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# Building on Progress: Financing Connecticut's Future Transportation System

Resource Report Summaries for the  
Transportation Finance Summit  
Central Connecticut State University  
November 14, 2005, New Britain, CT



Connecticut Conference of Municipalities



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John Radacsi, Institute for Municipal and Regional Policy, Central Connecticut State University, prepared this paper, which summarizes documents concerning transportation issues and transportation funding needs. These summaries extract only information deemed pertinent to a better understanding of the theme of the Summit – Financing Connecticut's Future Transportation System. Any views expressed are not necessarily those of the sponsoring organizations.

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## Resource Report Summaries

	Page
<b>1. Connecticut Strategic Economic Framework</b> Michael Gallis & Associates (1999).	4
<b>2. Transportation: A Strategic Investment. An Action Plan for Connecticut 2003-2023</b> CT Transportation Strategy Board (2003).	6
<b>3. Master Transportation Plan 2005</b> Connecticut Department of Transportation.	10
<b>4. Economic Development Considerations in Transportation Planning</b> CT Program Review and Investigation Committee – 2000.	15
<b>5. Sustainable Prosperity: An Agenda for New England</b> A. T. Kearney (2005) for The New England Council.	19
<b>6. Infrastructure Report Card 2005 for Connecticut</b> American Society of Civil Engineers.	20
<b>7. The 2005 Urban Mobility Report</b> Texas Transportation Institute, Texas A&M University System.	22

# **Building on Progress: Financing Connecticut's Future Transportation System**

## **Resource Report Summaries for the Transportation Finance Summit**

### **1. Connecticut Strategic Economic Framework**

By Michael Gallis & Associates (1999)

In the decade of the 90's a new global economic geography emerged. A new system of trading blocs (NAFTA, European Union, and the Russian Federation) emerged and multi-county metro economic regions became the basic units of economic activity and key hubs of communications and transportation networks.

Traditional boundaries separating New England, the Mid-Atlantic, eastern Canada and the upper Midwest blurred. A distinct new configuration ("New Atlantic Triangle") of five metro regions (New York, Albany, Boston, with Hartford and Springfield in the center) has taken shape as an enormous concentration of economic, institutional and cultural resources. However, global linkage and continental access is split through the center of the New York metro region so those to the northeast in "the New Atlantic Triangle" are becoming isolated with limited air service, without a significant port and with poor connections to the continental grid.

Centers and corridors form the structure of metro regions. Connecticut's three principal economic regions are parts of the larger multi-state metro region:

- Coastal Corridor: A sub-market of New York, this economic region extends from the I-287 beltway in New York to Waterbury and Greater New Haven. The region has a strong concentration of economic, institutional, cultural and research resources. However, 1) congestion in the lower section effectively blocks access and full integration of the upper part with economic activity in New York, 2) the New Jersey corridor has much better access to international and domestic air and sea hubs, and, 3) the deterioration of major centers (Bridgeport and New Haven) is a barrier to the corridor's competitiveness.
- I-91/Connecticut Valley: The corridor stretches from New Haven to Greater Springfield and with 2 million people; it ranks among the top 25 metro regions in America. It has a mix of high-tech and traditional manufacturing and distribution, finance, government, medical, research,

and tourism. Challenges include significant defense cutbacks and the restructure of the financial industry but the key is to mobilize its assets: concentration of institution, environmental setting and logistics infrastructure.

- Southeast Corridor: Extending from New London to Newport, RI, this corridor represents a string of very unique urban centers with an economy composed of military/defense, tourism/casinos, maritime, and bioscience.

Various systems interact to position the competitive strengths, opportunities and challenges of metro economic regions.

