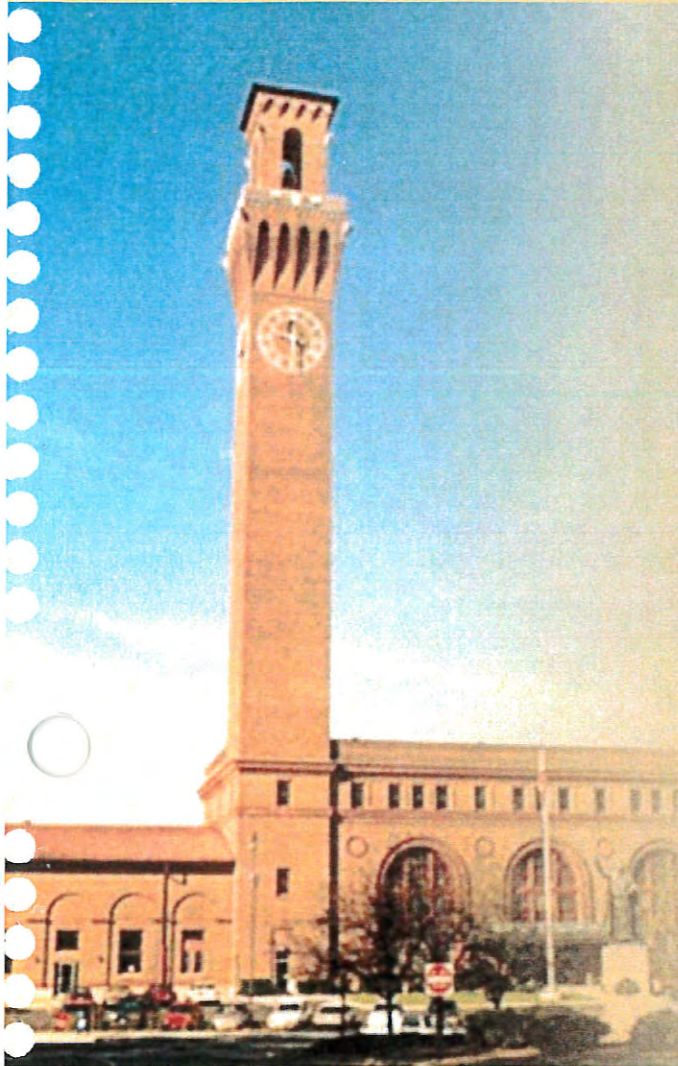


Draft Greater Waterbury Transportation Center Needs and Feasibility Study

March 2006



DMJM HARRIS | AECOM



CT TRANSIT
OPERATED BY
North East Transportation



CONNECTICUT LIMO



Metro-North Railroad

LAND/JET



**Draft
Greater Waterbury
Transportation Center
Needs and Feasibility
Study**

March 2006

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EXECUTIVE SUMMARY

The *Greater Waterbury Transportation Center Needs and Feasibility Study* is a technical study prepared for the Connecticut Department of Economic and Community Development (DECD) by DMJM Harris. The purpose of this study is to identify whether there is a need for a new transportation center in downtown Waterbury where all public transportation services in downtown would be consolidated. In addition to identifying the need for the center, the study also considers whether a new transportation center is feasible. Finally, the Study evaluates alternative sites within downtown for locating the center.

To complete the need and feasibility analysis, a planning process consisting of the following steps was undertaken: data collection; discussions with downtown transportation providers and other stakeholders; identification and evaluation of alternative transportation center sites; analysis of impacts from a new transportation center; funding sources; public outreach; and study findings.

This current Study, sponsored by the DECD, has some scope similarities to the work effort conducted for the *Feasibility Study for a New Transportation Center, Waterbury, Connecticut* (2001), which was prepared for the Waterbury Development Corporation. That study identified the need for a new integrated transportation center in downtown Waterbury to be located at the existing Metro-North Railroad Station on Meadow Street. The Meadow Street site is evaluated along with additional potential sites in this study.

The goal of a new transportation center would be to consolidate public transportation providers servicing downtown Waterbury into one integral center. These transportation providers include: Metro-North Railroad (commuter rail), Connecticut Limousine (airport service), Land/Jet Bus Lines (specialized service to Connecticut Casinos), Bonanza Bus (intercity bus), Connecticut (CT) Transit operated by North East Transportation (local bus), and Yellow Cab (taxi). Objectives of a new transportation center include the following:

- Ease automotive and pedestrian congestion in downtown Waterbury
- Restore the Waterbury Green to its original civic function
- Consolidate modes of transportation into one transportation center
- Increase safety and convenience of transit patrons and service providers
- Encourage transit ridership
- Support economic development
- Stimulate economic redevelopment

With regards to the redevelopment objective, the study assesses whether the transportation center would help stimulate the redevelopment of a 77-acre industrial and underutilized area located directly west of downtown and east of the Naugatuck River on both sides of Freight Street. Many of the parcels that comprise this 77-acre area are vacant industrial sites and contaminated brownfields that require remediation. The redevelopment of this area is a major priority for the City of Waterbury and the Connecticut DECD.

Completed as part of this study, a review of the *Thomaston Avenue-Jackson Street Connector Study* is presented in Appendix A. The original study was prepared in 2002 for the Waterbury Development Corporation. The study examines the potential extension and realignment of Thomaston Avenue and Jackson Street through the 77-acre industrial site. The review evaluates the original study's findings regarding the overall redevelopment potential of the 77-acre site based on economic conditions; relevant industry and site data; site characteristics; existing and planned infrastructure; and interviews with local officials, economic developers, realtors, and other business interests.

The review determined that retail developers would show the greatest interest in the site. The original study identified mixed-use development including offices and residential as feasible on the site. The review also examined whether the alternatives analysis and conceptual engineering completed for the Thomaston Avenue-Jackson Street Connector and included in the study were based on sound planning and engineering standards. The review found that the alternatives analysis was rational and reasonable and that there were no major issues associated with the conceptual engineering included in the original study, although noted some revisions to the cost estimate.

Outlined below is a brief summary of each of the key steps of the needs and feasibility study planning process.

Data Collection

The data collection step of the planning process is focused on understanding the existing operations of each of the downtown transportation providers as well as the socioeconomic characteristics of the downtown areas that would be most affected by a transportation center relocation. This data is used to fully evaluate the potential impacts of a transportation center.

Discussions with Transportation Providers and Other Stakeholders

Interviews were held with each of the transportation providers within downtown Waterbury in order to gain an understanding of their views of the impacts to their operations of relocating to a consolidated transportation center. Interviews with other key stakeholders such as economic development officials and social service agencies were also held. As with the data collection effort, the results of this step were used to fully evaluate the potential impacts of a transportation center.

Site Alternatives Identification and Analysis

Four alternative sites were identified in downtown Waterbury for the potential location of a transportation center:

1. Meadow Street Site – This is the site identified in the *Feasibility Study for a New Transportation Center, Waterbury Connecticut*. The site is located on Meadow Street, between Freight Street and Interstate 84, at the existing Waterbury train station.
2. Judd Street Site – This site is located on Judd Street, east of the railroad tracks, between West Main Street and Freight Street.
3. Sperry Street North Site – This site is located on Sperry Street, north of West Main Street and east of the railroad tracks.
4. Sperry Street South Site – This site is also located on Sperry Street, but south of West Main Street and west of the railroad tracks.

Each of these four sites met two fundamental criteria: 1) the transportation center must be located along the existing railroad alignment in order to allow for continued access to Metro-North Railroad; and 2) the transportation center must be located within walking distance of the Green.

Each site was evaluated relative to a series of evaluation criteria that included accessibility to the site, impacts to existing uses from constructing the transportation center, environmental considerations, potential traffic impacts related to transportation center operations, site suitability for a new center, impacts to existing railroad operations and construction costs.

Based on the evaluation of each site relative to each of the criterion noted above, the alternative site most suited to a new transportation center is the Meadow Street site, adjacent to the existing train station.

Impact Analysis

One of the key elements of the overall planning process for the needs and feasibility study was the completion of an impacts analysis of a new downtown transportation center. This assessment showed that stakeholders such as the City of Waterbury, the Waterbury Development Corporation and other economic development officials, and elected officials, whose primary goal is economic development and redevelopment, would all reap positive benefits from the new transportation center. The primary focus of these stakeholder groups is the removal of bus operations from the Green in order to return the Green to its original civic function and the impetus for the redevelopment of the 77 acres of industrial, vacant, and underutilized sites along Freight Avenue from a new transportation center.

North East Transportation, the local bus operator, and its passengers would see both benefits and negative impacts from a new transportation center. Passengers would benefit from an improved waiting and transfer environment but the current North East Transportation pulse transfer operation would be significantly affected by the increased trip times associated with a relocated transportation center. Moving the transit center would require a dramatic change in the way North East Transportation schedules and operates its buses today. In addition, many of the transit dependent populations located around the Green would have further to walk to access some transit services, while access to key downtown destinations would also be more difficult for riders on services coming from the west, which would no longer enter the heart of downtown.

Metro-North Railroad and their passengers could be expected to greatly benefit from a new transportation center at the existing rail station. The transportation center would result in a more user friendly and safer waiting environment, and greater activity in the station area would also result in a safer parking area.

The operations of existing transportation providers at the Travel Center – Bonanza Bus, Land/Jet Bus Lines, and Connecticut Limousine – would not be dramatically impacted by relocation to a new transportation center. High quality access to I-84 would still be available. Owners of the Travel Center, however, did express concern about the adequacy of passenger parking at a new center, given their current location within the municipal garage along Bank Street. They also expressed concern regarding the cost of relocating their operations, including their travel agency, to a new center, as well as the impact to their travel agency of being located further from the center of Waterbury.

Funding Sources

Federal, state, local, and private resources are potentially available to fund the proposed transportation center in downtown Waterbury. Most of the available government and private funding sources are related to transportation, economic, and development programs. Innovative financing is also potentially available to match the desired project implementation schedule.

Public Outreach Results

Three public outreach meetings were held during the study process to provide community members with a full understanding of the project scope of work as well as study results. The first, held in December 2005, was a kickoff meeting with the full range of project stakeholders. The focus of this meeting was to present the scope of the project and receive feedback from stakeholders on key project elements that should be considered as the project moved forward. Both proponents and opponents of a new transportation center presented their views at the meeting. A second set of meetings were held in late February, towards the end of the study process. The focus of these meetings was to present study results and findings, and to receive feedback on these findings for incorporation into the final report. The first meeting was with project stakeholders while the second meeting was with the general public. The agenda and content of both meetings was similar. As with the initial stakeholder meeting, both proponents and opponents of the project strongly expressed their views of a new transit center.

Findings and Conclusions

The report summarizes the findings of the three key analyses completed in the study: a) selection of the preferred site for a transportation center; b) transportation center feasibility, and c) transportation center need.

With regard to the selection of the preferred site, the study concludes that the Meadow Street site is the preferred location based on the alternative site analysis outlined in Chapter 4. With regard to the analysis to determine the feasibility of a new transportation center, the analysis indicates that a new transportation center at the preferred site on Meadow Street is considered feasible, though there would be significant impacts to North East Transportation operations from a relocation that would have to be addressed if development moves forward.

With regard to identifying the need for a new transportation center, the assessment of need was done within the framework of the seven objectives for the transportation center. How a new center would help to meet these objectives is summarized below.

Objective 1 - Ease Automotive and Pedestrian Congestion in Downtown Waterbury – A new center would help ease congestion by 1) removing large crowds waiting for buses on the Green that block pedestrian paths, 2) removing multiple arriving and idling buses blocking auto traffic around the Green, and 3) removing conflicts between hurrying transferring bus riders and other pedestrians.

Objective 2 – Restore the Waterbury Green to its Original Civic Function – The Green is seen as an unparalleled resource that is being degraded by the bus operations and associated crowds at the Green. Removal of bus operations from the Green would address these impacts and enable people to enjoy the aesthetics and architecture surrounding the Green.

Objective 3 – Consolidate Modes of Transportation into one Transportation Center – This objective would be met if all downtown transportation providers moved to the facility. However, private operators at the Travel Center indicated that they did not want to move and therefore it is not a given that all providers will move to a new facility.

Objective 4 – Increase Safety and Convenience of Transit Patrons and Service Providers – Study analysis shows that this objective would be met by a new transportation center, with North East Transportation and Metro-North Railroad riders being the biggest beneficiaries based on much improved waiting environment and a safer parking lot for rail commuters.

Objective 5 – Encourage Transit Ridership – An improved waiting area may result in increased ridership, especially for Metro-North Railroad. Disruptions to North East Transportation schedules, potentially leading to a degraded level of service, may actually result in a decrease in ridership. Changes in ridership on other providers would likely be marginal.

Objective 6 – Support Economic Development – Economic development stakeholders strongly felt that downtown economic development initiatives would be greatly enhanced by removal of bus operations from the Green. If this is true, a new center would strongly support this objective.

Objective 7 – Support Economic Redevelopment – A transportation center located at Meadow Street could be an important catalyst for a mixed-use redevelopment of the 77-acre industrial area located along Freight Street. The proposed center would provide less support to retail development of the area.

The overall findings of the study analysis showed that a new transportation center on Meadow Street is feasible. It also shows that there is need for the facility based on the objectives set for the transportation center. It should be emphasized, however, that a new transportation center would not come without its costs, specifically significant disruption to bus operations and schedules that will need to be further evaluated and mitigated.

1.0 INTRODUCTION

The City of Waterbury and the Naugatuck Valley Development Corporation (now known as the Waterbury Development Corporation) have proposed a Greater Waterbury Transportation Center that would be located on Meadow Street adjacent to the existing Metro-North Railroad Station in central Waterbury. The transportation center would house and link a variety of transportation service providers, including commuter rail service, local bus service, taxi service, intercity bus service, and shuttle services in addition to commuter travel and tourism activities. The transportation center is intended to encourage transit ridership, improve the waiting environment, increase the safety of transit patrons and service providers, and to stimulate economic development in downtown Waterbury and the redevelopment of a major former industrial site along Freight Avenue in downtown Waterbury.

This study, titled *Greater Waterbury Transportation Center Needs and Feasibility Study*, is a technical study, prepared for the Connecticut Department of Economic and Community Development (DECD), to identify whether there is a need for a new transportation center in downtown Waterbury. This study is a follow on to the work completed for the Waterbury Development Corporation on the feasibility of a new transportation center. This initial work was documented in the report *Feasibility Study of a New Transportation Center, Waterbury* (2001).

In addition to identifying the need for the center, the current study also considers whether a new transportation center is feasible. Finally, the Study evaluates alternative sites within downtown for location the center.

1.1 DESCRIPTION OF THE WATERBURY REGION

As depicted in Figure 1.1, Waterbury, Connecticut is located southwest of Hartford within New Haven County. The town is considered part of the New Haven—Milford metro area. Waterbury is situated on the Naugatuck River at the junction of State Highway Routes 8 and Interstate 84. With an estimated population of 107,271 (2000 census), it is the fifth largest city in Connecticut. Waterbury has a total area of 28.6 square miles. The study area is outlined in Figure 1.1 and includes the western area of downtown Waterbury including the Green located on Main Street.

1.2 STUDY ORGANIZATION

This study documents the research, analysis, and conclusions of the planning process undertaken to determine the need and feasibility of consolidating Waterbury transit operations and other transportation services into a single integrated downtown transportation center. This report outlines the study planning process and conclusions, and includes the following chapters:

- **Chapter 2.0**, Data Collection
- **Chapter 3.0**, Discussions with Transportation Providers and Other Stakeholders
- **Chapter 4.0**, Site Alternatives Identification and Analysis
- **Chapter 5.0**, Impact Analysis
- **Chapter 6.0**, Public Outreach Results
- **Chapter 7.0**, Findings and Conclusions

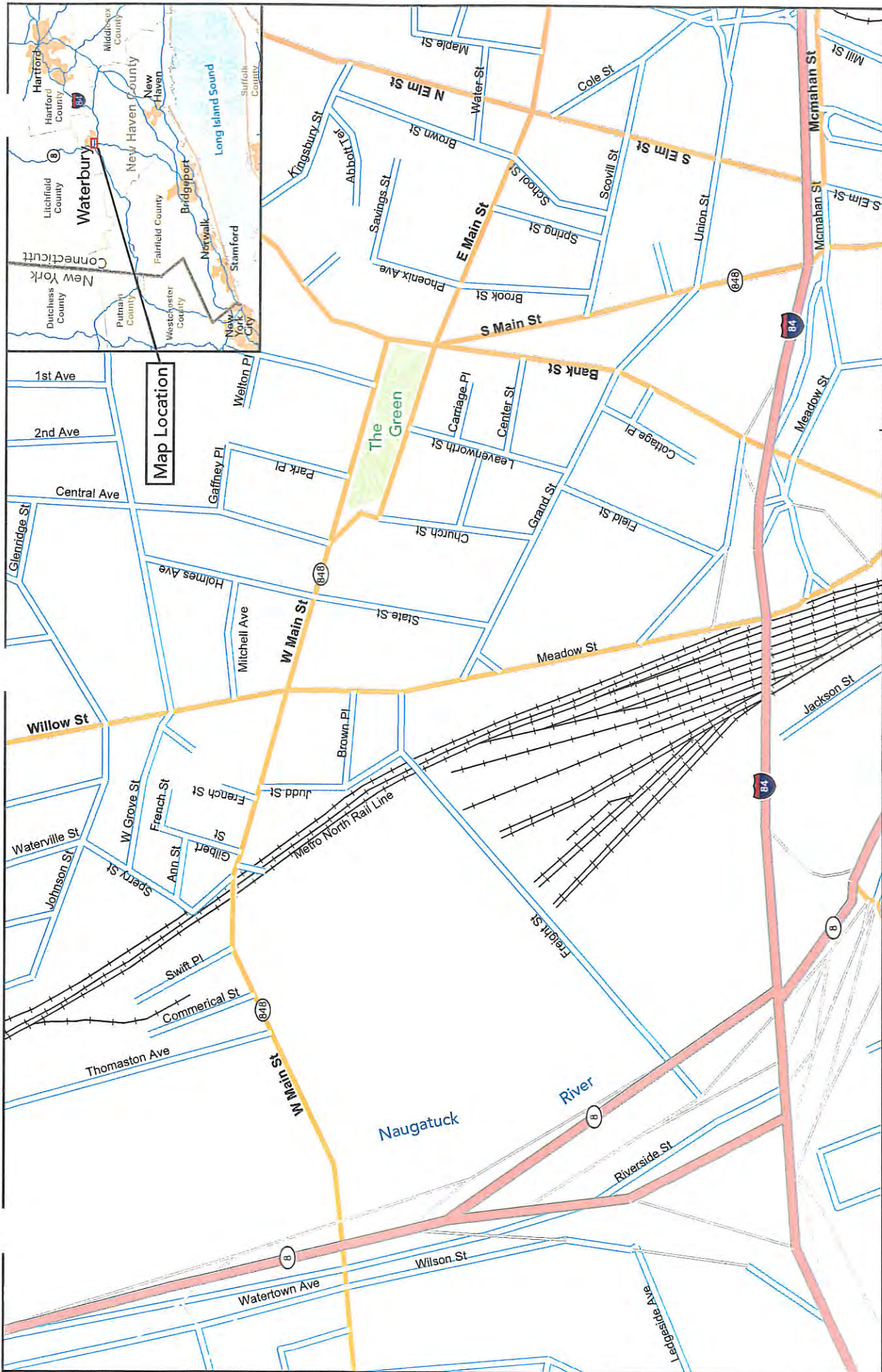


FIGURE 1.1
City of Waterbury, Connecticut



1.3 WATERBURY TRANSPORTATION CENTER GOALS AND OBJECTIVES

The goal of a new consolidated transportation center would be to combine transportation providers servicing Waterbury into one integral center. These transportation providers would include: Metro-North Railroad (commuter rail), Connecticut Limousine (airport service), Land/Jet Bus (shuttle service), Bonanza Bus (intercity bus), Connecticut Transit Waterbury Division operated by North East Transportation (local bus), and Yellow Cab (taxi). Objectives of the transportation center include the following:

- Ease automotive and pedestrian congestion in downtown Waterbury
- Restore the Waterbury Green to its original civic function
- Consolidate modes of transportation into one transportation center
- Increase safety and convenience of transit patrons and service providers
- Encourage transit ridership
- Support economic development
- Stimulate economic redevelopment

These objectives provide the framework for assessing the need for a new transportation center in downtown Waterbury. This analysis of need is contained in Chapter 7.0, Findings and Conclusions.

With regards to the redevelopment objective, the objective is that the transportation center would stimulate the redevelopment of a 77-acre former industrial area located in downtown Waterbury, west of downtown and east of the Naugatuck River along Freight Avenue. The redevelopment of this area is a major priority for the City of Waterbury and the Connecticut DECD.

The *Thomaston Avenue-Jackson Street Connector Study*, prepared in 2002, examines the extension and realignment of Thomaston Avenue and Jackson Street through the 77-acre site, and also evaluates the site's redevelopment potential. A review of this study was completed as part of the current study effort and can be found in Appendix A. Documented within the *Review of Thomaston Avenue-Jackson Street Connector Study* (DMJM Harris, 2006), completed as part of this study process, is a review of the overall redevelopment potential analysis completed in the original study. This review was conducted by assessing current economic conditions; examining relevant industry and site data; researching site characteristics, existing and planned infrastructure; and interviewing local officials, economic developers, realtors and other business interests. While the original study indicated that mixed-use development was feasible on the 77-acre industrial site, the review of that study indicates that the greatest interest in the site would be shown by retail development.

2.0 DATA COLLECTION

The purpose of this report chapter is to document the results of the study's data collection efforts. The focus of these efforts was to gain a full understanding of transportation and socioeconomic conditions in downtown Waterbury, Connecticut as well as economic development initiatives taking place within the study area. The data collection effort began with a field visit on November 8, 2005. The visit was conducted to review the study area, identify potential alternative transportation center sites (in addition to the Meadow Street site identified in previous studies), observe local bus operations, confirm various data collected from previous studies, and confirm routing and timetable information collected from the internet. The data presented within this chapter were used as a foundation for conduct of the analysis presented in subsequent chapters of this study.

Information was collected for each of the transportation providers in downtown Waterbury including Connecticut Transit Waterbury Division (local bus – operated by North East Transportation Company), Connecticut Department of Transportation (DOT) Commuter Rail - Waterbury Branch (operated by Metro-North Railroad for the Department of Transportation), Bonanza Bus Lines (intercity bus), Connecticut Transit New Haven Division (bus trips between New Haven and Waterbury), Land/Jet Bus Lines (excursion service to Connecticut casinos), Connecticut Limousine (service to New York and Hartford airports), and Waterbury Yellow Cab.

The data collected for each transportation provider includes:

- Existing downtown terminal location, layout, and operations
- Transportation provider service levels, routes, downtown routings, and hours of service
- Transportation provider ridership, on-offs by bus stop, and rider origins/destinations

In addition to information concerning transportation providers, the consultant team collected traffic volume data, census journey to work data, and socio-economic information for Waterbury.

2.1 DATA BY TRANSPORTATION PROVIDER

2.1.1 North East Transportation Company, Inc.

Connecticut Transit (CT Transit) Waterbury Division's local bus system is presently operated by North East Transportation Company, which is responsible for all aspects of system operations, including operating and maintaining vehicles. The local Central Naugatuck Valley Council of Governments (COG) and the Connecticut DOT provide support on ancillary activities such as scheduling, operations planning and operations monitoring, including ridership and productivity monitoring.

Existing Terminals

The downtown Waterbury terminal for the local bus system is located around Waterbury's central downtown park, known as the "Green" (also known as Exchange Place). The Green is bordered by West Main Street to the north, Church Street to the west, West Main Street to the south, and South Main Street to the east.

Local buses terminating at the Green make stops and layovers along the curb at various boarding points along the streets around the Green. There are approximately 10 bus shelters located at different points around the park to protect people from the elements as they wait for buses. Field review noted some deficiencies including shelters that are not clearly marked with the routes serving them, the lack of route or system maps, and the general lack of schedule information. In addition, many of the stops around the Green do not have shelters.

Service Levels, Downtown Routings, and Hours of Operations

The Waterbury division of Connecticut Transit consists of 20 routes that radiate from downtown and which are centered on serving downtown Waterbury. The local buses in Waterbury operate on a 'pulse' system, which means that buses arrive and depart at the Green in conjunction with other routes in the system, thus facilitating quick and convenient passenger transfers between routes. Seven of the system's routes leave the Green every 30 minutes, on both the top of the hour and on the half hour. Nine of the system's routes leave the Green every 60 minutes, on just the half hour. An additional three routes leave the Green every 60 minutes, at the top of the hour. The final route leaves the Green every 30 minutes, at 10 minutes and 40 minutes after the hour. In addition, Route 40 makes a stop at the existing Metro-North Railroad Station on Meadow Street. Table 2.1 contains the daily start and end times, headway, pulse grouping, and downtown routing for each route in the system.

Table 2.1: Local Bus Service Characteristics

Route	First Trip Start	Last Trip End	Headway	Pulse at the Green	Routing into Downtown
11	6:30 a.m.	6:22 p.m.	30	On the hour and half hour	Willow to West Main to the Green
12	6:00 a.m.	5:27 p.m.	30	On the hour and half hour	North Main to Grove to Homes to West Main to the Green
13	6:30a.m.	5:25 p.m.	60	On the half hour	Cooke to North Main to the Green
15	6:00 a.m.	6:25 p.m.	30	On the hour	North Main to the Green
16	6:30 a.m.	5:58 p.m.	30	On the half hour	North Main to the Green
18	6:10 a.m.	6:07 p.m.	30	Not involved in the pulse	North Main to the Green
20	6:00 a.m.	6:23 p.m.	60	On the hour	Cherry to East Main to the Green
22	6:30 a.m.	6:25 p.m.	60	On the half hour	Wolcott to East Main to the Green
25	6:30 a.m.	5:26 p.m.	60	On the half hour	East Main to the Green
26	6:00 a.m.	6:23 p.m.	60	On the hour	East Main to the Green
27	6:30 a.m.	5:58 p.m.	60	On the half hour	East Main to the Green
28	7:40 a.m.	7:57 p.m.	60	Irregular	East Main to the Green
31	7:00 a.m.	5:28 p.m.	60	On the hour	East Main to the Green
32	7:00 a.m.	5:28 p.m.	60	On the hour	East Main to the Green
33	6:00 a.m.	6:23 p.m.	30	On the hour and half hour	Baldwin to East Main to the Green
35	6:30 a.m.	5:58 p.m.	30	On the half hour	West Liberty to South Main to the Green
36	6:00 a.m.	5:28 p.m.	30	On the hour	West Liberty to South Main to the Green
40	6:30 a.m.	5:57 p.m.	60	On the half hour	Freight to Meadow to Grand to State to West Main to the Green

Table 2.1: Local Bus Service Characteristics

Route	First Trip Start	Last Trip End	Headway	Pulse at the Green	Routing into Downtown
42	6:30 a.m.	5:56 p.m.	60	On the half hour	West Main to the Green
44	6:30 a.m.	5:58 p.m.	60	On the half hour	West Main to the Green
45	5:30 a.m.	6:22 p.m.	60	On the half hour	West Main to the Green
J4/J5 New Haven	6:02 a.m. Union Station	7:30 p.m. the Green	60	On the half hour	East Main to the Green to Leavenworth to Grand to State to West Main to exit via East Main

Source: Connecticut Transit, Waterbury Division Timetables

There are a total of 256 trips serving the Green each weekday. Route 45 begins service at 5:30 a.m., while the remaining routes begin at 6:00 a.m. or 6:30 a.m. Of the 256 daily bus trips to and from the Green, 146 buses arrive during morning (between 6:00 a.m. and 9 a.m.) and afternoon (between 3:00 p.m. and 6 p.m.) peak hours. Saturday service is slightly reduced from the weekday service; and there is no Sunday Service.

System Ridership, On/Offs, and Rider Origins and Destinations

Total Daily Ridership/ Boardings by Route

Total daily ridership on the local Waterbury transit system is approximately 5,270. Boardings by route are summarized in Table 2.2. These data are used in the impact analysis (Chapter 5.0) to determine the number of riders that may be affected by changes in downtown operations associated with the potential development of a consolidated transportation center.

Table 2.2: Local Bus Daily Ridership

Route #	Route Name	Daily Ridership
11	Overlook/Willow	338
12	Hill Street	235
13	Oakville/Fairmont	447
15	Bucks Hill/Farmcrest	391
16	Bucks Hill/Montoe	279
18	Long Hill/Berkeley	407
20	Walnut Street	219
22	Wolcott	510
25	Hitchcock Lake	301
26	Fairlawn/East Main	127
27	Reidville/East Main	242
31	East Mountain	28
32	Hopeville/Sylvan	84
33	Hopeville/Baldwin	421
35	Town Plot/New Haven Ave.	222
36	Town Plot/Bradley	245
40	Town Plot/Highland	143
42	Chase Parkway	173
44	Bunker Hill	226
45	Watertown	232

Connecticut Transit, Waterbury Division

Source: *Central Naugatuck Valley Region Bus Route Study*. Council of Governments of the Central Naugatuck Valley

High Activity Bus Stops

Bus boarding and alighting data are used to show system stops with the greatest activity throughout the day, by route and direction. The three most active stops for each route in the system, for each direction, are outlined in Appendix B. These data are used to identify potential impacts to stops from relocation of the downtown terminal from the Green to other potential downtown locations. In general, the data show that the most significant activity for each of the routes in the system occurs in downtown, specifically around the Green.

System Transfers

Overall, approximately 20 percent of total boardings on the local bus system are a transfer from one system route to another. Transfers by route, based on the number of riders transferring *to* a route are summarized in Table 2.3.

Table 2.3: Local Bus Monthly and Daily Transfers

Route	Monthly Transfers	Daily Transfers	Percent of Total Boardings (monthly)
11	1,519	69	22%
12	868	39	21%
13	1,491	68	17%
15	978	44	15%
16	1,410	64	24%
18	1,419	65	17%
20	608	28	15%
22	2,831	129	23%
25	1,415	64	21%
26	605	28	21%
27	967	44	21%
31	51	2	13%
32	293	13	17%
33	1,669	76	17%
35	1,113	51	23%
36	618	28	13%
40	847	39	26%
42	1,045	48	33%
44	1,149	52	23%
45	975	44	18%

Source: Connecticut Transit, Waterbury Division Transit fare box counts (November 2005)

The overwhelming majority of the transfers occur at the Green. Other transfer points within the system are outlined in Table 2.4.

Table 2.4: Local Bus Transfer Points Outside The Green

Transfer Point	Route Direction	Routes: Transfer to and From
North Main & Cooke Street	Northbound	13,15,16, 18
Cooke Street & Grove Street	Northbound	12, 13
North Main & Hill Street	Northbound	12, 15, 16, 18
North Main & East Farm St.	Northbound	15, 16, 18
Baldwin Street & Sylvan	Southbound	32, 33
Baldwin Street & East Main	Southbound	All eastbound routes

Table 2.4: Local Bus Transfer Points Outside The Green

Transfer Point	Route Direction	Routes: Transfer to and From
East Main Street & Baldwin St.	Eastbound	20, 22, 25, 26, 27, 31, J4 (to New Haven)
East Main Street & Brass Mill Drive	Eastbound	22, 25, 26, 27, 31, J4 (to New Haven)
East Main Street & Wolcott Road	Eastbound	22, 25, 26, 27, 38, J4 (to New Haven)
East Main Street & Meriden Road	Eastbound	25, 26, 27, 28, J4 (to New Haven)
East Main & Frost Road	Eastbound	27, 28, J4 (to New Haven)
West Main & Central Avenue	Westbound	11, 42, 44, 45
West Main & Willow Street	Westbound	11, 42, 44, 45
West Main at Famous Recipe	Westbound	42, 44, 45
Watertown & Robbin Street	Westbound	42, 45

Connecticut Transit Waterbury Division

It should be noted that the 20 percent transfer rate identified at the beginning of this section is derived from data collected from electronic fareboxes on board each bus. A transfer rate of approximately 50 percent was identified in an origin/destination study of system riders completed by the Central Naugatuck Valley COG. Most likely, the 20 percent rate is more accurate since it is based on data collected daily from bus fareboxes as opposed to a single survey.

Major System Destinations

North East Transportation does not collect comprehensive system wide origin/destination data as part of its normal data collection efforts. However, the Central Naugatuck Valley COG has completed analysis of downtown origins and destinations for system riders. The most significant downtown destinations identified in this analysis include:

- The Enlightenment Program on Church Street
- The YMCA on West Main Street
- The CVS Drug Store on West Main Street
- The Rowland Building on West Main Street
- Fleet Bank on West Main Street
- Sovereign Bank on West Main Street
- The Travel Center on Bank Street

These data are used to assess the potential impacts of a terminal relocation on pedestrian access to final destinations for system riders.

2.1.2 Connecticut Transit – New Haven Division

Route J4/J5 is operated by the Connecticut Transit—New Haven Division. The route runs between New Haven and Waterbury. Information regarding this route is outlined below.

Existing Terminals

The New Haven terminal for Route J4/J5 is located at Union Station in downtown New Haven, Connecticut. The last stop on this route is located on West Main, east of Church Street, on the north side of the Green in downtown Waterbury.

Service Levels, Downtown Routings, and Hours of Operations

The J4 arrives at the Green every hour between 6:15 a.m. to 7:18 p.m. The buses arrive at the Green between 15 minutes after the hour and 20 minutes after the hour, over the course of the day. The buses have a layover at the Waterbury Green, for a period of approximately 10 to 15 minutes, before beginning their return trip back to New Haven. Buses return to New Haven as the J5 Bus. Specific daily arrival and departure times are summarized in Table 2.5.

Table 2.5: Route J4/J5 Arrivals and Departures at the Waterbury Green

Arrival at Waterbury Green	Departure from Waterbury Green
6:15 a.m.	6:30 a.m.
7:15 a.m.	8:30 a.m.
9:15 a.m.	9:30 a.m.
10:16 a.m.	10:30 a.m.
11:16 a.m.	11:30 a.m.
12:16 p.m.	12:30 p.m.
1:16 p.m.	1:30 p.m.
2:16 p.m.	2:30 p.m.
3:16 p.m.	3:30 p.m.
4:16 p.m.	4:30 p.m.
5:20 p.m.	5:30 p.m.
6:20 p.m.	6:30 p.m.
7:18 p.m.	7:30 p.m.

Connecticut Transit New Haven Division

Buses enter downtown Waterbury via East Main Street. To access the Green, inbound buses turn left onto Leavenworth Street, right onto Grand Street, right onto State Street, and a right onto West Main Street, where the trips terminate.

System Ridership and Rider Origins and Destinations

There are 13 average daily boardings within Waterbury on the route. Before reaching Waterbury from New Haven, the route makes stops in Hamden and Cheshire.

2.1.3 Connecticut Department of Transportation Commuter Rail

The commuter rail service that serves Waterbury acts as shuttle service between Waterbury and Bridgeport, where New York bound passengers can transfer to service running on the Northeast Corridor. The service is run by the Metro-North Railroad under contract to the Connecticut DOT.

Existing Terminal

The existing Waterbury train terminal is located south of, and adjacent to, the Republican-American Newspaper offices (which is the original Waterbury Train Station) located at 333 Meadow Street, at the intersection of Meadow and Grand Streets. It consists of an outdoor shelter and platform adjacent to a single operable track. The Station has approximately 50 parking spaces for commuters. Passengers from Waterbury are required to transfer at Bridgeport, which is located on Amtrak's Northeast Corridor. The Bridgeport Station contains four tracks: two middle express tracks and two local tracks, one in each direction.

Service Levels and Hours of Operations

Waterbury is served by six Metro-North Railroad trips in each direction. Inbound trip departures are at 6:49 a.m., 9:17 a.m., 12:20 p.m., 3:13 p.m., 7:07 p.m., and 9:29 p.m. Outbound arrivals in Waterbury are at 8:55 a.m., 11:27 a.m., 2:27 p.m., 6:52 p.m., 9:10 p.m., and 11:31 p.m.

As noted, the service is a shuttle between Waterbury, which is at the terminus of the line, and Bridgeport, where passengers can transfer to New York City bound trains. Typically, the transfer wait for a southbound train at Bridgeport is five to 15 minutes.

System Ridership and Rider Origins and Destinations

The Waterbury commuter rail service has an average of 130 daily weekday boardings in Waterbury (weekend ridership is actually higher, at approximately 150 boardings per day). People boarding in Waterbury ultimately transfer at the Bridgeport Station or the additional stops between Waterbury and Bridgeport, which include Naugatuck, Beacon Falls, Seymour, Ansonia, Derby-Shelton, and Stratford. In comparison, average daily boardings at nearby stations include the following: 220 at Danbury; 6,298 at Stamford (includes transfers); 3,056 at Bridgeport (includes transfers); and 3,397 at New Haven.

Data on the number of transfers between the train and the local Waterbury bus system are not available, but the number of boardings and alightings at the bus stops closest to the rail station is minimal, at about six a day, meaning transfers between the two modes would appear to be quite small.

2.1.4 Bonanza Bus Lines

Bonanza Bus is the intercity bus service for Waterbury.

