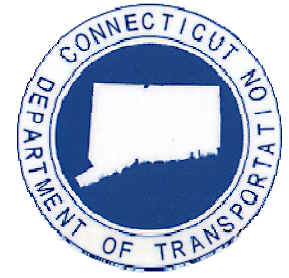
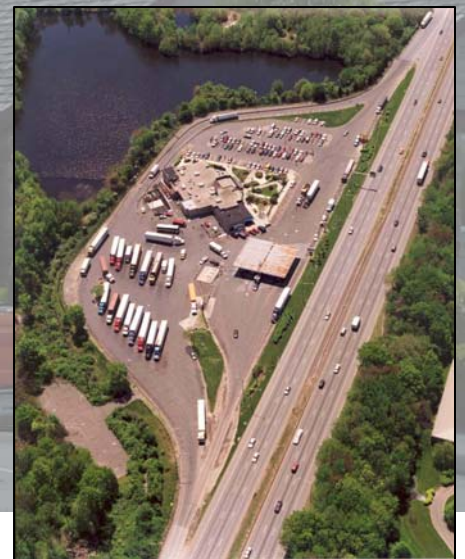
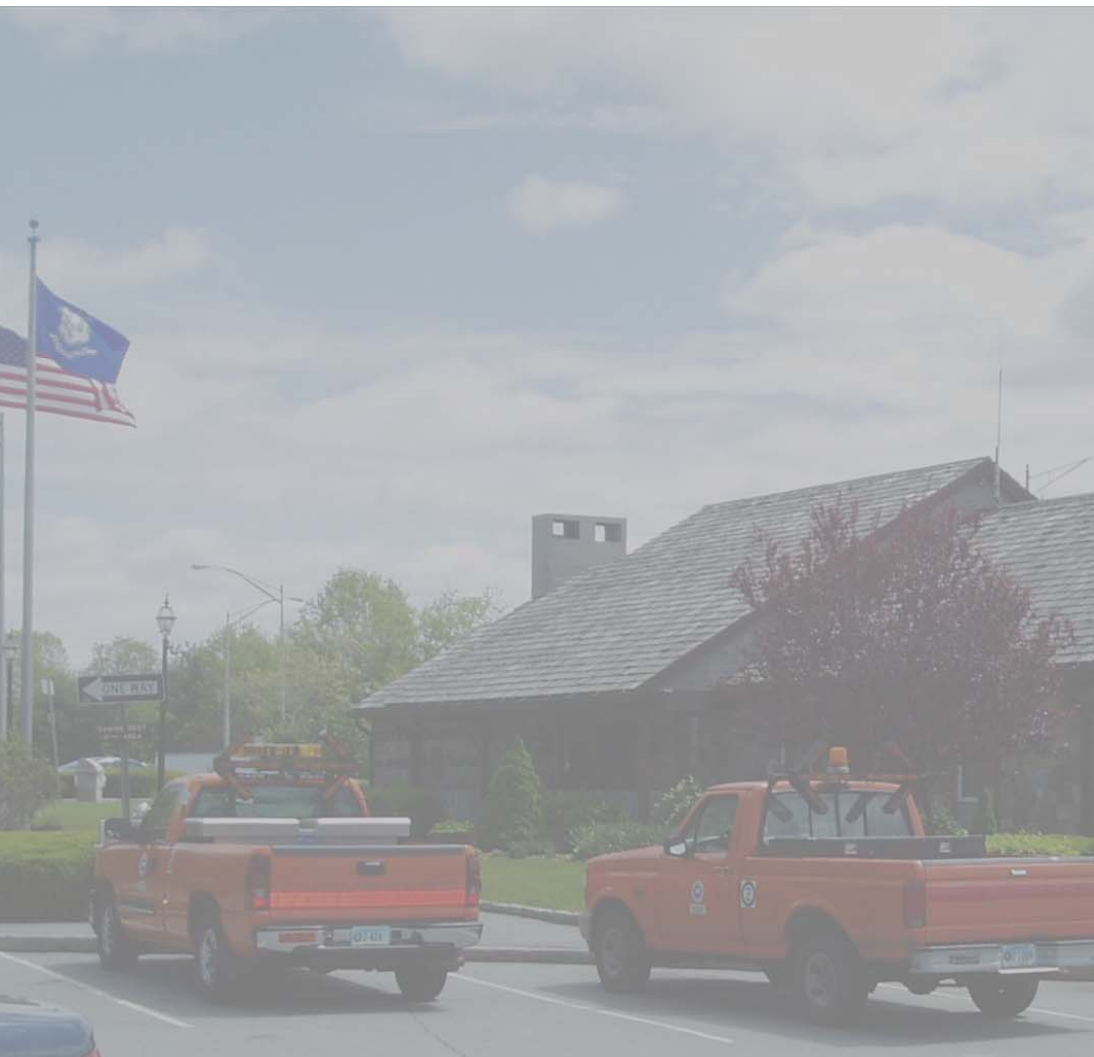


CT Statewide Rest Area and Service Plaza Study CONN DOT Project No. 170-2533



VOLUME I – ADMINISTRATIVE REPORT –
RECOMMENDED IMPROVEMENT PROGRAM
September 2008



PREPARED FOR:
Connecticut Department of
Transportation

PREPARED BY:





VOLUME I – ADMINISTRATIVE REPORT

TABLE OF CONTENTS

1.0	STUDY PURPOSE, BACKGROUND AND SCOPE	1-1
1.1	Introduction	1-1
1.2	Study Purpose	1-1
1.3	Background	1-3
1.4	Study Scope	1-3
	1.4.1 Data Collection	1-3
	1.4.2 Analysis	1-5
	1.4.3 Methodology	1-5
	1.4.4 Recommendations	1-6
	1.4.5 Coordination with Agencies and Stakeholders	1-6
2.0	VISION AND GUIDING PRINCIPLES	2-1
2.1	Vision	2-1
2.2	Guiding Principles	2-1
3.0	CONNECTICUT’S ROADSIDE TRAVELER FACILITIES	3-1
3.1	Existing Traffic and Parking Conditions	3-1
	3.1.1 Facility Descriptions	3-1
	3.1.2 Traveler Facilities & Amenities	3-2
	3.1.3 Existing Traffic Volumes	3-4
	3.1.4 Corridor Traffic Volumes and Characteristics	3-8
	3.1.5 Person Trips	3-13
	3.1.6 Existing Parking Needs	3-13
	3.1.7 User Survey	3-16
3.2	Future Traffic Conditions	3-28
	3.2.1 Traffic Volume Projections	3-28
	3.2.2 Parking Demand Projections	3-28
3.3	Environmental Site Assessments	3-33
	3.3.1 Environmental Data Collection	3-33
	3.3.2 Environmental Findings	3-34
	3.3.3 Environmental Recommendations	3-35
4.0	BENCHMARKING ROADSIDE FACILITIES IN OTHER STATES	4-1
4.1	Introduction	4-1
4.2	Benchmarking Goals and Objectives	4-1
4.3	Approach and Methodology	4-2
4.4	Benchmarking Results – Rest Areas	4-2
	4.4.1 Rest Area Parking	4-3
	4.4.2 Rest Area Facilities	4-5
	4.4.3 Rest Area Restrooms	4-6
	4.4.4 Rest Area Information Facilities and Buildings	4-6
	4.4.5 Rest Area Common Elements	4-7
	4.4.6 Rest Area Vending and Concession Facilities	4-7
	4.4.7 Rest Area Operations and Maintenance	4-7
	4.4.8 Roadside Facility Safety and Security	4-7
4.5	Benchmarking Results – Service Plazas	4-8
	4.5.1 Service Plazas in Neighboring States	4-8
	4.5.2 Connecticut Service Plaza Experience	4-11
4.6	Benchmarking Results – Welcome Centers	4-13
	4.6.1 Welcome Center Design and Services	4-14
	4.6.2 Welcome Center Operational Characteristics	4-16
	4.6.3 Comparison of Connecticut’s Welcome Centers to Centers in Other States	4-17
4.7	Benchmarking Summary	4-18



5.0	ISSUES, NEEDS AND STRATEGIES	5-1
5.1	Regional Overview	5-1
5.2	Neighboring States Comparison	5-1
5.3	Where Are We Now? A Summary of Issues	5-2
5.3.1	Truck Parking Deficits	5-3
5.3.2	Aging, Functionally Obsolete Facilities	5-3
5.3.3	Undersized Facilities	5-4
5.3.4	Governance	5-4
5.3.5	Federal Restrictions	5-4
5.3.6	Opportunity to Enhance Tourism and Capture Additional Revenue	5-5
5.3.7	Gaps in Service	5-5
5.3.8	Where Do We Want to Be? A Summary of Identified Needs	5-6
5.4	How Do We Get There? A Summary of Recommended Improvement Strategies	5-6
6.0	FACILITY RECOMMENDATIONS	6-1
6.1	Recommendations	6-1
6.2	Facility Variables	6-1
6.3	Site Programming	6-3
6.3.1	The Basis for Site Programming	6-3
6.3.2	Site Parking Requirements	6-3
6.3.3	Building Components	6-6
6.3.4	Building Prototypes	6-6
6.4	Site Programming for Traveler Services	6-7
6.5	Architectural Image	6-10
6.5.1	Existing Architectural Conditions	6-10
6.5.2	Architectural Recommendations	6-10
7.0	OPPORTUNITIES FOR ENHANCED SERVICE, QUALITY AND REVENUES	7-1
7.1	Background	7-1
7.2	Opportunities for Enhanced Quality	7-1
7.2.1	Facility Opportunities	7-1
7.2.2	Opportunities for Improved Safety	7-3
7.2.3	Tourism Opportunities	7-3
7.3	Opportunities for Enhanced Revenue	7-4
7.3.1	Enhanced Direct Revenue	7-5
7.3.2	Enhanced Indirect Revenue	7-6
7.4	The Need for Action	7-6
7.5	Governance Opportunities	7-6

LIST OF TABLES

Table 3-1	Existing Traveler Facilities Summary	3-3
Table 3-2	Existing (2004/2005) Mainline Highway Traffic Volume Summary	3-5
Table 3-3	2005 Entering Vehicles Summary	3-7
Table 3-4	2005 Hourly Peak Auto Capture Rate Summary	3-10
Table 3-5	Existing (2005) Auto and Truck Parking	3-15
Table 3-6	Survey Locations and Percent Responses	3-17
Table 3-7	Age of Respondents	3-19
Table 3-8	Gender of Respondents	3-19
Table 3-9	Origins and Destination of Travelers	3-19



Table 3-10	Vehicle Type	3-20
Table 3-11	Frequency of Visits by Location	3-20
Table 3-12	Trip Purpose	3-21
Table 3-13	Reasons for Stopping by Location	3-21
Table 3-14	Money Spent by Facility Location (Including Fuel)	3-22
Table 3-15	Money Spent by Facility Type (Including Fuel)	3-23
Table 3-16	Mainline Traffic Volumes: Projected to 2025	3-29
Table 3-17	Auto and Truck Parking Summary: Projected to 2025	3-31
Table 3-18	Environmental Database Summary	3-34
Table 3-19	Recognized Environmental Conditions in Connecticut Public Travel Service Areas	3-36
Table 4-1	Connecticut Service Plaza 2003 Sales and Lessee Revenue	4-11
Table 4-2	Supportable Sales and Square Footage of New Service Plazas	4-12
Table 4-3	Connecticut Estimated Gross Receipts Summary	4-13
Table 4-4	Neighboring States Welcome Center Comparison	4-14
Table 6-1	Traffic and Visitor Volume Data	6-4
Table 6-2	Proposed Parking Summary	6-5
Table 6-3	Building Program Summary	6-9
Table 7-1	Service Plaza Revenue Comparison (2005)	7-4

LIST OF FIGURES

Figure 1-1	Roadside Facilities in Connecticut	1-2
Figure 3-1	Existing (2004/2005) Average Daily Traffic Volumes	3-6
Figure 3-2	2006 Weekday (Friday) Peak Hour Entering Vehicles and Capture Rates	3-9
Figure 3-3	Sample Survey Card Handed Out During User Survey	3-18
Figure 3-4	Additional Key Services Desired by Location	3-24
Figure 3-5	Evaluation of Services – All Respondents	3-24
Figure 3-6	Most Desired Improvement – General Categories	3-26
Figure 3-7	Most Desired Improvement – Specific Categories	3-26
Figure 3-8	Overall Comments – General Categories	3-27
Figure 3-9	Overall Comments – Specific Categories	3-27
Figure 3-10	Future 2025 Average Annual Daily Traffic (AADT) Volumes	3-30
Figure 3-11	Future Year 2025 Truck/Auto Parking Surplus/Deficits Greater than 50	3-32
Figure 4-1	Number of Rest Areas in Northeast States	4-3
Figure 4-2	Average Rest Area Parking by New England State)	4-4
Figure 4-3	Maximum Rest Area Parking by Representative New England State Locations	4-4
Figure 4-4	Annual Vehicle Volume Entering versus Parking Capacity at Representative New England Locations	4-5



Figure 4-5	Rest Area Programmatic Elements – New England States	4-6
Figure 4-6	Welcome Centers AADT versus Square Footage	4-17
Figure 6-1	Overall System Recommendations	6-2
Figure 6-2	Proposed Architectural Approach	6-11
Figure 7-1	Summary of Revenue Opportunities	7-6

VOLUME II – INDIVIDUAL SITE REPORTS
(UNDER A SEPARATE COVER)

VOLUME III – APPENDICES
(UNDER A SEPARATE COVER)

APPENDIX A	Traffic and Parking Data and Technical Memos
APPENDIX B	User Survey Analysis and Results and Technical Memorandum
APPENDIX C	Benchmarking Study
APPENDIX D	Steering and Advisory Committee, Focus Group, and Coordination Meeting Minutes; Public Information Meeting Summary Comment Matrix
APPENDIX E	Demand, Programming and Revenue Generation Analysis



ACKNOWLEDGEMENTS

The Study Team wishes to acknowledge the efforts of those who participated on the ConnDOT Steering Committee (see below), Advisory Committee (next page), Rest Area /Service Plaza Facility managers, User Survey participants, Focus Group members, Public Information Meeting attendees, those who commented via the study website, and members of the traveling public who took the time to provide the Study Team with valuable information, insight and opinions.

Steering Committee:	
Michael Chong	FHWA - Connecticut
Richard Corona, Planning	Connecticut Department of Transportation
Andrew H. Davis, Transportation Planner, Intermodal Planning	Connecticut Department of Transportation
Steve Degan, Right of Way	Connecticut Department of Transportation
Stephen V. Delpapa, Transportation Supervising Planner, Environmental Planning	Connecticut Department of Transportation
Thomas H. Doyle, Transportation Planner II, Environmental Planning	Connecticut Department of Transportation
John Formosa	FHWA
Jeffrey T. Harper, Concessions Supervisor, Division of Property and Facilities Services	Connecticut Department of Transportation
Cynthia S. Holden, Transp. Assist. Planning Director, Environmental Planning	Connecticut Department of Transportation
Edgar T. Hurle, Transportation Planning Director, Bureau of Policy & Planning	Connecticut Department of Transportation
Michael L. Marzi, Right of Way Project Coordination	Connecticut Department of Transportation
James C. Morrin, Transportation Supervising Planner, Intermodal Planning	Connecticut Department of Transportation
Russ Morin, Transportation Planner II, Maintenance	Connecticut Department of Transportation
Jason Newman	FHWA
Philip E. Parcak, Transp. Principal Engineer, Division of Property and Facilities Services	Connecticut Department of Transportation
Eloise Powell	FHWA
Patrick F. Rodgers, Office of Maintenance	Connecticut Department of Transportation
Daniel J. Smachetti, Director of Property and Facilities Services	Connecticut Department of Transportation
Michael Strong, Facilities Design	Connecticut Department of Transportation
John W. Waleszczyk, Transp. Supervising Engineer, Facilities Design	Connecticut Department of Transportation
Denise A. Young, Transp. Engineer III, Environmental Compliance	Connecticut Department of Transportation



Advisory Committee:	
Hon. Noel Bishop, First Selectman	Town of Westbrook
Anthony Bondi, First Selectman	Town of Haddam
Hon. Mark D. Boughton, Mayor	City of Danbury
Rosemary Bove	CT Commission on Culture and Tourism
Johnathan Chew, Executive Director	Housatonic Valley Council of Elected Officials
Sergeant Chiappetta, Department of Public Safety	Connecticut State Police
Hon. Kevin M. Cunningham, First Selectman	Town of Plainfield
Stephen Delpapa	Connecticut Department of Transportation
Peter Dorpalen, Executive Director	Council of Governments of the Central Naugatuck Valley
Hon. Michael L. Eldredge, First Selectman	Town of Willington
John Filchak, Executive Director	Northeastern CT Council of Governments
Hon. Kenneth A. Flatto, First Selectman	Town of Fairfield
Robert Genuario, Secretary	Connecticut Office of Policy and Management
George Giguere	Willington Travel Centers of America
Jose Giner, Planning Director	Town of Enfield
Hon. Sebastian N. Giuliano, Mayor	City of Middletown
Judy Gott, Executive Director	South Central Regional Council of Governments
Robert Gregory, Director of Economic & Community Dev't	City of Milford
S. Richard Guggenheim	Southeastern CT Council of Governments
Robert Haramut	Midstate Regional Planning Agency
Don Hess	Travel Centers of America
Cynthia Holden, Transportation Assistant Planning Director	Connecticut Department of Transportation
Edgar Hurle, Transportation Planning Director	Connecticut Department of Transportation
Hon. Joseph W. Jaskiewicz, Mayor	Town of Montville
Hon. Evonne M. Klein, First Selectwoman	Town of Darien
Kevin J. Kopetz, First Selectman	Town of North Haven
Linda Krause, Executive Director	CT River Estuary Regional Planning Agency
Hon. James A. Lash, First Selectman	Town of Greenwich
Tiger Mann	Town of New Canaan
Sergeant Dennis Maurice	State of Connecticut Department of Motor Vehicles
Henry McCully	Town of Wallingford
James Morrin	Connecticut Department of Transportation
Hon. Cheryl Morris, First Selectman	Town of Branford
Jason Newman	Federal Highway Administration
Hon. Nicholas H. Mullane II, First Selectman	Town of North Stonington
Mark Nielsen	Greater Bridgeport Regional Planning Agency
Frank Noto, Vice President	Connecticut Motor Club, AAA
Edward Owens	Board of Education and Services for the Blind
Mark Paquette, Executive Director	Windham Region Council of Governments
Philip Parcak	Connecticut Department of Transportation
Chief Murray Pendleton	Waterford Police Department
Susan Prosi, Senior Transportation Planner	South Western Regional Planning Agency
Hon. James Richetelli, Mayor	City of Milford
Frederick Riese	State of Connecticut Department of Environmental Protection
Michael Riley, President	Motor Transport Association of Connecticut
Patrick Rodgers	Connecticut Department of Transportation
Hon. Herbert Rosenthal, First Selectman	Town of Newtown
Hon. Thomas S. Scarpati, First Selectman	Town of Madison
First Selectman ¹	Town of Westbrook
Daniel Smachetti	Connecticut Department of Transportation
Carl Stephani, Executive Director	Central Connecticut Regional Planning Agency
John Waleszczyk	Connecticut Department of Transportation
John Weichsel, Town Manager	Town of Southington
Hon. James Zeoli, First Selectman	Town of Orange
Lt. David Aflalo, Commanding Officer, Traffic Services Unit	Connecticut State Police



1.0 STUDY PURPOSE, BACKGROUND AND SCOPE

1.1 Introduction

This final report of the Connecticut Statewide Rest Area and Service Plaza Study (Volume I) summarizes the results of a two-year study of Connecticut's roadside traveler facilities (rest areas, service plazas and welcome centers). Individual site reports for the 31 existing locations are provided in Volume II. Meeting minutes and Technical Memoranda produced during the course of this study are provided in the Appendix (Volume III). The study was conducted from the summer of 2005 through the fall of 2007. The Connecticut Department of Transportation (ConnDOT) commissioned the study to set a future course for the improvement of Connecticut's roadside traveler facilities to meet the needs of travelers through the study target year of 2025.

The original impetus for this study was a recognized and severe truck parking shortage on highways in Connecticut. Another factor was the proposed (at the time) legislation that would allow a one-time increase in the number of commercial plazas. This study evaluates the overall statewide program of traveler facilities in Connecticut, identifying issues to be addressed. In addition to truck parking issues, the study considered safety and security, site circulation, facility amenities, service to the public, environmental issues, overall quality and image, and revenue generation/financing. This report and the accompanying Volume II recommend both programmatic and specific improvements to Connecticut's existing system and facilities.

The following chapters are provided in this Volume I report:

1. Study Purpose, Background, and Scope;
2. Vision and Guiding Principles;
3. Connecticut's Roadside Traveler Facilities;
4. Benchmarking Roadside Facilities in Other States;
5. Issues, Needs, and Strategies;
6. Facility Recommendations; and
7. Opportunities for Enhanced Quality and Revenues.



Example of inadequate truck parking along I-395 in Plainfield

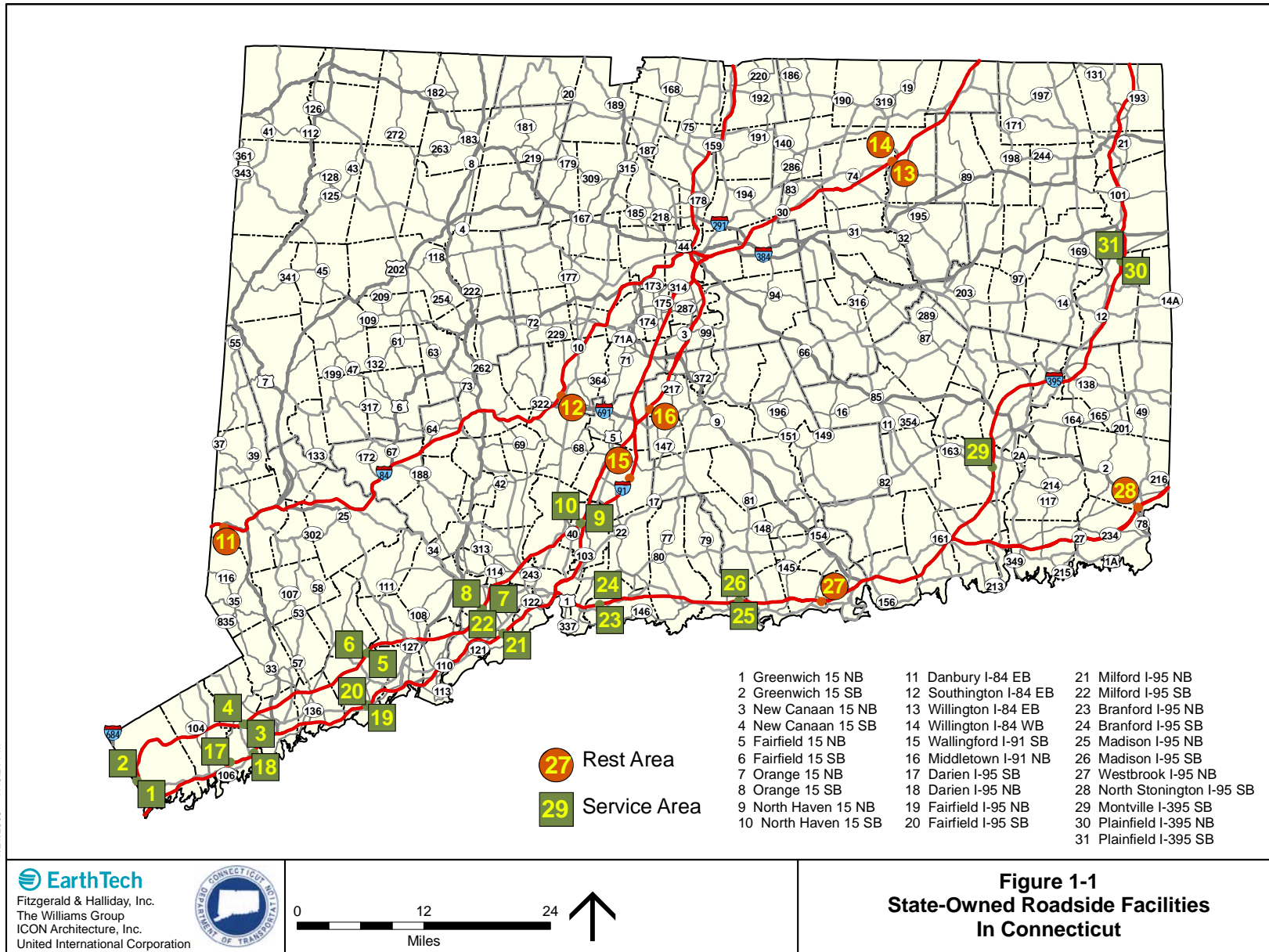
This *Connecticut Statewide Rest Area and Service Plaza Study* proposes a statewide plan, consisting of a series of recommended strategies and specific actions for the Connecticut Department of Transportation to consider. In addition, improvement concepts have been developed for each of the 31 existing rest area and service plaza locations, plus layouts for eight new locations to fill existing geographic gaps in service.

1.2 Study Purpose

Figure 1-1 shows the location of all 31 existing state-owned roadside public traveler facilities in the state. In 2001, ConnDOT completed a *Truck Stop and Rest Area Parking Study*. ConnDOT undertook this broad-range analysis of the state's roadside traveler facilities in response to the Federal Highway Administration's (FHWA) initiative to encourage states to develop programs to address this issue. The Department determined from this internal study that in 2001 the state lacked as many as 1,200 truck parking spaces every night, leading to highway safety and operational issues resulting from illegal truck parking.



Figure 1-1 State-Owned Roadside Facilities in Connecticut



Map Document: (M:\work\CTDOT_RestAreas\locationmap.mxd)
7/21/2005 -- 1:49:24 PM

Figure 1-1
State-Owned Roadside Facilities
In Connecticut



The goal of this planning study for the overhaul of Connecticut’s rest area and service plaza system was defined from the onset as a two-fold mission. First, the study was to develop a comprehensive statewide program for the improvement of traveler facilities, including an assessment of existing facilities, a determination of statewide needs, and the development of a series of recommended strategies to meet those needs. Second, the study was to generate actual improvement concepts for all 31 of Connecticut’s existing state-owned traveler facilities, as well as concepts for several potential new facilities as needed. The further charge given to the Study Team was that extensive input be sought to help guide the study outcome, both from within ConnDOT and from many other sources, including other state agencies, regional planning agencies, relevant municipalities, private sector stakeholders, and the public.

The Department is working to address truck parking at its facilities statewide. It is noted that since this study was initiated, the Department has taken steps to improve service plazas and truck parking at state-owned highway facilities by pursuing a Request for Proposal to address existing service plaza locations, and by submitting a Truck Parking Initiative Grant application to expand truck parking by 52 spaces at the Danbury (I-84 eastbound) and Wallingford (I-91 southbound) rest areas.

1.3 Background

In the 1930s and 1940s, Connecticut’s first service plaza locations were constructed on the Merritt and Wilbur Cross Parkways. These service plazas were designed for the auto-only parkway system. In the 1950s, service plaza locations were also built on the Greenwich-Killingly Expressway, later known as the Connecticut Turnpike and I-95. These facilities were, from their inception, larger than those on the Merritt Parkway and were designed to accommodate higher volumes of general traffic and trucks. The rest areas along I-84 and I-91 were built in conjunction with the construction of these highways between 1940 and 1969.



Service plaza along Merritt Parkway (Route 15)

Today, all of the state’s rest areas and service plazas fall under the jurisdiction of, and are operated by, the Connecticut Department of Transportation. While the service facilities on Connecticut’s highways were once adequate to accommodate travelers’ needs, they are no longer capable of accommodating the increased volumes and providing the expanded services required by the traveling public.

1.4 Study Scope

The study process involved extensive data collection, projections of future traveler demand along state highways and at individual traveler facilities, development of recommendations, and coordination among agencies and stakeholders. Data and findings are provided in technical memoranda in the Appendix (Volume III) and on the study website (www.ctrestareas.org).

1.4.1 Data Collection

Data collection efforts included gathering traffic counts, parking counts, a facility users’ survey, and benchmarking neighboring and “leader” states. These data collection efforts are described below.



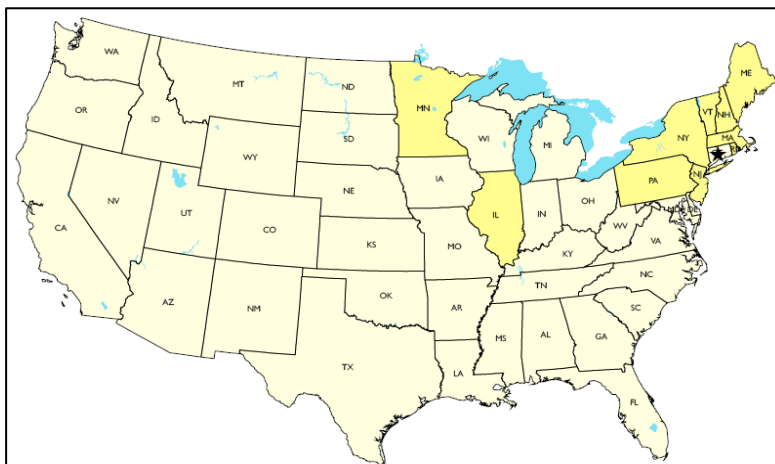
State-of-the art traffic count trailer



- **Traffic Data Collection Program.** The latest technology was used to count vehicles entering and bypassing Connecticut’s rest areas and service plazas. Radar-sensing equipment with the ability to distinguish between cars and trucks was utilized to provide vehicle counts by vehicle type. The traffic count program was instrumental in confirming daily demand, peak periods of facility usage, and “capture rates.” Capture rates indicate the percentage of people driving by a rest area or service plaza who actually stop at that facility. Vehicle occupancy surveys were also conducted. Traffic data is summarized in Chapter 3 and provided in Appendix A of Volume III.
- **Parking Counts and Observations at all Existing Facilities.** To identify auto and truck parking shortages at Connecticut’s rest areas and service plazas, parking counts were conducted at all of the state’s roadside facilities. Truck deficits were found in many locations, particularly along I-95 in southwestern Connecticut, and along I-84 west of Hartford. Automobile parking shortfalls were less pronounced, but were also observed, along Route 15 and I-84. Parking data is summarized in Chapter 3 and provided in Appendix A of Volume III.
- **Facility Users’ Survey.** A survey effort, undertaken in the summer of 2005, was designed to reach out to visitors at Connecticut’s roadside facilities to find out who is stopping, why they are stopping, their trip origins and destinations, and how well the existing facilities meet their needs. Facility users were also asked a variety of other questions, such as what additional services or amenities are needed at the facilities to improve their overall traveling experience. The survey was conducted at 10 of Connecticut’s roadside facilities, including at least one location on each of the state’s interstates, as well as Route 15. The surveys were conducted at varied times of day, on weekends and on weekdays, and reached over 1,500 visitors. Two key messages articulated by visitors were the need for better restroom facilities and more food choices. Visitor survey results are summarized in Chapter 3 and provided in Appendix B of Volume III.

- **Benchmarking Process to Identify Best Practices from Neighbor States and Traveler Facility “Leader States”.**

This key initiative of the study involved investigating facilities and operational policies in other states, such as Connecticut’s seven northeast neighbor states (Massachusetts, Rhode Island, New York, New Jersey, New Hampshire, Vermont, and Maine). Leaders in the provision of roadside traveler services, such as Pennsylvania, Illinois, and Minnesota, were also identified and included in this benchmarking process (Pennsylvania is a leading state in terms of its provision of welcome centers; Illinois is a leader in design and innovative financing; Minnesota is a leader in developing a multi-class system of traveler facilities). How these states develop and operate their facilities was studied, and the information assembled was used to help develop strategies and design concepts for Connecticut’s system of rest areas, service plazas, and welcome centers. The benchmarking efforts and results are summarized in Chapter 4 and discussed in further detail in Appendix C of Volume III.



Benchmarking States are highlighted in dark yellow



1.4.2 Analysis

This study included analyses for parking; traveler facility usage; and existing and potential revenues. These analyses are summarized below.

- **Truck and Automobile Parking.** Collected data, Connecticut DOT traffic volume projections, and Federal Highway Administration (FHWA) model methodology were used to project parking shortfalls for both trucks and automobiles through year 2025. A truck parking deficit of over 2,000 spaces is projected to result by year 2025 under a “do-nothing” scenario. Deficits are most pronounced in southwestern Connecticut along I-95 and on I-84 west of Hartford. In addition to existing locations with truck parking shortfalls, another problem is gaps in service (ie., long stretches of highway with no roadside traveler facilities). Examples include Route 9, Route 2, and I-91 between Hartford and the Massachusetts state line. Automobile parking deficits, although not as pronounced, were also projected, particularly in the southwestern and western parts of the state and along I-91 north of Hartford.
- **Analysis of Connecticut’s Tourism Industry vis-a-vis Traveler Facility Usage.** Connecticut’s tourism industry is the fastest growing sector of the state’s economy.¹ Tourism services at the state’s rest areas and service plazas can be increased to entice visitors to make other stops in the state, contributing overall benefit to Connecticut’s economy. This component of the study examined ways to improve the provision of traveler and tourism services and amenities.
- **Analysis of Existing and Potential Revenues.** As part of the benchmarking process, the Study Team concluded that Connecticut may be missing an opportunity to derive more revenue from its system of service plazas. Connecticut’s facilities were compared to neighbor and leader states in terms of average sales per location, sales per square foot, revenue to the state, and other factors. The analysis concluded that Connecticut roadside traveler facilities have an opportunity to capture additional untapped potential revenue.

1.4.3 Methodology for Concept Development

The Study Team developed a list of specific criteria to be used to inform and help determine the appropriate recommendations for new facilities. This methodology combines quantitative information (e.g., traffic volume projections) along with more subjective data (e.g., user survey preferences) to define the characteristics of a proposed facility for each location.

The following criteria were considered for each existing or new site:

1. Type of facility (service plaza or rest area);
2. Existing and projected traffic volumes;
3. Existing and projected capture rate (number of travelers stopping);
4. Increased revenue potential;
5. Physical site opportunities/constraints;
6. Potential traveler services (e.g., welcome center, retail, etc.); and
7. Synergies with adjacent facilities.

As a first step in establishing site specific recommendations, facility requirements were programmed. Since building size, number of parking spaces, and the level of traveler services provided may be considered a function of the number of potential visitors to a given site, the study focused on the number (or volume) of projected visitors at each location. The number of future visitors has been calculated using Average Annual Daily Traffic (AADT) data along the highways projected to the year 2025. The

¹ Source: Connecticut Center for Economic Analysis (CCEA) 2001 Economic Impact of Connecticut’s Tourism and Travel Industry, May 2003.



recommended size of the buildings themselves is also derived from the peak hour visitor volume: more active rest areas and service plazas warrant larger facilities.

1.4.4 Recommendations

As a practical matter, the statewide system should not consist of over 30 unique facilities, each with its own size and layout. Accordingly, four standard retail “building blocks” were established (2,000 GSF, 8,000 GSF, 15,000 GSF and 20,000 GSF) to cover the range of requirements for the particular sites. Building block modules were developed for the “comfort” and “welcome center” components. These modules have been combined into a limited number of prototypes which can then be adapted to the individual sites under consideration.

Based on best practices in the leader states, the study team developed the following list of basic traveler services and amenities that should be considered as part of the building and site programming.

- Fuel Sales
- Rest Rooms
- Family Rest Room
- Convenience Store
- Retail
- Restaurant(s)
- Vending Machines
- Recreation
- Car/Truck Parking
- Pet Walking Area
- Picnic Tables
- Benches
- Emergency Services
- Traveler Information (manned)
- Traveler Information (kiosk only)
- Trucker Services/Real Time Trucker Info
- ATM
- Truck Weigh Station
- Pay Phones
- Water Fountains
- Cart Vendors
- Alternative Fuels
- RV Sanitary Dump
- Wireless Internet

The individual site reports (Volume II) indicate existing and proposed amenities for each site considered.

Like most of New England, Connecticut contains a number of architectural styles, from modern buildings in its cities, to colonial buildings in historic areas, stone farmhouses in rural areas, and seaside cottages along the coast. Accordingly, it is difficult to define a single architectural style unique to Connecticut or one that defines the state. The study recommends an approach that builds from the prototypes as described above and acknowledges the differences of scale and setting of individual locations. Architectural recommendations recognize the following:

- The system benefits from continuity for both image and operations. A palette of materials, colors, signage, landscape, etc. that applies to all rest area and service plaza facilities should be established.
- A tripartite architectural approach can be used to consider: traditional smaller rest areas; contemporary standard service plazas; and contemporary over-the-highway service plazas.
- The service plazas with convenience stores along Route 15 are different than service plazas on the interstates. These locations will continue to be small convenience stores with no food service provided.
- Welcome centers are rooted in their geographic region of the state but can be unified in presenting the Connecticut “brand.”

1.4.5 Coordination with Agencies, Stakeholders and Public

The Study Team included project consultants from Earth Tech, Inc., Fitzgerald & Halliday, Inc., The Williams Group, LLC, United International Corporation, and ICON Architecture, Inc. The study was guided from the beginning by a wide-ranging and extensive level of input from various sources. Outreach efforts included the following:

- An in-house DOT Steering Committee, representing the various interests of the Department and FHWA;



- The formation of a study Advisory Committee with broad representation from across the state and from both public and private sectors;
- Individual coordination meetings with relevant municipalities and regional planning agencies where facilities exist now, or are proposed for the future;
- Focus groups convened to gain input from the trucking and tourism industries and the general traveling public;
- A survey of the opinions of the traveling public via a user survey administered at a sampling of 10 existing traveler facility locations during the summer of 2005;
- Public information meetings held to both inform the public about the study process and results and to obtain input on the preliminary recommendations;
- Newsletters with periodic updates on study progress distributed electronically to a large group of stakeholders and interested parties;
- A two-way website (www.ctrestareas.org), where people could learn about the study, submit comments, and request to be added to the study mailing list; all website comments were responded to and tabulated regularly; and
- Posters with Study Team contact information and the website URL displayed at each roadside facility to encourage public involvement.

