

EXECUTIVE SUMMARY

The Connecticut Department of Transportation (ConnDOT), the Capitol Region Council of Governments (CRCOG) and the Central Connecticut Regional Planning Agency (CCRPA) have identified peak hour traffic congestion and safety deficiencies as major concerns for the Hartford West corridor between Downtown Hartford and the Fienemann Road interchange in Farmington. To address these concerns and to evaluate the effectiveness of different transportation system improvement alternatives, these agencies undertook a Major Investment Study (MIS) for the Hartford West corridor.

The Hartford West Corridor. The Hartford West study corridor has been broadly defined to include not only I-84 itself, but also the neighborhoods surrounding the highway right-of-way, the parallel arterial roadways, and two rail lines, the Bristol-Hartford line and the New Haven-Hartford line. The study area, shown in [Figure ES-1](#), encompasses portions of five communities: Hartford, West Hartford, Farmington, Newington and New Britain.

Technical and Final Reports. Three technical reports have previously been prepared in conjunction with this MIS. The first report established local goals and objectives, identified existing and future transportation conditions and developed the purpose and need for improvements. The second report identified alternatives that were intended to meet the purpose and need. Six Reasonable Alternative Packages (RAPs) were formulated for evaluation. Packages included highway, transit, Transportation System Management, and Transportation Demand Management strategies. In report three, the six RAPs were assessed to determine how well they functioned, and a Hybrid package of improvements was proposed. The Final Report presents an overview of the recommended improvements and their performance.

Policy and Technical Advisory Committees. To provide support for the MIS, a Policy Advisory Committee (PAC) and a Technical Advisory Committee (TAC) were formed with membership drawn from corridor municipalities, regional, state, federal, and other agencies and organizations. Based on the technical analysis and

discussions that took place, the members of the PAC and TAC expressed their support of a recommended package of improvements. Subsequently, the Transportation and Policy Committees and Boards of the CRCOG and CCRPA supported the further study and refinement of the strategies contained in the recommended package. The recommended package is illustrated in [Figure ES-2](#).

RECOMMENDED PACKAGE OF TRANSPORTATION IMPROVEMENTS

The principle transportation improvement recommendation to result from this study process is the **New Britain-Hartford Busway**. This facility will support the concept of Bus Rapid Transit (BRT) and is the first of its kind in the state. Other enhancements to the Busway will be studied such as the feasibility of including a Multi-Use Trail for the corridor and the role for Transportation Demand Management components of an integrated transportation package. An Environmental Impact Statement (EIS) will be prepared for this busway to specifically assess the impacts associated with it. Work on developing the EIS has begun.

Other recommended improvements are:

- **Reconstruction of Prospect, Flatbush, Sisson, and Sigourney Interchanges on I-84.** This area will require further study to determine the appropriate interchange configuration. It is anticipated that an Environmental Assessment (EA) will be prepared for the interchange proposals developed as part of the West Side Access Study;
- **Reconstruction of Routes 4, 6 and 9 Interchanges on I-84.** The suggested layout of this interchange is supported by towns and CRCOG, and will be advanced into the design phase. Because improvements will be made within existing right-of-way and impacts are limited, it is anticipated that a Categorical Exclusion (CE) will be granted for this improvement;
- **Auxiliary Lanes in West Hartford.** These safety improvements between Exits 40 and 42 on I-84 are supported by the town and CRCOG, and will be advanced into the design phase. Because improvements

will be made within existing right-of-way and impacts are limited, it is anticipated that a Categorical Exclusion (CE) will be granted for this improvement. Special sensitivity will be given to noise impacts on adjoining neighborhoods;

