposed options. One member suggested dual loops in a figure 8 pattern that would cover the Freshwater Boulevard crossover area. Another suggested that there be dual loops - one the larger proposed loop, and another short loop just circulating between Thompsonville and the mall.

In general, the committee expressed a preference to keep things simple - to design a basic core service and add more service later. It was observed that each option serves a different market better. For students of the community college, the crossover is better. For Thompsonville residents going to work, the loop is preferable.

The committee also recommended that the study team review the level of ADA demand that this service would create. One committee member suggested exploring flex services and also investigating the potential of a transportation management association with employers.

Next Steps

The deadline for comments on the Community Profile Technical Memorandum is next week (week of February 20th).

The next public meeting is tentatively scheduled for March 15th. The project team will schedule the next TAC before that public meeting in mid-March.

Attendees

- Mario Marrero, CRCOG
- Philip Fry, CT Transit
- Michael Guerrero, ConnDOT
- Richard Gray, ConnDOT
- David Lee, CT Transit
- Sandy Fry, CRCOG
- Peter Bryanton, Town of Enfield
- Pam Brown, Town of Enfield
- Sandra Sheehan, Greater Hartford Transit District
- Martha McLeod, Asnuntuck Community College
- Ralph DeNisco, Nelson\Nygaard Consulting
- Bethany Whitaker, Nelson\Nygaard Consulting
- Ellen Oettinger, Nelson\Nygaard Consulting

Technical Advisory Committee Meeting #3

March 15, 2012

Overview

Sandy Fry, from the Capital Region Council of Governments, began the meeting. She stated that the project is moving along at a quick pace and a significant amount of work has been completed since the last meeting. She turned the meeting over to Ralph DeNisco, from Nelson Nygaard, who reviewed the meeting agenda. Ralph stated that the presentation for this TAC meeting is the same as the presentation that will be given at the public meeting this evening.

Project Schedule

Ralph DeNisco reviewed the project schedule noting that the public meeting is this evening and the final plan should be finalized by the end of March 2012. Ralph suggested that based on ongoing conversations that the new bus service could start in summer 2012. It is understood that the town actually cannot begin service until a contract is in place. The Town and CT DOT are currently working on getting this agreement in place, and have prepared a draft which is being reviewed. There was a question on what the team planned to say to the public about when service is to start. Sandy recommended stating that the service is expected to start in 2012. While it is ideal if service could start by September 2012 (to serve the Asuntuck Community College (ACC) and adult education before the semester starts), there is no guarantee that this will happen.

Survey Results

Ralph discussed the February 2012 public meeting and summarized key points of public comment. He next reviewed the survey results, noting that at the last public meeting the team reported on 300 survey responses. There are now over 1,000 survey results: about 600 are from Asuntuck Community College (ACC) students, about 200 are from adult education students, and the remainder is from the general public. Related to the trade off questions in the survey:

- More respondents prefer a route that goes many places but comes less often. (This was about the same for each of three groups).
- There is a slight preference for a loop route
- A preference for more stops vs. faster route time was also expressed.
- A strong preference among all groups was for a bus that comes less often but serves longer periods of the day. In particular, there was strong support for bus service hours longer into the evening.

The survey information, from all groups, further showed a consistency in the concentration of destinations originally identified. Both in terms of where respondents stated that they went, and where they identified they wanted the service to go to, destinations were focused on the Thompsonville/Hazardville loop.

Analysis

Ralph reviewed the three route options that the team analyzed. He noted that all route options can be run in less than an hour. The team has identified stops for all three route options, taken pictures and made an initial assessment of if the stop should be onstreet or if the bus should pull off-street to stop. He discussed the stop siting analysis, and there was some discussion among the TAC on the methodology of doing this. He stated the some further work will be required for locating the stops, once the recommended route is established.

There was a discussion about the stops and safety concerns of stopping a bus on state highways, especially on Elm Street and Hazard Avenue. Sandy suggested discussing the stops more when there is recommended route, and stated that she will email the detailed stop analysis to the TAC for further review

For the route analysis, test runs were taken stopping at all of the stops identified and making all of the vehicle moves shown, including going off the main road and onto sites where identified. Buses stopped for 30 seconds at every stop. All routes were able to be

run in less than an hour with run time varying, but allowing for recovery time to keep hourly headways.

Ralph continued on to discuss the operating and cost assumptions of the route which are all roughly equivalent because they run hourly and we assumed a 12 hour operating schedule. Ellen Oettinger discussed ridership assumptions, stating that for this new route, they are based on transit dependent populations (households with no motor vehicle). She stated that though these are rough estimates, she is not expecting a big difference in the ridership numbers between the route options.

Ralph also stated that an initial assumption about the importance of providing a connection between Asnuntuck Community College and the Park & Ride facility was not borne out by the survey results.

Lastly, the team discussed other options, including ways to strengthen the connection from Thompsonville to MassMutual. The team also went over a modified interloop that would not serve the high school and courthouse, but would run counterclockwise and use Hazard Avenue and the Freshwater Boulevard connection. The team is still working on identifying the true costs of these options, but there could be some benefits to them, including savings to run further into the evening.

Recommendations

Ralph stated that the study team recommends Route option 1. This option has the most complete coverage, frequency of major destinations, and operating consistency. It is simple and easy for users to understand. The primary rationale for the other routes (Park & Ride – ACC connection; greater coverage) were not borne out by the survey results, nor did they show any operational benefits.

Evening Service

There was a strong desire for evening service, and a discussion ensued on how best to provide it, within the grant constraints. The following points were raised:

- Demand for service to many of the town's eastern destinations, such as Hazardville, the medical facilities and senior center, is not as strong after the late afternoon and on Saturdays
- A shorter, evening loop using just one bus may work, and will be drawn and presented at the public meeting.
- The Town will help inform the question of how late service would need to be provided to meet the needs of retail and ACC riders, at least until 9 and perhaps as late as 10:30 pm.
- There are examples in the CT Transit system, where reduced service in an altered route is run in the evening hours.
- Cost analysis should evaluate both the operating and administrative costs of running later into the evening. Many of the transit operators indicated that they run evening service without administrative staff in office, and work through coverage details.
- A proposal to run the daytime loops so that:
 - Clockwise loop runs hourly from 7am – 7pm

- Counter clockwise loop runs hourly for 4 hrs on in the AM, 4 hrs off in the midday, and resuming for 4 hrs in the afternoon
- Evening service on a shorter loop in one direction
- If acceptable at the community meeting, this analysis will be costed and evaluated further operationally.