Steering Committee

The study Steering Committee (SC) comprised of Department engineers, planners, and administration met almost monthly during active project periods (a total of 12 meetings) to provide guidance and technical expertise to the Study Team. The SC was instrumental in defining the study's vision statement, developing the study's guiding principles, discussing the data collected by the Study Team, commenting on the initial strategies and alternatives, and reviewing and refining study recommendations. The Steering Committee also provided ConnDOT's perspective on important policy and governance considerations. Reports from each of the SC meetings are available on the study website and in Appendix D of Volume III.

Advisory Committee

A study Advisory Committee (AC) was convened and met periodically throughout the course of the study. A total of five meetings were held. These meetings served as opportunities for AC members to learn of the study mission and progress, and to provide input. The AC was comprised of representatives of relevant regions and municipalities, other state agencies, the FHWA, and various private sector stakeholders. The AC helped define the study's vision statement and contributed to the study's knowledge of key issues and concerns regarding Connecticut's system of rest areas and service plazas. The AC also commented on the study's initial strategies and working alternatives, which formed the basis for the study recommendations. Materials from each of the AC meetings are available on the study website (www.ctrestareas.org) and in Appendix D of Volume III.



Advisory Committee (AC) meeting



Municipal and Regional Meetings

In addition to the AC, individual meetings were held early in the study process with every municipality and Regional Planning Organization (RPO) where facilities are presently located. Later in the study, similar meetings were also held with municipalities and RPOs where major renovations are recommended or where new facilities are suggested. At these meetings, municipal and regional representatives were interviewed to gain a greater understanding of the local issues and concerns with the rest area(s) and/or service plaza(s) in that town or region. These discussions provided important information that the Study Team considered as it collected additional data and began formulating initial strategies and working alternatives.

Public Input

The Department received input from the Town of Fairfield regarding the over-the-highway concept at service plazas 19 and 20 on I-95. The Town of Fairfield has commented that they oppose an over-the-highway facility in Fairfield. The Department decided not to pursue this concept and the layout of the locations will be determined through a “Request for Proposal” process for the design of the service plazas statewide. A summary report of the municipal and regional meetings is available on the study website and provided in Appendix D of Volume III.

Focus Groups

Focus groups were held to gain a greater understanding of the needs, preferences, and issues faced by specific users of Connecticut’s rest areas and service plazas. The Study Team wanted to “dig deeper” into the needs of the trucking industry and tourism and economic development interests, and gain more insight as to the needs and desires of the traveling public in general. In March of 2006, three focus groups, or guided discussions, of about 10 to 15 people, were held: one with truckers, trucking industry representatives, and long distance bus drivers; another with tourism and local and regional economic development professionals; and the third with interested members of the general traveling public. Safety and security at Connecticut’s rest areas and service plazas was a key issue raised in each of the focus groups. Truck parking was identified as a major issue and concern. Participants also widely agreed that Connecticut should provide more appealing, modern facilities, with enhanced services that do not harm the environment or the local community. A summary report of the three focus group sessions is posted on the study website and provided in Appendix D of Volume III.



Tourism Focus Group at work

User Survey

A user survey was conducted to determine who is using the service facilities and how the facilities are perceived by the traveling public. The survey reached more than 1,500 travelers who stopped at 10 of the state’s rest areas and service plazas in the late summer of 2005. Two key messages from the survey were that travelers would like a greater variety of food choices and cleaner and better restrooms at Connecticut’s roadside facilities. Results of the user survey are documented in a technical memorandum, which is available in Appendix B of Volume III and on the study website.



On-site user survey



Public Information Meetings

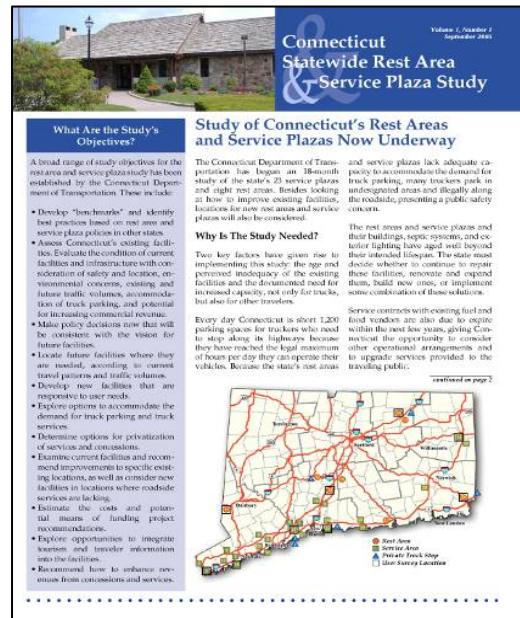
Public information meetings were held later in the study process following development of the initial set of strategies and recommendations. Four meetings were held at dispersed locations (Willington, Southbury, Darien, and Waterford) during August and September of 2007. The meetings were held in an “open house” format followed by a formal presentation by the Study Team. The open house format was designed to inform, interest, and engage the public in the study. This portion of the meeting provided attendees with an opportunity to review visual displays and informally ask questions. The more formal presentation portion of the meetings was designed to convey important information about the study process and results, including the initial strategies and recommendations. These four meetings provided an opportunity for the public to learn about the study, ask questions, and provide comments. The comments from those attending the public meetings are provided in Appendix D of Volume III, and have been considered by the Connecticut Department of Transportation in the recommendations of the study presented in this report.



Public meetings to inform and obtain feedback

Newsletters

Five issues of a study newsletter were distributed to those on the study contact list and are provided on the study website. The newsletters were designed to inform readers of study mission and progress, and to invite public input. Various editions of the newsletter included articles on “benchmarking” (what Connecticut can learn from how other states manage and operate their traveler facilities), the results of the user survey, and a summary of the traffic data collection process and results. The newsletters also covered the development of the study’s vision statement and strategies, and provided a vehicle to present the draft and final study recommendations. The newsletter was also used to announce and provide information for Public Information Meetings.



Example Study Newsletter

Website

A study website, www.ctrestareas.org, was created and proved to be a useful vehicle for the submittal of many comments to the Study Team. The website provided general information about the purpose and need for the study and its vision statement. Study documents (such as the user survey and parking technical memoranda) were posted to the website for visitors. The website also displayed a map showing Connecticut’s rest areas and service plazas and photographs of each facility. The website’s public involvement page contained summaries and reports from many of the outreach initiatives. The website’s “Contact



Connecticut Rest Area and Service Plaza Study Website



Us” page provided an opportunity for people to submit comments and/or request to be added to the study mailing list. Almost 200 public comments were received via the website.

Posters

To further inform the traveling public about the study, posters were displayed at each rest area and service plaza in Connecticut. The posters notified visitors that ConnDOT was seeking their input on how to improve the state’s roadside facilities for travelers. The posters encouraged people to visit the study website, where they could submit their comments online. ConnDOT’s address was provided for those who preferred to use regular mail to deliver their written comments. The posters included the names and telephone numbers of Study Team contact people for those preferring to verbally share an idea or comment. Later in the study, information was provided about the upcoming public information meetings held in August and September of 2007.



Posters were hung at all roadside facilities to encourage public awareness and participation



2.0 VISION AND GUIDING PRINCIPLES

The study's Vision and Guiding Principles were developed to guide the consulting team in the development of the statewide plan and individual site concepts. The Vision and Guiding Principles further clarify the goals and objectives for this study and the state's desired direction and outcomes. Comments from the Steering and Advisory Committees were incorporated as part of the vision process. The validity of the recommended program strategies and concepts depends on how well they address these guiding principles.

2.1 Vision

The Connecticut Department of Transportation formulated the original vision for the outcome of the study in cooperation with the Study Team. This vision was fine-tuned by the study's Steering Committee and Advisory Committee members, who were asked to brainstorm what they felt would comprise the ideal rest area or service plaza. The result of this brainstorming process was the formulation of the study's final vision statement. The Department's vision for this study — created in cooperation with the Steering and Advisory Committees — is stated as follows:

"To become a leader in the provision of services to travelers at our highway service plazas and rest areas by improving quality and image, enhancing tourist offerings, increasing safety, ensuring adequate coverage and capacity on all corridors, and providing improved and additional services and amenities which will benefit the state's economy and minimize community and environmental impacts."

2.2 Guiding Principles

The guiding principles emerged from the overall study process. They were intended to reflect the study's Vision, as well as issues and needs identified during the visioning process. The guiding principles helped the Study Team stay "on point" when formulating alternative strategies to address study issues and needs. The guiding principles also provided a basis for the evaluation of initial strategies and the selection of final recommendations. The guiding principles for this study are as follows:

1. **Safety:** The safety of Connecticut's roadways and traveler facilities is of paramount importance.

2. **Truck parking:** The accommodation of truck parking is a driving force of this study and is also of paramount importance. The state wishes to provide increased truck parking and improve the accommodation of trucks with respect to safety.



Truck parking is currently a capacity and a safety issue

3. **Public-private cooperation:** The State does not desire to compete with the private sector in the provision of traveler services. The State wishes to provide encouragement to the private sector to help solve the truck parking problem if win-win solutions can be identified.

4. **Customer service:** The State wishes to improve facilities to better serve the traveling public and the commercial interests that operate within Connecticut. This is anticipated to include improved facilities, services and amenities.



5. **State-wide coverage:** The State wishes to work toward more consistent coverage of the state's major limited access highways with the provision of some new rest areas in locations where gaps in service currently exist.
6. **Innovation:** The State desires to seek out innovative solutions to the various issues identified with Connecticut traveler facilities. In this manner, the state strives to be a leader in this area to the benefit of the state, its image, and its economy.
7. **Best practices:** Connecticut wishes to learn from and incorporate solutions from other states and to avoid "re-inventing the wheel" with regard to innovation and workable solutions.
8. **Tourism:** While not the DOT's main mission, the Department recognizes that tourism is the leading growth sector of Connecticut's economy and desires to enhance opportunities to distribute tourist information to the benefit of the state's economy. This is anticipated to include more and better dissemination of information and a greatly enhanced image of Connecticut to travelers.
9. **Governance:** The State will be entering into contracts to allow operators to generate capital that will go towards making needed improvements.
10. **Long-term value:** The State desires to incorporate long-term *efficiency* and *effectiveness* into the desired features and criteria for the facility renovations.
11. **Efficient and effective re-use:** The State wants to maximize the effective re-use of existing sites (as long as they meet the identified demand) and to identify ways to meet the unmet demand in areas that are underserved.
12. **Federal regulation restrictions:** The State wishes to continue to receive federal funding assistance for all major corridors. Therefore, the state plans to abide by the current federal legislation which does not permit commercialization (fuel and food service) at locations *other than* the grandfathered service plazas on I-95, I-395, and the Merritt Parkway/Wilbur Cross Parkway.¹
13. **Stakeholder involvement:** The State wishes to carry out an open process for identifying issues and solutions, with plentiful opportunities for input from stakeholders, including the municipalities and regions, as well as commercial truckers, private sector truck stop operators, tourism representatives, and others.
14. **Good neighbors:** The State desires for publicly owned traveler facilities to be good neighbors in terms of environmental compliance and other features. Recognizing that facilities will by their nature have some impact, the state wishes to minimize that impact to the degree practicable.

¹ All privatized service plazas in operation prior to January 1, 1960 were allowed to continue operating.



3.0 CONNECTICUT'S ROADSIDE TRAVELER FACILITIES

3.1 Existing Traffic and Parking Conditions

This section describes the existing services and amenities, traffic and parking conditions, and environmental issues for the 31 existing Connecticut public roadside traveler facilities.

3.1.1 Facility Descriptions

Today, all of the rest areas and service plazas that are located on Connecticut state highways fall under the jurisdiction of, and are operated by, the Connecticut Department of Transportation. Connecticut currently has 23 service plazas and 8 rest areas. Six of these facilities are also welcome centers (see Figure 1-1, Existing Facility Locations, in Chapter 1). These facilities are generally defined as follows:

A **Rest Area** is a simple roadside facility where travelers can pull off the highway to rest or stretch their legs. Rest areas provide basic services and amenities, such as restrooms, parking, pay phones and, in many cases, vending machines. Many rest areas also have picnic and pet walking areas, travel or tourism information, and some other amenities. Rest areas typically do not directly generate revenue for the state.

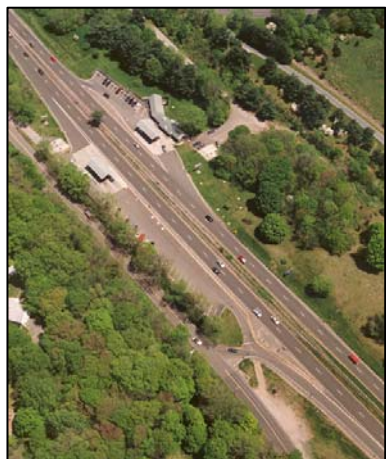


Rest area in Danbury, CT

Connecticut's rest areas are found along I-91, south of Hartford in Middletown and Wallingford, along I-84 in Danbury, Southington, and Willington (2), and along I-95 in Westbrook and North Stonington.

A **Service Plaza** offers all of the services and amenities found in a rest area, but also generally has sitdown food service and/or a convenience store and/or retail carts and fuel. The service plazas located along the Merritt Parkway do not provide food service. Service plazas are generally located along existing or former toll roads.

Connecticut's service plazas are located along I-95, I-395, and Route 15 (Merritt Parkway). The facilities along I-95 are much larger than those found along either I-395 or Route 15. The I-95 service plazas offer fuel service, fast food restaurants, gift shops, and retail carts. The service plazas along I-95 and I-395 also provide truck parking areas. Trucks are not permitted to travel on Route 15. Because of their historic nature and the fact that no trucks are served, the service plazas along Route 15 are much smaller than those along I-95, and provide only small fueling stations and convenience stores.



Service Plazas along Route 15 and I-95 in Fairfield



Service plazas generate revenue for the state from the fuel and other retail concessions (e.g., food sales, convenience stores, and retail carts). It is important to note that under current federal funding regulations, no new public service plazas (with commercial food and fuel services) can be built along highway facilities that receive federal funding assistance. This provision is intended to prohibit competition with off-road private commercial facilities. However, existing, “grandfathered” facilities can be improved and expanded, and new rest areas and/or welcome centers can be constructed as needed.

In Connecticut, a **Welcome Center** is generally a small part of either a rest area or a service plaza. Travel and tourism information can be obtained at these locations by motorists visiting the state. Welcome centers are often situated at “gateways” to the state or to a particular region. The most effective welcome centers are staffed with well-informed aides to better serve travelers.

Currently, there are welcome centers located along I-95 (northbound) in Darien and Westbrook, I-95 (southbound) in North Stonington, I-84 (eastbound) in Danbury and (westbound) in Willington, and Route 15 (northbound) in Greenwich. These welcome centers provide maps, brochures, and travel guides to travelers. Welcome centers give travelers a sample of what Connecticut and the region has to offer and encourage people to visit tourist destinations and patronize local businesses. Welcome centers are often visitors’ initial contact with the state, providing both a first impression and a lasting image.



Welcome Center Info Desk (Westbrook)

Two major traffic “gateways” to Connecticut are not currently served by welcome centers: the stretch of I-91 southbound from the Connecticut / Massachusetts state line near Enfield, and the stretch of I-395 southbound near Thompson. Both of these locations are major gateways to Connecticut and to several of Connecticut’s tourism regions. Two additional locations on Routes 7 and 8, which also provide gateways to Connecticut, are also not currently served by welcome centers.

3.1.2 Traveler Facilities & Amenities

Inventories were conducted at the 31 existing public rest areas, service, plazas, and welcome centers on Connecticut highways. The purpose of the inventories was to identify the types of services and amenities provided at each location. Additional information relating to the size of buildings was provided by ConnDOT. Table 3-1 lists the 31 existing traveler facilities and summarizes the services and amenities provided at each location. An overall summary of facilities is provided below.

Motor Fuel

- Fueling is provided at 23 service plazas with diesel provided at 11 sites along I-95 and I-395
- Fuel is provided at all I-95 sites except the Westbrook and North Stonington rest areas
- Federal laws prohibit the construction of new fueling stations at rest area locations that are not grandfathered under interstate regulations (eg. along I-84 and I-91 sites)

Rest Rooms

- Rest room facilities are provided at all 31 service plazas and rest areas



Table 3-1 Existing Traveler Facilities Summary

	Facility Type			Services And Characteristics																				Building Size (S.F. +/-)					
	Service Plaza	Rest Area	Welcome Center	Passenger Veh. parking	Truck Parking	Fuel	Alt. Fuel (Diesel)	Rest Rooms	Gift Shops	Restaurant	Vending Machines	ATM	Pay Phones	Picnic Tables	Benches	Water Fountains	Pet Walking Area	Truck Weigh Station	Fuel Island Surveillance Cameras	Municipal Water	Municipal Sewer ¹	Wetlands	Traveler Info. (Manned)		Traveler Info. (Unmanned/ Kiosk)	RV Hook-Up and Dump Station	Cart Vendors ²		
Merritt & Wilbur Cross Parkways:																													
1. Greenwich RT. 15 NB Ser. Plaza	X		X	X		X		X	X			X	X	X					X	X	X	X	X						2,400
2. Greenwich RT. 15 SB Ser. Plaza	X			X		X		X	X			X	X	X					X	X	X	X	X						2,400
3. New Canaan RT. 15 NB Ser. Plaza	X			X		X		X	X				X						X	X		X							2,000
4. New Canaan RT. 15 SB Ser. Plaza	X			X		X		X	X				X						X	X		X							3,000
5. Fairfield RT. 15 NB Service Plaza	X			X		X		X	X			X	X	X					X	X	X								2,700
6. Fairfield RT. 15 SB Service Plaza	X			X		X		X	X			X	X						X	X		X							2,240
7. Orange RT. 15 NB Service Plaza	X			X		X		X	X										X	X		X							1,900
8. Orange RT. 15 SB Service Plaza	X			X		X		X	X				X						X	X		X							1,900
9. North Haven RT. 15 NB Ser. Plaza	X			X		X		X	X				X	X					X	X	X	X							1,830
10. N. Haven RT. 15 SB Ser. Plaza	X			X		X		X	X				X	X					X	X	X	X							2,760
I-84, I-91:																													
11. Danbury I-84 EB Rest Area		X	X	X	X			X				X	X			X	X	X		X	X	X	X			X			N/A
12. Southington I-84 EB Rest Area		X		X	X			X				X	X			X	X			NA	NA	X			X	X			2,300
13. Willington I-84 EB Rest Area		X		X	X			X					X							NA	NA	X			X				2,500
14. Willington I-84 WB Rest Area		X	X	X	X			X					X							NA	NA	X			X	X			2,500
15. Wallingford I-91 SB Rest Area		X		X	X			X				X	X	X	X					X	X	X			X	X			2,500
16. Middletown I-91 NB Rest Area		X		X	X			X				X	X	X	X	X				NA	NA	X			X				1,500
I-95:																													
17. Darien I-95 SB Service Plaza	X			X	X	X	X	X	X	X	X	X	X	X						X	X	X						X	11,700
18. Darien I-95 NB Service Plaza	X		X	X	X	X	X	X	X	X	X	X	X	X						X	X	X	X					X	16,600
19. Fairfield I-95 NB Service Plaza	X			X	X	X	X	X	X	X	X	X	X							X	X	X						X	11,700
20. Fairfield I-95 SB Service Plaza	X			X	X	X	X	X	X	X	X	X	X							X	X				X			X	14,600
21. Milford I-95 NB Service Plaza	X			X	X	X	X	X	X	X	X	X	X	X						X	X								15,100
22. Milford I-95 SB Service Plaza	X			X	X	X	X	X	X	X	X	X	X	X						X	X								15,000
23. Branford I-95 NB Service Plaza	X			X	X	X	X	X	X	X	X	X	X	X						X	X								11,500
24. Branford I-95 SB Service Plaza	X			X	X	X	X	X	X	X	X	X	X	X						X	X								5,600
25. Madison I-95 NB Service Plaza	X			X	X	X	X	X	X	X	X	X	X							X	X								6,000
26. Madison I-95 SB Service Plaza	X			X	X	X	X	X	X	X	X	X	X	X						X	X		X						11,700
27. Westbrook I-95 NB Rest Area		X	X	X	X			X					X							NA	NA		X						2,300
28. N. Stonington I-95 SB Rest Area		X	X	X	X			X				X	X	X	X	X				X	NA	X	X						3,000
I-395:																													
29. Montville I-395 SB Service Plaza	X			X	X	X	X	X	X			X	X	X						Well		X			X				3,500
30. Plainfield I-395 NB Service Plaza	X			X	X	X	X	X	X			X	X							Well		X			X				3,500
31. Plainfield I-395 SB Service Plaza	X			X	X	X	X	X	X			X	X							Well		X			X				3,500
TOTAL	23	8	6	31	20	23	11	31	21	10	16	17	28	18	4	15	6	2	10	9	4	2	3	5	19	4	4	AVG-5,700	

Source: Earth Tech field visits, May 2006.

1. If not checked, then septic.
2. Retail carts with sundry items such as sunglasses.

Table 3-1 Existing Traveler Facilities Summary



Fitzgerald & Halliday, Inc.
The Williams Group
ICON Architecture, Inc.
United International Corporation



3-3



Convenience Items, Retail, Restaurants, and Vending Machines

- Convenience stores/gift shops are located at all Route 15 and I-395 sites and at eight of the twelve I-95 sites
- Restaurants are located at all I-95 sites except Westbrook
- Vending machines only are provided at all I-84 and I-91 sites
- No food of any kind is provided at two sites (I-91 NB in Middletown and I-95 NB Westbrook)

Traveler Information and Automatic Teller Machines (ATMs)

- Traveler information is provided at 23 sites (19 unmanned and 5 manned kiosks¹). Traveler information includes maps, information on attractions and lodging, and tourist periodicals.
- ATMS are provided at 17 sites

Truck Parking, Weigh Stations, and RV Hook-ups

- Truck parking is allowed at all 21 sites which are not along Route 15
- RV hook-ups and dumping stations are provided at four locations (I-84 EB Danbury, I-84 EB Southington, I-84 WB Willington, and I-91 SB Wallingford)

Buildings

- Buildings range from 1,500 square feet (sf) (I-91 SB in Middletown) to over 16,000 sf (I-95 NB in Darien) with all the larger facilities occurring at I-95 sites. See the individual site reports in Volume II for comprehensive site information.

3.1.3 Existing Traffic Volumes

Vehicular classification counts entering and exiting the 31 Connecticut public roadside traveler facilities (rest areas/service plazas/welcome centers) were conducted between August and December of 2005. Mainline (highway) traffic counts were also collected at these locations. At seven locations with faulty count results, supplemental counts were collected during January and February of 2006. Mainline volumes, volumes entering roadside facilities, and capture rates at roadside facilities are discussed below.

3.1.3.1 Mainline Highway Traffic Volumes

Daily mainline traffic volumes (by direction) are shown for each highway corridor in Table 3-2 and Figure 3-1 (both directions). High and low volumes are typically found at different locations within the corridor, and daily volumes from one end of the state to the other generally fluctuate by at least 10,000 vehicles per day (vpd).

Traffic volumes in the southwestern portion of the state (near New York) tend to be the highest (e.g. Route 15 and I-95), and volumes tend to decrease to the north and east within the state except for high traffic volumes around Hartford. The highest daily one-directional traffic volumes (79,600 vpd) and peak hour traffic volumes (6,720 vehicles per hour, or vph) occur at the service plaza along I-95 SB in Darien near the Connecticut/New York state border. The lowest daily one-directional volumes (under 15,000 vpd) are in the easterly portion of the state along I-395. The lowest peak hour volumes recorded (860 vph) occurred along I-95 in the eastern part of the state (North Stonington in the southbound direction).

¹ Greenwich, Rt. 15 Northbound has both manned and unmanned kiosks.



Table 3-2 Existing (2004/2005) Mainline Highway Traffic Volume Summary

ID #	TOWN	Direction ¹	2004/2005 Daily Mainline Volume ² (one way, in vpd ³)
Route 15:			
1	Greenwich	NB	26,610
2	Greenwich	SB	26,610
3	New Canaan	NB	33,860
4	New Canaan	SB	33,860
5	Fairfield	NB	35,000
6	Fairfield	SB	35,000
7	Orange	NB	29,600
8	Orange	SB	29,600
9	North Haven	NB	25,080
10	North Haven	SB	25,080
Interstate 84:			
11	Danbury	EB	38,520
None ⁴	Danbury	WB	36,800
12	Southington	EB	46,000
None	Southington	WB	43,950
13	Willington	EB	41,550
14	Willington	WB	39,700
Interstate 91:			
15	Wallingford	SB	46,200
16	Middletown	NB	48,290
None	North of Hartford Area	SB	56,170
None	North of Hartford Area	NB	58,700
Interstate 95:			
17	Darien	SB	79,600
18	Darien	NB	72,500
19	Fairfield	NB	63,320
20	Fairfield	SB	65,450
21	Milford	NB	63,320
22	Milford	SB	65,450
23	Branford	NB	42,300
24	Branford	SB	41,560
25	Madison	NB	35,540
26	Madison	SB	33,240
27	Westbrook	NB	35,540
28	North Stonington	SB	24,390
None	North Stonington	NB	24,390
Interstate 395:			
29	Montville	SB	24,710
None	Montville	NB	23,400
30	Plainfield	NB	14,350
31	Plainfield	SB	15,150
Route 2:			
None	Colchester/Norwich Area	EB	32,000
None	Colchester/Norwich Area	WB	32,000
Route 9:			
None	Middletown/Old Saybrook Area	NB	42,000
None	Middletown/Old Saybrook Area	SB	42,000
Route 20:			
None	Bradley Area	EB	14,000
None	Bradley Area	WB	14,000

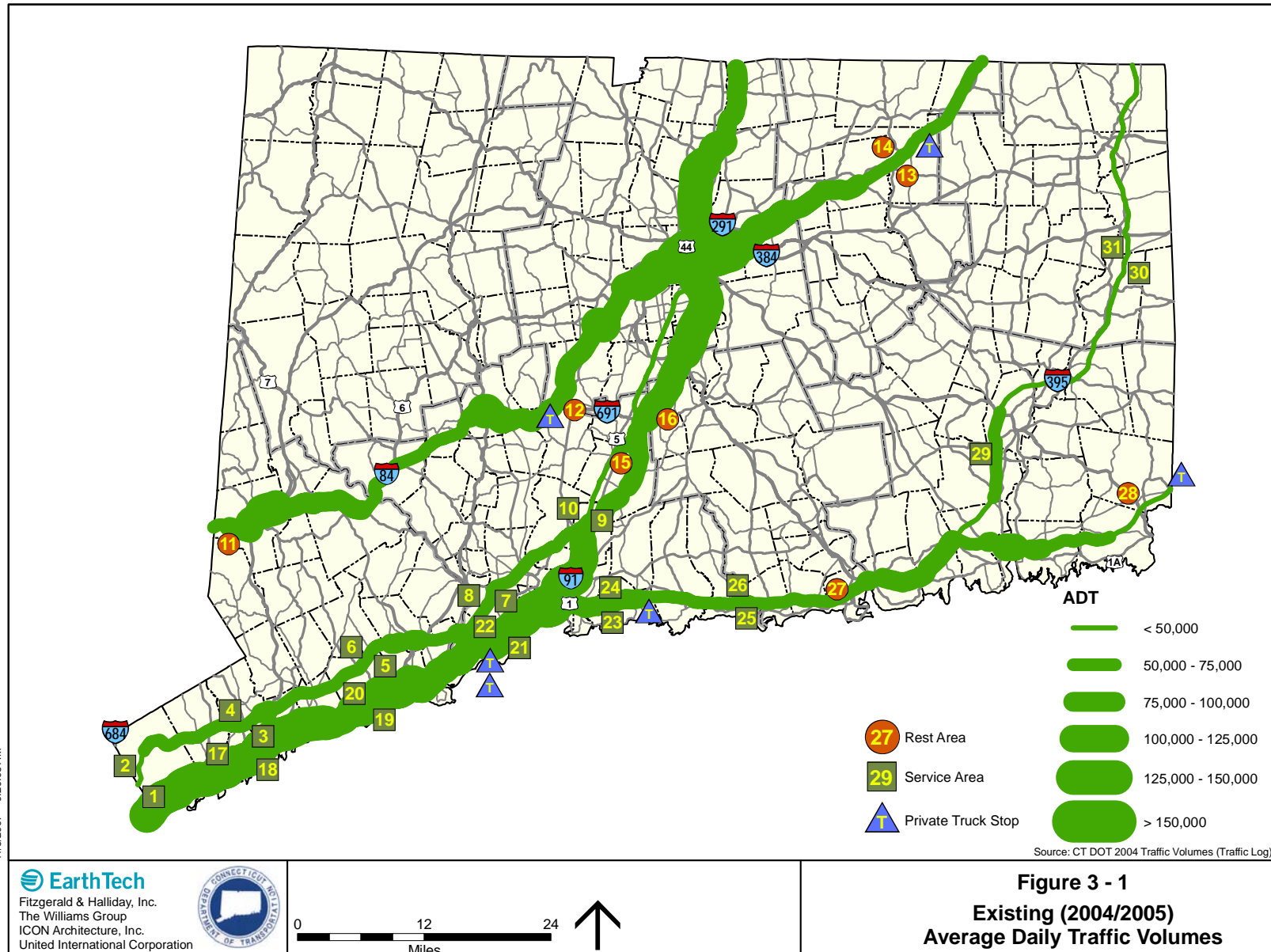
Source: 2005 EarthTech traffic counts and 2004 Connecticut Department of Transportation counts.

NOTES:

- NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound
- Routes 2, 9, 15, & 20 volumes based on CONNDOT counts. Other locations based on EarthTech vehicular classification counts, 8/05 through 12/05. All daily volumes include seasonal adjustments and adjustments to reflect average volume for entire segment based on Connecticut DOT corridor volumes. Volumes are reported for weekend or weekday, whichever is highest
- vpd = vehicles per day.
- None = No roadside facility is currently provided at this location.



Figure 3-1 Existing (2004/2005) Average Daily Traffic Volumes





3.1.3.2 Entering Traffic Volumes

The numbers of vehicles entering rest area and service plaza locations were categorized by small vehicles,² buses, or trucks. Table 3-3 summarizes the high and low daily and peak hour entering volumes for small vehicles, buses, and trucks during both weekdays and weekends. The total daily number of small vehicles (primarily autos) entering the rest areas/service plazas ranged between 671 vpd (northbound I-95 in Westbrook on a weekday) and 7,544 vpd (northbound I-95 in Darien on a weekend). On a daily basis, the small numbers for entering autos, buses, and trucks occurring at the Westbrook rest area is a reflection of its relatively low daily mainline traffic volumes (approximately 35,500 vpd per direction) and lack of food and fuel services provided. The total number of peak hour small vehicles entering ranged between 68 vph (northbound I-395 in Plainfield on a weekday) and 589 vph (southbound I-95 in Milford on a weekend). The highest daily volumes occurred at the Darien I-95 service plazas, where daily traffic volumes are over double (up to 79,600 vpd per direction) what they are along I-95 to the east in Westbrook (35,500 vpd).

Table 3-3 2005 Range of Entering Vehicles

	Small Vehicles ¹		Buses ²		Trucks ²	
	Weekday ³	Weekend ⁴	Weekday	Weekend	Weekday	Weekend
DAILY						
Low Volume	671	860	4	5	165	55
Location	Westbrook I-95 NB	Westbrook I-95 NB	Westbrook I-95 NB	Westbrook I-95 NB	Westbrook I-95 NB	Westbrook I-95 NB
High Volume	5,661	7,544	33	40	894	476
Location	Darien I-95 NB	Darien I-95 NB	Darien I-95 NB	Darien I-95 NB	Darien I-95 SB	Darien I-95 NB
PEAK HOUR						
Low Volume	68	73	0	0	13	3
Location	Plainfield I-395 NB	Westbrook I-95 NB	Several Locations ⁵	Several Locations	Westbrook I-95 NB	Plainfield I-395 SB
High Volume	420	589	2	3	73	33
Location	Darien I-95 NB	Milford I-95 SB	Darien I-95 NB & SB, Fairfield I-95 NB, & Milford I-95 SB	Darien I-95 NB, & Milford I-95 SB	Middletown I-91 NB	Darien I-95 NB

Source: EarthTech classification counts, 8/05 through 12/05, 1/06 and 2/06.

NOTES:

NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound

1. Includes all 31 Connecticut rest areas/service plazas
2. Does not include the 10 service plazas along Route 15, which have limited bus and truck activity due to truck restrictions
3. Weekdays do not include Fridays
4. Weekends include Saturday and Sunday
5. No weekday or weekend peak hour buses were recorded at Wallingford I-91 SB; Westbrook I-95 NB; Montville I-395 SB; and Plainfield I-395 NB. Also no weekday buses at Southington I-84 EB.

The lowest bus and truck volumes also tend to be at the more remote locations on the easterly side of Connecticut. The highest weekday peak hour number of trucks (73 vph) occurred at Middletown I-91 in the northbound direction. Fairfield and Milford (I-95) experienced higher than average peak hour bus volumes. Because buses and trucks are prohibited along Route 15 (with the exception of deliveries), negligible buses and trucks were recorded along Route 15. Additional detailed traffic count information is provided in Appendix A of Volume III.

² Small vehicles include cars, cars with trailers, motorcycles, and 2-axle trucks.



3.1.3.3 Auto Capture Rates

Capture rate refers to the percentage of vehicles on the roadway (highway) passing a rest area or service plaza that actually stop at the facility. Figure 3-2 shows existing (2006) weekday (Friday) peak hour entering vehicles and their associated capture rates.

Friday peak entering volumes range from 77 vehicles (I-95 northbound in Westbrook) to 457 vehicles (I-95 northbound in Darien). Friday capture rates range from 2.4% (I-91 northbound in Middletown) to 15.0% (I-95 southbound in North Stonington).



The highest peak entering volumes occur at the I-95 NB Darien service plaza

Mainline (highway) traffic volumes are generally higher on weekends compared to weekdays. This may be limited to summer months. The number of automobiles entering Connecticut roadside traveler facilities is generally larger on weekends than on weekdays. Count data indicated that peak auto entering volumes were overall 18, 27, and 32 percent higher on Fridays, Saturdays, and Sundays, respectively, compared to weekdays. Conversely, automobile capture rates tend to be lower on weekends compared to weekdays. Capture rates at some facilities may be limited due to capacity restraints.

Table 3-4 shows the peak automobile entering volumes for each rest area/service station location, the associated capture rates, and the hour and day during which the peak occurs. Existing peak automobile capture rates range between 2.4 (I-91 northbound in Middletown) and 15.4 percent (I-95 southbound in North Stonington). Auto capture rates for service plazas are generally higher than those for rest areas because more services are available for motorists. The average statewide peak auto capture rate for service plazas is 6.3% for weekdays and 5.6% for weekends. The average hourly statewide peak auto capture rate for rest areas is 5.6% on weekdays and 4.0% on weekends. Low capture rates in Connecticut may reflect the lack of sufficient services, insufficient parking capacity, and comparatively poor conditions at existing facilities compared to newer facilities in other states. As gas prices increase, drivers may also be taking shorter trips, and therefore needing to take fewer stops.

As expected, peak auto rest area/service plaza volumes tend to coincide with peak hour traffic volumes along the mainline. The peak hour for autos entering roadside traveler facilities on weekdays occurs either during commuter peak hours (8 AM and 5 PM), or during meal hours (12 noon). On Fridays, the peak rest area/service plaza auto entering volume generally occurs sometime during the afternoon hours between 12 and 6 PM when drivers often get an early start on weekend travel. On weekend days, the peak auto entering volumes generally occur on Saturday midday hours between 11 AM and 3 PM, and on Sundays between 2 and 7 PM. Detailed documentation of capture rates is provided in Appendix A of Volume III.

3.1.4 Corridor Traffic Volumes and Characteristics

Individual data sheets that summarize entering and mainline traffic counts, capture rates, and parking count data for each Connecticut rest area or service plaza along Route 15, I-84, I-91, I-95 and I-395, are provided in the individual site reports (Volume II) and in Appendix A of Volume III. Individual corridor characteristics for each of the study highways is described below.