Existing Terminals

The terminal for Bonanza Bus is located at the downtown Travel Center, located at 188 Bank Street, at the intersection of Bank and Grand Streets. The facility is approximately two blocks south of the Green. Buses arrive and depart from the curb along Bank Street, in front of the Center. Ticketing occurs inside the Travel Center. Bonanza Bus shares the Travel Center with Land Jet Bus Lines, an excursion service to the Connecticut Casinos, and Connecticut Limousine, which provides service to the Hartford and New York Airports.

Service Levels and Hours of Operation

Bonanza Bus operates nine daily trips between New York and Hartford, with four of these trips extending beyond Hartford to Boston. These trips make stops in Waterbury, as well as in Danbury, Southbury, and Farmington. The departure times from Waterbury for trips between New York and Hartford are 6:40 a.m., 11:10 a.m., 12:05 p.m., 2:10 p.m., 4:10 p.m., 6:10 p.m., 7:15 p.m., 8:10 p.m., and 10:10 p.m. The buses arrive at the Waterbury terminal approximately five to ten minutes before departure. All stops in Waterbury are through trips. Southbound trips between Hartford and New York depart Waterbury at 5:45 a.m., 7:15 a.m., 8:45 a.m., 10:45 a.m., 12:45 p.m., 2:45 p.m., 4:45 p.m., and 6:45 p.m.

System Ridership and Rider Origins and Destinations

Bonanza Bus has approximately 60 to 70 daily boardings traveling west from Waterbury toward New York, and 20 to 30 daily boardings traveling east. Primary destinations are New York City and Hartford.

2.1.5 Land/Jet Bus Lines

Land/Jet Bus Lines offer excursions to Foxwoods Resort Casino and Mohegan Sun.

Existing Terminals

The terminal for Land/Jet Bus Lines is located at the Downtown Travel Center, located at 188 Bank Street, at the intersection of Bank and Grand Streets. The facility is approximately two blocks south of the Green. Buses arrive and depart from the curb along Bank Street, in front of the Center. Ticketing occurs inside the Travel Center.

Land/Jet shares the Travel Center with Bonanza Bus, the intercity bus provider in Waterbury, and Connecticut Limousine, which provides service to the New York Airports.

Service Levels and Hours of Operation

Buses to the Foxwoods Casino run four days during the week, with two trips each day. Service to Foxwoods is provided on Tuesday, Thursday, Friday, and Saturday. The service begins in Brewster New York at 7:00 a.m., with stops in Danbury, Southbury, Waterbury, Meriden, and Middletown. The buses arrive in Waterbury at 8:05 a.m. and 2:05 p.m., and arrive at Foxwoods at 10:00 a.m. and 4:00 p.m. Trips leave Foxwoods at 4:00 p.m. and 10:00 p.m.

Service to the Mohegan Sun is comprised of one trip per day, six days a week, and two trips per day on the other day of the week. Specifically, two trips a day are provided on Wednesday, with trips leaving Waterbury at 9:05 a.m. and 2:05 p.m. On Wednesday, buses leave the Mohegan Sun at 5:30 p.m. and 10:00 p.m. During the remaining days of the week, one trip a day leaves Waterbury at 9:05 a.m., with the return bus leaving the Mohegan Sun at 5:30 p.m.

System Ridership and Rider Origins and Destinations

This service has a range of five to 20 daily boardings in Waterbury. Land/Jet provides service from Danbury, Southbury, Waterbury, Meiden, and Middletown; to Foxwoods and Mohegan Sun casinos.

2.1.6 Connecticut Limousine

Connecticut Limousine provides service between multiple Connecticut cities and the following international airports: LaGuardia, John F. Kennedy, Bradley (Hartford), and Newark.

Existing Terminals

The terminal for Connecticut Limousine is located at the Downtown Travel Center, located at 188 Bank Street, at the intersection of Bank and Grand Streets. The facility is approximately two blocks south of the Green. Coaches arrive and depart from the curb along Bank Street, in front of the Center. Ticketing

occurs inside the Travel Center. Connecticut Limousine shares the Travel Center with Bonanza Bus and Land/Jet Bus Lines.

Service Levels and Hours of Operations

As noted, Connecticut Limousine picks up riders in Waterbury and takes them to LaGuardia, JFK, Bradley, and Newark Airports, as well as picking up riders at the airports and bringing them back to Waterbury. Buses also make stops at other communities along the way. LaGuardia and JFK are on the same route.

Connecticut Limousine makes a total of 11 daily trips from Waterbury to LaGuardia and JFK Airports, five trips from Waterbury to Newark Airport, and six trips from Waterbury to Bradley Airport.

Eastbound service makes a total of 15 daily trips from LaGuardia and JFK to Waterbury. Buses first go to JFK and then to LaGuardia before going to Connecticut terminals. Additionally, the service makes a total of 11 daily trips from Bradley Airport to Waterbury. From Newark Airport, the service makes a total of five trips to Waterbury. Specific trip times are outlined in Tables 2.6 through 2.8.

Table 2.6: Connecticut Limousine To and From LaGuardia and JFK Airports

To Airports		
Depart Waterbury	Arrive LaGuardia	Arrive JFK
4:15 a.m.	7:00 a.m.	7:45 a.m.
6:15 a.m.	9:00 a.m.	9:45 a.m.
8:15 a.m.	10:50 a.m.	11:25 a.m.
10:15 a.m.	1:00 p.m.	1:45 p.m.
11:15 a.m.	2:00 p.m.	2:45 p.m.
12:15 p.m.	3:00 p.m.	3:45 p.m.
1:15 p.m.	4:00 p.m.	4:45 p.m.
2:15 p.m.	5:00 p.m.	5:45 p.m.
3:15 p.m.	6:00 p.m.	6:45 p.m.
4:15 p.m.	7:00 p.m.	7:45 p.m.
5:15 p.m.	8:00 p.m.	8:45 p.m.
From Airports		
Depart JFK	Depart LaGuardia	Arrive Waterbury
7:15 a.m.	7:56 a.m.	10:45 a.m.
9:00 a.m.	9:39 a.m.	12:30 p.m.
11:00 a.m.	11:39 a.m.	2:30 p.m.
1:00 p.m.	1:39 p.m.	4:30 p.m.
3:00 p.m.	3:39 p.m.	6:30 p.m.
4:00 p.m.	4:39 p.m.	7:30 p.m.
4:30 p.m.	5:05 p.m.	7:55 p.m.
5:07 p.m.	5:52 p.m.	8:30 p.m.
6:00 p.m.	6:39 p.m.	9:30 p.m.
7:10 p.m.	7:55 p.m.	10:30 p.m.
8:00 p.m.	8:39 p.m.	11:30 p.m.
9:00 p.m.	9:39 p.m.	12:30 a.m.
10:00 p.m.	10:39 p.m.	1:30 a.m.
11:00 p.m.	11:39 p.m.	2:30 a.m.
12:00 a.m.	12:35 a.m.	3:15 a.m.

Source: Connecticut Limousine Public Timetables

Table 2.7: Connecticut Limousine To and From Newark Airport

To Airport	
Depart Waterbury	Arrive Newark Airport
4:15 a.m.	8:00 a.m.
8:15 a.m.	12:00 p.m.
10:15 a.m.	2:00 p.m.
1:15 p.m.	5:00 p.m.
4:15 p.m.	8:00 p.m.
From Airport	
Depart Newark Airport	Arrive Waterbury
10:00 a.m.	2:00 p.m.
1:00 p.m.	5:00 p.m.
3:00 p.m.	7:00 p.m.
7:00 p.m.	11:00 p.m.
10:00 p.m.	2:00 a.m.

Source: Connecticut Limousine Public Timetables

Table 2.8: Connecticut Limousine To and From Bradley Airport

To Airport	
Depart Waterbury	Arrive Bradley Airport
5:20 a.m.	6:35 a.m.
7:20 a.m.	8:35 a.m.
9:20 a.m.	10:35 a.m.
11:20 a.m.	12:35 p.m.
1:55 p.m.	3:10 p.m.
3:55 p.m.	5:10 p.m.
From Airport	
Depart Bradley Airport	Arrive Waterbury
9:00 a.m.	10:15 a.m.
11:00 a.m.	12:15 p.m.
12:00 p.m.	1:15 p.m.
1:00 p.m.	2:15 p.m.
2:00 p.m.	3:15 p.m.
3:00 p.m.	4:15 p.m.
4:00 p.m.	5:15 p.m.
5:00 p.m.	6:05 p.m.
6:00 p.m.	8:05 p.m.
7:00 p.m.	10:05 p.m.
11:00 p.m.	12:05 a.m.

Source: Connecticut Limousine Public Timetables

Trips to and from JFK and LaGuardia from Waterbury stop at the following cities: Hartford, Waterbury, Farmington, Southbury, Danbury, White Plains, and Rye.

For trips to Newark Airport, the cities served include: Hartford, Farmington, Waterbury, Meriden, Southbury, North Haven, Phelps Gate, New Haven, Norwalk, White Plains, Rye, Stamford, and New Rochelle. Return trips from Newark Airport serve the following cities: New Rochelle, Rye, Stamford, White Plains, Norwalk, Bridgeport, Danbury, New Haven, Yale Alumni, Phelps Gate, North Haven, Southbury, Meriden, Waterbury, Farmington, and Hartford.

Service to Bradley Airport serves the following cities: Danbury, Southbury, Waterbury, Farmington, and Hartford. Return trips from Bradley Airport serves Hartford, Farmington, Waterbury, Southbury, and Danbury.

Daily and peak period ridership/usage

Average daily boardings on all Connecticut Limousine services in Waterbury are approximately 16 boardings per day.

2.1.7 Waterbury Yellow Cab

Waterbury Yellow Cab is located at 77 Store Avenue in Waterbury, Connecticut. The company has no permanent downtown terminal, and cabs do not meet arriving trains at the train station. To hire a taxi, the cab company must be called. Yellow cab serves the greater Waterbury area and beyond. Waterbury Yellow Cab maintains 15 cars and runs approximately 12 cars each day. Hours are 24 hours a day seven days a week.

2.2 TRAFFIC AND CENSUS DATA

2.2.1 Traffic Volumes/Signal Locations

One of the elements of the impact analysis of potential transportation center relocation is the potential impact of multiple transit vehicles arriving and leaving a terminal at the same time on current traffic operations. A key element of this analysis will be traffic volumes along Meadow Street and West Main (see Table 2.9), the area where the potential alternative sites are located. Another important consideration in this analysis will be the location of signals along the route (outlined below).

Table 2.9: Vehicle Volumes along Meadow Street and West Main

Roadway Link	Daily Volume
Field Street and 1-84 to Meadow Street	8,300
Meadow Street to Meadow & Freight	16,500
Meadow & Freight to Willow & West Main	13,800
Willow & West Main to Thomaston	24,400

Source: Connecticut DOT – 2004 Traffic Volumes – State Maintained Highway Network (traffic Log)

Traffic signals along this route are located at the following intersections:

- 1-84 access and Meadow Street
- Grand and Meadow
- Meadow and Freight
- Willow and West Main
- West Main and Thomaston

2.2.2 Census Journey to Work Data

Census Journey to work data provides an understanding of trip flows within the region and thus also the types of transportation needs the region may have. The data used in the analysis was completed by the Central Naugatuck Valley COG and thus much of the data are at the regional level. However, some data is also available for Waterbury only. Table 2.10 outlines where people who live within the Central Naugatuck Valley go to work based on the year 2000 census.

Table 2.10: Place of Employment for Central Naugatuck Valley Working Residents

Place of Employment	Number	Percent of All Working Regional Residents
Waterbury	29,963	23.7%
Entire Central Naugatuck Valley Region (includes Waterbury)	69,597	55.1%
Capitol Region	6,276	5.0%
Central Connecticut (Bristol, Southington)	5,030	4.0%
Greater Bridgeport Region	5,165	4.1%
Housatonic Valley (Danbury, Newtown)	7,103	5.6%
Litchfield Hills Region (Torrington)	2,965	2.3%
South Central Region (Hamden, Meriden, New Haven)	18,042	14.3%
Southwest Region (Stamford)	2,819	2.2%
Valley Region (Seymour, Shelton)	4,609	3.6%
Remainder of Connecticut	2,686	2.1%
Out of State	2,038	1.6%

Source: Transportation Trends and Characteristics of the Central Naugatuck Valley Region – Central Naugatuck Valley COG

The data in Table 2.10 shows that a majority of working residents of the Central Naugatuck Valley work within the region (55.1 percent), with a large percentage (23.7 percent) of those residents working in Waterbury. These percentages have declined since 1990. Other large destinations for employed residents include the South Central Region centered on New Haven (14.3 percent) and the Housatonic Valley Region centered in Danbury (5.6 percent). Table 2.11 outlines locations where people who work within the Central Naugatuck Valley reside.

Table 2.11: Place of Residence for Persons Employed in the Central Naugatuck Valley Region

Place of Residence	Number	Percent of Regional Employment
Waterbury	28,746	29.2%
Entire Central Naugatuck Valley Region (includes Waterbury)	69,597	70.6%
Central Connecticut (Bristol, Southington)	5,577	5.7%
Housatonic Valley (Danbury, Newtown)	2,459	2.5%
Litchfield Hills Region (Torrington)	3,596	3.6%
South Central Region (Hamden, Meriden, New Haven)	10,639	10.8%
Valley Region (Seymour, Shelton)	1,959	2.0%
Remainder of Connecticut	3,561	3.6%
Out of State	1,218	1.2%

Source: Transportation Trends and Characteristics of the Central Naugatuck Valley Region – Central Naugatuck Valley COG

The data in Table 2.11 shows that a large majority (70.6 percent) of the people who work in the Central Naugatuck Valley region also live there (this has declined from 1990, when nearly 80 percent of people who worked in the region also lived there). The next largest group of people who work in the region come from the South Central Region, centered on New Haven (10.8 percent). In sum, relatively few people who work in the region make long trips to get there.

2.3 SOCIO-ECONOMIC DATA

Socio-economic data from the Central Naugatuck Valley COG provide information on where likely transit dependent populations within Waterbury are located. This data can then be used to determine where the greatest transit needs within the city occur. Each of the maps in Appendix C show the location of populations that are likely to be transit dependent such as elderly or low income. The overriding theme of the maps is that each of the populations most likely to be transit dependent such as elderly, persons without access to a car, and low income are concentrated in downtown Waterbury. This is one reason the focus of the local transit system is on downtown Waterbury.

2.4 ECONOMIC DEVELOPMENT INITIATIVES

In addition to documenting the economic development initiatives underway in Downtown Waterbury, this section also provides narrative on the connection between these initiatives and the effort to develop a transportation center. The following information was obtained from existing available documentation, through discussion with Mr. Michael O'Connor of the Waterbury Development Corporation (WDC) and through review of the *City of Waterbury Plan of Conservation and Development Volume II: Community Assessment Report Update* (revised through July 29, 2005). The following economic development initiatives are underway in downtown Waterbury. A brief description and status of each is outlined below.

2.4.1 Willow-West Main Street Revitalization

According to the *City of Waterbury Plan of Conservation and Development, Volume II: Community Assessment Report Update*, this gateway beautification project is intended to enhance the appearance and function of lower Willow Street, which is a gateway to surrounding neighborhoods. It consists of façade upgrades and streetscape improvements and is nearly complete.

While this project is successful with respect to beautification of this area, it is neutral with respect to supporting the need for a new transportation center.

2.4.2 Schools Construction Program

The City of Waterbury is undertaking a comprehensive schools facilities plan which, calls for nine phases of construction. Once complete, all existing schools will be renovated and eight new schools will be commissioned. The complete program is valued in excess of one billion dollars. Phase One, which is 110 million dollars worth of construction and consists of three renovation projects for three High Schools and three new Elementary Schools, has recently begun. According to the *City of Waterbury Plan of Conservation and Development, Volume II: Community Assessment Report Update*, renovation of the three schools will begin in the fall of 2006, and the site assessment and selection process for the three new schools was intended to start this fall.

The schools construction program, in the long term, could improve Waterbury's school district reputation, thus resulting in a more attractive housing real estate market in Waterbury. However this would be a long-term effect. Other than that, this schools construction program is neutral with respect to supporting the need for a new transportation center.

2.4.3 Naugatuck River Greenway Project

According to the *City of Waterbury Plan of Conservation and Development, Volume II: Community Assessment Report Update*, in 1998, the City proposed development of a greenway to connect the Town of Naugatuck with Waterbury. A component of this includes a bikeway along the river. Central Naugatuck Valley COG is coordinating the planning of this greenway; while the Connecticut Department of Environmental Protection has designated it as a State Greenway.

This Greenway project, if and when it is constructed, would provide an attraction to any land development use on the 77-acre industrial site west of the rail tracks in that it would provide an aesthetic and recreational amenity that would be valued by developers.

2.4.4 Brass Trail Gateway Project

According to WDC, this project includes a trail along the Naugatuck River from Thomaston to Freight Street. No further information available regarding the status of this project.

2.4.5 Freight Street Reclamation Project

The Freight Street Reclamation Project includes a Phase I Environmental Site Assessment (ESA) for the Freight Street area that was completed in 2001. The Phase I ESA consisted of a literature search and field reconnaissance to determine the potential types of contaminants present in this industrialized and underutilized area. While potential contamination issues were determined and this report was finalized, Phase II investigations (sampling and analysis) are necessary to fully define the type and extent of contamination. According to WDC, reluctance by the property owners to allow the conduct of soil and groundwater sampling and analysis has prohibited the Phase II study from commencing. Estimated site remediation costs cannot be determined until Phase II investigations are complete.

The continuation of this project, meaning Phase II site investigation and ultimate remediation of the potentially contaminated land would strongly support the need for a new transportation center as it would encourage and enable the retail, office and other development to occur on these sites. A transportation center adjacent to this redevelopment area would act as a catalyst for redevelopment, while redevelopment would, in turn; result in higher usage of the transportation center by riders of the different modes to be located at the center.

2.4.6 Restoration of City Hall and Firehouse

The City has recently embarked on restoration of the City Hall and Firehouse. This project calls for eliminating the Fire Department Headquarters and Firehouse #10 currently located at City Hall, and combining them with Station House #2 located at 519 East Main Street. This project would be neutral with respect to supporting the proposed new transportation center.

In addition to the above projects, the City has relatively recently completed construction of two other downtown initiatives: 1) Palace Theater which opened in Fall of 2004, and 2) the Arts Magnet School, also opened in 2004.

2.4.7 Connecticut DOT Initiatives

In addition, the Connecticut DOT is pursuing the following development initiatives:

- I-84 / Route 8 Interchange Study: Connecticut DOT is undertaking a study of this complex interchange area to identify the needs and evaluate alternatives to address future (year 2030) transportation demand. This study is scheduled to be completed in 2007, with a recommendation of transportation modifications to address those needs and future demand.
- Waterbury / New Canaan Rail Branch Lines Study: Connecticut DOT will be initiating a study to develop recommendations to improve transit use along these branch line corridors. This study is expected to be completed in 2009.
- I-84 Environmental Impact Statement: Connecticut DOT will be preparing an Environmental Impact Statement for the proposed widening of I-84 between Waterbury and state line in Danbury. This study is expected to be completed in 2009.
- Route 8 Study: Connecticut DOT will be conducting (2007 - 2009) a study of the Route 8 corridor between Beacon Falls (Interchange #22) and Waterbury (Interchange #30) to determine the needs and identify recommended improvements to the study corridor.

3.0 DISCUSSIONS WITH TRANSPORTATION PROVIDERS AND OTHER STAKEHOLDERS

One of the key elements in assessing the need and feasibility of a new transportation center in downtown Waterbury is a detailed understanding of the operations and potential issues associated with the existing terminals of each of the transportation providers within downtown as well as the interest of each provider in moving to a consolidated downtown transportation center. To develop this understanding, interviews were conducted with Waterbury transportation providers and related program representatives. The purpose of this chapter is to summarize the results of these discussions.

3.1 NORTH EAST TRANSPORTATION COMPANY, INC.

A meeting with the North East Transportation Company, Inc. was held on December 13, 2005. The participants included the following:

- Barbara Kalosky with North East Transportation Company
- Joseph Spina with North East Transportation Company
- Peter Dorpalen with Central Naugatuck Valley COG
- Sam Gold with Central Naugatuck Valley COG
- Carmine Trotta with Connecticut DOT – Office of Policy and Planning (Intermodal)
- Ricardo Almeida with Connecticut DOT – Public Transportation (Transit and Ridesharing)
- Anthony Arcari with Connecticut DOT – Public Transportation (Transit and Ridesharing)

In general, representatives from North East Transportation, the Central Naugatuck Valley COG, and the Connecticut DOT all expressed grave concern regarding a relocation of North East Transportation Company operations away from the Green in downtown Waterbury to the Meadow Street facility or other potential alternative sites.

The reason for this concern is that the North East Transportation operations are based on a tightly balanced transfer system that leaves little flexibility for the added trip times that would result from a new transportation center. In the transfer system, also known as a pulse system, buses arrive and leave the Green at the same time, thus facilitating timely and convenient passenger transfers between routes. Further, as noted, because buses arriving at the Green have very little time between the time they arrive at the Green and the time they start their next trip, there is little if any flexibility in adding additional run time to their trips without disrupting the pulse transfer system. Relocation would add run time to many of the routes in the system, thus impacting the current transfer system. This possible disruption is further exacerbated by the fact that many trips from the core routes in the system are interlined with single trips (also known as trippers) to factories or industrial parks to meet workers ending their shifts. If these trippers do not arrive back at the Green at their designated time, based on additional run time associated with a relocated transportation center, workers transferring to other routes would be forced to wait potentially excessive times until the next bus on the route arrives.

The meeting also included a discussion of other potential impacts related to relocating downtown operations. Representatives from the Central Naugatuck Valley COG expressed concern regarding the impacts of relocation on residents who live adjacent to the Green. These representatives indicated that

many of the socioeconomic groups that would be considered most transit dependent such as elderly or low income are clustered around the Green, and felt that moving the facility would inconvenience these populations and make their trip more difficult.

Central Naugatuck Valley COG representatives also described an analysis they completed of potential impacts to pedestrian access to key downtown destinations resulting from a potential relocation. The analysis showed that at least some major downtown destinations, including the University of Connecticut Waterbury building, would be outside a quarter-mile radius (the typical distance a passenger is willing to walk to access transit or to walk at the end of their trip) of a new transportation center located at the existing Metro-North Railroad station.

Other items of discussion include:

- Representatives from the Connecticut DOT described bus operations in other cities and indicated that many systems in Connecticut have pulse transfer based systems that are centered on each City's downtown Green rather than at the city's train station.
- Ms. Kolasky and Mr. Spina from North East Transportation expressed concern about the conceptual layout of the transportation center identified in the previous feasibility study completed for the Waterbury Development Corporation. The layout would require buses to back out of their bus bays as opposed to a typical saw tooth arrangement. With a large number of buses arriving and leaving simultaneously, this operation could be very problematic.
- A discussion regarding the growing population associated with a Yeshiva located just north of downtown Waterbury was also held. It was noted that many of the people associated with the Yeshiva have both work and family connections in New York and thus are important users of Metro-North Railroad.

3.2 CONNECTICUT DOT–METRO-NORTH RAILROAD

Jon Foster, with the Connecticut DOT – Public Transportation (Rail Operations), was interviewed to obtain the following information. Commuter rail service to Waterbury from points south and west is provided by the Connecticut DOT through an operating contract with Metro-North Railroad, the agency responsible for all commuter rail lines into New York City from the north. The state of Connecticut owns the vehicles on the service as well as the rail track along the line and adjacent to the station platform in Waterbury. Additional tracks in the Waterbury station area that once comprised a large freight yard are owned by a private freight railroad. The Connecticut DOT also owns the land occupied by the surface parking for the station as well as two buildings and a two story parking garage that front on Meadow Street. The largest building is now unoccupied, it was previously occupied by the local phone company (SNET). The smaller building is occupied by a drive-through bank automatic-teller machine. The building once housed a drive-through bank with a live teller but that service has been removed.

Mr. Foster indicated that there are two primary issues with the existing station configuration, both related. The first is the presence of the abandoned building (the larger building described above) and the associated parking garage. These structures block vehicle access to the station, requiring drivers to pass the station and enter the surface parking through a driveway much further down Meadow Street. The building is also derelict, which degrades the entire station area. Finally, because the building blocks views of the station from Meadow Street, safety and security at the station is degraded.

The second issue Mr. Foster noted was security and safety, with car break-ins a specific concern. Mr. Foster noted that the Connecticut DOT has made requests for stepped up patrols to both the Metro-North

Railroad police and the local Waterbury Police Department. Mr. Foster felt that improved security could result in increased ridership at the station.

With regard to the development of a new transportation center at the station, Mr. Foster indicated that the Connecticut DOT would be open to a new multi-modal facility at the station as long as the design and operation of the facility did not hinder rail passengers. To that end, he indicated that the Connecticut DOT would have to play a role in design review at all steps in the process. He did feel that in general increased amenities in the station vicinity would make the station more attractive to potential riders and thus could result in increased ridership.

3.3 BONANZA BUS, CONNECTICUT LIMOUSINE, AND LAND/JET

Charles Brady, at the Waterbury Travel Center, was interviewed to obtain the following information. The Travel Center is located in downtown Waterbury at the corner of Bank and Grand Streets, in the municipal parking garage. The Travel Center is the site of the Waterbury terminal for Bonanza Bus Lines (the inter-city bus system serving Waterbury), Connecticut Limousine (airports service), and Land/Jet Bus Lines (excursion service to the Connecticut casinos). There is also a travel agency located at the site. The owners of the Travel Center own and operate the travel agency are also the operator of Land/Jet Bus Lines. In addition, they are agents for Bonanza Bus Lines and Connecticut Limousine. Mr. Brady is co-owner of the Travel Center.

Mr. Brady indicated that the existing site of the travel center has a number of positive features that make it quite conducive to the operations of his businesses and the three primary tenants identified above. The first positive factor is its high quality access to I-84, which is the main access point into Waterbury for all three transportation providers located at the center. The second positive factor is the presence of the municipal parking garage and the large number of parking spaces associated with the garage. Mr. Brady estimated that approximately 90 percent of riders on Connecticut Limousine and Land/Jet Bus Lines arrive via their automobile and thus the parking for these patrons is quite important. Finally, Mr. Brady indicated that the area around the travel center is the strongest part of downtown based on offices and businesses located along Grand and Bank Streets, which helps to support his various operations.

Mr. Brady expressed two additional concerns regarding moving to a new site. The first was the potential for increased costs at a new facility (Mr. Brady estimated that they would require approximately 1,200 square feet at the new facility, including space for the travel agency). The second would be concerns about increased competition with the Metro-North Railroad. Specifically, Mr. Brady expressed concern that with all modes in a single facility, people would choose Metro-North Railroad over Bonanza Bus Lines for many trips because Metro-North trips are cheaper, based on the subsidy provided to the railroad.

In summary, Mr. Brady indicated that they would much rather remain where they are than move to a new facility, though they would move if that was their only choice.

3.4 JOBLINKS

Carol Belforti, Coordinator for JobLinks, was interviewed to obtain the following information. JobLinks is a program run by the Connecticut Department of Social Services and funded by the Connecticut DOT and the Federal Transit Administration (FTA). The program provides low-income residents with transportation to and from work and work-related activities in northwest Connecticut, including Waterbury. JobLinks began as the Welfare to Work program.

JobLinks provides transportation services that are meant to fill in gaps in existing transit services. These gaps include geographic areas that are not served by existing Waterbury fixed routes as well as time periods when the fixed route system does not run, such as evening hours and Sunday. JobLinks creates these services by assessing needs in the target population and then developing services to meet those needs. In this vein, JobLinks manages a wide variety of services that range from direct large bus (standard 35- or 40-foot coach) service to industrial parks to more customized small vehicle services.

All of the services in Waterbury are actually run under a contract with North East Transportation, which also subcontracts some of the smaller vehicle services to Managed Transportation Services, which provides livery services. In fact, many of the tripper routes noted above under the description of the meeting with North East Transportation are actually services that are run for JobLinks. Because North East Transportation services are centered on the downtown Waterbury Green, the services run for JobLinks are also centered on the Green and are scheduled to pulse with North East's fixed route system to facilitate transfers from the trippers to the system's fixed route services.

In discussing the impacts to her services of a new transportation center, Ms Belforti indicated that because the services she oversees are contracted through North East Transportation, the downtown operations configuration that is most beneficial to them also best serves her needs.

3.5 RIDEWORKS

Katherine Zatkowski, with Rideworks at the Waterbury Office, was interviewed to obtain the following information. Rideworks is a clearing house disseminating information on transportation options in South Central Connecticut and includes assistance in creating carpools, vanpools, and telecommuting options. Ms. Zatkowski is the Rideworks staff person in Waterbury.

Ms. Zatkowski is a strong proponent of a new integrated transportation center. The need for the center is based, in her mind, on the need to integrate the wide range of services that are scattered throughout downtown, as well as the lack of information on the varying downtown services. An integrated multi-modal facility would provide for quick access to the full range of services available within downtown and would also allow for a single distribution point for information on all services. Ms. Zatkowski noted the possibility, with an integrated multi-modal center, of hiring an information center attendant who could provide information on all services at the transportation center.

There are two additional reasons Ms. Zatkowski advocates a transportation center. The first relates to the difficulty for some riders to transfer between buses at the Green. Ms. Zatkowski noted the potential long distances transferring passengers must traverse to get from one bus to another at the Green, often in only two to three minutes. A more compact space with all the arriving buses closer together would make this transfer easier. The second reason Ms. Zatkowski advocates a transportation center is the impact of bus operations at the Green on pedestrians around the Green, as well the impacts to the Green itself and surrounding buildings. Ms. Zatkowski notes that the large number of bus riders waiting for buses often makes it difficult for pedestrians who are not boarding buses to navigate around the Green. The large number of riders also results in excessive litter on the Green. Finally, during inclement weather, large numbers of riders will often wait in building lobbies, blocking access and impeding people walking through the lobbies.

3.6 OTHER STAKEHOLDER DISCUSSIONS

In addition to the interviews outlined above, during the course of this planning process other stakeholders were identified as having an interest in this process and were interviewed to assess their feelings regarding a new transportation center. Those discussions are summarized below:

UCONN – The representative interviewed expressed support for a consolidated, safe and secure transportation center, acknowledging that many of the students don't utilize bus service at the Green because they run at inconvenient times and many of the students have cars.

Yeshiva – The representative interviewed expressed support for a consolidated, safe and secure transportation center. Yeshiva currently schools 300 students with a capacity for 600, a portion of which use Metro-North Railroad to travel to New York City on long weekends or scheduled breaks.

Central Naugatuck Valley COG – Staff from COG expressed concern that relocation of buses from the Green to another location would be a disadvantage to transit dependent population living near the Green. They also noted that some destinations are outside the ¼ mile radius of the Meadow Street Site.

Waterbury Regional Council – This group expressed strong support for a new transportation center, noting that the regional economy is doing well and the number one advantage of the 77-acre redevelopment site is the access to I-84 and Route 8. This group further felt that for economic redevelopment of the 77-acre industrial area surrounding the Meadow Street site, mixed use development would be the most beneficial with an emphasis on health care and technological/manufacturing uses. The group did not believe that there was much more demand for retail space.

Main Street Waterbury – This group expressed strong support for a new transportation center and the need to move the bus transfer system from the Green to minimize vehicular and pedestrian congestion on the Green, thus making the Green more attractive for other civic functions.

Waterbury Development Corporation – Mike O'Connor of the Waterbury Development Corporation expressed strong support for a new transportation center and stated that if this transportation center is not built Waterbury cannot compete with other cities and will miss economic opportunities.

Real Estate Agencies – Representatives from different agencies noted that the parking situation in Waterbury is not safe, and therefore is underutilized. Mixed-use development would be a beneficial redevelopment use of the 77-acre industrial site and would be an ideal space for retail providing that parking was free, safe, and secure.

National Association for the Advancement of Colored People (NAACP) – Christine Tiernan left voice mail and is waiting for a return phone call.

Spanish Action Council – Christine Tiernan left voice mail and is waiting for a return phone call.

United Way of Greater Waterbury – Christine Tiernan left voice mail with JoAnn Reynolds-Balanda and is waiting for a return phone call.

4.0 SITE ALTERNATIVES IDENTIFICATION AND ANALYSIS

One of the key elements of this Study is the identification and analysis of other potential sites for the transportation center within downtown Waterbury. The purpose of this chapter is to document the process followed and the results of the analysis of alternative sites.

The *Feasibility Study for a New Transportation Center, Waterbury Connecticut* (2001), completed for the Waterbury Development Corporation, identified the need for an integrated transportation center in downtown Waterbury, and further identified a preferred site at the existing Metro-North Railroad Station on Meadow Street.

It should be emphasized that the analysis outlined in this chapter is a *site* alternatives analysis only, the purpose of which was to identify the most optimal site for a transportation center, if the project moves forward. If the project does move forward, a full Alternatives Analysis that compares the costs and benefits of a transportation center versus a No-Build Alternative will be completed. This full alternatives analysis would be one of the next steps in the project development process.

4.1 SITE IDENTIFICATION PROCESS

Identification of potential alternative sites for the transportation center was accomplished through a field review along the Metro-North Railroad alignment. The identification of potential alternative sites was completed within the context of two fundamental criteria.

- First, any potential site must be located on the existing railroad alignment. This is a fundamental requirement to ensuring that all public transportation modes be part of the transportation center.
- Second, the site must be within walking distance of the heart of downtown Waterbury around the Green. Previous analysis shows that downtown is the most significant destination for North East Transportation bus riders. Since buses coming from West Main Street will not enter the heart of downtown under a new operating scheme associated with a new transportation center, people from the West Main routes would have to continue their trip into downtown by foot. This new operating configuration would therefore require close proximity to downtown for any alternative site.

Based on these two fundamental criteria, four sites were identified for further analysis, including the Meadow Street site identified in the previous study. These sites are described in greater detail below.

4.2 ALTERNATIVE SITES CONSIDERED

The four sites that were identified for further analysis include Meadow Street Site, Judd Street Site, Sperry Street North Site, and Sperry Street South Site. The locations of these sites are shown in Figure 4.1. The sites are discussed below.

4.2.1 Meadow Street Site

This site is identified in the previous study, *Feasibility Study for a New Transportation Center, Waterbury Connecticut*. The site is located on Meadow Street, between Freight Street and Interstate 84. It is located south of the original Waterbury Railroad Station, now occupied by the Republican-American Newspaper, located directly adjacent to the existing Metro-North Railroad Station. The combined transportation center would incorporate part of the existing station parking as well as two abandoned buildings facing Meadow Street.

4.2.2 Judd Street Site

This site is located on Judd Street, east of the railroad tracks, between West Main Street and Freight Street. The site is currently occupied by active uses such as automobile repair shops and other small commercial and retail properties.

4.2.3 Sperry Street North Site

This site is located on Sperry Street, north of West Main Street and east of the railroad tracks. The site is currently occupied by active uses such as automobile repair shops and other small commercial and retail properties.

4.2.4 Sperry Street South Site

This site is also located on Sperry Street, but south of West Main Street and west of the railroad tracks. The site is not currently occupied by active uses, but there is an abandoned building on part of the site. The site would be accessed from West Main Street via an underpass under the railroad tracks.

4.3 ALTERNATIVES ANALYSIS CRITERIA

The analysis framework outlined below is meant to capture both the benefits and potential impacts of each of the alternative sites. The criteria that together comprise the overall framework, and which were used to evaluate each site are as follows:

4.3.1 Accessibility

This analysis criterion measures the ease of access to the site for each of the modes that would utilize it, including North East Transportation buses, intercity buses, automobile, and pedestrians.

4.3.2 Impacts to Existing Uses

Downtown Waterbury is a densely developed area with relatively small amounts of undeveloped space. Because of this, the potential for affecting existing uses is an important consideration in understanding the potential impacts of each site.