- **Improved Bus Services along I-84/Farmington Avenue.** Suggestions for improved transit routes and schedules have been referred to the bus studies presently underway by ConnDOT and CRCOG. The need for service enhancements has been supported by towns and CRCOG;
- **Support for Arterial Highways.** The intersections and park and ride lots targeted for improvement will be included as part of an overall strategy undertaken by CRCOG and CCRPA to address safety, operational, and transportation impacts on quality of life;
- **Transportation Demand Management (TDM).** As an adjunct to the New Britain-Hartford Busway, a TDM will be studied for the purpose of increasing transit ridership. TDM strategies work most effectively as complements to transit service enhancements. The most successful strategy in increasing transit ridership was “Financial Incentives;” just as “free” or “subsidized” parking reduces the cost of automobile use, Financial Incentives reduce the “cost” to the transit rider thus enhancing use;
- **Land Use Regulation to Support Transit Friendly Design.** Even though land use and its regulation is not directly under the control of ConnDOT, future land use is nonetheless a critical ingredient to the success of the BRT strategy. With the endorsement of towns, CCRPA, and CRCOG, appropriate land use regulations will be developed as an element of continuing busway implementation.
- **New Britain - Hartford Busway Service Area.** The New Britain - Hartford Busway will offer an excellent opportunity to serve travel demand between the two cities with a faster and more efficient alternative to conventional on-street bus operation. As shown in Figure ES-2, the proposed exclusive use busway would initially operate along nine (9) miles of inactive and active railroad right-of-way between Union Station at the western edge of Hartford’s Central Business District (CBD) and Downtown New Britain. From the Hartford CBD to Newington Junction (Willard Avenue), the busway would share the right-of-way with existing Amtrak rail service. From Newington Junction to New

Britain, the busway would operate on the abandoned New Britain Secondary right-of-way owned by the State of Connecticut. Beyond this point, express bus routes would operate to Plainville and other suburban locations via the existing Route 72 freeway.

Intermediate stations will be coordinated with development centers such as the Aetna Insurance corporate headquarters (employment center with over 10,000 employees), the New Park Road development area in Hartford’s Parkville and Charter Oak neighborhoods, Central Connecticut State University (CCSU) with over 12,000 full-time and part-time students, and 1,200 full-time and part-time employees, and the East Main Street development area of the City of New Britain.

Stations would be sited at twelve locations, including:

- **Hartford:** Union Station, State Armory, Aetna Insurance, Park Street, New Park Avenue
- **West Hartford:** Oakwood/Flatbush Avenue, Elmwood (New Britain Avenue)
- **Newington:** Willard Avenue, Cedar Street
- **New Britain:** East Street, South Main Street, Downtown

GOALS AND OBJECTIVES FOR CORRIDOR IMPROVEMENTS

Transportation Goals and Objectives were the cornerstone for evaluating alternative transportation improvements. To evaluate the potential for success of the strategies, the Technical Advisory Committee (TAC) members defined a set of Goals and Objectives. The following five goals were supported by a comprehensive set of specific objectives and related performance measures:

- **Modal Choices** - The first goal of improvements to be implemented was to increase the modal choices available for the movement of people and goods.
- **Congestion Reduction** - The second goal was to reduce peak hour vehicular congestion.
- **Public Health and Safety** - The third goal was to improve public health and safety associated with transportation.
- **Economic Development** - The fourth goal was to increase opportunities for local and region-wide economic development by improving mobility.
- **Community Livability & Quality of Life** - The fifth goal was to enhance the livability and quality of life for corridor towns, neighborhoods and communities.

Alternative Modes. The busway offers a unique

opportunity to handle the travel demand among the corridor towns. New Britain, Newington, and Hartford experience a strong interchange of trips that requires a flexible public transit service. By implementing park and ride lots, developing feeder bus routes, and facilitating pedestrian connections, this busway will serve as a spine to more effectively connect and coordinate transit and other intermodal transportation services.

Congestion Reduction. The recommended package of improvements will reduce vehicle hours of travel during peak travel periods and therefore reduce peak hour vehicular congestion. The effect of this reduction in peak travel will be to reduce the volume of traffic that will remain on the arterials. By reducing peak period travel, the recommended strategies will reduce:

- Circuitous travel associated with partial interchanges;
- Emissions associated with mobile sources;
- Noise impact on sensitive receptors; and
- Accident potential and hazard.

Community Preservation. The reconstruction of I-84 interchanges and the implementation of the busway offer the potential to enhance neighborhood continuity and access patterns through pedestrian connections, open space, and feeder bus routes.

Economic Benefit. Two types of economic benefit will result from these recommendations. First, access to transit systems by minority and low income populations will increase, and “job-rich” areas will be connected with people in need of employment and opportunity. In addition, access to CCSU and other educational centers will be enhanced. Second, transportation access to areas designated for industrial and economic development will also increase. The New Britain - Hartford busway would increase the potential for growth and economic vitality in terms of regional and state productivity, jobs, and property tax base.