- Environment and Urbanization Systems: Connecticut is a diverse environment with a myriad of small cities and villages. Major traditional urban centers occupy strategic locations, are decaying and are barriers to growth and vitality of the region. Suburban growth is eroding open space and environmental qualities.
- Quality of Life (Culture, Arts, Sports, Convention and Tourism) Systems: Located between large quality of life system of New York and Boston, Connecticut's high quality resources must continue to upgrade, link with new resources, and improve access to New York and Boston in order to effectively compete for an audience.
- Network Systems: While located close to global and continental transportation and communication hubs, a pattern of congestion limits access and dynamism, placing the area east of the Hudson River in danger of becoming a giant cul de sac. Global lineage has shifted west of the Hudson to northern New Jersey driving the cost of imported consumer goods and raw materials and continuing to increase the cost of living in Connecticut. The I-91 corridor has a combination of network systems to create a foundation for various economic activities.
- Economic Development Systems: Economic activity has increasingly concentrated in and around large metro areas to the detriment of small specialty centers, e.g., brass and silver cities. Manufacturing remains important and is shifting to R&D but lacks the dynamism necessary to spin off new business startups. Maximizing relations with the dynamic centers of New York and Boston are therefore crucial as are maintaining support systems – research, capital technical and management support and a highly skilled workforce.
- Real Estate: Office, industrial and retail markets of the three Connecticut corridors are smaller and less active than others in the region. The sub-market of northern New Jersey is very dynamic and will continue to grow rapidly as global and continental connections are consolidated there.
- Education: The “New Economy” is largely dependent on the resources available in large research oriented universities. Commercialization of research is one of the most promising initiatives that can impact the state's economy. As complex human interactions are required to support cutting edge institutions, Connecticut's lack of good access to national and global

markets will be a barrier to the continued growth and dynamism of its institutions.

#### Highlighted Infrastructure Challenges

- A multi-modal transportation strategy that ensures the movement of people and goods in a cost-competitive and environmentally responsible manner throughout the state and with links to New York State, New England and the Maritime Provinces. Including the need to resolve the congested locked transportation systems in the coastal corridor.
- The opportunity to develop the I-91/Connecticut River Valley as a significant transportation and logistic corridor multi-modal network that can provide world class support to manufacturing, research, information and finance-based industries.

## **2. Transportation: A Strategic Investment. An Action Plan for Connecticut 2003-2023**

CT Transportation Strategy Board (2003)

### **Overarching Objective**

Strengthen and expand the State's transportation system over the next 20 years to enhance Connecticut's prospects for sustainable economic growth and a premier quality of life in a manner consistent with environmental standards; use evaluation techniques and metrics to support major capital investments and operating in the system; and ensure the proper integration of land use population, commercial development, automobile usage, and freight shipments.

Economic Strategy - Ensure that the State's Transportation Investment Areas remain vibrant and competitive economic engines for Connecticut and attractive gateways to the State by leveraging existing transportation and other infrastructure assets, especially in urban centers, and by focusing on the mitigation and management of road congestion in the Coastal Corridor and throughout the State.

Movement of People Strategy - Facilitate the movement of people within and through the State by: expanding the quality and quantity of options (e.g. air, bike, bus, ferry, flex-time, rail, ridesharing, telecommuting) to single occupancy automobile trips; encouraging employer participation in demand management programs; enhancing the customer's transit experience; improving transit travel times through better integration of all transportation options; increasing capacity of roads through continued focus on information, safety, and incident management tools; and expanding targeted portions of certain roads.

Movement of Goods Strategy - Facilitate the movement of goods to and through the State by: expanding and coordinating the State's air, rail, road and water

infrastructure; improving the flow and safety of commercial truck traffic; and providing a broader range of competitive options to commercial trucks.

Special Funding Strategy - Implement a comprehensive and dedicated 10 year financial plan to fund the recommended capital investments needed to implement the foregoing Strategies.

Ongoing Funding Strategy- Ensure that the State's biennial budget provides adequate and reliable financial support for the State's annual transportation needs, both capital and operating, including the amounts needed (i) for its public transit system to respond timely and satisfactorily to evolving public needs and (ii) for greater flexibility within the State's annual transportation budget regarding the amount required to service outstanding debt.

### **Strategic Actions and Tactics: Fiscal Years 2004 to 2013**

#### **Air -- \$41,050,000**

- Strengthen Bradley to serve as the major commercial passenger and freight airport for CT and western New England.
- Market Bradley to establish daily air service to Europe and to attract more frequent non-stop continental service and to attract more passengers within the 100-mile radius of Bradley.
- Seek Bradley express bus shuttle service to and from multi-modal hubs in Bridgeport and New Haven; evaluate bus or rail connects to the proposed New Haven to Springfield commuter rail service.
- Enable Tweed-New Haven Airport to serve the travel needs of business and institutional travelers in Southern Connecticut through State ownership and management, and through the implementation of the Master Plan Safety Improvements and other plan phases as needed.
- Facilitate travel for Southern CT businesses and residents to New York airports.