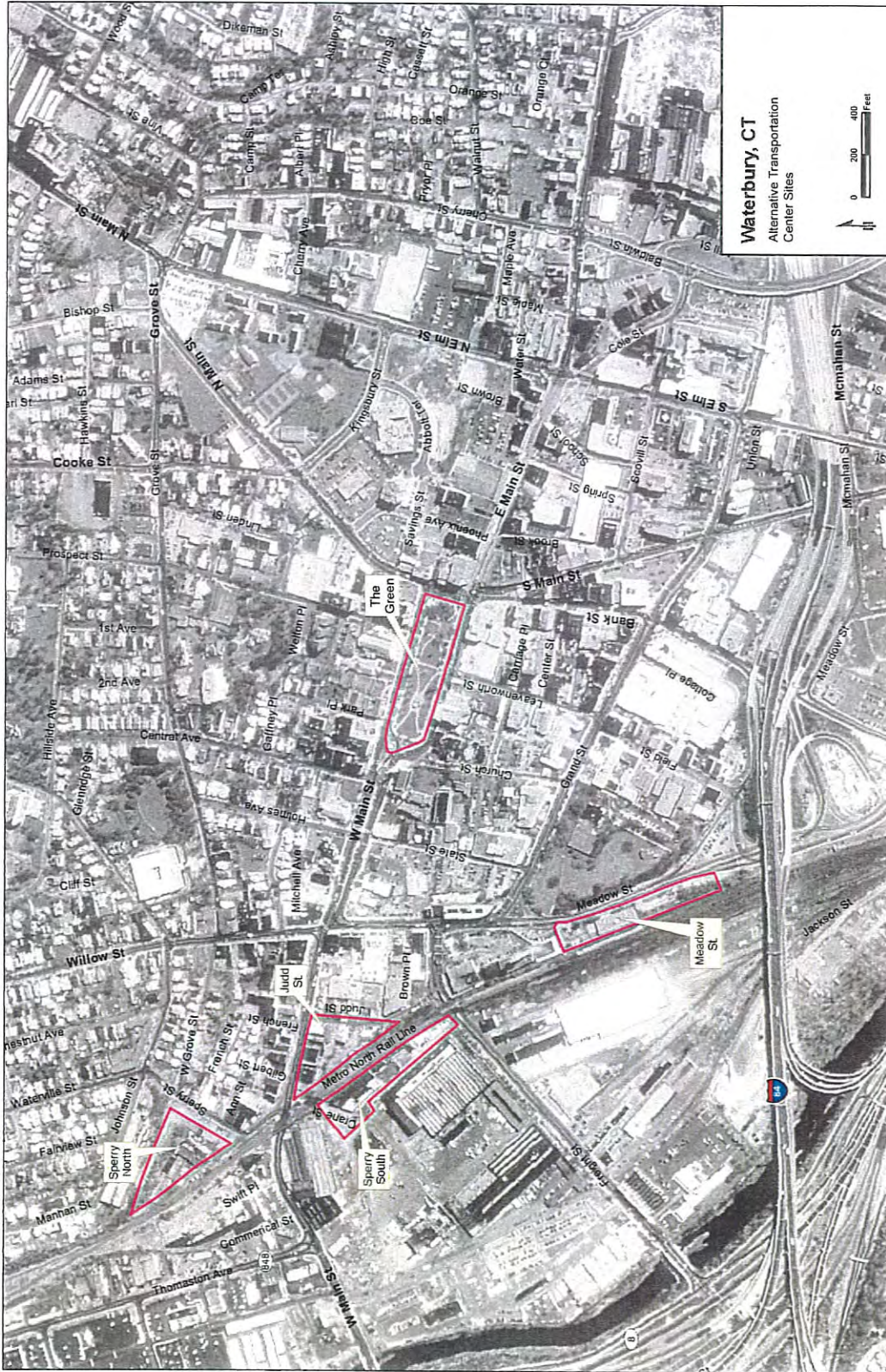


Figure 4.1: Waterbury Transportation Center Alternative Sites

4.3.3 Environmental Considerations

This analysis criterion is the consideration of potential environmental impacts. Considering the nature of downtown Waterbury with significant disturbance, extensive development, and past and current industrial uses, the most significant environmental consideration is the presence of hazardous materials.

4.3.4 Traffic Impacts

Buses and automobiles accessing each of the sites would have potential impacts on traffic around the entrance to the site. This criterion evaluates the potential level of impact on traffic operations of each site.

4.3.5 Site Suitability

This criterion focuses on the suitability of the site from an overall development standpoint. It focuses on site characteristics such as slope, topography, and the overall requirements that would exist for grading and filling. This criterion also considers the amount of demolition that would be required.

4.3.6 Railroad Operations

This criterion focuses on the suitability of each site for a train station. Perhaps the most important consideration in evaluating each site relative to this criterion is how straight the existing track is at each site. Railroad design standards require that a train station be located on a straight, or tangent, piece of track. The reason for this is so there is no gap between the station platform and the car when boarding, which creates safety concerns.

4.3.7 Construction Costs

This criterion generally focuses on the overall construction costs of completing a facility at this site. This involves the degree of site preparation including demolition and property purchases that would be required as well as whether the train station would have to be relocated.

A summary of the analysis of each site relative to the criteria is outlined in Table 4.1. The table includes a composite score for each site, based on the full range of analysis criteria. Appendix D contains a detailed description of the justification for each rating, relative to each site and evaluation criteria. This evaluation framework was used to select a preferred site for further project development.

4.4 ALTERNATIVES ANALYSIS

Table 4.1 contains the analysis summary of each site relative to the criteria. The analysis is based on a rating—low, medium, or high—for each criterion. A ‘low’ rating means potential negative impacts are high or potential benefits are low. A ‘high’ rating means potential negative impacts are low or potential benefits are high. A ‘medium’ rating means the site falls in the middle relative to that analysis criterion.

Table 4.1: Site Analysis Summary

Criterion	Alternative Sites			
	Meadow St.	Judd Street	Sperry North	Sperry South
Accessibility				
North East Transportation	High	High	High	Medium
Intercity Bus	High	High	Medium	Low
Automobile	High	High	High	Medium
Pedestrian	High	High	Medium	Medium
Impacts to Existing Uses	High	Low	Low	High
Environmental Considerations	High	Medium	Medium	Low
Traffic Impacts	High	Medium	Medium	Low
Site Suitability	High	Medium	Low	Medium
Railroad Operations	High	High	Low	Low
Construction Costs	High	Low	Low	Low
Composite Score	High	Medium	Low	Low

Based on the analysis results summarized in Table 4.1, the Meadow Street site appears to be the most appropriate site for the location of a new downtown transportation center. A detailed explanation of each rating, by site and analysis criterion, is contained in Appendix D.

5.0 IMPACT ANALYSIS

This chapter outlines one of the key elements of the needs and feasibility study, which is the analysis required to gain a full understanding of the impacts of developing a new consolidated transportation center on each of the relevant project stakeholders. Stakeholders include elected officials, staff from economic development agencies, representatives from economic development and business advocacy groups, social service agencies, and transportation providers and their customers. This chapter also considers other potential project impacts such as impacts to the roadway network from additional bus and automobile traffic.

It is important to note that the impacts analysis contained in this chapter is based on the results of the alternatives analysis presented in Chapter 4.0, which concluded that the Meadow Street site was the most suitable for development of a new transportation center.

5.1 ASSESSMENT OF IMPACTS TO STAKEHOLDERS

5.1.1 Elected Officials, Economic Development Officials, Advocacy Group Representatives

The stakeholders, whose greatest interest is economic development and redevelopment in downtown Waterbury, generally support a consolidated downtown transportation center for three primary reasons:

- The removal of transit operations from the Green would support the restoration of the Green to its original civic function.
- The consolidation of transportation providers would provide for synergy between transportation providers, including the provision of information and ticketing.
- The support for redevelopment of the 77-acre industrial area that is located between the rail tracks and the Naugatuck River, west of downtown.

5.1.2 Remove Transit Operations from the Green

Concerns by relevant stakeholders regarding North East Transportation operations at the Green are focused on four different areas: 1) large crowds of waiting bus riders blocking walking paths through the Green, thus making Green use more difficult; 2) multiple arriving and idling buses affecting the attractiveness of the Green for other potential users; 3) large crowds of bus riders that result in trash and litter on the Green, making the Green less attractive for other users; and 4) crowds of bus riders taking shelter in commercial buildings around the Green during inclement weather, thus negatively impacting building operations.

The relocation of North East Transportation operations to a transportation center would address each of the concerns noted above. A new facility would be located away from the Green and would also contain off-street bus bays for each of the routes in the North East Transportation system. The new facility would include adequate sheltered waiting areas for bus passengers and provisions for system information such as schedules. The new facility may also include a sales site to facilitate the purchase of items such as monthly passes.

5.1.3 Consolidate Transportation Providers

The transportation center as currently envisioned would include all downtown transportation providers, including Metro-North Railroad (commuter rail), North East Transportation (local bus), Bonanza Bus (inter-city bus), Connecticut Limousine (airports service), and Land-Jet Bus Lines (service to Connecticut Casinos). There are definite opportunities for synergies between many of the providers, especially for local bus passengers who are transferring to one of the inter-city services such as Metro-North Railroad or Bonanza Bus. Synergies between other providers are less apparent however. Bonanza Bus and Metro-North Railroad serve many of the same markets, especially to New York City and thus are competitors to some destinations. This would have the advantage of providing passengers with multiple choices to destinations that are served by both providers. The other two services (Connecticut Limousine and Land-Jet) are niche providers that would likely have little interaction with riders on services other than North East Transportation.

Another potential opportunity for synergy would be in the form of a shared-information/ ticketing kiosk that would generally increase the level of information available for passengers of all transportation providers beyond what is currently available.

5.1.4 Support for Redevelopment

The degree of support a consolidated transportation center would provide in the redevelopment of the 77-acre industrial area identified above depends to a large degree on the type of redevelopment that occurs. The transportation center would likely provide the greatest support to a mixed-use development comprised of both office and residential uses. In this manner, the center would support trips coming into Waterbury to work at offices and other commercial venues, while also supporting trips leaving the residential areas within the mixed-use development. A transportation center would likely provide less support to development of retail in this area. The reason for this is that retail is less likely to attract riders on multiple modes, while a mixed-use development could attract riders from rail, local bus, and perhaps even intercity bus (as noted, mixed uses would generate *and* attract trips). Customers coming to a retail development via public transportation would most likely be using the local transit system only.

The location of a transportation center adjacent to the redevelopment site could provide an important foundation for redeveloping the site in a transit oriented manner, if other redevelopment requirements are also in place.

5.2 ASSESSMENT OF IMPACTS TO TRANSPORTATION PROVIDERS

5.2.1 North East Transportation Operations and Passengers

Potential impacts, both negative and positive, to North East Transportation operations and passengers would occur in a number of areas, including:

- Improved waiting and transfer environment for passengers
- Impact of additional run times on ability to maintain current schedule configuration, especially its pulse transfer system
- Potential impacts from schedule changes on ease of transfer for passengers
- Access to key downtown attractions

- Access to transit service for potential transit dependent populations within Waterbury
- Impacts to ridership
- Impacts on vehicle requirements and operating costs

Improved Passenger Waiting and Transfer Environment

Currently, the environment at the Green for passengers waiting to board North East Transportation buses is less than ideal, with little shelter space available for waiting passengers attempting to protect themselves from the elements. In addition, limited information on service schedules, hours of service, and which routes serve which stops at the streets around the Green is available, making use of the system difficult for riders who have limited experience with the system. Also, because North East Transportation schedules are so tight and integrated, buses assigned to the south side of the Green along West Main are not given assigned slots along the curb. Instead, they move to the first open slot along the curb as they arrive. This makes it easier to stay on schedule as they leave the Green but makes it more difficult for riders who are waiting at the Green or are transferring from another route to know where their bus will be located. Finally, the distances for passengers transferring between routes can be quite significant, depending on the routes in question, with passengers often also forced to cross streets in order to transfer. This can make transfers quite difficult in the short time buses are located at the Green. This difficulty is often further exacerbated in winter months when snow banks and icy conditions impede traversing the sidewalks around the Green even further.

In a new transportation center, each North East Transportation route would have an assigned bus bay, allowing waiting or transferring passengers to go directly to the assigned bay of the route they will be using. In addition, the transportation center would be designed with a large waiting area, with a roof and significant shelter space to protect waiting passengers from the elements. The waiting area would also have sufficient space for maps and schedules, space often not available on the sidewalks around the Green. Finally, the new transportation center would be more compact than the operations around the Green, thus allowing for shorter distance transfers between buses. These transfers would also be protected from inclement weather conditions.

It should be noted that at least partially improving the waiting environment could be done at the Green through the institution of additional shelters, information kiosks, and other passenger amenities. Many of the issues noted above, however, especially the difficulty of making some transfers, would still remain at the Green regardless.

Current Schedule Operations/Ability to Maintain Pulse Transfer System

As was noted in Chapter 2.0 (Data Collection), North East Transportation relies on a tightly integrated schedule wherein buses simultaneously arrive at the Green, and then simultaneously leave three to four minutes later. This operational configuration, known as a pulse transfer system, is designed to facilitate transfers between different routes with minimal waiting times. Because the pulse transfer system is dependent on the very tightly integrated schedule noted above, any change in a route's travel time has the potential to disrupt the schedule and thus the ability to maintain the pulse transfer system. Relocating North East Transportation operations away from the Green would have the effect of increasing run times on a number of the routes in the system. The specific impacts are summarized in Table 5.1.

Table 5.1: Impacts to Route Run Time and Pulse Transfer System

Route	Service Frequency	Route into Downtown	Existing Operation		Time At Green Before Next Trip	Potential Transportation Center Facility (2)	
			Round Trip Run Time/Arrival Times at Green (1)	Departure Times from Green (after the hour)		Round Trip Run Time/Arrival Times at New Facility (1)	Time at New Facility before Next Trip
11	30	West Main	26/:26/:56	:30/:00	4	27/:27/:57	3
12	30	West Main	27/:27/:57	:30/:00	3	30/:30/:00	0
13	60	North Main	55/:25	:30	5	61/:31/:01	-1
15/16	30	North Main	28/:28/:58	:30/:00	2	34/:34/:04	-4
18	30	North Main	27/:27/:57	:10/:40	3	33/:33/:03	-3
20	60	East Main	26/:56	:00	4	32/:02	-2
22	60	East Main	55/:25	:30	5	61/:01	-1
25	60	East Main	57/:27	:30	3	63/:03	-3
26	60	East Main	28/:28	:30	2	38/:08	-8
27	60	East Main	28/:58	:00	2	34/:04	-4
31	60	East Main	28/:28	:30	2	32/:02	-2
32	60	East Main	28/:58	:00	2	34/:04	-4
33	30	East Main	28/:28/:58	:30/:00	2	34/:04	-4
35/36	30	South Main	28/:28/:58	:30/:00	2	26/:26/:56	4
40	60	West Main	27/:27	:30	3	24/:24	6
42	60	West Main	26/:26	:30	4	31/:31	-1
44	60	West Main	28/:28	:30	2	30/:30	0
45	60	West Main	55/:25	:30	5	57/:27	3
Total fail					0		14

Connecticut Transit operated by North East Transportation Company

(1) The first number in column represents the round trip time, and the next one or two numbers represent the arrival times after the hour at the Green throughout the day. For routes that have a 30 minute frequency, buses will arrive at the Green twice during the hour. For buses running on a 60 minute frequency, buses will arrive at the Green once during the hour.

(2) Analysis based on the potential transportation center being located at the Meadow Street Site.

The data in the last column of Table 5.1, "Time at New Facility before Next Trip", highlight the disruption that would occur from relocation to the proposed Meadow Street facility. Under the existing operation columns, the "Time Before Next Trip" column shows the amount of time the bus has at the Green before it starts its next trip. The data show that the longest a bus is at the Green is five minutes, with most of the routes having even less time. With this little time before starting the next trip, adding even a few minutes to the trip time would disrupt the ability of the buses to arrive and leave together, which is essential to supporting the pulse transfer system. The data in the last column show the impacts of the extra run time, with all of the highlighted routes being routes where the buses would arrive too late for the pulse transfer system to work. The data show that a large majority of the routes would be disrupted by the extra run time associated with a new transportation center.

Ease of Transfer

There are three different methods that North East Transportation can use to address the system disruption that would be associated with the extra run time resulting from a new transportation center location. The first would be to simply utilize the arrival and departure times that would occur after a move and not adjust schedules. Some routes would still be departing at the same time and thus some convenient transferring could occur, though not for all routes. For those riders who can not make a quick transfer to another bus, wait time could increase up to an hour, a significant inconvenience.

The second approach would be to shorten a route's run time at the outer end of the trip to compensate for the extra run time at the downtown end. In general, the extra run time associated with a relocated transportation center is between four and six minutes. This would require cutting trip times up to six minutes at the outer end (three minutes outbound and three minutes inbound), something that could be very difficult on trips that are only 30 minutes long. The other difficulty in cutting trips is in finding new places to turn vehicles around. The ability to turn a bus around will often have as much influence on final routings as potential ridership markets.

The final approach to address the extra run time associated with a re-located transportation center while maintaining the pulse transfer system is to schedule all routes to have longer run times. In this way, there would be no changes at the outer end of the route and buses could still depart a downtown terminal simultaneously, thus supporting the pulse transfer system. The first negative of this approach is that, without increasing the size of the vehicle fleet, service frequency would have to increase from 30 minutes to approximately 40 minutes. This would result in decreased convenience for riders. The second negative is that each bus would provide fewer trips during the day. As an example, with trip times at 30 minutes (run time plus time at the Green), a bus can provide 26 trips a day during a 13-hour service day. With trip times at 40 minutes, a bus would only be able to provide 19 trips per day. Adjusting the schedule increases passenger inconvenience (and thus potentially results in lower ridership) and results in a less efficient use of the bus fleet.

One further issue associated with scheduling for longer running times is that there are a number of single trip routes to business and industrial parks, called trippers, which are tightly integrated into the schedules of the regular route system (for both operating and passenger convenience reasons). Changing the schedules of the regular route system would dramatically affect the ability to integrate these tripper routes into the regular route system. If new vehicles can not be provided to serve these trips, they may have to be dropped (it should be noted that these tripper routes are provided under contract to Joblinks, which is the overall contractor for access to work programs in Northeast Connecticut).

Passenger Access to Key Downtown Destinations

Relocating the downtown transportation center to a Meadow Street facility would result in a longer walk distance to a number of major downtown destinations for passengers alighting at the new transportation center, relative to the existing terminal point at the Downtown Green. Furthermore, a number of destinations would be outside a quarter-mile radius from the new transportation center, the typical distance a person is willing to walk to access transit at the origin end of a trip or to walk to a destination after alighting from a bus. Major downtown destinations that would be outside the quarter-mile radius would include the downtown Waterbury campus of the University of Connecticut and the business district along Bank Street. Making access to destinations more difficult through relocation of the transportation center could result in decreased ridership on the bus system.

From a positive standpoint, the courthouse along Grand Street, which is also a major destination for bus system patrons, would be closer to a new transportation center located on Meadow Street than it is to the Green.

It should also be noted that patrons on all of the routes coming into downtown via East Main, North Main, or South Main Streets would still be able to alight at the Green, since the buses on these routes would still be passing the Green (the access path into downtown is noted in Table 5.1). Twelve of the 18 routes in the system would continue to pass by the Green. Passengers on the other six routes would be forced to walk the longer distances noted above.

Access for Transit Dependent Populations

Chapter 2.0 presented a number of population groups concentrated around the Green that have characteristics typically associated with transit dependency. This concentration includes large groups of both elderly and low-income populations. Both groups are typically heavily dependent on transit for their mobility.

Because the consolidated transportation center would be located away from the Green, access to about one-third of the routes in the system would become more inconvenient for these transit dependent populations around the Green. As noted previously, twelve of the 18 routes in the system would continue to pass the Green, so passengers on these routes would not be affected. The routes that come into downtown via West Main Street would terminate at the new transportation center and thus would not enter the heart of downtown. For passengers on these routes, their walk to access the bus would be longer and thus more inconvenient. Figure 5.1 shows the location of social service facilities located in downtown Waterbury. Within Figure 5.1, a quarter-mile radius is shaded around the Green and the proposed transportation center on Meadow Street. Although most of the facilities are closer to the Green, a few are closer to the proposed center. Figure 5.1 was prepared and provided by the Central Naugatuck Valley COG.

Impacts to Ridership

The disruption to North East Transportation that would result from moving their operations from the Green to a new transportation center could have a negative impact on ridership. Different alternatives exist for addressing the schedule disruptions. If service frequencies are adjusted to account for longer run times and thus service becomes more infrequent, then riding the bus becomes more inconvenient and thus less attractive to riders. Under a second alternative for addressing schedule disruptions, wherein operations are not adjusted and the pulse transfer system falls out of use, then there is also the potential

for the system to become less convenient as people are required to wait longer to make transfers. This could also result in a decline in ridership.

Increased ridership may result from an entirely new and revamped route system that is more convenient. A more attractive waiting area in downtown Waterbury may also result in increased ridership.

Impacts on Vehicle Requirements and Operating Costs

It has been noted above that locating North East Transportation operations to a new transportation center would result in a significant disruption to existing operations and schedules. If no changes are made to fleet size or the number of buses deployed into service each day to address the disruptions, then the level of service would decline based on more infrequent service and the potential demise of the pulse transfer system. If a decision is made to address some of the results of the schedule disruption, the fleet size and the number of buses deployed would have to be increased. For instance, with no changes in the number of buses deployed, increased run times resulting from a new transportation center would require a change in service frequency. For routes running every 30 minutes today, the frequency would likely change to every 40 minutes. However, if a decision is made to address the disruptions, more resources would be required to maintain the level of service near what exists today. For instance, today routes running on 30 minute frequencies can be served with one bus (these routes consist of a trip that takes 15 minutes to run from downtown to the outer end of the trip and 15 minutes to run back into downtown). The disruptions would result in longer run times (for instance 20 minutes out and 20 minutes back), which means 30 minute service frequencies would require two buses now, rather than one. More buses required to meet service means a bigger fleet size and increased operating costs.

5.2.2 Metro-North Railroad Operations and Passengers

Potential impacts to Metro-North Railroad operations and passengers from a consolidated transportation center include train operations, passenger impacts, and access to services. An assessment of potential impacts in each of these areas is outlined as follows:

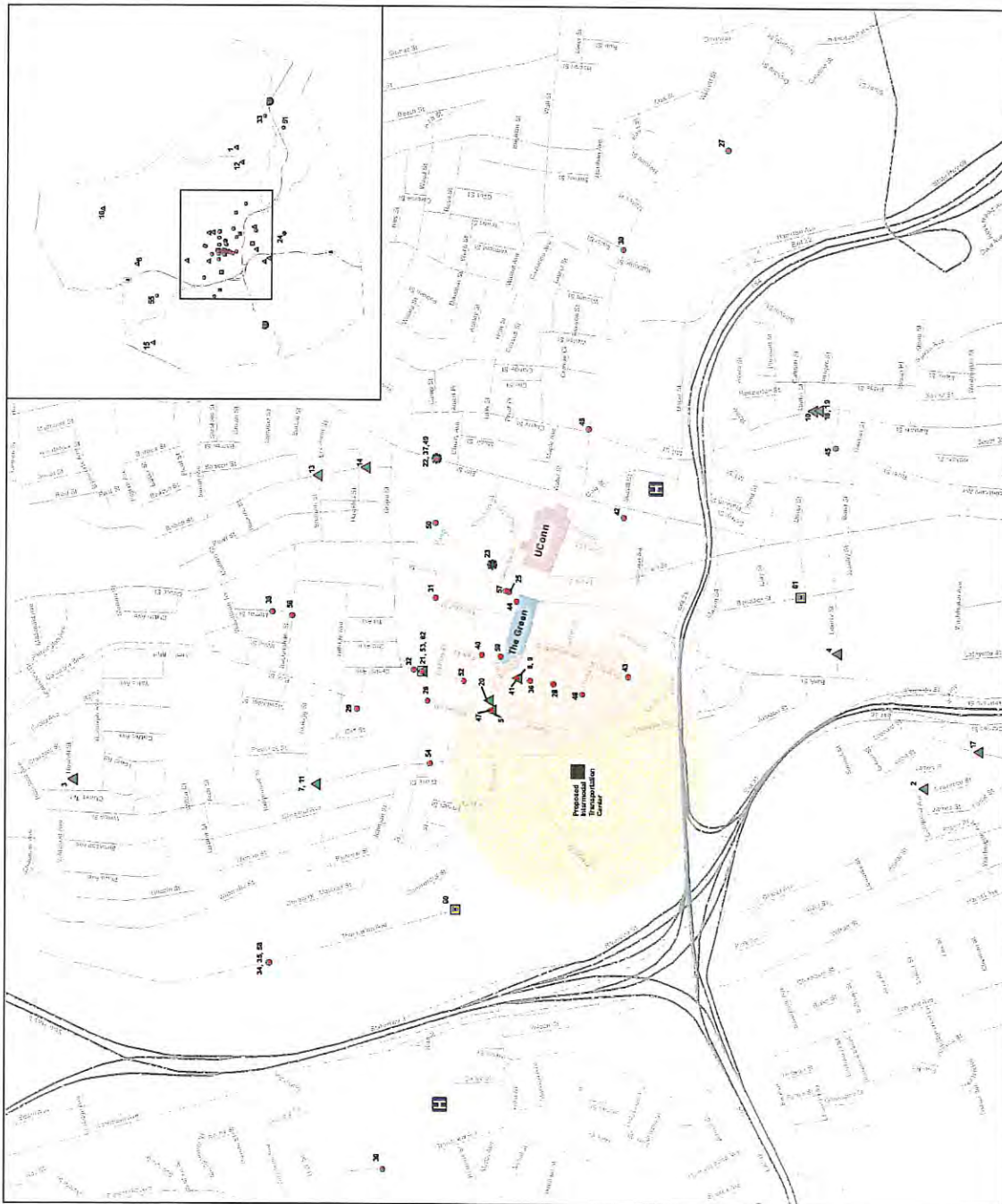
Train Operations

Since Metro-North Railroad operations are already located at the site of the proposed new transportation center and no major changes to operations would be required, impacts to its train operations would be negligible.

Passenger Impacts

Upgrades to the Metro-North Railroad Station that would be associated with the construction of a new transportation center would be of great benefit to existing rail riders. This would include a more user friendly and safer waiting environment, greater access to schedule information, and greater access to potential amenities such as retail that would be made possible by greater numbers of riders on all modes.

Social Service Facilities - Waterbury



- ▲ FOOD BANKS**
- 1 Brass City Church
- 2 Church of God
- 3 Community Tableside Outreach Ctr
- 4 Day Star Christian Fellowship
- 5 First Assembly of God
- 6 Greater Waterbury Interfaith Ministries Parity
- 7 First Return to Pentecost
- 8 Greater Waterbury Interfaith Ministries Parity
- 9 Holy Trinity Lutheran
- 10 Iglesia Cristiana Aman
- 11 Iglesia Cristiana Pentecostal
- 12 Iglesia Pentecostal Tabernaculo
- 13 Intergenering Pentecostal Temple
- 14 Iglesia Pentecostal Tabernaculo
- 15 Iglesia Pentecostal Tabernaculo
- 16 Power of Faith Outreach
- 17 Puerta de Salvacion/Iglesia Cristiana Pentecost
- 18 Second Iglesia Cristiana
- 19 St. Vincent De Paul Parity
- 20 Waterbury Baptist Ministries
- 21 Waterbury Salvation Army

- ▲ HEALTH CENTERS**
- 22 SlayWet Health Center
- 23 SlayWet Health Center
- 24 SlayWet Health Center

- OTHER SERVICES**
- 25 211 INFOLINE
- 26 American Red Cross
- 27 Anderson Boys' Club of Waterbury
- 28 Catholic Family Services
- 29 Catholic Family Services
- 30 Children's Community School
- 31 Connecticut Junior Republic
- 32 Connecticut Legal Services, Inc.
- 33 CT Counseling Centers
- 34 DSS
- 35 Enrichment School (Alternative School)
- 36 Families in Crisis
- 37 Family Services of Greater Waterbury
- 38 Family Services of Greater Waterbury
- 39 Greater Waterbury Interfaith Ministries
- 40 Girls Incorporated of Greater Waterbury
- 41 Greater Waterbury Interfaith Ministries
- 42 Health Dept WIC Program
- 43 Hispanic Coalition
- 44 La Casa Bilingua
- 45 La Casa Bilingua
- 46 Literary Volunteers of America, Inc
- 47 Mental Health Association of CT, Inc.
- 48 New Hope Foundation, Inc.
- 49 North End Recreation Center
- 50 North End Recreation Center
- 51 Nurturing Big Brothers & Big Sisters
- 52 Safe Haven of Greater Waterbury, Inc.
- 53 St. Vincent DePaul Society - Thrift Shop
- 54 St. Vincent DePaul Society - Thrift Shop
- 55 VNA Health Care, Inc.
- 56 Waterbury Day Nursery Association
- 57 Waterbury Youth Services
- 58 Waterbury Youth Services
- 59 YMCA Greater Waterbury Family

- SHELTERS**
- 60 GH Wby Mental Health Authority - Drop In
- 61 St Vincent DePaul Society - The Shelter
- 62 Waterbury Salvation Army

1/4 mile buffer of Proposed Intermodal Transportation Center

1/4 mile buffer of Town Green (Lower east side)



0 0.125 0.25 0.5 Miles

For general planning purposes only. Locations may not be exact. March 2006



COUNCIL OF GOVERNMENTS
CENTRAL NAUGATUCK VALLEY

This figure was prepared and provided by Central Naugatuck Valley Council of Governments.

FIGURE 5.1
Social Service Facilities

Source: "Social Service Facilities", Information Provided by United Way of Greater Waterbury, Geocoded by COGCNV "Roads", GDT

Access to Services

A consolidated transportation center would provide greater convenience for riders from other modes that are transferring to Metro-North Railroad. At this point, the number of passengers making this transfer is not substantial but the presence of greater convenience may result in an increase in these numbers. In addition, greater numbers of people in the area and more visibility from Meadow Street would make cars parked in the station parking lot less susceptible to vandalism and theft.

Since the large majority of people arriving at the station are coming by car, it will be very important that automobile access to the station as well as the transportation center as a whole is effectively integrated into the transportation center design, and that this access is not degraded by the presence of additional modes at the station. This concern was highlighted in our discussions with Metro-North Railroad regarding their feelings about being part of a consolidated transportation center.

5.2.3 Bonanza Bus Operations and Passengers

Potential impacts to Bonanza Bus vehicle operations and passengers from a consolidated transportation center are summarized as follows:

Bus Operations

Bus operations for Bonanza Bus should not be significantly affected by the potential relocation of a transportation center. Buses leaving the new facility would be able to access I-84 via Bank Street, which is the current configuration, or would be able to access the Interstate via Meadow Street.

Passenger Impacts

Passengers should benefit from a more user friendly waiting environment, though the existing downtown Travel Center does provide an indoor waiting area. The loading area at the Travel Center is protected from the elements so there would be relatively little change at a new transportation center regarding actual bus boarding operations. People coming to take Bonanza Bus via the local bus system would enjoy some additional convenience by having the two modes together in a consolidated transportation center. People walking to the center from downtown may have to walk an additional distance to get to the new center.

Access to Services

As noted, a consolidated transportation center would provide greater convenience for riders from other modes (especially the local bus) to Bonanza Bus. Fewer Bonanza Bus patrons are likely to arrive via car given typical inter-city bus patterns, though for those that do, the same concerns regarding incorporation of automobiles into the center that apply to Metro-North Railroad also apply here.

5.2.4 Connecticut Limousine Operations and Passengers

Potential impacts to Connecticut Limousine vehicle operations and passengers from a consolidated transportation center are summarized as follows:

Vehicle Operations

Vehicle operations for Connecticut Limousine should not be significantly affected by a relocation of the Travel Center. Vehicles leaving the new facility would be able to access I-84 via Bank Street, which is the current configuration, or they would be able to access the Interstate via Meadow Street.

Passenger Impacts

Connecticut Limousine passengers should benefit from a more user friendly waiting environment, though the existing downtown Travel Center does provide an indoor waiting area. The loading area at the Travel Center is protected from the elements so there would be relatively little change at a new transportation center regarding actual vehicle boarding operations.

Access to Services

Given the trip purpose of the typical rider on Connecticut Limousine (traveling to an airport), the very large majority would be arriving at the new transportation center via their automobile. The current parking configuration at the Travel Center is quite beneficial for passengers arriving by automobile. The municipal parking garage adjacent to the Travel Center provides covered parking protected from the weather and good access to I-84. Garage parking is safe, plentiful, and relatively inexpensive. In fact, in our discussions with the proprietors of the Travel Center, they noted that one of the greatest advantages of their current location is the large amount of available parking in the municipal garage. They expressed great concern regarding the availability and expense of parking at a new facility. This would be an important consideration in the design of a new facility, if the facility moves forward.

5.2.5 Land/Jet Bus Line Operations and Passengers

Potential impacts to Land/Jet vehicle operations and passengers from a consolidated transportation center are summarized as follows:

Vehicle Operations

Vehicle operations for Land Jet should not be significantly affected by the transportation center relocation. Vehicles leaving the new facility would be able to access I-84 via Bank Street, which is the current configuration, or they would be able to access the Interstate via Meadow Street.

Passenger Impacts

Land/Jet passengers should benefit from a more user friendly waiting environment, though the existing downtown Travel Center does provide an indoor waiting area. The loading area at the Travel Center is protected from the elements so there would be relatively little change at a new transportation center regarding actual vehicle boarding operations.

Access to Services

Discussions with the proprietors of the Travel Center, who also operate Land/Jet, indicate that the large majority of people taking Land/Jet services to Connecticut casinos arrive via automobile. As with Connecticut Limousine passengers, the current parking configuration at the Travel Center is quite beneficial for passengers arriving by automobile. To ensure there is not a negative impact from moving

to a new center for patrons arriving by automobile, facility design must carefully consider safe and inexpensive parking.

5.3 OTHER POTENTIAL IMPACTS AND CONSIDERATIONS

5.3.1 Travel Center

In addition to the different transportation providers that utilize the existing Travel Center, the Travel Center proprietors also house their administrative functions as well as their Travel Agency at the existing facility. They indicated, in their discussions with us, that they would like to keep all of their operations together and thus this requirement must be incorporated into the new facility design. The Travel Center proprietors also expressed significant concern regarding increased rent associated with a move to a new transportation center. This should be an important consideration as the institutional arrangements for the ownership and operations of the center are formulated.

5.3.2 Traffic Impacts

The proposed new transportation center site would be located along Meadow Street, a two-way four lane roadway (one traffic lane in each direction with an additional parking lane available in each direction). A planning level analysis of volume to capacity (V/C) assuming a lane capacity of 800 cars/hour shows that the V/C ratio along Meadow Street below the level of 80 percent which roadways begin to experience some degradation in traffic operations.

The entrance to the new transportation center would require its own signal. In addition, an activated signal that provides adequate green time for all North East Transportation buses to leave the facility together (assuming the pulse transfer system stays in place) would be strongly advocated if the transportation center moves forward. Maintaining this additional green every 30 minutes would have some minor impacts on traffic but even during the peak hour the impacts should have a minimum effect on overall traffic operations.

Additional analysis would be required in future study phases to better understand potential impacts to the intersection of Meadow and Grand Streets, including an assessment of the adequacy of the geometry at this intersection to handle multiple buses. Methods for mitigating inadequacies would be developed as the conceptual and detailed design phases begin.

6.0 POTENTIAL FUNDING SOURCES

This chapter presents a broad range of funding sources that could be potentially available for the proposed Waterbury Transportation Center. Potential sources of funding include federal, state, local, and private funding sources as well as innovative financing. At this early point in the planning process, a detailed cost estimate has not yet been developed for the project. However, based on the costs of similar transportation facilities constructed within the United States over the last five years, an approximate cost of the transportation center would not be less than \$20 million. For a more precise project cost, an itemized cost estimate based on more detailed engineering would be required. Each of the potential sources of funding is outlined in more detail below.

6.1 FEDERAL FUNDING

The U.S. Department of Transportation (DOT), Federal Highway Administration (FHWA), and the FTA are the primary source of potential funds from the federal government for transportation improvements. However, there are also funds available from several other federal agencies.

- The Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU; Public Law (P.L.) 109-59), is the latest transportation authorization act and authorizes federal transit and highway programs through Fiscal Year (FY) 2009 (SAFETEA-LU builds on the foundation of two previous transportation authorization laws, the Intermodal Surface Transportation Efficiency Act (ISTEA; P.L. 102-240) and the Transportation Equity Act for the 21st Century (TEA 21; P.L. 105-178)).

Specific types of federal funding programs encompassed within SAFETEA-LU are presented below.

6.1.1 Federal Earmarks

If the transportation center and redevelopment projects crystallize with solid support from the Connecticut delegation, local public officials, and other stakeholders, partial or full program funding could be filled by Congressional earmark. The current authorizations extend to FY 2009. Each annual appropriations bill within the multi-year SAFETEA-LU authorization period can contain new project earmarks.

6.1.2 Funding Programs within SAFETEA-LU

The primary sources of funds for transit and transit-related infrastructure and improvements include the following program categories:

FTA Urbanized Area Formula Program, Section 5307

Section 5307 Urbanized Area Funds are provided on a formula basis to urbanized areas with a population of \$50,000 or more. For urbanized areas with populations less than \$200,000, this funding may be used for either capital or operating costs at local option. Eligible capital expenses include acquisition, construction, and leasing of transit facilities. Eligible funding assistance activities include planning, engineering, design, and evaluation of transit projects; capital investments in bus and bus-related activities; and transportation studies.

FTA New Starts Program, Section 5309

Section 5309 Funds are provided for three distinct uses: fixed guideway modernization; establishment of new fixed guideways or extensions of existing fixed guideways; and construction, replacement, rehabilitation and purchases of bus and bus-related equipment and facilities. Fixed guideway modernization funds are provided based upon a statutory formula, while New Starts funds and bus funds are discretionary programs based upon competitive grant applications or through Congressional earmarks.

SAFETEA-LU does not change the basic New Starts program or the current federal share of 80 percent, but FTA recommends a higher level of local participation above the 20 percent level. A new Small Starts Program is created for smaller projects with a federal share of less than \$75 million. A new intermodal facilities program is established with a \$35 million annual set aside from the discretionary bus program. The intercity portion of intermodal terminals is eligible for funding under this program if the facility serves as a connector to public transportation.

Specific application to the transportation center project in Waterbury is the *Section 5309 Bus Allocation Program* that provides funding for the acquisition of buses, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, and park-and-ride stations. Funds are allocated on a competitive discretionary basis or, more often, through Congressional earmarks.