Figure 3-2 2006 Weekday (Friday) Peak Hour Entering Vehicles and Capture Rates

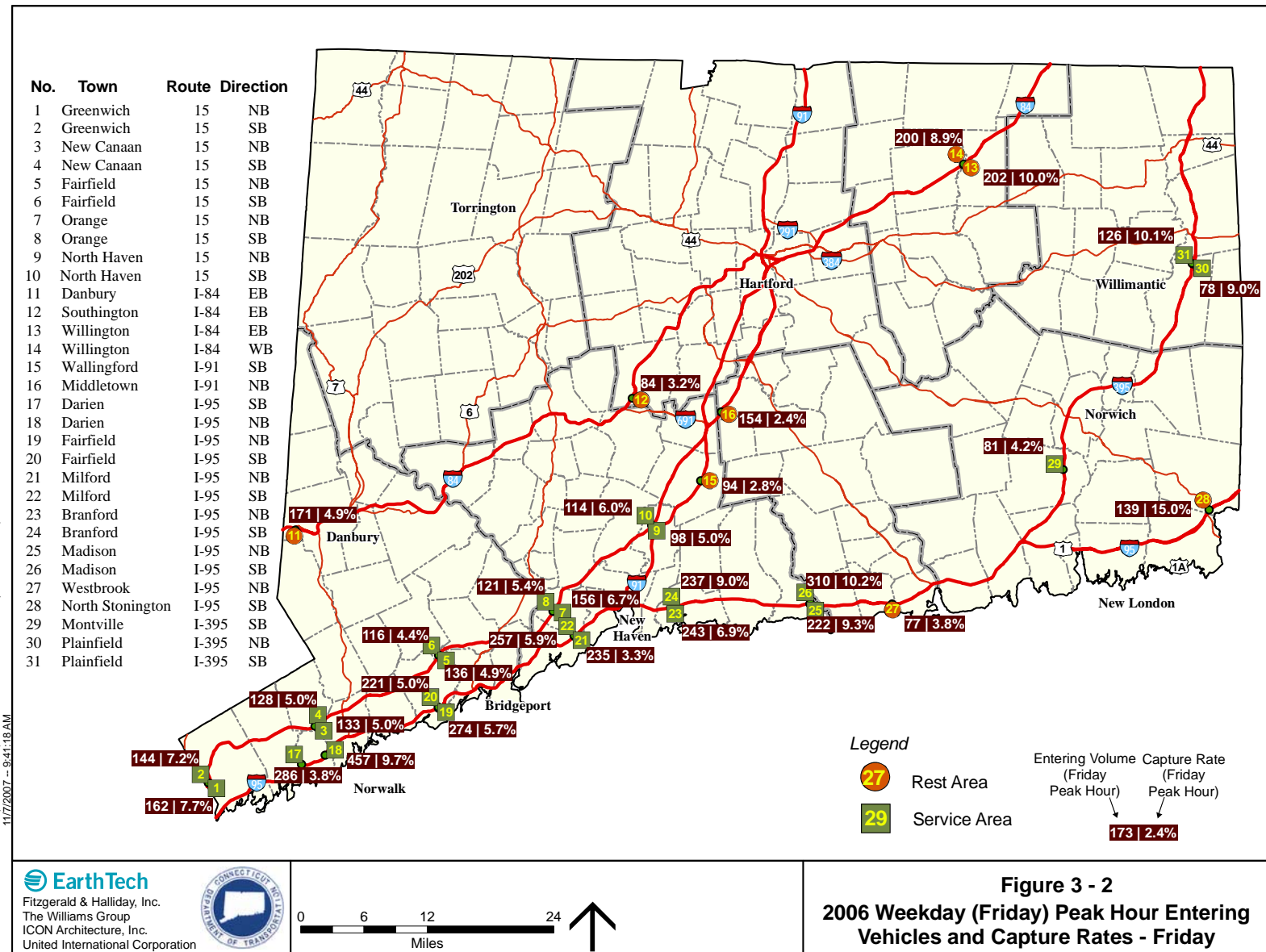




Table 3-4 2005 Hourly Peak Auto Capture Rate Summary

ID # / Location	Facility Type ¹	Direction	Peak Auto Entering Volume ²	Auto Capture Rate ³	Peak Auto Entering Day & Hour ⁴	
Route 15:						
1	Greenwich	SP/WC	NB	162	7.7%	Fri, 3:00 PM
2	Greenwich	SP	SB	160	6.1%	Sat, 11:00 AM
3	New Canaan	SP	NB	133	5.0%	Fri, 1:00 PM
4	New Canaan	SP	SB	135	4.1%	Sat, 10:00 AM
5	Fairfield	SP	NB	136	4.9%	Fri, 6:00 PM
6	Fairfield	SP	SB	153	4.4%	Sun, 6:00 PM
7	Orange	SP	NB	156	6.7%	Fri, 2:00 PM
8	Orange	SP	SB	124	4.3%	Sun, 3:00 PM
9	North Haven	SP	NB	98	5.0%	Fri, 3:00 PM
10	North Haven	SP	SB	154	6.2%	Sun, 4:00 PM
Interstate 84:						
11	Danbury	RA/WC	EB	173	3.8%	Sun, 1:00 PM
12	Southington	RA	EB	95	2.6%	Sat, 11:00 AM
13	Willington	RA	EB	224	8.5%	Sun, 4:00 PM
14	Willington	RA/WC	WB	291	10.0%	Sun, 12 Noon
Interstate 91:						
15	Wallingford	RA	SB	94	2.8%	Fri, 1:00 PM
16	Middletown	RA	NB	154	2.4%	Fri, 1:00 PM
Interstate 95:						
17	Darien	SP	SB	318	3.2%	Sat, 12 Noon
18	Darien	SP/WC	NB	538	8.6%	Sat, 6:00 PM
19	Fairfield	SP	NB	274	5.7%	Fri, 1:00 AM
20	Fairfield	SP	SB	297	5.2%	Sat, 10:00 AM
21	Milford	SP	NB	267	2.9%	Sun, 7:00 PM
22	Milford	SP	SB	589	10.3%	Sun, 6:00 PM
23	Branford	SP	NB	318	6.9%	Sun, 12 Noon
24	Branford	SP	SB	416	12.1%	Sun, 6:00 PM
25	Madison	SP	NB	238	8.5%	Sat, 2:00 PM
26	Madison	SP	SB	310	10.2%	Fri, 1:00 PM
27	Westbrook	RA/WC	NB	87	3.2%	Sat, 11:00 AM
28	N. Stonington	RA/WC	SB	187	15.4%	Sun, 4:00 PM
Interstate 395:						
29	Montville	SP	SB	86	3.4%	Sun, 10:00 AM
30	Plainfield	SP	NB	79	7.0%	Sat, 4:00 PM
31	Plainfield	SP	SB	139	8.5%	Sat, 2:00 PM

NOTES:

1. SP = service plaza; WC = welcome center; RA = rest area
2. Represents the entering (IN) automobile volume for the hour with the highest volume of autos entering the rest area in units of vehicles per hour. Based on EarthTech classification counts 8/05 through 12/05, 1/06 and 2/06.
3. Auto Capture Rate = percentage of mainline volume that is automobiles entering the rest area/service plaza during the hour with the highest volume of entering autos.
4. The hour during which the highest volume of automobiles enters the rest area/service plaza.



Route 15 (Merritt and Wilbur Cross Parkways)

Ten service plazas (five in each direction) are located along Route 15. Typical weekday (Tuesday through Thursday) daily traffic volumes entering each service plaza along Route 15 range between 1,040 vpd (northbound in New Haven) and 1,870 vpd (southbound in Greenwich).

Peak hour entering automobile volumes at the service plazas along Route 15 range from 84 to 162 vph, with the higher volumes generally occurring at the most southerly service areas in Greenwich. The lowest peak auto entering volumes occurred at the North Haven service plaza in the northbound direction (84 vph on a weekday). The peak auto entering volumes tend to occur in the northbound direction on Friday afternoon, and in the southbound direction on Saturday and Sunday.

The overall daily automobile capture rate (percentage of autos entering from the mainline) for public roadside facilities along Route 15 is 5.6% on weekdays and 4.5% on weekends. On an hourly basis, peak auto capture rates for facilities along Route 15 range between 3.4 and 7.7%. The highest capture rates occur at the northbound Greenwich service plaza (vehicles entering Connecticut from New York) during weekday afternoon commuter hours. Weekday afternoon peak hour capture rates are also high for the southbound service plaza in North Haven (vehicles accessing Route 15 southbound from I-91 or I-691).



Service plaza along Route 15 (Merritt Parkway) NB in Orange

The Merritt Parkway is limited to vehicles not exceeding 7,500 pounds, 24 feet in length, 7 feet, 6 inches in width, or 8 feet in height. This prohibits trucks, buses and large recreational vehicles.

Interstate 84

Four rest areas are located along I-84, three of which are in the eastbound direction. Typical weekday daily traffic volumes entering each service plaza along I-84 range between 1,180 vpd (eastbound in Southington) and 1,940 vpd (eastbound in Willington). At locations along I-84, between 8% and 20% of daily entering vehicles are trucks. During the peak hour of vehicles entering, between 6% and 12% are trucks.

Peak hour automobile entering volumes ranged between 75 and 291 vph, with the highest volumes occurring at the rest areas in Willington (close to the Massachusetts state line). Auto entering volumes at this location were highest (291 vph) in the westbound direction (towards Hartford) at noon on Saturday, and highest in the eastbound direction (towards Massachusetts) at 4 PM on Sunday (224 vph). The Southington rest area (eastbound) located near central Connecticut experienced the lowest peak hour auto entering volumes (75 vph).



Rest area along I-84 EB in Willington

The overall daily automobile capture rate for roadside facilities along I-84 is 6.8% on weekdays and 4.9% on weekends. On an hourly basis, peak auto capture rates along I-84 range between 2.6 and 10.0%. Auto entering capture rates of 10% are experienced at the eastbound Willington rest area. This is likely because the nearest eastbound rest area prior to this is in Southington, which is over 40 miles from Willington. Southington (eastbound) experienced the lowest peak capture rates (2.6%) along I-84.



Interstate 91

Two rest areas (one in each direction) are located along I-91. Typical weekday daily traffic volumes entering are 1,290 vpd for the southbound rest area in Wallingford, and 2,270 vpd for the northbound rest area in Middletown. Of these entering volumes, between 20 and 26% are trucks. During the hourly peak of vehicles entering, between 22 and 24% are trucks.

Peak hourly automobile entering volumes at these rest areas ranged between 70 and 154 vph. The northbound rest area in Middletown experienced higher automobile entering volumes than the southbound Wallingford rest area. Similar to the travel pattern along I-84, auto rest area entering volumes along I-91 are high in the southbound direction on Friday afternoon (94 vph), and high in the northbound direction late Sunday afternoon (131 vph).



Rest area along I-91 NB in Wallingford

Auto capture rates for roadside facilities along I-91 are comparatively low compared to other highway corridors. The overall daily automobile capture rate for I-91 is 4.4% on weekdays and 2.6% on weekends. On an hourly basis, peak auto entering capture rates are between 1.4 and 3.0%. The highest capture rate (3.0%) occurs at the southbound Wallingford rest area at 6 PM on Sunday.

Interstate 95

Ten service plazas and two rest areas are located along I-95 (equal number in each direction). Typical weekday daily traffic volumes entering each service plaza along I-95 ranged between 840 vpd (northbound in Westbrook) and 6,540 vpd (northbound in Darien). At locations along I-95, between 6% and 20% of entering daily vehicles are trucks. During the hourly peak of vehicles entering, between 5% and 18% are trucks.



Service plaza along I-95 SB in Fairfield

Peak hourly automobile entering volumes at service/rest areas along I-95 range between 70 and 589 vph, with the highest volumes (589 vph) occurring in Milford in the southbound direction on Sunday at 6 PM.

Peak auto entering volumes are also high (between 420 and 538 vph) at the northbound Darien service plaza likely because of weekday commuter traffic and the lack of service areas provided south of the Connecticut border. As one would expect, the Westbrook rest area (northbound), where I-95 volumes are lowest, experienced the lowest peak auto entering volumes along I-95 (70 vph on a weekday).

The overall daily automobile capture rate for roadside facilities along I-95 is 6.5% on weekdays and 6.2% on weekends. On an hourly basis, peak automobile capture rates along I-95 range between 2.9% and 15.4%. Peak capture rates are highest at the North Stonington rest area (vehicles traveling southbound from Rhode Island to Connecticut) at 11 AM on weekdays (15.0%) and 4 PM on Sundays (15.4%). Capture rates of 15% or more occur on this portion of I-95 where traffic volumes are low. Along I-95, peak



capture rates are lowest for the northbound Milford service plaza (2.9% on a Sunday at 7 PM) and northbound Westbrook rest area (3.2% at 11 AM on a Saturday).

Interstate 395

Three service plazas are located along I-395. Two of the three are along the southbound direction of the highway. Typical weekday daily traffic volumes entering each service plaza along I-395 range between 1,320 vpd (northbound in Plainfield) and 1,640 vpd (southbound in Plainfield). At locations along I-395, between 12 and 18% of entering daily vehicles are trucks. During the hourly peak of vehicles entering, between 10 and 17% are trucks.



Service plaza along I-395 SB in Plainfield

Peak hourly automobile entering volumes at the service plazas along I-395 range between 68 and 139 vph, with the highest peak volumes (139 vph) occurring at the southbound Plainfield service plaza at 2 PM on Saturday, and the lowest peak volumes (68 vph) occurring at the northbound Plainfield service plaza at noon on weekdays.

The overall daily automobile capture rate for roadside facilities along I-395 is 6.6% on weekdays and 5.0% on weekends. On an hourly basis, peak auto entering capture rates on I-395 range between 3.4 and 10.1%. The lowest peak auto capture rate (3.4%) occur at the Montville service plaza (southbound), and the highest rates occur at the Plainfield service plazas, particularly in the southbound direction (10.1%).

3.1.5 Person Trips

Vehicular volumes can be translated into person trips by applying vehicle occupancy rates (VORs). Assumed VORs for this study were based on Connecticut statewide data and Study Team VOR counts in January and February of 2006. The VOR for small vehicles is 1.4 persons per vehicle. The VOR for buses is 36 persons/vehicle, and the assumed VOR for trucks is 1.0 person per vehicle. Overall, the average VOR for all vehicles at rest areas/service plazas is approximately 1.5 persons per vehicle. Using these ratios, the total number of persons entering all Connecticut roadside traveler facilities on a typical weekday is approximately 102,140 persons per day. This number is, on average, approximately 14% higher on weekend days.

Weekday persons entering range between 1,250 and 3,340 persons per day for rest areas and between 1,450 and 7,100 persons per day for service plazas. It is noted that not all persons exit a vehicle at a service plaza. As expected, based on the number of entering vehicles, the lowest daily volume of entering persons is at the I-95 northbound rest area in Westbrook, and the highest daily volume of persons entering is at southbound I-95 in Darien. Study Team service area user counts were conducted to determine the percentage of rest area visitors who only enter to use the gas pumps. Based on these counts, an average of 15% of entering visitors were determined to use only the gas pumps at service plazas.

3.1.6 Existing Parking Needs

The Study Team performed parking occupancy surveys for automobiles, buses, and trucks at each of the 31 Connecticut roadside traveler facilities during the summer of 2005. Parking information (number of existing spaces) for private truck stops was also summarized for this analysis. For public facilities, the number of vehicles parked was counted for six different hours throughout a weekday and compared to the

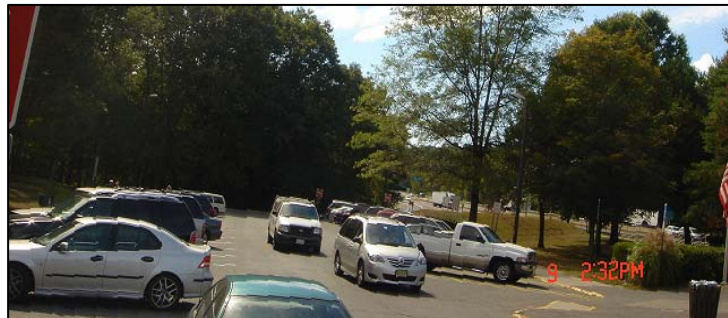


existing number of parking spaces at each location to determine the parking surplus or deficit. The parking surveys included overnight hours because truck parking generally peaks overnight when truck drivers pull over to rest.

During the overnight hours, trucks are often parked in unmarked areas or along the highway or highway exit ramps because the demand for truck spaces exceeds the number of truck spaces provided at roadside facilities. There also may be drivers who bypass particular roadside facilities because all truck parking spaces are full. Thus, there is assumed to be a substantial latent (unmet) demand at existing roadside facilities. There is also a latent demand along stretches of roadways with no existing roadside facilities, such as I-91 north of Hartford and I-84 (westbound) between Danbury and Southington.

The U.S. Department of Transportation Federal Highway Administration’s (FHWA) 1996 Truck Parking Demand Model was used to estimate this latent truck parking demand for both existing roadside facilities and locations where no roadside facilities are currently provided. A description of FHWA’s Truck Parking Demand Model methodology and its variables is provided in Appendix A of Volume III. Truck space demand calculations assume full occupancy of all private truck stop spaces. The existing automobile and truck demand results are shown in Table 3-5.

Survey data compiled during the study for existing public roadside facilities indicates that automobiles currently experience an overall statewide surplus of 700 parking spaces. For existing locations, automobile parking spaces are currently only 57% utilized during daytime peak hours. This represents an average of approximately 31 unused parking spaces per existing location. However, two locations (northbound Route 15 in Fairfield and eastbound I-84 in Willington) currently experience small auto space deficiencies (less than 10 spaces). Additional latent demand (parking deficit) along I-91, I-84, and Routes 2, 9, and 20 is estimated to be approximately 340 spaces. Thus, statewide, the automobile parking space surplus is estimated to be approximately 360 spaces.



Automobile parking deficit currently exists at I-84 eastbound rest area in Willington

Conversely, overnight truck parking demand currently exceeds the number of available truck parking spaces. Based on the FHWA Truck Parking Demand Model results, existing facilities that currently provide truck parking experience a statewide deficit of approximately 700 truck parking spaces. This represents a statewide truck demand 65% higher than the current parking supply. For these 21 facilities, this represents an average deficit of 33 truck spaces per existing rest area/service plaza. Existing truck parking deficits along study corridors are:

- I-84 -219 spaces
- I-91 - 88 spaces
- I-95 -353 spaces
- I-395 - 42 spaces
- TOTAL -702 spaces



Large Truck parking deficit currently occurs at I-95 southbound service plaza in Darien



Table 3-5 Existing (2005) Auto and Truck Parking

ID #	ROUTE/ DIRECTION	TOWN	Autos			Trucks			
			Existing Spaces ¹ (veh)	2005 Demand ² (veh)	Parking Surplus/ Deficit (veh)	Existing Public Spaces ¹ (veh)	Existing Private Spaces ³ (veh)	2005 Demand ⁴ (veh)	Parking Surplus/ Deficit (veh)
EXISTING LOCATIONS:									
1	Route 15 / NB	Greenwich	36	15	21	0	0	0	0
2	Route 15 / SB	Greenwich	25	14	11	0	0	0	0
3	Route 15 / NB	New Canaan	26	16	10	0	0	0	0
4	Route 15 / SB	New Canaan	20	17	3	0	0	0	0
5	Route 15 / NB	Fairfield	15	16	-1	0	0	0	0
6	Route 15 / SB	Fairfield	24	14	10	0	0	0	0
7	Route 15 / NB	Orange	17	13	4	0	0	0	0
8	Route 15 / SB	Orange	16	11	5	0	0	0	0
9	Route 15 / NB	North Haven	17	13	4	0	0	0	0
10	Route 15 / SB	North Haven	20	15	5	0	0	0	0
ROUTE 15 TOTALS:			216	144	72	0	0	0	0
11	I-84 / EB	Danbury	92	21	71	40	0	83	-43
12	I-84 / EB	Southington	56	18	38	21	20	145	-104
13	I-84 / EB	Willington	29	35	-6	7	113	189	-69
14	I-84 / WB	Willington	52	33	19	24	112	139	-3
I-84 TOTALS:			229	107	122	92	245	556	-219
15	I-91 / SB	Wallingford	68	20	48	59	0	109	-50
16	I-91 / NB	Middletown	59	23	36	37	0	75	-38
I-91 TOTALS:			127	43	84	96	0	184	-88
17	I-95 / SB	Darien	115	66	49	19	0	116	-97
18	I-95 / NB	Darien	100	94	6	18	0	88	-70
19	I-95 / NB	Fairfield	100	46	54	22	0	94	-72
20	I-95 / SB	Fairfield	95	71	24	21	0	89	-68
21	I-95 / NB	Milford	100	56	44	25	95	90	30
22	I-95 / SB	Milford	115	55	60	15	95	85	25
23	I-95 / NB	Branford	115	56	59	14	50	83	-19
24	I-95 / SB	Branford	62	37	25	9	50	70	-11
25	I-95 / NB	Madison	65	45	20	10	0	48	-38
26	I-95 / SB	Madison	100	72	28	26	0	84	-58
27	I-95 / NB	Westbrook	22	14	8	0	50	41	9
28	I-95 / SB	North Stonington	44	26	18	34	50	68	16
I-95 TOTALS:			1,033	638	395	213	390	956	-353
29	I-395 / SB	Montville	28	10	18	9	0	23	-14
30	I-395 / NB	Plainfield	33	11	22	9	8	34	-17
31	I-395 / SB	Plainfield	30	17	13	9	7	27	-11
I-395 TOTALS:			91	38	53	27	15	84	-42
Existing Location SUBTOT:			1,696	970	726	428	650	1,780	-702
POTENTIAL NEW LOCATIONS:									
32	I-91 / NB	North of Hartford Area	0	46	-46	0	0	98	-98
33	I-91 / SB	North of Hartford Area	0	62	-62	0	0	144	-144
34/35	I-84 / EB & WB	Danbury/Waterbury Area	0	77	-77	0	20	169	-149
36	Route 9 / NB	Middlebury/Old Saybrook	0	32	-32	0	0	75	-75
37	Route 9 / SB	Middlebury/Old Saybrook	0	32	-32	0	0	75	-75
38	Route 20 or I-91	Bradley Area	0	18	-18	0	0	42	-42
39	Route 2 / EB	Colchester/Norwich Area	0	35	-35	0	0	81	-81
40	Route 2 / WB	Colchester/Norwich Area	0	35	-35	0	0	81	-81
New Location SUBTOT:			0	337	-337	0	20	765	-745
GRAND TOTALS:			1,696	1,307	389	428	670	2,545	-1,447

NOTES:

1. Based on EarthTech Parking Surveys, summer 2005.
2. Value shown is the higher of the peak weekday and weekend.
3. Includes truck spaces at private truck stops located in the vicinity of the public rest areas/service plazas.
4. Truck space demand values assume full occupancy of all available private truck stop spaces.



In addition, for areas where public roadside facilities are not currently provided, there is currently an unmet demand of approximately 745 truck spaces. This results in a current overall statewide deficit of approximately 1,447 truck parking spaces. Additional parking data is provided in Appendix A of Volume III.

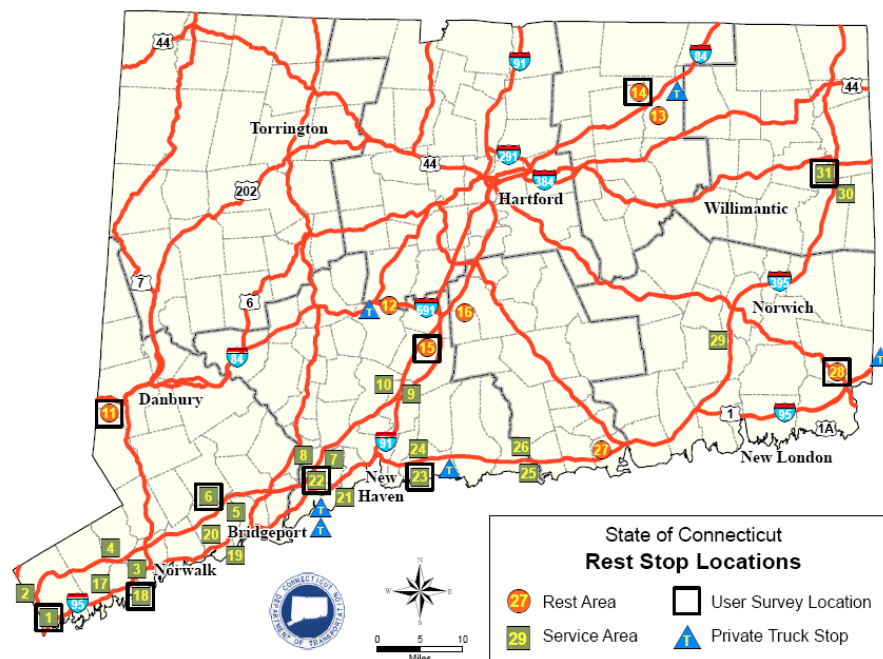
3.1.7 User Survey

A critical element in attaining the vision for Connecticut's roadside facilities is to better address the needs of the traveling public. A user survey was conducted very early in the study process to determine who is using the Connecticut roadside service facilities and how the facilities are perceived by the traveling public. The survey reached more than 1,500 travelers who stopped at 10 of the state's rest areas and service plazas in the late summer of 2005. Two key messages from the survey were that travelers would like a greater variety of food choices and better, cleaner restrooms. A summary of the User Survey methodology and results is provided below.

3.1.7.1 Survey Design and Methodology

Travelers were surveyed at 10 selected rest areas/service plazas at varied times of the day, on both weekdays and weekends during late summer (a busy travel season) of 2005. The survey was conducted at facilities on major corridors in the state, including service plazas on I-95 (NB and SB), I-395 (SB), and Route 15 (NB and SB), and rest areas on I-84 (EB and WB), and I-91 (SB). Locations were selected for diversity in geography, direction, and corridor. Gateway locations were targeted, but interior locations were also sampled. The map below shows the following 10 rest areas and service plazas included in the survey:

- #1³ - Greenwich Rt 15 Service Plaza (NB)
- #6 - Fairfield Rt 15 Service Plaza (SB)
- #11 - Danbury I-84 Rest Area (EB)
- #14 - Willington I-84 Rest Area (WB)
- #15 - Wallingford I-91 Rest Area (SB)
- #18 - Darien I-95 Service Plaza (NB)
- #22 - Milford I-95 Service Plaza (SB)
- #23 - Branford I-95 Service Plaza (NB)
- #28 - N. Stonington I-95 Rest Area (SB)
- #31 - Plainfield I-395 Service Plaza (SB)



³ Numbers represent location identification numbers for the 31 service areas evaluated in the study.



Three basic types of data were sought from the survey, including:

1. Travel information
2. Opinions about facilities and services
3. Demographic information

An example of the survey instrument appears in Figure 3-3 on the next page and in Appendix B of Volume III.

The user survey questions were designed to identify:

- Who is using Connecticut's rest areas and service plazas?
- Why they are stopping?
- How well do the existing facilities meet their needs?
- Where do they travel to and from (and where they live)?
- What additional services or facilities they would like to see at Connecticut's rest areas and service plazas? and
- How do they view Connecticut's facilities and services?

The survey instrument was designed to be either self-administered or administered interview-style (e.g. "face-to-face"). Surveys that were not completed immediately on site could be returned by mail and many were returned in this manner. The survey questions and format were identical for both the self-administered, interview-style, and mail-back return-response versions.

3.1.7.2 Survey Results

The critical findings of the survey are presented below. Additional survey findings and details for specific locations and issues are provided in the full *User Survey Analysis and Results Technical Memorandum*, (May 2006) on the study website and in Appendix B of Volume III.

Table 3-6 shows the selected survey locations and the number of responses obtained. A total of 1,662 surveys were completed at the 10 study locations. Some respondents did not answer every question. Therefore, for some questions, the total number of respondents was less than 1,662. The reasons for higher numbers of respondents at some locations and lower numbers at other locations include weather, time of day, volume of travelers, traveler attitudes, and other conditions outside the control of the survey crew.

Table 3-6 Survey Locations and Percent Responses

Location	Roadway	Direction	Facility Type	Total Respondents	Percent
Greenwich	Route 15	NB	Service Plaza	145	9%
Fairfield	Route 15	SB	Service Plaza	74	4%
Danbury	I-84	EB	Rest Area	159	10%
Wilmington	I-84	WB	Rest Area	294	18%
Wallingford	I-91	SB	Rest Area	224	13%
Darien	I-95	NB	Service Plaza	109	7%
Milford	I-95	SB	Service Plaza	131	8%
Branford	I-95	NB	Service Plaza	137	8%
N. Stonington	I-95	SB	Rest Area	205	12%
Plainfield	I-395	SB	Service Plaza	184	11%
GRAND TOTAL:				1,662	100%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.



Figure 3-3 Sample Survey Card Handed Out During User Survey

Statewide Rest Area and Service Plaza Study, continued.

8. Please rate the services you used here based on the following criteria:
 Excellent (E), Satisfactory (S), Needs Improvement (N), Poor (P), Not Applicable (NA)

Availability of parking spaces	E	S	N	P	NA
Availability of food choices	E	S	N	P	NA
Quality of food	E	S	N	P	NA
Convenience store	E	S	N	P	NA
Bathroom– availability	E	S	N	P	NA
Bathroom– cleanliness/attractiveness	E	S	N	P	NA
Feeling of safety on site	E	S	N	P	NA
Interior building attractiveness/maintenance	E	S	N	P	NA
Outside grounds (landscaping/plantings)	E	S	N	P	NA
Overall rating of rest area	E	S	N	P	NA

9. Have you been at this service plaza or rest area before? Yes No
 If yes, how often do you stop here?
 Daily Weekly Monthly 2-3 times a year Once a year

10. What other key services/facilities might you use at a rest area or service plaza if it were available? (Check no more than five)

<input type="checkbox"/> Greater variety of food choices	<input type="checkbox"/> Table service restaurant
<input type="checkbox"/> ATM Machines	<input type="checkbox"/> Traveler/tourist information
<input type="checkbox"/> Internet connections (WiFi)	<input type="checkbox"/> Playground equipment
<input type="checkbox"/> Lodging	<input type="checkbox"/> Video/arcade games
<input type="checkbox"/> Picnic area	<input type="checkbox"/> Pet walking area
<input type="checkbox"/> Fuel	<input type="checkbox"/> Auto repair services

What single feature of this rest area/service plaza would you improve?

Do you have any comments or concerns about Connecticut rest areas?

Thank you for completing this survey. Please drive safely.
 For more information on this study, please visit:
www.ctrestareas.org

Statewide Rest Area and Service Plaza Study

The Connecticut Department of Transportation is conducting a study to evaluate its service plazas and rest areas. Thank you for taking the time to complete this survey. Your opinion is very important as ConnDOT seeks to improve the facilities along Connecticut's highways.

**ConnDOT Rest Area Study
 72 Cedar Street
 Hartford, CT 06106**

1. What is your home zip code? _____

2. Age: (Optional)
 <18 18-30 30-50
 50-60 >60

3. Sex: Male Female

4. What is your vehicle type?
 Passenger Car/Van Bus
 Commercial Truck Motorcycle

5. Where did you start this particular trip?
 Town: _____
 State: _____ Zip code: _____

6. Why are you stopping here?
 (Check all that apply)
 Rest/Sleep Food/Drink
 Bathroom Fuel Other _____

5. What is the overall purpose of this trip? (Please check)
 Work/Business
 Vacation/Entertainment
 Shopping
 Personal/Business
 Other _____

7. How much money did you or will you spend at this rest stop?
 \$0 <\$10 \$10-20
 \$30-40 >\$40

Continued on other side...



Demographics

As shown in Table 3-7, of the 1,572 respondents who provided this information, 1,282 (82%) were over 30 years old. This indicates a mature traveler population using the state roadway facilities.

Table 3-7 Age of Respondents

Age	Total Respondents	Percent
<18	35	2%
18-30	255	16%
30-50	601	38%
50-60	393	25%
>60	288	18%
GRAND TOTAL:	1,572	100%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

As shown in Table 3-8, the majority of total respondents (64%) were male.

Table 3-8 Gender of Respondents

Gender	Total Respondents	Percent
Female	513	36%
Male	922	64%
GRAND TOTAL:	1,435	100%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Origins and Destinations

Table 3-9 presents the origins and destinations of respondents. Of the 1,398 respondents who answered this question:

- 161 (approximately 12%) indicated that their trips were made entirely within Connecticut (internal-internal)
- 400 respondents (29%) began their trip in another state and ended in Connecticut (external-internal)
- 94 trips (7%) began in Connecticut and ended in another state (internal-external),
- 743 trips (53%) were “through,” or external-external trips (i.e., they did not have Connecticut as either the origin or destination of the trip).

Table 3-9 Origins and Destination of Travelers

Origin (from)	Destination (to)														Total	Orig. %
	CT	NY	MA	NJ	PA	RI	ME	VA	NH	MD	NC	FL	VT	OH		
CT	161	38	22	11	4	6	7	3	1	0	1	1	0	0	255	18%
NY	97	23	36	1	0	15	4	0	2	0	0	0	4	0	182	13%
MA	140	151	18	50	42	1	0	11	0	6	6	6	2	5	438	31%
NJ	36	1	35	5	1	7	1	0	7	0	0	0	1	0	94	7%
PA	27	2	18	0	7	3	7	0	4	0	0	0	0	0	68	5%
RI	11	18	0	7	7	5	0	1	0	1	0	1	0	1	52	4%
ME	30	22	1	10	18	0	4	4	1	6	3	3	0	0	102	7%
VA	7	1	5	0	0	3	4	5	1	0	0	0	0	0	26	2%
NH	35	20	0	15	5	1	0	2	8	4	1	2	0	0	93	7%
MD	5	0	11	0	0	6	5	1	0	5	0	0	2	0	35	3%
FL	2	0	4	0	0	0	0	0	1	0	0	1	0	0	8	1%
NC	1	0	3	0	0	2	0	0	0	0	2	0	1	0	9	1%
VT	2	18	0	1	0	1	0	0	1	0	0	0	0	0	23	2%
OH	7	2	0	0	0	0	0	0	0	0	0	0	0	4	13	1%
Total	561	296	153	100	84	50	32	27	26	22	13	14	10	10	1398	100%
Dest. %	40%	21%	11%	7%	6%	4%	2%	2%	2%	2%	1%	1%	1%	1%	100%	

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.



For this sample of survey respondents, the state with the largest number of *origins* was Massachusetts (31%). It is interesting that motorists originating in Massachusetts had higher destination percentages for New York (34%) than for Connecticut (32%). This is also true for motorists originating from Rhode Island. This indicates that many trips from these two states are “through trips” with final destinations outside Connecticut. The state with the largest number of *destinations* was Connecticut (40%). Fewer trips originated or were destined for more distant states, such as Florida, North Carolina, and Ohio.

Vehicle Type

Table 3-10 shows the vehicle type driven by survey respondents. The vast majority (89%) of respondents to this question were traveling in passenger cars or vans. Commercial truckers comprised 8% of the survey respondents. Bus and motorcycle combined comprised 3%.

Table 3-10 Vehicle Type

Vehicle Type	All Respondents	
Passenger Car/Van	1,433	89%
Commercial Truck	137	8%
Bus	35	2%
Motorcycle	14	1%
GRAND TOTAL:	1,619	100%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

While passenger cars and vans are clearly the vast majority at every location, the percentage of commercial truck driver respondents was highest at the Plainfield I-395 (SB) service plaza (21%) and the Wallingford I-91 (SB) rest area (14%). Data from the traffic count program presented earlier in this chapter shows that a higher percentage of truckers actually stop at rest areas than were captured by the user survey, as truckers stopping to sleep or rest at night would not have been captured in the survey.

Frequency of Visits

Table 3-11 shows that approximately 40% of all respondents reported visiting the traveler facility where they were surveyed two to three times per year, while 23% stopped once per year or less, 19% stopped monthly, and 15% stopped weekly.

Table 3-11 Frequency of Visits by Location

Location	Number/Percent of Respondents											
	Once per Year		2-3 Times per Year		Monthly		Weekly		Daily		TOTAL	
Greenwich Route 15 NB Service Plaza	13	12%	43	38%	25	22%	28	25%	4	4%	113	100%
Fairfield Route 15 SB Service Plaza	4	7%	26	46%	15	26%	8	14%	4	7%	57	100%
Danbury I-84 EB Rest Area	13	18%	38	51%	14	19%	9	12%	0	0%	74	100%
Willington I-84 WB Rest Area	56	43%	49	37%	18	14%	7	5%	1	1%	131	100%
Wallingford I-91 SB Rest Area	35	31%	39	35%	20	18%	13	12%	5	4%	112	100%
Darien I-95 NB Service Plaza	12	19%	27	43%	16	25%	7	11%	1	2%	63	100%
Milford I-95 SB Service Plaza	14	20%	28	40%	14	20%	10	14%	4	6%	70	100%
Branford I-95 NB Service Plaza	18	29%	24	38%	11	17%	8	13%	2	3%	63	100%
N. Stonington I-95 SB Rest Area	28	36%	27	35%	9	12%	11	14%	3	4%	78	100%
Plainfield I-395 SB Service Plaza	11	9%	42	36%	26	22%	32	27%	6	5%	117	100%
TOTAL ALL RESPONDENTS:	204	23%	343	39%	168	19%	133	15%	30	3%	878	100%

Source: Fitzgerald & Halliday Inc. User Surveys, 2005.



For most of the 10 locations surveyed, the most frequent response was visiting that facility “two to three times per year,” indicating some “loyalty” to a particular stop location. Overall, the second highest response (overall) was “once per year,” and the third most frequent response was “monthly.” These results indicate that many travelers follow a routine/schedule that includes stopping at familiar rest and service areas as part of their travel.

Trip Purpose

Travelers were asked the purpose of their overall trip, and responses are presented in Table 3-12. “Vacation/entertainment” was the most frequently cited trip purpose of travelers (53%), with “work/business” (22%) and “personal business” (16%) also showing significant responses. The percentage of those citing “vacation/entertainment” may have been skewed by the time of year of the survey, as the late summer is a heavy vacation period. Many of the respondents indicating “other” as a trip purpose were also engaged in personal travel (e.g., camp, college, or medical trips).

Table 3-12 Trip Purpose

Trip Purpose	Number/Percent of Respondents	
Vacation/Entertainment	867	53%
Work/Business	349	22%
Personal Business	261	16%
Shopping	42	3%
Other	103	6%
GRAND TOTAL:	1,622	100%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Reasons for Stopping

Travelers were asked their reasons for stopping at the rest area or service plaza, and responses are presented in Table 3-13. Some respondents did not answer every question. The percent is calculated by dividing the number of responses by the respondents for each location. Use of the restroom facilities was the most frequently cited reason for stopping for both service plazas and rest areas, 73% and 86%, respectively. The percent stopping for food/drink at service plazas (62%) is much higher than at rest areas (25%) due to the greater food choices available at service plazas. No fuel service is available at rest areas.

Table 3-13 Reasons for Stopping by Location

Location	Bathroom		Food/Drink		Rest/Sleep		Fuel		Total Respondents
Greenwich Route 15 NB Service Plaza	110	76%	95	66%	23	16%	11	8%	145
Fairfield Route 15 SB Service Plaza	53	72%	39	53%	8	11%	13	18%	74
Darien I-95 NB Service Plaza	84	77%	57	52%	18	17%	14	13%	109
Milford I-95 SB Service Plaza	100	76%	82	63%	26	20%	29	22%	131
Branford I-95 NB Service Plaza	97	71%	95	69%	26	19%	20	15%	137
Plainfield I-395 SB Service Plaza	127	69%	113	61%	23	13%	33	18%	184
Danbury I-84 EB Rest Area	143	90%	20	13%	35	22%	0	0%	159
W. Willington I-84 WB Rest Area	252	86%	68	23%	61	21%	0	0%	294
Wallingford I-91 SB Rest Area	192	86%	72	32%	45	20%	0	0%	224
North Stonington I-95 SB Rest Area	171	83%	57	28%	55	27%	0	0%	205
Service Plaza Totals:	571	73%	481	62%	124	16%	120	15%	780
Rest Area Totals:	758	86%	217	25%	196	22%	0	0%	882
TOTALS/AVERAGES:	1,329	80%	698	42%	320	19%	120	7%	1,662

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Note: Respondents were permitted to provide more than one reason for stopping.



“Food/drink” was cited as a reason for stopping by a high number of respondents (69%) at the Branford I-95 service plaza (NB) and a low number of respondents (3%) at the Danbury I-84 rest area (EB). “Rest/sleep,” ranged from 11% at the Fairfield Route 15 service plaza (SB) to 27% at the North Stonington I-95 rest area (SB). At the Milford I-95 service plaza (SB), 22% indicated that they stopped for fuel.