EXISTING AND FUTURE CONDITIONS

A critical relationship for any transportation system is its relationship to current and future land use. Not only does transportation support the land use function by providing access and mobility, but the land use also supports the transportation service by providing appropriate population and employment densities. The key land use and transportation issues for each study area town are described below:

Hartford. The Hartford portion of the MIS study area incorporates a broad mix of land uses. A key transportation concern for the Hartford West study area is that future improvement plans be made to support other urban re-development initiatives, such as the city’s planned redevelopment of the Parkville and Flatbush Avenue industrial areas, the Charter Oak Terrace housing complex, and the proposed bicycle trail system.

West Hartford. West Hartford is an established suburban area, with a solid base of both retail and manufacturing employment. A key transportation issue for West Hartford is the congestion and reduced quality of life caused by through movement of traffic on local residential streets.

Farmington. Employment within the Town of Farmington now exceeds 25,000, so there are more jobs located within the town than there are residents. A key transportation issue for Farmington is alleviating traffic congestion on I-84 and in the Route 4 corridor.

Newington. Newington can be identified as a suburb of both Hartford and New Britain, with three-quarters of its workforce employed outside the town. The most pressing transportation concerns within the study area are related to Route 175 (Cedar Street) and its intersection with major north-south arterials, such as Main Street, as well as the Route 9 Expressway.

New Britain. The characteristics for the City of New Britain differ significantly from the north and northwest portions of the city that lie within the defined Hartford West MIS study area. A key transportation concern for New Britain is improving the accessibility of its Downtown area through highway improvements, and potentially through busway service to Hartford. A major activity center exists in the northern part of New Britain (CCSU).

The Future of Travel in the Corridor

The I-84 Hartford West corridor has been determined by CRCOG to be the most congested within the Capitol Region with an Average Daily Traffic (ADT) of 154,000. For the future year 2020, the total demand for I-84 could exceed 190,000 vehicles per day. As confirmed by COR-FLO and FRESIM models, congested routes include I-84 and parallel arterials, such as Route 4, Farmington Avenue, and Park Street. This congestion is projected to grow sig-

nificantly to the year 2020. Peak hour average travel speed will drop and hours of delay will increase especially in the eastbound direction during both morning and evening periods.

Peak Period Congestion. Commutation to the Hartford CBD and reverse commutation to suburban locations constitute a large component of morning and afternoon peak period travel. Growth projections for the region reinforce this trend as employment in Hartford's CBD will increase dramatically. The increasing volume of travel to other major activity centers including the UConn Health Center, Westfarms Mall and Downtown New Britain, can also be identified as the source of both corridor wide and localized congestion problems. Reverse commutation, coupled with regional travel, increases traffic volumes in what is normally thought of as the "off-peak" direction.

Freeway Performance. Both now and in the future I-84 will carry the greatest portion of person trips in the Hartford West corridor. However, the capacity of the Interstate will inhibit its ability to perform successfully. Currently, in the morning (A.M.) peak, eastbound I-84 reaches Level of Service (LOS) "F" on the most easterly segment of the freeway between Exits 46 through 49. Average speeds on these segments will drop below thirty miles per hour as peak volumes approach 6,500. The situation by 2020 will become much worse as the segments from Exit 39A through 49 will experience a LOS "F" with average speeds dropping below twenty miles per hour and volumes exceeding 7,400.

Performance in the westbound peak direction during the evening (P.M.) peak is worse than the A.M. peak with a LOS in the "E" range. A comparison of 1995 and 2020 reveals continued degradation in service. The freeway segments associated with Exits 49 through 46 will routinely fail (i.e., LOS "F") and average speeds will reduce to below 25 miles per hour as compared to 50 miles per hour during the A.M. peak.

Arterial Roadways. The percentage of roadway mileage operating at a volume/capacity ratio greater than 0.75 will increase substantially in the year 2020. On arterials, intersections are often the locations where congestion most frequently occurs. Several of the intersections, which are currently operating at or near capacity, will fail under future anticipated traffic volumes. Many unsignalized intersections will require signalization in the future.