#### **Roads -- \$3,490,060,000**

Highway Operational, Safety and Capacity Improvements:

- Fund a program to identify and implement operational improvements necessary to facilitate the movement of traffic in heavily congested areas.
- Implement low cost Transportation Demand Management techniques and support value-pricing programs.
- Increase available truck rest stop parking spaces.
- Expand bicycle and pedestrian facilities and enhance ADA accessibility as a part of all roadway projects.
- Encourage dedicated truck lanes in future highway capacity expansion projects.
- Encourage the development of a privately funded and operated toll roadway, similar in concept to E-470 in Toronto, in future limited access

freeway capacity expansion projects.

Specific Roadway Segments:

- Support safety and operational improvements on 1-95 and the Merritt Parkway in the southwest and in the vicinity of the Route 8/I-84 interchange in Waterbury.
- Fund capacity expansion of the 1-95 corridor in Southeastern Connecticut.
- Fund capacity expansion of I-84 from Danbury to Waterbury.
- Construct new Route 6 Expressway from Bolton Notch to Windham.
- Construct extension of Route 11 from Salem to 1-95, including the proposed greenway.
- Widen and reconstruction of existing Route 7.
- Support planned safety and operational improvements on Route 25.

Transportation Systems Management:

- Expand Incident Management technologies to congested areas of the State's highway.
- Improve the Automated Traveler Information Systems to provide timely information to travelers and the Commercial Vehicle Information Systems and Network to facilitate the streamlining of commercial vehicle regulatory operations.

**Transit -- \$1,289,900,000**

Bus:

- Establish an Integrated Multi-Modal Transit Network.
- Efficiency changes refer to reductions or additions in service.
- Implement the New Britain-Hartford Busway; and evaluate other potential bus rapid transit corridors services.
- Maintain the Jobs Access program through FY '04 and evaluate the Section 16 Transit Demonstration Projects.

Commuter Rail:

- Provide 4,200 additional seats on the New Haven Line to address equipment deficiencies, to improve the frequency of intrastate service, and to lengthen trains running into Grand Central Terminal.
- Support prompt fleet modernization.
- Expand the rail maintenance facility in New Haven.
- Acquisition eight electric locomotives and 24 coaches to replace obsolete fleet and to provide capacity for up to an additional 2,520 passengers.

Rail Station Capacity and Parking:

- Develop mainline multimodal "hub" stations (Bridgeport, Stamford, and New Haven) that can generate demand necessary for more express service and expand parking capacity to Bridgeport by approximately 400

- spaces and New Haven by approximately 900 spaces.
- Add a rail station in either Orange or West Haven through a public/private partnership if possible.
- Lengthen rail platforms at 14 metro-north stations to accommodate 10 rather than eight coaches.
- Complete improvements at stations in Clinton, Guilford and Branford as expeditiously as possible and remove impediments to the expansion of other Shore Line East stations.
- Study for capacity and governance issues at all New Haven Line stations.
- Resolve parking expansion issues at Shore Line East stations in anticipation of the Pearl Harbor Memorial Bridge construction.
- Study benefits of electrifying and adding parking to Danbury and Waterbury branches where demanded.

#### Infrastructure:

- Replace the catenary system, sub stations that supply traction power, and wood ties with concrete ties.
- Rehabilitate the Walk (Norwalk) and Saga (Westport) bridges.
- Replace and enhance the signal system.
- Install interlocking between the South Norwalk Bridgeport systems to add routing flexibility and redundancy for dispatching trains and to support 80 mph operations.
- Install an interlocking west of Greenwich to provide route-reversing capabilities for enhanced intrastate train service.
- Encourage Amtrak to install a new siding in Guilford to permit more efficient operation of Amtrak and SLE services.
- Implement regular commuter service in the New Haven-Hartford-Springfield corridor.