Food/drink and bathrooms were most cited reasons for stopping at Service plaza along I-84 NB in Branford

Since rest areas (located on I-84 and I-91) do not provide fuel stations, restaurants, or convenience stores, travelers cannot stop for fuel at these locations, and food and beverage choices are limited to vending machine offerings. Overall, “fuel” was only cited as a reason to stop by 8% of all respondents,⁴ while 43% cited “food/drink” as a reason to stop.

Money Spent by Travelers

Travelers were asked how much money they spent at the rest area or service plaza, including fuel. Their responses are presented in Table 3-14. Approximately 80% of all respondents spent less than \$10. Of these, 32% did not spend any money. Approximately 5% spent more than \$40. At the Danbury I-84 (EB) rest area, approximately 72% of respondents spent no money. The Milford I-95 (SB) service plaza had the greatest number (14%) of respondents spending more than \$40.

Table 3-14 Money Spent by Facility Location (Including Fuel)

Location	Money Spent (2005 Dollars)									
	\$0		<\$10		\$10-20		\$30-40		>\$40	
Greenwich Route 15 NB Service Plaza	25	18%	89	63%	15	11%	5	3%	7	5%
Fairfield Route 15 SB Service Plaza	9	15%	34	57%	8	13%	6	10%	3	5%
Danbury I-84 EB Rest Area	63	72%	23	26%	1	1%	1	1%	0	0%
W. Willington I-84 WB Rest Area	75	35%	126	59%	7	3%	1	0%	6	3%
Wallingford I-91 SB Rest Area	108	49%	98	45%	6	3%	2	1%	4	2%
Darien I-95 NB Service Plaza	20	19%	37	35%	31	29%	9	8%	10	9%
Milford I-95 SB Service Plaza	20	16%	47	36%	32	25%	12	9%	18	14%
Branford I-95 NB Service Plaza	15	12%	54	43%	38	30%	12	9%	8	6%
North Stonington I-95 SB Rest Area	101	52%	82	42%	4	2%	3	2%	4	2%
Plainfield I-395 SB Service Plaza	31	17%	113	63%	17	9%	10	6%	9	5%
TOTAL:	467	32%	703	48%	159	11%	61	4%	69	5%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Table 3-15 demonstrates that travelers are likely to spend more money at service plazas than at rest areas. This is because fuel is only available at service plazas, and food and beverage choices are limited to vending machines at rest areas.

⁴ The low percentage of respondents citing “fuel” as a reason for stopping could be due to the fact that some who stopped only for fuel proceeded directly to the pump and would not have participated in the survey.



Table 3-15 Money Spent by Facility Type (Including Fuel)

Location	Money Spent (2005 Dollars)									
	\$0		<\$10		\$10-20		\$30-40		>\$40	
Rest Area	347	74%	329	47%	18	11%	7	11%	14	20%
Service Plaza	120	26%	374	53%	141	89%	54	89%	55	80%
Total	467	32%	703	48%	159	11%	61	4%	69	5%

Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Table 3-15 shows that 74% of respondents spent no money at rest areas, while only 26% of respondents at service plazas spent no money. Eighty percent of service plaza respondents spent over \$40, while only 20% spent over \$40 at rest areas. This is likely due to fueling costs at service plazas.

Additional Key Services and Amenities

Travelers were asked what *other* key services/facilities they might use if available. Respondents were asked to select up to five of the following choices: greater variety of food choices, ATM machines, internet connections, lodging, picnic areas, fuel, table service restaurant, travel/tourism information, playground equipment, video arcade games, pet walking area, and auto repair services. Responses by location are shown in Figure 3-4.

The most frequently desired key service cited at all 10 survey locations was “greater variety of food choices.” “ATMs” were the second most frequently desired key amenity at most of the survey locations, although “picnic areas” was the second leading response at the Fairfield Route 15 service plaza and “fuel” was the second leading response at both the North Stonington I-95 rest area and the Willington I-84 rest area. (Note that fuel is not permitted at rest areas according to federal funding guidelines.) At the Plainfield I-395 service plaza, “table service restaurant” and “picnic areas” exceeded “ATMs” as the second and third leading responses.

Other key services and amenities mentioned frequently by respondents were internet connections (WiFi), lodging, traveler and tourist information, playground equipment, and pet walking areas.

Evaluation of Services by Visitors

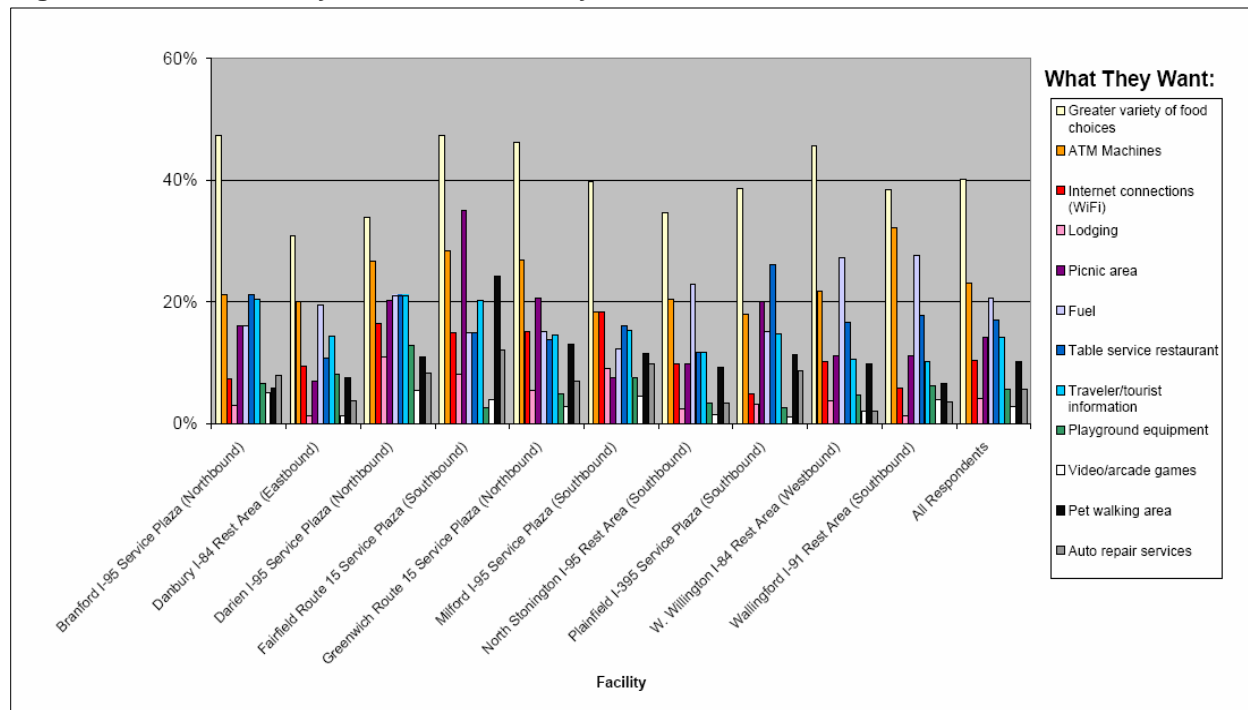
Travelers were asked to rate the services and features at the facility where they were surveyed. Categories included availability of parking spaces, food choices, bathroom availability, bathroom cleanliness, feeling of safety on the site, interior building attractiveness/maintenance, interior lighting, outside grounds, and exterior lighting. At service plazas only, respondents were also asked to rate the quality of food service and convenience store.

All respondents were asked to provide an overall rating of the facility, with “0” being the lowest rating, and “4” being the highest rating. Ratings were categorized as “excellent,” “satisfactory,” “needs improvement,” “poor,” and “not applicable.” The results, including rating averages, are summarized in Figure 3-5.

The highest ratings were attributed to “availability of parking spaces,” “outside grounds,” “feeling of safety on site,” and “bathroom availability.” The lowest ratings were attributed to “availability of food choices” and “bathroom cleanliness/attractiveness.” The food choice result is consistent with the additional key services desired (“greater variety of food choices”) shown in Figure 3-4.

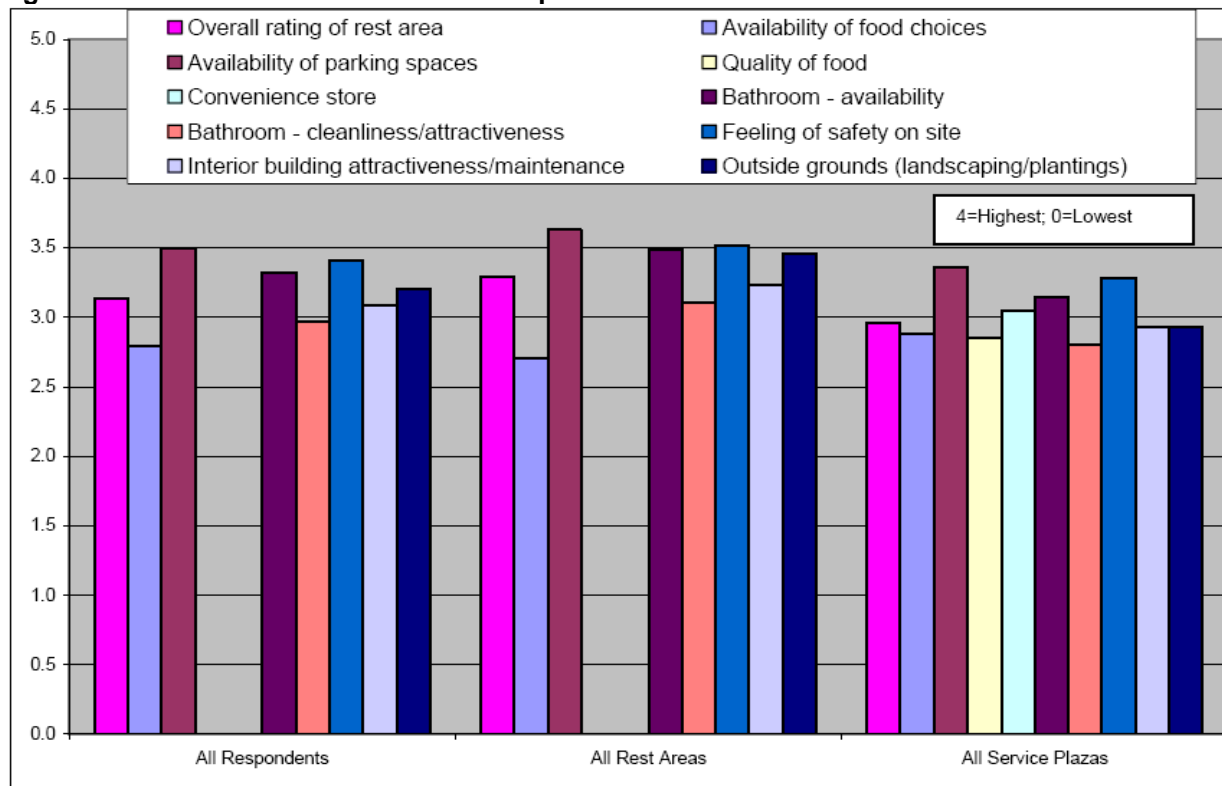


Figure 3-4 Additional Key Services Desired by Location



Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Figure 3-5 Evaluation of Services – All Respondents



Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.



Most Desired Improvements

All respondents were asked “What single feature of this rest area/service plaza would you improve?” Responses were placed into general categories, such as “bathroom issues” and “food and beverage issues.” For a more in-depth understanding, responses were also categorized into specific categories, such as “cleaner bathrooms,” “more bathrooms,” and “lack of bathroom toiletries and fixtures.” Figures 3-6 and 3-7 summarize the responses to this question for general and specific categories, respectively.

For general categories, restroom improvements were the most frequently cited (31%), with food and beverage improvements a close second (27%). “More food and beverage choices” was the specific improvement most frequently cited (23%) by respondents. “Cleaner bathrooms” (at 11%) and “need more restrooms” (9%) were also frequently cited specific improvements. “Other” improvements made up 21% of the responses. A complete listing of the responses by location is provided in Appendix B of Volume III.

Summary of User Comments

All respondents were also given the opportunity to provide any additional comments. These comments, grouped into general categories, are presented in Figure 3-8. A summary of specific comments are shown in Figure 3-9. Forty-five percent of comments were general, positive comments. These comments ranged from “always found them safe and clean” to “for the most part they are good.” A complete listing of comments by location is contained in Appendix B of Volume III.

3.1.7.3 User Survey Summary

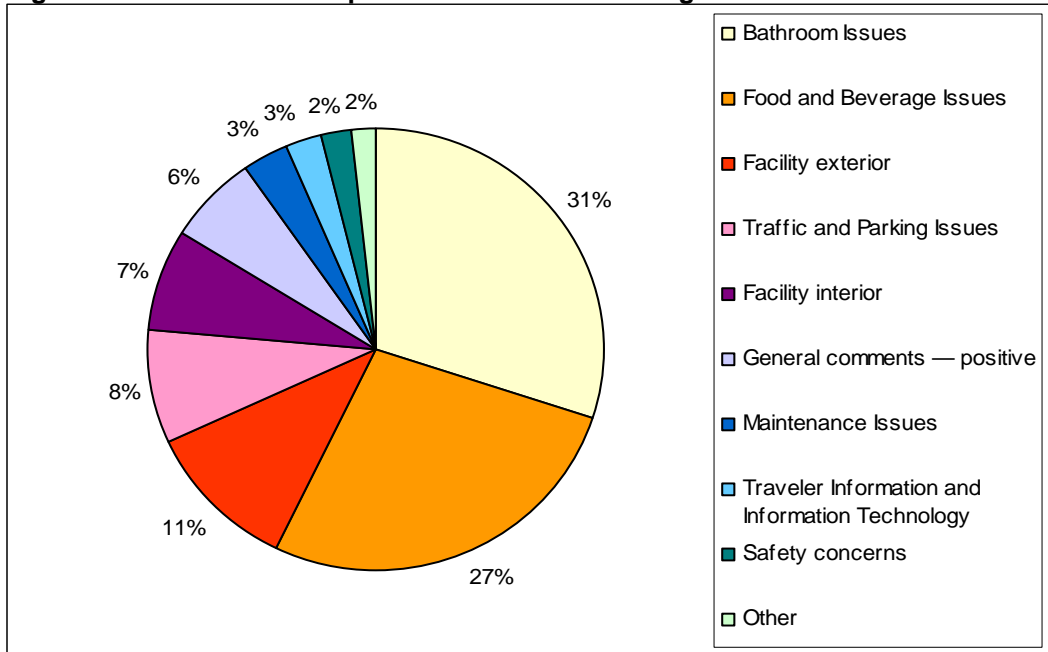
Overall, travelers indicate general satisfaction with Connecticut’s rest areas and service plazas, but also overwhelmingly note a need for more food choices, improved food quality, and cleaner and better maintained restroom facilities. The following key findings were derived from the survey results:

- Over 80% of respondents are over 30 years old;
- 64% of respondents are male and 36% are female;
- Over one-half of all respondents had origins and destinations outside of Connecticut;
- 89% of respondents drive passenger vehicles;
- 73% of users visit rest areas and services plaza at least 2-3 times per year;
- Vacation, work, and business are the primary trip purposes for those stopping;
- Bathroom facilities is the primary reason for users to stop;
- Overall, 80% of respondents spend \$10 or less per visit (combined rest area and service plaza responses);
- The most frequently desired key service was “greater variety of food choices”;
- When evaluating existing roadside facilities, respondents gave high ratings for availability of parking, grounds, safety, and bathroom availability;
- Existing facilities were rated low for food choices and bathroom cleanliness; and
- Bathroom and food service improvements were highly desired.

Additional detail and results of the user survey are documented in Appendix B of Volume III, and also available on the study website.

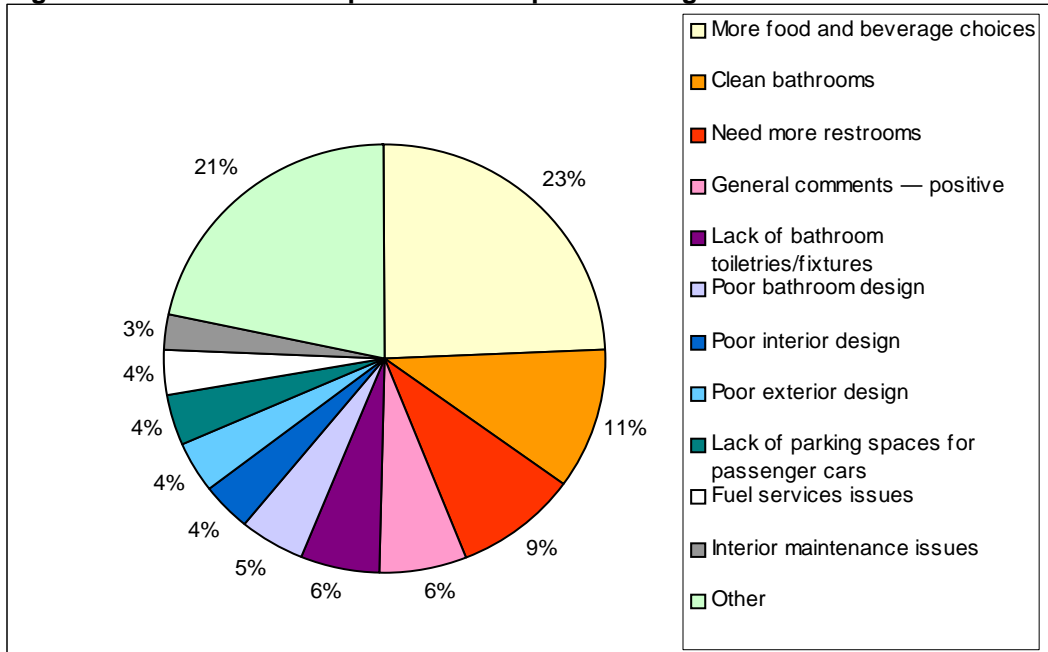


Figure 3-6 Most Desired Improvement – General Categories



Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

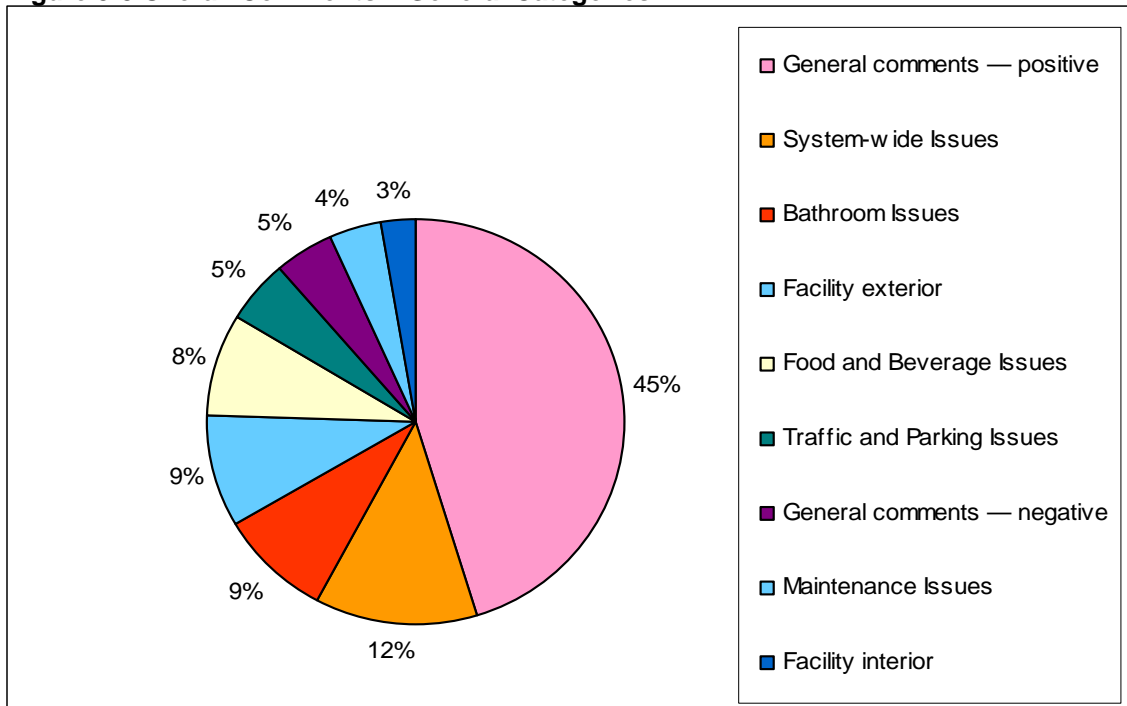
Figure 3-7 Most Desired Improvement – Specific Categories



Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

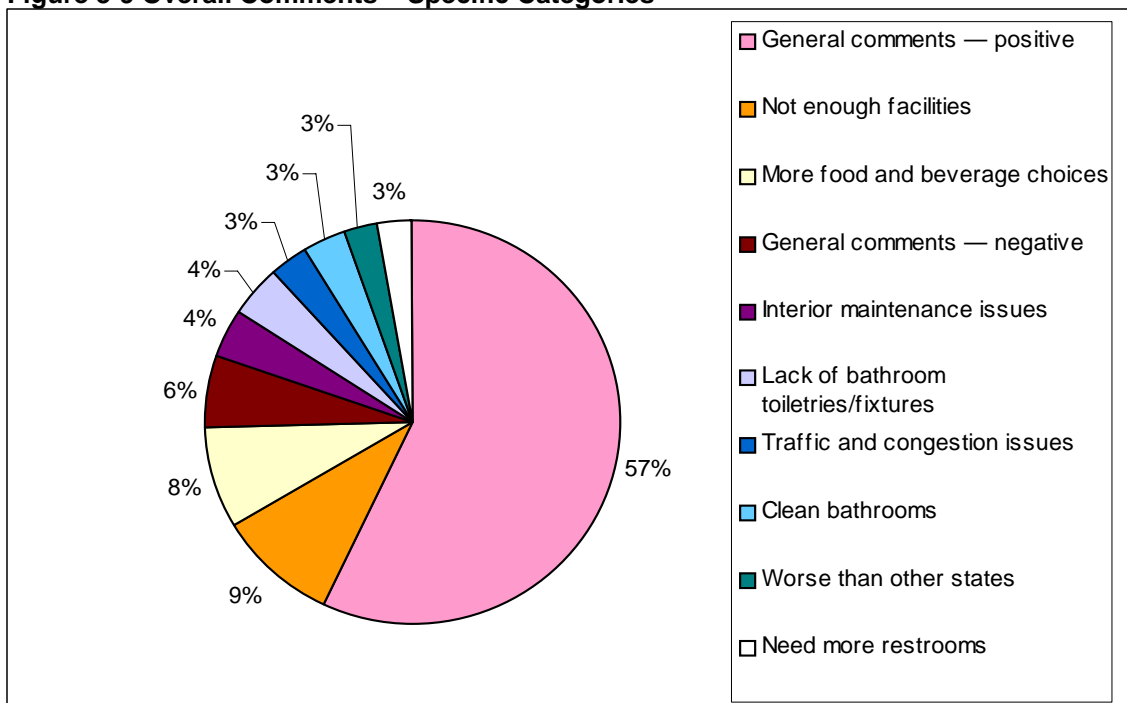


Figure 3-8 Overall Comments – General Categories



Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.

Figure 3-9 Overall Comments – Specific Categories



Source: Fitzgerald & Halliday, Inc. User Surveys, 2005.



3.2 Future Traffic Conditions

This section describes future traffic and parking projections conditions at the 31 Connecticut roadside traveler facilities.

3.2.1 Traffic Volume Projections

Existing (2005) and future 2025 daily traffic volumes are presented by corridor in Table 3-16 for selected links on Connecticut highways. Future 2025 daily volumes are also shown in Figure 3-10. Mainline daily traffic volumes for the year 2025 were based on ConnDOT 2025 traffic volume projections. ConnDOT projections assume a weighted average of projected volumes over the length of the entire segment. Note that Table 3-16 and Figure 3-10 include several locations where roadside traveler facilities are not currently provided.

As under existing conditions, I-95 is anticipated to experience the highest future daily traffic volumes in the state, and I-395 will continue to have the lowest daily traffic volumes of the state's major or interstate highways. The I-395 corridor is expected to experience the highest overall growth rate over the next 20 years (almost 34%), followed by I-84, which is anticipated to experience overall growth rate of almost 30%. Route 15, I-91 and I-95 are expected to experience growth rates between 23% and 28% over the next 20 years. Individual locations along the I-95 corridor are expected to experience both the highest and the lowest growth rates in the state. At the eastern portion of the state (North Stonington) where daily existing traffic volumes are comparatively low, I-95 could experience up to 59% growth over the next 20 years (approximately 2.3% per year). In the southwest corner of the state, where highway traffic volumes are currently highest (Darien), I-95 is expected to experience less than 11% growth over the next 20 years (approximately 0.5% per year). Additional detail regarding projected traffic volumes is provided in Appendix A of Volume III.



Heavy midday traffic volumes observed on I-95 (SB) approaching the Darien service plaza



Lighter traffic volumes observed along I-395 (SB) approaching Plainfield service plaza

3.2.2 Parking Demand Projections

Future auto and truck parking demand was estimated to assess future parking needs at Connecticut roadside traveler facilities. Auto parking demand was calculated by applying estimated ConnDOT traffic volume growth rates (2005 to 2025) to existing parking demand. Truck parking demand was calculated based on U.S. Department of Transportation Federal Highway Administration's Truck Parking Demand Model (1996). The FHWA Truck Parking Demand Model is described in Appendix A of Volume III. Truck space demand values assume full occupancy of all private truck stop spaces. Table 3-17 shows the existing number of parking spaces, the existing parking demand, and the projected future parking demand for each of the existing rest areas/service plazas. Locations with wither auto or truck parking deficits greater than 50 spaces are shown graphically in Figure 3-11. Existing (2005) and future parking demand (2025) is also estimated for areas along highways within Connecticut that are currently not served by rest areas/service plazas (see lightly shaded areas in Table 3-17). These currently unserved areas are potential sites for future roadside facilities.



Table 3-16 Mainline Traffic Volumes: Projected to 2025

ID #	TOWN	Direction	2004/2005 Daily Mainline Volume ¹ (vpd) ³	CT DOT 2025 Mainline Daily Volume ² (vpd)	Difference (vpd)	Traffic Volume Growth 2005 to 2025 (20 years)
Route 15:						
1	Greenwich	NB	26,610	32,390	5,780	21.7%
2	Greenwich	SB	26,610	32,390	5,780	21.7%
3	New Canaan	NB	33,860	43,820	9,960	29.4%
4	New Canaan	SB	33,860	43,820	9,960	29.4%
5	Fairfield	NB	35,000	40,640	5,640	16.1%
6	Fairfield	SB	35,000	40,640	5,640	16.1%
7	Orange	NB	29,600	36,410	6,810	23.0%
8	Orange	SB	29,600	36,410	6,810	23.0%
9	North Haven	NB	25,080	31,440	6,360	25.4%
10	North Haven	SB	25,080	31,440	6,360	25.4%
Average Growth Route 15:						23.0%
Interstate 84:						
11	Danbury	EB	38,520	54,420	15,900	41.3%
None ⁴	Danbury	WB	36,800	54,420	17,620	47.9%
12	Southington	EB	46,000	56,560	10,560	23.0%
None	Southington	WB	43,950	56,560	12,610	28.7%
13	Willington	EB	41,550	48,880	7,330	17.6%
14	Willington	WB	39,700	48,880	9,180	23.1%
Average Growth I-84:						29.7%
Interstate 91:						
15	Wallingford	SB	46,200	59,060	12,860	27.8%
16	Middletown	NB	48,290	59,060	10,770	22.3%
None	Windsor	SB	56,170	72,380	16,210	28.9%
None	Windsor	NB	58,700	72,380	13,680	23.3%
Average Growth I-91:						25.6%
Interstate 95:						
17	Darien	SB	79,600	88,290	8,690	10.9%
18	Darien	NB	72,500	88,290	15,790	21.8%
19	Fairfield	NB	63,320	75,850	12,530	19.8%
20	Fairfield	SB	65,450	75,850	10,400	15.9%
21	Milford	NB	63,320	75,850	12,530	19.8%
22	Milford	SB	65,450	75,850	10,400	15.9%
23	Branford	NB	42,300	53,750	11,450	27.1%
24	Branford	SB	41,560	53,750	12,190	29.3%
25	Madison	NB	35,540	43,630	8,090	22.8%
26	Madison	SB	33,240	43,630	10,390	30.4%
27	Westbrook	NB	35,540	43,630	8,090	22.8%
28	North Stonington	SB	24,390	38,870	14,480	59.4%
None	North Stonington	NB	24,390	38,870	14,480	59.4%
Average Growth I-95:						27.7%
Interstate 395:						
29	Montville	SB	24,710	34,080	9,370	37.9%
None	Montville	NB	23,400	34,080	10,680	45.6%
30	Plainfield	NB	14,350	17,790	3,440	24.0%
31	Plainfield	SB	15,150	17,790	2,640	17.4%
Average Growth I-395:						33.7%
Route 2:						
None	Colchester/Norwich Area	EB	32,000	40,000	8,000	25.0%
None	Colchester/Norwich Area	WB	32,000	40,000	8,000	25.0%
Average Growth Route 2:						25.0%
Route 9:						
None	Middletown/Old Saybrook	NB	42,000	52,500	10,500	25.0%
None	Middletown/Old Saybrook	SB	42,000	52,500	10,500	25.0%
Average Growth Route 9:						25.0%
Route 20:						
None	Bradley Area	EB	14,000	17,500	3,500	25.0%
None	Bradley Area	WB	14,000	17,500	3,500	25.0%
Average Growth Route 20:						25.0%

NOTES:

- Routes 2, 9, 15 & 20 volumes based on CONNDOT counts. Other locations based on EarthTech vehicular classification counts, 8/05 through 12/05. (All daily volumes are adjusted to reflect the weighted average of volumes over the length of the entire segment.)
- 2025 traffic volumes are a weighted average of CONNDOT 2025 Traffic Projections over the length of the entire segment. Growth on Routes 2, 9 & 20 assume an average growth of 25%.
- vpd = vehicles per day
- None = No roadside facility is currently provided at this location; potential new facility location.



Figure 3-10 Future 2025 Average Annual Daily Traffic (AADT) Volumes





Table 3-17 Auto and Truck Parking Summary: Projected to 2025

ID #	ROUTE/ DIRECTION	TOWN	Autos			Future Parking Surplus /Deficit (veh)	Trucks			Future Parking Surplus /Deficit (veh)	
			Exist- ing Spac- es ¹ (veh)	2005 De- mand ² (veh)	2025 Fore- casted Demand ³ (veh)		Existing Public Spac- es ¹ (veh)	Existing Private Spac- es ⁴ (veh)	2005 De- mand ⁵ (veh)		2025 Fore- casted Demand ⁵ (veh)
EXISTING LOCATIONS:											
1	Route 15 / NB	Greenwich	36	15	18	18	0	0	0	0	0
2	Route 15 / SB	Greenwich	25	14	17	8	0	0	0	0	0
3	Route 15 / NB	New Canaan	26	16	21	5	0	0	0	0	0
4	Route 15 / SB	New Canaan	20	17	22	-2	0	0	0	0	0
5	Route 15 / NB	Fairfield	15	16	19	-4	0	0	0	0	0
6	Route 15 / SB	Fairfield	24	14	16	8	0	0	0	0	0
7	Route 15 / NB	Orange	17	13	16	1	0	0	0	0	0
8	Route 15 / SB	Orange	16	11	14	2	0	0	0	0	0
9	Route 15 / NB	North Haven	17	13	16	1	0	0	0	0	0
10	Route 15 / SB	North Haven	20	15	19	1	0	0	0	0	0
ROUTE 15 TOTALS:			216	144	178	38	0	0	0	0	0
11	I-84 / EB	Danbury	92	21	30	62	40	0	83	118	-78
12	I-84 / EB	Southington	56	18	22	34	21	20	145	178	-137
13	I-84 / EB	Willington	29	35	41	-12	7	113	189	214	-94
14	I-84 / WB	Willington	52	33	41	11	24	112	139	164	-28
I-84 TOTALS:			229	107	134	95	92	245	556	674	-337
15	I-91 / SB	Wallingford	68	20	26	42	59	0	109	140	-81
16	I-91 / NB	Middletown	59	23	28	31	37	0	75	92	-55
I-91 TOTALS:			127	43	54	73	96	0	184	232	-136
17	I-95 / SB	Darien	115	66	73	42	19	0	116	128	-109
18	I-95 / NB	Darien	100	94	119	-19	18	0	88	118	-100
19	I-95 / NB	Fairfield	100	46	55	45	22	0	94	107	-85
20	I-95 / SB	Fairfield	95	71	82	13	21	0	89	98	-77
21	I-95 / NB	Milford	100	56	67	33	25	95	90	103	17
22	I-95 / SB	Milford	115	55	64	51	15	95	85	95	15
23	I-95 / NB	Branford	115	56	71	44	14	50	83	95	-31
24	I-95 / SB	Branford	62	37	48	14	9	50	70	81	-22
25	I-95 / NB	Madison	65	45	55	10	10	0	48	57	-47
26	I-95 / SB	Madison	100	72	94	6	26	0	84	110	-84
27	I-95 / NB	Westbrook	22	14	17	3	0	50	41	49	1
28	I-95 / SB	N. Stonington	44	26	41	3	34	50	68	108	-24
I-95 TOTALS:			1,033	638	786	245	213	390	956	1,149	-546
29	I-395 / SB	Montville	28	10	14	14	9	0	23	32	-23
30	I-395 / NB	Plainfield	33	11	14	19	9	8	34	44	-27
31	I-395 / SB	Plainfield	30	17	20	10	9	7	27	32	-16
I-395 TOTALS:			91	38	48	43	27	15	84	108	-66
POTENTIAL NEW LOCATIONS:											
32	I-91 / NB	N of Hartford	0	46	57	-57	0	0	98	122	-122
33	I-91 / SB	N of Hartford	0	62	80	-80	0	0	144	185	-185
34/35	I-84/EB & WB	Danbury/Waterbury	0	77	112	-112	0	20	169	210	-190
36	Route 9 / NB	Middlebury/Old Savbrook	0	32	41	-41	0	0	75	94	-94
37	Route 9 / SB	Middlebury/Old Savbrook	0	32	41	-41	0	0	75	94	-94
38	Rte 20 or I-91	Bradley Area	0	18	22	-22	0	0	42	52	-52
39	Route 2 / EB	Colchester/ Norwich	0	35	44	-44	0	0	81	101	-101
40	Route 2 / WB	Colchester/ Norwich	0	35	44	-44	0	0	81	101	-101
New Location SUBTOT:			0	337	441	-441	0	20	765	959	-939
GRAND TOTALS:			1,696	1,307	1,641	53	428	670	2,545	3,122	-2,024

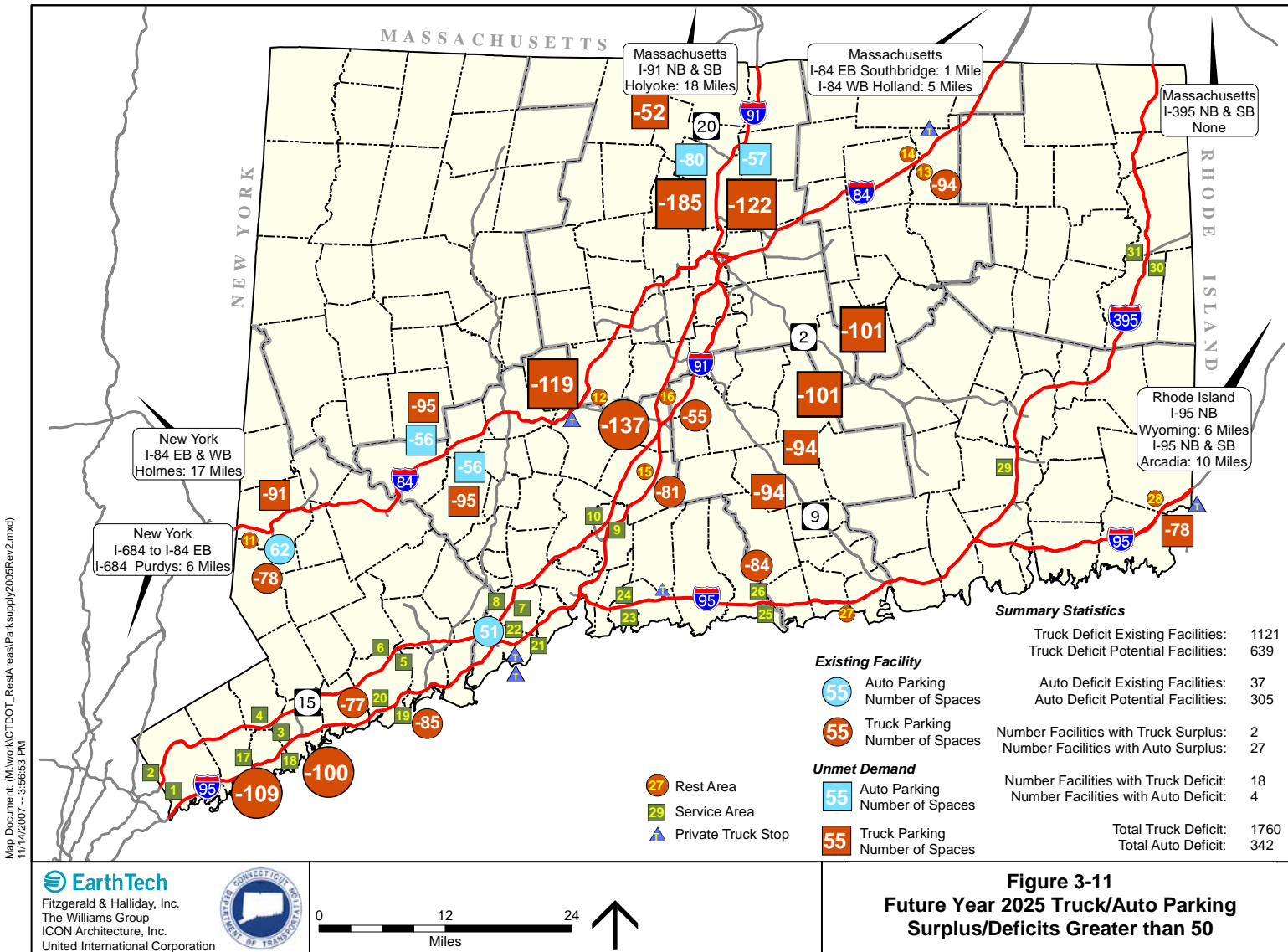
NOTES:

1. Based on Earth Tech Parking Surveys, summer 2005.
2. Value shown is the higher of the peak weekday and weekend.
3. Based on Connecticut DOT traffic volume growth rates from 2005 to 2025. Totals may not add up due to rounding.
4. Includes truck spaces at private truck stops located in the vicinity of the public rest areas/service plazas.
5. Existing and future demand based on U.S. Department of Transportation Federal Highway Administration's Truck Parking Demand Model, 1996. Truck space demand values shown assume full occupancy of all available private truck stop spaces. Totals may not add up due to rounding.