Hourly Variation in Peak Period Traffic. The analysis above has demonstrated that by the year 2020, a number of highway segments in the corridor will experience failing or unsatisfactory levels of service. The peak periods will become more congested, and an amount of peak period travel will occur immediately before and after the peak period. This tendency is referred to as peak spreading.

The analysis has shown that in the future, no-build condition demand for travel will clearly outstrip the ability, or capacity, of the highway corridors to handle the traffic during the peak periods. Motorists will adopt one of four strategies to avoid the congestion. They could:

- Take an alternative less traveled route - Interstate to arterial or arterial to local road;
- Change their hours of travel - begin earlier or arrive later;
- Travel by an alternative mode - rideshare or public transit; or,
- Not make the trip at all - change job location or work at home.

In the case of the last two alternatives, there would be a "net" reduction in peak period automobile vehicle trips. Generally, an alternative mode will be attractive only if it reduces travel time, or reduces costs. In the final case, the reduction in the number of trips represents a reduction in "mobility" unless an alternative such as telecommuting may be substituted.

Highway Facilities

In the study area, Interstate 84 and Route 9 carry the highest functional designation of Interstate and Principal Arterial (Expressway), respectively. These facilities carry the highest volume of traffic within the study area, and are important routes for interstate and local truck traffic. Truck traffic on I-84 and Route 9 constitutes seven to ten percent of overall traffic volume. Route 4 and Route 175 are the only other Principal Arterials within the study area. Minor Arterials are important carriers of traffic within the study area especially for North-South travel demand. Collectors such as Route 173 not only channel traffic from local roads, but in this corridor also are called upon to handle through movements due to the lack of arterial highways.

Computer-based transportation simulation models were used to quantify the current and future performance of the study area roadway network. The results indicate the following:

- A substantial decrease in travel speeds as roadway congestion increases on arterial and the freeway alike;
- An increase in vehicle density i.e., more vehicles per mile of highway especially on I-84 as demands reaches saturation;
- Decreased LOS on all roadways and at intersections in the corridor; Capacity constraints cause diversion to residential roads and streets;
- Increased vehicle delays throughout the system; and
- Increased vehicular emissions.

Public Transportation

While the automobile currently serves the vast majority of travel needs in the Hartford West corridor, a variety of public transportation services also serve mobility needs. These services include:

- Fixed Route Local Transit and Express Bus Operations;
- Intercity Bus;
- Downtown Circulator/Shuttle;
- Rideshare Matching and Facilitation; and
- Intercity Passenger Rail Service.

Three fixed route bus operators, CT Transit, New Britain Transportation Co., and DATTCO, carry 21,000 daily passengers in the study area. Eight local bus routes, one crosstown route and four express bus routes service Hartford’s West Side neighborhoods. ConnDOT provides fifteen park and ride lots in the study area. Three intercity bus companies, Greyhound, Peter Pan, and Bonanza, provide 52 daily bus trips between Hartford and other major cities. The Scooter, a downtown Hartford circulator bus network, serves 3,000 daily passengers with a fleet of ten buses. Greater Hartford Rideshare provides ridesharing brokerage services for the region. Amtrak provides 14 daily trips along the Northeast Corridor.

Pedestrian and Bicycle Modes of Travel

Approximately ten percent of Hartford residents, and six percent of New Britain residents walk to work - high proportions for cities of their size. Pedestrian-oriented shopping districts attract customers from throughout the region. This is the urban design objective for areas such as Farmington Avenue in Hartford, West Hartford Town Center, Parkville in Hartford, and Downtown New Britain. For transportation-oriented bicycle travel (as opposed to recreational), the primary routes are along the study area’s major and minor arterials, such as Farmington Avenue, the Boulevard, Park Street/Park Road, Route 175, New Park Avenue, and New Britain Avenue. The City of

Hartford’s *Plan of Development* identifies the potential for several on-street bicycle routes within the study area.

Goods Movement

Interstate 84 provides a key link between the New York Metropolitan Area and Boston. Through its connection to Interstate 80 in northeastern Pennsylvania, it also offers long distance commercial traffic an alternative to congestion in the New York area by allowing them to access New England destinations via the Newburg-Beacon Bridge located some 50 miles north of New York City.