#### Freight Rail:

- Expand rail options for freight movement using Connecticut's north-south connections to the CSX facilities in Massachusetts.
- Encourage public/private partnerships that will improve the efficiency of existing in-state rail freight infrastructure.
  - Facilitate rail freight movement across the Hudson River and New York Harbor.

#### **Water Maritime Policy -- \$62,630,000**

- Establish a special task force to submit governance and other recommendations (the Policy) applicable to all ports in Connecticut including the three deepwater ports of Bridgeport, New Haven, and New London prior to the 2005 legislative session. The policy will define the State's role in maritime matters to include:
  - Strategic economic development issues;
  - Security;

- Pilot licensing;
- Dredging and disposal;
- Marketing;
- Port-related land uses, infrastructure, and intramodal connects;
- Enhanced feeder barge service including intracoastal domestic barge; and
- Expansion of high-speed passenger ferry.
- Establish a subcommittee to evaluate the feeder barge proposals submitted by Bridgeport and New Haven.
- Address the legality of actions taken by EPA and US Army Corps of Engineers to close the Central Long Island Sound Disposal Site within Connecticut; an action that will significantly raise the cost of the dredging necessary to maintain deepwater port activities.

### **3. Master Transportation Plan 2005**

Connecticut Department of Transportation

#### **Introduction**

CTDOT's primary responsibility is to maintain and to maximize the efficiency and safety of the existing transportation system. Further, federal laws and regulations give priority to maintaining the existing transportation system.

Connecticut's transportation system is in good physical condition but congestion on highways and the commuter rail system is growing. The volume of traffic is increasing and the daily peak hours of travel are expanding; the challenge is to maintain the system without disrupting flow of traffic.

CTDOT strives to decrease delays caused by repaving through superpave technology and pavement management systems, and by implementing various technologies (Intelligent Transportation Systems, Vehicle Information Systems, traffic signal systems, and incident management programs) to reduce congestion.

#### **Available Funding for Transportation Services and Facilities**

It is a challenge to provide sufficient funds to effectively manage and maintain the existing system in good repair, not to mention funds for capacity enhancements.

- In recent state fiscal years, CT's total transportation capital program was between \$520 million and \$645 million per year. For the most part TEA-21 (FFY1998-FFY2003) met the safety and maintenance needs of CT but provided only minimum support for added highway capacity or increased rail and bus service.

- Current proposals for CT would provide for approximately a 10% growth in Federal-aid highway funding over the six-year TEA-21 levels. This increase in funding is barely expected to equal the level of inflation. Recent transit funding was only marginally better.
- Revenues for the Special Transportation Fund have grown from \$362.9 million in SFY 1985 to an estimated \$925.6 million for SFY 2005. This is an increase of \$562.7 million, or 155% over the period. Revenues are anticipated to reach \$971.5 million in SFY 2008.
- Total expenditures of the Special Transportation Fund have grown from \$360.4 million in SFY 1985 to an estimated \$929.3 million for SFY 2005. This is an increase of \$568.9 million over the period.
- Total debt service of the Special Transportation Fund has grown from \$118 million in SFY 1985 to an estimated \$422.9 million in SFY 2005, an increase of \$305 million or 258%. The SFY 2005 estimated total cost of debt service of \$422.9 million, which amounts to 54% of the Special Transportation Fund appropriation for the year.

Combined capital needs for rail, bus and highways and bridges for the next ten years are estimated at \$9.66 billion. Expected federal and state capital revenues for this same period are approximately \$6.39 billion, this leaves a \$3.27 billion shortfall to maintain the transportation system in good repair.

Over next ten years \$7.01 billion is needed to maintain the highway and bridge network. This need exceeds anticipated funds by approximately \$1.74 billion. No significant capacity additions are included in these figures.

For public transportation, current capital funding levels are insufficient to maintain the existing system in a state of good repair, including the upgrade of existing facilities and the replacement of rail cars and buses according to plans. These transit needs do not include any expansion of services or growth in capacity.

### **National and International Movement of Goods**

Information technologies allow distant linking of the industrial systems that in turn place a premium on speed and market responsiveness of the transportation system. CT must improve both in-state and out-of-state access to ports, airports, and rail freight facilities in order to enable companies to ship as quickly and efficiently as possible. With a major container port in New Jersey and large intermodal rail yards in New Jersey and West Springfield, Mass., it is highly probable that most freight shipments to and from CT will continue to move by truck. CT must minimize truck travel delays through implementation of “weigh-in-motion” and pre-clearance systems that check credential and weight of vehicles while vehicles travel at highway speeds.