Connection from Thompsonville to MassMutual

After route analysis and timing, the team strongly recommends that service between Thompsonville and MassMutual along route 5, not be included in any route to be run by the Town, because it will not be operationally efficient, will preclude the ability to run hourly headways, and there was not a strong indication from the survey data of demand and/or ridership for this connection. Options to improve this connection were discussed and comments and options are included below:

- PVTA's existing connection from downtown Springfield (the Red 5) could be extended south to Thompsonville. There are both cost and operational considerations to PVTA to provide this service, which they are willing to discuss. There are 8 runs a day that go to MassMutual, but they run a much more circuitous route through Longmeadow than when a previous PVTA connection to Enfield was terminated a decade ago.
- CT Transit recently changed the Express Route 5 to run on local streets in Enfield and several runs also provide a connection to MassMutual. Ridership on the local segment of the route is low, and fares are the express bus fare rather than the comparable lower local fare. Options to explore for CT Transit improvements include:
 - Charging local fares on this segment
 - Returning routing to I-91, and applying cost savings to added service
 - Enhanced frequency
- Further exploration of ADA paratransit implications of service on this segment should be reviewed, including what previous agreements and provisions were in place
- A connection to MassMutual from the proposed service could be provided in a number of ways as described, and would not be a condition of the grant funding.
- Sandy Fry added that there are many options to fund and/or provide enhanced connections outside of the grant, and those would be explored and the Town should not bear the cost of an enhanced connection.

Next Steps

Ralph discussed performance measures, stating that success will ultimately be in growth in ridership. He raised other considerations, such as publicizing service, clearly identifying routes, and branding the buses so that they are clearly different than the Dial-A-Ride. The team heard at the last public meeting that all buses should have bike racks. In addition, there will need to be permission from the private property owners about locating stops on their properties.

Finally Ralph talked about next steps. The group needs to approve the selected alternative and finalize the schedule, stop locations, and plan for outreach on the implementation and directions on how to use the service, the Town suggested that they would use ETV, the local television station, to educate and inform the public on the new bus service. This could be a good opportunity to do a “How to use the new bus service” tutorial.

Attendees:

Sandra Sheehan, GHTD

Richard Gray, CT DOT

Lisa Rivers, CT DOT

Peter Bryanton, Town of Enfield

Philip Fry, CT Transit

Pam Brown, Town of Enfield

Mario Marrero, Capitol Region Council of Governments

Nicole Rohan, PVTA

Aimee Marques, CT DOT

Annette Reed, Enfield Dial-A-Ride

Sandy Fry, Capitol Region Council of Governments

Ralph DeNisco, Nelson Nygaard

Ellen Oettinger, Nelson Nygaard

Marcy Miller, Fitzgerald & Halliday, Inc.

PUBLIC MEETING SUMMARIES

Public Workshop #1

February 15, 2012

Overview

A public workshop to solicit feedback on transit options for Enfield was held at the Town Council Chambers the evening of February 15, 2012.

The public workshop consisted of three parts. During the first, members of the public were 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.

Preferences and Travel Patterns

Before a formal presentation began, Ralph DeNisco of Nelson\Nygaard asked the attendees to provide feedback on their transit preferences as well as to indicate their primary destinations within Enfield. Each attendee was given a set of sticker dots to place on the large map on the wall. The dots were also used to indicate preferences between the following choices about transit service. Total votes from meeting attendees are listed below each option:

A route that goes to fewer places, but comes more often (for example, every 30 minutes)	or	A route that goes many places, but the bus comes less often (for example, once an hour).
9 votes		4 votes
A bus route designed to go out and back on one street. The bus goes to fewer places but travels in both directions.	or	A bus route designed as a one-way loop. The bus goes to many places but travels in one direction.
3 votes		7 votes
The bus stops less frequently, so walking time to and from the bus is longer, but the bus travels faster.	or	The bus stops frequently, so walking time to and from the bus is short, but the bus travels slower.
7 votes		6 votes
The bus comes less often but has longer hours of operation (begins earlier in the morning and ends later in the evening).	or	The bus comes more often but has shorter hours of operation (begins later in the morning and ends earlier in the evening).
12 votes		1 vote

Presentation and Project Overview

Sandy Fry from the Capitol Region Council of Governments introduced the project, stating that a need for transit service in Enfield was identified in the locally coordinated plan in 2008. The Town applied for funding for local transit through the Federal New Freedom program and has funds to operate service. She emphasized that feedback is critical because this service has the funding to become a reality.

Ralph DeNisco presented the project status and reviewed the key findings from the project team's work to date.

- The data strongly supports the need for transit. Over 1,000 surveys have been collected so far, which is a large number considering the total population.
- Existing transit services in the area consist of CTTRANSIT Route 5 and PVTA G5. Several meeting attendees stated that they remembered when the PVTA service extended all the way to the park and ride on Freshwater Boulevard.
- The needs assessment identified a high need for transit in Thompsonville, some in the mall area, and some in Scitico.
- The major destinations analysis shows these to be along Elm and Hazardville Avenue, though major employers are more scattered throughout the town.

Ralph described the three options that the study team devised, based on the data collected from the surveys and in the demographics analysis.

- Option 1 - Single, bi-directional loop along Elm Street and Hazard Avenue. This option does not serve Enfield High School and some major employers.
- Option 2 - Dual loops traveling in a single direction, one along Elm Street and Hazard Avenue, another along Pearl Street south to Enfield High School and back up to the mall area.
- Option 3 - Two out-and-back routes traveling along Elm Street and Hazard Avenue, respectively, but crossing Freshwater Boulevard and continuing along Hazard Avenue and Elm Street, respectively.

Bethany Whitaker of Nelson\Nygaard described the primary design principles that transit planners consider when designing routes. She stated that all of the route options are compromises and all involve trade-offs. The key is finding which elements are most important to the community.

Discussion of Route Options

A number of attendees had questions and observations about the routes:

- The group wanted a bit more explanation of Option 3, the Freshwater Boulevard Crossover route.
- The routes should travel according to employee schedules and school dismissal times and only operate during those hours.
 - Bethany explained that having a simple and regular schedule is much easier for residents to understand, and that this is an example of the tradeoff between serving major markets like employers and making a service that can be used by a wider range of residents.
- Are any of the route options going to service Enfield square?
 - Yes. Different options serve them in different ways.
- An access path should be built from the back of the park and ride lot to the Mall.
 - Peter Bryanton of the Town of Enfield explained that access is a good idea, but that the area is protected wetlands; however, the Town could still consider some type of access improvement.
- Will the ridership be high enough to justify the Thompsonville Transit Center (TTC)? If so, it is a win-win for commuters coming in without a car.
 - The study team believes ridership will be strong enough to support the TTC, and that the loop described is the most likely place to achieve high ridership in the town.
- The buses should have bike racks to encourage ridership.
- Will the buses accommodate wheelchairs?
 - The study team responded that they would.
- Is the PVTA estimated cost for just one trip? \$30,000 seems like a lot for one trip.
 - The study team's estimate is \$30,000-\$40,000 per day, for eight trips total.
- If these routes were implemented, would CTTRANSIT cut back on their existing service?