Red indicates absolute values greater than 50.



Figure 3-11 Future Year 2025 Truck/Auto Parking Surplus/Deficits Greater than 50



Map Document: (M:\work\CTDOT_RestAreas\ParkSupply\2005Rev2.mxd) 7/14/2007 -- 3:56:53 PM

EarthTech
 Fitzgerald & Halliday, Inc.
 The Williams Group
 ICON Architecture, Inc.
 United International Corporation

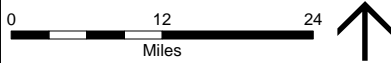


Figure 3-11
Future Year 2025 Truck/Auto Parking
Surplus/Deficits Greater than 50



As highway traffic volumes increase in the future, the demand for roadside traveler parking spaces is also anticipated to increase. By year 2025, increased demand will reduce the available automobile spaces. At several locations, including New Canaan and Fairfield (Route 15), Willington (I-84), and Darien (I-95), the 2025 auto parking demand will exceed the existing supply of auto spaces by between 2 and 19 spaces. In addition, areas that are currently not served by rest areas, such as the northern portion of I-91, I-84 westbound in Danbury, I-84 westbound in Southington, I-95 northbound in North Stonington, and I-395 northbound in Montville, will experience unmet future demand of approximately 440 automobile spaces.

The statewide truck space deficit will increase in the future (2025) by 577 spaces. All rest areas/service plazas with truck services are anticipated to experience a future truck parking deficit with the exception of I-95 in Milford (both directions) and I-95 northbound in Westbrook, which will be at capacity. Future 2025 truck parking deficits along study corridors are:

- I-84 - 337 spaces
- I-91 - 136 spaces
- I-95 - 546 spaces
- I-395 - 66 spaces
- TOTAL -1,085 spaces



The largest future truck deficit is anticipated along I-84 in Southington

The northern portion of I-91, which currently has no rest areas/service plazas, will experience unmet future demands between 122 and 185 truck spaces in each direction.

The parking surplus/deficit numbers discussed above are based on the assumption that rest area/service plaza facilities do not change in the future. If new amenities and/or services are added to any existing locations, there may be a need to supply additional parking in the future.

Additional information regarding parking demand estimates is provided in Appendix A of Volume III.

3.3 Environmental Site Assessments

Phase I Environmental Site Assessments (ESAs) were performed for the 31 existing public rest areas, service plazas, and welcome centers on Connecticut highways. The purpose of the assessments was to identify recognized environmental conditions (RECs), including the presence or likely presence of hazardous substances or petroleum products in the soil and groundwater at each site.

To identify information available related to environmental conditions for each property, generally accepted practices developed by the American Society for Testing and Materials (ASTM) Standard E1527-00 were followed. The ESAs included review of federal, state, and local records and/or databases, interviews of local officials and site personnel, and site reconnaissance.

3.3.1 Environmental Data Collection

Federal, state, and local databases were reviewed for RECs. Table 3-18 below shows the databases searched and the associated radii.



Table 3-18 Environmental Database Summary

Database	Radius Searched
National Priorities List (NPL)	1 mile
State Hazardous Waste Sites (SHWS)	1 mile
State Landfill (SWF/LF)	½ mile
Underground Storage Tanks (UST)	¼ mile
Leaking Underground Storage Tanks (LUST)	½ mile
Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	½ mile
Resource Conservation and Recovery Information System (RCRIS) – Transportation, Storage and Disposal (TSD) Database	½ mile
RCRA Large/Small Quantity Generator (LQG/SQG) Database	½ mile
Corrective Action Report (CORRACTS)	1 mile
Superfund Consent Decrees (CONSENT)	1 mile
Superfund Records of Decision (ROD)	1 mile
Emergency Response Notification System (ERNS)	Target Property
Toxic Chemical Release Inventory System (TRIS)	Target Property
Leachate and Wastewater Discharge Sites (LWDS)	1 mile
Site Discovery and Assessment Database (SDADB)	½ mile

Cities and towns where rest areas, service plazas and welcome centers are located were contacted as part of the records review assessment. The following local departments were consulted:

- Tax Assessor
- City/Town Clerk
- Planning and Zoning Department
- Fire Department
- Building Department
- Engineering Department
- Water Pollution Control Authority/Sewer Office

Available previous environmental assessment and monitoring reports were also reviewed.

A reconnaissance of the study sites was conducted to record on-site uses and to observe other hazardous materials in the environment, adjacent properties and those within a one-half mile radius.

3.3.2 Environmental Findings

Table 3-19 summarizes the recognized environmental conditions (REC) identified for each of the 31 study sites. A REC had been recorded at most of the study sites. However, no RECs were recorded at the following five study sites:

- I-84 eastbound Southington (#12)
- I-84 eastbound Willington (#13)
- I-84 westbound Willington (#14)
- I-95 northbound Westbrook (#27)
- I-95 southbound N. Stonington (#28)

The most prevalent REC recorded at the study sites was a release of gasoline into either the soil or the groundwater. Many of the study sites have been identified as having ground water contamination. Leaking underground storage tanks (LUST) incidents have been identified at 15 of the study sites. LUST incidents have been recorded within one-half mile of an additional 11 sites. No LUST incidents have been recorded at or near the following five study sites:



- I-91 southbound Wallingford (#15)
- I-91 northbound Middleton (#16)
- I-395 southbound Montville (#29)
- I-395 northbound Plainfield (#30)
- I-395 southbound Plainfield (#31)

Many of the sites have been identified as having the potential to be impacted by asbestos (due to building facility age); PCBs; hydraulic lift fluids; and soil contamination through floor/basement drains in buildings. However, the level of impact from these potential causes could not be identified.

A separate detailed Phase I Environmental Site Assessment for each of the 31 traveler service areas is in provided in Volume II.

3.3.3 Environmental Recommendations

A number of general environmental improvements are recommended to the state for all rest areas and service plazas. These are summarized below.

- Environmental site clean-up of REC and LUST where needed;
- Craft a policy that reduces truck idling with the aim to eliminate idling by year 2010;
- Provide alternative fuels (bio-diesel);
- Address the issue of noise at locations where residential development is adversely affected per FHWA guidelines;
- New and renovated facilities should incorporate “best practices” such as green buildings, energy efficiency, and environmental responsibility; and
- If possible, new rest areas should be located at existing trailheads or other natural features of interest.



Table 3-19 Recognized Environmental Conditions in Connecticut Public Travel Service Areas

ID #	Location	Gasoline Release ¹	Ground Water Contamination ²	Hazardous Materials	Potential Asbestos ³	Abandoned Industrial Storage Tanks	Lust Site Incident ⁴	Lust Incident within 1/2 mile	Total Petroleum Hydrocarbon ⁵	Potential PCB's	Potential Soil Impacts from Hydraulic Lifts	Potential Soil Contamination due to Floor / Basement Drains
1	Greenwich RT. 15 NB Service Plaza	X	X				X					
2	Greenwich RT. 15 SB Service Plaza	X	X				X					
3	New Canaan RT. 15 NB Service Plaza	X	X					X				
4	New Canaan RT. 15 SB Service Plaza	X	X				X					
5	Fairfield RT. 15 NB Service Plaza	X			X			X				
6	Fairfield RT. 15 SB Service Plaza	X			X			X				
7	Orange RT.15 NB Service Plaza	X	X				X					
8	Orange RT. 15 SB Service Plaza	X ⁶					X					
9	North Haven RT. 15 NB Service Plaza	X	X				X					
10	North Haven RT. 15 SB Service Plaza	X				X		X				
11	Danbury I-84 EB Rest Area	N/A ⁷			X			X				
12	Southington I-84 EB Rest Area							X				
13	Willington I-84 EB Rest Area							X				
14	Willington I-84 WB Rest Area				X		X					
15	Wallingford I-91 SB Rest Area	N/A			X							
16	Middletown I-91 NB Rest Area	X			X							
17	Darien I-95 SB Service Plaza	X	X		X		X		X	X	X	
18	Darien I-95 NB Service Plaza	X			X		X			X	X	
19	Fairfield I-95 NB Service Plaza	X	X		X			X		X	X	
20	Fairfield I-95 SB Service Plaza	X			X	Maybe		X		X	X	
21	Milford I-95 NB Service Plaza	X	Maybe		X		X				X	X
22	Milford I-95 SB Service Plaza	X	Maybe		X		X				X	X
23	Branford I-95 NB Service Plaza	X	X		X		X				X	X
24	Branford I-95 SB Service Plaza	X	X		X		X				X	X
25	Madison I-95 NB Service Plaza	X	X	Likely ⁸	X	Maybe	X				X	X
26	Madison I-96 SB Service Plaza	X	X		X		X				X	X
27	Westbrook I-95 NB Rest Area							X				
28	North Stonington I-95 SB Rest Area							X				
29	Montville I-395 SB Service Plaza	X	X		X						X	X
30	Plainfield I-395 NB Service Plaza	X	X		X					X	X	
31	Plainfield I-395 SB Service Plaza				X						X	X
	Total	23	14	1	19	1	15	11	1	5	13	8

Notes:

1. Impacts to soil and/or groundwater.
2. Exceeds Connecticut Remediation Standards Regulation Criteria.
3. Due to age of facilities.
4. Leaking Industrial Storage Tanks (LUST) located on site.
5. Exceeds Connecticut DEP Remediation Standard Regulations.
6. Petroleum contaminated soil was excavated and disposed in September 1993.
7. N/A = Not Available
8. Unreported spills may have occurred that could affect adjacent wetlands.

Table 3-19 Recognized Environmental Conditions in CT Public Travel Service Areas



Fitzgerald & Halliday, Inc.
The Williams Group
ICON Architecture, Inc.
United International Corporation





4.0 BENCHMARKING ROADSIDE FACILITIES IN OTHER STATES

4.1 Introduction

One key aspect of this study involved collecting and analyzing information on facilities and operational policies in other states, such as Connecticut's seven northeast neighbor states (Massachusetts, Rhode Island, New York, New Jersey, New Hampshire, Vermont, and Maine). Leaders in the provision of roadside traveler services, such as Pennsylvania, Illinois, and Minnesota, were also identified and included in this benchmarking process. How these states develop and operate their facilities was studied, and the information assembled was used to help develop strategies and design concepts for Connecticut's system of rest areas, service plazas, and welcome centers.

The information provided in this Benchmarking section serves as a reference document of standards, guidelines, best practices, and operational examples that can be applied to the existing 31 Connecticut roadside traveler facilities and used for siting, designing, programming, funding, and operating new facilities. Where limitations in the data regarding specific elements exist, this report relies upon relevant planning and engineering standards, inferences drawn from the available data, and the professional judgment of the Study Team to provide the standards and guidelines appropriate for the analysis portion of this study. The methodology and findings are summarized below.



This information center on I-89 NB in Williston, VT, was reconstructed in 2002 and served nearly 382,000 visitors in 2005.

A stand-alone version of the full Benchmarking Study is provided in Appendix C of Volume III. This appendix provides information obtained during the research and analysis phase, including rest area, service plaza, and welcome center data from other states, correspondence, and selected findings.

4.2 Benchmarking Goals and Objectives

The goals of the benchmarking exercise included the following:

- To determine best practices for operation and maintenance of rest areas, service plazas and welcome centers based on regional and national experience;
- To develop benchmarks for the design and operation of Connecticut's roadside traveler facilities;
- To form a basis for the Connecticut Department of Transportation to consider policy decisions to frame the development of future facilities;
- To examine current facilities and recommend improvements to specific locations, and identify new locations required to accommodate documented deficiencies;
- To explore opportunities to integrate services within the facilities to foster tourism and traveler information; and
- To recommend alternatives to enhance revenue opportunities and privatization of facilities.

The findings and recommendations of the benchmarking process were used in a comparative analysis to determine the adequacy of Connecticut's existing facilities, identify deficiencies at existing facilities, and recommend improvements to provide a greatly improved level of traveler services to future users of Connecticut's limited access highway system.



4.3 Approach and Methodology

In coordination with the Steering Committee consisting of ConnDOT and Federal Highway Administration (FHWA) representatives, the Study Team developed a survey to assess best practices at roadside facilities in the Northeast, focusing particularly on neighboring states. The facilities survey incorporated key questions that focused on planning metrics and standards, physical facilities characteristics, operations and maintenance, and development/funding methodologies.

Two distinct surveys were developed and distributed in October and November of 2005 to public agencies for their response. One survey was for rest areas / service plazas, and the other was specifically for welcome centers. Survey materials were distributed to individuals identified by either the State Transportation Commissioners' offices or through coordination with the State DOT and/or state tourism bureau agencies in the various states. Where necessary, other resources were leveraged to facilitate the data collection effort, including, but not limited to: the internet, reference guidebooks, and recently completed studies. Survey documents and reference information are included in Appendix C of Volume III.

From December 2005 through January 2006, further coordination was required with select state representatives, including additional telephone discussions and email correspondence, to complete the initial data collection exercise. Not all surveys were completed because available data, time, and staffing to reply to surveys varied by state. Where possible, however, additional coordination with the various state agencies provided a range of effective planning data and lessons learned.

Survey states were selected for the benchmarking exercise after an internal Study Team review of the survey with the Steering Committee. The following seven regional and neighboring northeast states were identified: Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. In addition, the Study Team identified the following three "leader" states reflecting innovative and/or best practices: Pennsylvania, Illinois, and Minnesota. Pennsylvania and Minnesota provided excellent examples of welcome center innovation, highlighting regional identity and local arts and culture while stimulating the economy with increased tourism revenue. Illinois' service plazas feature air-rights development over the highways, architecturally unique buildings, appealing food offerings, and a public-private partnership with a moderate state financial obligation.



This rest area along I-371 SB in Brainerd Lakes, MN, constructed in 2005, features interpretive monuments and regionally inspired statues

Where applicable, AASHTO's *A Guide for the Development of Rest Areas on Major Arterials and Freeways* is considered. The benchmarking results for rest areas, service plazas and welcome centers are discussed separately below.

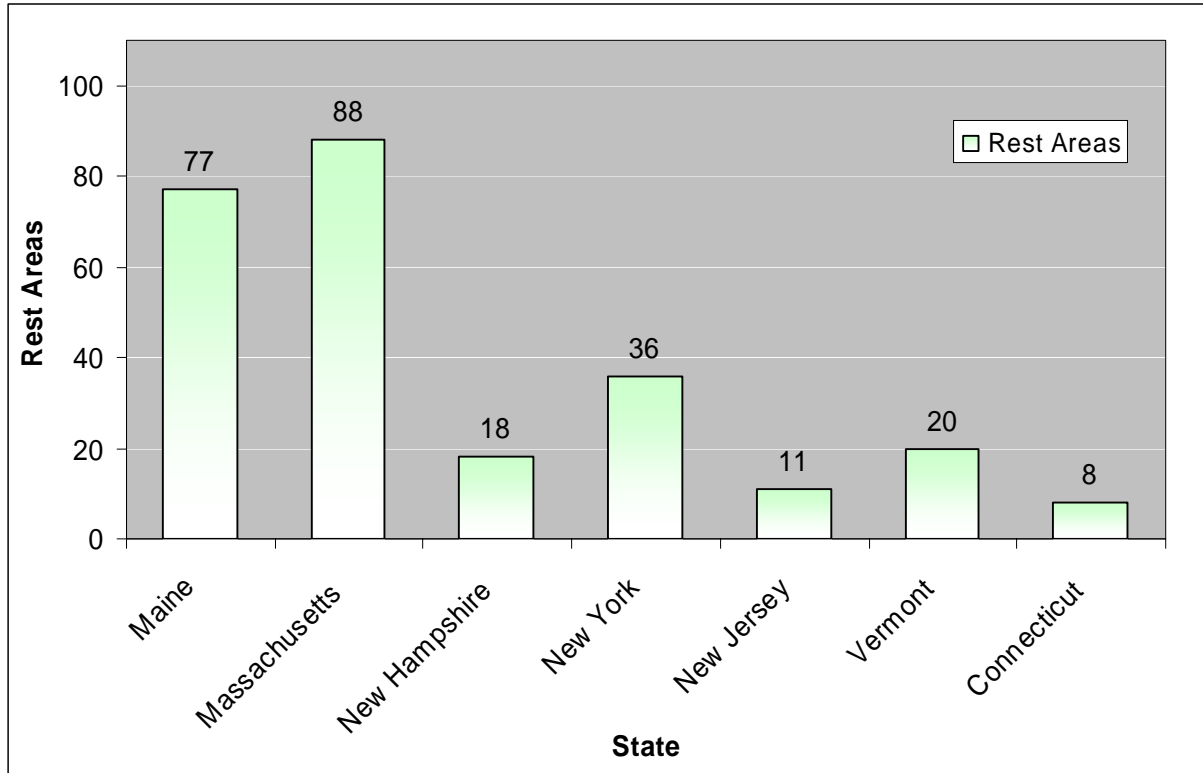
4.4 Benchmarking Results – Rest Areas

The rest area is the most basic of the facilities examined. Based on information received from the various State DOT agencies, the team reviewed data from over 280 rest areas serving seven states. Figure 4-1 below summarizes the total number and location of rest areas identified in the benchmarking exercise.

In the northeast, the Commonwealth of Massachusetts has the largest number of rest areas, while Connecticut has the fewest. States such as New Hampshire and Vermont tend to provide information center elements, such as tourist attraction brochures, information on rooming accommodations and dining options, in all their rest areas. Detailed information for each state is provided in Appendix C of Volume III.



Figure 4-1 Number of Rest Areas in Northeast States



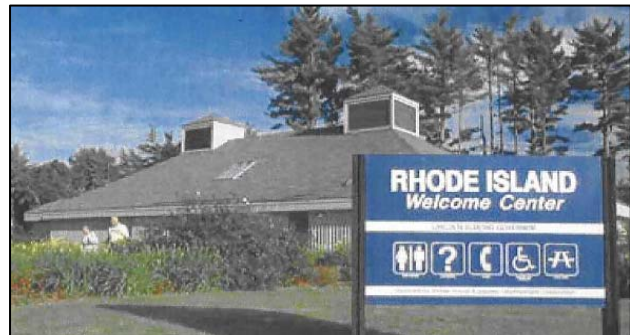
Based on a review of the benchmark states' roadside traveler facilities, several common elements were considered in the benchmarking of rest areas. These include:

- Parking;
- Facilities;
- Restrooms;
- Information facilities and buildings;
- Payphones and picnic tables;
- Vending and concession facilities;
- Operations and maintenance; and
- Safety and security.

These elements are discussed below.

4.4.1 Rest Area Parking

The design of rest area facilities should be driven by the number of parking spaces required for the site. Parking requirements are typically generated based on both annual average daily traffic (AADT) and peak period vehicle demand. Rest areas located along state borders or adjacent to major tourism destinations attract a significant amount of vehicle traffic, particularly during peak travel seasons. These locations should be assessed to ensure appropriate parking provision relative to the projected AADT or annual visitors. Figures 4-2 and 4-3 reflect the average and maximum parking provisions by surveyed state. The largest average number of spaces per rest area surveyed is in the state of New Hampshire (76 spaces). The individual location surveyed with the largest number of parking spaces (204 spaces) is located in Seabrook, New Hampshire.



This 4,000 sf welcome center on Route I-95 NB in Richmond, RI, is tightly connected to a network of seven local tourism centers and attracts over 500,000 annual visitors



Figure 4-2 Average Rest Area Parking by New England State

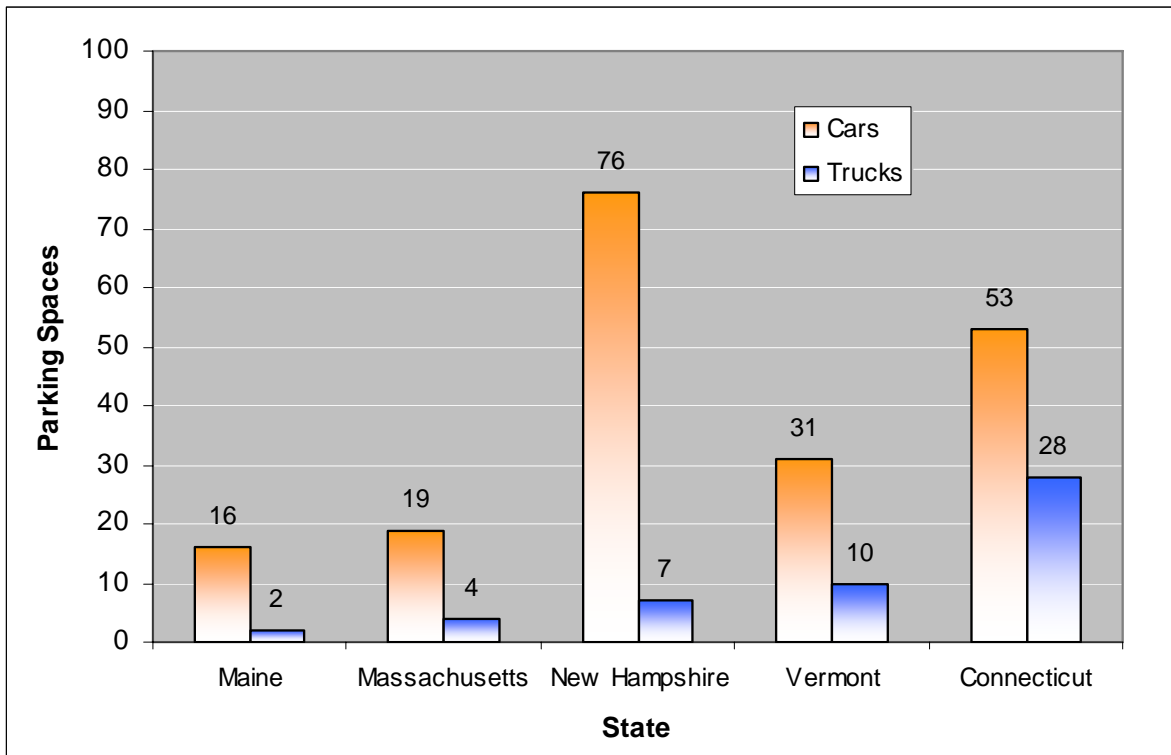


Figure 4-3 Maximum Rest Area Parking by Representative New England State Locations

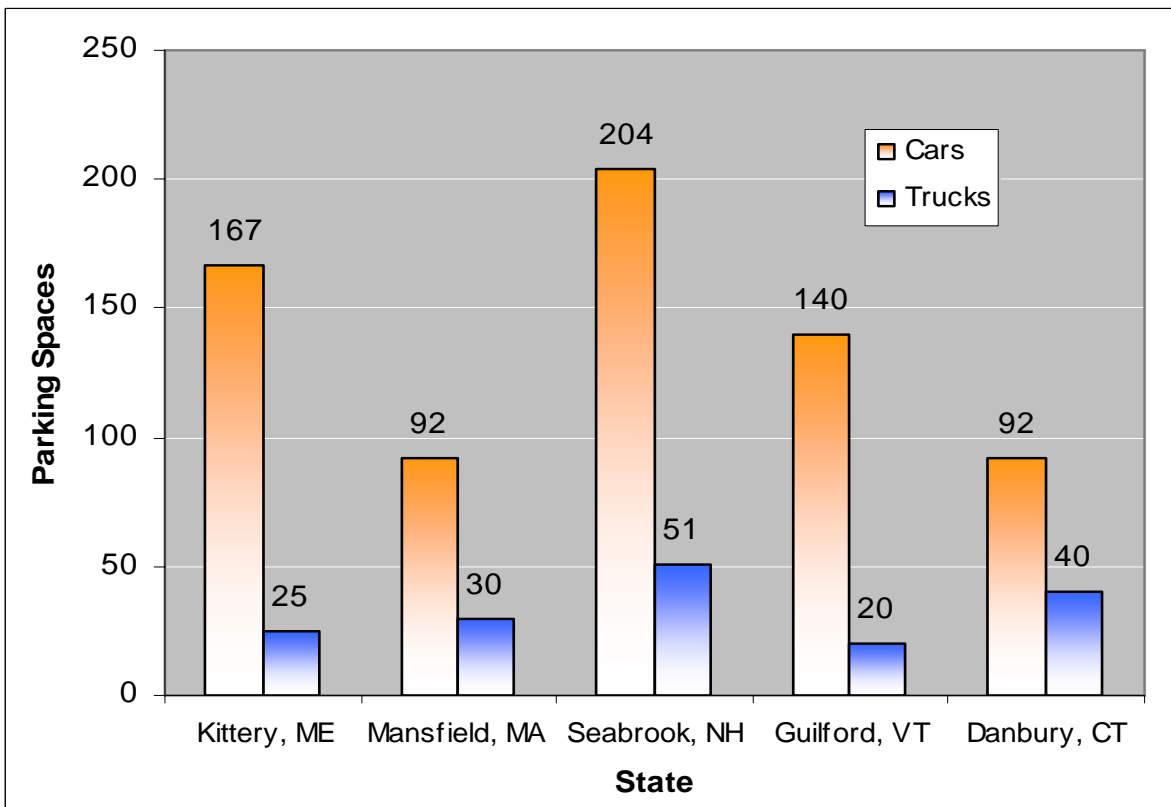
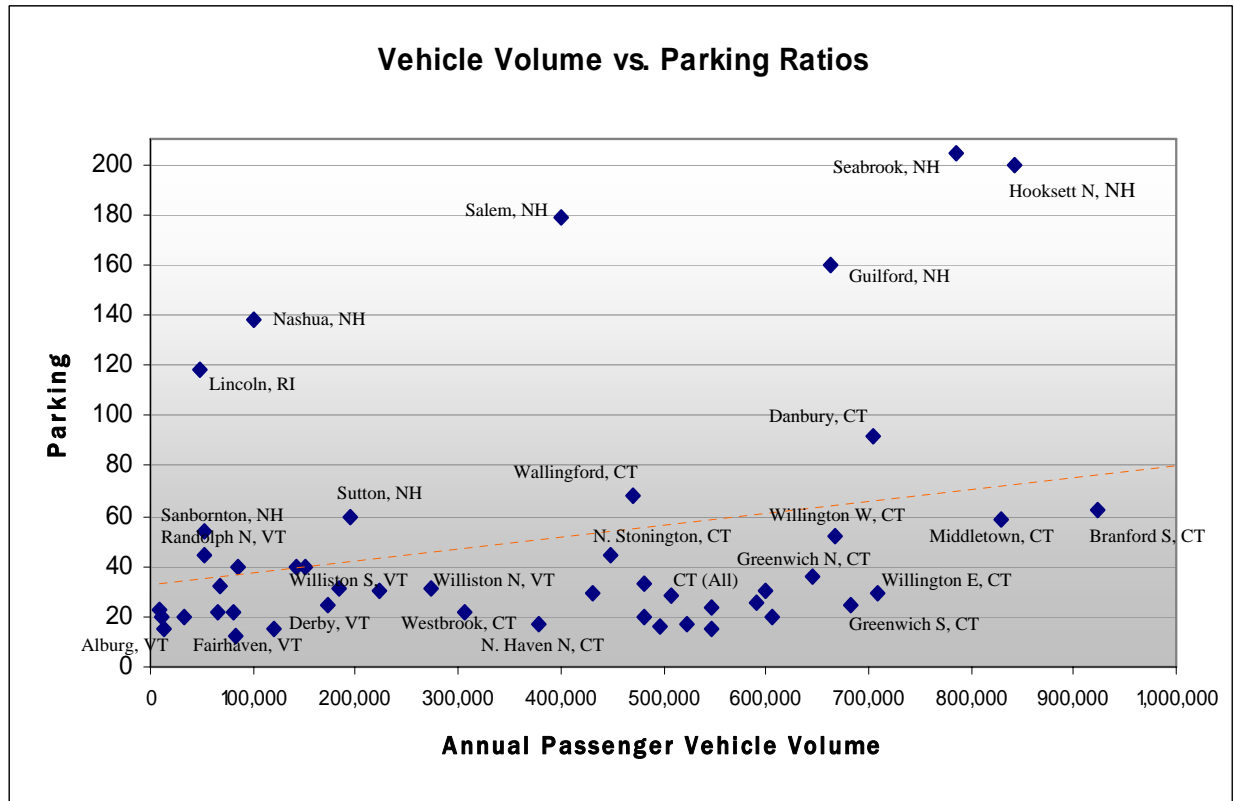




Figure 4-4 is a scatter diagram representing the relationship between vehicle parking capacity and annual vehicles entering for select locations (both rest areas and service plazas) based on documented visitor and/or count data in Vermont, New Hampshire, Rhode Island, and Connecticut.

Figure 4-4 Annual Vehicle Volume Entering versus Parking Capacity at Representative New England Locations



NOTE: All VT and NH locations shown above are rest areas. Lincoln, RI, is a service plaza (Dunkin’ Donuts). CT rest areas include Danbury, Southington, Willington, Wallingford, Middletown, Westbrook and North Stonington. The remaining CT locations are service plazas. Large annual passenger volumes in Hooksett, NH, are partially due to the liquor store located at the site.

This assessment of available parking in relation to annual visitors or entering vehicles suggests that most of the rest areas analyzed appear to be sized between 20 and 40 parking spaces per facility, with each space serving approximately 150 to 2,000 entering vehicles per day (vpd). Larger “destination” rest areas, especially those with more features (e.g. welcome centers and food and beverage offerings), provide a more generous provision of parking. These facilities are typically comprised of approximately 200 parking spaces each, and serve entering volumes of over 2,000 vehicles per day. In general, Connecticut rest areas fall below the trend line shown in red. Thus, for the level of entering traffic at Connecticut facilities, the number of parking spaces provided is generally small compared to the other states.

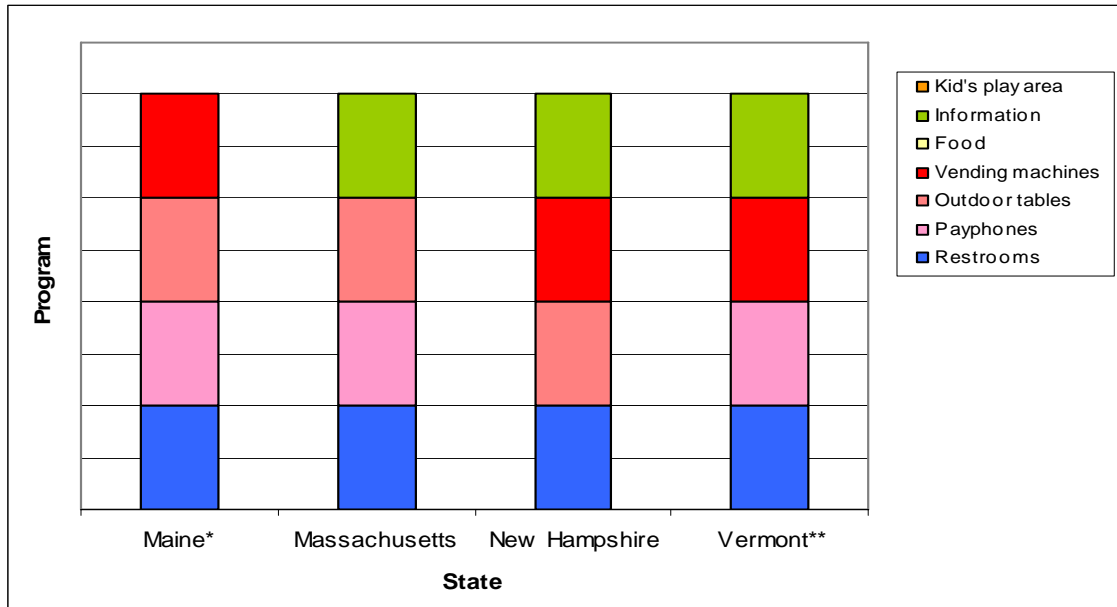
4.4.2 Rest Area Facilities

In addition to parking, basic traveler accommodations should be considered in the planning of rest areas, including telephones, rest rooms, and public seating. Figure 4-5 provides a comparison of the facilities’ accommodations for typical¹ surveyed rest areas.

¹ “Typical” suggests more than 50% of surveyed facilities in the state.



Figure 4-5 Rest Area Programmatic Elements – New England States



NOTES:

- * Two of the 77 rest areas in Maine have traveler information.
- ** A majority of the 20 rest areas in Vermont provide vending machines.

4.4.3 Rest Area Restrooms

Restrooms are the most common element of all state facilities and should be an integral component in the planning of future facilities. New Hampshire provides at least one ADA-compliant, handicap accessible stall for each rest room. Additionally, New Hampshire DOT representatives have provided good insight in the planning of restrooms to incorporate “swing” rest rooms – temporary rest rooms to provide continuous operations while the primary rest rooms are being cleaned. At smaller rest areas, a few states such as Massachusetts and New Hampshire, use temporary outdoor rest room facilities (or portable units). Temporary facilities provide basic public rest room accommodations without incurring significant capital commitments.



*Rest Area off of I-89 southbound in Sutton, NH
 (photo c/o NewHampshire.com)*

4.4.4 Rest Area Information Facilities and Buildings

Information dissemination is the second most common facilities characteristic of the surveyed states. In Massachusetts, over half of the rest areas provide some type of information. Rhode Island, New Hampshire, and Vermont provide integrated rest areas and welcome centers with a stand-alone building providing a range of services including vending, information, rest rooms, payphone, and public seating. Other interesting features included New Hampshire’s information centers that offer public art exhibition space as well as community assembly space.



This information center off of I-89 SB in Randolph, VT, provides promotional displays, picnic & dog walking areas, pay phones, and complimentary coffee



Some rest areas, such as the one in Salisbury, Massachusetts, also sell local products. Stand-alone buildings are on average, approximately 2,500 square feet (sf), ranging from 700 sf to 7,000 sf. Based on survey data of states that provide buildings at their rest areas, the building area-to-parking ratios range from 30 to 60 sf of building area per parking space.

4.4.5 Rest Area Common Elements

Picnic tables are among the most common elements in the current design of rest area facilities. Because minimal servicing is required, they benefit travelers but are relatively ‘maintenance-free’ for DOTs. Some rest areas are designed as “scenic overlooks” and encourage brief passenger stopovers. Maine’s scenic overlooks strive to provide not only seating, but interpretative signage to enhance the stopover experience.



This rest area off of I-95 SB in Salisbury, MA provides visitor information, pay phones, vending machines, ATM, free internet access, and a gift shop

4.4.6 Rest Area Vending and Concession Facilities

Vending facilities provide a significant improvement in rest area experiences by providing food, beverages, or both. Vending machines benefit travelers but can generate increased trash. Other facilities identified in the survey include New Hampshire’s lottery vending machines.

4.4.7 Rest Area Operations and Maintenance

Rest areas are typically maintained by DOT maintenance divisions. ConnDOT should explore unique maintenance agreements where practicable to encourage positive visitor experiences while enhancing revenue. The state should seek to standardize maintenance procedures and the level of maintenance at all facilities statewide. Because there is limited opportunity to fund additional maintenance efforts, the DOT should continue to privatize maintenance agreements where appropriate.

Staffed rest area facilities, such as the ones in Rhode Island, Massachusetts, Vermont, and New Hampshire, are serviced by two groups: vending and information disseminators. Vending machines are available 24 hours a day, and information disseminators, provided usually by the Visitors Information Bureau, Chamber of Commerce, or other organizations seeking to encourage visitors to explore, typically operate at least 8 to 12 hour shifts, depending on the location. Rest areas surveyed for the benchmarking study are usually open 24 hours, primarily providing parking, rest rooms, pay phones, and vending machines.

4.4.8 Roadside Facility Safety and Security

Truck studies reviewed from other states indicate that safety and security in rest areas is a high priority planning item and is reflected in the design of some new rest areas, service plazas, and welcome centers (e.g. the service plaza in Lincoln, RI includes a State Police depot²). In some cases, truck drivers have avoided rest areas to avoid the potential risk of robberies, vandalism, and potential other undesirable situations. Studies suggest that truckers may prefer their own parking areas or spaces adjacent to the highway.

² The RI state police were contacted, but would not release any information regarding the staffing and operation of this facility.



4.5 Benchmarking Results – Service Plazas

For the purposes of this study, service plazas are distinguished from rest areas by revenue generation, providing primarily fuel, food, and convenience items. Benchmarking data collection focused on service plazas located adjacent to the highway, rather than those located off the highway.

Facilities along tollways were also benchmarked, including those along the New Jersey Turnpike, the New York Thruway, the Maine Turnpike, and the Massachusetts Turnpike. Since the combination of proprietary and lease-related confidentiality issues created some challenging data collection issues, available resources including the trucker's guides, rest area guides, and the Internet, were also utilized in the research process.

It should be noted that Federal regulation prohibits “commercialization” of the interstate system. This means that no new service plazas may be constructed along the federally funded interstate system in Connecticut, without obtaining a state specific exemption from the requirement. The existing service plazas along the interstate system in Connecticut are grandfathered because the roadway system and service plazas pre-date the Federal Interstate roadway system.

The states of New Hampshire, Vermont and Minnesota do not have service plazas along their highway systems and are not included in this summary. Sixty service plazas from Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and Illinois were analyzed. The smallest state included in the benchmarking analysis, Rhode Island, provides only two facilities, but represents some of most recent developments in service facility planning.

Most service plaza designs are predicated on available area and lease agreements. The following basic planning assumptions were derived from the benchmarking efforts. As a standard, service plazas generally provide the following minimum accommodations:

- Parking – for cars, RVs, buses, and trucks;
- Facilities – one restaurant (open 24-hours a day)³, seating (outdoor and indoor), ADA-compliant rest rooms, family baby changing areas, ATMs, vending machines, payphones, and basic information offerings (i.e. electronic kiosks);
- Fuel – 24-hour a day fueling stations;
- Intervals – service plazas are located at intervals of 30 miles in rural areas and as frequently as 15 miles in urban, high AADT areas; and
- Amenities – Dog walks, picnic areas and farmer's markets are considered where financially feasible. Some locations may provide WiFi wireless internet access.