FTA Small Starts Program, Section 5309(e)

A new "Small Starts" (Capital Investment Grants Less Than \$75 million) program is available to provide funding for smaller projects with a federal New Starts share of less than \$75 million. Small Starts projects may not total more than \$250 million. Simplified procedures and criteria apply to the program, through FTA has not yet developed these criteria.

FTA Small Transit Intensive Cities Tier, Section 5336(j)

SAFETEA-LU includes a new initiative to create a tier in the Urbanized Area Formula program that would distribute funds to small Urbanized Areas with fewer than 200,000 population that provide transit service above a certain level. The new tier will be funded at 1 percent of all Urbanized Area formula funds annually beginning in FY 2006. The criteria are passenger miles traveled per vehicle revenue mile; passenger miles traveled per vehicle revenue hour; vehicle revenue miles per capita; vehicle revenue hours per capita; passenger miles traveled per capita; and passengers per capita.

Transportation, Community, and System Preservation Program, Section 1117

Funding for the FHWA Transportation, Community, and System Preservation Program is increased under SAFETEA-LU. Transit and highway projects that enhance transit-oriented development are eligible, along with other broad categories of projects that improve the efficiency of the transportation system and reduce its impacts on the environment.

Surface Transportation Program

The funds may be spent on any road that is functionally classified as a collector or higher for urban streets or as a major collector or higher for rural areas. The type of projects may range from rehabilitation to new construction. Eligible safety projects include Hazard Elimination, Railroad Crossings, and Railroad Protective Devices. These funds may also be used for transit projects. The federal share for Surface Transportation Program projects is 93 percent. Fifty percent of the funds are allocated to urban and rural

areas of the state based on population. Thirty percent can be used in any area of the state at the discretion of the State Transportation Commission. Of the remaining 20 percent of the funds, ten percent must be spent on highway safety projects, and ten percent must be spent on "Transportation Enhancements." Enhancement projects can range from historic preservation, bicycle and pedestrian facilities, to stormwater runoff mitigation.

Congestion Mitigation/ Air Quality

This FHWA program gives federal-aid to projects which reduce traffic congestion and improve air quality in non-attainment areas. Examples of Congestion Mitigation/Air Quality projects are signal coordination, park and ride lots, ridesharing, bus service expansion, and alternative transportation modes, which include bicycle and pedestrian facilities. The federal share for these projects is 93 percent.

6.1.3 Other Federal Programs

Other potential federal funding sources for the proposed transportation center are as follows:

Community Development Block Grants

The U.S. Department of Housing and Urban Development is the sponsor of this program. These funds can be used for a wide variety of activities directed toward neighborhood revitalization, economic development, brownfield studies and remediation, and improved community facilities and services, including the construction or improvement of walkways, streets and highways. It must be demonstrated that all projects principally benefit low and moderate income persons, aid in the prevention or elimination of slums and blight, or meet other community health and safety needs. Municipalities with a population of over 50,000 and counties with a population of over 200,000 are entitlement areas and are allocated Community Development Block Grants on an annual basis. These funds can be used to pay for the entire cost of the project or to provide the local matching funds for other federal funding sources.

Economic Development Grants

This is another possible source of federal funding for transportation and economic development work. Funds are available from the U.S. Department of Commerce, Economic Development Administration. In order to be eligible for these funds, entities must be within an Economic Development District and the proposed project must be a part of the District's Overall Economic Development Program. Economic Development Grants can be used for market/economic development studies; infrastructure improvements; environmental site remediation; and also can serve as financial "bridge" gap sources.

6.2 STATE AND LOCAL FUNDING

The State of Connecticut and its political subdivisions have funding resources available for transportation infrastructure and economic development initiatives. These are outlined below.

6.2.1 Special Transportation Fund

This fund was established by the Connecticut General Assembly in 1984, to provide dedicated sources of funding for transportation capital investments and transportation needs. This fund provides the primary source of local match for many of the transportation project in the state. The program is administered by Connecticut DOT.

6.2.2 Value Capture/Tax Increment Financing

Value capture refers to cases where the public sector is able to capture some of the increased value that results from public investment. As a sub-set of value capture, tax increment financing is a method of “reaching ahead” to capture future growth in *ad valorem* tax revenues attributable to transportation infrastructure and/or economic development projects. Capital contributions would come from the sale of long-term bonds arranged through the Connecticut Development Authority.

6.2.3 Financing for Brownfields Redevelopment

Grants, financing and other assistance is available for assessment, remediation and redevelopment of contaminated properties through the Connecticut Brownfields Redevelopment Authority, operated by the DECD. The DECD provides flexible tools to deal with brownfield issues, including gap financing, seed capital programs, corporate tax credits, and environmental liability insurance.

A former contaminated and large-scale brass factory site, the 1.2 million square foot Brass Mill Center in Waterbury is a successful example of how reclaiming a brownfield site can stimulate economic development.

6.3 PRIVATE INVESTMENT SOURCES

Private interests often provide sources of funding for transportation improvements and economic development. Developers construct the local streets within subdivisions/development sites and often dedicate right-of-way for and participate in the construction of collector and arterial streets adjacent to their developments. In this way, developers should also be considered as a possible source of funds for a new transportation center.

Land surrounding a potential transportation center could be developed to generate new and non-traditional sources of revenue for a project. Sites could be developed as retail and commercial centers that generate funding for the project directly, or through the use of tax increment financing arrangements.

Private sources also need to be considered for potential transit improvements which will provide benefits to them. For example, businesses or developers may be willing to support either capital expenses or operating costs for transit services or facilities which provide them with special benefits, such as a reduced need for parking or increased accessibility to their development.

Privatization could be as simple as a long-term contract to design, build, finance and operate a transportation facility, system, or large-scale redevelopment with a reasonable amount of risk sharing, or it could be a true franchise where the responsibility for profit and loss rests almost completely with the private sector. Another alternative could have the private sector build and operate the transportation facility, system, or redevelopment as well as finance the improvements, then return the new use to the public owners through a long-term lease purchase arrangement that helps recover the investments in the infrastructure. Cost recovery mechanisms could include income from land development, income from development fees, long-term operations and maintenance contracts, buy back payments, and utility leases.

Joint development may also be a funding source. Under this arrangement, new development could be expected to generate payments to a transit entity or operating entity owning the facility/site for transit use, as required by the FTA Joint Development Policy. The Policy requires, among other things, that the joint development make payments for transit use whose present value equals or exceeds the fair market value

of the federally-assisted real estate asset. To be eligible for consideration as a transit-oriented joint development, FTA requires that the project:

- Has a transit element *and*;
- Enhances urban economic development, or incorporates private investment *and*;
- Enhances the effectiveness of a transit project, and the non-transit element is physically or functionally related to the project, *or*;
- Creates new or enhanced coordination between public transit and other forms of transportation, *or*;
- Includes non-vehicular capital improvements that result in increased transit usage.

6.4 INNOVATIVE FINANCING

It is increasingly common for large, complex transportation projects to require not only creative *funding*, but creative *financing* as well. That is, even if the sponsor can assemble enough public and private funding commitments to match the bottom-line cost of the project, there is a timing issue—the availability of those funds is unlikely to match the desired implementation schedule.

Three mechanisms are potentially available to secure short- or long-term financing for a proposed new transportation center in general and the rail and bus transit components in particular.

6.4.1 Transportation Infrastructure Finance and Innovation Act

This Act is a special credit program originally enacted as part of TEA-21; it has been renewed, in slightly modified form, in SAFETEA-LU. Transportation Infrastructure Finance and Innovation Act (TIFIA) financing can take the form of direct federal loans, loan guarantees enjoying the full faith and credit of the Treasury, or standby lines of credit, and can be used to pay up to 33 percent of project costs. A TIFIA loan (or a private loan supported by a TIFIA guarantee) can be used to pay the non-FTA share of a project, as long as the revenue streams used to pay the debt service are themselves non-federal.

6.4.2 Private Capital

Application of innovative private financing options is a way to further leverage the project. The traditional reasons for employing alternative project delivery models, such as design-build, design-build-operate-maintain (DBOM), or turnkey, involve accelerating the project timetable and securing a guaranteed maximum price. Moreover, alternative delivery mechanisms can sometimes be used to create a direct financial benefit by importing private capital into the project. Three models are available:

1. **Contractor financing:** The design-build, DBOM, or turnkey contractor might be required to finance some or the entire project during the construction period, possibly by deferring payments otherwise owing, with payment to be made from net revenues once the project is opened.
2. **Contractor installation and ownership:** Certain components of the project, such as bus operations or other related transit facilities, might be privately owned in the short-term and transferred to public or transit entity organization further downstream.
3. **Build-Own Turnkey Procurement:** In the Build-Own Turnkey model, the contractor owns and operates the facility and retains sufficient fare revenue to cover operations and debt service, before being "taken out" by the sponsoring transit agency. This approach is unlikely because fare revenue is not sufficient to cover the cost of existing North East Transportation operations.

6.4.3 63-20 Corporation

States can team with private sector partners or consortiums to form a non-stock, not-for-profit entity called a 63-20 corporation, which can then issue tax-exempt revenue bonds for transportation projects on a build-own-turnkey or other project delivery basis. 63-20 corporations can considerably reduce financing costs for projects that would primarily be financed by the private sector. The "63-20" funding model does not add private risk capital to a project, but finances in cases where public agencies lack the power to issue revenue bonds or prefer to place such debt outside their own books.

7.0 PUBLIC OUTREACH RESULTS

As part of the project public outreach efforts, three public meetings were held over the course of the study to gauge the interest and concerns of citizens of area elected officials, public agency staff, representatives from other interested organizations, and the general public regarding a potential new transportation center in downtown Waterbury. This chapter summarizes the results of each meeting, with a focus on presenting the feedback provided by the full range of participants. Official minutes for each of the meetings are included in Appendix E.

7.1 STAKEHOLDER MEETINGS

Two stakeholder meetings were held as part of the overall project public outreach effort. The first was held at the beginning of December and was focused on introducing the project to key players in downtown Waterbury. The second meeting was held at the end of February and was focused on presenting study findings and receiving feedback on these findings. The results of each meeting are summarized below.

7.1.1 Stakeholder Meeting I

The initial stakeholder meeting was held on December 8, 2005 at the Waterbury Development Corporation in Waterbury. As noted the meeting was primarily for the purpose of introducing key stakeholders to the project. The meeting agenda included a description of the project's scope, schedule, final products, and the study's public outreach efforts. Meeting participants included elected officials, agency staff, and representatives from other interested organizations.

During an open discussion at the meeting, strong support for the new transportation center was voiced by Mayor Michael Jarjura, mayor of Waterbury, State Representative Jeff Berger, State Senator Joan Hartley, and Michael O'Connor of the Waterbury Development Corporation. Each noted the importance of consolidating transportation services in a single location within downtown to provide greater connectivity to the rest of the region, the support the transportation center would provide for economic development and redevelopment initiatives throughout downtown, and the need to relocate North East Transportation bus operations from the Green in order to return the Green to its civic function.

Two attendees expressed concern about the impacts of a new transportation center on North East Transportation operations, specifically the ability to maintain a pulse transfer system, and on North East Transportation riders. Barbara Kalosky, North East Transportation General Manager stated that the system level and quality of service would be compromised because of the significant schedule revamping that would be required with a relocation of operations off of the Green. Peter Dorpalen of the Naugatuck Valley Council of Governments expressed concern regarding the impacts of the schedule revamping on Waterbury residents who do not own cars and rely on the bus system for their mobility requirements.

7.1.2 Stakeholder Meeting II

The second project stakeholder meeting was held on February 22, 2006 at the Waterbury Development Corporation. All stakeholders invited to the first meeting in December were also invited to this meeting. The focus of this meeting was to present study findings and to receive feedback from meeting participants on the study results.

The same general feedback regarding the transportation center that was voiced at the December meeting was repeated at the February meeting. Specifically, Steven Sasala of the Waterbury Regional Chamber of Commerce, Mike O'Connor of the Waterbury Development Corporation, Sheila O'Malley of the office of Waterbury Mayor Michael Jagura, and Carl Rosa of Main Street Waterbury, whom all expressed strong support for a new transportation center. The reasons for this support included the need to strengthen synergies between transportation providers in downtown, the need to strengthen connections to the rest of the region and New York, the need to relocate North East Transportation operations off of the Green, and the need to support redevelopment of the former industrial area on both sides of Freight Street. Stakeholders supporting the move understood the impacts to North East Transportation and agreed that support for revamping the schedule was required, but added that this concern should not hinder moving forward.

Other meeting attendees stated strong opposition to the new transportation center. Dennis Brady of the Travel Center is opposed to the center, stating that a relocation of Travel Center operations would adversely affect his business. Joseph Spina of North East Transportation and Peter Dorpalen of the Central Naugatuck Valley COG also expressed concern regarding the overall impacts of changing North East Transportation schedules on local bus operations and riders, especially riders who are transit dependent. Mr. Dorpalen also expressed concern about impacts to traffic operations along Meadow Street from a new transportation center located at Meadow Street. Mr. Spina asked that information on other intermodal centers similar to what is proposed for Waterbury be provided. This information is included as Appendix F.

7.2 GENERAL PUBLIC MEETING

An outreach meeting for the general public was held on February 22, 2006, in the evening after the second stakeholder meeting, at the Waterbury Chamber of Commerce. As with the second stakeholder meeting, the purpose of the meeting was to present study findings and receive feedback prior to completing the project report. Many of the comments received during the meeting related to clarification of data presented in the presentation. The project team was also encouraged to expand their stakeholder outreach and talk to representatives from minority communities. Concerns were also voiced regarding project team conclusions about the most viable use of the 77-acre industrial area along Freight Avenue. Specifically, concerns about the conclusion that retail is the most viable use for the industrial area were expressed at the meeting. Meeting attendees asked that these conclusions be revisited.

Feedback from each of the public outreach meetings was evaluated and incorporated into the study findings, where appropriate.

Based on questions generated at the public hearing, several additional items were investigated. This information is presented in Appendix F and includes the following:

- Table F.1 contains information regarding similar transportation centers implemented at similar-sized cities within the United States as the center proposed for Waterbury, Connecticut.
- Table F.2 contains information for centers of transportation operations at five Connecticut cities—Hartford, Stamford, New Haven, Bridgeport, and Danbury.

8.0 FINDINGS AND CONCLUSIONS

This chapter summarizes the results of the study process outlined in the previous chapters, and presents the findings of the three key analyses completed in the study: a) selection of the preferred site for a transportation center, if the center development moves forward; b) transportation center feasibility, and c) transportation center need. Outlined below are the findings relative to each of these three analyses.

8.1 PREFERRED ALTERNATIVE SITE

The study concludes that the Meadow Street site is the preferred location for a consolidated transportation center in downtown Waterbury based on the alternative site analysis documented in Chapter 4.0. Based on the analysis framework used to evaluate each site, the Meadow Street site had the fewest potential negative impacts and the highest potential positive benefits of the four sites considered. Specifically, the Meadow Street site ranked 'high' on each of the ten criteria that together comprised the evaluation framework, while the second most competitive site, Judd Street, ranked 'high' on half that number while also receiving two 'low' rankings. Specific strengths of the Meadow Street site are outlined below.

- Lowest impacts to existing uses – the Meadow Street site is clear of any existing uses except parking, thus minimizing the impacts to existing uses that would occur at other sites.
- Lowest impacts to traffic – based on current traffic volumes and street configurations, the traffic level-of-service would not change based on a consolidated transportation facility along Meadow Street.
- Lowest environmental impacts – the Meadow Street site does have some potential for existing asbestos and lead paint contamination due to abandoned buildings, but potential environmental impacts appear lower than the other sites based on less concern about hazardous material contamination of the soil.
- Lowest construction costs – the Meadow Street site is already developed so costs for site preparation and utilities would be significantly lower than the other sites. In addition, the railroad station would not have to be relocated.

8.2 TRANSPORTATION CENTER FEASIBILITY

Based on the impact analysis of a new transportation center outlined in Chapter 5.0, a new transportation center at the preferred site on Meadow Street is considered feasible, though there would be significant impacts to North East Transportation operations from a relocation that would have to be addressed if development moves forward. The specific impacts to North East Transportation operations requiring mitigation are outlined in detail in Chapter 5.0.

8.3 IDENTIFYING THE NEED

The final analysis focus of this study is assessing the need for a new transportation center in downtown Waterbury. The framework for determining this need is the seven objectives for the center that are outlined in Chapter 1.0. The analysis outlined below describes how a new transportation center would help to meet each these objectives.

8.3.1 Objective 1 – Ease Automotive and Pedestrian Congestion in Downtown Waterbury

Automotive and pedestrian traffic and congestion around and within the Green would decrease with the relocation of North East Transportation from the Green to a new transportation center. The following impacts to automotive and pedestrian traffic would be alleviated with the relocation of bus operations to the transportation center.

- Large crowds waiting for buses and blocking park paths for other pedestrians.
- Multiple arriving and idling buses blocking traffic around the Green.
- Conflicts between hurrying transferring bus riders and other pedestrians.
- Bus riders taking shelter in commercial buildings, especially during inclement weather, affecting building operations.
- Deteriorated air quality due to idling buses.

In addition, based on current roadway volumes along Meadow Street, it does not appear that the preferred alternative of a transportation center would dramatically degrade traffic operations along Meadow Street.

8.3.2 Objective 2 – Restore the Waterbury Green to its Original Civic Function

Concern regarding the effect of North East Transportation operations on the attractiveness of the downtown Green was consistently identified by stakeholders associated with economic development initiatives in the city. Their concern was that the Green was an unparalleled resource that was being degraded by the coming and goings of buses throughout the day as well as the impacts of large groups of waiting passengers on pedestrian movements around the Green. A new transportation center would allow for the relocation of North East Transportation operations from the Green, thus removing many of the impacts identified by stakeholders.

Specifically, removing local bus operations from the Green would help restore the Green by:

- Increasing the original aesthetic value of the Green
- Reducing litter and congestion associated with large crowds of waiting passengers
- Reducing idling buses and air pollution

8.3.3 Objective 3 – Consolidate Modes of Transportation into one Transportation Center

This objective would be met if the project analyzed within this study is implemented, and all potential users, including private operators such as Land/Jet Bus, Connecticut Limousine, and Bonanza Bus, move to the center. The impacts analysis outlined in Chapter 5.0 does indicate that these private operators are very satisfied with their current location on Bank Street so it is not a given that these operators will choose to move.

8.3.4 Objective 4 – Increase Safety and Convenience of Transit Patrons and Service Providers

Based on study analysis and stakeholder input, this objective would be met by establishing a transportation center at the Meadow Street site. North East Transportation riders would be the biggest beneficiaries of a new transportation center relative to this objective. The current waiting environment at the Green for these riders is less than ideal, with little shelter space and often difficult and long distance

transfers. A new transportation center would have more shelter space, with adequate lighting and information, and buses would be closer together within the center, thus allowing for more convenient transfers. Metro-North Railroad riders would also have an improved waiting environment, with a much safer environment for parked cars based on greater activity and greater visibility from Meadow Street. Riders on Connecticut Limousine, Bonanza Bus, and Land/Jet Bus Lines should benefit from a more user friendly waiting environment, though conditions at the Travel Center today are adequate.

8.3.5 Objective 5 – Encourage Transit Ridership

An improved waiting environment could result in increased ridership, especially for Metro-North Railroad. It is very difficult to calculate the impacts of the dramatic disruption to North East Transportation schedules resulting from a relocation, but these disruptions may in fact result in lower ridership on the local bus system because of disrupted transfers and more infrequent service. It is anticipated that changes in ridership for Bonanza Bus, Land/Jet Bus, and Connecticut Limousine would be minimal or non-existent because there would be little change in operating conditions from a relocation for these three providers.

8.3.6 Objective 6 – Support Economic Development

Economic development stakeholders felt very strongly that downtown economic development initiatives and the overall attractiveness of downtown would be greatly enhanced by the removal of buses from the Green. If this is true, then a new transportation center would greatly support this objective. An improved Metro-North Railroad Station would make commuter rail an attractive option for residents of Waterbury and thus would also support overall economic development. Scheduled disruptions on North East Transportation could make it more difficult for residents to get to jobs, which could have a negative impact on economic development.

8.3.7 Objective 7 – Stimulate Economic Redevelopment

Both the Transportation Center Project and the Thomaston Avenue – Jackson Street Connector Project are intended to stimulate economic redevelopment of a former industrial area located immediately to the west of downtown Waterbury between the active railroad tracks and the Naugatuck River. The area covers approximately 77 acres in addition to railroad property and existing streets. The *Thomaston Avenue – Jackson Street Connector Study, Report on Findings and Recommendations* (Harrall-Michalowski Associates, February 2002) estimates that approximately 580,000 square feet of mixed-use space could be developed. A review of that study, *Review of the Thomaston-Jackson Street Connector Study* (see Appendix A), concluded that the site would most likely attract retail development, at least in the short term.

Although a community retail center was deemed the most viable with the highest rate of success for the first phase of redevelopment, a transportation center located on Meadow Street could be an important catalyst for a mixed-use development comprised of office and residential uses for phases 2 and 3. A transportation center at this site would make mixed-use development attractive by facilitating convenient trips on rail leaving the development (from the development's residential portion) as well as trips to office space within the development. A transportation center would provide less support to retail development because shopping trips are most often made by car and less often by public transportation.

Redevelopment options should remain open as market conditions change and various developers express interest. The phasing scenario presented in the 2002 Connector Study, consisting of Phases 1, 2 and 3 is

appropriate and the most effective method of providing the most beneficial redevelopment in terms of meeting project objectives.

8.4 FINDINGS

The analysis outlined above and in previous chapters shows that a new transportation center at a preferred site on Meadow Street is feasible. It also shows that there is a need for the facility based on the objectives set for the transportation center, which provided the framework for evaluating the need in this study process.

It should be emphasized once again, however, that a new transportation center would not come without its costs. Relocation of North East Transportation operations from the Green to a site on Meadow Street would result in a significant disruption to bus operations and schedules, especially to the pulse transfer system wherein buses arrive at, and leave, the Green simultaneously to facilitate convenient transfers. Chapter 5.0 contains alternative methods for addressing these disruptions. Less convenient transfers may actually result in decreased ridership on the system. As authors of this study, we strongly recommend that these disruptions begin to be addressed through coordination with the Connecticut DOT and North East Transportation immediately, if it appears that the project will move forward. Proposed initial steps would be a review of existing operations and some more detailed concepts on alternative schedules, for detailed discussion with the transportation stakeholders.

It should also be noted that different center users would derive different levels of benefits, as evidenced by the analysis contained above relative to each objective as well as the results of our discussions with transportation providers.

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APPENDICES

APPENDIX A

REVIEW OF THE
THOMASTON AVENUE-JACKSON STREET
CONNECTOR STUDY

Greater Waterbury Transportation Center

REVIEW OF THOMASTON AVENUE- JACKSON STREET CONNECTOR STUDY

DRAFT

JANUARY 11, 2006

Prepared for the

**Connecticut Department of
Economic and Community Development**

Prepared by

DMJM HARRIS | AECOM

**Greater Waterbury Transportation Center
Review of Thomaston Avenue – Jackson Street Connector Study
DRAFT**

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1. INTRODUCTION

This report provides a review of the “Thomaston Avenue – Jackson Street Connector Study”, which was prepared by Harrall-Michalowski Associates, Inc., (HMA) and for purposes of this Report is known as the “Connector Study”. HMA prepared this Connector Study in February of 2002 for the Naugatuck Valley Development Corporation (NVDC), recently renamed the Waterbury Development Corporation (WDC). This review consists of two parts: the first part (Section 2 of this report) includes a review of the alternatives analysis, the marketing overview section and the roadway design components of the Connector Study. The second part (Section 3 of this report) provides an overview of the redevelopment potential of the study area (a 77+ acre brownfield site) evaluated in the Connector Study. That section of the report was prepared by Economic Development Research (EDR) Group under the direction of DMJM Harris.

2. REVIEW OF CONNECTOR STUDY

This section of the report provides DMJM Harris’ review of three components of the Connector Study: 1) Alternatives Analysis; 2) Marketing Overview; and 3) Roadway Design.

2.1 *Alternatives*

The Connector Study establishes design parameters and constraints on Pages 17 and 18. The parameters, which outline a basic roadway design approach, appear to be reasonable pursuant to the goal of site redevelopment. In addition, the “planning determinants for right-of-way corridors” appears to identify the important known opportunities and constraints to roadway alignments. DMJM Harris recognizes that the unutilized railroad spurs offer opportunities for right-of-way corridors along the proposed connector road.

Page 18 of the Connector study provides justification for constructing a new roadway underpass of the railroad at the Meadow/Field Street intersection. According to the Connector Study, this is needed “to achieve the long term development of the study area at a level commensurate with its market potential.” According to the Study, this connection is not necessary for providing traffic mitigation. Rather, it is desired for diverting a percentage of existing traffic through the site, and for “providing direct access into the heart of the potential development area.” Whether all development scenarios require such improved access is not discussed. Obviously regional retail land use would benefit from this connection. In contrast, a technology park would benefit much less. A residential village would be best served by discouraging through traffic.

The Connector Study presents nine alternative development scenarios in the form of planning sketches found in Appendix D of the study (Concept 1 through Concept 9). Each of the concepts incorporates several baseline design goals including maintenance of a passenger rail station. In terms of roadway alignments, each concept:

- Relocates Jackson Street towards the Naugatuck River promoting waterfront access;
- Provides a new access to the site from Meadow Street via a new roadway underpass of the railroad opposite Field Street/I-84 Westbound off-ramp; and

- Extends Thomaston Street, from its intersection with West Main Street, southward through the site.

The concepts vary the proposed internal roadway network for each development scenario. But no single concept was selected. Instead, Page 19 of the Connector Study indicates that “it was agreed to advance the design process with a focus on the basic road network as presented in Concept 3 and integration of an element of greenway treatment along the Naugatuck”; while “In terms of redevelopment scenarios . . . options should remain open with the improved access used as a marketing tool in search for a master developer.” The “Connector Preferred Alternate” shown in Figure 10 features two internal roadways as does Concept 3.

It appears that the preferred alternative (Concept 3 of the Connector Study) meets the goals stated in the Connector Study. It improves traffic circulation and access in the area, provides an incentive for private development, encourages public access to the Naugatuck River waterfront, provides new vehicular access integrating well with future use of a potential new transportation center, enables future use of excess rail yards for private investment and strengthens multiple connections between the Waterbury Central Business District, adjacent neighborhoods and the study area.

With respect to the roadway alignment itself, based on the site constraints, the location of the four intersections (at Jackson/Bank, Meadow/Field, Freight and West Main), the desire to improve public access to the waterfront and integrate recreational use of the waterfront, and compliance with engineering standards, the alignment as depicted in Concept 3 of the Connector study (also depicted in more detail in Figure 10 of the Connector Study) appears to be the alternative that best meets project objectives while minimizing environmental impacts. However, it should be noted that subsequent environmental site assessment activities (Phase 2 soil and groundwater sampling and analysis) may reveal additional constraints that may affect the eventual roadway alignment.

With respect to the various redevelopment options, the preferred alternative illustrated in Concept 3 of the Connector Study indicates 3 phases of development: Phase 1 is the site adjacent to the potential site for the new transportation center, between Freight Street and I-84; Phase 2 is the area south of I-84 (between I-84 and Jackson/Bank Street), and Phase 3 is the northern portion of the site between Freight Street and West Main Street. As Section 2.2 of this report will further elaborate, our analysis of current market conditions resulted in a different preferred redevelopment option for at least the first phase of development – favoring retail as the most viable use. See Sections 2.2 and Section 3 for further elaboration of this conclusion. However, as acknowledged in the Connector Study, redevelopment options should remain open as market conditions change and various developers express interest. Lastly, the phasing scenario presented in the Connector Study, consisting of Phases 1, 2 and 3 is appropriate and the most effective method of providing the most beneficial redevelopment in terms of meeting project objectives.

2.2 *Marketing Overview*

The “Marketing Overview” section of the Connector Study was reviewed by DMJM Harris’ subconsultant, EDR Group, whose findings differed from those expressed in the Connector Study report.

For example, HMA considers the site’s proximity to Fairfield County as an asset, but EDRs research couldn’t bear that out. Instead, for most practical purposes, Waterbury is too distant to benefit from growth in Fairfield County (not to mention that the Fairfield County office market itself is softening).

This is not to say that no company will relocate from Fairfield County to Waterbury or that no families will move their homes to Waterbury. EDRs research found that influence from Fairfield was more anecdotal than quantifiable, and the forces that are attracting people from Fairfield to Waterbury are waning rather than growing (softening housing market, rising office vacancy). It is highly likely that the Fairfield market was probably much stronger when HMA did its work back in 2001, which may explain why they were more optimistic about the connection.

The Connector Study “market overview” concluded that the office/R&D and residential market sectors should be the focus of the development program for the study area. EDR’s research concluded that the most viable initial phase of development would be retail space, and ruled out any residential development due to higher costs to remediate contaminated areas to residential clean up levels (as opposed to commercial levels). EDRs review of the site revealed fairly clear support for retail space on the site, driven by regional demand rather than the local population. Retail would require separate, clean/secure parking because it would be supported primarily by the suburban drive-in market who will shop elsewhere if the subject site offerings aren’t perceived as convenient, safe and secure.

The office markets reviewed in the Connector Study were in Fairfield County, much closer to Manhattan influences and not really relevant to Waterbury. EDR’s review of the office market failed to show any clear demand for office space. WDC or some other economic development organization may be able to attract an office user to the site because it does have easy access for suburban commuters, but this could be challenging as Waterbury is not known as an office location. To attract office tenants, Waterbury will need to compete on price. Price is driven by development costs, including site remediation costs which could be significant.

EDR reviewed employment data for Waterbury and the region to evaluate the prospects for an economic development agency to recruit an office or industrial use to the site. EDR compared strong performing industries with nationwide growth trends and identified those industries that might be targets for the site: special trade contractors, health care, wood products manufacturing, warehousing/distribution/logistics. Compared with other major cities in Connecticut, Waterbury fills a high percentage of jobs with local residents. The local workforce is predominantly blue collar and high school educated, which influences site opportunities in terms of employment/workforce requirements.

Given the site's brownfield status, EDR is of the opinion that residential development (recommended in the Connector Study) is not a realistic scenario. Furthermore, there is weak market-rate housing demand from within Waterbury, while suburbanites will be looking for really good schools, which Waterbury isn't known for.

From an urban design standpoint, it is highly desirable for the site to achieve a critical mass of vibrancy that the proposed transportation center itself probably wouldn't provide. For the reasons described above, EDR deems retail as the most viable redevelopment use because it has the most market support and presents the best opportunity for success. Retail developers are looking for low cost sites, which could be stymied by site remediation costs. Thus it is recommended that the public sector assist with these costs to ensure that the site is cost competitive with suburban sites.

2.3 Roadway Design

The following provides the results of the review of the Connector Study conducted by a Professional Engineer with respect to traffic generation, engineering design and estimated construction costs.

Traffic Generation

The Connector Study projected vehicular traffic generation for a redeveloped project site, assuming 1,000 square foot gross floor area. The projections are indicated in Table 6 on Page 27 of the study. A description of the traffic engineer's methodology is provided on Page 36. Based on our review of this information, and our own calculations, we find these projections to be reasonable. We concur with the Study's position that "certain land uses including residential apartments, office as well as research and development have generation rates which can be reduced to reflect train and bus use" (Page 36).

Connector Design

The Connector Study presents detailed design information for the proposed roadways beginning on Page 37. As appropriate for this early design level, a number of design elements have not been developed. Pavement design would require a geotechnical study, which has not been performed. No storm drainage design has been attempted. For the study it was assumed that existing utilities within the project limits could be reworked to accommodate future needs at each parcel (per Page 40), but investigations in this regard remain to be performed.

Typical roadway cross section features provided in the Connector Study appear to be consistent with the State Department of Transportation "Connecticut Highway Design Manual" for the roadway classification "Minor Urban Arterials." Travel lanes, shoulders, and sidewalks meet the desired design widths. Since the site is fairly flat, longitudinal slopes are well below the 9% maximum. Sight distances also appear to meet the State standards. However, at the proposed Thomaston Ave. underpass of the railroad, the vertical clearance proposed by the Connector Study is 14 feet. This would be substandard according to the State Design Manual, which

indicates 16'-3" for a new Minor Urban Arterial. The State standard drops to 14'-6" for an "Urban Collector Street" classification. Based on the proposed roadway profile, there may be flexibility to increase the vertical clearance at the expense of a steeper roadway approach to Meadow Street (which would be undesirable but acceptable). This approach is currently shown at 3 % longitudinal grade.

Probable Construction Costs

The Connector Study includes estimated costs for the proposed roadway and bridge construction. For the preferred alternative (Concept 3), summary cost information begins on Page 41, while detailed estimate spreadsheets are included in Appendix F of the Connector study. DMJM Harris reviewed the item quantities in the spreadsheets for order-of-magnitude adequacy, and offers the following comments based on this review:

1. Presumably the Connector Study's cost estimate is in 2001 dollars. The item prices have been updated to 2006 dollars. In addition, prices were revised as appropriate in compliance with the Connecticut Department of Transportation's Estimating Guidelines and their Weighted Average Bid Prices.
2. As appropriate for this design level, the estimate excludes certain minor items. These items include but are not limited to pavement markings, signing, stormwater treatment devices, bedding material for drainage items, dewatering of excavations, and traffic flagmen. These items are assumed to be covered by a contingency percentage. The Connector Study assumed 15%, which is reasonable; however a total of 17% was used in accordance with DOT's Estimating Guidelines.
3. The estimate reflects traffic signal upgrades at three intersections along the Thomaston Ave. Extension. However no costs appear to be included for offsite traffic signal improvements which are indicated in the site plan at Freight Street at Riverside Street Northbound and Southbound.
4. The Connector Study appears to underestimate the asphalt pavement quantity on Thomaston Ave. Extension. Backing from the provided numbers for Realigned Jackson Street, asphalt thickness of 4" was assumed. We recalculated the quantities for Thomaston Ave. while applying this same thickness over the paved area.
5. As appropriately noted in the Connector Study (Page 43), the estimates exclude costs for property acquisition, building demolitions, site clearing/leveling, utility work, easements, and environmental remediation.

DMJM Harris' resulting cost estimate spreadsheet is included as Table 1 (at end of report). In summary, our bottom line estimates are approximately 35% higher than those provided in the Connector Study, as shown below.

Construction Phase	Roadway Segment	Cost per the Connector Study	DMJM Harris Estimate
Phase I	Meadow Street to Realigned Jackson St.	\$2,800,000 ¹	\$3,586,000
Phase II	Bank Street to Freight Street	\$2,025,000	\$2,912,000
Phase III	Freight Street to West Main Street	\$ 915,000	\$1,255,000
	TOTAL	\$5,740,000	\$7,753,000

1. Per Connector Report Pages 41 and 42; assumes 4-lane roadway underpass of railroad.

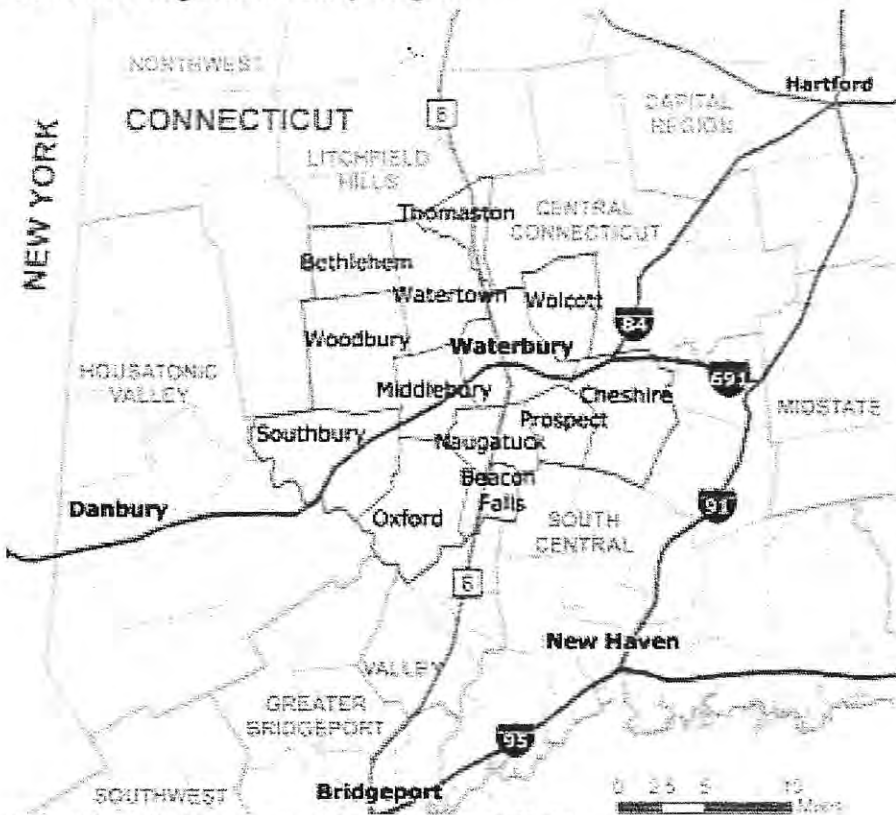
3. OVERVIEW OF REDEVELOPMENT POTENTIAL

3.1 Introduction and Methodology

Waterbury is the fourth largest city in Connecticut, and the metropolitan center of the 13-town Central Naugatuck Valley Region (Figure 1). Waterbury's economy was traditionally dominated by brass manufacturing and was the center of the nation's brass industry. With the decline of the brass industry, Waterbury—like many former industrial cities—has faced a continual challenge to diversify its employment base, and create jobs in a highly competitive global economy.