- The study team has not evaluated CTTRANSIT service in detail, but responded that they would have to look at the schedules closely and discuss with CTTRANSIT representatives.
- Will the plan look at creating walkable neighborhoods and more pedestrian-friendly environments near the bus stops?
 - Peter Bryanton responded that the Town is looking at creating walkable communities in a different study for the Town's Comprehensive Plan, but not as part of this transit study.
- What type of fare products will be available?
 - The fares will be the same as CTTRANSIT - \$1.30.
- Ad space for local businesses should be available on the buses.
- When will service begin? Has the grant been given?
 - The funding is underway and cannot be taken back at this point, so it is guaranteed. It is hoped that service will begin this year, but the date is not certain.
- One attendee remembered when Enfield had a grant for transit in the 1970s. There were four routes, one of which were successful, but the others were not. The program was discontinued due to overall low ridership. The successful route was in the Thompsonville area.

Option Preferences

The group voted on which option they preferred. Not all attendees voted.

One person voted for Option 1, the single loop. Four people voted for Option 2, the dual loops. Five people voted for Option 3, the crossover option.

Meeting Attendees

Jennifer Coe, Reminder News

Robert Turner

Sandra Sheehan, GHTD

Thomas Nimmo

Kathy Tallarita, State of CT-Rep. 58th District

Gary Haynes, Resident,

Tom Narrigan, PVTA (SATCO)

Kathy McDonald, CHR

Linda Delz, ERSC

Peter Bryanton, TOE / CD

Marianne Chipman

Constance Hicks, Transportation Employment

Steve Moriarty, Resident

Sara Cochran, Resident

Kenneth Edgar, ERSC Resident

Bill Lee, Enfield Council

Catherine Kriss, CHR

Public Workshop #2

Thursday, March 15, 2012

Welcome

Peter Bryant, from the Town of Enfield, welcomed everyone to the public meeting. He provided a brief overview of the study stated that this is the second public meeting in two months. He introduced Sandy Fry, from the Capitol Region Council of Governments, who provided an overview of the Department of Housing and Urban Development sustainable communities grant program. She reviewed the agenda for the meeting.

Sandy approached the idea of what sustainability means, noting that it likely means different things to different people. Many support that it can address how we can best meet the needs of today's population without taking away from future generations.

Presentation

Survey Results

Ralph discussed the February 2012 public meeting and summarized key points of public comment. He next reviewed the survey results, noting that at the last public meeting the team reported on 300 survey responses. There are now over 1,000 survey results: about 600 are from Asnuntuck Community College (ACC) students, about 200 are from adult education students, and the remainder is from the general public. Related to the trade off questions in the survey:

- More respondents prefer a route that goes many places but comes less often. (This was about the same for each of three groups).
- There is a slight preference for a loop route
- A preference for more stops vs. faster route time was also expressed.
- A strong preference among all groups was for a bus that comes less often but serves longer periods of the day. In particular, there was strong support for bus service hours longer into the evening.

The survey information, from all groups, further showed a consistency in the concentration of destinations originally identified. Both in terms of where respondents stated that they went, and where they identified they wanted the service to go to, destinations were focused on the Thompsonville/Hazardville loop.

Analysis

Ralph next reiterated good service design principles, highlighting that service should reflect that:

- **Simple is better than complicated.**
- **A few good choices are better than many mediocre ones.**
- **Service and schedules should be based on repeating patterns.**

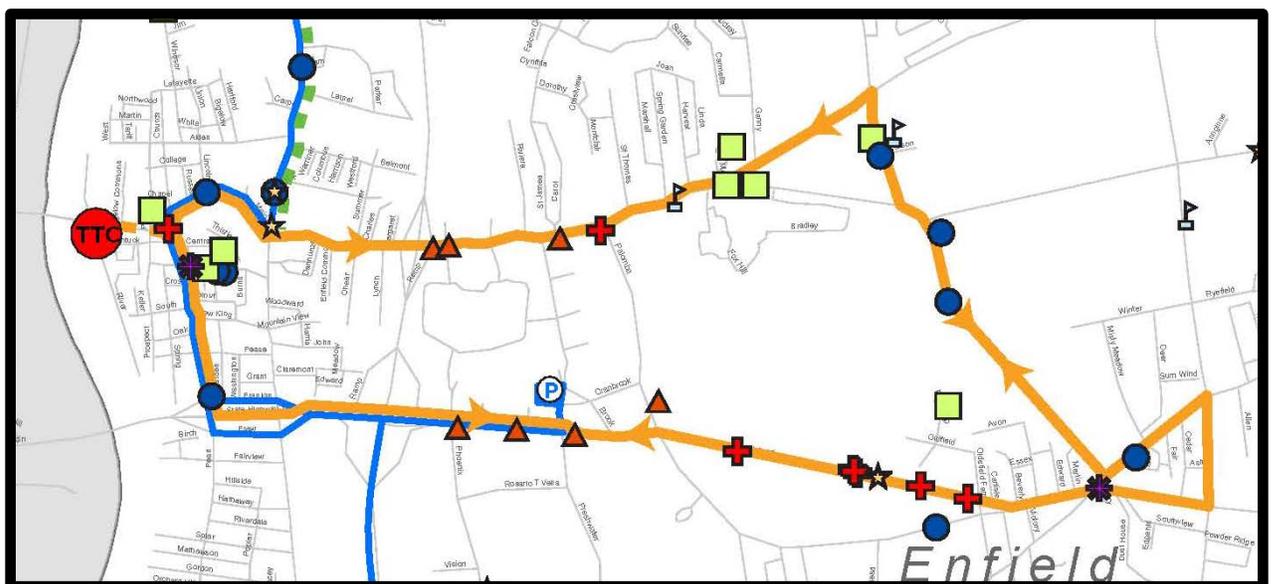
He reviewed the three route options that the team analyzed, noting that:

- All route options can be run in less than an hour, and can operate on an hourly schedule.
- Stops have been initially identified for all three route options, with additional refinement to occur on the selected route.
- All had similar operating costs, because they were evaluated for 12 hours of service
- Ridership estimates were based on demographics and were comparable for all routes
- The importance of the Park & Ride – ACC connection (built into some alternatives) was not borne out in the surveys as only a few of the 600 ACC respondents used this service
- No alternative proposed to provide direct service along Route 5 to MassMutual, but to seek other ways (CT Transit, PVRTA) to improve the existing transit connection
- All proposals could be extended easily to the Thompsonville Transit Center when built

Ralph continued on to discuss the operating and cost assumptions of the route. He stated a concern with connections between ACC and retail. The bus will require long service hours to meet retail workers' schedules, which will affect the cost.