Details for each state surveyed are provided in Appendix C of Volume III. The section below focuses on the benchmarking results from Pennsylvania, Massachusetts, New York, New Jersey, and Connecticut.

4.5.1 Service Plazas in Neighboring States

Service plaza experiences in five selected states are discussed in detail below.

³ While this is a desired goal, available space precludes having a restaurant at every location.



4.5.1.1 Pennsylvania Service Plazas

Statewide planning efforts in Pennsylvania were still in process at the time of this survey effort and provide parallels to New Jersey and Massachusetts. The Pennsylvania Department of Transportation (PennDOT) does not operate any service plazas on its Interstate highway system. It does operate highly successful welcome centers and rest areas with some vending machines and rest rooms. The Pennsylvania Turnpike Authority (PTA) has 26 service plazas along the entire length of the turnpike system running from Philadelphia west through Pittsburgh. The PTA has recently begun engaging in upgrades to its roadways and service plaza facilities.

Host Marriott Services (HMS) and Sunoco are the incumbent concessions and fuel vendors for the PTA. McDonald's operates at three service plazas but their lease expires in 2009. At that time, HMS and Sunoco operations will commence. The existing baseline capture rate is 10 to 12 percent of passerby AADT. According to HMS, 30 million people visit the PTA service plazas on an annual basis. Baseline revenues were not available.

The Pennsylvania Turnpike made the policy decision not to be in the business of operating service plazas. As a result, the PTA put out a Request for Proposals (RFP) in 2005 to essentially turn over capital and operating costs of its service plazas to the private sector while retaining ownership of the land. The proposal writing process was complex and took the PTA two years to complete. The PTA decided on a triple net lease⁴ with two vendors, Sunoco for motor fuel, and HMS for concessions and amenities.

The Pennsylvania Turnpike's plan is to have the vendors redevelop the remaining 24 service plazas over the next five to six years. The PTA anticipates \$170 million in private vendor capital investment, with Sunoco and HMS responsible for the capital and operating costs. The lease expires in 20 years, and at that time the facilities will revert back to the PTA. The plan is to demolish and reconstruct four or five service plazas per year until the project is complete (sometime in 2011). Under the new plan, the PTA expects to see a minimum 20 percent increase in revenue to the Commonwealth of Pennsylvania.

A major reason the Pennsylvania Turnpike exited the service plaza business is that the plazas only supply two percent of gross revenue to the PTA. The PTA receives approximately \$600 million in annual operating revenue from Turnpike general operations (tolls). The existing 26 service plazas only contribute \$12 million in gross annual operating revenue. According to the PTA, this two percent contribution is not enough for the PTA to invest heavily in becoming experts at service plaza operations. While a possible gross operating revenue increase to four or five percent of total operations would be welcomed, even that would not be significant enough to maintain anything more than an oversight role of the service plazas.

4.5.1.2 Massachusetts Service Plazas

Older facilities in Massachusetts were originally built several decades ago and were operated by Howard Johnson's and Citgo. As these became obsolete, they were closed. In the years that followed, HMS and Gulf Oil held the retail contracts along the Massachusetts Turnpike (Mass Pike). As improvements to its facilities were eventually needed, the Massachusetts Turnpike Authority (MTA) re-built the Mass Pike service plazas between 2000 and 2005 utilizing revenues from the new operators to construct facilities. The new contract for food and retail went to McDonald's. The new fuel contract went to Exxon, now owned by Gulf Partners Limited. According to the MTA, the improvements



Charlton service plaza located along the Massachusetts Turnpike provides a variety of food options

⁴ A triple net lease is a lease in which the lessee pays rent to the lessor, as well as all taxes, insurance, and maintenance expenses that arise from the use of that property.



resulted in visitors to all Massachusetts service plazas now averaging 12 million per year. The new facilities have improved revenue to the state by approximately 21 percent.

The Massachusetts Highway Department (MHD) receives rent from eight service plazas. Pre-renovation data is not available since half of the plazas are brand new and the other four were closed for several years before they were torn down and rebuilt.

McDonald's now operates four service plaza food concessions and retail, and Burger King operates the other four. MHD receives \$1.9 million annually in lease revenues from the vendors. The vendors are responsible for capital and operating expenses. MHD has an oversight role, retaining ownership of the land.

4.5.1.3 New York Service Plazas

The New York Thruway has 27 service plaza locations with food and fuel. Currently there are 11 sites with McDonald's and subcontractors, and 16 sites with HMS. In the near future, the 11 McDonald's sites are exercising an option to renew their leases. Recently, the New York Thruway issued an RFP for the 16 service plaza sites expiring in 2006. The RFP required multiple bidding criteria, including the proposed rent, the capital improvement contribution, food variety, maintenance experience, and good customer satisfaction. The New York Thruway created an Evaluation Committee and Weighting Committee to put together a weighted average of all categories of criteria by vendor for evaluation. At the time of the survey for this study, results of that process were not available. Average sales for newer facilities are approximately \$600/sf (see Table 7-1).



Service plaza located in Hutchinson, NY

4.5.1.4 New Jersey Service Plazas

New Jersey operates 13 service plazas in the New Jersey Turnpike system. Information was obtained based on interviews with personnel who manage the operators. These facilities in New Jersey provide fast food and convenience stores operated by HMS, fuel provided by Sunoco, as well as restrooms, phones, and ATMs. In New Jersey, HMS has invested \$40 million in capital improvements since 2004 and doubled sales and state revenues. They will negotiate 10 to 22% of sales net to the state, depending on details of capital input. By contrast, in Connecticut, McDonald's averages 18% of sales to the state, but invests no capital. While the McDonald's net percentage of revenue to Connecticut may be higher than HMS in New Jersey, the overall increase in the capture rate creates a more lucrative revenue stream to the highway authorities.

Based on McDonald's most recent annual report, average annual sales at restaurants are \$1.8 million. The New Jersey experience indicates sales could be four times that of a non-highway location. Sales at the service plazas in New Jersey are almost double the annual average sales in Connecticut. While most of the New Jersey locations are served by two directions of traffic, the facilities are much larger than in Connecticut and generate sales of \$600 per square foot. Existing tenants may maintain operations in Connecticut, or competitors may bid on these locations based on the volume of person traffic and spending.



4.5.2 Connecticut Service Plaza Experience

The survey analysis of Connecticut service plaza visitors indicates that the demographics of visitors tend to be wealthier, older, and educated. These visitors prefer more food variety and want a more health conscious menu than currently offered. In addition, wealthier visitors are also more likely to sight-see as part of their itinerary if the appropriate information resources are available. Analysis shows that many of these visitors typically spend 100% more than the average American on finer food, eating out, lodging and entertainment.

4.5.2.1 Connecticut's Current Lease Arrangement

The largest non-fuel lease holder at Connecticut Service Plazas is McDonald's. Under current terms, McDonald's has made some maintenance provisions for snow removal and parking lot maintenance which helps to provide proper services to the traveling public.

Table 4-1 shows the 2003 Sales and Lessee Revenue for Connecticut roadside facilities. Based on sales reported in 2003 for 10 restaurants, McDonald's sales were over \$33 million. Total gross sales for food and other items not including fuel was over \$41 million.

Table 4-1 Connecticut Service Plaza 2003 Sales and Lessee Revenue

2003 Sales and Lessee Revenue*	
Fast Food Restaurant (10 Locations)	\$ 33,663,218.95
Coffee Shops (2 locations)	\$ 888,118.07
Food Court (2 locations)	\$ 2,377,804.53
Gift Shop (8 locations)	\$ 2,476,199.38
Vending (10 locations)	\$ 813,084.39
Prepaid Phone Card Vending (10 locations)	\$ 91,881.00
Sunglasses Carts (10 locations)	\$ -
Pay Telephone sales (10 locations)	\$ 172,158.68
ATM Revenues (10 locations) estimate	\$ 210,000.00
DOT Headquarters Café (1 location)	\$ 386,780.60
DOT Headquarters Vending (1 location)	\$ 29,313.68
Grand Total	\$ 41,108,559.28

**Non Audited*
 Source: 2003 sales report.

Findings indicate that annual average visitor traffic entering all Connecticut roadside facilities is over 34 million persons. Compared to current gross sales, this yields an average sale of a little more than \$1 per person.

4.5.2.2 Connecticut Traffic Auto /Persons Capture Analysis

A sensitivity analysis of supportable sales and square footage of roadside facilities in Connecticut is provided in Table 4-2. This analysis depicts a future condition that is based on a small sample of user surveys and information from other states. The figures in Table 4-2 assume a condition where all 31 existing rest/service areas are developed and achieve projected sales estimates. It is understood that this level of development and retail sales may not be achievable for some areas. Therefore, the figures in Table 4-2 are for comparison purposes only and should not be used as a basis for future revenue projections.



Table 4-2: Supportable Sales and Square Footage of Connecticut Service Plazas⁵

Location Description	Persons entering increase by 10% ⁶	Projected Sales using survey figures	Total Sale using survey buying @ 50%	SF supportable @ \$600/sf using survey	Existing sf
Greenwich Rte 15 NB	853,106	\$13.53	\$5,771,264	9,619	2,877
Greenwich Rte 15 SB	905,340	\$13.53	\$6,124,622	10,208	2,734
New Canaan Rte 15 NB	773,739	\$13.53	\$5,234,342	8,724	2,713
New Canaan Rte 15 SB	810,641	\$13.53	\$5,483,983	9,140	2,303
Fairfield Rte 15 NB	716,248	\$10.65	\$3,814,021	6,357	2,545
Fairfield Rte 15 SB	739,313	\$10.65	\$3,937,648	6,563	2,318
Orange Rte 15 NB	678,622	\$13.53	\$4,590,874	7,651	1,903
Orange Rte 15 SB	650,642	\$13.53	\$4,401,592	7,336	1,960
North Haven Rte 15 NB	489,387	\$13.53	\$3,310,705	5,518	2,879
North Haven Rte 15 SB	643,685	\$13.53	\$4,354,529	7,258	1,696
Danbury – I-84 EB	1,137,082	\$1.02	\$581,462	969	3,406
Southington – I-84 EB	750,655	\$3.57	\$1,339,920	2,233	2,506
Willington – I-84 EB	1,292,740	\$5.82	\$3,761,874	6,270	2,972
Willington – I-84 WB	1,316,805	\$5.82	\$3,831,380	6,386	2,852
Wallingford – I-91 SB	722,891	\$2.05	\$739,667	1,233	2,510
Middletown – I-91 NB	1,294,642	\$3.57	\$2,310,936	3,852	1,846
Darien – I-95 SB	2,487,292	\$6.45	\$8,021,516	13,369	11,698
Darien – I-95 NB	3,642,240	\$6.45	\$11,749,162	19,582	16,565
Fairfield – I-95 NB	1,907,269	\$13.53	\$12,902,672	21,504	12,656
Fairfield – I-95 SB	1,703,057	\$13.53	\$11,521,179	19,202	15,771
Milford – I-95 NB	1,749,443	\$13.53	\$11,834,985	19,725	16,970
Milford – I-95 SB	2,388,935	\$13.53	\$16,161,143	26,935	15,169
Branford – I-95 NB	1,550,600	\$13.53	\$10,489,811	17,483	11,457
Branford – I-95 SB	1,486,826	\$13.53	\$10,058,376	16,764	5,554
Madison – I-95 NB	1,520,717	\$13.53	\$10,287,649	17,146	5,973
Madison – I-95 SB	1,644,258	\$13.53	\$11,123,409	18,539	11,741
Westbrook I-95 NB	523,441	\$3.57	\$0	0	0
N. Stonington – I-95 SB	809,088	\$5.39	\$2,179,116	3,632	3,257
Montville – I-385 SB	714,925	\$13.53	\$4,836,466	8,061	3,513
Plainfield – I-395 NB	675,843	\$11.21	\$3,788,103	6,314	3,059
Plainfield – I-395 SB	873,298	\$11.21	\$4,892,708	8,155	3,570
TOTALS:	37,452,770		\$189,435,116	315,725	179,322

Utilizing the persons captured in autos visiting for non-fuel purchases, an estimated person capture by location was developed. Person capture traffic was then multiplied by average spending by location. This total was reduced by 50% to account for persons in vehicles who would spend no money or less than the average. The total spending was divided by estimated sales per square foot (\$600/sf)⁷ to yield total square footage of revenue generating space supportable by location. The figure of \$600/sf is the average sales currently experienced by New Jersey and New York at their service plazas.

⁵ Traffic projections made in this report indicate that existing 2005/2006 traffic volumes would increase by 1-2% per year. The person entering figure was increased by 10% accordingly to represent year 2013 conditions. Sales figures are based on current sales (2005/6) in benchmarking states. Sales per square foot are taken at \$600/sf which is conservative and takes into account no increase of volume density. The sales per traveler has been decreased by 50% to take into account persons in vehicles who do not spend anything at a rest area/service area. Westbrook was eliminated from the calculations. In addition, the average sales utilized in the chart used a rest area average from the survey and a service plaza average. The highest sales areas, including Greenwich, were normalized.

⁶ Current annual 2005/2006 persons entering service and rest areas were calculated based on annual entering vehicles (based on surveys at each location) factored by vehicle occupancy and day of week.

⁷ The source of stated spending by location (\$600 sales/sf) is a conservative estimate based on experience from similar retail projects with high traffic and benchmarking states. This value is greater than the current sales for McDonalds in Connecticut.



Total traffic entering Connecticut roadside facilities estimated from the traffic counts conducted for this study is over 34 million persons annually. Thus, it is estimated that, assuming no constraints, the system of 31 rest areas/service plazas in Connecticut could support over 300,000 square feet of revenue supporting space (the equivalent of a large community shopping center but smaller than regional shopping center), and estimated sales generated would be in the range of \$189 million. It is noted that physical constraints at some existing roadside facilities will only support limited retail with an average of 10,000 sf per service plaza. However, the sales per square foot under the current conditions is approximately \$340/sf which is far less than the benchmarking states.

4.5.2.3 Connecticut Lease Evaluation

Although McDonalds's sales rent percentage returned to Connecticut is high, the sales volume is low compared with other bench-marked states. Table 4-3 demonstrates that if a contract of only 10% sales (range includes high over 12%) rent were applied to potential future spending projections, assuming expansion of current development, rent revenue to ConnDOT could be over \$17 million. This is compared to the \$6.2 million gross revenue from rent collected by the state in 2003. With redevelopment of existing facilities, the potential additional revenue to the state could be approximately \$ 11 million per year.

Table 4-3 Connecticut Estimated Potential Gross Receipts Summary

ESTIMATED REVENUE GAINS	
Potential Retail sf supportable	315,000
Retail supportable less net of service space allowance (sf)	284,000
Estimated Potential Gross Revenue (x\$600/sf in Table 4-2 above)	\$170,000,000
Estimated rent as % of revenue	10.0%
Potential Revenue from Rent	\$17 Million

To achieve this magnitude of potential higher revenues from retail sales would require capital improvements to the existing system of service plazas and rest areas. Preliminary cost estimates were developed to upgrade the existing 31 service plazas and rest area facilities. Planning level estimates show that approximately \$400 million would be required to upgrade the 31 existing facilities. This does not include the cost to construct potential future facilities. The estimate includes costs for upgrading roadways, structural elements, and buildings. One approach would be for the state to pursue opportunities to develop a private-public financing structure to fund facility upgrades.

4.6 Benchmarking Results – Welcome Centers

The benchmarked states invest an impressive level of resources in the operation, maintenance, and expansion of systems of welcome centers and information centers. Clearly, these states believe that welcome centers are very effective components of a state’s tourism promotion network. Providing travelers access to organized information about attractions, events and accommodations throughout the state increases economic activity. A strong network of welcome centers can provide travelers the opportunity for assistance from trained and knowledgeable staff, and, along with appropriate training and materials, is an effective way to promote tourism in a state. Several states conducted



Welcome Center along I-84 westbound Exit 53 in Matamoras, PA



studies showing that welcome centers bring financial benefits to the local economy and region. Details of welcome centers in neighboring states are summarized below and provided in Appendix C of Volume III.

The Study Team was able to access roadside facility information for welcome centers in seven states, with detailed facilities data provided by five of the seven states. Table 4-4 describes the characteristics of one representative facility in each of these five states.

4.6.1 Welcome Center Design and Services

Seven states provided information regarding facility sizes. Special effort was made to collect site-specific information for the facilities considered. Typical minimum site and programmatic requirements are relatively consistent across centers and states. Adequate parking, restrooms, payphones, vending machines, a picnic area, information desk and brochure cases were standard in all seven states surveyed.

Table 4-4 Neighboring States Comparison – Facilities with Traveler Information

FUNCTIONAL CHARACTERISTICS	Maine	Massachusetts	New Hampshire	Rhode Island	Vermont
Representative Typical Location (Route)	Kittery (Route 236 near junction of I-95 & Route 1)	Plymouth (Route 3)	Salem (I-93)	Lincoln (I-295)	Williston North (I-89)
Roadway AADT (in vehs per day) (Annual visitors where available)	16,600	35,000	100,000 (562,000 annual visitors)	49,700 (over 500,000 annual visitors)	30,000 (381,700 annual visitors)
Private Vehicle Parking	167	71	179	118	31
Truck Parking	25 (separate)	14	32 (separate)	9	12 (separate)
General Area (ac)	52	N/A	N/A	13	N/A
Rest Rooms ADA Compliant	Y Y	Y Y	Y Y	Y Y	Y Y
Food and beverage	N	McDonalds	N	Dunkin Donuts	Free coffee
Vending	Y	Y	Y	N	N
Phones	Y	Y	Y	Y	Y
Outdoor picnic tables	53	13	26	Indoor	Y
ATMs	N/A	Y	N	N	N
Information¹	Info Center	Info Booth	Welcome Center	Welcome Center	Info Center
Vistas, icons, and / or attractions	Kittery shops	Native American Sculpture	First I-93 rest stop after Mass. State line	Blackstone River State Park and Bicycle Path	N/A
Operating characteristics	7 hours a day for info center, rest area is 24 hrs	24 hrs	24 hrs - State Police on site	10 hrs a day for info center, rest area is 24 hrs	7 AM – 11 PM daily for info center, rest area is 24 hrs

Notes: N/A = Not Available

¹ The Information centers, information booths, and welcome centers all provide traveler information. The Welcome Centers are located at gateway locations.



This Welcome Center in Brainerd Lakes, Minnesota, has a tourism information counter staffed by the Brainerd Lakes area Chamber of Commerce. (Photo c/o MN DOT Website)

At welcome centers located in less densely populated areas where space constraints are not as severe, walking trails and pet exercise areas are also standard. States that create centers as mini-destinations in themselves have much bigger site requirements. Minnesota sets the site size for a welcome center at 15 to 30 acres. For example, Minnesota DOT recently opened a site off of MN State Route 371 in Brainerd Lakes, which includes walking trails, several small ponds, multiple picnic areas, a pet exercise area, a putting green sponsored by area golf courses, and free wireless internet.

In contrast, the highly effective Rhode Island Welcome Center (over annual 500,000 visitors) sits on a relatively small 3-acre plot just off I-95. It also offers a picnic area, but no other outdoor amenities. Site size may determine what a welcome center can provide, but not necessarily how effective it can be in convincing visitors to spend time at other places in the state.

The building size of welcome centers generally varies within the range of 4,000-10,000 sf. In the case of relatively low traffic volume sites in Vermont, building size typically averages 2,000-3,000 sf. The newest Pennsylvania welcome centers approach 10,000 sf. The scale of welcome centers provided by each state is influenced by several factors:

- Level of traffic served by the facility;
- Requirements for comfort facilities;
- Scale of tourism space and facilities; and
- Inclusion of other space for related highway uses, such as state police.

None of the benchmarked welcome centers included significant retail space.

Inside the centers, staffed information desks and several brochure cases are standard, although the scale and complexity of these facilities varies considerably. Additional features in centers generally reflect how vigorously a state supports its tourism programs. Pennsylvania has the most comprehensive mix of tourism media including wall-mounted information stations, video viewing stations, interactive displays, a computer area at the staffed information desk, and data /communication lines providing updated weather reports. The Kittery Information Center in Maine includes 19 freestanding exhibits, 27 lighted wall exhibits, an information kiosk, and a computerized database that covers accommodations, campgrounds, amusement and recreation sites, restaurants, snow and weather reports, and can print out customized information sheets. Only Massachusetts and Minnesota incorporated gift shops in their welcome centers. This is a function of the partnerships under which these centers are operated and maintained.



*Pennsylvania Welcome Center
(image c/o PENNDOT website)*



Several respondents, including those in New Hampshire and Minnesota, noted that the best floor layout for a welcome center locates information, exhibits, and restrooms so that travelers only intending to use the rest rooms would pass through or adjacent to tourist promotion/information areas. A typical layout includes a central orientation lobby, potentially containing some common exhibits and information, with staffed tourism services to one side and comfort facilities and vending to the other. Typically, welcome centers are designed with central spaces and visitor areas with ample natural light, high ceilings, attractive central spaces, and, where possible, views of adjacent landscaped areas. In addition to providing information and amenities to travelers, the trend in welcome center design is to achieve a character for the site and building that reinforces a sense of place.

At the Seabrook Welcome Center in New Hampshire, NHDOT built a small L-shaped barn-like structure using recognizable vernacular forms such as a gabled roof with cupola and weathervane and clapboard siding. The finishing touches include a granite sculpture in front and a wood burning stove.



Welcome Center along I-95 in Seabrook, NH

Pennsylvania has the most aggressive program of welcome centers, staffed by PennDOT personnel and supported by a strong linkage to the state's tourism promotion efforts. PennDOT's Welcome Center division has developed a typical program of uses for a Welcome Center.

When building the new Tioga Welcome Center in Tioga County, Pennsylvania, a region known for its forests, rivers, and the home of Pennsylvania's "Grand Canyon," PennDOT sought to capture the region's character by designing the center in the style of a Mountain Lodge, using local materials in its construction. Heavy timber trusses support a 30-foot exposed beam ceiling in the lobby, and the facility has a front porch the length of the façade that invites visitors to sit and relax. A stone fireplace is flanked by piers built of native stone, serving as a feature for the interior lobby space. This space opens onto an exterior terrace from which visitors can view the Hammond and Tioga reservoirs below.



Welcome Center off Route 15 SB in Tioga, PA

4.6.2 Welcome Center Operational Characteristics

Many welcome centers are open seven days a week and 24 hours a day. A restroom accessible from the exterior and a vending structure or space is generally available at all times. Pennsylvania has the most extensive operating schedule, with facilities open 24 hours a day, 365 days a year. Brainerd Lakes in Minnesota closes its information center overnight but keeps a "comfort area" open 24 hours a day. Other centers close in the evening or at midnight.

All centers have at least one to three staff members on duty at a time, and anywhere from three to 10 on staff. The number of staff working at any time tends to change in response to seasonal, weekly, and daily considerations. At certain times of year, Pennsylvania actually has staff members "on call" to respond to unexpectedly large visitor demand. Operational characteristics of the seven different surveyed states are provided in the Benchmarking Study in Volume III Appendix C.



4.6.3 Comparison of Connecticut’s Welcome Centers to Centers in Other States

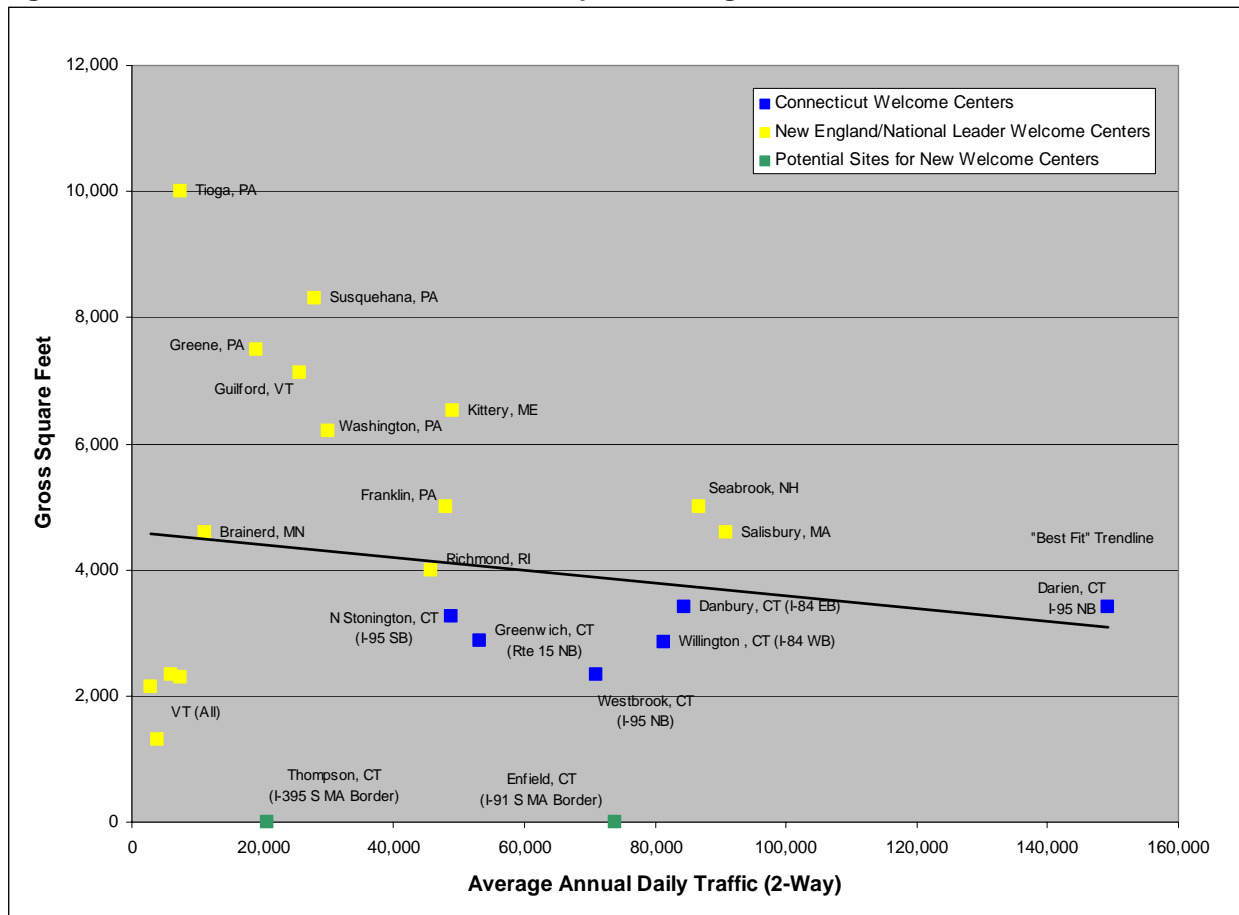
Research for this study focused on obtaining data about the physical size of individual facilities in both neighboring and leader states. After acquiring this information for 15 welcome centers, it was sought to determine the size of the population these facilities accommodate. At locations where site-specific visitor data were not available, annual average daily traffic (AADT) was used to estimate potential visitors to the facilities.



This Welcome Center off of I-89 SB in Highgate, VT, has over 54,000 annual visitors

Figure 4-6 below illustrates the correlation between the size of welcome center facilities (in square feet) with the AADT (traffic volumes). The results are shown for the 15 benchmarked facilities (yellow dots) as well as the six welcome centers in Connecticut (blue dots). The two green dots represent average daily traffic volumes along Connecticut highways at the Massachusetts state line for two significant traffic corridors (I-395 and I-91) where welcome centers do not currently exist.

Figure 4-6 Welcome Centers: AADT versus Square Footage



Connecticut’s six welcome centers serve large to very large two-way traffic volumes that range from 25,000 vehicles per day (vpd) to over 70,000 vpd. The traffic volumes at several of these Connecticut locations are two or three times higher than the volume at many of the benchmarked welcome centers in other states.



Almost all of the welcome centers reviewed in this benchmark study were at least 4,000 sf and served two-way traffic volumes from 7,400 vpd to 90,900 vpd. On the chart, a “best-fit” trendline was generated using all welcome center data. This line represents the typical ratio of size of a facility to traffic volume for these locations. Policy differences among states play a significant role in facility size differences at sites of comparable traffic volume. It is noted that until increased funding becomes available from the Department of Tourism, it is difficult to provide dependable staffing at Connecticut welcome centers.

Compared to the facilities in the New England region and national leader states, the size of Connecticut's facilities is small. The Connecticut facilities range from 2,300 to 3,400 sf, which is 2,000 to 4,000 sf smaller than other states' facilities that accommodate equal, or in most cases, less traffic. The comparison indicates that for the volume of traffic that Connecticut's welcome centers serve, the centers are a third or a half of the size they ought to be when compared to others in the New England region and national leader states.

In Connecticut, welcome centers are combined with service plaza operation retail area. In Massachusetts, the I-84 Sturbridge eastbound facility on the Massachusetts Turnpike provides a facility for tourism that is separated from other retail functions. While this arrangement has benefits, additional space is necessary to accommodate two separate facilities. Welcome center and retail operation can be combined if adequate space is available and the design allows for adequate pedestrian flow and circulation.

4.7 Benchmarking Summary

The following is a summary of key findings of the benchmarking study for rest areas, service plazas, and welcome centers in other states, including, where appropriate, their relevance to roadside facilities in Connecticut.

Rest Areas:

- **Parking Spaces** – Most of the rest areas analyzed provide between 30 and 40 parking spaces per facility, with each space serving approximate roadway AADTs of 3,000 to 4,000 vehicles per day (vpd). Larger “destination” rest areas with more features (information, food and beverage offerings), provide approximately 200 parking spaces each, and serve locations with over 800,000 entering vehicles per year.
- **Operations** – Rest areas surveyed are usually open 24 hours.
- **Services** – Rest areas primarily provide parking, rest rooms, pay phones, and vending machines.
- **Rest Rooms** – Rest areas should incorporate at least one ADA-compliant, handicap accessible stall for each rest room. “Swing” rest rooms can provide continuous operations while cleaning the primary rest rooms.
- **Tourism Information** – Many states provide integrated rest areas and welcome centers with a stand-alone building providing a range of services including vending, food concession, information, rest rooms, payphone, and public seating. Information disseminators at these locations (generally provided by the local Visitors Information Bureau, Chamber of Commerce, and other organizations seeking to encourage visitors to explore) typically operate at least 8 to 12 hour shifts, depending on the location.
- **Safety and Security** – This is a high priority planning item and is reflected in the design of some new rest areas and welcome centers that include police presence and holding areas.

Service Plazas:

- **Intervals** – Service plazas are located at intervals of 30 miles in rural areas and as frequently as 15 miles in urban, high AADT areas.



- **Services** – As a standard, all service plazas provide the following minimum accommodations: Parking for cars, RVs, buses, and trucks; One restaurant (open 24-hours a day) with indoor and outdoor seating; ADA-compliant rest rooms; family baby changing areas; ATMs; vending machines; payphones; basic information offerings (i.e. electronic kiosks); and 24-hour a day fueling stations. Dog walks, picnic areas and farmer’s markets are considered where financially feasible.
- **Food and Fuel Lease Agreements** – Neighboring states surveyed retain ownership of the land, but lease food and fuel operations to private companies such as HMS, McDonald’s, Sunoco, and Exxon. Most states find that the gross operating revenue of total operations is not significant enough to maintain anything more than an oversight role of service plazas.

Connecticut service plaza visitors tend to be wealthy, older, and educated, and prefer more food variety and a healthier menu than currently offered. Findings indicate that annual average visitor traffic at Connecticut roadside facilities is over 34 million persons. Compared to current gross sales, this yields an average sale of just over \$1 per person. This is considered a low average indicating that sales could be higher. It is recommended that ConnDOT develop an RFP to attract an operator with a large variety of franchises under its contact. This could develop a program better catering to the visiting customer, and potentially double the annual income for Connecticut.

- **Tourism Information** – Visitors are more likely to sight-see as part of their itinerary if the appropriate information resources are available. ConnDOT does not currently take advantage of this fact at its service plazas.

Welcome Centers:

- **Operations** – Many welcome centers are open seven days a week and 24 hours a day. A restroom accessible from the exterior and a vending structure or space is often available at all times.
- **Staff** – All welcome centers have at least one to three staff members on duty at a time, and anywhere from three to 10 on staff.
- **Size** – The building size of welcome centers in benchmarked states generally varies within the range of 4,000-10,000 sf. For the volume of traffic that Connecticut’s welcome centers serve, the welcome centers are a half or a third of the size compared to others in the New England region and national leader states. However, as suggested by the benchmarking analysis, site size may determine what a center can do, but not necessarily how effective it can be in convincing visitors to spend time at other places in the state.



5.0 ISSUES, NEEDS AND STRATEGIES

5.1 *Regional Overview*

Connecticut does not stand alone as an island with regard to traveler facilities. Along with its neighboring states, Connecticut is part of a system of facilities serving travelers throughout the northeast. Many factors affect the demand for Connecticut's roadside traveler facilities. Connecticut serves an important role as a gateway to New England, in addition to being a large trip generator and destination in its own right. By virtue of location, Connecticut service plazas in the southwestern part of the state along I-95 are sometimes perceived as staging areas by trucks preparing to enter New York for deliveries and/or pick-ups, or as resting stops for northbound truck drivers who have reached their legal driving limit after getting through New York. Connecticut is a tourist destination, as well as a through state for tourists destined for more northern and eastern parts of New England. Most importantly, Connecticut is a very strong market for consumer goods, all of which are delivered by truck.



*Welcome Center along I-95 NB in
Westbrook, CT*

The densely populated and traveled southwestern Connecticut as well as areas in New York and New Jersey to the south and west of Connecticut are, altogether, generally lacking in the provision of adequate truck parking. The volume of truck and auto traffic needing to stop in these corridors exceeds the current capacity of the traveler facilities in the area. Truck parking is a particular issue in the densely populated portions of the northeast corridor, as this area generates an enormous amount of truck traffic related to the delivery of consumer goods.

5.2 *Neighboring States Comparison*

Massachusetts, Rhode Island, New York, and New Jersey have all undertaken modernization programs to make their facilities more adequate for the volume and type of demand they experience, including upgrading the services and amenities offered. All these improvement programs have resulted in the generation of substantial additional revenue to the operating authorities.



*Welcome Center along I-95 SB in
Salisbury, MA*

Massachusetts, New York, and New Jersey all have facilities which are owned and operated by turnpike authorities, which, in some cases, contract with private "master operators" for the provision of all services. By contrast, all of Connecticut's facilities are owned and operated by the Connecticut Department of Transportation, which contracts separately with one fuel and one food vendor.

The possibilities for alternative operational and governance strategies provide the biggest opportunity for Connecticut to engage in some "win-win" changes that could result in improvements in service to the traveling public; increased direct revenue generation; and overall benefits to the state's economy.



*This Rest Area along I-87 NB in Clifton Park,
NY was expanded and improved in 1997*



5.3 *Where Are We Now? A Summary of Issues*

Connecticut is fortunate to have developed its interstate roadway facilities as part of the Connecticut Turnpike, which are now called I-95 and I-395. These routes have service plazas that provide a greater range of services to the motoring public than do rest areas. The I-95 roadside facility locations in Darien and Fairfield are among the most visited in the nation, and traveler services along I-95 are routinely stressed past the limit of the current service plazas, particularly in the southwestern section of the corridor.

These facilities are also among the oldest in the nation. Many of Connecticut's existing facilities are over 50 years old, are undersized, in need of upgrades, and difficult to maintain. For the most part, they lack comprehensive travel and tourism information and other useful technologies. Amenities are often below the standards provided in many other states. Safety is an issue of concern for users, both in terms of pedestrian and vehicular safety issues caused by unclear circulation patterns, and personal safety/security issues related to perceived crime potential at some locations. According to a survey of facility users, as well as comments received via the study's website venues, travelers also cite concerns about cleanliness (especially the restroom facilities) and food choices. Facility sizes based on market analysis would result in larger facilities than those currently provided. Looking ahead, the strategy should be to recognize the importance of comfortably and safely serving motorists as they travel to or pass through Connecticut.



Trucks parked near autos create a safety issue

The State of Connecticut has been operating under, and is at the end of, 20-year old agreements. Under these agreements, there is no incentive for operators to invest major capital into improvements. The state is now well positioned to take the opportunity to guide future operations and maintenance of facilities. The state is in the process of preparing a Request for Proposal (RFP) that will implement improvements for facilities statewide. Similar to other states which have recently negotiated new lease contracts because they were at their expiration dates, Connecticut is now in a position to make new lease agreements for the next 20 years. In addition to public-private financing arrangements, all potential funding mechanisms should be considered including state funding.

It is noted that while expansion or replacement of existing facilities is needed to increase revenue, the state has limited property for expansion and that demolition would be expensive due to the presence of thick concrete walls, basements and floor slabs.

The general findings of this study include identification of the following major issues:

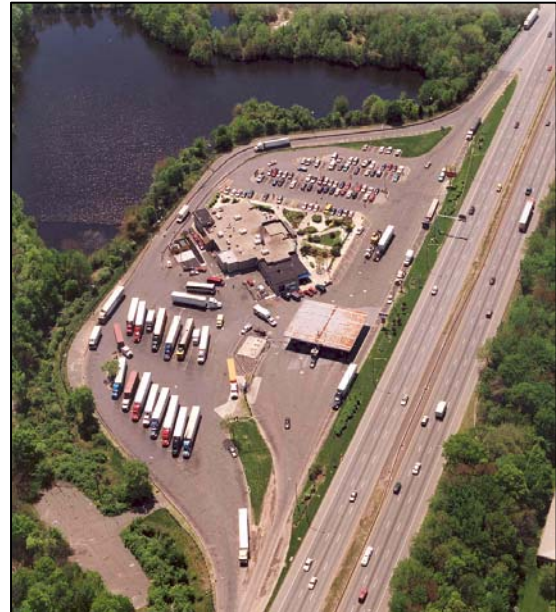
- truck parking deficits;
- aging, functionally obsolete facilities;
- undersized facilities;
- governance;
- federal restrictions;
- missed opportunity to enhance tourism;
- missed opportunity to add additional revenue; and
- gaps in service.