Ports and channels handle 95% of the volume of the nation’s overseas trade; periodic maintenance dredging is essential to CT’s waterborne transportation

system; 400,000 cubic yards of sediments are dredged annually in CT; closure of the Long Island Sound Disposal site in Feb. 2004, seriously threatens the continued maintenance of adequately dredged channels and ports in CT which may result in draft restriction due to shoaling and to increased transport costs or the diversion of vessels to other states.

## **THE PLAN**

Most important goals are to: 1) ensure safety, 2) maintain existing system, and 3) increase system productivity. Other goals are to: 4) promote economic development, 5) provide required capacity, and 6) utilize all available state and federal funds effectively.

### **MAJOR PLAN ELEMENTS**

#### Bradley International Airport

- Aggressively market to enhance regional economic impact.
- Expand passenger terminals to meet traffic volumes and needed service levels.
- Increase automobile parking convenience.
- Market properties that are available for development.

#### General Aviation Airports

- Utilize available land at airports to maximum possible benefits and market properties which are available for development.
- Complete property inventory and computerized mapping programs.

#### Transit

- Ensure safety and maintenance of infrastructure in a state of good repair.
- Maintain the Capital Project Management Plan to ensure the most efficient use of all state and federal resources.
- Improve the quality of service to increase ridership.
- Develop a universal fare concept.
- Expand the guaranteed ride home program for commuters statewide.
- Enhance intermodal services.

#### Rail

- Subsidize and ensure the efficient and cost-effective operation of the commuter system.
- Support Governor's Southwestern CT Congestion Relief Initiative through increased marketing, low or no-cost service improvements, and improved parking and pricing in order to divert auto travel.
- Replace catenary system.
- Continue to install concrete ties and welded rail on the New Haven Line.

- Ensure the integrity of the movable bridges over navigable waterways through rehabilitation or replacement.
- Replace rail passenger cars, possibly utilizing new technologies.

#### Bus/Ridesharing

- Subsidize and insure the efficient and cost-effective operation of the transit districts and private operators.
- Support the Governor's Southwestern CT Congestion Relief Initiative – improve intermodal rail-bus connectivity, supplement interregional bus services using demand management strategies, and improve ridesharing (vanpool, carpool) efforts.
- Replace maintenance garages in New Haven and Waterbury and expand the Stamford garage.
- Work Workforce Development Boards, regional planning agencies and human service agencies to continue and expand the Access to Jobs Program.
- Implement the New Britain-Hartford Busway.
- Support the construction and maintenance of commuter parking facilities.

#### Bikeways, Walkways, and Trails

- Ensure the safety of bicyclists and pedestrians by incorporating these modes of transportation into all projects where feasible.
- Bank abandoned rail rights-of-way for future use as multi-use trails.

#### Waterways

- Maintain state-operated ferry services.
- Reconstruct the State Port Complex in New London to modern standards.
- Construct the necessary warehousing at the State Port Complex.
- Market the Port of New London to attract significant shipping and commercial marine activities.

#### Highways

- Monitor performance, rehabilitate, and maintain state roads and bridges.
- Repave and maintain State-maintained commuter parking facilities.
- Utilize Intelligent Transportation Systems strategies to maximize the use of the existing transportation network.
- Continue to implement projects to provide a safe and efficient highway system that maintains the transportation infrastructure and provides necessary capacity improvements.

#### Air Quality

- Support technologies related to auto and bus engines and fuels.
- Support rideshare programs.

- Improve and expand commuter parking lots.
- Explore and encourage alternatives to single-occupant vehicles (SOVs).

#### Energy Conservation

- Maintain the existing transportation system in a state of good repair.
- Increase transportation efficiencies through transit and other alternatives to single-occupant automobile, including state employee rideshare programs.
- Support demonstration projects: alternative fuel technologies and new and innovative transit services.
- Promote the increased use of non-motorized transportation nodes.