Recommendations

The study team recommends Route Option 1 – the Thompsonville – Hazardville loop, with service running clockwise and counterclockwise.



This option has the most complete coverage, frequency of major destinations, and operating consistency. It is simple and easy for users to understand. The primary rationale for the other routes (Park & Ride – ACC connection; greater coverage) were not borne out by the survey results, nor did they show any operational benefits.

There was general consensus that the recommended route was acceptable

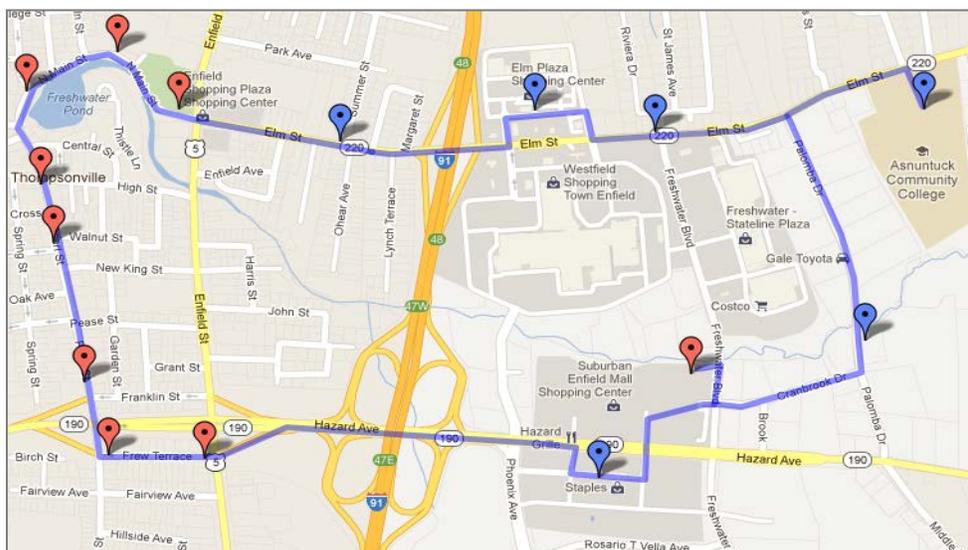
Additional options

Ralph next discussed the potential for an evening service loop. Ralph raised, and all agreed, that there is consistent request for service later in the evening, and the public debated questions on::

- How late should service run?
 - *ACC classes go til 8:30 or 9pm*
 - *Retail employees should be served as well, so after stores close*
 - *Review when supermarkets close*
- Does demand change by geography after the late afternoon?
 - *Senior Center, Hazardville, Hazard Ave medical offices have less demand*
 - *Thompsonville demand remains high*
 - *Supermarkets, Mall Areas need service later*
 - *Asnuntuck*
- What direction should the service travel in?
 - *Clockwise, It was noted that a clockwise loop gets Thompsonville residents home from Stop and Shop more quickly.*

Recommendation:

A shorter loop, as shown below, could work for evening service. Attendees agreed that evening service was important, and were willing to provide a gap in one of the daytime loops to cover the evening hours.



Discussion

Ralph opened the floor up for comments and questions.

- A member of the public stated that he supported the route, but it doesn't stop at his house. Peter noted that resources prevent the bus from stopping at everyone's house. He noted that the route will start small and grow as it becomes more utilized.
- There was a comment that ACC classes go until 8:30 or 9 PM. Their parking lot is pretty full until this time.
- The buses will have bicycle racks on them.
- There was a comment that it would be useful if each bus stop has a schedule posted to it. Laminated schedules were suggested. The simpler the schedule is the better for everyone. If a stop reads that the bus comes at 22 after the hour, people are more likely to remember it and use the service.
- There were suggestions to use ETV, smartphones, web, and newspapers to notify people about the service.
- There was a comment that most students at Asuntuck Community College (ACC) have cars and service may not be needed there.
- There was a question about shelters at the stops. Initially, shelters are not planned for the stops. 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. At this time though, there is not funding a part of the grant to accommodate these other items.
- There was a question about carrying bags on the bus. Ralph noted that a person can only take on the bus what they can carry. They are trying to do door-to-door service to many of the town's grocery stores. Pam Brown, from the Town of Enfield, noted that there will be bench seats in the back of the buses where there is a bit more room for those portable grocery carts.
- Ralph discussed how to assess the service once implemented, and the best initial measure will ultimately be in growth in ridership.
- Routes should also be clearly identified (e.g. the Red & Blue Route). Suggestions for naming/branding the route were raised and will be considered by the Town. Also, the buses should be painted/branded as well so that they are clearly different than the Dial-A-Ride.
- There was a question on where people can purchase passes to ride the bus? Pam stated that while the team has not gotten it all figured out yet, it will definitely be in multiple places, such as all Enfield social services, (senior centers, etc.). The fare is expected to be the same as for a CT Transit ride.

Next Steps

The group needs to approve the selected alternative and finalize the schedule, stop locations, and plan. In addition, the team will develop strategies to address PVTA service and CT Transit service. There was a question on when exactly will service start? Ralph stated that this depends on the grant contracting. Sandy stated that the grant was

actually awarded a number of years ago. Pam stated that the target is by July 1. Hopefully, the service will start by fall 2012. This is probably achievable.

Meeting Attendees

Sandra Sheehan, GHTD

Thomas Nimmo

Peter Bryanton, Town of Enfield / CD

Steve Moriarty, Resident

Sara Cochran, Resident

Catherine Kriss, CHR

Don Curtis

Angelina Norris

Peter Gongola

Marjorie Stradinger

Jay Stradinger

Pam Brown, Town of Enfield

Phil Fry, CT Transit

Sandy Fry, Capitol Region Council of Governments

Ralph DeNisco, Nelson Nygaard

Ellen Oettinger, Nelson Nygaard

Marcy Miller, Fitzgerald & Halliday, Inc.