A brief summary of these issues follows.



5.3.1 Truck Parking Deficits

Truck drivers, who are limited by the number of hours they can drive each day, and who may need to layover close to delivery locations, must have locations where they can stop to rest and/or wait. This is of utmost importance to on-time delivery of goods, and thereby critical for the local economy. Current parking needs for truck drivers are much greater than the available number of spaces. In 2001, ConnDOT analyzed this issue and found a nightly deficit of approximately 1,200 truck spaces. This deficit has continued to grow, with the unmet need estimated as part of this analysis as over 1,400 parking spaces each night.¹ Truck parking is a major issue that will only get worse. This deficit is projected to increase to over 2,000 spaces each night by the year 2025. Land constraints, including both availability and cost, are challenges to the truck parking issue throughout Connecticut, but most particularly in the areas of greatest need — I-95 in the southwestern part of the state and I-84 west of Hartford. Truck parking spaces at existing facilities are often in close proximity to automobile parking areas, which is a safety issue which should be addressed. The service plazas on I-95 are inundated with trucks seeking overnight parking. Trucks are routinely found lining the access ramps, shoulders of the mainline interstate, and in every conceivable open space at service plazas. In addition to affecting safety on the interstate, this issue spills onto local roads and into neighborhoods in the vicinity of interchanges and becomes a community issue as well. Conventional strategies may be able to solve a part of the overall deficit, but, clearly, innovative strategies are warranted to more adequately address the problem.



Daytime truck overflow at I-95 NB Service Plaza in Darien. The problem is worse at night.

Because of population density, cost of land and NIMBYism, private development has been unable to construct facilities in Connecticut that are sufficient to accommodate demand.

5.3.2 Aging, Functionally Obsolete Facilities

The existing facilities, especially the service plaza locations, are physically and functionally obsolete. Connecticut's service plazas date back to the 1950's when the Connecticut Turnpike was constructed. The buildings have not been changed or materially renovated since that time. The design of these facilities is dated and the facilities provided are not large enough to meet traveler demands. Poor circulation and safety are also issues at Connecticut's facilities. Along the Merritt and Wilbur Cross Parkways (Route 15), the small size of the service plazas and the age of the buildings result in inferior services and fueling accommodations. Although the Merritt Parkway is a historic resource, and major changes are not desirable as they would change the nature and ambience of this historic roadway, there are still opportunities to



Service plaza off of Route 15 (SB) in Fairfield

¹ Numbers include latent truck parking demand along highway segments where no public roadside facilities currently exist.



improve image and services. Connecticut’s other service plazas along I-95 and I-395 represent a large untapped opportunity for the state to meet traveler needs, increase revenue, improve safety and provide travel and tourism information, leading to secondary benefits to the state and local economies. Similarly, rest area locations date to the construction of the highway facilities on which they are located, and little improvement has been made since they were originally constructed. Connecticut rest areas, though not as severely under capacity as the service plazas, are also in need of improvement in terms of new buildings, improved use of the sites, and better amenities and services.

5.3.3 Undersized Facilities

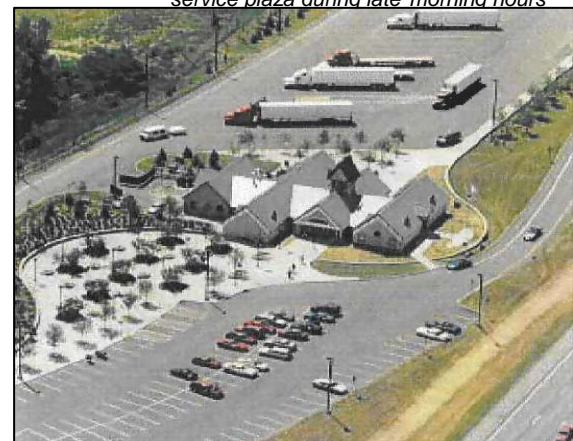
Connecticut’s service plazas and rest areas have a high volume of visitors and the current facilities cannot meet the existing demands. Darien locations on I-95 are among the busiest in the country. Public and stakeholder input indicated dissatisfaction with some aspects of Connecticut’s facilities, particularly food choices, restroom issues and safety and security.



Heavy activity in Darien at the I-95 Northbound service plaza during late morning hours

5.3.4 Governance

Other northeast states have recently renovated their facilities and developed pleasing and inviting environments for travelers. New York, Massachusetts and Vermont in particular have developed improved service plaza facilities and rest areas. Connecticut is now positioned to develop new lease agreements as a result of the expiration of the current 20-year contracts. Through new lease agreements, the facilities can be expected to improve statewide. An RFP is currently being developed to advance this process.



Example of modern service plaza design along I-87 NB in Clifton Park, New York

5.3.5 Federal Restrictions

Current federal regulations limit the ability to add revenue-generating service plaza locations despite the public desire for this type of facility. These restrictions do a disservice to Connecticut. For a variety of factors, such as land availability, land costs, public sentiment, and financial constraints, it is unlikely that private truck stop operations can fill the gap in need in terms of truck parking and services. Thus, while the private sector can play a role in addressing Connecticut’s roadside facility issues, the private sector alone cannot be expected to solve these problems. Connecticut shares this problem with other states in heavily populated areas of the northeast.



Service Areas along Merritt Parkway - Greenwich (SB), Fairfield (NB), and North Haven (SB)



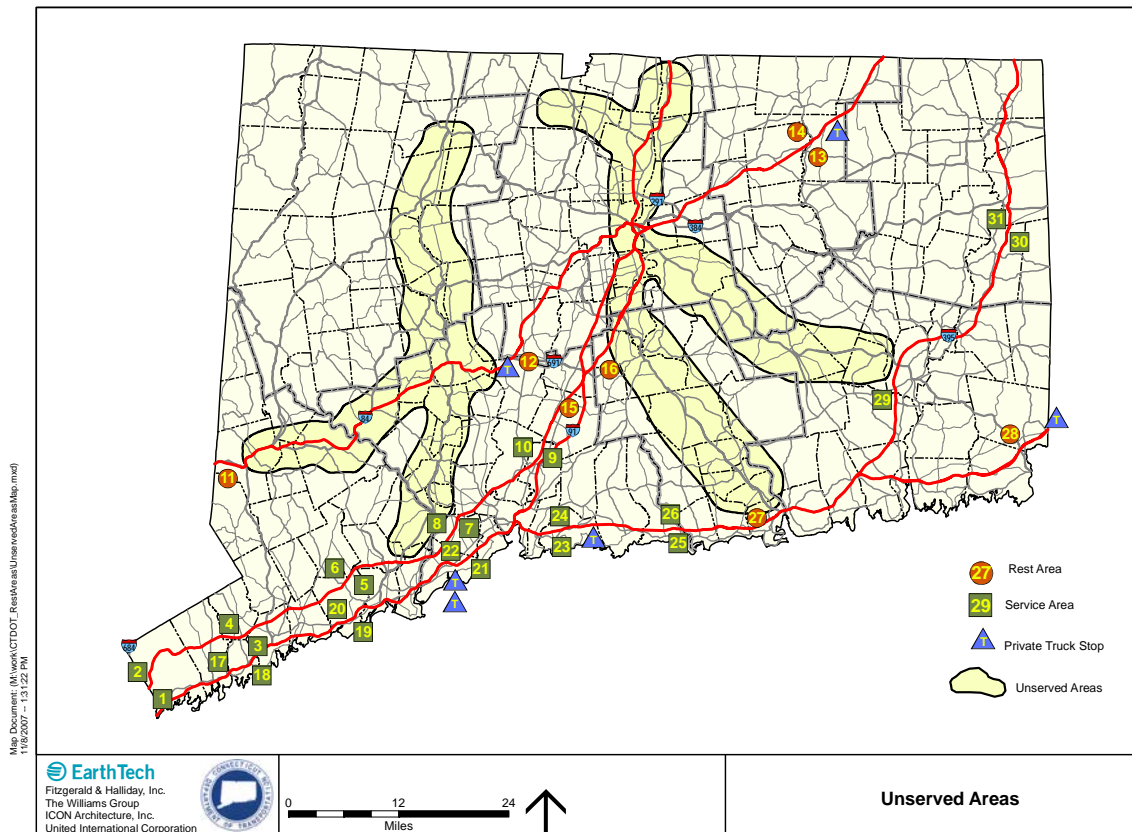
5.3.6 Opportunity to Enhance Tourism and Capture Additional Revenue

Tourism is the fastest growing sector of Connecticut's economy. The economy in Connecticut, especially in the southeastern areas of the state, has gravitated to a focus on tourism and entertainment. Current rest area and service plaza conditions do not support this trend. Tourism can be better addressed in Connecticut's roadside traveler facilities as evidenced by limited number and scope of welcome centers and gateway locations and understaffed welcome centers. Connecticut should strive to enhance Connecticut's image and to capture additional, secondary revenue for the local communities and the state's economy.

5.3.7 Gaps in Service

As shown on the map below, there are gaps in traveler services along Connecticut's highways. Several parts of the state are underserved or not served at all such as I-91 north of Hartford. Routes 2, 8, 9 and 11 do not provide any roadside stop opportunities. A traveler can enter Connecticut from Massachusetts, travel south on I-91 and Route 9 and proceed out of Connecticut to Rhode Island on I-95 without encountering a single rest area or service plaza. The State of Connecticut operates rest areas at only three locations along I-84: Willington (both directions), Southington (eastbound), and Danbury (eastbound). Along I-91, roadside facilities are provided in Wallingford (southbound) and Middletown (northbound), but none are provided north of Hartford.

There are also several private truck stops in Connecticut (in Southington, Willington, Branford, North Stonington, Milford, and Cheshire). However, as mentioned above, the cost of land in Connecticut and the difficulty of developing this type of facility with respect to regulatory approvals and public acceptance make it unlikely that new private truck facilities can meet the state's substantial need in this area.





Recognizing these issues leads to the realization that the way forward must include substantial change to develop a program that meets the demands of the traveling public, the economy, and the traffic volumes projected for the future.

5.3.8 Where Do We Want to Be? A Summary of Identified Needs

Given the issues identified above and led by the vision and guiding principles (see Chapter 2) that lay out the foundation for the future, the following needs have been identified for Connecticut's roadside traveler facilities:

- **New Buildings:** Safe, environmentally sensitive, modern attractive facilities which appeal to travelers and provide all necessary modern traveler amenities;
- **New Site Concepts:** Better use of existing sites to improve traffic flow, increase safety and maximize parking;
- **More Truck Parking:** Increased truck parking, particularly in areas where it is most needed;
- **New and Improved Welcome Centers:** More and better welcome centers with tourist information which are well-staffed with knowledgeable workers;
- **Security and Environment Improvements:** Better security and environmental monitoring;
- **A New Governance Model:** Re-evaluated governance model and mechanisms; and
- **State Policy or Legislation Changes:** Policies and programs to increase and enhance the capabilities of the private sector to help meet the truck parking shortage.



Rest Area Danbury, CT

5.4 How Do We Get There? A Summary of Recommended Improvement Strategies

Recognizing the issues discussed above leads to the realization that the way forward must include substantial change to develop a program that meets the demands of the public and the volumes projected for the future. This section discusses general approaches and strategies intended to address issues and deficiencies in the accommodation of travelers' needs along Connecticut's highways.

During the study process, it became clear that there is no single "silver bullet" which can solve the many problems related to Connecticut's truck parking deficit, deteriorating infrastructure, and gaps in traveler facility services. However, a comprehensive program of strategies was identified to address these issues. Specific facility recommendations are provided in Chapter 6.

Strategy 1 – Improve all existing facilities by:

- a) **Replacing buildings;**
- b) **Reconfiguring sites for best advantage;**
- c) **Providing state-of-the-art amenities;**
- d) **Incorporating innovative design by building over-the-highway facilities where possible; and**



e) Improving and maintaining the historic ambience at the facilities on the Merritt Parkway.

The nature of the recommended facilities will be substantially different than what exists now. Connecticut must be open to learning from successes in other states, and willing to adopt a new paradigm for these critical facilities. For example, over-the-highway facilities, median, and linear facilities should all receive adequate consideration from decision-makers. Air rights addressing limited right of way availability and opportunities for private investment could be a win-win situation in Connecticut. Most important, these improved facilities need to be a source of pride to the people of Connecticut, need to convey a positive image, and need to generate positive economic activity.

Strategy 2 – Increase truck parking wherever possible by:

- a) Optimizing truck parking at existing facilities; and**
- b) Creating several new truck-only facilities.**

Connecticut cannot solve the existing and projected deficit of truck parking with its own facilities. Currently, over 1,400 trucks fail to find a legal parking space each night in Connecticut. That number will grow to over 2,000 by year 2025. Dealing with this issue will involve the following action areas:

- **Improve truck parking capacity at current facilities.** Where possible, the recommendations of this program increase available truck parking at current facilities.
- **Encourage improved and new private truck plazas.** Connecticut can help private operators by adopting the “Oasis Program” for the state. The Interstate Oasis Program was approved in SAFETEA-LU, the current federal transportation reauthorization bill, and allows the development of a signage program to promote facilities that are accessible to vehicles near highway interchanges. The Oasis Program spurs public-private partnerships and helps ensure that the rest needs of the motoring public are better met. Under this program, states can designate interchanges with businesses or groups of businesses that meet certain criteria as “Interstate Oasis Locations.”² These businesses are identified with a uniform logo and signage on the Interstate system, and must provide 24-hour access to restrooms, offer food and fuel to the public, and supply parking for both cars and trucks.

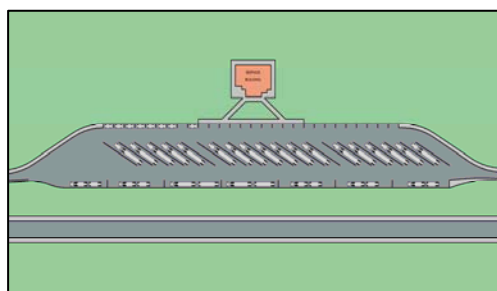
Where possible, Connecticut should partner with the private sector in developing truck parking facilities. This may involve innovative application of right-of-way rights.



Truck parking on service plaza ramps along I-395 in Plainfield



Separation of trucks and autos is desirable



Concept site plan for “truck parking only” facility for high-demand truck routes

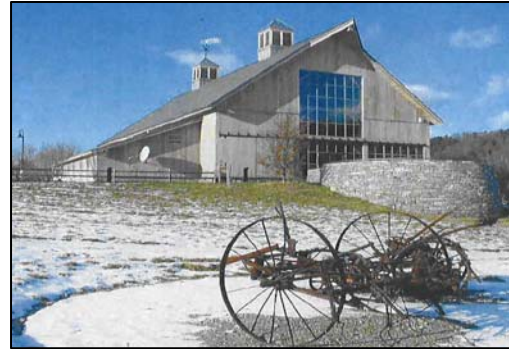
² The “Oasis Program” allows the construction of facilities that are accessible to vehicles along both sides of the highway. Oasis buildings are generally built directly over the highway they service, but they may also be facilities located on one side, but accessible to both sides of the highway via an overpass.



Strategy 3 – Develop a system of new and improved welcome centers to:

- a) **Enhance traveler services and tourism;**
- b) **Enhance Connecticut’s image; and**
- c) **Assist local economies in providing information about Connecticut services and attractions.**

The benchmarking effort illustrates that Connecticut is missing a significant opportunity to better serve visitors and enhance state and local economies by not investing in welcome center facilities and services. The image of the state portrayed at improved facilities could be much enhanced.



This Welcome Center off I-91 northbound in Guilford, VT, attracted nearly 927,000 visitors in 2005

Strategy 4 – Propose several new rest area facilities to help address the gaps in service

Service plaza or rest area facilities are not provided on each Interstate or expressway facility. Currently I-91 north of Hartford, Route 2, Route 9, Route 8 and Route 11 do not provide any services. Filling in these gaps in service should be a part of the plan for improved service to travelers.

Strategy 5 – Re-evaluate the current governance model with goals of increasing direct revenue, leveraging funds for capital improvements, and improving and enhancing services

How these facilities are improved will be critical to success. The projected total capital needed for construction is in excess of \$550 million in order to be able to carry out all aspects of the improvement program contained herein (including upgrade of old locations and construction at new locations). To achieve meaningful progress in achieving these improvements, a design-build or design-build-operate approach should be utilized to replace the typical design, bid, build process. Because these are complex facilities providing many functions and opportunities, the current governance approach will need to be modified to achieve the needed program improvements. New ways of operating roadside facilities, and new governance methods will be critical to success.

Strategy 6 – Develop a series of policy and regulatory recommendations to further help solve the identified problems, such as:

- a) **Institute an Oasis program;**
- b) **Work with the private sector to enable the private sector to better contribute to the situation; and**
- c) **Team with other state agencies to develop and adopt multi-disciplinary solutions to complex issues, such as tourism or economic development.**

While this report has laid out a broad program of recommended actions, the overriding issue is HOW to bring these recommendations to fruition. Service plaza, rest area and welcome center facilities present complex operations which require a comprehensive approach and cooperation among many state and local agencies.

Furthermore, the state cannot solve this problem alone. The private sector must be engaged to assist in developing appropriate solutions. The state will need to lay the groundwork to encourage and partner with private developers. Several private operators currently provide truck plazas in the state. Innovative approaches for marrying this private facility expertise with the implementation capacity of the state will be critical.



Much can be learned from neighboring states. Important questions include: Is privatization of the service plazas a way forward? Can current regulations be changed to allow additional commercial facilities? Is the gross receipts tax shutting the door to more private investment in truck facilities? How is tourism to be integrated into the program? Will we have separate truck facilities? Who should operate the system: DOT, Public-Private Partnership, an Authority created for this purpose? Connecticut should approach similar states in the northeast facing this issue to explore changes in available Federal Programs.

Although system prototypes are recommended, each travel corridor and each facility type offers the state unique challenges and opportunities and, therefore, each calls for specific improvement strategies. Recommendations and strategies described in Chapter 6 were developed to address both general and specific issues, as well as the future needs identified for each of Connecticut's roadside facilities. Specific recommendations for actions resulting from this study are designed to be consistent with the vision and guiding principles of this study so that Connecticut rest areas and service plazas may be improved to offer the traveling public the services that are needed and desired.



6.0 FACILITY RECOMMENDATIONS

This chapter describes general and specific facility recommendations for both existing and new roadside facilities. Within the context of the Connecticut Statewide Rest Area and Service Plaza Study, a “facility” is defined as an individual part of the overall statewide system. Currently, there are 31 rest area and service plaza facilities in Connecticut. Each facility consists of the access roadways, parking, buildings, amenities, signs, utilities, and other facets of that particular site. Facility variables, site programming, traveler service programming, and architectural image are discussed in the sections below.

6.1 Recommendations

Figure 6-1 provides a summary of the recommended improvement program for Connecticut. General recommendations are described below and site specific recommendations for the types of facilities and features are provided in the individual site concepts in Volume II of this document.

The Department received input from the Town of Fairfield regarding the over-the-highway concept at service plazas 19 and 20 on I-95. The Town of Fairfield has commented that they oppose an over-the-highway facility in Fairfield. The Department decided not to pursue this concept and the layout of the locations will be determined through a “Request for Proposal” process for the design of the service plazas statewide.

6.2 Facility Variables

By researching leader states and assessing Connecticut’s existing facilities, the Study Team noted many patterns and similarities of “best practices” among facility types (rest areas, service plazas, and welcome centers) and available traveler services. However, within a specific facility type, there are many variations with regard to building size, amenities, image, and overall configuration. These variables, combined with a changing marketplace and consumer demand, require site-specific decisions and projections in order to determine the most appropriate facility at each particular location.

For example, what is the best facility for Plainfield on I-395 Southbound? How big should a new building be? Should the site have a Welcome Center? Is there available land area for expansion? What will the traffic volumes be 20 years from now? Is this a good site for additional truck parking? How will this facility fit within the overall system?

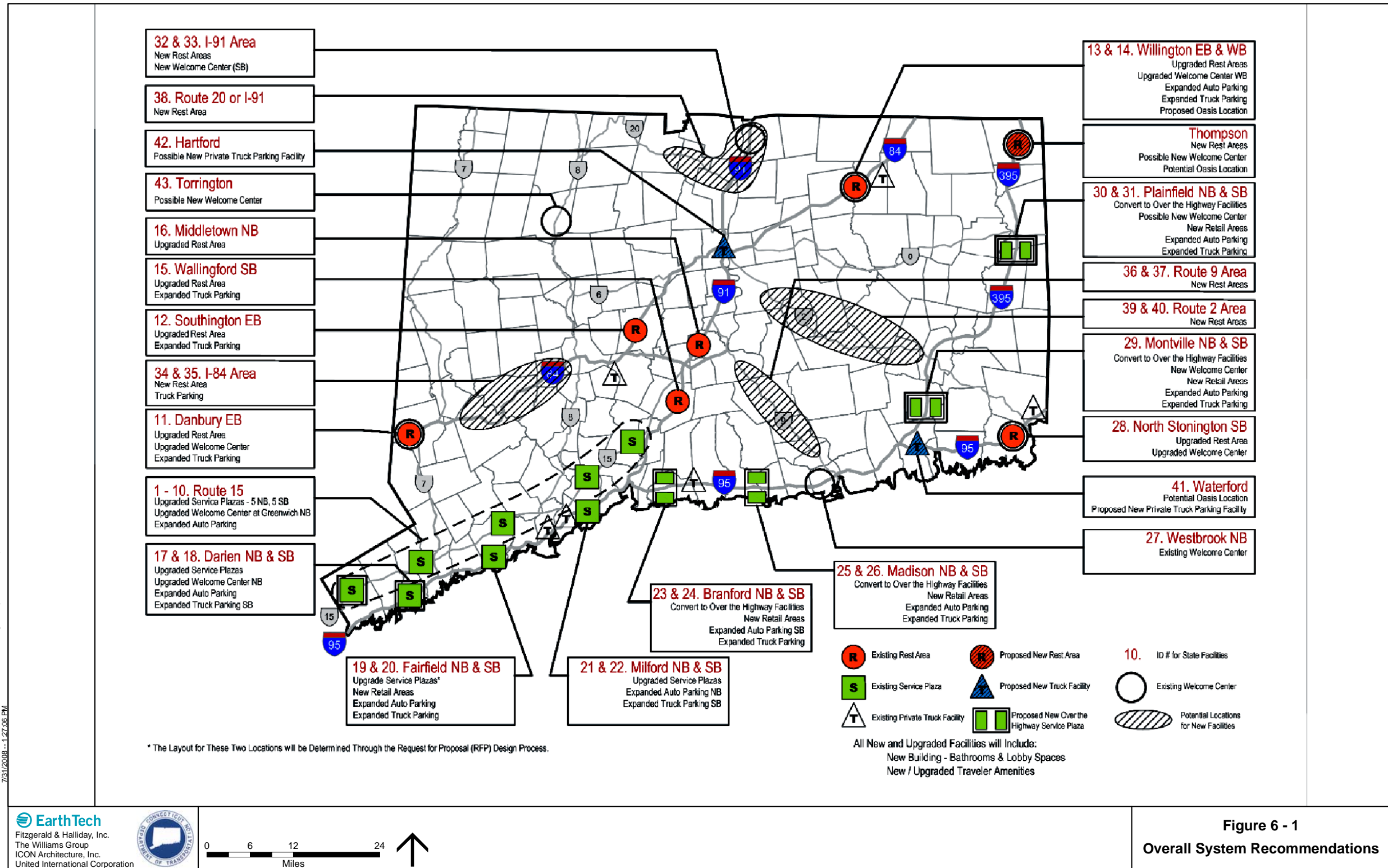
The Study Team developed a list of specific criteria to be used to inform and help determine the appropriate recommendations for new facilities. This methodology combines quantitative information (e.g., traffic volume projections) along with more subjective data (e.g., user survey preferences) to define the characteristics of a proposed facility for each location. At the same time, there is a benefit to having similar situations treated similarly, so that travelers and the public have reasonable expectations about what services and amenities are provided at rest area and service plaza locations in Connecticut.

The following criteria were considered for each new or existing site:

1. Type of facility (service plaza or rest area);
2. Existing and projected traffic volumes;
3. Existing and projected capture rate (number of travelers stopping);
4. Increased revenue potential;
5. Physical site opportunities/constraints;
6. Potential traveler services (e.g., welcome center, retail, etc.);
7. Synergies and compatibility with adjacent facilities; and
8. Sensitivity to surrounding community.



Figure 6-1 Overall System Recommendations





6.3 Site Programming

Site programming refers to facility requirements with regard to building size, number of parking spaces and types of traveler services that need to be defined or “programmed.” The basis for site programming, site parking requirements, the programming of building components, and facility prototypes are discussed below.

6.3.1 The Basis for Site Programming

As a first step in establishing site specific recommendations, facility requirements were programmed. Since building size, number of parking spaces, and the level of traveler services provided may be considered a function of the number of potential visitors to a given site, the study focused on the number (or volume) of projected visitors at each location. The number of future visitors has been calculated using Average Annual Daily Traffic (AADT) data along the highways projected to the year 2025. AADT is then converted to 2025 “peak hour” traffic using the ratio of daily to peak hour traffic for existing conditions. This represents the number of passenger vehicles passing the site during the busiest hour of the busiest day of the week. For most rest areas and service plazas, this reflects traffic mid-day on a Saturday.

Existing traffic counts identified a “capture rate,” that is, the ratio of vehicles stopping at the site versus the total number of vehicles passing the site. The total number of vehicles projected to actually stop at the facility in 2025 is calculated by applying this “capture rate” percentage to the projected 2025 “peak hour” traffic projections. The number of vehicles is then multiplied by the average number of passengers per vehicle. This results in a projected **peak hour visitor volume**. This is a critical planning number that is used to size the building and comfort facilities, determine the number of parking spaces, evaluate revenue potential, and design other key site components.

An example of this calculation using I-95 northbound in Milford, Connecticut is shown below, and traffic and visitor volume data for all existing and potential sites is provided in Table 6-1.

Example Traffic/Visitation Data – I-95 NB in Milford, Connecticut:

Current AADT (one way)	63,320 vehicles
2025 AADT (one way)	75,850 vehicles
Peak design hour volume	5,400 vehicles
Peak hour vehicles stopping (10% capture rate)	540 vehicles
Peak hour persons visiting site (1.4 people per vehicle)	756 people

6.3.2 Site Parking Requirements

To address the parking demand vs. capacity issue in Connecticut, the traffic and visitor volume data was used to estimate the number of vehicles entering and exiting the rest area or service plaza location, and by extension to establish the parking requirements for each site. Proposed parking space numbers for each site are constrained by site size and site layout. The proposed parking is summarized in Table 6-2 and the actual number of proposed parking spaces is shown in the individual site reports (Volume II).

It should be noted that using peak hour visitor volume as the basis for site programming addresses two key components of the study: safety and visitor experience. For example, when parking demand exceeds available spaces, sightlines and site circulation may be compromised, alternatives for visitors may be constrained, and amenities may be inadequate for demand.



Table 6-1 Year 2025 Traffic and Visitor Volume Projections

ID #	ROUTE/ DIRECTION	TOWN/LOCATION	2025 Highway AADT Volume ¹	2025 Highway Peak Hour Traffic Volume ²	Cap- ture Rate	Entering Vehicles	Avg. Pass- engers per Vehicle	Peak Hour Visitor Volume
EXISTING LOCATIONS:								
1	Route 15 / NB	Greenwich	32,390	2,090	10%	209	1.4	293
2	Route 15 / SB	Greenwich	32,390	2,090	10%	209	1.4	293
3	Route 15 / NB	New Canaan	43,820	2,780	10%	278	1.4	389
4	Route 15 / SB	New Canaan	43,820	2,780	10%	278	1.4	389
5	Route 15 / NB	Fairfield	41,640	2,290	10%	229	1.4	321
6	Route 15 / SB	Fairfield	41,640	2,290	10%	229	1.4	321
7	Route 15 / NB	Orange	36,410	2,010	10%	201	1.4	281
8	Route 15 / SB	Orange	36,410	2,010	10%	201	1.4	281
9	Route 15 / NB	North Haven	31,440	1,870	10%	187	1.4	262
10	Route 15 / SB	North Haven	31,440	1,870	10%	187	1.4	262
ROUTE 15 AVG:			37,140	2,208	10%	221	1.4	309
11	I-84 / EB	Danbury	54,420	4,920	10%	492	1.4	689
12	I-84 / EB	Southington	56,560	3,850	10%	385	1.4	539
13	I-84 / EB	West Willington	48,880	2,780	10%	278	1.4	389
14	I-84 / WB	West Willington	48,880	2,410	10%	240	1.4	337
I-84 AVG:			52,185	3,490	10%	349	1.4	489
15	I-91 / SB	Wallingford	59,060	4,640	10%	464	1.4	650
16	I-91 / NB	Middletown	59,060	6,620	10%	662	1.4	927
I-91 AVG:			59,060	5,630	10%	563	1.4	789
17	I-95 / SB	Darien	88,290	7,450	10%	745	1.4	1,043
18	I-95 / NB	Darien	88,290	5,900	10%	590	1.4	826
19	I-95 / NB	Fairfield	75,850	6,030	10%	603	1.4	844
20	I-95 / SB	Fairfield	75,850	5,920	10%	592	1.4	829
21	I-95 / NB	Milford	75,850	5,400	10%	540	1.4	756
22	I-95 / SB	Milford	75,850	5,220	10%	522	1.4	731
23	I-95 / NB	Branford	53,750	4,980	10%	498	1.4	697
24	I-95 / SB	Branford	53,750	4,840	10%	484	1.4	678
25	I-95 / NB	Madison	43,630	3,140	10%	314	1.4	440
26	I-95 / SB	Madison	43,360	3,780	10%	378	1.4	529
28	I-95 / SB	North Stonington	38,870	1,370	10%	137	1.4	192
I-95 AVG:			64,849	4,912	10%	491	1.4	668
29	I-395 / SB	Montville	34,080	3,230	10%	323	1.4	452
30	I-395 / NB	Plainfield	17,790	1,450	10%	145	1.4	203
31	I-395 / SB	Plainfield	17,790	1,300	10%	130	1.4	182
I-395 AVG:			23,220	1,993	10%	199	1.4	279
POTENTIAL NEW LOCATIONS:								
32	I-91 NB	North of Hartford Area	72,380	8,110	10%	811	1.4	1,135
33	I-91 SB	North of Hartford Area	73,280	5,690	10%	569	1.4	797
34 ³	I-84 EB	Danbury/Waterbury Area	55,490	4,390	10%	439	1.4	615
35 ³	I-84 WB	Danbury/Waterbury Area	55,490	3,570	10%	357	1.4	500
36	Route 9 NB	Middletown/Old Saybrook Area	42,000	2,940	10%	294	1.4	412
37	Route 9 SB	Middletown/Old Saybrook Area	42,000	2,940	10%	294	1.4	412
38	Route 20 or I-91	Bradley Area	14,000	980	10%	98	1.4	137
39	Route 2 EB	Colchester/Norwich Area	32,000	2,240	10%	224	1.4	314
40	Route 2 WB	Colchester/Norwich Area	32,000	2,240	10%	224	1.4	314
Potential New Location AVG:			46,516	3,678	10%	368	1.4	515

NOTES:

1. AADT = Average Annual Daily Traffic. The source for this data is ConnDOT traffic volume projections.
2. Based on existing K-factor, which is the relationship of existing peak hour volume to AADT.
3. Potential sites 34 and 35 would likely be one facility serving I-84 in both directions.



Table 6-2 Proposed Parking Summary

ID #	ROUTE/ DIRECTION	TOWN/LOCATION	Autos		Trucks		Proposed Public Spaces ³ at DOT Sites (veh)
			Existing Spaces ¹ (veh)	Proposed Spaces (veh)	Existing Public Spaces ¹ (veh)	Existing Private Spaces ² (veh)	
EXISTING LOCATIONS:							
1	Route 15 / NB	Greenwich	36	40	0	0	0
2	Route 15 / SB	Greenwich	25	27	0	0	0
3	Route 15 / NB	New Canaan	26	28	0	0	0
4	Route 15 / SB	New Canaan	20	28	0	0	0
5	Route 15 / NB	Fairfield	15	28	0	0	0
6	Route 15 / SB	Fairfield	24	26	0	0	0
7	Route 15 / NB	Orange	17	28	0	0	0
8	Route 15 / SB	Orange	16	28	0	0	0
9	Route 15 / NB	North Haven	17	39	0	0	0
10	Route 15 / SB	North Haven	20	28	0	0	0
ROUTE 15 TOTALS:			216	300	0	0	0
11	I-84 / EB	Danbury	92	105	40	0	41
12	I-84 / EB	Southington	56	80	21	20	24
13	I-84 / EB	West Willington	29	60	7	113 ⁵	28
14	I-84 / WB	West Willington	52	56	24	112 ⁵	52
I-84 TOTALS:			229	301	92	245	145
15	I-91 / SB	Wallingford	68	68	59	0	88
16	I-91 / NB	Middletown	59	65	37	0	40
I-91 TOTALS:			127	133	96	0	128
17	I-95 / SB	Darien	115	126	19	0	32
18	I-95 / NB	Darien	100	160	18	0	15
19	I-95 / NB	Fairfield	100	136	22	0	17
20	I-95 / SB	Fairfield	95	84	21	0	51
21	I-95 / NB	Milford	100	106	25	95	18
22	I-95 / SB	Milford	115	106	15	95	29
23	I-95 / NB	Branford	115	78	14	50	34
24	I-95 / SB	Branford	62	70	9	50	47
25	I-95 / NB	Madison	65	70	10	0	32
26	I-95 / SB	Madison	100	102	26	0	36
27	I-95 / NB	Westbrook	22	23	0	0	0
28	I-95 / SB	North Stonington	44	44	34	100	34
I-95 TOTALS:			1,033	1,105	213	390	345
29	I-395 / NB & SB	Montville	28	102	9	0	70
30	I-395 / NB	Plainfield	33	35	9	8	25
31	I-395 / SB	Plainfield	30	35	9	7	40
I-395 TOTALS:			91	172	27	15	135
POTENTIAL NEW LOCATIONS:							
32	I-91 NB	North of Hartford Area	0	68	0	0	122
33	I-91 SB	North of Hartford Area	0	46	0	0	75
34/35 ⁴	I-84 EB & WB	Danbury/Waterbury Area	0	30	0	20	146
36	Route 9 NB	Middletown/Old Saybrook Area	0	60	0	0	60
37	Route 9 SB	Middletown/Old Saybrook Area	0	80	0	0	60
38	Route 20 or I-91	Bradley Area	0	80	0	0	186
39	Route 2 EB	Colchester/Norwich Area	0	63	0	0	48
40	Route 2 WB	Colchester/Norwich Area	0	68	0	0	73
POTENTIAL NEW LOCATION TOTALS:			0	495	0	20	770
GRAND TOTALS:			1,696	2,506	428	670	1,523

NOTES:

1. Based on Parking Surveys, 2005.
2. Includes truck spaces at private truck stops located within the vicinity (within the same corridor segment) of the existing public roadside facilities.
3. Proposed spaces shown are constrained by the size and layout of each site and does not reflect demand.
4. Potential sites 34 and 35 would likely be one facility serving I-84 in both directions.
5. Total of 225 serves both directions.



6.3.3 Building Components

In addition to the site programming, the recommended size of the buildings themselves is also derived from the peak hour visitor volume: more active rest areas and service plazas warrant larger facilities. In order to provide a design basis across the range of sites considered in the study, three major “building blocks” were identified and quantified:

1. **Comfort** (restrooms): For restroom facilities, the peak hour visitors were divided by two based on an assumption of an equal number of male and female visitors. Standard formulas are applied to determine the number of toilets, sinks, and drinking fountains for each gender. Using prototypical code-compliant and accessible layouts, a square footage was determined for the overall size of “comfort” facilities.

2. **Welcome Center** (tourist information): For the welcome center component, peak hour passenger volume is again an important factor. The sizing recommendations for tourist services were based on square footages of successful welcome centers in leader states identified in the benchmarking effort. Passenger volume was not the only determinant, however. Demand for tourist information also correlates to characteristics of the specific location. For example, the Danbury welcome center on I-84 eastbound receives a number of welcome center visitors proportionate to its traffic volume, while the welcome center in North Stonington on I-95 southbound receives surges of visitors on multiple tour buses bound for the casinos in southeastern Connecticut. Therefore, recommended welcome center sizes have been adjusted to reflect local requirements.

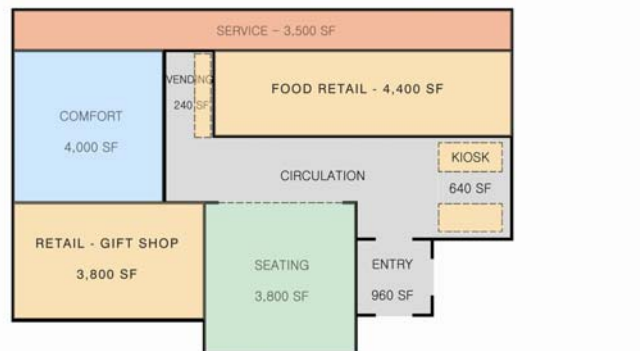


Connecticut welcome center in Westbrook

3. **Retail** (convenience store, restaurants, restaurant seating, and other vendors): Like sizing the welcome centers, the retail size recommendation is based on several factors including traffic volume, estimated sales per square foot, local retail choices, and traveler demographics. The sizing recommendations also reflect successful retail operations in leader states identified in the benchmarking effort.

6.3.4 Building Prototypes

An estimated service plaza real estate footprint to support the total ConnDOT system is estimated to be more than double the size of the current program. The average size per facility of the recommended program service plaza in Connecticut is 15,000 to 20,000 sf, which is comparable to the updated program in New Jersey.



SERVICE PLAZA PROTOTYPE (WITHOUT WELCOME CENTER)
 OPTION B



Example service plaza floor plan prototype

Using the site programming information and the building components described above, the Study Team looked to group similar building sizes and types. As a practical matter, the statewide system should not consist of over 30 unique facilities, each with



its own size and layout. Accordingly, four standard retail “building blocks” were established (2,000 GSF, 8,000 GSF, 15,000 GSF and 20,000 GSF) to cover the range of requirements for the particular sites. And “building block” modules were developed for the comfort and welcome center components. These modules have been combined into a limited number of prototypes which can then be adapted to the individual sites under consideration.