#### Land Use/Transportation Planning

- Achieve better coordination between land use and transportation planning.
- Encourage development that will maximize the benefits of transportation investment.
- Provide mobility while addressing the environmental issues.
- Deal with land use and development issues regionally.
- Consider land use goals in funding decisions.
- Preserve rights-of-way for construction of future transportation projects.
- Develop projects in accordance with "Context-Sensitive Solutions".
- Coordinate with Indian tribal governments on transportation issues of concern.
- Use available land at the State airports to the maximum possible benefit.

#### Financial

- Support of the New England Transportation Initiative Study to promote innovative and fiscally sound financing policies.
- Consider investment strategies to improve adjoining State and local roads that support rural economic growth and tourism, federal agency renewable resources management and recreation development.
- Take full advantage of tax-advantaged leasing of transportation facilities owned by the State.

#### Access Management

- Prepare access management plans for local roads in coordination with regional and municipal organizations.
- Continue ConnDOT's encroachment permit process to review applications for driveway access with respect to safety and operational integrity.
- Support the State Traffic Commission certificate of operation reviews.
- Assess implementing a formal access management system through

legislative authority or administrative regulations.

## MAJOR PLAN STUDIES (underway or recently completed)

### Bus and Rail

- Bus rapid transit in Hartford-Manchester-Vernon corridor.
- Re-electrification of Danbury rail branch.
- Rail facility improvements to New Canaan, Danbury, and Waterbury rail branches.
- New rail station in West Haven or Orange.
- Implementation program for New Haven-Hartford-Springfield rail line.
- Rolling stock replacement on New Haven Line.
- Rail station governance study.
- Northeast Rail Operations Study - to identify constraints and mitigations necessary to improved rail service in the Northeast United States.

### Highway and Intermodal

- Improvements to I-84 Danbury to Waterbury.
- Interchange improvements at and near I-84 and Route 8.
- Auxiliary lane on I-95 in southwest Connecticut.
- Improvements to I-95 Branford to Rhode Island.
- Environmental impact analysis of new Route 11 from Salem to Waterford.
- Improvement to Route 2/2A/32 corridor.
- Improvements to intermodal freight system.
- Improved parking facilities at truck stop and rest areas.
- Various studies by regional planning agencies and transit districts.

## **4. Economic Development Considerations in Transportation Planning** CT Program Review and Investigation Committee – 2000

### **Transportation and Economic Development**

Economic growth in Connecticut is threatened by congestion in key transportation corridors and the diminishing or inadequate connections to national and global markets by air, sea, rail, and road. Economic growth can be linked to targeted investments in transportation infrastructure and such investments are key to improved productivity and economic growth.

The state's transportation planning efforts do not adequately respond to economic needs. Transportation planning represents a revenue-constrained view

of future needs. There is no conscious consideration of the statewide economic impact of transportation improvements when making investment decisions.

Neither the Department of Economic and Community Development nor the Department of Transportation has systematically considered the strategic economic needs of the state and their relationship to the transportation system. The relationship and interaction between the two departments suffers from a lack of strategic vision and planning.

Critical statewide needs are further diminished by a planning and funding process that emphasizes fairness and the involvement of numerous planning bodies that focus on small geographical areas.

### **Vision and Mission**

While there is a considerable amount of planning at ConnDOT, there is an absence of strategic thinking. Actions are not focused on the transportation system's performance and productivity and its impacts on the state's economic success.

ConnDOT has neither a vision for the transportation system nor a mission statement that fully captures the changed role that ConnDOT needs to embrace. The department has substantially improved the physical condition of the transportation network but has not fully addressed shifting demographics, increased service use and demand, a volatile and competitive global economy, competition for public funds, expanding demands made by underserved populations, and the need to balance modal interests. A vision statement will help foster some consensus and provide inspiration and guidance for an interconnected set of strategies.

A well-developed, reliable transportation system is crucial to the growth and economic vitality of the state and requires a comprehensive network of multimodal components to work together to provide the efficient transport of goods, services, and people.

It is recommended that a vision for the state's transportation system and a mission statement for the department be created.