Corridor-wide Transportation Issues

The mobility and economic vitality of the Hartford West corridor is of critical importance to its communities, the Capitol Region, and the State as a whole. In addition, because the corridor includes Interstate 84, all of New England will be impacted by the transportation improvements proposed. The ability to move safely and efficiently through the corridor will influence the competitive position of businesses located in the region.

MIS transportation improvement alternatives must respond to a variety of regional and local needs. These needs include:

- Reduction in Peak Hour Congestion on I-84 and Parallel Arterials;
- Improved I-84 Highway Connectivity;
- Enhanced Access from the Farmington Valley to the Hartford CBD;
- Increased Opportunities for Alternative Modes; and
- Expanded Interregional Transit Service.

In addition to these regional issues, a variety of related-local concerns must be addressed. Not the least among them is the need to carefully plan and design transportation solutions that thoughtfully accommodate pedestrian and bicycles along with automobiles, buses, trucks, and other vehicles. Other local concerns relate to coordination with economic development initiatives, local activity centers, and protection and enhancement of the neighborhood environment.

REASONABLE ALTERNATIVE PACKAGES

Six Reasonable Alternative Packages (RAPs) were formulated for initial evaluation. These RAPs were intended to present broad themes for future transportation improvement strategies within the corridor. They were not intended to represent the final solution or for that matter to limit future consideration of additional strategies. The themes were:

- **RAP 1 - No Build (Base Case)** - RAP 1 constitutes the base case condition for evaluation of transportation improvements, including existing and committed projects along with safety improvements and normal maintenance and operation.
- **RAP 2 - TSM, TDM and Transit Operations** - The TSM, TDM and Transit Operations Improvements are spread throughout the corridor with TDM improvements focused on Downtown Hartford. TSM improvements will include traffic operations and safety improvements. Transit Operations improvements would consist of local and express bus service modifications and intermodal transportation centers.
- **RAP 3 - Freeway Reconstruction and Operations** - Reconstruction improvements will be directed at areas containing left entrance and exit ramps, partial interchanges, and locations where auxiliary lanes will relieve spot congestion. RAP 3 also included Intelligent Transportation System (ITS) strategies such as Advanced Traveler Information Systems, Ramp Metering, Arterial Signal Coordination, Incident Management, and Traffic Operations Centers.
- **RAP 4 - Fixed Guideway Transit** - This RAP was subdivided into Light Rail, Busway and Commuter Rail alternatives. The following alignments were under evaluation for each of these modes:
 - **New Britain/Plainville to Hartford Rail Right-of-Way** - Commuter Rail, Light Rail or Busway;
 - **I-84 Right-of-Way** - Light Rail or Busway; and
 - **Farmington Avenue** - Light Rail.
 The potential fixed guideway services were projected to include a package of recommended feeder and connecting bus routes. In some cases, existing bus routes were slightly modified to provide connectivity; while in other cases, new bus services were proposed which would be overlaid on existing services.
- **RAP 5 - Additional Lane - HOV** - The HOV system would operate similarly to those in the Capitol Region on Interstate 91 north and Interstate 84 east of the Connecticut River. Access to the Interstate would be provided at designated on-ramps and would be open for use by vehicles with two or more occupants (termed "HOV 2+"). In addition to HOV 2+ automobile traffic, the HOV lane would also enable express buses to enhance travel time and build ridership.
- **RAP 6 - Freeway Additional General Purpose Lane** - As a result of public outreach and consultation with corridor communities, the Connecticut Department of Transportation (ConnDOT) and the

Capitol Regional Council of Governments (CRCOG) dropped consideration of RAP 6 from the study process.

A detailed, quantitative analysis of the transportation performance of the alternatives, their satisfaction of adopted goals and objectives, and the benefits and costs associated with each is presented in Technical Report Number 3. The performance measures evaluated include transit-related performance measures (new service transit users, total transit riders/new transit riders, peak period transit ridership, impact on mode share transit-related RAPs), highway performance measures, arterial roadway performance measures, and costs associated with the RAP (capital construction cost, transit operating costs, fare to operating cost ratio, and transit subsidies).

SOCIAL, ENVIRONMENTAL AND ECONOMIC EFFECTS

Based on readily available information, a preliminary evaluation of the Recommended Package was conducted as an indicator of the potential effect on the environmental, social and economic resource groups. Further detailed environmental studies will be undertaken for the recommendations on a project level.