The purpose of this section of the report is to provide an overview of redevelopment potential for a 77-acre brownfield site adjacent to a site being considered for potential development of a new Waterbury transportation center. Findings are based upon an analysis of population, employment, real estate and other relevant market data, as well as interviews with local economic development leaders, representatives of the business community and real estate brokers. This is not a market study, it is a preliminary assessment of opportunities for the site's highest and best use. Further study of economic feasibility is necessary before development can proceed.

Figure 1
Central Naugatuck Valley Region



Source: Council of Governments Central Naugatuck Valley

How Development Potential is Assessed

For any site, development potential is based on three factors: 1) market demand, 2) site location and characteristics, and 3) development costs.

A site's development potential is closely tied to its location. It must allow access to the market it will serve. For auto-oriented retail sites this typically requires freeway access and visibility, and high traffic counts on adjacent arterials. For office space this requires commuting proximity to the labor force, access to suppliers and end customers, and increasingly, broadband and other communications linkages. Industrial sites also require workforce access, as well as freeway, and often rail, air and seaport connections. Site location and characteristics are described in Section 3.2 of this report.

Market demand for retail space is driven by population and income growth, while demand for office and industrial space is driven by employment growth. Though a new development can induce some growth, successful developments are fundamentally driven by unmet demand either for employment space or for goods and services. These factors are described in Section 3.3 of this report.

Development costs include land acquisition, site preparation and project construction. For a successful project, market demand must support rent levels that allow a developer to recoup development costs and profit from the venture. Development costs associated with the subject site are undetermined at this time due to the unknowns associated with the necessary "brownfields" remediation, however factors that contribute to development costs are highlighted throughout this report.

Methodology

An assessment of the strengths, weaknesses and opportunities for developing the project site was prepared based on the following:

- A review of economic conditions and trends in the local and greater Waterbury economy.
- Examination of relevant industry and site location data.
- A review of the site characteristics, existing infrastructure, and planned infrastructure with respect to advantages and disadvantages for development.
- Interviews with local officials, economic developers, realtors and other business interests.

For this analysis, five local real estate brokers and key local and regional stakeholders were interviewed, including representatives from:

- Greater Waterbury Chamber of Commerce
- Main Street Waterbury (a downtown revitalization organization)
- Council of Governments of the Central Naugatuck Valley
- Waterbury Development Corporation (WDC)

3.2 *Site Characteristics*

Transportation Linkages

The focus of this overview is a 77-acre brownfield site adjacent to a site being considered for potential development of a new Waterbury transportation center. The study area is bound by Bank and Meadow Streets on the east and south, the Naugatuck River on the west, and West Main Street on the north.

The site enjoys a central location in the region and excellent transportation access. It is accessible and visible from I-84, one of two main interstate connections between New York City and Boston. Already heavily utilized, I-84 is experiencing increasing traffic volumes due to unresolved congestion along major portions of I-95, the other main interstate connection between the two metropolitan areas. Furthermore, current and planned improvements on I-84 adjacent to the project site will help maintain convenient access to the site.

Currently, the I-84/Route 8 corridor is a key commuter link between the Central Naugatuck Valley and New Haven, and planned improvements to the I-84/Route 8 interchange will reinforce ease of access both for workers and commercial traffic.

The Connecticut Department of Transportation/Metro North station on the site of the proposed transportation center is served by six commuter rail trips in each direction, though ridership is relatively low at the Waterbury station. The site is also served by freight rail, however, according to the Connector Study, just two firms use the freight rail service and only intermittently. Therefore, the primary transportation asset of the site is freeway access.

Proximity to Downtown Waterbury

The site is just a few blocks from Downtown Waterbury, which hosts the major civic functions of the City, one of the region's two major hospitals, and the University of Connecticut, Waterbury campus. Downtown Waterbury is undergoing revitalization, and has an active Main Street program.

Site Character

The subject site is comprised of a substantial number of parcels which are either vacant or underutilized. Those parcels that are in use are primarily industrial in nature.

The site includes a section of the Naugatuck River which is part of the proposed Naugatuck River Greenway, a proposed 40-mile recreation greenbelt that would run from Derby to Torrington. In 2001, the corridor received "State Greenway" status and the City of Waterbury is supportive of the project. In concept, the Waterbury portion would be designed with the character of an urban promenade, which would be a notable amenity for the site.

Surrounding Land Use

Though it is located just a few blocks from Downtown Waterbury, industrial land uses comprise the majority of the site's immediate surroundings. In Waterbury's manufacturing heyday, this land use pattern made sense due to freeway and railroad access. As Waterbury has matured, residential, retail, service and civic uses have developed throughout the area, which is now densely populated and urbanized. Though the site itself has excellent transportation access, which is important to most industrial users, the incompatibility of industrial uses with the intensity of residential and commercial activities that now surround the site will likely limit the extent of future industrial development in this location.

Environmental Status

The primary disadvantage of the site is that, as a brownfield, it will require an undetermined amount of environmental site work prior to development. Such cleanup can be quite costly, cost which must be passed on by the developer to end users in the form of higher lease rates or sale prices. If the market cannot bear the resulting sale and lease rates, development will not occur without public sector intervention.

Furthermore, uses appropriate for the site are limited to those which the site can be cleaned up enough to accommodate. For this reason, we do not find a potential for residential development on the site, as remediation requirements for this use are typically much more stringent than for commercial uses.

Nonetheless, there are developers that specialize in the redevelopment of brownfields and have the experience necessary to navigate the regulatory hurdles involved. Such developers are able to utilize existing federal and state incentive programs to minimize liability and cost factors.

Marketing Challenges

A second disadvantage is that the area is not known as an office market, and despite excellent transportation access, it is not well known for industrial/warehousing operations either. Thus, office or industrial uses on the site would require specialized marketing efforts to overcome reluctance on the part of potential tenants—as well as real estate brokers—to consider these areas with which they may not be that familiar.

By the same token, the brokers interviewed stated that though retailers are interested in Waterbury, they are biased against downtown sites due to parking constraints and negative perceptions regarding public safety. Thus, proximity to Downtown Waterbury is both an asset and a liability—and aspects of the latter will need to be overcome for a project to succeed on the subject site.

3.3 Overview of Market Trends

Market demand for retail space is driven by population and income growth, while demand for office and industrial space is driven by employment growth. Though a new development can

induce some growth, successful developments are fundamentally driven by unmet demand either for employment space or for goods and services. This section presents the regional demographic, economic, and real estate trends that contribute to the development potential of the subject site.

Demographic Characteristics

Population, Households and Housing Units

Between the 1990 and 2000 Census, Waterbury's population declined by approximately 1.6 percent during a period when population increased by 3.6 percent in the State of Connecticut and 1.3 percent nationwide. However, population estimates for 2005 indicate that Waterbury's population has since increased to 110,060, with forecasted growth averaging 0.6 percent per year through 2010. This is slightly lower than the 0.7 percent growth rate forecasted for the State as a whole, and significantly below the nationwide population growth rate of 1.2 percent per year (Table 2).

In 2005, Waterbury contained an estimated 43,632 households in an estimated 48,043 housing units, for an approximate vacancy rate of 9.2 percent. This is comparable to national vacancy levels, but high in comparison with the statewide level of 6.1 percent. Projections show the number of housing units in Waterbury rising to 49,604 by 2010, an increase of approximately 3 percent. Though projected growth is slightly below projections for housing growth statewide, and just half that projected for the nation as a whole, it tracks with population and household growth such that vacancy levels are expected to remain stable (Table 3).

Estimates for 2005 indicate significantly lower levels of owner-occupied housing in Waterbury compared with the State and nation. Only modest gains are forecast for 2010, which implies that Waterbury will continue to lag the State and nation in terms of owner-occupied housing units (Figure 2).

Income

Table 5 shows estimates and forecasts of median household income in Waterbury, compared with the State and nation. Estimates for 2005 show that median household income in Waterbury is just 79 percent of the national median, and 62 percent of the statewide median. Though Waterbury's median income increased between 1990 and 2005, and forecasts suggest that this trend will continue, median income has grown more slowly than in the State and nation.

Figure 3 presents current estimates for household income distribution in Waterbury compared with Connecticut and the nation as a whole. Greater shares of Waterbury households fall into lower income categories compared with the state and nation. This is especially notable considering that statewide, the distribution of households across income groups is skewed towards higher incomes as compared with the nation.

Forecasts for Waterbury suggest that income distribution will improve as more households move into the middle income groups. However, the City will likely still contain higher shares of households in lower income brackets compared with the State and nation.

Labor Force Characteristics

The purpose of this section is to examine labor force availability and workforce skills present in the Waterbury market to determine potential employment space opportunities.

According to US Bureau of Labor Statistics (BLS) data, the 2004 unemployment rate for Waterbury was approximately 6.2%, slightly higher than the national rate of 5.5% and somewhat higher than the statewide rate of 4.9%. BLS trend data from 1990 through 2004 suggest that unemployment in Waterbury essentially follows national trends, though it seems to fluctuate more dramatically than national unemployment. Over the past decade, Waterbury's unemployment rate has increased and decreased in sync with the statewide rate, though 1.0-1.5 percent above the State as a whole.

As of the 2000 Census, approximately 61 percent of Waterbury's population ages 16 and over were in the labor force, compared with 67 percent in Connecticut and 64 percent in the nation. Figure 6 shows the distribution of employment across industries. These statistics are based on resident employment, and reflect the jobs held by Waterbury's population rather than jobs located in Waterbury (which is discussed later). Most notable is the percentage of employees in manufacturing, which exceeds both state and national levels. This indicates that although the City has lost manufacturing jobs, many residents are still employed in the industry and may have specialized skills and experience that help keep these jobs in the region.

Waterbury residents are more represented in services and blue collar occupations than workers in the rest of the State and nation. According to 2005 estimates, approximately 49 percent of Waterbury's population held a white collar occupation, compared with 65 and 61 percent of the state and national population respectively.

Educational attainment in Waterbury is somewhat lower than nationwide levels, and stands in stark contrast to the high level of attainment in the State of Connecticut as a whole. This suggests that employment generation opportunities for the subject site should focus on industries and occupations that do not require higher levels of formal education.

Journey to work data from the 2000 Census shows that approximately 45% of Waterbury's workforce resides in Waterbury (Table 9). This is notably higher than other major cities in Connecticut, which indicates that Waterbury is not a major commuter destination. This could change with the development of a transportation center, or in response to changes in Waterbury's industry mix. At present, however, commuting patterns underscore the importance of Waterbury's labor force characteristics in determining development opportunities for the subject site, as Waterbury workers are likely to be the major source of employment.

The low rate of population growth in Waterbury, combined with lower than average incomes and educational attainment suggest that development opportunities for the subject site will be driven by regional demand rather than local demand.

Economic Context

While the previous section described the characteristics of the population that most influence opportunities for the subject site, this section highlights the relevant economic factors.

Firms and Employment in Place

Data prepared by the State of Connecticut Department of Labor shows 2,375 firms¹ in Waterbury, accounting for nearly 42 percent of jobs located in the Central Naugatuck Valley Region (Table 10)². Thus, Waterbury is an economic center for the region. Nonetheless, Waterbury's economy is relatively small when compared with other economic centers in the State such as Hartford and Fairfield County.

Fluctuating from a low of 65,100 jobs in 1993 to a high of 71,500 jobs in 1999 and 2000, current employment in the Waterbury metropolitan statistical area (MSA) has seemingly stabilized around 68,000 jobs. Employment by industry data provided by the US Bureau of Labor Statistics reveal a high proportion of employment in health services. The health care industry in Waterbury is supported by two related factors. The first is that the population is aging, and the second is the region's manufacturing legacy, which provided many residents with generous retirement health care packages. Manufacturing remains an important source of employment in the City, and manufacturing accounts for a greater share of Waterbury employment compared with the State and nation.

Major Employers

Table 11 presents employers in Waterbury with 100 or more employees. As is typical in many communities, retail, education, and civic functions such as police, fire, and public administration are prominently featured. However, there are several notable economic base industries represented as well, including MacDermid Incorporated (chemical manufacturing), Olin Corporation (fabricated metals), and Haydon Switch and Instrument Incorporated (electronic components).

Real Estate Market

Trends in the local commercial office, retail, industrial and residential real estate markets are an important indicator of development potential. EDR interviewed several local brokers to determine rents and occupancy levels for existing space Waterbury, as well as demand for additional space. The study team focused on the Downtown market, but gathered information on

¹ All employers, including public agencies.

² Employment in place, which differs from the resident employment data discussed previously.

the region as a whole because to some extent a development in Waterbury must compete for tenants with sites throughout the region.

Office Market

Historically, Waterbury and the Central Naugatuck Valley Region have not had large office markets such as those found in Fairfield County or Hartford, and Class A space in particular is rare. Because Waterbury is relatively unknown as an office market, it is not suitable for speculative buildings and office developments that need tenant commitment before construction.

Rents vary widely by the type of space, availability of an elevator, and access to parking. The Connecticut Economic Resource Center (CERC) maintains a database of properties for sale and lease throughout the State. CERC lists more than 430,000 sq.ft. for lease in Waterbury, with triple net lease rates ranging from \$4.60/sq.ft. for a small office on Industry Lane to \$19.00/sq.ft. for 19,000 sq.ft. on Bank Street. The weighted average lease rate is approximately \$12.36/sq.ft. Downtown rents are somewhat lower. Main Street Waterbury maintains listings for nearly 500,000 sq.ft. of office space³ in downtown Waterbury, which shows triple net rents ranging from \$6.75 to \$18.00/sq.ft., for an average of \$10.76/sq.ft.

For comparison, CB Richard Ellis reports that office space is renting for \$17.54/sq.ft. in the suburban Hartford market, and \$18.86/sq.ft. in Hartford's Central Business District (CBD). Class B office space in suburban Fairfield county is renting for \$24.14/sq.ft and \$25.87/sq.ft. in the CBD (Table 13). Clearly, rents for existing office space in Waterbury is highly competitive with Hartford and Fairfield. However, it is not known whether new construction on the subject site can maintain this competitive advantage considering the potential cost of brownfield remediation.

Throughout the Central Naugatuck Valley region, and particularly in Downtown Waterbury, there is a significant amount of vacant space. The brokers interviewed estimated vacancy rates at 30 to 40 percent, with vacancy in Downtown Waterbury tending towards the higher value. According to brokers, two factors limit office occupancy in Downtown Waterbury. The first is the abundance of 3- and 4-story walk-up buildings, which are essentially obsolete for modern tenants. The second factor is the lack of dedicated parking. Though there are approximately 4,600 parking spaces downtown, including several large public garages, brokers reported that potential tenants do not perceive them to be secure. Vacancy rates for Class A space with dedicated parking is estimated at around 10 percent, though the supply is quite limited.

CB Richard Ellis reported vacancy rates of approximately 26.4 percent in the Fairfield County Central Business district, 17.5 percent in the Fairfield County suburban market and 15.1 percent nationwide. This comparison reveals two important factors for consideration. The first is that the vacancy rate in Fairfield County is relatively high compared with the nation as a whole, and though rents are higher in Fairfield than Waterbury and firms may be attracted to Waterbury for affordability, firms are not being squeezed out due to lack of available space. The second is that

³ Some of the properties reported by Downtown Waterbury are also reflected in the CERC data, they are not mutually exclusive.

vacancy trends in Fairfield (which are mirrored in the Waterbury regional market) indicate a preference for suburban space over urban space, which may present a challenge for the subject site which is very urban in character.

Industrial Market

According to CERC data, Waterbury industrial rents average \$4.55/sq.ft triple net, which is comparable to industrial rent levels in Hartford (\$4.61/sq.ft) but notably lower than Fairfield County (\$6.45) (Table 14).

The brokers interviewed declined to estimate vacancy for industrial space, though the consensus was that vacancy in desirable space is probably around 10 percent, which is relatively low. However, much of Waterbury's existing industrial building stock has lower ceilings than modern operations require, which drives the overall industrial vacancy rate upward. Furthermore, the brokers felt that the industrial market is relatively shallow and lacks demand for future expansion.

Retail

The brokers interviewed were enthusiastic about the performance of Waterbury's retail market. Vacancy is reported to be very low—an estimated 5 percent—for the majority of retail space, which is located on, and visible and accessible from major arterials or the freeway. Brokers noted that there is demand for more quality retail space, and that the limiting factor is a lack of suburban land available for additional development. However, several brokers expressed reservations regarding Downtown Waterbury's ability to attract retail even if space were available. Despite reservations of some, several realtors stated that the site would be ideal for retail due to its central location and ease of access for suburban consumers *if* ample, clean and secure free parking were available.

Retail rent comparables data obtained from the commercial real estate data service REIS showed retail rents in Waterbury's market neighborhood and community centers averaging \$18.23/sq.ft. for non-anchor tenants and \$15.70/sq.ft. for anchor tenants. Brass Mill Commons, the newest addition to the market (1997) is performing substantially better, with rents ranging from \$33.00 to \$46.00/sq.ft. This community retail center is less than half a mile from the subject site.

Market-wide vacancy was approximately 6.3 percent, and 18 of the 20 centers for which data was available had vacancy rates of 10 percent or less. The exceptions are Plaza 66 in Cheshire (23 percent) and Mountainview Plaza in Oxford (29 percent).

Residential Market

Though residential use is not being recommended for the site, the strength of Waterbury's residential market has two implications for the subject site. First, strong residential performance can indicate population or income growth. That is to say, either more housing units are being occupied or constructed to meet demand for additional population, or home values are increasing which is typically associated with increased purchasing power. Population and income growth

fuel retail spending, which could produce demand for retail space on the subject property. Secondly, real estate markets with strong residential growth are often able to create a positive perception that they are “where it’s at” helping to attract businesses, which could produce demand for employment space on the subject property.

The Warren Group tracked median sales prices for single family homes and condominiums in Central Naugatuck Valley Regional communities from 2000 to 2004 (Table 12). Waterbury has the lowest median price for both single family homes and condominiums. Though the median sale price of a single family home in Waterbury increased by a third between 2000 and 2004, this was the lowest increase in the region. For condominiums, Waterbury is the last place in the region where prices remain in the five-figure range, despite having doubled since 2000. Though these numbers reflect Waterbury’s affordability, they do not indicate the type of growth that might drive additional housing development or support retail development. This means that development opportunities for the site will emerge more from the regional market, rather than demand from Waterbury’s population.

3.4 SWOT Analysis of the Proposed Subject Site

Strengths

Location

- Along I-84 with freeway visibility
- At the intersection of I-84 and Connecticut Route 8
- At the economic center of the Central Naugatuck Valley Region
- Adjacent to passenger and freight rail facilities
- Walking distance to CBD (undergoing revitalization)
- High quality/high-image historic architectural buildings and district
- Riverfront amenity

Demographics

- Available workforce with a reputation for high productivity and reliability
- Workforce with specialized manufacturing skills, particularly in metalworking

Economy

- Large health care sector
- Headquarters of the largest independently owned bank in New England (Webster Bank)
- Home to leading data storage and information management companies
- Strong retail presence with regional draw
- Niche manufacturing

Real Estate

- Large, contiguous parcel
- Shortage of greenfield sites in suburbs
- Waterbury real estate is lower in cost compared to other areas of Connecticut and the national average
- Strong performance of retail space, particularly national credit tenants

Institutional

- The presence of WDC, the City's economic development agency, which actively promotes Waterbury and is highly regarded in the business community

Weaknesses

Location

- Waterbury is not traditionally known as an office market.
- Downtown subject site in a market that prefers suburban locations, particularly for retail.
- 60+ miles from lower Fairfield County, Connecticut's principal growth area, which may make it difficult for the Waterbury site to capture growth from that region.

Demographics

- Slow population growth
- Comparatively low incomes
- Relatively high unemployment
- Somewhat lower educational attainment

Economy

- No clear trends for industry growth
- Many of the industries in which Waterbury excels are declining statewide and nationally which may portend a contraction in Waterbury as well.

Real Estate

- The site's brownfield status presents regulatory hurdles as well as additional development costs
- Site is unassembled and parcels are held by dozens of separate owners
- Residential market underperforming in comparison to neighboring communities
- Very weak industrial market
- High vacancy in the office market
- Low office rents limit developer's ability to recoup project costs

Institutional

- Recent history of municipal financial difficulties necessitating supra-regional intervention via the creation of the Waterbury Financial Planning and Assistance Board

Opportunities

- Improvements to the I-84 (proposed, planned and under construction) and I-84/Rte. 8 interchange
- Proposals to enhance the riverfront, which run along one side of the subject site, and to turn it into an amenity
- Leveraging the data storage, medical industries, or chemical industries, or innovation of a new industry that combines two or more existing industries
- Federal and State-level Voluntary Cleanup Programs (VCP) which can significantly reduce the burden of environmental remediation costs to the private sector

Threats

- The potential for continued municipal budgetary problems
- Strength of health care sector may depend on the prevalence of employer-sponsored pensions that included generous health care benefits; such pensions are growing rare
- Several key industries in Waterbury rely on tradesmen in highly specialized manufacturing occupations which take years to learn. As the individuals with those skills are retiring, employers are reporting difficulty replacing them

3.5 Development Opportunities

Opportunities for Office & Industrial Development on Subject Site

To identify market-driven development opportunities that might arise as a result of industry attraction or expansion, EDR compared current employment by industry data provided by Dun & Bradstreet for Waterbury, the Central Naugatuck Valley Region (CNVR), and the State of Connecticut as a whole (Table 15). EDR Group then identified those industries in which Waterbury has larger shares of employment relative to the State, and those industries in which the CNVR had a larger share of employment relative to the State. The assumption is that 1) these industries may employ larger shares in Waterbury or the CNVR compared with the State due to a competitive advantage that has fostered them and that 2) this advantage is relatively unique to Waterbury or the CNVR and could be built upon in the future.

Typically, a shift-share analysis might be done to determine which of the above industries represent growth opportunities for Waterbury by comparing industry growth in Waterbury and the nation as a whole. However, in this case directly comparable time series data was not available. Instead, EDR Group used County Business Patterns data for the State of Connecticut and nation, and analyzed industry growth between 1998 and 2003. The complete tables are included in Table 16.

Two industries were of note because they were both highly concentrated in Waterbury or the CNVR and grew nationally during the period: Special trade contractors and health care and social services. The special trade contractors industry has a high concentration of employment in the CNVR, and Waterbury may be able to draw on the regional strength in this industry particularly in sub-sectors that build upon a blue collar workforce.

The health care and social services industry has a high concentration in Waterbury, and is growing both in the State and in the nation as a whole.

Though wood product manufacturing is not growing nationally, it experienced rapid growth in the State between 1998 and 2003 and is highly represented in Waterbury.

As mentioned previously in this report, the site has excellent freeway access which is an asset for transportation and warehousing operations. Both Waterbury and the CNVR have very low levels of employment in this industry compared with the State as a whole. However, between 1998 and 2003, the industry grew rapidly in the State, and the potential exists that planned improvements to I-84 and the Route 8 interchange could allow Waterbury to capture some of this growth in the future.

Such uses could be located at the back of the subject site, away from the proposed transportation center and oriented towards the Route 8 on/off ramps that they would utilize. They should not block the view of the Naugatuck River, as this space should be preserved as an amenity for future office or retail developments that might occur.

Office and Industrial Demand Projections

In the absence of a clear source of demand for new office and industrial space from job growth, it is necessary to determine the amount of space that could be filled if a new and unique type of space were to enter the market. Much of the office and industrial space in Waterbury is aging and lacking in amenities. In fact, high office and industrial vacancy rates are in large part accounted for by vacancies in older, unsuitable buildings. At the same time demand for the limited amount of Class A space in Waterbury is strong, and vacant space of this quality is scarce.

It should be noted that the distinction between Class A, B and C space is not absolute. Instead, space is classified relative to the rest of the market. The Urban Land Institute's Office Development Handbook defines Class A space as "buildings that have excellent location and access, attract high quality tenants, and are managed professionally. Building materials are high quality and rents are competitive with other new buildings." Class B buildings are defined as those with "good locations, management, and construction, and high tenant standards. Buildings should have very little functional obsolescence and deterioration" while Class C buildings are "typically 15 to 25 years old but are maintaining steady occupancy."

The following demand estimates assume Class A space of excellent quality relative to the majority of existing office and industrial building stock in Waterbury, with amenities not widely available elsewhere in the market such as safe, clean and secure parking, attractive landscaping,

Naugatuck river promenade views (for office space), high ceilings (for industrial space) and modern telecommunications connections. The project would serve to:

- Retain those businesses who otherwise would have left the region in search of quality, Class A space;
- Allow businesses operating sub-optimally in lesser space to move into more efficient space; and
- Potentially draw in new businesses from outside the region.

In any real estate market, tenants are lured to new space by lower rent, better terms and more amenities. If a high quality office project on the subject site captured just 12.5 percent of Waterbury office tenants seeking to move from their present location, it would need approximately 70,000 square feet over two years. If the project captured 25 percent of these tenants, it would need 140,000 square feet over two years (see Table A below). An office project within that range would require between 5 and 10 acres, which would be of appropriate scale for the subject site.

Industrial space turns over less frequently than office space due to the costs associated with moving equipment and reestablishing a production line at a new location. Nonetheless, if a high quality project on the subject site were to capture just 12.5 percent of Waterbury industrial tenants seeking to move from their present location, it would need approximately 101,000 square feet over two years. If the project captured 25 percent of these tenants, it would need 203,500 square feet over two years (see Table B below). An industrial project within that range would require between 7 and 15 acres, which would be of appropriate scale for the subject site.

Table A
Estimate of Office Space Potential

Current Office Space Market	
Current Office Stock (Sq.ft.) ¹	3,170,000
Vacancy Rate ¹	26%
Total Occupied Space	2,345,800
Estimated Space Used by Renters	2,100,000
Estimated nonrenewing & relocating to new space (sq.ft./yr)	281,500
Office Space Potential for New High Quality Project:	
<i>Estimated Capture in the First Year</i>	
Low Capture Rate - 12.5%	35,000
High Capture Rate - 25.0%	70,000
<i>Estimated Capture in the Second Year</i>	
Low Capture Rate - 12.5%	35,000
High Capture Rate - 25.0%	70,000
<i>Total Estimated Capture in Two Year Absorption Period</i>	
Conservative Estimate	70,000
Optimistic Estimate	140,000
Acres Required:	
Floor Area Ratio	0.32
Conservative Estimate (low capture)	5.0
Optimistic Estimate (high capture)	10.0

¹City of Waterbury Community Assessment Report Update (Plan for Conservation & Development, Part II) and Drubner Industrials.

Source: City of Waterbury Plan for Conservation and Development, Drubner Industrials and EDR Group calculations.

Table B
Estimate of Industrial Space Potential

Current Industrial Space Market	
Current Industrial Stock (sq.ft.) ¹	22,000,000
Vacancy Rate ¹	26%
Estimated Total Occupied Space	16,280,000
Estimated Space Used by Renters	8,140,000
Estimated nonrenewing & relocating to new space (sq.ft.)	407,000
Industrial Space Potential for New High Quality Project	
<i>Estimated Capture in the First Year</i>	
Low Capture Rate - 12.5%	51,000
High Capture Rate - 25.0%	102,000
<i>Estimated Capture in the Second Year</i>	
Low Capture Rate - 12.5%	51,000
High Capture Rate - 25.0%	102,000
<i>Total Estimated Capture in Two Year Absorption Period</i>	
Conservative Estimate	102,000
Optimistic Estimate	204,000

¹City of Waterbury Community Assessment Report Update (Plan for Conservation & Development, Part II) and Drubner Industrials.

Source: City of Waterbury Plan for Conservation and Development, Drubner Industrials and EDR Group calculations.

Opportunities for Retail Development on the Subject Site

To determine the potential for market-driven retail opportunities on the subject site, EDR Group obtained retail expenditure data from ESRI, as presented in Table 17. In this exercise, demand (retail potential) is defined as the expected amount of retail expenditures based on population and income levels. Supply (retail sales) is the amount of retail sales that actually occurred in the previous year. A positive difference between the two indicates expenditures made by consumers from outside Waterbury, while a negative difference indicates that Waterbury residents spent these dollars elsewhere.

Overall, Waterbury captured more than \$367 million from outside the region across all retail and food and drink categories. Performance was highest at gasoline stations and clothing and accessories stores, though general merchandise, department stores, and food services and drinking places also fared well. As these sectors are already strong performers and would benefit from the site's freeway access and visibility, they may represent future opportunities as well.

In furniture stores and lawn and garden equipment stores, Waterbury captured less retail expenditures than expected. These establishments fare very well in freeway visible locations with high traffic counts, thus the subject site may present an opportunity for Waterbury to reclaim these retail dollars.

Retail Demand Projections

The retail market in Waterbury is fueled primarily by the regional suburban population rather than local demand, therefore projections of demand for additional retail space must be based on regional trends. Table 18 presents estimates of unmet retail demand that could be captured by retail space in Waterbury. Demand was estimated in the following manner: ESRI provides data reflecting recent retail sales within the Central Naugatuck Valley Region (CNVR), both in total and by sub-category (at the 3- and 4-digit NAICS level).⁴ For these same categories, ESRI also provides an estimate of total potential retail sales based on household and disposable income data. The difference between the two numbers can be considered unmet demand. This "unmet" demand is likely being satisfied by retail stores outside the region, sometimes referred to as "leakage".

To determine how much of this unmet demand could be satisfied by additional retail offerings within Waterbury, the team determined the current proportion of total retail (and for each individual category), and applied these ratios to the estimates of unmet demand. The result, in dollars, was converted to square feet assuming average sales per square foot of \$422. This sales per square foot assumption is based on the top decile sales per square foot for community retail centers nationwide (reported by ULI's Dollars and Cents of Shopping Centers, 2004). Though existing retail space may be performing closer to the national average of \$250/sq.ft., retailers typically expect new space to perform at a much higher level, and wait until the market can support this higher level before relocating or launching an operation in new space.

⁴ Excluding business-to-business sales and food service.

Overall, the CNVR has about \$435 million in unmet retail demand. Waterbury accounts for approximately 48 percent of regional retail expenditures, so it is assumed that Waterbury could reasonably absorb this proportion of unmet regional demand, which equals approximately \$209 million. Additional retail expenditures of this magnitude could support approximately 494,500 square feet of retail space. Specific retail categories that may capture additional space in Waterbury include building materials/garden supply & equipment (94,600), general merchandise (82,500), groceries (77,800), and furniture (48,000).

A retail development of nearly half a million square feet however, would be out of scale for the site. Furthermore, it would go head to head with the 1.3 million square foot Brass Mill regional center. More appropriate for the site would be retail on the scale of a community retail center, consisting of approximately 150,000 to 200,000 square feet. Assuming a floor area ratio of 0.32, a center of this size would occupy between 10.8 and 14.3 acres, which would leave space for the proposed transportation center as well as subsequent phases of retail or employment space.

A formal market study and economic feasibility study would be needed to determine the exact size and tenant mix that could be drawn to the site.

Jobs, Wages and Business Sales Potential of Likely Development Components

Each of the potential developments described above would create different types of jobs with different salary levels and business sales (output). Table C shows estimates of employment generated by each of the development components described previously. Table D presents the estimated wages and output. These estimates are not intended to imply that all three components will be developed. Instead they present possible ranges for each use, and the economic impacts associated with each. Furthermore, this analysis does not differentiate between new jobs, salaries and sales, and those that are drawn from elsewhere in the city.

Table C
Potential Employment Generation of Likely Development Components

	Potential Office Space	Potential Industrial Space	Potential Retail Space
Estimated Project Size			
Low Range	70,000	102,000	150,000
High Range	140,000	204,000	200,000
Employees/1,000 Sq.Ft.	4.05 ¹	²	²
Total Employees			
Low Range	284	212	429
High Range	567	242	572

¹Based on Development Handbook and Dollars and Cents of Shopping Centers, ULI.

²Based on Trip Generation, Institute of Transportation Engineers (1997).

Source: ULI Development Handbook, ULI Dollars and Cents of Shopping Centers, Trip Generation (Institute of Transportation Engineers (1997) and EDR Group calculations.

Table D
Potential Economic Impact of Likely Development Components

	Potential Office Space	Potential Industrial Space	Potential Retail Space
Total Employees			
Low Range	284	212	429
High Range	567	424	572
Wage Generation			
Average Per Employee ¹	\$47,135	\$52,844	\$26,747
Total - Low Range	\$13,362,808	\$11,211,421	\$11,474,463
Total - High Range	\$26,725,615	\$22,422,843	\$15,299,284
Output (Business Sales)			
Average Per Employee ²	\$112,523	\$202,047	\$69,813
Total - Low Range	\$31,900,271	\$42,866,292	\$29,949,777
Total - High Range	\$63,800,541	\$85,732,583	\$39,933,036

¹Based on the weighted average wage for employees in office, industrial and retail space (respectively) per Connecticut Department of Labor Covered Employment and Wage data (2004).

²Based on New Haven County output data from Minnesota IMPLAN Group and EDR Group calculations.

Source: Connecticut Department of Labor Covered Employment and Wage data (2004), IMPLAN, and EDR Group calculations.

Redevelopment Recommendations

The above analysis highlights two key elements underlying the site's development potential. The first is that indicators of market demand for any type of development stemming from Waterbury's population are fairly weak. Though the site is well positioned within Waterbury, there is little population or income growth to drive demand for additional employment or retail space driven by residential demand.

The second is that Waterbury's competitive advantage is low-cost real estate. Companies seek out retail and employment space in Waterbury because rents are lower than in surrounding areas—particularly in comparison with Fairfield County where rents are remaining high despite increasing vacancy rates. Retailers in particular are looking for large, suburban greenfield sites where development costs are low and regulatory hurdles are minimal.

However, our analysis demonstrates that the region could support retail on the site, due in large part to the site's excellent freeway access and visibility. Our analysis also suggests a market for office or light industrial space on the site. To maximize site opportunities, we emphasize the following recommendations:

Phasing – The most viable initial phase of development appears to be retail space. The site plan could include a view of the Naugatuck river, and also orient towards the transportation center so that its presence will add vibrancy to the transportation center. However, the parking and ingress/egress should be separate to avoid congestion that would frustrate suburban consumers arriving by private vehicle to shop.

Once the first phase of retail has been developed, site remediation costs will be better understood, which will help developers and economic development officials determine whether office or light industrial uses are economically feasible for future development phases, and on what scale.

Seek a Developer with Extensive Brownfield Experience – an experienced brownfield developer will be able to negotiate regulatory challenges and maximize the benefits of federal and state government redevelopment incentive programs – minimizing legal liability issues and remediation costs. Local officials should select a developer with extensive experience redeveloping brownfields, particularly within the State of Connecticut. Waterbury’s principal competitive advantage is low cost real estate, and an experienced brownfield developer can help ensure that remediation costs do not eclipse this advantage.

Security & Parking – According to numerous interviews with real estate brokers, any development that accompanies the proposed transportation center will require its own parking, which should have controlled access, and particularly for retail should be free of charge. The majority users of the site will not be utilizing the transportation center, but rather driving in from the suburbs. Over time, some users may transition to public transportation, but the region still has a very strong “car culture” which cannot be ignored in the development of the subject site. Furthermore, the transportation center and any adjacent development will need to provide aggressive trash removal and a visible security presence so that all users—bus riders, train commuters, shoppers and employees—feel safe and welcome. If borne by private sector developers, these additional costs would chip away at Waterbury’s low-cost advantage. Therefore, public sector economic development grants may be a critical component, as security and parking are absolutely critical for the success of development on the subject site.

4. CONCLUSIONS

DMJM Harris’ review of the Connector Study revealed the following key conclusions:

Corridor Study Review

- The Alternatives Analysis conducted in the Connector Study appears to result in the alternative that best meets project objectives while minimizing environmental impacts. While the phased development approach (Phases 1, 2 and 3) is best suited for the success of this redevelopment plan, the actual redevelopment options should be left open and will be determined by the changing market, demographic characteristics and developer interest.
- The marketing overview chapter of the Connector Study differed from EDRs findings primarily in terms of best redevelopment use for the site. While the Connector Study recommended Office/R&D and residential use, EDR concludes that retail would be the most viable initial redevelopment use because it has the most market support and presents the best opportunity for success.

- From an engineering perspective, the connector road design appears to meet appropriate engineering standards except for substandard clearance under the RR which would require a steeper roadway approach to Meadow Street. Additionally, the construction costs presented in the Connector Study are significantly lower than DMJM Harris' revised cost estimate.