The intent of the prototypes is:

- to address the desire for standardized facility types;
- to allow the flexibility of variations under the main prototype; and
- to provide a basis for proposing site-specific recommendations.

For the proposed service plaza and rest area prototypes, the study includes small and medium variations. The service plaza prototype also includes a large variation. Suggested building sizes for the prototypes are as follows:

Service Plaza Prototypes:

Small (Type B)	up to 7,500 GSF
Medium (Type B)	7,500 – 17,500 GSF
Large	over 17,500 GSF

Rest Area Prototypes:

Small (Type A)	up to 7,500 GSF
Medium (Type A)	7,500 – 17,500 GSF

These prototypes were applied to the existing 31 roadside facility locations, as well as eight new proposed locations. Any of the prototype facilities (regardless of size) might also include a welcome center component. Some examples of small and medium prototype rest areas/service plazas are shown on the next page. The number of bathroom facilities can be modified according to site requirements. The study recommends that a total of seven facilities include a welcome center component.

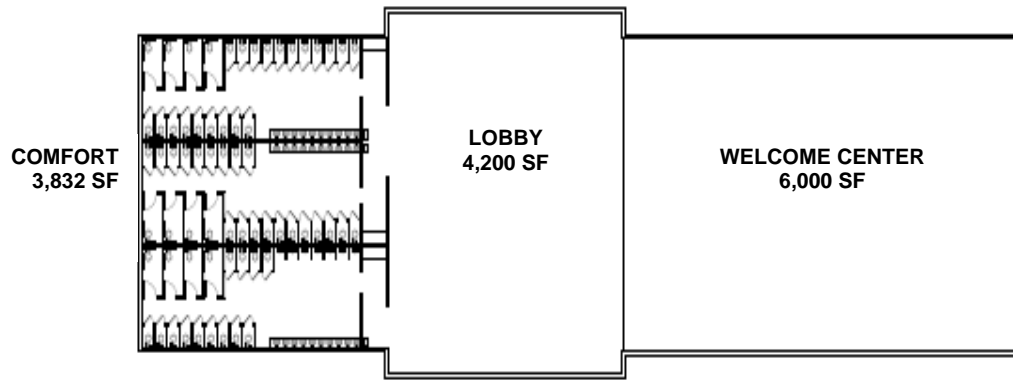
A complete summary for all 40 sites, broken down into comfort, welcome center, and retail components is included in Table 6-3. Note that in some cases, site restraints may limit the size and configuration of site facilities. The individual site concepts provided in Volume II show how the building program elements may be applied to particular sites given individual site restraints.

6.4 Site Programming for Traveler Services

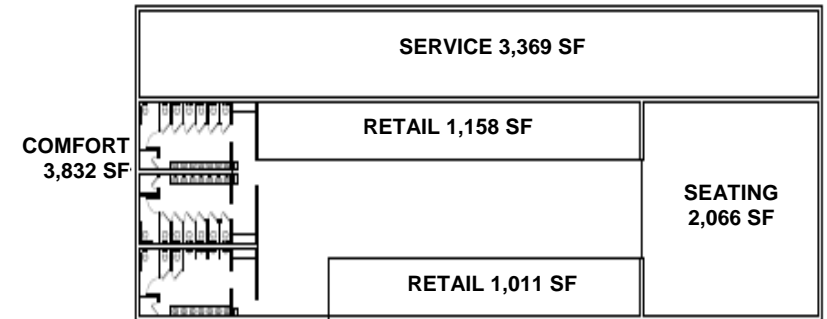
Based on best practices in the leader states, the Study Team developed a list of basic traveler services and amenities that should be considered as part of the building and site programming. The following list should be consulted in planning and designing the individual sites:

Fuel Sales	Car/Truck Parking	ATM
Rest Rooms	Pet Walking Area	Truck Weigh Station
Family Rest Room	Picnic Tables	Pay Phones
Convenience Store	Benches	Water Fountains
Retail	Emergency Services	Cart Vendors
Restaurant(s)	Traveler Information (manned)	Alternative Fuels
Vending Machines	Traveler Information (kiosk only)	RV Sanitary Dump
Recreation	Trucker Services/Real Time Trucker Info	Wireless Internet

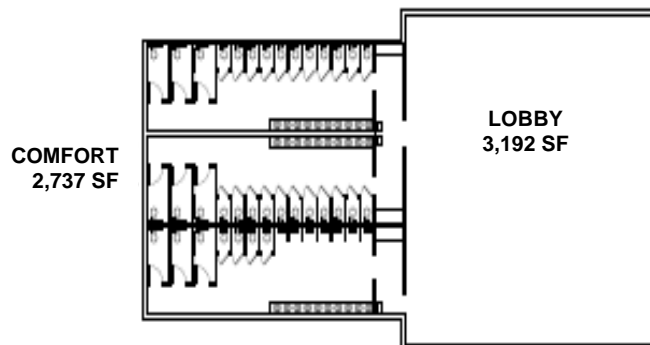
The individual site reports (Volume II) indicate existing and proposed amenities for each site considered.



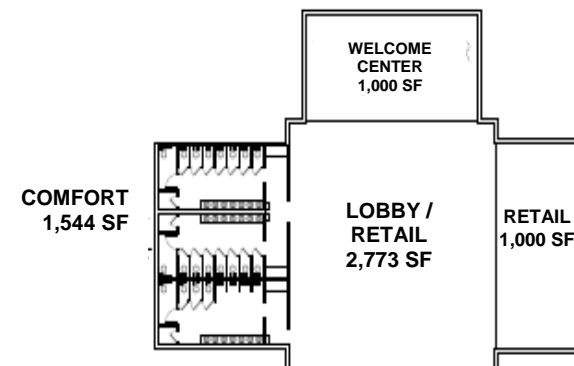
MEDIUM: A
TOTAL: 14,032 SF



MEDIUM: B
TOTAL: 11,436 SF



SMALL : A
TOTAL : 5,929 SF



SMALL : B
TOTAL : 6,317 SF

Example layouts for small and medium rest areas and service plazas



Table 6-3 Building Program Summary

ID#	Location		Existing	Proposed				
			Total GSF ¹	Comfort GSF	Retail GSF	Welcome Center GSF	Lobby/Circulation	Total GSF ²
EXITING LOCATIONS:								
1	Route 15 / NB	Greenwich	2,877	1,684	5,000	1,155	1,451	9,290
2	Route 15 / SB	Greenwich	2,734	1,684	5,000	0	1,469	8,153
3	Route 15 / NB	New Canaan	2,713	1,684	2,000	0	2,866	6,550
4	Route 15 / SB	New Canaan	2,303	1,684	2,000	0	2,866	6,550
5	Route 15 / NB	Fairfield	2,545	1,684	2,000	0	2,866	6,550
6	Route 15 / SB	Fairfield	2,318	1,684	2,000	0	2,338	6,022
7	Route 15 / NB	Orange	1,903	1,684	2,000	0	2,866	6,550
8	Route 15 / SB	Orange	1,960	1,684	2,000	0	2,338	6,022
9	Route 15 / NB	North Haven	2,879	1,684	2,000	0	2,338	6,022
10	Route 15 / SB	North Haven	1,696	1,684	2,000	0	2,866	6,550
11	I-84 / EB	Danbury	3,406	1,900	0	3,553	2,388	7,841
12	I-84 / EB	Southington	2,506	1,684	0	0	2,916	4,600
13	I-84 / EB	West Willington	2,972	1,684	0	0	2,916	4,600
14	I-84 / WB	West Willington	2,852	1,900	0	3,553	2,388	7,841
15	I-91 / SB	Wallingford	2,510	1,684	0	0	2,916	4,600
16	I-91 / NB	Middletown	1,846	1,684	0	0	2,916	4,600
17	I-95 / SB	Darien	11,698	2,214	15,000	0	6,035	23,249
18	I-95 / NB	Darien	16,565	3,363	25,000	4,477	12,309	45,149 ³
19	I-95 / NB	Fairfield	12,656	2,010	15,000	0	6,175	23,185
20	I-95 / SB	Fairfield	15,771	2,010	15,000	0	6,175	23,185
21	I-95 / NB	Milford	16,970	2,214	20,000	0	9,294	31,508
22	I-95 / SB	Milford	15,169	2,214	20,000	0	9,294	31,508
23	I-95 / NB	Branford	11,457	2,010	15,000	0	6,175	23,185
24	I-95 / SB	Branford	5,554	2,010	15,000	0	6,175	23,185
25	I-95 / NB	Madison	5,973	2,010	15,000	0	6,175	23,185
26	I-95 / SB	Madison	11,741	2,010	15,000	0	6,175	23,185
27	I-95 / NB	Westbrook	2,349	N/A ⁴	N/A	N/A	N/A	N/A
28	I-95 / SB	North Stonington	3,257	1,900	0	3,553	2,388	7,841
29	I-395 / NB & SB	Montville	3,513	895	8,000	3,553	2,058	14,506
30	I-395 / NB	Plainfield	3,059	895	8,000	0	2,058	10,953
31	I-395 / SB	Plainfield	3,570	895	8,000	3,553	2,058	14,506
POTENTIAL NEW LOCATIONS:								
32	I-91 NB	North of Hartford Area	0	1,684	0	0	2,916	4,600
33	I-91 SB	North of Hartford Area	0	1,684	0	0	2,916	4,600
34 ^b	I-84 EB	Danbury/Waterbury Area	0	1,684	0	0	2,916	4,600
35 ^b	I-84 WB	Danbury/Waterbury Area	0	1,684	0	0	2,916	4,600
36	Route 9 NB	Middletown/Old Saybrook Area	0	1,684	0	0	2,916	4,600
37	Route 9 SB	Middletown/Old Saybrook Area	0	1,684	0	0	2,916	4,600
38	Route 20 or I-91	Bradley Area	0	1,684	0	0	2,916	4,600
39	Route 2 EB	Colchester/Norwich Area	0	1,684	0	0	2,916	4,600
40	Route 2 WB	Colchester/Norwich Area	0	1,684	0	0	2,916	4,600
Total			176,973	70,077	228,000	23,397	151,550	473,024

Notes:

1. GSF = gross square feet
2. Proposed square footage values shown reflect site size and layout constraints. Not all proposed sizes may be desired or achievable.
3. Proposed building is two stories.
4. N/A = Not Applicable. The Westbrook service plaza will be closed in the future.
5. Potential sites 34 and 35 would likely be one facility serving I-84 in both directions.



6.5 Architectural Image

Architectural features of existing roadside facilities are described below, as well as recommendations and suggestions for future facilities.

6.5.1 Existing Architectural Conditions

A variety of architectural styles and imagery can be observed in Connecticut's current facilities. Existing buildings include small brick and stone service plazas with pitched roofs along the historic Merritt Parkway; uninspiring flat-roofed service plazas along I-395 and I-95; and modest stone rest area buildings along I-84 and I-95. This variety of styles does not correlate well with geographic regions of the state.



Examples of different architectural styles of existing roadside facilities in Connecticut: rest area in Danbury, service plaza in Darien, and welcome center in Westbrook

Similarly, the existing welcome centers do not present a common “face” for the state to the traveling public. For example, the welcome center on Route 15 northbound in Greenwich is a saltbox building with red painted wood siding; its counterpart on I-95 northbound in Westbrook is clad with beige vinyl siding and a red roof.

The existing rest areas, service plazas, and welcome centers have no singular identity or “brand,” no common theme, no shared graphics or color scheme, and no standard site furniture or landscaping.

6.5.2 Architectural Recommendations

Like most of New England, Connecticut contains a number of architectural styles, from modern buildings in its cities, to colonial buildings in historic areas, stone farmhouses in rural areas, and seaside cottages along the coast. Accordingly, it is difficult to define a single architectural style unique to Connecticut or one that defines the state.

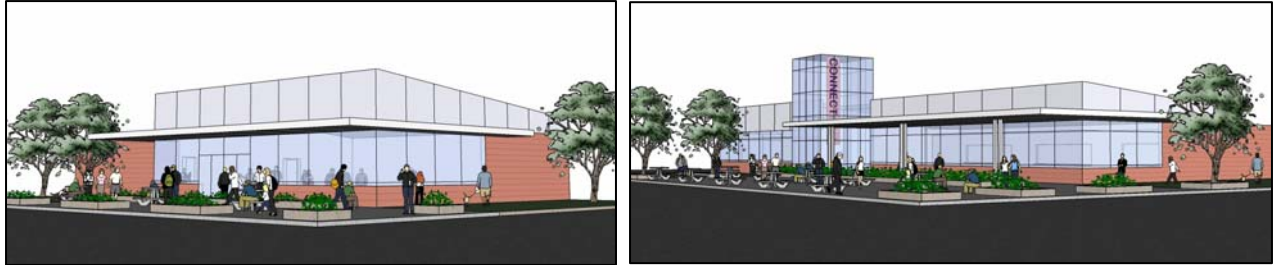
The siting of proposed facilities varies, and the proposed sizes of the facilities also vary by an order of magnitude. Therefore, a single architectural approach cannot reasonably accommodate all conditions. For example, a 30,000 GSF service plaza on I-95 in Darien would not lend itself to a “stone farmhouse” image which might be appropriate for a smaller rest area in another part of the state.

The study recommends an approach that builds from the prototypes described above and acknowledges the differences of scale and setting. Recommendations include the following:

- Recognize that the system benefits from continuity for both image and operations, and establish a palette of materials, colors, signage, landscape, etc. that applies to all rest area and service plaza facilities.



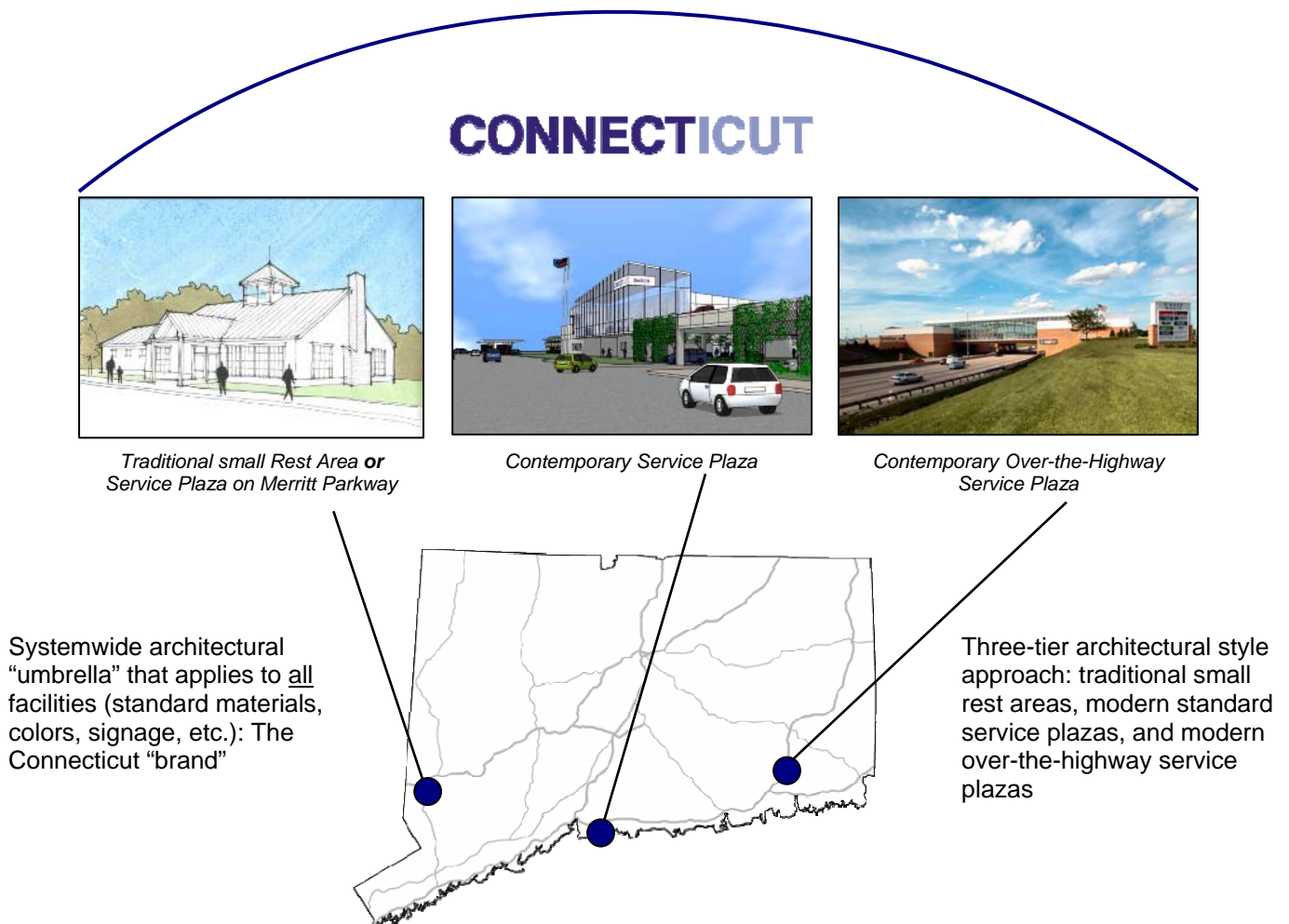
- Establish a tripartite architectural approach: traditional smaller rest areas; contemporary standard service plazas; and contemporary over-the-highway service plazas.
- Acknowledge that welcome centers are rooted in their geographic region of the state but unified in presenting the Connecticut “brand.”



Example of continuity in architectural image and style for small and large rest areas.

The recommended approach and examples of three proposed architectural styles are shown in Figure 6-2 below.

Figure 6-2 Proposed Architectural Approach





To achieve the desired improvements in roadside facilities, the study recommends the following major actions:

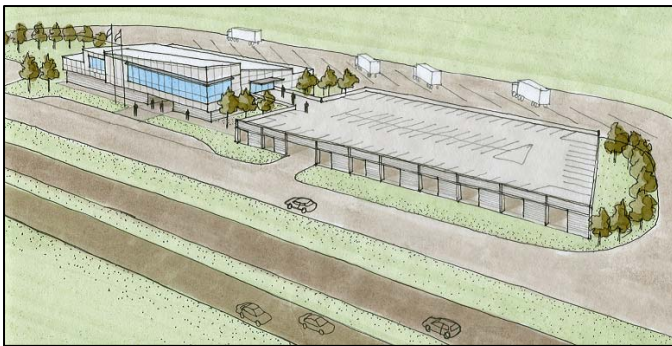
- **Create a committee to define and refine the Connecticut “branding” and image.** This could involve tourism representatives, marketing professionals, retail industry leaders, and high-level public officials. The goal would be to build consensus and support for an approach that defines and benefits the state and the traveling public.
- **Establish specific architectural design criteria for new construction.** This could include requirements for building massing, roof pitch, interior and exterior materials to provide coherence and efficient operations for the system. Examples of architectural design that could be considered are shown in the sketches below.



Service plaza on Merritt Parkway with welcome center



Large service plaza



Medium-large service plaza



Over-the-highway service plaza

- **Establish specific site design criteria for new construction.** This could include requirements for parking, site access, signage, site furniture (trash cans, fencing, benches, etc.) and landscaping to provide clarity and improve safety and ease of access at each location.
- **Develop “best practice” site and building guidelines for new and renovated facilities.** Recognizing that operations and maintenance of the rest areas and service plazas will be part of the system-wide governance, the study recommends that site and building guidelines be implemented to guide the (re)development of the system as a whole. Such guidelines should be consistent with ConnDOT’s current standards and serve to facilitate maintenance, operations, and repairs, as well as provide consistency across the statewide system. Strategies to consider include low impact design criteria for site development such as innovative technology to minimize impacts to drainage and



stormwater infrastructure, adjacent environmentally-sensitive areas, and abutting neighborhoods. Best practices for building envelopes and systems suggest designs that provide life-cycle benefits while balancing initial construction costs against longer-term operations and maintenance. Specifically, building standards will consist of developing LEED construction practices that will:

- Minimize environmental impacts;
- Provide conservation measures;
- Provide durable and easy-to-operate mechanical systems;
- Promote recycling; and
- Provide energy efficient facilities that will help save money and better serve travelers.

Building elements may include insulation, glazing, solar screening and low-flow plumbing fixtures. The system guidelines should also reflect maintenance considerations such as attractive, durable finishes, suitable for the level of use.

- **Execute an ambitious statewide construction program.** Organization of a statewide construction program will encourage standardization of facilities and benefit from economies of scale.

The individual site concepts (Volume II) indicate initial application of facility elements to the sites at a conceptual level. These plans are preliminary and are provided as guidelines for consideration of future building and site design. It is anticipated that specific facility solutions will grow out of the recommendations presented in this study, an inclusive public process, and further development in the design phases.



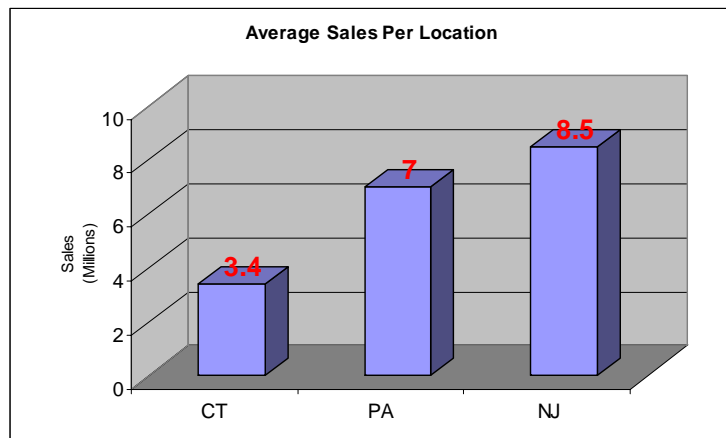
7.0 OPPORTUNITIES FOR ENHANCED SERVICE, QUALITY AND REVENUES

7.1 Background

This chapter discusses general approaches to enhance the quality of traveler facilities in Connecticut as well as opportunities for increased revenues from the enhanced facilities. The benchmarking effort described in Chapter 4 identified neighboring and “leader” states which, together with market survey data and analysis, provided comparisons for sales and revenue projections.

The benchmarking effort focused on seven northeast states (New York, New Jersey, Massachusetts, Vermont, New Hampshire, Maine, and Rhode Island) and three leader states (Pennsylvania, Illinois, Minnesota). Much was learned from the benchmarking analysis in terms of best practices with regard to design, amenities, and operation. Where available, data was assembled for roadside facilities, welcome centers, sales and revenue, and operating agreements. The benchmarking report is provided in Appendix C of Volume III, and the financial analysis summary is provided in Appendix E of Volume III.

The study recognizes that there is potential benefit to the people of Connecticut if the redevelopment and renewal of statewide rest areas and service plazas is organized in a way that optimizes revenue and economic benefit to both state and local economies. Based upon Average Annual Daily Traffic (AADT) and demographics of travelers, it is reasonable to expect that Connecticut’s rest area and service plaza system should be in the top quartile of facilities nationally in terms of quality and revenue-generation. The implementation of this proposed program of recommendations and the governance of the facilities will directly influence the opportunities for enhanced quality and revenues.



A revenue comparison presented at the August 2007 public meetings

7.2 Opportunities for Enhanced Quality

This study looked at opportunities for enhanced quality of facilities, safety, and tourism. These three categories are discussed below.

7.2.1 Facility Opportunities

Given the overall age and condition of Connecticut’s traveler facilities, this study has identified opportunities for enhanced quality of facilities. These opportunities are supported by the experience of the benchmark states whose facilities are typically newer, larger, and offer a greater variety of services than Connecticut’s roadside facilities. Opportunities for rest areas, service plazas, and welcome centers are summarized below.

- **Rest Areas:** The benchmark study demonstrated that rest area size correlates with traffic volume, and with the provision of basic traveler amenities (e.g., rest rooms), information, and vending. Rest areas need to provide safe and convenient stopping places for the general traveling public and for truckers. Safety and security is increasingly becoming a priority for rest areas. Opportunities to improve traveler amenities and safety include options such as updated restrooms, tourist information kiosks or booths, outdoor picnic areas, WiFi, and pet walking areas.



- **Service Plazas:** Based on benchmark and survey data, supportable service plaza areas for the entire system are estimated to be substantially larger than the size of Connecticut’s current program. For example, the average size of service plazas in Connecticut is 10,000 gross square feet (GSF). In New York and New Jersey, the average size is 14,000 GSF per location. One comparative example highlights this disparity: a major service plaza in Sloatsburg, NY at the southern base of the New York Thruway is a two-story 39,000 GSF structure with a parking garage. By comparison, Connecticut’s service plaza in Darien sits on one of the busiest highways in the country, I-95 (northbound), with higher traffic volumes than the Sloatsburg location and yet is only 12,000 GSF.

Thus, as suggested by the user surveys, opportunities to improve the quality of service plazas include increasing building size and attractiveness (“image”) with the provision of additional amenities, such as greater food variety, ATMs, WiFi wireless internet access. Opportunities also exist to modify the merchandise sold at gift shops to have more of a focus on local merchandise. Such improvements would likely attract more visitors, increase the buying potential per visitor, and thereby increase revenue to the state. It is noted that improvements have been recently made at some Connecticut facilities including increased food variety. Where appropriate, increasing the number of parking spaces will undoubtedly also contribute towards a larger number of visitors per location.

- **Welcome Centers:** Based on benchmark states, the size of welcome centers varies from 1,500 to 2,000 GSF for relatively low traffic volume sites in Vermont, to an average of 4,000 to 5,000 GSF in typical locations, to a high approaching 10,000 GSF for the newest welcome centers in Pennsylvania. The size and success of a welcome center may be influenced by a number of factors:



This 2004 welcome center on Route 15 SB in Tioga, PA is 10,000 sf

- Level of traffic served by the facility;
- Requirements for comfort facilities;
- Scale of tourism space and amenities;
- Inclusion of additional space for related highway uses; and
- The ability to provide dependable, knowledgeable staffing.

Compared to the benchmark states, the size of Connecticut’s six welcome center facilities are one third to one half the size of facilities serving comparable volumes of traffic in the New England region and in national leader states. None of the benchmarked welcome centers included significant retail space. A significant opportunity to improve welcome centers includes expanding facilities to include well-trained staff manning visitor information booths. Updated restrooms and new and improved amenities may also increase visitation at Connecticut welcome centers.

The User Survey conducted for this study and repeated comments on the project website indicate customer dissatisfaction with the cleanliness, maintenance, food offerings, and lack of amenities of current facilities. Some sites have inadequate numbers or poorly functioning restrooms, resulting in long lines on weekends or necessitating exterior portable toilets. A renewed and redeveloped system presents the opportunity to provide updated facilities that are clean, attractive, and have a consistent architectural image or visual “brand”.



7.2.2 Opportunities for Improved Safety

The renewal and redevelopment of the State's rest area and service plaza system also presents an opportunity to improve the site configuration, site amenities, and overall safety of each facility in the system. There are three main categories of safety issues to address:

- 1) Minimize pedestrian and vehicular conflicts;
- 2) Minimize potential hazards associated with the proximity and function of fuel islands; and
- 3) Overall user safety and security related to undesirable elements.

The original “drivers” for this study were the need to address the truck parking shortage that exists in Connecticut and the proposed legislation that would allow a one-time increase in the number of commercial plazas. Observations of parked trucks in the vicinity of the Milford facility during a severe rain storm in mid-October 2006 noted many illegally parked trucks either along the highway, between the gas pumps, along the ramps, or at other locations. This kind of situation creates potential conflicts and thereby dangerous conditions for motorists, truckers, and pedestrians. Each of the modes (autos, trucks, buses, and pedestrians) has different service needs, and therefore should be separated and accommodated differently. Thus, in addition to providing ample truck parking, trucks and automobiles should have separate parking areas with well defined pedestrian routes, which greatly decreases the possibility of internal conflicts at the sites.

This study proposes to increase available parking across the system, and new facilities will have reconfigured site circulation, segregated traffic flows, and improved signage to improve safety. Other safety improvements will include improved security, exterior lighting, and new, clean, attractive facilities that will improve the overall image of each location.

7.2.3 Tourism Opportunities

Tourism is recognized as the fastest growing sector of Connecticut's economy and is currently understood to support over 150,000 jobs and generate some \$10 billion per year. Yet tourism does not get the attention found in other states. Connecticut's funding for tourism is approximately 50% of the average funding for the top 30 states and is less than 25% of the second highest funded program (Vermont). In addition, not all of Connecticut's five tourist regions (Southwestern, Northwestern, South Central, Central, and Eastern) are equally well-served. At the broadest level, enhanced tourist offerings could be coordinated across various regions of the state and include rest areas, service plazas, and welcome centers. With such a coordinated approach, the state as a whole would benefit from the economic boost provided from the tourism sector. While it is outside the mission of the Connecticut Department of Transportation to set tourism policy or funding guidelines, there is obviously a lost opportunity for the state if this avenue is not pursued.



Connecticut tourist information booth

In addition to the inclusion of a tourism component in the renewal and redevelopment of the rest areas and service plazas, there is the opportunity to introduce new welcome centers at currently unserved or



underserved gateways to the state. These facilities would provide sources of traveler information for lodging, restaurants, tourist stops, current events, etc.

7.3 Opportunities for Enhanced Revenue

Service plazas are revenue-generating facilities. Renewed and redeveloped service plazas offer an opportunity for enhanced sales and revenues from the system. Total sales and revenue generated by the system of service plazas may be viewed as a function of the size of the facilities, the mix of food and retail offerings, and the terms under which the facilities are operated. The limited amount of land available for development is a constraint on increasing facilities and revenue.

A majority of the benchmark states (including New York, New Jersey, and Massachusetts) use a “master operator” agreement for service plazas to increase customer satisfaction, access capital for new or upgraded facilities, and increase revenue to the state and/or managing authority. Current service plaza operations in Connecticut are estimated to yield revenue to the state of approximately \$6.3 million annually (exclusive of fuel sales) on average annual sales of \$3.4 million per location (figure indicates revenue at 10 fast-food restaurants per 2003 ConnDOT “sales and lease revenue”. As a comparison, New Jersey’s new facilities generate an average of \$8.5 million per location annually. Table 7-1 shows a comparison of sales and revenues for Connecticut, New Jersey, and New York.

Table 7-1 Service Plaza Revenue (food) Comparison (2005)

Category	CT ¹	NJ ²	NY ³
Number of service plaza locations considered in analysis	10	13	27
Average mainline 2-way Daily Traffic Volumes for service plaza locations	112,500 vpd ⁴	162,000 ⁵ vpd	110,800 ⁶ vpd
Average annual food sales per location ⁷	\$3.4 million	\$8.5 million	\$8.0 million
Total food revenue	\$34.0 million	\$110.5 million	\$97.2 million
% rent (from food receipts)	18%	11 to 12%	Old 10% New 15%
Revenue to state from rent	\$6.3 million	\$14.0 million	\$14.5 million (estimated)
Average size per location	10,000 sf	14,000 sf	14,000 sf
Sales per square foot	\$340 (estimated)	\$600 ⁸	Old \$260; New \$600 ⁸
Capital Input by operator since 2004	NA ⁹	\$40 million	\$68 million (HMS and McD's)
Capital Input by state since 2004	\$0	\$20 million	Not available

NOTES:

1. Numbers represent sales from the 10 service plaza locations with McDonald's restaurants.
2. Numbers represent sales from the 13 service plaza locations operated by Host Marriott Services.
3. 11 sites with McDonald's restaurants and subcontractors, plus 16 locations operated by Host Marriott Services.
4. vpd = vehicles per day.
5. Overall average of NJ DOT 2005 AADTs for New Jersey Turnpike (I-95) between Exits 1 and 18.
6. ADT traffic along the NY Thruway (I-90) in the Albany area.
7. Numbers do not include fuel sales.
8. Based on recent data with newer facilities.
9. Improvements have been performed by McDonald's and Exxon Mobil, but the capital amount has not been made available.



The higher revenue per square foot generated by New Jersey's and New York's facilities may be attributed to the introduction of a master operator (e.g. Host Marriott Services) with additional and more flexible and attractive food and retail offerings. These appealing offerings result in a substantial improvement in customer satisfaction.

The opportunity for strategies to enhance revenue for Connecticut results in both direct and indirect benefits as highlighted below.

7.3.1 Enhanced Direct Revenue

The Department's current service plaza operating agreement with McDonalds will terminate soon. The current sales McDonald's sales are \$34 million per year for an average of about \$3.4 million per service plaza, or approximately \$340 in sales per square foot (sf) at these 10 locations. These numbers are below what could be expected at a major high-volume highway location, especially the Darien to Milford segment of the I-95 corridor, which is one of the busiest stretches of highway in the country. As noted above, current rent revenue to the state is \$6.3 million per year (excluding fuel sales). With larger facilities, more amenities, improved amenities, and better food choices, it is reasonable to estimate that the sales per square foot might double to \$600/SF. As a reality check on this number, New Jersey's service plazas are currently realizing sales of \$600/SF with similar traffic volumes. New York was obtaining approximately \$300 per square foot at its service plazas, but is now achieving sales of approximately \$600 per square foot.

As shown in the tables below, with new larger facilities and new/improved operating agreements, even assuming a smaller percentage of rent for the state (10%), it would not be unrealistic to expect direct revenues to increase from the current \$6.3 million per year to \$17 million per year.

10 Restaurants (McDonald's)	\$33,663,218
2 Coffee Shops	+ \$888,118
Total gross sales	= \$ 34,551,336
% Rent	x 18.10%
Estimated revenue to state	= \$ 6,253,792

1. Not including fuel revenue.
 2. Per 2003 sales report

Total New Facilities	315,000 SF
Saleable square feet	= 284,000 SF
Sales per square foot	x \$600
Total gross sales	= \$ 170,000,000
% Rent	x 10%
Estimate revenue to state	= \$ 17,000,000

1. Not including fuel revenue.

By providing improved facilities with increased and higher quality offerings, the service plazas can yield both a higher capture rate and increased sales per customer.



7.3.2 Enhanced Indirect Revenue

Nearby states, including New Jersey, New York, Massachusetts and Vermont have made great strides in improving their rest area and service plaza systems. These improvements have increased tourism spending and created greater traveler satisfaction, resulting in overall increased revenues to these states. Implementation of this roadside travel facility improvement program for Connecticut would support and enhance the tourism industry by providing a welcoming environment for travelers and tourists and knowledgeable information at all Connecticut gateways. Such improvements would serve to generate indirect economic benefits for Connecticut.

7.4 The Need for Action

The Department needs to address trucking parking space deficits at its facilities statewide. Other items such as maintenance, safety/security, facility amenities and traveler/tourism information will also need to be addressed going forward. The Department has begun this process by 1) pursuing a Request for Proposal to address the existing service plaza locations and 2) submitting a Truck Parking Initiative Grant application to expand truck parking at the Danbury and Wallingford rest areas. These initiatives serve as the first steps to improve the overall operations and effectiveness of service plazas and rest areas statewide. The Department will seek to take additional steps to improve facilities for the motoring public.

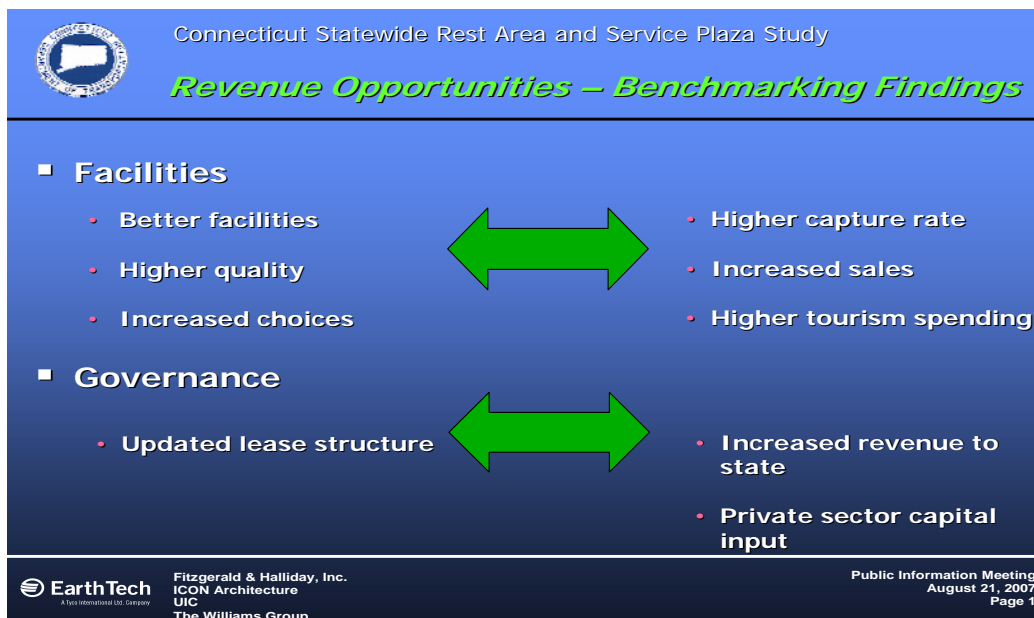


Existing issues will become worse in the future if no action is taken

7.5 Governance Opportunities

Finally, the need to address Connecticut’s rest area and service plaza system represents an opportunity to reconsider the system of governance. The ability to increase revenue lies primarily in the need to invest capital that would improve the facilities. Figure 7-1 illustrates the relationships among the key revenue opportunities discussed in this chapter. Updated facilities and governance can result in increased revenue to the state.

Figure 7-1 Summary of Revenue Opportunities





Construction at 31 existing sites, plus eight new sites will require a significant financial and time investment, potentially taking up to 20 years to resolve, depending on the approach adopted by the state. As noted above, however, increased annual revenues from service plazas, plus anticipated capital investment from a new “master operator,” might pay for a large part of the overall improvement program.

Among the benchmark states, Massachusetts, New York, Illinois, and New Jersey have recently made major investments in their overall systems through long-term lease agreements with major operators. New Jersey also executed a long term operating agreement, where the operator contributed \$40M in capital funds to build new facilities. Many such programs are employing Public/Private Partnership (PPP) approaches to minimize outlay of public funds.

The investigation of governance approaches in more detail to both speed implementation and reduce the capital commitment required from the state budget to bring about these improvements will be critical. This strategy appears to be feasible given the substantial traffic volumes and revenue-generating power of upgraded facilities. Because of high traffic volumes, a significant amount of untapped revenue may be realized if larger, more flexible facilities offer improved quality and more consumer choices.