Social Effects

The following were inventoried, mapped, and evaluated for potential impacts upon culturally and socially important resources:

- Land Use;
- Visual and Aesthetic Impacts;
- Public Facilities, Services and Utilities;
- Relocation Impacts;
- Neighborhood and Community Cohesion;
- Access Issues;
- Consistency with Plans for Conservation and Development;
- Historical/Archeological/Section 4(f)/Section 106 Evaluation; and
- Environmental Justice.

While improvements were slated for implementation in existing transportation corridors, at some locations, for example transit stations, additional right-of-way would be necessary. Even so, the Busway and other improvements will have little or no effect on these resources with the exception of Visual and Aesthetic Impacts and Relocation Impacts. The Busway and interchange improvements are expected to have Visual and Aesthetic Impacts, often times positive, as well as Relocation Impacts, especially in areas of station construction.

Environmental Effects

The development patterns within the Hartford West Corridor can vary between densely developed urban and lightly developed suburban. This development has displaced much of the natural environment of the subregion; however, that which remains is important to sustain the ecological and human quality of life. As a first step, from available sources of information, the natural resources have been identified and constraint maps developed. Environmental concerns inventoried and evaluated include:

- Prime Farmland;
- Hazardous/Contamination Risk;
- Wetlands;
- Natural Resources/Fish and Wildlife/Endangered Species;
- Stream Channel Encroachment;
- Wells;
- Stratified Drift Aquifers;
- Flood Plains;
- Public Water Supply;
- Noise; and
- Air Quality.

No impacts are expected to the natural resources and endangered species, wells, or public water supply. The Busway may impact wetlands, stream channels, and flood plains in the park River and Piper Brook areas. Similarly, the Busway will impact stratified drift aquifers. Minor impacts to prime farmland are expected, and although exact information is not known. The greatest potential for hazardous/contamination risk is in the New Britain - Hartford Rail Corridor. Noise and air quality impacts are expected with the Busway.

Economic Effects

Economic impacts are related to the financial resources of a community. Economic impacts evaluated include:

- Economic Trends and Local Tax Base;
- Secondary Economic Impact; and
- User Benefit.

The Recommended Package of improvements is not believed to have a negative impact on the economic trends, while the secondary impacts may be either partially negative or partially positive. The only improvements with a positive user benefit was the New Britain - Hartford Busway.

PERFORMANCE OF THE RECOMMENDED PACKAGE

The busway was selected as a major component of the preferred alternative for this corridor because it offers the travelers the greatest speed, flexibility of service, and ease of intermodal interface as compared with other modal alternatives. Both bus users and auto commuters would benefit from a busway, as would residents and business in the entire study corridor. By offering an attractive transit alternative, the busway can reduce travel demand on the congested I-84 roadway, thereby expanding the freeway’s physical capacity.

Busway travel speed is enhanced by the exclusive use of the facility. Projected travel times, average travel speed and travel time savings for busway users are shown in Table ES.1.

Projected Ridership. The busway is projected to generate more daily transit ridership than any other fix guideway alternative. Daily ridership is also estimated to

Table ES-1
PROJECTED TRAVEL TIME SAVINGS - PEAK PERIOD
Hartford West MIS

| <i>Busway Performance Measures</i> | <i>Current System (1995)</i> | <i>System Base Case (2020)</i> | <i>System with Busway (2020)</i> | <i>Busway Only (2020)</i> |
|---|------------------------------|--------------------------------|----------------------------------|---------------------------|
| Average Trip Time (minutes) | 12.2 | 12.6 | 8.7 | 8.7 |
| Average Trip Length (miles) | 3.2 | 3.4 | 3.2 | 3.9 |
| New Britain - Hartford transit Travel Time (minutes)* | 34.6 | 33.8 | 24.8 | 20.1 |
| Time Savings from Busway (minutes) | — | — | 9.0 | 13.7 |
| Percent Savings | — | — | 26.6% | 40.5% |

**Analysis assumes all stops for buses. In operation, through buses will average 45 mph*
Source: Technical Report #3, Hartford West Major Investment Study

increase from 19,870 riders in the base conditions to 28,690 riders in the Recommended scenario. This equates to 8,820 new riders per average weekday and an increase of 58.0% over the Future Base Case.