Overview of Redevelopment Potential

- Indicators of market demand for any type of development stemming from Waterbury's population are fairly weak. Though the site is well positioned within Waterbury, there is little population or income growth to drive demand for additional employment or retail space driven by residential demand.
- Waterbury's competitive advantage is low-cost real estate, and as a brownfield site, development costs on the subject site could significantly increase necessary rent levels above what the market can bear.
- The most viable initial phase of development appears to be retail space on the site adjacent to the transportation center site. Once this initial phase has been developed, site remediation costs will be better understood and office and/or light industrial can be considered for subsequent phases. The scale of retail envisioned is along the lines of a community retail center, providing stores for building materials/garden supplies and equipment, groceries, general merchandise and furniture.
- To encourage development of the site, it may be necessary for the public sector (state or local level) to assist the developer with clean up costs.
- Any development will require safe and secure parking, aggressive trash removal and visible security presence so that all users feel safe and welcome.

TABLES AND GRAPHICS

TABLE 1
OPINION OF PROBABLE CONSTRUCTION COST
THOMASTON AVE., JACKSON STREET CONNECTOR - ALTERNATE 3
 BASED ON DESIGN AND INITIAL ESTIMATE BY MALONE & MCBROOM

DOT Item#	Description	Unit	Unit Price	Phase I		Phase II		Phase III			
				Thomaston Ave. - Jackson to Meadow St.		Thomaston Ave. - Freight to Jackson St.		Realigned Jackson St.		Thomaston Ave. - W. Main to Freight St.	
				Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
0201001	CLEARING AND GRUBBING	L.S.		---	\$67,000	---	\$22,680	---	\$31,720	---	\$23,450
0202001	EARTH EXCAVATION	C.Y.	\$14.00	25,790	\$361,060	3,825	\$53,550	20,000	\$280,000	5,930	\$83,020
	BRIDGE WORK	L.S.		---	\$1,950,000	---	\$0	---	\$100,000	---	\$0
020500X	TRENCH EXCAVATION	C.Y.	\$17.00	335	\$5,695	745	\$12,665	1,404	\$23,868	1,070	\$18,190
0209001	FORMATION OF SUBGRADE	S.Y.	\$1.00	4,225	\$4,225	8,005	\$8,005	8,873	\$8,873	10,095	\$10,095
0212002	SUBBASE	C.Y.	\$25.20	1,174	\$29,575	2,224	\$56,035	2,465	\$62,118	2,804	\$70,665
0304001	PROCESSED AGGREGATE BASE	TON	\$13.50	1,856	\$25,056	3,516	\$47,466	3,964	\$53,514	4,434	\$59,859
0406015	BITUMINOUS CONCRETE-CLASS 1	TON	\$68.25	972	\$66,322	1,841	\$125,658	2,041	\$139,298	2,322	\$158,466
050700X	CATCH BASIN	EA.	\$1,500.00	4	\$6,000	8	\$12,000	18	\$27,000	12	\$18,000
06510XX	REINFORCED CONCRETE PIPE	L.F.	\$55.00	450	\$24,750	1,000	\$55,000	1,895	\$104,225	1,445	\$79,475
0703011	INTERMEDIATE RIPRAP	C.Y.	\$70.25	20	\$1,405	38	\$2,670	100	\$7,025	50	\$3,513
0813042	GRANITE STONE CURBING	L.F.	\$39.95	1,291	\$51,575	2,235	\$89,288	4,021	\$160,639	2,905	\$116,055
0921001	CONCRETE SIDEWALK	S.F.	\$7.58	6,413	\$48,611	11,020	\$83,532	19,352	\$146,688	14,565	\$110,403
0950005	TURF ESTABLISHMENT	S.Y.	\$1.00	3,200	\$3,200	6,065	\$6,065	9,500	\$9,500	7,650	\$7,650
0969001A	CONSTRUCTION FIELD OFFICE (TYPE B)	MO	\$1,500.00	8	\$12,000	0	\$0	8	\$12,000	8	\$12,000
0971001	MAINTENANCE & PROTECTION OF TRAFFIC	L.S.		---	\$100,000	---	\$34,000	---	\$47,590	---	\$35,170
0975002	MOBILIZATION	L.S.		---	\$250,000	---	\$85,100	---	\$119,000	---	\$87,920
0980001	CONSTRUCTION STAKING	L.S.		---	\$33,500	---	\$11,350	---	\$15,860	---	\$11,720
110XXXX	SIGNALIZED INTERSECTION	L.S.		---	\$100,000	---	\$300,000	---	\$0	---	\$100,000
0504XXX	RAILROAD & COORDINATION	L.S.		---	\$100,000	---	\$0	---	\$0	---	\$0
0219001	SEDIMENTATION CONTROL SYSTEM	L.F.	\$3.25	0	\$0	0	\$0	1,500	\$4,875	0	\$0
1003XXX	ROADWAY LIGHTING	L.S.		---	\$36,500	---	\$65,000	---	\$114,000	---	\$81,500
	Subtotal				\$3,276,474		\$1,070,064		\$1,467,793		\$1,087,150
	Minor Items (10% of Roadway Items)				\$74,300		\$63,970		\$118,540		\$85,240
	Subtotal				\$3,350,774		\$1,134,034		\$1,586,333		\$1,172,390
	Contingencies (7% of Subtotal)				\$234,550		\$79,380		\$111,040		\$82,070
	Total Construction Cost, 2006 Dollars				\$3,585,324		\$1,213,414		\$1,697,373		\$1,254,460
	Total Construction Cost, 2006 Dollars (Rounded)				\$3,586,000		\$1,214,000		\$1,698,000		\$1,255,000
											\$2,912,000

NOTES:

1. Where applicable, unit prices are based on State DOT Estimating Guide and the most recent ConnDOT Weighted Unit Prices, inflated to 2006 at 5% per year.
2. Item Quantities by Milone & McBroom were used as a starting point. Certain quantities were revised by DMJM Harris.
3. Estimate uses Milone & McBroom's costs for structural work.
3. Phase I work includes four-lane section of Thomaston Ave. Extension.

Table 2
Waterbury Population Estimates and Forecast, 1990-2010

	1990	2000	2005	2010
Waterbury Population	108,961	107,271	110,060	113,448
CAGR¹	1990-2000	2000-2005	2005-2010	
Waterbury	-0.2%	0.5%	0.6%	
Connecticut	0.4%	0.6%	0.7%	
United States	1.2%	1.2%	1.2%	

¹ Compound annual growth rate.

Source: ESRI 1990-2000 Comparison Profile and Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Table 3
Households and Household Size Estimates and Forecast, 1990-2010

	1990	2000	2005	2010
Households	43,164	42,622	43,632	45,033
CAGR¹	1990-2000	2000-2005	2005-2010	
Waterbury	-0.1%	0.5%	0.6%	
Connecticut	0.6%	0.7%	0.7%	
United States	1.4%	1.3%	1.3%	
Av. Household Size	1990	2000	2005	2010
Waterbury	2.48	2.46	2.47	2.47
Connecticut	2.59	2.53	2.52	2.51
United States	2.63	2.59	2.59	2.58

¹ Compound annual growth rate.

Source: ESRI 1990-2000 Comparison Profile and Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Table 4
Housing Units and Vacancy Estimates and Forecast, 1990-2010

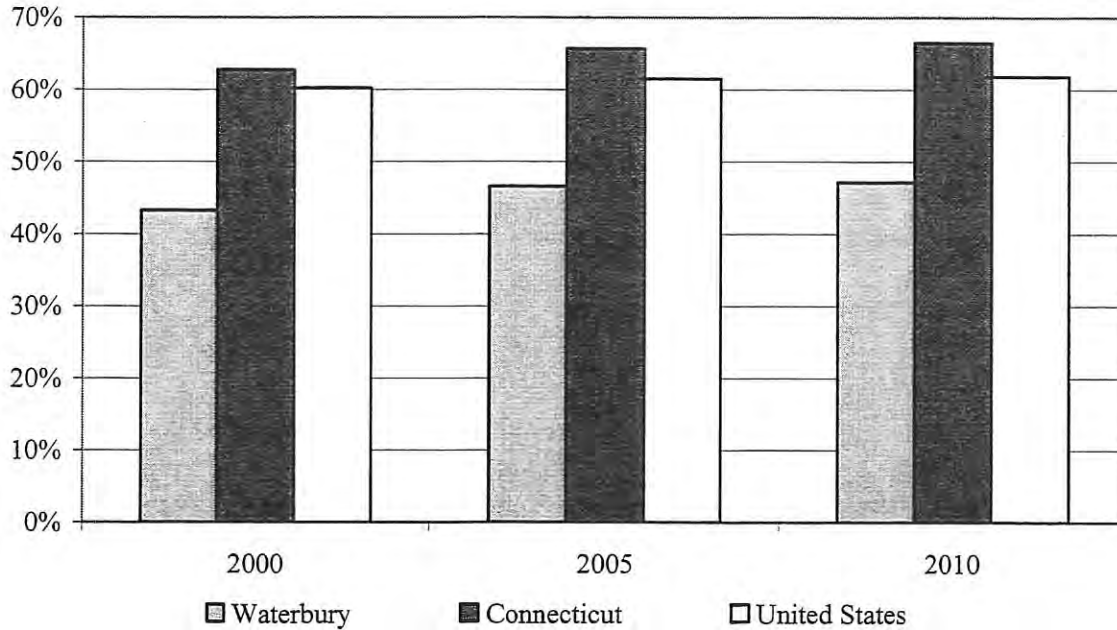
	1990	2000	2005	2010
Total Housing Units	47,205	46,827	48,043	49,604
CAGR¹	1990-2000	2000-2005	2005-2010	
Waterbury	-0.1%	0.5%	0.6%	
Connecticut	0.5%	0.6%	0.7%	
United States	1.3%	1.4%	1.4%	
% Vacant	1990	2000	2005	2010
Waterbury	8.6%	9.0%	9.2%	9.2%
Connecticut	6.8%	6.1%	5.7%	5.6%
United States	10.1%	9.0%	9.6%	10.0%

¹ Compound annual growth rate.

Source: ESRI 1990-2000 Comparison Profile and Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Housing and ESRI forecasts) and EDR Group.

Figure 2
% of Units Owner Occupied



Source: ESRI 1990-2000 Comparison Profile and Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

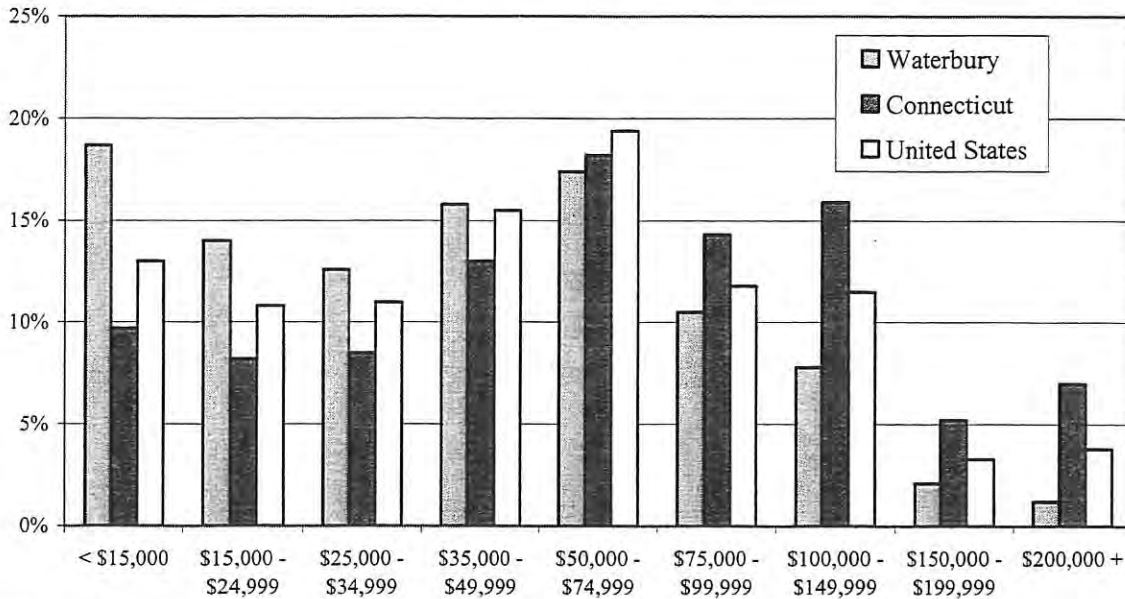
Table 5
Median Household Income Estimates & Forecasts, 1990-2010

	1990	2000	2005	2010
Waterbury Median Household Income	\$30,532	\$34,419	\$39,044	\$44,202
% of State Median	73.2%	63.8%	61.5%	59.0%
% of National Median	101.6%	81.6%	78.5%	75.7%
Connecticut	\$41,712	\$53,915	\$63,462	\$74,938
United States	\$30,056	\$42,164	\$49,747	\$58,384
CAGR¹	1990-2000	2000-2005	2005-2010	
Waterbury	1.2%	2.6%	2.5%	
Connecticut	2.6%	3.3%	3.4%	
United States	3.4%	3.4%	3.3%	

¹Compound annual growth rate.

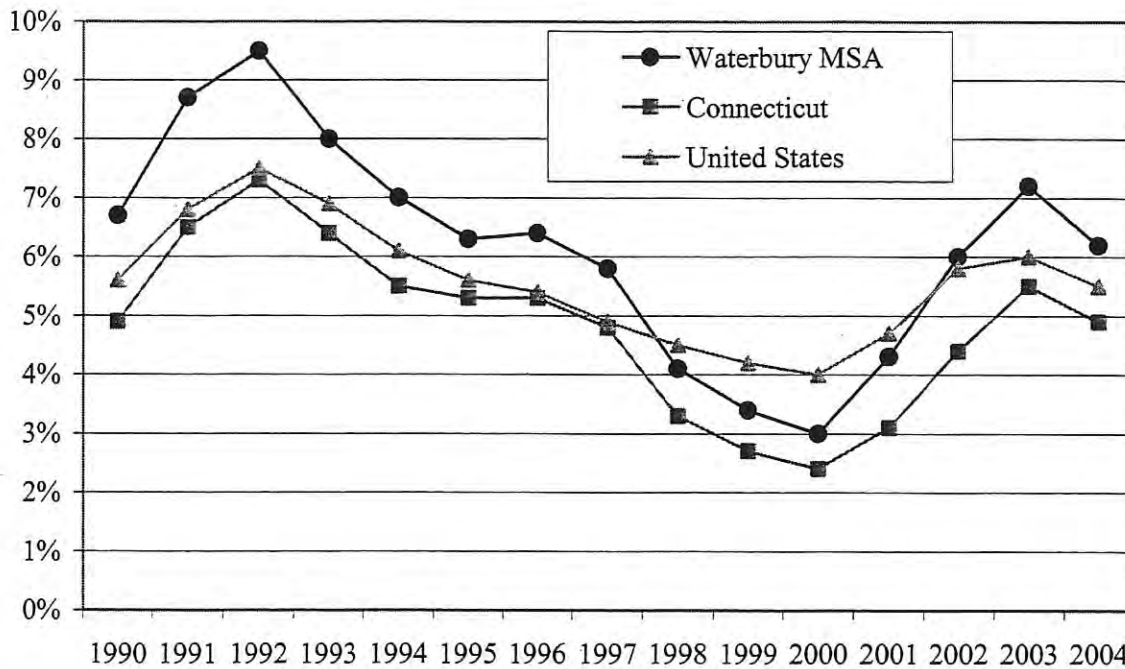
Source: ESRI Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Figure 3
2005 Household Income Distribution –
Waterbury Compared with the State and Nation



Source: ESRI Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Figure 4
Unemployment Comparison, 1990-2004



Source: US Bureau of Labor Statistics.

Table 6
2005 Employed Population Age 16+ by Industry

	Waterbury		Connecticut	United States
Total Employed Pop Age 16+	45,227	100.0%	100.0%	100.0%
Agriculture/Mining	90	0.2%	0.3%	1.7%
Construction	2,397	5.3%	5.7%	7.5%
Manufacturing	7,553	16.7%	11.6%	10.9%
Wholesale Trade	1,492	3.3%	3.0%	3.7%
Retail Trade	5,699	12.6%	11.6%	11.5%
Transportation/Utilities	1,583	3.5%	3.7%	4.8%
Information	814	1.8%	2.5%	2.4%
Finance/Insurance/Real Estate	3,030	6.7%	10.7%	7.3%
Services	20,216	44.7%	46.6%	45.2%
Public Administration	2,397	5.3%	4.3%	5.0%

Source: ESRI Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Table 7
2005 Employed Population Age 16+ by Occupation

	Waterbury		Connecticut	United States
Total	45,227	100.0%	100.0%	100.0%
White Collar	22,206	49.1%	64.8%	60.8%
Management/Business/Financial	4,161	9.2%	16.5%	13.6%
Professional	7,643	16.9%	23.8%	21.5%
Sales	4,432	9.8%	10.9%	11.4%
Administrative Support	5,970	13.2%	13.5%	14.3%
Services	10,719	23.7%	16.5%	16.5%
Blue Collar	12,302	27.2%	18.7%	22.8%
Farming/Forestry/Fishing	45	0.1%	0.1%	0.6%
Construction/Extraction	2,623	5.8%	5.3%	6.1%
Installation/Maintenance/Repair	1,854	4.1%	3.6%	3.8%
Production	4,975	11.0%	5.3%	6.4%
Transportation/Material Moving	2,804	6.2%	4.3%	5.8%

Source: ESRI Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Table 8
2005 Educational Attainment for Population Age 25+

	Waterbury	Connecticut	United States
Total	69,791	100.0%	100.0%
Less than 9th Grade	8,235	11.8%	7.5%
9th - 12th Grade, No Diploma	11,516	16.5%	12.1%
High School Graduate	23,938	34.3%	28.6%
Some College, No Degree	11,795	16.9%	21.0%
Associate Degree	4,606	6.6%	6.3%
Bachelor's Degree	6,072	8.7%	15.5%
Master's/Prof/Doctorate Degree	3,629	5.2%	8.9%

Source: ESRI Market Profile (U.S. Bureau of the Census, 2000 Census of Population and Housing and ESRI forecasts) and EDR Group.

Table 9
Journey to Work for Waterbury & Selected Connecticut Cities

	2000 Population	Total Workforce	Percent of Workers from Host City
Bridgeport	139,529	46,418	41%
New Haven	123,626	75,766	32%
Hartford	121,578	106,869	17%
Stamford	117,083	81,039	39%
Waterbury	107,271	40,504	45%
Norwalk	82,951	45,264	39%
Danbury	74,848	46,274	40%
New Britain	71,538	25,557	35%

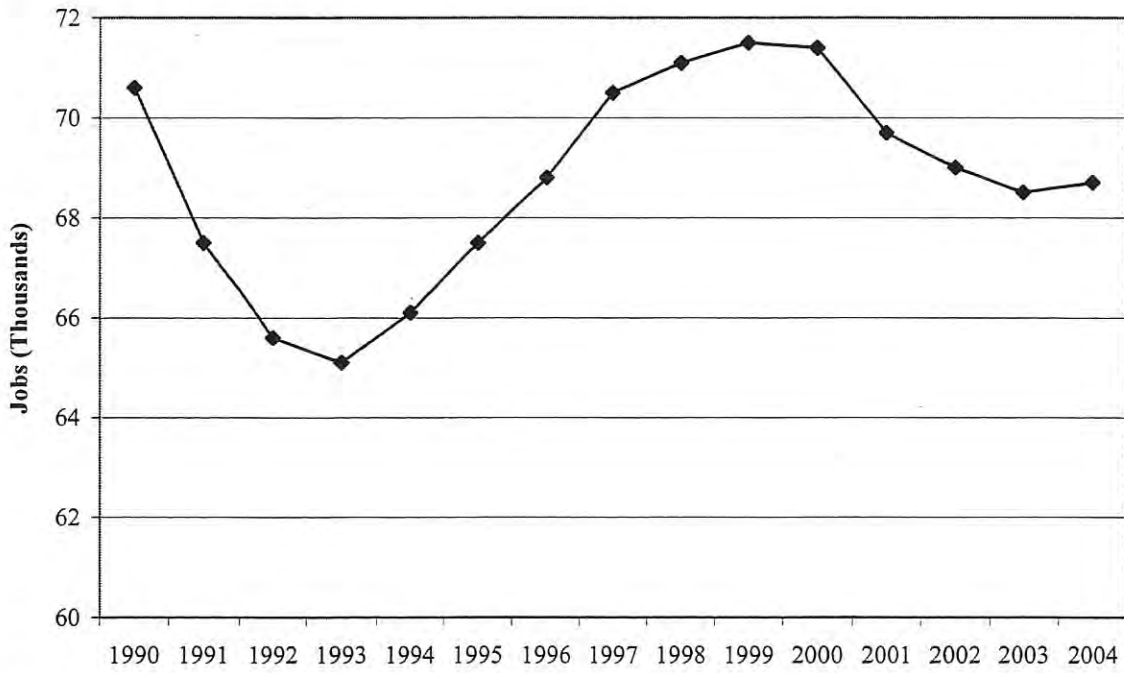
Source: US Census Bureau (2000 Census) and EDR Group calculations.

Table 10
Naugatuck Valley Region Firms and Employment by Town (2004)

	Firms		Employment	
	#	% of Total	#	% of Total
Beacon Falls	104	1.5%	907	0.9%
Bethlehem	101	1.5%	603	0.6%
Cheshire	899	13.3%	14,578	14.6%
Middlebury	229	3.4%	3,419	3.4%
Naugatuck	560	8.3%	7,830	7.8%
Oxford	276	4.1%	2,185	2.2%
Prospect	220	3.2%	2,122	2.1%
Southbury	581	8.6%	9,631	9.6%
Thomaston	233	3.4%	2,891	2.9%
Waterbury	2,375	35.1%	41,617	41.6%
Watertown	541	8.0%	8,825	8.8%
Wolcott	315	4.7%	3,022	3.0%
Woodbury	337	5.0%	2,433	2.4%
Total Naugatuck Valley Region	6,771	100.0%	100,063	100.0%

Source: Connecticut Department of Labor.

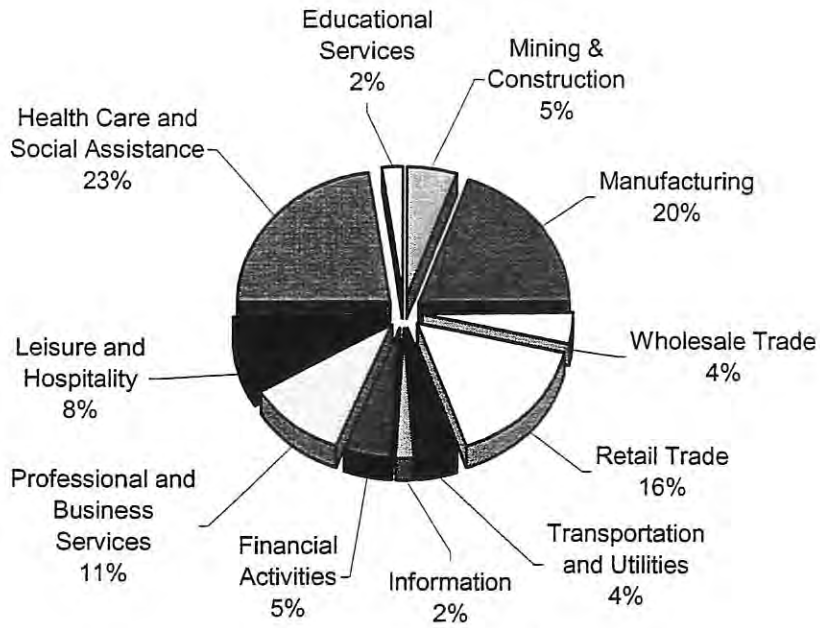
Figure 5
Waterbury MSA Total Non-Farm Employment



US Bureau of Labor Statistics and EDR Group.

Source:

Figure 6
2004 Employment by Industry



Source: US Bureau of Labor Statistics and EDR Group.

Table 11
Waterbury Employers with 100 or More Employees

Company	Industry	Type
Macdermid Incorporated	Chemical Preparations,Nec	Headquarters
Teikyo Post University Inc	Colleges and Universities	Single
Olin Corporation	Copper Rolling and Drawing	Branch
Sears	Department Stores	Branch
Brass Mill Center 1263	Department Stores	Branch
Filenes Department Store	Department Stores	Branch
Wal-Mart	Department Stores	Branch
Kmart	Department Stores	Branch
Frankies Family Restaurant	Eating Places	Single
Aristo Lighting Technologies	Electric Lamps	Single
Haydon Switch & Instrument Inc	Electronic Components, Nec	Single
Waterbry Pblc Schls-Dept Educ	Elementary and Secondary Schools	Branch
Wilby High School	Elementary and Secondary Schools	Branch
West Side Middle School	Elementary and Secondary Schools	Branch
North End Middle School	Elementary and Secondary Schools	Branch
Michael Wallace Middle School	Elementary and Secondary Schools	Branch
Holy Cross High School	Elementary and Secondary Schools	Branch
John F Kennedy High School	Elementary and Secondary Schools	Branch
Chase Collegiate School Inc	Elementary and Secondary Schools	Single
Maloney Elementary School	Elementary and Secondary Schools	Branch
Crosby High School	Elementary and Secondary Schools	Branch
Workforce One Inc	Employment Agencies	Single
City of Waterbury	Executive Offices	Headquarters
Fabricated Metal Products	Fabricated Structural Metal	Branch
First Federal Savings Bank	Federal Savings Institutions	Headquarters
Webster Financial Corporation	Federal Savings Institutions	Headquarters
Saint Marys Health System Inc	General Medical & Surgical Hospitals	Headquarters
St Marys Hospital Corp	General Medical & Surgical Hospitals	Headquarters
Stop & Shop 618	Grocery Stores	Branch
Shop Fresh LLC	Grocery Stores	Single
Visiting Nurse and Home Care	Home Health Care Services	Branch
Vna Healthcare	Home Health Care Services	Branch
Courtyard By Marriott	Hotels and Motels	Branch
Region V-Waterbury Office	Individual and Family Services	Branch
N O W	Individual and Family Services	Headquarters
Naugatuck Valley Community	Junior Colleges	Branch
Grady & Riley LLP	Legal Services	Single
Carmody & Torrance LLP	Legal Services	Headquarters
Campion Ambulance Service Inc	Local Passenger Transportation, Nec	Single
Home Depot	Lumber and Other Building Materials	Branch
Greater Waterbury Hlth Netwrk	Management Services	Headquarters
Community Optons Rsdntial Svcs	Management Services	Single
S & S Dynamic Mfg LLC	Metal Stampings, Nec	Single
Highland Manufacturing	Metal Stampings, Nec	Branch
H & T Battery Components	Metal Stampings, Nec	Headquarters
ITW Anchor Fasteners	Metal Stampings, Nec	Branch
Carpin Manufacturing Inc	Metal Stampings, Nec	Single

Company	Industry	Type
Gem Manufacturing Co Inc	Metal Stampings, Nec	Single
Cly-Del Manufacturing Company	Metal Stampings,Nec	Single
Costco 313	Miscellaneous General Merchandise	Branch
Loehmann-Blasius Chevrolet	New and Used Car Dealers	Single
Republican-American	Newspapers	Headquarters
Primecare Inc	Nursing and Personal Care, Nec	Single
St Andrews Health Center LLC	Nursing and Personal Care, Nec	Single
Eye Care Group PC	Offices & Clinics of Medical Doctors	Single
Opticare	Offices and Clinics of Optometrists	Headquarters
Mercury Fuel Service Inc	Petroleum Products, Nec	Headquarters
American Plastic Products Inc	Plastics Products, Nec	Single
Owens-Illinois Closure Inc	Plastics Products,Nec	Branch
National Integrated Inds Inc	Plating and Polishing	Branch
Seidel Inc	Plating and Polishing	Single
M J Daly & Sons Incorporated	Plumbing, Heating,Air-conditioning	Headquarters
Waterbury Police Department	Police Protection	Branch
Macdermid Prtg Solutions LLC	Printing Trades Machinery	Headquarters
International Paper	Setup Paperboard Boxes	Branch
Greenery Rehab Cntr At Wtrbry	Skilled Nursing Care Facilities	Branch
Abbott Terrace Health Center	Skilled Nursing Care Facilities	Single
Crescent Manor	Skilled Nursing Care Facilities	Single
Meridian Manor Corp	Skilled Nursing Care Facilities	Single
SBC Communications	Telephone Communication	Branch
US Post Office	U.S. Postal Service	Branch
US Post Office	U.S. Postal Service	Branch

Source: Dun and Bradstreet.

Table 12
Median Sales Price for Single Family Houses and Condominiums, 2000-2004

	Single Family		Condominiums	
	2004	% Change Since 2000	2004	% Change Since 2000
Beacon Falls	\$ 265,000	65.3%	\$172,900	83.0%
Bethlehem	\$2,605,000	49.7%	--	--
Cheshire	\$ 325,000	51.2%	\$169,900	69.9%
Middlebury	\$ 288,950	49.3%	\$411,000	55.4%
Naugatuck	\$ 191,500	44.8%	\$105,000	73.6%
Oxford	\$ 348,500	45.8%	\$372,948	861.2%
Prospect	\$ 240,000	37.1%	--	--
Southbury	\$ 369,000	37.1%	\$195,000	51.8%
Thomaston	\$ 195,500	44.3%	\$104,000	50.1%
Waterbury	\$ 119,900	33.4%	\$ 68,100	51.3%
Watertown	\$ 212,000	46.2%	\$186,000	66.8%
Wolcott	\$ 203,000	55.6%	\$152,500	46.3%
Woodbury	\$ 384,000	37.1%	\$170,000	95.4%

Source: The Warren Group.

Table 13
Office Market Comparison—Fairfield County & Hartford

	NNN Rent/ Sq.Ft	Market Size (Leasable Sq.Ft.)	Vacancy
Waterbury	\$11.70	n/a	30-40%
Fairfield County Total	\$32.91/\$24.66*	37,515,769	20.5%
Fairfield Co CBD	\$35.19/\$25.87*	12,773,684	26.4%
Fairfield Co Suburban	\$30.66/\$24.14*	24,742,085	17.4%
Fairfield Co Class A	\$32.91	25,769,221	21.7%
Fairfield Co Class B	\$24.66	11,746,548	17.7%
Hartford Total	\$18.86	25,051,986	16.2%
Hartford Periphery	\$17.54	2,993,640	10.6%
Hartford CBD	\$19.64	7,580,971	23.5%
Hartford Class A	\$22.68	5,590,181	16.0%

* Class A/Class B.

Source: CB Richard Ellis MarketView Hartford Office, 3rd Quarter 2005; Grubb & Ellis Office Market Snapshot Fairfield County, 3rd Quarter 2005; Waterbury brokers.

Table 14
Industrial Market Comparison—Fairfield County & Hartford

	NNN Rent/ Sq.Ft	Market Size (Leasable Sq.Ft.)	Vacancy
Waterbury	\$4.55	n/a	n/a
Fairfield County Total	\$6.45	51,138,096	11.4%
Eastern Fairfield	\$7.24	27,717,750	13.0%
Lower Fairfield	\$8.40	13,949,514	7.1%
Upper Fairfield	\$6.38	8,370,832	12.6%
Hartford Total	\$4.61	68,293,047	11.2%
City of Hartford	\$4.58	4,268,591	18.5%
Hartford North	\$4.92	24,808,013	7.3%
Hartford West	\$4.32	11,131,544	14.9%
Hartford South	\$5.13	11,026,083	10.7%
Hartford East	\$4.27	17,058,816	13.0%

Source: CB Richard Ellis MarketView Hartford Industrial, 3rd Quarter 2005; CB Richard Ellis MarketView Fairfield Co Industrial, 3rd Quarter 2005; CERC; Waterbury brokers.

Table 15
2005 Employment by 2-Digit SIC Industry in Waterbury, the CNVR, and Connecticut

Industry/2-digit SIC Code	Waterbury		Region		CT		LQ	
	Jobs	%	Jobs	%	Jobs	%	Waterbury/ CT	Region/ CT
01 Agricultural Production - Crops	2	0.00%	268	0.26%	2,674	0.17%	0.03	1.55
02 Ag. Production - Livestock & Animal	2	0.00%	50	0.05%	1,103	0.07%	0.07	0.70
07 Ag. Services	130	0.31%	1,039	1.01%	14,409	0.91%	0.34	1.12
13 Oil & Gas Extraction	4	0.01%	10	0.01%	491	0.03%	0.31	0.32
15 General Contractors	325	0.78%	1,211	1.18%	22,142	1.39%	0.56	0.85
16 Heavy Construction	43	0.10%	274	0.27%	5,319	0.34%	0.31	0.80
17 Special Trade Contractors	988	2.37%	4,102	4.00%	51,247	3.23%	0.73	1.24
20 Food & Kindred Products	39	0.09%	629	0.61%	8,516	0.54%	0.17	1.14
22 Textile Mill Products	47	0.11%	302	0.29%	2,277	0.14%	0.79	2.05
23 Apparel	86	0.21%	234	0.23%	2,360	0.15%	1.39	1.54
24 Lumber & Wood Products	152	0.36%	228	0.22%	3,706	0.23%	1.56	0.95
25 Furniture & Fixtures	64	0.15%	95	0.09%	3,123	0.20%	0.78	0.47
26 Paper & Allied Products	190	0.46%	405	0.40%	6,605	0.42%	1.10	0.95
27 Printing & Publishing	439	1.05%	763	0.74%	19,687	1.24%	0.85	0.60
28 Chemicals & Allied Products	151	0.36%	278	0.27%	19,805	1.25%	0.29	0.22
29 Petroleum Refining & Related	-	0.00%	71	0.07%	2,875	0.18%	-	0.38
30 Rubber & Miscellaneous Plastic Prod	387	0.93%	1,448	1.41%	9,154	0.58%	1.61	2.45
31 Leather & Leather Products	15	0.04%	141	0.14%	772	0.05%	0.74	2.83
32 Stone, Clay, Glass, & Concrete Prod	53	0.13%	165	0.16%	2,825	0.18%	0.71	0.90
33 Primary Metal Industries	561	1.35%	960	0.94%	9,204	0.58%	2.32	1.62
34 Fabricated Metal Prdcts	2,221	5.33%	4,843	4.73%	25,393	1.60%	3.33	2.95
35 Ind. & Commercial Mach.	363	0.87%	1,903	1.86%	27,204	1.71%	0.51	1.08
36 Electronics Except Computer Eqpmnt	503	1.21%	2,302	2.25%	19,713	1.24%	0.97	1.81
37 Transportation Equipment	34	0.08%	664	0.65%	20,789	1.31%	0.06	0.49
38 Measure/Analyzing Instruments	43	0.10%	1,788	1.74%	16,839	1.06%	0.10	1.64
39 Misc Manufacturing Industries	37	0.09%	585	0.57%	7,644	0.48%	0.18	1.19
40 Railroad Transportation	-	0.00%	1	0.00%	2,125	0.13%	-	0.01
41 Local Passenger Transport	401	0.96%	916	0.89%	13,413	0.85%	1.14	1.06
42 Motor Freight Transportation	124	0.30%	591	0.58%	12,820	0.81%	0.37	0.71
43 United States Postal Service	469	1.13%	811	0.79%	11,190	0.70%	1.60	1.12
45 Transportation by Air	56	0.13%	180	0.18%	2,731	0.17%	0.78	1.02
47 Transportation Services	40	0.10%	197	0.19%	6,442	0.41%	0.24	0.47
48 Communications	165	0.40%	430	0.42%	13,256	0.84%	0.47	0.50
49 Electric, Gas & Sanitary Services	167	0.40%	473	0.46%	13,251	0.83%	0.48	0.55
50 Wholesale Trade - Durable Goods	945	2.27%	6,239	6.09%	45,131	2.84%	0.80	2.14
51 Wholesale Trade - Nondurable Goods	477	1.14%	1,699	1.66%	22,535	1.42%	0.81	1.17
52 Bldg Mats, Hrdwr, Garden Supply	374	0.90%	848	0.83%	11,990	0.76%	1.19	1.10
53 General Merchandise Stores	1,463	3.51%	1,929	1.88%	20,842	1.31%	2.67	1.43
54 Food Stores	1,013	2.43%	3,369	3.29%	42,060	2.65%	0.92	1.24
55 Automotive Dealers & Gas Stations	693	1.66%	2,032	1.98%	26,041	1.64%	1.01	1.21
56 Apparel & Accessory Stores	501	1.20%	668	0.65%	16,151	1.02%	1.18	0.64
57 Home Furnishings	325	0.78%	674	0.66%	14,071	0.89%	0.88	0.74
58 Eating & Drinking Places	1,761	4.23%	3,928	3.83%	71,294	4.49%	0.94	0.85
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59 Miscellaneous Retail	1,275	3.06%	4,147	4.05%	47,967	3.02%	1.01	1.34

Industry/2-digit SIC Code	Waterbury		Region		CT		LQ	
	Jobs	%	Jobs	%	Jobs	%	Waterbury/ CT	Region/ CT
60 Depository Institutions	633	1.52%	1,163	1.13%	14,145	0.89%	1.70	1.27
61 Nondepository Credit Institutions	133	0.32%	485	0.47%	8,530	0.54%	0.59	0.88
62 Security & Commodity Brokers	41	0.10%	189	0.18%	14,282	0.90%	0.11	0.20
63 Insurance Carriers	31	0.07%	77	0.08%	33,708	2.12%	0.04	0.04
64 Insurance Agents, Brokers & Service	208	0.50%	824	0.80%	24,810	1.56%	0.32	0.51
65 Real Estate	613	1.47%	2,134	2.08%	30,984	1.95%	0.75	1.07
67 Holding & Other Investment Offices	80	0.19%	165	0.16%	7,334	0.46%	0.42	0.35
70 Hotels & Lodging Places	184	0.44%	613	0.60%	12,753	0.80%	0.55	0.74
72 Personal Services	869	2.08%	1,970	1.92%	25,785	1.62%	1.28	1.18
73 Business Services	1,572	3.77%	4,376	4.27%	99,946	6.30%	0.60	0.68
75 Automotive Repair, Services & Parking	474	1.14%	1,049	1.02%	15,591	0.98%	1.16	1.04
76 Miscellaneous Repair Services	154	0.37%	591	0.58%	7,786	0.49%	0.75	1.18
78 Motion Pictures	62	0.15%	192	0.19%	4,376	0.28%	0.54	0.68
79 Amusement & Recreation Services	520	1.25%	1,289	1.26%	23,045	1.45%	0.86	0.87
80 Health Services	6,457	15.49%	9,482	9.25%	147,678	9.30%	1.67	0.99
81 Legal Services	534	1.28%	1,119	1.09%	20,301	1.28%	1.00	0.85
82 Educational Services	2,952	7.08%	6,520	6.36%	108,654	6.85%	1.03	0.93
83 Social Services	1,583	3.80%	3,117	3.04%	46,134	2.91%	1.31	1.05
84 Museums & Art Galleries	16	0.04%	50	0.05%	1,990	0.13%	0.31	0.39
86 Membership Organizations	735	1.76%	1,595	1.56%	27,988	1.76%	1.00	0.88
87 Engineering, Acct, Res., Mgmt Svcs	2,424	5.82%	4,613	4.50%	82,341	5.19%	1.12	0.87
89 Services, Not Elsewhere Classified	24	0.06%	130	0.13%	2,370	0.15%	0.39	0.85
91-97 Public Administration	4,189	10.05%	6,600	6.44%	120,768	7.61%	1.32	0.85
99 Nonclassifiable Establishments	64	0.15%	235	0.23%	3,260	0.21%	0.75	1.12
Total	41,680	100.0%	102,485	100.0%	1,587,310	100.0%	1.00	1.00

Source: Dun & Bradstreet Zapdata and EDR Group.