D. STOP ANALYSIS

ENFIELD TRANSIT STUDY DRAFT STOP ASSESSMENT

Elm Street and Freshwater Boulevard – East-Bound	
<u>Applicable Routes:</u> Option 1A Option 2A Option 3A Option 3B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on far side of intersection to avoid right-turn-only traffic. For 3A, turn onto Elm. For 3B, turn onto Freshwater.



Macy's Entrance	
<u>Applicable Routes:</u> Option 1A Option 2A Option 3B	
Stop Type	Building entrance in parking lot
Travel Lane	Under 35 mph
Traffic Speed	No
Shoulder	No
Sidewalk	Yes
Recommendation	Stop at main entrance.



Elm Street and Palomba Drive– East-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 2B Option 3A	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	Yes, 2 feet
Sidewalk	Yes
Recommendation	Stop on far side of intersection.



Asnuntuck Community College

<u>Applicable Routes:</u> Option 1A Option 1B Option 2A Option 2B Option 3A	
Stop Type	Rotary
Travel Lane	Yes
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop in roundabout



Elm Street and Shaker Road – East-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3A	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Over 35 mph
Shoulder	Yes, 4 feet
Sidewalk	Yes
Recommendation	Stop in front of Walgreens on far side of intersection. Option to pull into Walgreen's parking lot.



Shaker Road and Washington Road – East-Bound

<u>Applicable Routes:</u> Option 1A	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Over 35 mph
Shoulder	Partial
Sidewalk	No
Recommendation	Stop near farm stand on Washington.



Elm Street and Washington Road – East-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3A	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	For 1A, stop on Elm because there is a steep embankment at the curb on Washington.



Senior Center

<u>Applicable Routes:</u> Option 1A Option 1B Option 2A Option 3A	
Stop Type	Building entrance
Travel Lane	No
Traffic Speed	Under 35 mph
Shoulder	Yes
Sidewalk	Yes
Recommendation	Stop at front entrance.



Elm Street and North Street – East- or South-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3A	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Over 35 mph
Shoulder	Two to three feet
Sidewalk	Yes
Recommendation	Turn onto North and stop on North.



East-Bound



South-Bound

North Street and North Maple Street – East- or South-Bound

<u>Applicable Routes:</u> Option 1A Option 2A	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	Not on North, Yes on Maple
Sidewalk	Yes
Recommendation	Stop on N Maple right after the turn.



East-Bound



South-Bound

North Maple Street and Hazard Avenue – South- or West-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3B	
Stop Type	Intersection
Travel Lane	No
Traffic Speed	Over 35 mph
Shoulder	Seven to eight feet
Sidewalk	Yes
Recommendation	Turn onto Hazard and stop. Not safe for a bus to pull over on N Maple, before the intersection because of lack of shoulder and poor visibility.



South-Bound



West-Bound

Hazard Avenue and Beverly Street – West-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3B	
Stop Type	Intersection
Travel Lane	No
Traffic Speed	Over 35 mph
Shoulder	Seven to eight feet
Sidewalk	No
Recommendation	Stop in shoulder.



Country Diner Plaza – West-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3B	
Stop Type	Mid-block
Travel Lane	No
Traffic Speed	Over 35 mph
Shoulder	Seven to eight feet
Sidewalk	Yes, directly in front of the plaza only.
Recommendation	NOT RECOMMENDED. Move stop east to Community Health Resources Center where there are more destinations.



Hazard Avenue and Palomba Drive – West-Bound

<u>Applicable Routes:</u> Option 1A Option 2A Option 3B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on far side of intersection. Option to pull into Hartford Hospital Family Health Center.



Enfield Mall

<u>Applicable Routes:</u> Option 1A Option 2A Option 3A	
Stop Type	Building entrance in parking lot
Travel Lane	No
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop at building entrance.



Pearl Street and Frew Terrace – South- or East-Bound

<u>Applicable Routes:</u> Option 1B Option 2B Option 3A	
Stop Type	Intersection
Travel Lane	Yes, but wide (16+') travel lanes and lower volumes
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop could work south-bound Pearl or on Frew after turning left. The latter would not apply to Option 2 Counterclockwise.



South-Bound



East-Bound

Brookfield Plaza

<u>Applicable Routes:</u> Option 1B Option 2B Option 3A	
Stop Type	Building entrance in parking lot
Travel Lane	No
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop at building entrance.



Hazard Avenue and Palomba Drive – East-Bound

<u>Applicable Routes:</u> Option 1B Option 3B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on far side of intersection.



Hazard Avenue and Beverly Street – East-Bound

<u>Applicable Routes:</u> Option 1B Option 3B	
Stop Type	Intersection
Travel Lane	No
Traffic Speed	Over 35 mph
Shoulder	Eight to nine feet
Sidewalk	No
Recommendation	Stop in shoulder.



Hazard Avenue and North Maple Street – East-or North-Bound

<u>Applicable Routes:</u> Option 1B Option 3B	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Over 35 mph
Shoulder	Seven to eight feet
Sidewalk	Yes, 4' with a 20' planting strip
Recommendation	East-bound would work for 1 Counterclockwise and 3b; north-bound would work only for 1 Counterclockwise

No picture

North Street and Elm Street – West- or North-Bound

<u>Applicable Routes:</u> Option 1B Option 3A	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	West-bound, yes; north-bound, no.
Recommendation	Stop on North or on Elm.



West-Bound



North-Bound

Elm Street and Washington Street – West- or North-Bound

<u>Applicable Routes:</u> Option 1B Option 3A	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on Elm.



West-Bound



North-Bound

Washington Road and Shaker Road – North-Bound

<u>Applicable Routes:</u> Option 1B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Use pull-out onto shoulder.



Elm Street and Shaker Road – West-Bound

<u>Applicable Routes:</u> Option 1B Option 3A	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on Shaker.



Elm Street and Palomba Drive – West-Bound

<u>Applicable Routes:</u> Option 1B Option 2B Option 3A	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on far side of intersection.



Elm Plaza Shopping Center

<u>Applicable Routes:</u> Option 1B Option 2B Option 3B	
Stop Type	Building entrance in parking lot
Travel Lane	No
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop at building entrance.



Pearl Street and Hillside Avenue – South-Bound

<u>Applicable Routes:</u> Option 2B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes, 4' with a 3-4' planting strip
Recommendation	Stop at intersection.