CAPITAL & OPERATING COSTS

The Recommended RAP is estimated to have a total cost of approximately \$230 million dollars, including right of way, engineering, and construction. Table ES-2 lists the costs for each of the improvement elements of the Recommended RAP.

Operating Costs & Subsidies. In addition to the costs associated with the construction and maintenance of the new improvements, there are additional costs to consider when implementing a transit service. Transit subsidy, or money spent by a public agency to partially fund the operation of the service, must be considered by policy makers in the decision to adopt a new transit service. This transit subsidy is not a one time cost, but rather an annual cost that is required to offset the cost of operating the service after fare box revenues are included. Based on data provided by CT Transit, the State of Connecticut currently pays about \$7.7 million dollars a year on the existing transit services in the Hartford West corridor. This equates to roughly \$1.33 per person per trip. If the decision is made to build a dedicated busway as part of the

Recommended Package of Improvements, an additional \$5.7 million dollars per year would be required to support the new service.

ISSUES FOR FURTHER ANALYSIS

During the MIS Study, a number of issues were raised that will require further study during subsequent study phases, these include:

Coordination with the CROG Regional Transit Strategy (RTS). Issues to be resolved by the RTS include finance and operations of the busway. Region-wide route planning for the long term must consider the potential for travel time savings associated with the busway.

Downtown Bus Circulation. Buses using the New Britain - Hartford Busway will either pick-up and discharge riders from stations along the busway **or** leave the busway to circulate on city streets. Especially in downtown Hartford, it will be important to plan for the circulation of buses using traffic signal preemption or dedicated bus lanes.

Busway Stations. Preliminary locations have been defined for twelve (12) stations to be located along the busway. Factors to be considered will include:

Table ES-2
CAPITAL COSTS OF RECOMMENDED IMPROVEMENTS
Hartford West MIS

| Recommended Improvements | Millions of Dollars |
|---|---------------------|
| New Britain-Hartford Busway | \$75.3 |
| Reconstruction of Flatbush, Prospect, Sisson and Sigourney Avenue Interchanges (West Side Access) | \$102.3 |
| Reconstruction of Routes 4, 6 and 9 Interchanges | \$37.7 |
| Auxiliary Lanes on I-84 | \$3.6 |
| Improved Bus Services along I-84 / Farmington Avenue | Unknown |
| Support for Arterial Highways (TSM Improvements) | \$10.8 |
| Transportation Demand Management - Transit Financial Incentives (Annual Expense) | \$3.0 |
| Land Use Regulation to Support Transit Friendly Design (Local Costs) | <u>Unknown</u> |
| TOTAL COST | \$232.7 |

- **Bus Routing;**
- **Park and Ride Locations;**
- **Station Aesthetics;**
- **Joint Development; and**
- **Pedestrian and Modal Linkages.**

Community Participation in Advisory Groups. Community participation and support will be important in the continuing implementation of the Hartford West MIS recommendations. It would be appropriate to include neighborhood and community representation on Advisory Groups that contribute to project development.

Multi Use Pathways. The potential for multi-use pathways - pedestrian and bicycle - should be considered in each of the MIS recommendations. For the busway and the West Side Access Study, the potential exists to coordinate with the Park River Greenway and Pope Park restoration. Other links in the pathway system could either be part of the rail right-of-way or routed along existing streets.

Adrian's Landing & Downtown Development. Proposals to develop Adrian's Landing in concert with other development proposals in Downtown Hartford were made late in the study process. However, these proposals will reinforce the viability of a successful busway project. In fact, the flexibility of bus operations will ideally suit the special needs of these developments. It will be important to study the special routing needs to assure expeditious routing from the busway to the development sites.

Other Issues and Concerns. In addition to the above issues, the following are additional topics of concern:

- Negotiations with Amtrak to operate the planned services between Newington Junction and Union Station;
- Entering and exiting points for buses along the busway;
- Reevaluation of bus routes that may use all or part of the busway for service especially those that provide for reverse commutation to suburban job locations;
- Evaluation of structures along the busway to determine the need for rehabilitation or reconstruction;
- Integration with development plans in Parkville, Charter Oak, Elmwood, and other areas in Hartford and West Hartford; and
- Development of a signal system for grade crossing control.