Table 16
% Change in Employment by 3-Digit NAICS Industry, 1998-2003
US and Connecticut

		United States	Connecticut
11----	Forestry, fishing, hunting, & ag	-3%	n/a
113	Forestry and logging	-10%	n/a
114	Fishing, hunting & trapping	-4%	n/a
115	Agriculture & forestry support	2%	n/a
21----	Mining	-9%	n/a
211	Oil & gas extraction	-14%	n/a
212	Mining (except oil & gas)	-18%	n/a
213	Mining support activities	6%	n/a
22----	Utilities	-1%	-11.4%
221	Utilities	-1%	-11.4%
23----	Construction	10%	8.2%
233	Build., develop. & gen. contracting	4%	16.4%
234	Heavy construction	13%	-42.9%
235	Special trade contractors	12%	n/a
31----	Manufacturing	-17%	-19.0%
311	Food mfg	2%	-1.6%
312	Beverage & tobacco product mfg	-10%	n/a
313	Textile mills	-34%	-49.2%
314	Textile product mills	-14%	-29.9%
315	Apparel manufacturing	-55%	-61.0%
316	Leather & allied product mfg	-44%	n/a
321	Wood product mfg	-10%	20.3%
322	Paper mfg	-15%	-11.4%
323	Printing & related support activities	-17%	-27.9%
324	Petroleum & coal products mfg	-11%	-40.4%
325	Chemical mfg	-7%	-35.8%
326	Plastics & rubber products mfg	-11%	-21.7%
327	Nonmetallic mineral product mfg	-8%	10.0%
331	Primary metal mfg	-22%	-35.0%
332	Fabricated metal product mfg	-16%	-23.6%
333	Machinery mfg	-22%	1.6%
334	Computer & electronic product mfg	-29%	-22.9%
335	Electrical equip & appliance mfg	-24%	-31.1%
336	Transportation equipment mfg	-16%	-16.5%
337	Furniture & related product mfg	-7%	5.5%
339	Miscellaneous mfg	-4%	-13.1%
42----	Wholesale trade	0%	0.3%
421	Wholesale trade, durable goods	-4%	-3.0%
422	Wholesale trade, nondurable goods	-5%	-3.0%
44----	Retail trade	4%	3.1%
441	Motor vehicle & parts dealers	9%	14.0%
442	Furniture & home furnishing stores	10%	14.7%
443	Electronics & appliance stores	16%	22.1%
444	Bldg material & garden equip & supp	5%	7.0%
445	Food & beverage stores	-2%	-0.4%

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		United States	Connecticut
446	Health & personal care stores	3%	8.4%
447	Gasoline stations	-1%	-8.0%
448	Clothing & accessories stores	15%	10.5%
451	Sporting gds, hobby, book & music	4%	4.2%
452	General merchandise stores	2%	-7.2%
453	Miscellaneous store retailers	3%	-4.4%
454	Nonstore retailers	11%	-4.8%
48----	Transportation & warehousing	17%	44.4%
481	Air transportation	-5%	383.5%
483	Water transportation	-7%	n/a
484	Truck transportation	7%	0.2%
485	Transit & ground passenger transport.	14%	35.8%
486	Pipeline transportation	-17%	n/a
487	Scenic & sightseeing transportation	-2%	n/a
488	Transportation support activities	20%	-9.0%
492	Couriers & messengers	-1%	-8.4%
493	Warehousing & storage	355%	931.8%
51----	Information	15%	-5.1%
511	Publishing industries	4%	n/a
512	Motion picture & sound recording	1%	n/a
513	Broadcasting & telecommunications	-80%	n/a
52----	Finance & insurance	12%	18.7%
521	Monetary authorities - central bank	2%	n/a
522	Credit intermediation & related	16%	39.3%
523	Security, commodity contracts & like	25%	37.6%
524	Insurance carriers & related activities	3%	7.8%
525	Funds, trusts, & other financial vehicles	37%	n/a
53----	Real estate & rental & leasing	13%	11.1%
531	Real estate	16%	8.8%
532	Rental & leasing services	6%	6.6%
533	Lessors of other nonfinancial intangible asset	28%	458.0%
54----	Professional, sci. & technical svcs	21%	28.6%
541	Professional, sci. & technical svcs	21%	28.6%
55----	Management	6%	-8.5%
551	Management	6%	-8.5%
56----	Admin, support, waste mgt/remediation	9%	3.4%
561	Administrative & support services	9%	2.5%
562	Waste management & remediation svcs	18%	22.7%
61----	Educational services	19%	21.6%
611	Educational services	19%	21.6%
62----	Health care and social assistance	12%	11.2%
621	Ambulatory health care services	14%	5.2%
622	Hospitals	4%	7.6%
623	Nursing & residential care facilities	17%	17.3%
624	Social assistance	25%	23.2%
71----	Arts, entertainment & recreation	16%	-34.8%
711	Performing arts, spectator sports, & related	26%	31.9%
712	Museums	24%	12.9%

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		United States	Connecticut
713	Amusement, gambling & recreation	12%	-46.7%
72----	Accommodation & food services	10%	29.5%
721	Accommodation	6%	197.9%
722	Food services & drinking places	11%	7.6%
81----	Other services (except public administration)	7%	2.1%
811	Repair & maintenance	0%	n/a
812	Personal & laundry services	5%	n/a
813	Religious, grantmaking, civic, professional orgs	11%	n/a
99----	Unclassified establishments	-40%	15.6%

Source: US Census County Business Patterns and EDR Group calculations.

Table 17
Waterbury Retail Supply, Demand and Surplus

	Supply (Retail Sales) ('000s)	Demand (Retail Potential) ('000s)	Surplus Capture ('000s)
<i>Total Retail Trade and Food & Drink (NAICS 44-45, 722)</i>	<i>\$1,286,522</i>	<i>\$919,391</i>	<i>\$367,132</i>
<i>Total Retail Trade (NAICS 44-45)</i>	<i>\$1,111,106</i>	<i>\$778,842</i>	<i>\$332,264</i>
<i>Total Food & Drink (NAICS 722)</i>	<i>\$175,417</i>	<i>\$140,549</i>	<i>\$34,868</i>
447/4471 Gasoline Stations	\$264,092	\$78,573	\$185,518
448 Clothing and Clothing Accessories Stores	\$132,066	\$29,984	\$102,081
446/4461 Health & Personal Care Stores	\$132,502	\$42,331	\$90,171
4481 Clothing Stores	\$96,763	\$23,367	\$73,396
452 General Merchandise Stores	\$139,854	\$85,101	\$54,753
4521 Department Stores (Excluding Leased Depts.)	\$101,440	\$48,193	\$53,247
7221 Full-Service Restaurants	\$118,412	\$80,823	\$37,589
722 Food Services & Drinking Places	\$175,417	\$140,549	\$34,868
4453 Beer, Wine, and Liquor Stores	\$37,955	\$15,083	\$22,872
4483 Jewelry, Luggage, and Leather Goods Stores	\$25,004	\$4,131	\$20,873
451 Sporting Goods, Hobby, Book, and Music Stores	\$33,492	\$17,820	\$15,672
4511 Sporting Goods/Hobby/Musical Instrument Stores	\$23,903	\$13,218	\$10,685
4542 Vending Machine Operators	\$28,821	\$19,919	\$8,902
7222 Limited-Service Eating Places	\$50,632	\$42,199	\$8,433
4482 Shoe Stores	\$10,298	\$2,486	\$7,812
4413 Auto Parts, Accessories, and Tire Stores	\$17,479	\$10,740	\$6,739
4532 Office Supplies, Stationery, and Gift Stores	\$14,242	\$9,116	\$5,126
4512 Book, Periodical, and Music Stores	\$9,589	\$4,602	\$4,987
4452 Specialty Food Stores	\$12,278	\$7,757	\$4,521
4441 Building Material and Supplies Dealers	\$33,355	\$31,276	\$2,078
4529 Other General Merchandise Stores	\$38,414	\$36,908	\$1,506
453 Miscellaneous Store Retailers	\$27,243	\$26,083	\$1,160
4422 Home Furnishings Stores	\$7,076	\$6,636	\$440
4531 Florists	\$1,878	\$1,969	-\$92
444 Bldg Materials, Garden Equip. & Supply Stores	\$33,872	\$35,636	-\$1,764
4533 Used Merchandise Stores	\$2,242	\$4,067	-\$1,826
4539 Other Miscellaneous Store Retailers	\$8,882	\$10,931	-\$2,049
442 Furniture & Home Furnishings Stores	\$18,196	\$20,383	-\$2,186
4421 Furniture Stores	\$11,120	\$13,746	-\$2,626
4541 Electronic Shopping and Mail-Order Houses	\$6,344	\$9,788	-\$3,444
4442 Lawn and Garden Equipment and Supplies Stores	\$517	\$4,359	-\$3,842
4412 Other Motor Vehicle Dealers	\$3,072	\$7,298	-\$4,226
443/4431 Electronics & Appliance Stores	\$15,555	\$20,698	-\$5,143
4543 Direct Selling Establishments	\$5,663	\$11,437	-\$5,774
7223 Special Food Services	\$5,460	\$16,102	-\$10,642
445 Food & Beverage Stores	\$126,865	\$166,444	-\$39,579
4451 Grocery Stores	\$76,632	\$143,604	-\$66,972
441 Motor Vehicle & Parts Dealers	\$146,541	\$214,645	-\$68,104
4411 Automobile Dealers	\$125,989	\$196,607	-\$70,618

Source: ESRI (based on U.S. Bureau of the Census, 2000 Census of Population and Housing. ESRI forecasts for 2005 and 2010) and EDR Group calculations.

Table 18
Waterbury Retail Space Demand Estimate

	Central Naugatuck Valley Region ¹			Waterbury		
	Retail Sales ² (thousands)	Potential Sales ³ (thousands)	Unmet Demand ⁴ (thousands)	Current Share ⁵	Potential Capture (thousands \$) ⁶	Potential Capture (Sq.ft.) ⁷
Retail Trade (NAICS 44-45)	\$2,318,163	\$2,753,566	\$435,403	48%	\$208,690	494,500
Demand By Store Type⁸ (2 & 3 Digit NAICS):						
441 Motor Vehicle & Parts Dealers	\$460,199	\$767,414	\$307,214	32%	\$97,826	n/a
4411 Automobile Dealers	\$424,413	\$697,977	\$273,564	30%	\$81,209	n/a
4412 Other Motor Vehicle Dealers	\$9,887	\$30,165	\$20,278	31%	\$6,301	n/a
4413 Auto Parts, Accessories, & Tire	\$25,899	\$39,272	\$13,373	67%	\$9,025	21,400
442 Furniture & Home Furnishings	\$35,487	\$76,208	\$40,721	51%	\$20,880	49,500
4421 Furniture	\$17,277	\$48,721	\$31,444	64%	\$20,239	48,000
4422 Home Furnishings	\$18,211	\$27,488	\$9,277	39%	\$3,605	8,5000
443/4431 Electronics & Appliance	\$50,171	\$71,601	\$21,430	31%	\$6,644	15,700
444 Bldg Material, Garden Equip/Supply	\$68,006	\$148,177	\$80,171	50%	\$39,931	94,600
4441 Building Material & Supplies Dealers	\$59,607	\$125,954	\$66,347	56%	\$37,126	88,000
4442 Lawn & Garden Equipment & Supplies	\$8,399	\$22,223	\$13,824	6%	\$852	2,000
445 Food & Beverage	\$443,817	\$561,141	\$117,324	29%	\$33,537	79,500
4451 Grocery	\$339,034	\$484,255	\$145,220	23%	\$32,824	77,800
4452 Specialty Food	\$25,341	\$25,730	\$389	5%	\$19	0
4453 Beer, Wine, & Liquor	\$79,442	\$51,156	--	--	--	--

Notes:

¹Region defined as Beacon Falls, Bethlehem, Cheshire, Middlebury, Prospect, Naugatuck, Oxford, Southbury, Thomaston, Waterbury, Watertown, Wolcott, and Woodbury.

²Retail sales: estimated sales to consumers by establishments excluding business-to-business sales, in current dollars (data from ESRI).

³Demand (retail potential) represents the expected amount in current dollars spent by consumers at retail establishments (data from ESRI).

⁴EDR Group calculation of demand minus supply.

⁵Estimated retail sales in the City of Waterbury as a percent of total regional sales.

⁶Estimated regional retail sales that could occur within the City of Waterbury based on the city's current share of regional retail sales.

⁷Upper decile sales per square foot in community shopping centers nationwide (ULI Dollars and Cents of Shopping Centers, 2004).

⁸Establishments are classified by their primary type of economic activity according to the North American Industry Classification System (NAICS).

**Table 18 (continued)
Waterbury Retail Space Demand Estimate**

	Central Naugatuck Valley Region ¹			Waterbury	
	Retail Sales ² (thousands)	Potential Sales ³ (thousands)	Unmet Demand ⁴ (thousands)	Current Share ⁵	Potential Sales ³ (thousands)
446/4461	Health & Personal Care	\$250,398	\$144,736	--	--
447/4471	Gasoline Stations	\$393,259	\$264,559	--	--
448	Clothing & Clothing Accessories	\$168,680	\$96,636	--	--
4481	Clothing	\$121,609	\$75,117	--	--
4482	Shoes	\$12,765	\$7,532	--	--
4483	Jewelry, Luggage, & Leather Goods	\$34,306	\$13,987	--	--
451	Sporting Goods/Hobby/Books/Music	\$47,776	\$56,643	70%	\$6,216
4511	Sporting Goods/Hobby	\$35,915	\$43,019	67%	\$4,728
4512	Books, Periodicals, & Music	\$11,861	\$13,624	81%	\$1,425
452	General Merchandise	\$242,903	\$303,344	58%	\$34,799
4521	Department (Excl Leased Depts.)	\$188,328	\$174,558	--	--
4529	Other General Merchandise	\$54,575	\$128,786	70%	\$52,235
453	Miscellaneous Store Retailers	\$71,812	\$95,477	38%	\$8,978
4531	Florists	\$5,132	\$6,422	37%	\$472
4532	Office Supplies, Stationery, & Gift	\$28,955	\$30,351	49%	\$686
4539	Other Miscellaneous Store Retailers	\$26,604	\$39,866	33%	\$4,427

Notes:

¹Region defined as Beacon Falls, Bethlehem, Cheshire, Middlebury, Prospect, Naugatuck, Oxford, Southbury, Thomaston, Waterbury, Watertown, Wolcott, and Woodbury.

²Retail sales: estimated sales to consumers by establishments excluding business-to-business sales, in current dollars (data from ESRI).

³Demand (retail potential) represents the expected amount in current dollars spent by consumers at retail establishments (data from ESRI).

⁴EDR Group calculation of demand minus supply.

⁵Estimated retail sales in the City of Waterbury as a percent of total regional sales.

⁶Estimated regional retail sales that could occur within the City of Waterbury based on the city's current share of regional retail sales.

⁷Upper decile sales per square foot in community shopping centers nationwide (ULI Dollars and Cents of Shopping Centers, 2004).

⁸Establishments are classified by their primary type of economic activity according to the North American Industry Classification System (NAICS).

Source: ESRI Retail Market Profile; ULI Dollars and Cents of Shopping Centers (2004); and EDR Group calculations.

APPENDIX B

ROUTE STOP ACTIVITY

APPENDIX B
ROUTE STOP ACTIVITY
Connecticut Transit Waterbury Division
Operated by North East Transportation Company

Table B.1: Stop Activity by Route and Direction

Route #	Direction	Stop Name	Daily Activity
11	Inbound	Willow & Wildwood	37
11	Inbound	Willow & Plaza	41
11	Inbound	West Main & Exchange Place (the Green)	121
11	Outbound	Willow & Hillside	40
11	Outbound	Willow & Plaza	45
11	Outbound	Exchange Place (the Green)	191
12	Inbound	Hill & Charlotte	6
12	Inbound	Hill & Citizens	6
12	Inbound	Grove & Bishop	6
12	Inbound	Exchange Place (the Green)	53
12	Outbound	Hill & Platt	9
12	Outbound	North Main & Crown	10
12	Outbound	Exchange Place (the Green)	106
13	Inbound	Colonial & Lester	36
13	Inbound	North Main & West Main	37
13	Inbound	North Main & Exchange	122
13	Outbound	Cooke & Woodlawn	23
13	Outbound	Colonial & Lester	23
13	Outbound	Colonial & Brookside	38
13	Outbound	Exchange Place (the Green)	178
15	Inbound	North Main & Valentino	41
15	Inbound	Farm Crest & Bucks Hill	101
15	Inbound	North Main & Exchange Place (the Green)	142
15	Outbound	North Main & Valentino	39
15	Outbound	Bucks Hill & Farm Crest	45
15	Outbound	Exchange Place (the Green)	109
16	Inbound	North Main & Lakewood	14
16	Inbound	North Main & Valentino	43
16	Inbound	North Main & Exchange Place (the Green)	60
16	Outbound	North Main & Lakewood	25
16	Outbound	North Main & Valentino	64
16	Outbound	Exchange Place (the Green)	142

Table B.1: Stop Activity by Route and Direction (Continued)

Route #	Direction	Stop Name	Daily Activity
18	Inbound	East Farm & North Walnut	20
18	Inbound	Long Hill & Berkeley	65
18	Inbound	North Main & Exchange (the Green)	136
18	Outbound	East Farm & North Walnut	49
18	Outbound	Long Hill & Berkeley	66
18	Outbound	Exchange Place (the Green)	248
20	Inbound	Wood & Walnut	20
20	Inbound	East Main & Phoenix	34
20	Inbound	East Main & Exchange (the Green)	46
20	Outbound	Oak & Wall	12
20	Outbound	East Main & Brook	12
20	Outbound	West Main & East Main	12
20	Outbound	Exchange Place (the Green)	35
22	Inbound	Wolcott & Matk. Plaza	41
22	Inbound	Naugatuck Valley Mall & G. Fox	72
22	Inbound	East Main & Phoenix	72
22	Inbound	East Main & Exchange (the Green)	98
22	Outbound	East Main & Brook	81
22	Outbound	Stillson & Naugatuck Valley Mall	90
22	Outbound	Exchange Place (the Green)	137
25	Inbound	Meriden & Pierpont	24
25	Inbound	East Main & Phoenix	35
25	Inbound	Exchange Place (the Green)	83
25	Outbound	Meriden & Steele	16
25	Outbound	Meriden & Pierpont	16
25	Outbound	East Main & Brook	27
25	Outbound	Exchange Place (the Green)	121
26	Inbound	East Main & Albion	11
26	Inbound	East Main & Exchange Place (the Green)	22
26	Inbound	East Main & Phoenix	29
26	Outbound	East Main & Wolcott	9
26	Outbound	East Main & South Elm	9
26	Outbound	East Main & Brook	18
26	Outbound	Exchange Place (the Green)	42

Table B.1: Stop Activity by Route and Direction (Continued)

Route #	Direction	Stop Name	Daily Activity
27	Inbound	East Main & Phoenix	12
27	Inbound	East Main & Scott	20
27	Inbound	East Main & Exchange Place (the Green)	33
27	Outbound	East Main & Scott	26
27	Outbound	East Main & Brook	32
27	Outbound	Exchange Place (the Green)	71
31	Inbound	East Mountain & Peach Orchard	3
31	Inbound	Hamilton & Farrington	5
31	Inbound	Exchange Place (the Green)	10
31	Outbound	Prospect & East Mountain	4
31	Outbound	Hamilton & Park Lot	4
31	Outbound	Exchange Place (the Green)	7
31	Outbound	East Main & Brook	11
32	Inbound	Sylvan & Washington Park	10
32	Inbound	East Main & Phoenix	16
32	Inbound	East Main & Exchange Place	26
32	Outbound	Sylvan & Welles	6
32	Outbound	East Main & Brook	15
32	Outbound	Exchange Place (the Green)	21
33	Inbound	East Main & Phoenix	27
33	Inbound	Baldwin & Washington	36
33	Inbound	East Main & Exchange (the Green)	38
33	Outbound	Baldwin & Rye	29
33	Outbound	East Main & Brook	53
33	Outbound	Exchange Place (the Green)	115
35	Inbound	Bank & Sec Sav. Bank	22
35	Inbound	Congress & Bank	40
35	Inbound	East Main & Exchange (the Green)	71
35	Outbound	Congress & Bank -2	22
35	Outbound	Bank & Congress	24
35	Outbound	Exchange Place (the Green)	94

Table B.1: Stop Activity by Route and Direction (Continued)

Route #	Direction	Stop Name	Daily Activity
36	Inbound	South Main & Union	12
36	Inbound	Congress & Bank	49
36	Inbound	Exchange Place (the Green)	101
36	Outbound	Hans & Anna	10
36	Outbound	Bank & Congress	17
36	Outbound	Exchange Place (the Green)	56
40	Inbound	Highland & Sunnyside	8
40	Inbound	Highland & West Main	8
40	Inbound	Highland & Acra	25
40	Inbound	West Main & Exchange (the Green)	56
40	Outbound	Highland & Chase Parkway	11
40	Outbound	West Main & Highland	15
40	Outbound	Exchange Place (the Green)	70
42	Inbound	Robbins & Colley	12
42	Inbound	Chase Parkway & Wooster	28
42	Inbound	West Main & Exchange (the Green)	71
42	Outbound	Robbins & Colley	26
42	Outbound	Chase & Hi Educ #2	67
42	Outbound	West Main & Central (the Green)	147
44	Inbound	Oakville & Deerfield	9
44	Inbound	Grandview & Med. Arts	9
44	Inbound	Grandview & Myrtle	9
44	Inbound	Whitewood & Oakville	38
44	Inbound	West Main & Exchange (the Green)	79
44	Outbound	Wildwood & Calo	17
44	Outbound	Grandview & Myrtle	19
44	Outbound	Exchange Place (the Green)	123
45	Inbound	Main & Depot	16
45	Inbound	Watertown & Robbins	16
45	Inbound	West Main & Exchange (the Green)	107
45	Outbound	Main & Buckingham	19
45	Outbound	Main & Depot	30
45	Outbound	Exchange Place (the Green)	131

Source: Connecticut DOT *Statewide Bus System Study*

APPENDIX C
SOCIO-ECONOMIC DATA MAPS

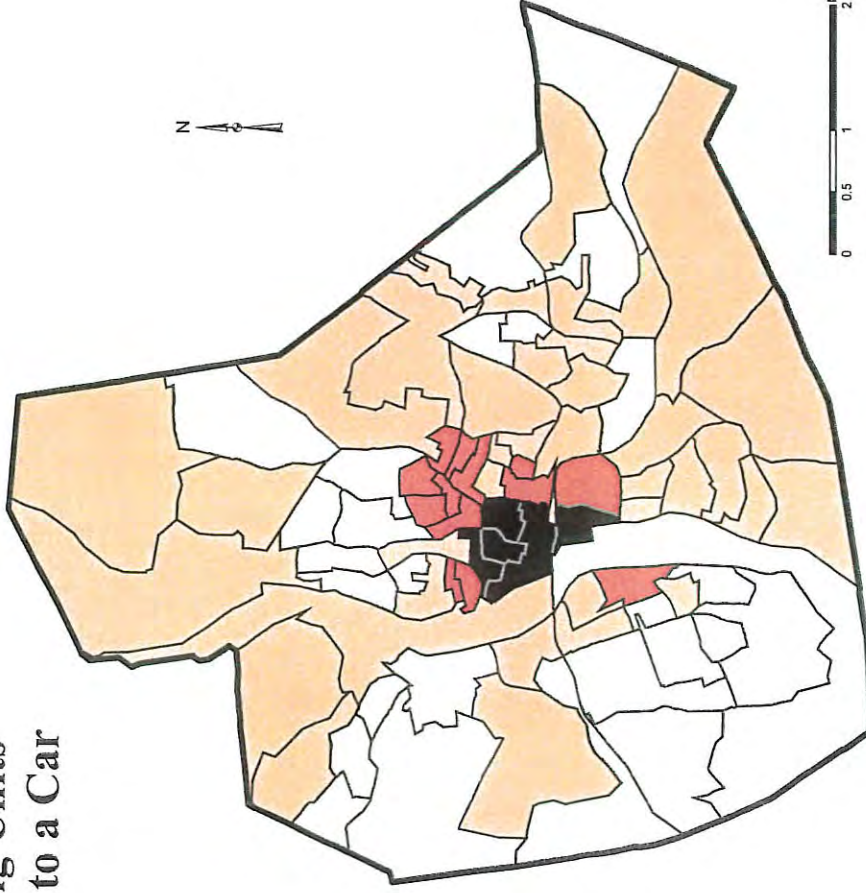
APPENDIX C
 WATERBURY SOCIO-ECONOMIC DATA MAPS

**Occupied Housing Units
 Without Access to a Car**
 Waterbury

Percentage of
 Occupied Housing Units
 with Zero Vehicles

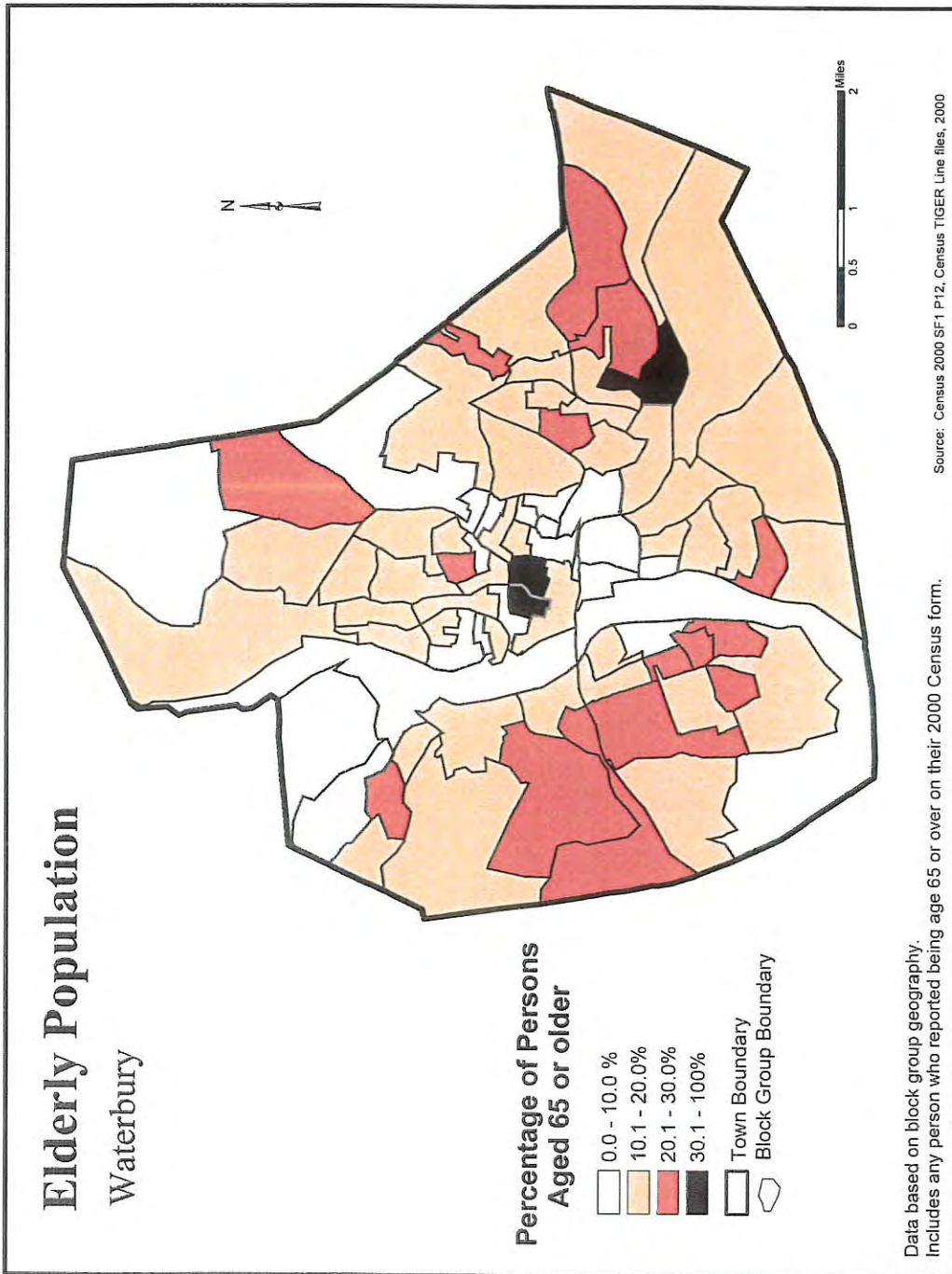
- 0.0 - 10.0%
- 10.1 - 30.0%
- 30.1 - 50.0%
- 50.1 - 100%

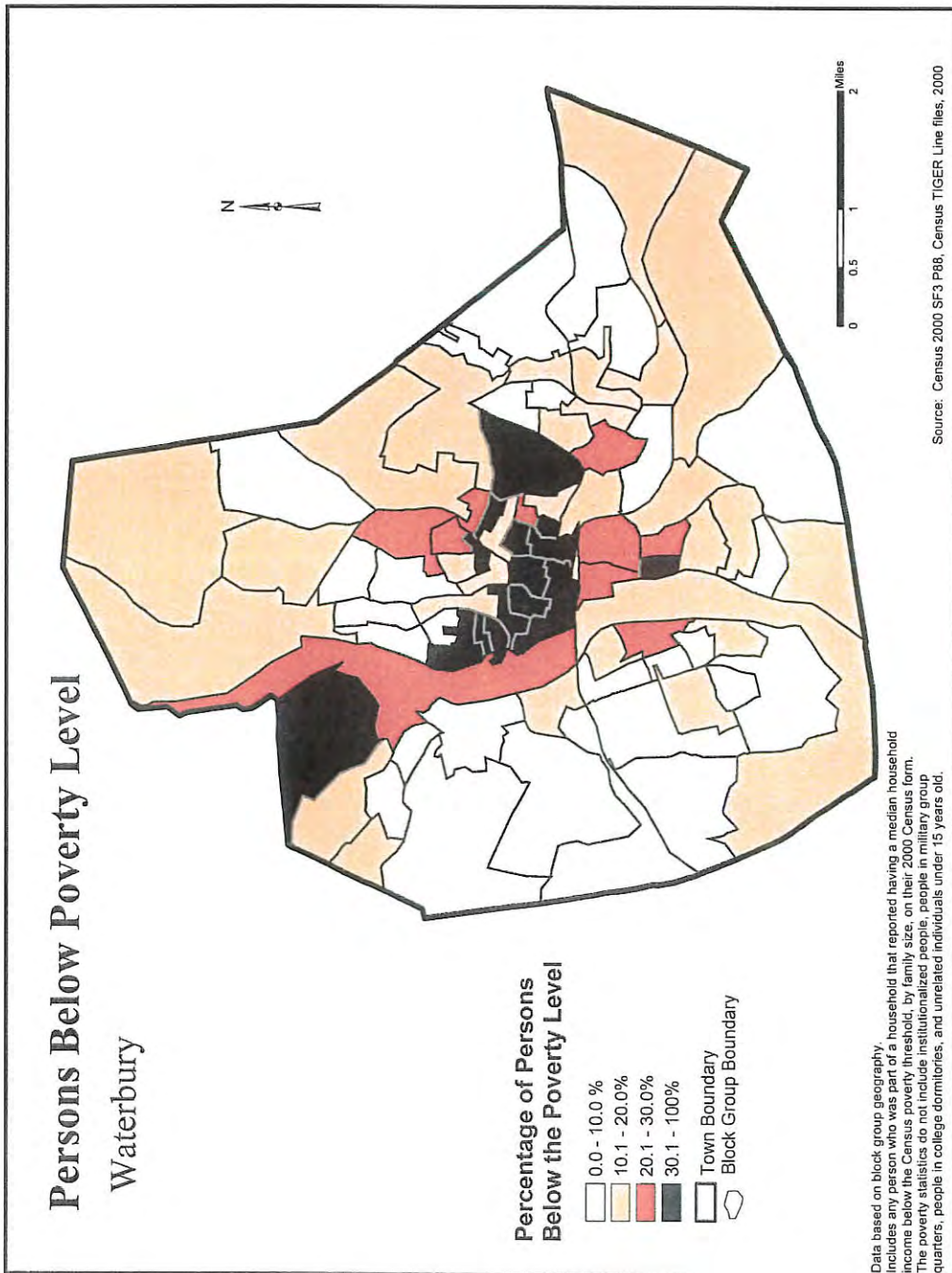
- Town Boundary
- Block Group Boundary

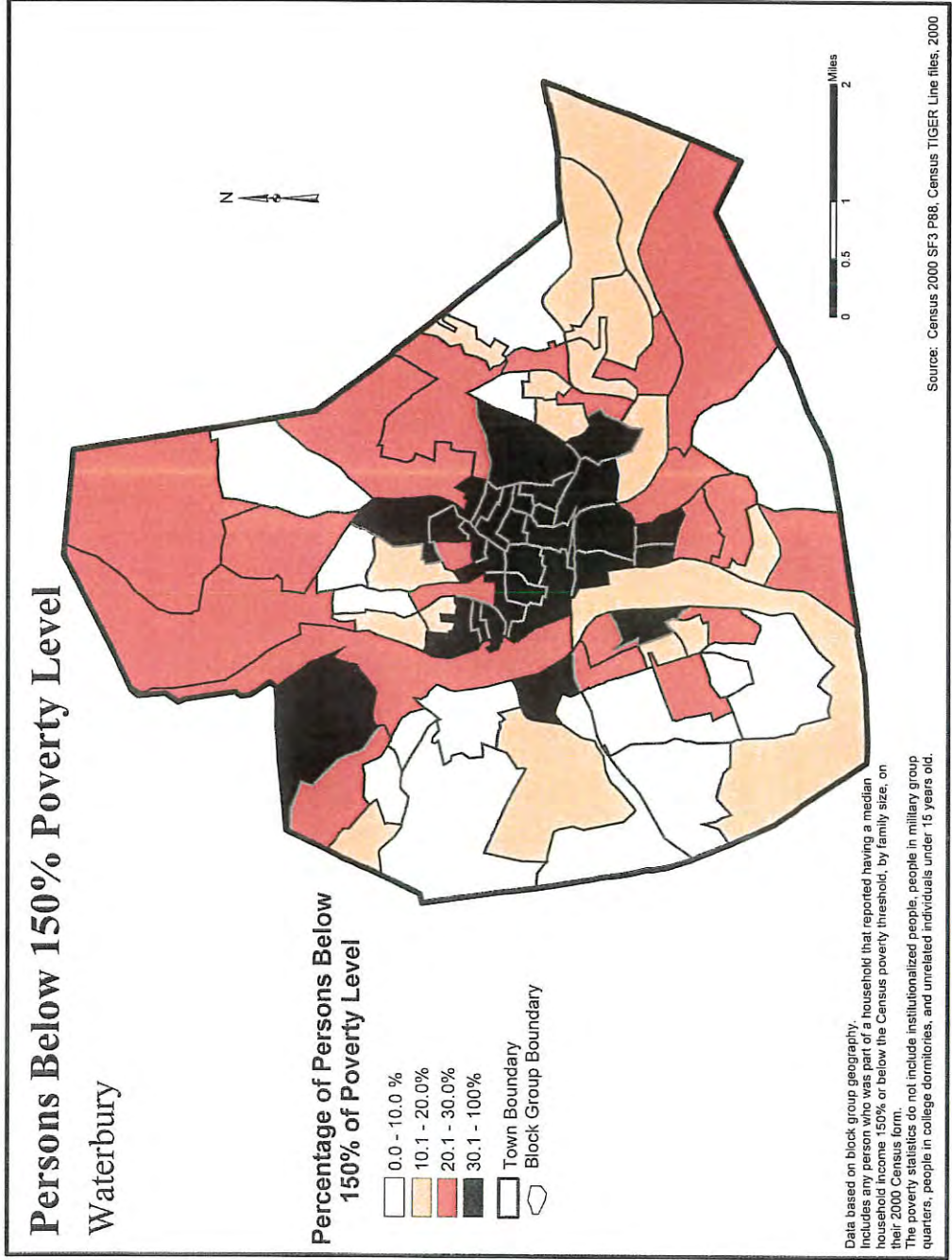


Data based on block group geography.
 Includes any occupied housing unit that reported having zero vehicles
 on their 2000 Census form.