Pearl Street and Gordon Avenue – South-Bound

<u>Applicable Routes:</u> Option 2B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes, 4' with a 8-10' planting strip
Recommendation	Stop on either side of intersection.



Enfield High School

<u>Applicable Routes:</u> Option 2B	
Stop Type	Building entrance
Travel Lane	No
Traffic Speed	Under 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop at designated bus stop at front of school off of Nutmeg.



Enfield Street and South Street – South- or East-Bound

<u>Applicable Routes:</u> Option 2B	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Under 35 mph
Shoulder	South-bound: no; east-bound: yes.
Sidewalk	South-bound, yes; east-bound, no.
Recommendation	Stop on South (not Enfield).



South-Bound



East-Bound

South Street and Phoenix Street – East- or North-Bound

<u>Applicable Routes:</u> Option 2B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	East-bound: yes; north-bound: no.
Sidewalk	East-bound, yes; north-bound, no.
Recommendation	Stop on South Road because of lack of sidewalk on Phoenix.



East-Bound



North-Bound

Cranbrook Drive and Palomba Drive – North-Bound

<u>Applicable Routes:</u> Option 2B	
Stop Type	Intersection
Travel Lane	Yes
Traffic Speed	Over 35 mph
Shoulder	No
Sidewalk	Yes
Recommendation	Stop on Palomba.



Hazard Avenue and North Street – East-Bound

<u>Applicable Routes:</u> Option 2B	
Stop Type	Intersection
Travel Lane	Partially
Traffic Speed	Over 35 mph
Shoulder	Three to four feet
Sidewalk	Yes
Recommendation	Stop on the far side of the intersection.



STOPS TO BE REVIEWED:

Adjustments to the routes made after the field work was complete resulted in several stops still in need of review. These include:

- Pearl St. & High St. - North bound
- Pearl St. & Walnut St. - North bound
- Town Hall - East bound
- Elm St. & Summer St. - North & South bound
- Community Health Resources Center (east of Country Diner Plaza on Hazard) - East and West bound

E. TRANSIT PLANNING PRINCIPLES

As part of the planning process, a number of guiding principles are useful to frame the development of route alternatives. These guidelines were presented to the TAC as well as to the public to foster discussion about the three route alternatives.

TRANSIT PLANNING PRINCIPLES

As Enfield works towards developing public transportation services, it is also important to identify a series of transit guidelines that will be kept in mind as new services are created.

Public transportation typically seeks to serve a wide variety of travelers, trip types, and transportation demands. The needs of individual markets, however, frequently conflict with each other. For example, most riders want fast service, but others want stops located close together to minimize the distances that they have to walk. Providing frequent stops results in slower service. Thus, service elements that will attract one type of rider to transit can drive other riders away. The following includes several critical transit service design guidelines. Below are guidelines that were used to develop the implementation plan and can be referenced as services are implemented and updated.

Service Should be Simple

First and foremost, for people to use transit, they must be able to understand it. Accordingly, service should be designed so that it is easy to remember, understand, and use. This makes it easier for potential riders to learn about the options that are available, and help ensure that riders get where they want to go, when they want to, without experiencing frustration and problems. Most of the transit planning guidelines listed here are aimed at making service intuitive, logical, and easy to understand.

Routes Should Operate Along a Direct Path

The fewer directional changes a route makes, the easier it is to understand. Further, circuitous alignments are disorienting and difficult to remember. Routes should not deviate from the most direct alignment unless there is a compelling reason to.

Routes Should be Symmetrical

Routes should operate along the same alignment in both directions. This will make it easier for riders to know how to get back to where they came from. All routes should operate along the same alignment in both directions except in cases where such operation is not possible due to one-way streets or turn restrictions. In those cases, routes should be designed so that the opposite directions parallel each other as closely as possible. This design principle is often difficult to follow in rural and small town locations because as compared with looping services, symmetrical routes will reduce the service area (or geographic coverage). Routes that operate with a looping alignment, however, will nearly always create longer travel times in at least one direction of travel and consequently, will be less attractive to riders.

Route Deviations Should be Minimized

As described above, service should be relatively direct, and to make service direct, the use of route deviations—traveling off of the most direct route such as into a housing complex—should be

minimized. However, there are many instances when the deviation of service off of the most direct route is appropriate; for example, to provide service to major shopping centers, employment sites, schools, etc. In these cases, the benefits of operating the route off of the main route must be weighed against the inconvenience caused to passengers already on board.

Transit Routes Should Operate Along Arterials

Potential transit users have at least a basic knowledge of an area's arterial road system and use that knowledge as points of reference. In Enfield, the operation of bus service along arterials makes transit service more visible as well as easier to figure out and to use. It also makes service faster.

Service Should be Consistent and Operate at Regular Intervals

People can easily remember repeating patterns but have difficulty remembering irregular sequences. For this reason, routes should operate along consistent alignments and at regular intervals (headways). This is true even if the route operates limited departures during certain times of the day, such as commuting hours. Thus, even if there are only two trips per day, the departures ideally will be scheduled at 6:15 AM and then again at 7:15 AM, or potentially 8:15 AM, depending on service schedules.

Services Should be Well Coordinated

Several services – including the service proposed in this report, CTTRANSIT Route 5, and PVTA Route G5 - operate to the same destinations or close to the same corridors. A key objective, therefore, is to design services so they are coordinated. This may mean ensuring services meet at some locations (i.e. service origin points) to support transfers. Coordinating service, including services operated by different entities, will help expand the network of services, improve service efficiency and increase consumer confidence.

APPLICATION TO THE TOWN OF ENFIELD

Enfield presents an exception to one of the guidelines outlined above. Particularly, several Enfield options are planned as loops instead of as symmetrical routes. These loops were evaluated and determined to be the easiest to understand. They also provide a large amount of coverage to major destinations. In at least one option, the loops are planned to operate in opposite directions simultaneously, making headways more frequent and reducing the impact on headways typically resulting from loops.

F. TECHNICAL EVALUATION OF PROPOSED OPTIONS

Stop Plan

Major destinations in Enfield provided the initial basis for stop planning on each route. Existing CTRANSIT stops in Thompsonville were used, as well.

Due to relatively high speeds along Hazard Avenue and Elm Street, as well as the potential that riders may have mobility impairments, stops were placed near the entrances to major destinations wherever possible. This priority was balanced with the need to maintain an efficient service schedule. Designing a route that requires the bus to pull in to many parking lots, including lots surrounding the mall, Walgreen's, Asnuntuck Community College, and several other major destinations, results in a stop plan that differs significantly in each direction.