Source: Census 2000 SF3 P44, Census TIGER Line files, 2000







APPENDIX D
RATINGS JUSTIFICATION

APPENDIX D RATINGS JUSTIFICATION

Meadow Street

1. **Accessibility** – accessibility for each of the different modes utilizing the transportation center are outlined below.
 - a. North East Transportation Buses – this site is accessible for buses coming from the east (East Main, North Main, and South Main) and from the West (West Main). There are no special accessibility issues related to this site for local buses (**rating: high**).
 - b. Intercity Buses – this site is accessible for intercity buses accessing Interstate 84. Buses have two options for accessing the interstate: Bank Street and Meadow Street. Meadow Street has a full directional interchange (**rating: high**).
 - c. Automobile – this site is accessible for autos coming from downtown Waterbury via West Main or Grand, and Interstate 84 from Meadow or Freight. It is also accessible from the western part of Waterbury and Route 8 via West Main and Meadow (**rating: high**).
 - d. Pedestrian – This site is accessible to downtown for pedestrians via Meadow and West Main and via Grand Street. It, along with the Judd Street site is the closest to the downtown Green of the four sites (**rating: high**).
2. **Impacts to Existing Uses** – The Meadow Street site is clear of any existing uses except parking. The implementation of a transportation center on this site would not displace an existing use (**rating: high**)
3. **Environmental Considerations** – The Meadow Street site is comprised predominantly of a parking area and two abandoned buildings. Some asbestos and lead based paint may be associated with the buildings, but other hazardous materials on the site are unlikely (**rating: high**)
4. **Traffic Impacts** – Based on current roadway volumes along Meadow Street, it does not appear that the location of a transportation center at the Meadow Street site would dramatically degrade traffic operations along Meadow (**rating: high**)
5. **Site Suitability** – The Meadow Street site is already developed, including infrastructure. Little or no additional grading or fill will be required (**rating: high**)
6. **Railroad Operations** – The Meadow Street site is adjacent to the existing Metro North train station. No changes in rail operations will be required (**rating: high**)

7. **Construction Costs** – The Meadow Street site is already developed so construction costs for site preparation and utilities would be significantly less than at the other sites. In addition, the railroad station will not have to be relocated. There will, however, be demolition costs associated with the existing abandoned buildings. Relative to the other sites, construction costs should be significantly less at this site (**rating: high**)

Judd Street

1. **Accessibility** – accessibility for each of the different modes utilizing the transportation center are outlined below.
 - a. North East Transportation Buses – this site is accessible for buses coming from the east (East Main, North Main, and South Main) and from the West (West Main). There are no special accessibility issues related to this site for local buses (**rating: high**).
 - b. Intercity Buses – this site is accessible for intercity buses accessing Interstate 84. Buses have two options for accessing the interstate: West Main Street and Meadow Street. Meadow Street has a full directional interchange (**rating: high**).
 - c. Automobile – this site is accessible for autos coming from downtown Waterbury via West Main, and Interstate 84 from Meadow and Freight or West Main. It is also accessible from the western part of Waterbury and Route 8 via West Main and Meadow (**rating: high**).
 - d. Pedestrian – This site is accessible to downtown for pedestrians via West Main and via Grand and Freight Street. It, along with the Meadow Street site is the closest to the downtown Green of the four sites (**rating: high**).
2. **Impacts to Existing Uses** – The Judd Street site has a number of current uses, on both sides of Judd Street that would be impacted by the relocation of a transportation center there. A number of displacements would be part of any construction at this site (**rating: low**)
3. **Environmental Considerations** – The Judd Street site is comprised of a number of small commercial businesses, including automobile repair facilities. Given the nature of the work completed in the automobile repair facilities, some hazardous materials may be located close to the surface, though not as extensive as what would be associated with heavy industrial uses (**rating: medium**)
4. **Traffic Impacts** – Predominant access to this site would be off of West Main Street, which has higher traffic volumes than Meadow Street. Because of these higher volumes, there is greater potential for traffic disruptions resulting from a signal that would be geared toward handling the large number of buses entering and exiting the facility at the same time (**rating: medium**)

5. **Site Suitability** – The Judd Street site has some changes in topography and slope that will require additional site preparation, though these changes are relatively insignificant (**rating: medium**)
6. **Railroad Operations** – The Judd Street site is on a tangent piece of track so effective rail operations should be easy to maintain (**rating: high**)
7. **Construction Costs** – This site would have to be cleared of a number of existing businesses, which will be quite expensive in terms of property purchases and demolition. In addition utilities preparation would be more expensive than the Meadow Street site and a new railroad station would have to be built (**rating: low**).

Sperry Street North

1. **Accessibility** – accessibility for each of the different modes utilizing the transportation center are outlined below.
 - a. **North East Transportation Buses** – this site is accessible for buses coming from the east (East Main, North Main, and South Main) and from the West (West Main). There are no special accessibility issues related to this site for local buses (**rating: high**).
 - b. **Intercity Buses** – this site is accessible for intercity buses accessing Interstate 84. Buses have two options for accessing the interstate: West Main Street, which would be the primary option, and Meadow Street, which would be a secondary option because the travel path to the interstate is not as direct. A medium rating is given here because this site does not have full direct access to two different interstate interchanges (**rating: medium**).
 - c. **Automobile** – this site is accessible for autos coming from downtown Waterbury via West Main, and Interstate 84 via West Main, which would be the primary option, and Meadow Street, which would be a secondary option. It is also accessible from the western part of Waterbury and Route 8 via West Main and Meadow (**rating: high**).
 - d. **Pedestrian** – This site is accessible to downtown for pedestrians via West Main. It is further from downtown than the Meadow Street and Judd Street sites, and therefore receives a medium rating (**rating: medium**).
2. **Impacts to Existing Uses** – The Sperry Street North site has a number of current uses that would be impacted by the relocation of a transportation center there. A number of displacements would be part of any construction at this site (**rating: low**)
3. **Environmental Considerations** – The Sperry North site is comprised of a number of small commercial businesses, including automobile repair facilities. Given the nature of the work completed in the automobile repair facilities, some hazardous materials may be

located close to the surface, though not as extensive as what would be associated with heavy industrial uses (**rating: medium**)

4. **Traffic Impacts** – Predominant access to this site would be off of West Main Street, which has higher traffic volumes than Meadow Street. Because of these higher volumes, there is greater potential for traffic disruptions resulting from a signal that would be geared toward handling the large number of buses entering and exiting the facility at the same time (**rating: medium**)
5. **Site Suitability** – The Sperry Street North site has relatively significant changes in slope and topography. Significant grading and filling will be required to prepare the site for construction (**rating: low**).
6. **Railroad Operations** – The Sperry Street North site is on a curve in the railroad alignment and therefore some work on the alignment will have to be completed before a railroad station could be developed there (**rating: low**).
7. **Construction Costs** – The Sperry Street North site will require a significant amount of site preparation, utilities work, and purchase and demolition of existing businesses. In addition, a new railroad station would have to be built (**rating: low**).

Sperry Street South

1. Accessibility – accessibility for each of the different modes utilizing the transportation center are outlined below.
 - a. North East Transportation Buses – this site is accessible for buses coming from the east (East Main, North Main, and South Main) and from the West (West Main). The configuration of the site effectively means that there is only one entrance into the site from West Main. This entrance would have to be shared by autos and buses, which limits site accessibility. This limited site accessibility results in a medium rating (**rating: medium**).
 - b. Intercity Buses – this site is accessible for intercity buses accessing Interstate 84. Buses have two options for accessing the interstate: West Main Street, which would be the primary option, and Meadow Street, which would be a secondary option because the travel path to the interstate is not as direct. As with local buses, the configuration of the site effectively means that there is only one entrance into the site from West Main. This entrance would have to be shared by autos and buses, which limits site accessibility. A low rating is given here because this site does not have full direct access to two different interstate interchanges and because of the limited site accessibility engendered by the single entrance (**rating: low**).
 - c. Automobile – this site is accessible for autos coming from downtown Waterbury via West Main, and Interstate 84 via West Main, which would be the primary

option, and Meadow Street, which would be a secondary option. It is also accessible from the western part of Waterbury and Route 8 via West Main and Meadow. The limited site accessibility resulting from the single entrance results in a medium rating (**rating: medium**).

- d. Pedestrian – This site is accessible to downtown for pedestrians via West Main Street. It is further from downtown than the Meadow Street and Judd Street sites, and therefore receives a medium rating (**rating: medium**).
2. **Impacts to Existing Uses** – The Sperry Street South site has no current uses that would be impacted by the relocation of a transportation center there. One abandoned building will have to be demolished as part of the transportation center development (**rating: high**).
3. **Environmental Considerations** – The Sperry South site is at least partially located on the property of the shuttered Anaconda Brass factory, which was involved in the production of brass. This is a heavy industrial use that has the high potential for site contamination (**rating: low**).
4. **Traffic Impacts** – Predominant access to this site would be off of West Main Street, which has higher traffic volumes than Meadow Street. Because of these higher volumes, there is greater potential for traffic disruptions resulting from a signal that would be geared toward handling the large number of buses entering and exiting the facility at the same time. In addition, the single access point noted under accessibility also has the potential for further disrupting traffic operations (**rating: low**).
5. **Site Suitability** – The Sperry Street site is relatively flat, though some additional site preparation work would be required (**rating: medium**).
6. **Railroad Operations** – The Connecticut Department of Transportation owns one track into Waterbury, on the east side of the alignment, with the rest owned by the successor to the New Haven Railroad. The Sperry South site is on the west side of the alignment, so new track rights or the purchase of the track would be required to implement rail operations at this site (**rating: low**).
7. **Construction Costs** – This site does not have as much required demolition as the other sites, but utilities and the fact that a new railroad station would have to be built will add significant costs. In addition, additional alignment purchases will also be quite expensive. Costs will also include site remediation and property purchase (**rating: low**).

APPENDIX E

MINUTES OF PUBLIC OUTREACH MEETINGS

DMJM Harris
808 Third Avenue, New York, NY 10016
Tel: 212 875-2800 F: 212 875-3000 www.dmjmharris.com

MEETING MINUTES

Subject: Greater Waterbury Transportation Center Stakeholder Meeting

Meeting Date: Thursday, December 8, 2005

Meeting Place: Waterbury Development Corporation, Waterbury, CT

Meeting Time: 1:00 pm

Minutes Prepared By: Christine Tiernan on December 9, 2005

Distribution List: See attached list of Attendees

1. Introduction

Chet Camarata of DECD opened up the meeting, explained the format of the meeting and had everybody introduce themselves. He then turned it over to Christine Tiernan of DMJM Harris to make a presentation.

2. Presentation: the presentation is attached, but the following key points were made:

- DMJM Harris' scope of services includes: 1) preparation of a "Waterbury Transportation Center Needs and Feasibility Study" and review of the "Thomaston Avenue – Jackson Street Connector Study", prepared for NVDC by HMA in February of 2002.
- DMJM Harris' scope of services includes the following elements: 1) data collection; 2) transportation provider discussions; 3) impact analysis; 4) alternatives analysis; 5) public outreach; and 6) preparation of a final report.
- The public outreach effort will be comprised of 2 meetings to be held on the same day: a stakeholder meeting to be held in the afternoon; and a general public meeting to be held in the evening.
- The schedule for the project anticipates that the final Study will be available beginning of March 2006.

3. Status of CTDOT projects

- Carmine Trotta of CTDOT (Intermodal) updated the group on several DOT initiatives in the Waterbury area: 1) I-84/Route 8 interchange – a Preliminary Alternatives Assessment is anticipated early 2007; 2) Waterbury and New Canaan Branch Line Corridor Studies to begin early 2006; and 3) Route 8 between Beacon Falls and Watertown (no further details available at this time).

4. Open Discussion

- Mayor Michael Jarjura thanked the group for coming, expressed his support of the Waterbury Transportation Center and emphasized how important it is to consolidate transit services in Waterbury.
- Jeff Berger (State Rep) explained this is one of the top priorities of the City, that it is a Gateway Project for Transportation, that the Freight Street brownfield area is underutilized and that a Transportation Center would support economic redevelopment in this area as well as the rest of the City. He also expressed his enthusiasm on the ambitious schedule for completion of the study.
- Senator Joan Hartley mentioned the new community associated with the new Yeshiva School where 100+ families have moved from the Metro NY area to Waterbury. She also stressed the need for a consolidated Waterbury Transportation Center and for economic redevelopment overall.
- Michael O'Connor, COO of Waterbury Development Corporation stressed the overall importance of this project in consolidating transit services, the economic redevelopment of the City and noted that the second highest new school population consist of children coming from NY, with parents working in NY.
- COG representative, Peter Dorpalen stressed that this is an important analysis given that 20% of Waterbury households don't have vehicles. The impact on the bus providers is important with respect to destinations, length of routes, etc. He also expressed interest in how a new facility would impact vehicular traffic congestion and flow.
- Barbara Kalosky, General Manager of North East Transportation – expressed how their route scheduling would have to be revamped with relocation to a new transportation center and that level of service would thus be compromised. She also expressed concern over the design of the facility noting that they didn't want a layout which would force them to back out of the facility.

5. Closing Comments

Chet Camarata closed by thanking all who attended and by emphasizing that open communication throughout this process is critical to its success.

We believe the foregoing record to be an accurate summary of the discussion and related decisions. We would appreciate notification of exceptions or corrections to these Minutes within five (5) working days of receipt.

Without notification, we will consider these Minutes to be a record of fact.

DMJM Harris
 605 Third Avenue New York, NY 10158
 T 212.878.2300 F 212.878.3300 www.dmjmharris.com

STAKEHOLDER MEETING NOTES

Subject: Greater Waterbury Transportation Center
Public Meeting

Meeting Date: Wednesday, February 22, 2006

Meeting Place: Waterbury Development Corporation, Waterbury, CT

Meeting Time: 1:30pm

Attendees See attached attendance list

Introduction:

Peter Simmons, State Department of Economic and Community Development (DECD): Mr. Simmons made introductory remarks. He introduced DECD's consultant, DMJM Harris, Inc. and his colleague, Dimple Desai, Project Manager. He provided an overview of the meeting agenda and encouraged attendees to provide candid observations regarding the project.

Presentation:

Christine Tiernan, DMJM Harris and Chris Bell, DMJM Harris presented a Powerpoint Presentation outlining the findings to date.

Post Presentation Comments:

After the presentation, the floor was opened up for general discussion and comments as follows:

COMMENT	RESPONSE
Steven Sasala, Waterbury Regional Chamber of Commerce: Mr. Sasala noted that the DMJM Harris presentation did not include mention of the Chamber's concerns regarding impacts to Main Street commerce. In addition, he sees a "chicken and egg" situation between reciprocal economic development and transportation needs. He asked DMJM Harris to forecast future economic development and its relationship to transit demand.	Mr. Bell replied that DMJM Harris cannot forecast transit demand without a complete projection of the land use across the targeted redevelopment area.
Mr. Carl Rosa of Main Street Waterbury noted that although they were contacted by the consultant and had a good discussion, their issues were not discussed or identified during the presentation.	Ms. Tiernan replied that the subconsultant, EDR Group, had contacted Mr. Rosa, and had included information into the technical memos that are with the lead State agency, DECD. Regrettably this information was not reflected on the presentation slides. Ms. Tiernan made it clear that when the

	Final Report is issued, that information will be in there and was in fact considered in the process.
Mr. Steven Sasala, Waterbury Regional Council - acknowledged the perspective of transportation interests, as well as the business perspective in seeing the need for investment in order to generate transit ridership. Data of ridership origins and destinations shows that people are primarily coming to downtown destinations. Today no synergy exists between rail and bus nodes, but that is based on existing conditions that could change with greater investment in transportation.	Comment acknowledged
Carl Rosa: Mr. Rosa stated that 20% of the transit ridership is using the downtown green to make transfers. For 4,000 riders, downtown is their origin or destination (roughly 4 percent of the City's population of 10,000).	Mr. Bell concurred with the 20 percent statistic for rider transfers.
Steven Sasala: Mr. Sasala stated that Waterbury is close to a saturation level of retail space, and therefore does not need more retail space. Waterbury's regional mall has contributed to this condition. Mr. Sasala said that it would be "a travesty to see a 77-acre retail site" as far as the Chamber of Commerce is concerned.	Christine Tiernan responded that the proposed redevelopment would occur in phases, based on market conditions at that time. EDR's view is different from Mr. Sasala's with respect to the first redevelopment phase only. EDR findings address only the first phase (approximately 20 acres) near the rail station. Subsequent phases are more difficult to forecast and could include light industrial, office, healthcare services, etc.
Mr. Peter Dorpalen, Regional Council of Governments (COG): Mr. Dorpalen had a discussion with EDR, and suggested they talk to United Way regarding where the Social Services offices are in Waterbury.	Christine Tiernan responded that we would follow up with that.
Dennis Brady, Travel Center: Mr. Brady opined that there is no need for the proposed transit center at a central location. In his opinion, local transit riders are not looking to transfer to a train or another bus system. The Travel Center has been at its present location several years. A new transit center would adversely impact the existing bus system. Nonetheless, The Travel Center is not opposed with construction of a separate transportation center, provided that it has a shuttle bus or dedicated taxi system linking the new center with the green. Mr. Brady noted that transit riders are presently a lot closer to the Travel Center than they would be if the project were to be realized.	Mr. Bell indicated that he had spoken with the Travel Center during his study, and will incorporate information received into the final report (scheduled for late March 2006).
Michael O'Connor, Waterbury Development Corporation: Mr. O'Connor stated that Waterbury is at a crossroads, having completed several recent projects, and with other projects planned. Waterbury is in competition with other towns regionally. Businesses looking to locate will	Comment acknowledged

consider infrastructure. Most urban centers such as Norwalk, Stamford, and Phoenix, are looking for multi-modal transportation centers. If Waterbury does not look forward, it will be left behind. Mr. O'Connor understands that there would be an impact to the bus company, which needs to be addressed. The city leadership wants to "retake the green," considering a Main Street program to provide parking on the green and make travel one way around the green. Other towns have greens that are functional for uses (e.g., civic, parks, open spaces, etc.) other than bus transfers. The existing train station parking area has a crime issue. The City Police have expressed an interest in locating a substation at the proposed Transportation Center. Private retail concerns have expressed interest in locating small retail at this site. Mr. O'Connor was pleased to see that D+H concurs with Waterbury Development Corporation's preferred site location. Waterbury should look to the next redevelopment area, whether it happens in 2 or 10 years, irrespective of land use. If we do not proceed with the proposed project, Waterbury will be missing economic opportunities.

Sheila O'Malley, Chief of Staff, Mayor's Office: Ms. O'Malley stated that the Mayor sends his regrets for not being able to attend the meeting. She expressed interest in receiving information on the total cost of the next project phase. The Mayor has worked on economic development over his tenure. It is difficult to attract businesses to Waterbury; the City's mill rate (property tax) is high relative to other municipalities, and the City is losing family-wage jobs. The Transportation Center concept has proven across the country that it can draw economic activity. The proposed project is critical to economic growth in Waterbury.

Joe Spina, Northeast Transportation Mr. Spina asked where in Connecticut there may be a model where all modes of transportation flow into one center.

Comment acknowledged

At the suggestion of Mr. Bell, CTDOT's Ricardo Almeida replied to Mr. Spina's question. New Haven, Bridgeport, Stamford, and Hartford have such transportation centers. These facilities are not main attractions within their cities. It is unnecessary for all transportation modes to meet at a single location. The City of New Haven has moved its transit facilities away from its green, only to see gradual transit use and services go back to green because that is where people are. Mr. Almeida understands the economic need, but sees the need for more thought as to what will work for the City of Waterbury. The City of Bridgeport will open a transportation center in November 2006, having more integrated transportation modes and a premier facility; but it will be in the city center. The proposed Waterbury facility will be unlike

	Hartford's. Hartford has a "Circulator" transit system to connect the transportation center with common destinations.
Joe Spina, Northeast Transportation: Mr. Spina asked if the proposal is to remove all buses from the green.	Mr. Bell replied that although the green would not be pulse point, buses would still serve the green. One of the key next steps would be to determine how transit operations could be reconfigured to optimize service
A representative of Northeast Transit asked if Meadow Street is considered a high accident location. Presently one bus route passes by the proposed site. The Northeast Transit buses encounter a high frequency of accidents at the right turn of Freight Street onto Meadow Street.	Mr. Bell replied that the study found that Meadow Street would still operate at an acceptable Level of Service. However, DMJM Harris's scope did not include an accident study. Mr. Bell stated that, if project goes forward, part of the process would be to look at mitigation for high accident locations. The study's intent is to recommend the site that would perform the best, while understanding that there would be mitigation measures to be determined if the project moves ahead.
Mr. Dorpalen stated that the city is heavily transit dependent. There will be costs associated with mitigation. For example, a shuttle service has been talked about. The existing railroad parking should be improved.	Comment acknowledged
Mr. Sasala expressed frustration with the objections to the proposal expressed by others. If the Freight Street area is redeveloped, the City will need bus service there. The City's green, which he called "a gem," is not served by having buses present. The City needs to identify a win-win situation. Mr. Sasala does not see the Waterbury moving ahead without addressing this problem.	Comment acknowledged
Barbara Kalosky, NET - asked DMJM Harris if they are aware of a model (example) where this type of proposal has been successful.	Mr. Bell indicated although he could not identify a good model at that time, DMJM Harris will consider where one might exist, and include such information in the final report.
Carl Rosa, Main Street Waterbury: Mr. Rosa asked if DMJM Harris has looked at the costs of the buses staying on the green.	Mr. Bell replied that DMJM Harris did not attempt to calculate such costs and that it was not in our scope of services.

Closing Comments:

Peter Simmons, DECD: Mr. Simmons made closing remarks. DECD anticipates concluding the present process by the end of March. DECD wants to help make Waterbury the central city that it deserves to be.

Dimple Desai, DECD: Mr. Desai invited attendees to provide any additional information that might be helpful.

STAKEHOLDER MEETING ATTENDEES
(February 22, 2006 @ 1:30 pm)

<u>Name</u>	<u>Address</u>	<u>Email</u>
Carmine Trotta	CTDOT – 860.594.2134	carmine.trott@po.state.ct.us
Sam Gold	COGCNV 203.757.0535	sgold@cogcnv.org
Peter Dorpalen	COGCNV 203.757.0535	pdorpalen@cogcnv.org
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Ricardo Almeida	CTDOT 860.594.2839	ricardo.almeida@po.state.ct.us
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Joseph Spina	NET 203.753.2538	
Dennis Brady	Travel Center 203.754.4343	dbrady1500@snet.net
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Ann LaPorte	Greater Waterbury Transit District
Randy James	Republican American 203.574.3636 cjames@rep-am.com
Christine Tiernan	DMJM Harris 212.973.2906 ctiernan@dmimharris.com
Chris Bell	DMJM Harris 410.637.1716 cbell@dmimharris.com
Mark Foster	MJM Harris 203 327.0240 foster@dmimharris.com
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PUBLIC MEETING NOTES

Subject: Greater Waterbury Transportation Center
Public Meeting

Meeting Date: Wednesday, February 22, 2006

Meeting Place: Waterbury Regional Council, 83 Bank Street, Waterbury, CT

Meeting Time: 5:30 pm

Attendees: See attached sign-in sheet

Introduction:

Peter Simmons, State Department of Economic and Community Development (DECD): Mr. Simmons made introductory remarks. He introduced DECD's consultant, DMJM Harris, Inc. and his colleague, Dimple Desai, Project Manager. He provided an overview of the meeting agenda, and pointed to handouts and comment sheets that were available at the door. He encouraged attendees to provide candid observations regarding the project.

Presentation:

Christine Tiernan, DMJM Harris: - Began powerpoint presentation

Chris Bell, DMJM Harris – Continued presentation by providing an overview of DMJM Harris's findings. During Mr. Bell's discussion of the slide entitled "Results of Data Collection Efforts," several comments were interjected from attendees as follows:

COMMENT	RESPONSE
Commenter unidentified – Commuter rail Ridership level indicated on the presentation slide is not reflective of weekend levels.	Mr. Bell acknowledged that the slide indicates average weekday ridership, not weekends.
Mr. Jeffrey Berger, CT State Assemblyman – Do Danbury and other cities which have higher rail ridership also have better rail station facilities?	Mr. Bell replied in the affirmative.
Unidentified Commentor - asked whether the Connecticut Limousine statistic is also ignoring weekend ridership. Mr. Dennis Brady added that Peter Pan has 60 to 70 weekly riders on average.	Mr. Bell replied that we will check that.
Mr. Reginald Beamon, State Representative, noted that the study accepted input from various stakeholders, but the presentation does not indicate input from the Black or Puerto Rican communities. Mr. Beamon asked whether DMJM Harris has received input from low income and minority groups, which primarily support the transit system.	Mr. Bell indicated that to date no input has been received from such groups. Mr. Bell invited comment, and referred to comment sheets and handouts that were available at the door.

Christine Tiernan: <Concluded Presentation>

Post Presentation Comments:

COMMENT	RESPONSE
<p>A meeting attendee asked if big box retail was considered as a likely land use for the targeted redevelopment area.</p>	<p>Christine Tiernan replied that DMJM Harris' subconsultant Economic Development Research Group (EDR Group) considered big box retail, but did not see it as a having high potential during the initial project phase. Their analysis considered the benefit of good connection to interstate highways.</p>
<p>Michael Portanova - asked if a Phase I Environmental Site Assessment study has been performed for the 77-acre site proposed for redevelopment.</p>	<p>Ms. Tiernan replied that a Phase I study has been done, but no Phase II study, which would include testing and analyses, has been performed.</p>
<p>Joan Hartley State Senator (D-Waterbury), 15th District: Senator Hartley asked what level of due diligence has been done to conclude that retail could be a viable land use for Phase One development. Retail uses are unlikely on the site, in her view. Waterbury could be competitive for laboratory/hospital-medical technology use if the site were cleared.</p>	<p>Ms. Tiernan replied that similar comments were made at the stakeholder meeting held earlier that day. She will ask DECD if EDR Group's full report could be made available to Senator Hartley so that the Senator could fully review the report and findings.</p>
<p>Unidentified Commentor - noted that Waterbury has a low employment rate. Big box retail would offer higher wages and greater employment opportunities.</p>	<p>Comment acknowledged</p>
<p>Mr. Berger noted that Connecticut has a business incubator program for start-up enterprises, and/or for groups of related firms to achieve economic synergies.</p>	<p>Comment acknowledged</p>
<p>Senator Hartley asked if, in its public outreach effort, DMJM Harris had sought data on rail usage. Waterbury has incoming community members from larger urban areas. For example, Shakespearian Production Group brings in actors from New York City as well as audience members via the train system. Senator Hartley can provide contact information for this group. Regarding rail service, Waterbury's elected officials are working with the State of Connecticut Department of Transportation.</p>	<p>Christine Tiernan responded that DMJM Harris did not talk to the Shakespearian Company but that if given the contact information, we would. Further, in our stakeholder discussions, rail usage was discussed.</p>
<p>Mr. Jeffrey Berger - Did DMJM Harris consider the findings of the Transportation Strategy Board.</p>	<p>Ms. Tiernan replied that DMJM Harris did not include a review of Transportation Strategy Board materials.</p>
<p>Unidentified Commentor - asserted that a commuter line between Waterbury and Hartford would relieve highway traffic. Also, the city has widespread traffic and transit problems.</p>	<p>Mr. Bell indicated that these issues are outside the scope of DMJM Harris's study.</p>

Unidentified Commentor - DMJM Harris's study indicated a 20% figure for the number of rider transfers at the city green. This contrasts with a 51% figure from the Council of Governments.	Mr. Bell indicated that DMJM Harris's source was Northeast Transit fare data but that they would confirm this and resolve the discrepancy.
Unidentified Commentor - what input has DMJM Harris received from Metro North on this project.	Mr. Bell replied that the study incorporates input from the State Department of Transportation. A major next step would be to determine who would assume new operational responsibilities and who would handle ongoing costs.
Unidentified Commentor - noted that Metro North had abandoned an attractive historic building in the city. It was commentors opinion that the present low level of railroad ridership is attributable to Metro North's neglect of investment in Waterbury.	Comment acknowledged

After the comments, Ms. Tiernan noted that any additional comments or input would be appreciated by March 3, 2006.

Closing Comments:

Peter Simmons closed by thanking all who attended and by emphasizing that open communication throughout this process is critical to its success.

One-on-one discussions between the public and DECD and DMJM Harris continued for about another 45 minutes.

PUBLIC MEETING ATTENDEES
(February 22, 2006 @ 5:30 pm)

Note: if a name is not on this list, that person did not sign in on the meeting sign-in sheet

<u>Name</u>	<u>Address</u>	<u>Email</u>
Barbara Kalosky	P. O. Box 4670, Waterbury, CT 06704	BKNET6@aol.com
Debra Kinnane	164 Country Club, Waterbury, CT 06708	
Reginald Beamon, State Rep.		Reginald.beamon@cga.ct.gov
Jeffrey Berger, Assemblyman		Jeffrey.Berger@cga.ct.gov
Joan Hartley, Senator		
Avery Gaddis	Waterbury Development Corporation	
Elizabeth S. Wesson	79 Crescent Street, Waterbury, CT 06710	
Jim Sequin	235 Grand Street, Waterbury, CT 06702	jasequin.aicp@comcast.net
Raymond Curry	327 E. Main St., Waterbury, CT 06709	johnmikechris@yahoo.com
Dennis Brady	188 Bank Street, Waterbury CT	
William Dobkins	190 Birch St., Waterbury, CT 06704	
Michael Syrotchew	19 Buckingham St., Oakville, CT	hippiemidnight@yahoo.com
Gwen Canada	P.O. Box 584, Waterbury CT 06720	
Sam Gold	60 North Main Street, Waterbury, CT	sgold@cogcnv.org
Ann LaPorta	119 Store Avenue, Waterbury CT 06705	
Unidentified	67 Farrington Avenue, Waterbury, CT	

APPENDIX F

ADDITIONAL RESEARCH INITIATED
FROM PUBLIC OUTREACH

Appendix F: Additional Research Initiated from Public Outreach

As part of an effort to gain a full understanding of the potential characteristics of a consolidated transportation center, research was conducted to determine the cost and size of other transportation centers across the country. The framework used to identify potentially similar centers was to search for transportation centers located in the downtown of metropolitan areas similar in size to the Waterbury metro area. Also considered when identifying projects was the range of uses and how these corresponded to the potential uses at the proposed Waterbury transportation center. Five examples that relate to Waterbury in terms of size and uses were identified. These include centers in Laredo Texas, Knoxville Tennessee, Hershey Pennsylvania, Montpelier Vermont, and Kalamazoo Michigan. Each of these centers, as they were being developed, had the dual purpose of consolidating transit functions and acting as a stimulus for economic development. Detailed information on each of the five transportation centers can be found in Table F.1.






The research found that the Waterbury project is similar with regard to scale and cost to recent transportation center projects across the country. Land costs and the provision of parking, either on street, at grade, or in a multi-story structure were among the chief factors in cost differences. All new transportation centers included retail and office space, ticket offices, and information and/or visitor's center.

Table F.1: Transportation Centers Presently Operating in Similar-Size U.S. Cities

Detail	Laredo	Knoxville	Hershey	Montpelier	Kalamazoo
Square footage	6,900	11,000	80,000	1,250	Historic rehab of existing station
Passenger Amenities					
Restrooms	Yes	Yes	Yes	Yes	Yes
Driver Facilities.	Yes	Yes	Yes	Yes	Yes
Retail Space	Yes	Yes	Yes	Yes	Yes
Office Space	Yes	Yes	Yes	Yes	Yes
Information/Visitor Center	No	Yes	Yes	Yes	Yes
Served by Train or trolley	No	Yes	Yes	No	Yes
Served by Intercity bus	Yes	Yes	Yes	Yes	Yes
# of Bus bays	26	22	N/A	7	15
# of parking spaces	419	On street	601	62	On street
Total Capital Cost	\$12,600,000	\$15,000,000	\$15,000,000	\$6,130,000	\$13,000,000

Table F.2 contains information about the transportation operations at facilities in other cities within Connecticut. In these instances, the facilities have a wide range of functions and modal users. Data presented in Table F.2 includes the location or locations for the center of operations; provider operating at the center(s); amenities offered at the center(s); whether transit operations are centered on the green; and census information relating to transit dependant populations and people who use transit.

Table F... Transportation Operations within Other Connecticut Municipalities

Hartford	Stamford	New Haven	Bridgeport	Danbury
				
<p>Address: <i>Union Station</i> One Union Place Hartford, CT 06103</p>	<p><i>Railroad Station/Transportation Center:</i> 30 Station Place (South State Street & 490 Washington Boulevard) Stamford, CT, 06902</p>	<p><i>State Street Station</i> 259 State Street New Haven, CT 06519 <i>Union Station</i> 50 Union Avenue Hew Haven, CT 06519</p>	<p><i>Intermodal Center (above)</i> Metro-North Station 525 Water Street Bridgeport <i>Bus Terminal</i> is located adjacent to the train station at 38 John Street</p>	<p><i>Danbury Train Station</i> 1 Patriot Drive Danbury, CT 06810 <i>Bus Terminal</i> 62 Federal Road Danbury, CT 06810</p>
<p>Comment(s): Union Station was constructed in the late 1800's and restored in 1987.</p>	<p>The new station started operations in 2003.</p>	<p>State Street Station is new Union Station was constructed in 1918 and rehabilitated in the early 1980's</p>	<p>Bridgeport Intermodal Center is presently schedule for operations in 2006. It would incorporate transportation providers listed below and Long Island Ferry (presently located two blocks from train station.)</p>	<p>The present train station is located one block from the old train station. The bus terminal is located approximately two miles from train station.</p>
<p>Transportation Providers: Amtrak, Bonanza Bus, CT Transit, Greyhound, Connecticut Limousine, Peter Pan Bus</p>	<p>Amtrak, Metro-North, CT Transit, Greyhound, Peter Pan Bus, taxi</p>	<p><i>State Street Station:</i> Amtrak (route Shoreline East), Metro-North, CT Transit (Route CC and 7 other routes stopping nearby) <i>Union Station:</i> Amtrak, Metro-North, Greyhound, CT Transit (Route J), Shuttle bus service from State Street Station (a.m.) to downtown and to Union Station (p.m.)</p>	<p><i>Train Station:</i> Amtrak, MTA Metro North <i>Bus Terminal:</i> Bridgeport local bus, Greyhound, Peter Pan Bus proposed for new intermodal center</p>	<p><i>Train Station:</i> MTA Metro-North, taxi, connecting service to HART Bus Terminal: local bus (HART), commuter shuttle, trolley, Bonanza Bus (Adjacent to bus terminal)</p>
<p>Amenities: Conference Center, waiting room, restroom, pay phone, ATM</p>	<p>Ticket machine, ticket office, waiting room, restroom, pay phone, ATM</p>	<p><i>State Street:</i> Ticket Machine <i>Union Station:</i> Waiting room, restroom, pay phone, ATM</p>	<p><i>Train Station:</i> Enclosed waiting room, pay phones, restrooms</p>	<p><i>Train Station:</i> No staff. Ticket machines.</p>
<p>Transit on the Green: Buses stop around downtown squares.</p>	<p>No City Green.</p>	<p>All but one of the bus routes stop at the New Haven Green.</p>	<p>Local buses does not use city green for transit stops.</p>	<p>No City Green.</p>
<p>City Population: 121,578</p>	<p>117,083</p>	<p>123,626</p>	<p>139,529</p>	<p>74,848</p>
<p>TDP of City: 36%</p>	<p>10%</p>	<p>30%</p>	<p>24%</p>	<p>8%</p>
<p>TDP ¼-mile radius: 24%</p>	<p>38%</p>	<p>58% (Union Station)</p>	<p>63%</p>	<p>18% (Train Station)</p>
<p>PUT ¼-mile radius: 10%</p>	<p>16%</p>	<p>23% (Union Station)</p>	<p>19%</p>	<p>5% (Train Station)</p>

TDP = Transit Dependant Population PUT = Population Using Transit