Based on the major destinations, existing stops, and input from the Town, which included safety concerns described above, an initial stop list was created for each alternative route. The study team conducted field work to analyze potential stop sites along each of the alternatives. For each potential stop, the following data was recorded:

- Stop type (intersection, travel lane, parking lot, etc.)
- Traffic speed
- Presence of road shoulder
- Presence of sidewalk

Several adjustments were made to the initial stop plans. None of the adjustments resulted in any major rerouting, though small changes were made. For instance, the routing for the first option was adjusted at the Enfield Park and Ride to continue along Cherry Road, stop at the Big Y, and then continue onto Hazard Avenue; the initial routing traveled to the park and ride, then back to Hazard Avenue directly. Stopping at the Big Y instead of along Hazard Avenue at Palomba Street was an important change resulting from the field work. Full details of each stop analyzed during field work are included in Appendix D.

Figure X: Option 1 Single Loop Stop Plan

Clockwise Loop Stops (Weekday and Saturday)		Counter-Clockwise Loop Stops (Weekday Only)	
Pearl St. & High St.	Elm St. & North St.	Pearl St. & High Street	Elm St. & Washington Rd.
Main St. & Lincoln St.	North St. & N Maple St.	Pearl St. & South St.	Shaker Rd. & Washington Rd.
Town Hall	N. Maple St. & Hazard Ave.	Pearl St. & Frew Terrace	Elm St. & Shaker Rd.
Elm St. & Summer St.	Hazard Ave. & Beverly St.	Enfield St. & Frew Terrace	Asnuntuck Community College
Macy's Entrance	Community Health Resources Center (CHRC)	Shop Rite	Elm St. & Palomba Dr.
Elm St. & Freshwater Blvd.	Big Y	Park & Ride	Elm St. & Freshwater Blvd.
Elm St. & Palomba Dr.	Park & Ride	Hazard Ave. & Palomba Ave.	Elm Plaza Shopping Center
Asnuntuck Community College	Enfield Mall	Community Health Resources Center (CHRC)	Elm St. & Summer St.
Elm St. & Shaker Rd.	Enfield St. & Franklin St.	Hazard Ave. & Beverly St.	Town Hall
Shaker Rd. & Washington Rd.	Pearl St. & Franklin St.	N Maple St. & Hazard Ave	Main St. & Lincoln St.
Elm St. & Washington Rd.	Pearl St. & Pease St.	North St. & N Maple St.	Main St. & Church St.
Senior Center	Pearl St. & High St.	Elm St. & North St.	Pearl St. & High St.
		Senior Center	



Figure X: Option 2 Dual Loops Stops

East-West Loop Stops (Weekday and Saturday)		North-South Loop Stops (Weekday Only)	
Pearl St. & High St.	North St. & N Maple St.	Pearl St. & High Street	Elm St. & Palomba Ave.
Main St. & Lincoln St.	N. Maple St. & Hazard Ave.	Pearl St. & South St.	Asnuntuck Community College
Town Hall	Hazard Ave. & Beverly St.	Pearl St. & Franklin St.	Elm St. & Palomba Ave.
Elm St. & Summer St.	Community Health Resources Center	Pearl St. & Hillside St.	Elm St. & Freshwater Blvd.
Macy's Entrance	Big Y	Pearl St. & Gordon St.	Elm Plaza
Elm St. & Freshwater Blvd.	Park & Ride	Enfield High School	Elm St. & Summer St.
Elm St. & Palomba Dr.	Enfield Mall	Enfield St. & South St.	Town Hall
Asnuntuck Community College	Enfield St. & Franklin St.	Phoenix Ave. & South St.	Main St. & Lincoln St.
Elm St. & Shaker Rd.	Pearl St. & Franklin St.	Brookside Plaza	Main St. & Church St.
Elm St. & Washington Rd.	Pearl St. & Pease St.	Park & Ride	Pearl St. & High St.
Senior Center	Pearl St. & High St.	Cranbrook St. & Palomba Dr.	
Elm St. & North St.			



Figure X: Option 3 Freshwater Boulevard Crossover Stops

Pearl-Hazard Route Stops (Weekday and Saturday)		Elm-Freshwater Route Stops (Weekday and Saturday)	
Pearl St. & High St.	Senior Center	Pearl St. & High St.	Hazard Ave. & North St.
Pearl St. & South St.	Elm St. & Washington St.	Main St. & Lincoln St.	Hazard Ave. & Beverly St.
Pearl St. & Frew Terrace	Elm St. & Shaker Rd.	Town Hall	Community Health Resources Center (CHRC)
Brookside Plaza	Asnuntuck	Elm St. & Summer St.	Big Y
Park & Ride	Elm St. & Palomba Ave.	Macy's	Park & Ride
Asnuntuck	Elm St. & Freshwater Blvd.	Elm St. & Freshwater Blvd.	Elm St. & Freshwater Blvd.
Elm St. & Shaker Rd.	Park & Ride	Park & Ride	Elm Plaza
Elm St. & Washington Rd.	Enfield Mall	Hazard Ave. & Palomba Dr.	Elm St. & Summer St.
Senior Center	Enfield St. & Franklin St.	Community Health Resources Center (CHRC)	Town Hall
Elm St. & North St.	Pearl St. & Franklin St.	Hazard Ave. & Beverly St.	Main St. & Lincoln St.
Hazard Ave. & N Maple St.	Pearl St. & Pease St.	Hazard Ave. & North St.	Main St. & Church St.
Elm St. & North St.	Pearl & Walnut	N Maple St. & Hazard Ave.	Pearl St. & High St.
	Pearl St. & High St.		



SCHEDULES

Following the stop analysis and minor routing and stop adjustments, each route was driven to estimate time between each stop as well as total running time. The vehicle traveled at a maximum of 30 miles per hour, stopped at all railroad crossings (since a transit vehicle would be subject to this rule), and stopped at each proposed stop location for a minimum of 30 seconds.

Simplicity of service schedule is a high priority for a new transit system. While routes typically have a 10-15% recovery time built into the schedules to allow for a wheelchair boarding, traffic, or other delays, these routes were planned to operate on 30-minute or 60-minute headways. Recovery time of at least 10% is built into each route in order to ensure these headways; most have at least 25% recovery or more, a conservative estimate that gives maximum allowance for traffic delays, wheelchair loading, and any other delays.

Figure X: Run Times of Each Alternative Route

Route	Operating Time	Recovery Time	Headway
Option 1: Clockwise and Counter Clockwise	47 minutes	13 minutes	60 minutes
Option 2: East-West Loop	47 minutes	13 minutes	60 minutes
Option 2: North-South Loop	40 minutes	20 minutes	60 minutes
Option 3: Pearl-Hazard Route	54 minutes	6 minutes	60 minutes
Option 3: Elm-Freshwater Route	49 minutes	11 minutes	60 minutes

For each option, one bus operates on the hour, and the other on the half-hour. Start times are assumed to be 7:00 AM and 7:30 AM.

Figure X: Option 1 Sample Schedule

Clockwise

Stop	Time
Pearl & High	7:00
Main & Lincoln	7:01
Town Hall	7:02
Elm & Summer	7:03
Macy's	7:07
Elm & Freshwater	7:09
Elm & Palomba	7:11
Asnuntuck	7:12
Elm & Shaker	7:14
Shaker & Washington	7:16
Elm & Washington	7:17
Senior Center	7:19
Elm & North	7:22
North & N Maple	7:23
N Maple & Hazard	7:26
Hazard & Beverly	7:28
CHRC	7:30

Counter Clockwise

Stop	Time
Pearl & High	7:30
Pearl & South	7:30
Pearl & Frew	7:32
Enfield & Frew	7:33
Shop Rite	7:37
Park & Ride	7:39
Hazard & Palomba	7:41
CHRC	7:44
Hazard & Beverly	7:46
N Maple & Hazard	7:48
North & N Maple	7:50
Elm & North	7:52
Senior Center	7:55
Elm & Washington	7:57
Shaker & Washington	7:58
Elm & Shaker	7:59
Asnuntuck	8:02

Big Y	7:32
Park & Ride	7:34
Enfield Mall	7:38
Enfield & Franklin	7:43
Pearl & Franklin	7:44
Pearl & Pease	7:45
Pearl & High	7:47

Elm & Palomba	8:04
Elm & Freshwater	8:06
Elm Plaza	8:07
Elm & Summer	8:08
Town Hall	8:13
Main & Lincoln	8:14
Main & Church	8:15
Pearl & High	8:17

Figure X: Option 2 Sample Schedule

East-West Route

Stop	Time
Pearl & High	7:00
Main & Lincoln	7:01
Town Hall	7:02
Elm & Summer	7:03
Macy's	7:07
Elm & Freshwater	7:09
Elm & Palomba	7:11
Asnuntuck	7:12
Elm & Shaker	7:14
Shaker & Washington	7:16
Elm & Washington	7:17
Senior Center	7:19
Elm & North	7:22
North & N Maple	7:23
N Maple & Hazard	7:26
Hazard & Beverly	7:28
CHRC	7:30
Big Y	7:32
Park & Ride	7:34
Enfield Mall	7:38
Enfield & Franklin	7:43
Pearl & Franklin	7:44
Pearl & Pease	7:45
Pearl & High	7:47

North-South Route

Stop	Time
Pearl & High	7:30
Pearl & South	7:30
Pearl & Franklin	7:32
Pearl & Hillside	7:33
Pearl & Gordon	7:34
Enfield HS	7:38
Enfield & South	7:41
Phoenix & South	7:42
Brookside Plaza	7:46
Park & Ride	7:50
Cranbrook & Palomba	7:53
Elm & Palomba	7:54
Asnuntuck	7:57
Elm & Palomba	7:58
Elm & Freshwater	8:00
Elm Plaza	8:02
Town Hall	8:06
Main & Lincoln	8:07
Main & Church	8:08
Pearl & High	8:10

Figure X: Option 3 Sample Schedule

Pearl-Hazard Route

Stop	Time
Pearl & High	7:00
Pearl & South	7:00
Pearl & Frew	7:02
Brookside Plaza	7:06
Park & Ride	7:08

Elm-Freshwater Route

Stop	Time
Pearl & High	7:30
Main & Lincoln	7:31
Town Hall	7:32
Elm & Summer	7:33
Macy's	7:36

Elm & Freshwater	7:09
Elm & Palomba	7:10
Asnuntuck	7:14
Elm & Shaker	7:16
Elm & Washington	7:18
Senior Center	7:20
Elm & North	7:22
Hazard & N Maple	7:25
Elm & North	7:26
Senior Center	7:29
Elm & Washington	7:31
Elm & Shaker	7:32
Asnuntuck	7:35
Elm & Palomba	7:36
Elm & Freshwater	7:37
Park & Ride	7:42
Enfield Mall	7:47
Enfield & Franklin	7:50
Pearl & Franklin	7:51
Pearl & Pease	7:52
Pearl & Walnut	7:53
Pearl & High	7:54

Elm & Freshwater	7:37
Park & Ride	7:41
Hazard & Palomba	7:46
CHRC	7:48
Hazard & Beverly	7:50
Hazard & North	7:51
N Maple & Hazard	7:53
Hazard & North	7:54
Hazard & Beverly	7:56
CHRC	7:58
Big Y	8:00
Park & Ride	8:03
Elm & Freshwater	8:04
Elm Plaza	8:10
Elm & Summer	8:11
Town Hall	8:15
Main & Lincoln	8:16
Main & Church	8:17
Pearl & High	8:19

G. RIDERSHIP ESTIMATE ASSUMPTIONS

Ridership Factors		Enfield High School Enrollment	50% of Youth 15 to 18 ¹	Older Adults	Low Income	Persons with No Vehicle ²	Transit-Dependent Total	Less 50% Overlap ³	Non-driving Survey Respondents ⁴	Total Potential Riders	Daily Passengers (Two Round Trips per Week)	Annual Passengers ⁵
Town Totals		900	406	6,956	4,559	1,788	14,609	7,304	22%	1,599	123	34,929
Option Characteristics												
Option 1	No EHS service		406	6,956	4,559	1,788	13,709	6,854	22%	1,500	115	32,777
Option 2	Less senior center service: Reduce Older Adult count by 25%	900	406	5,217	4,559	1,788	12,870	6,435	22%	1,409	108	30,772
	Service to Enfield High School											
Option 3	No EHS service		406	6,956	4,559	1,788	13,709	6,854	22%	1,500	115	32,777

¹ Some youth 15-18 may have a driver's license and be less likely to use transit.

² Census data is provided by household. The household number was multiplied by the average Enfield household size of 2.53.

³ This percentage is to account for an overlap in transit-dependent populations - seniors who are also low income, etc.

⁴ This figure is the % of survey respondents who travel to their destinations by other than driving or being dropped off in a car.

⁵ Based on 260 weekdays and 52 Saturdays (Saturday ridership is reduced by 50%).