### **Strategic Transportation Plan**

Current long-term planning is conditioned by the amount of money projected to be available. At best, this is a form of capital investment planning. Planning to the budget typically means the plan will be incremental, reactive, and predominately oriented toward accountability rather than long-term, comprehensive, proactive, and oriented toward the accomplishment of broad purposes and goals. If there is

no agreed upon vision, any discussion about funding lacks a full understanding of the consequences of policy choices.

There is no recognition of transportation's broader significance, such as its importance in the economic success for the state. The interaction between ConnDOT and the Department of Economic and Community Development (DECD) does not facilitate strategic planning to sustain economic growth. Contact between DECD and ConnDOT occurs mostly on a project-by-project level. Neither department has systematically considered the strategic economic needs of the state and their relationship to the transportation system and the infrastructure necessary to support the state's economic clusters.

Strategic planning promotes strategic action and thought, improves decision-making, and enhances organization responsiveness. Therefore, the program review committee recommended the development of a 10-year strategic plan that defines and prioritizes objectives of the state's transportation system and directs funding toward those objectives. The plan should at a minimum address: 1) promotion of mobility and productivity; 2) linking of transportation modes; 3) connection to the national and global transportation network; and 4) support for economic clusters and regional economic priorities.

The strategic plan should also address elements normally outside the department's control: coordination of transportation with land use issues, activities of other state departments, regionally significant airports and seaports, not under state control, and transportation network decisions of neighboring states.

### **Organizational Issues**

The structure of the department is orientated toward maintaining the current transportation system. Creating a new vision for the transportation system and a new mission for the department as well as the development of a strategic plan will have internal and external organizational ramifications.

A further complication is the current planning structure requires the involvement of 15 regional planning organizations. An emphasis on fairness in the planning and funding process coupled with the guaranteed involvement of so many planning bodies focused on small geographical areas diminishes ConnDOT's ability to address critical statewide needs.

The program review committee recommended an assessment to determine if the organization of ConnDOT was appropriate to carry out its new mission and strategic plan responsibilities. "It also recommended possible reduction in the number of regional planning organizations by changing boundaries to better reflect predominate commuting patterns, concentrations of economic activity and responsiveness to statewide strategic objectives."

## Adequacy of Funding

A new transportation orientation requires an examination of the adequacy of current funding. ConnDOT's current investment outlook is governed by currently available funds that generally limit actions to maintenance of the current system. To address mobility issues and the other items in the strategic plan in a serious way will most likely require the investment of billions of dollars. If there is no participant in the system acting as an advocate for the transportation function and if there is no agreed upon vision, any discussion about funding lacks a full understanding of the consequences of policy choices.

The amount the state spends on transportation in relation to the rest of the budget has declined somewhat over the last 10 years. Secondly, the amount of capital investment in transportation projects has declined over the last 16 years, even when not counting the effects of inflation. From 1985 through 1992, total capital investment in the transportation system averaged about \$815 million per year. In the last eight years (1993 through 2000), capital investments have been about \$603 million per year. Similarly, the state's participation in the capital program through bonding has declined from an average of \$355 million in the first eight years to \$178 million in the last eight years.

A petroleum-based motor fuel tax is the mainstay revenue source for the transportation system. While reliable, it has not been politically popular. Connecticut has also made the choice to remove certain revenue generators from consideration, such as tolls and relieving local transit districts from having to fully participate in the cost of transit. The exploration of new pricing and financing mechanisms is necessary if mobility issues are to be addressed.

The program review committee recommended a 10-year financial plan be created to identify the level of investment necessary to achieve the strategic plan's goals over that time period. At minimum the analysis would include: 1) the effect of reallocating current resources; 2) an exploration of new funding sources; 3) the potential to increase current fees and charges; and 4) the feasibility of using the state's General Fund.

In addition, preferred funding mechanisms should be developed and submitted to the governor and legislature including:

- Improvements that generate benefits in a particular region should be defraying by that region, and
- Methods to tie transportation financing to economic growth, environmental preservation, and mobility enhancements.

The emphasis would be on delivering a specific level of service improvement in specific corridors or areas within a given program period, in return for the commitment of a specified tax package. These sources of revenue, such as

special assessment taxes or value capture increment fees, could represent a fee or assessment on business owners, municipalities, or others who benefit from the transportation system.

### **Designate Entity Responsible for Developing and Implementing Strategic Plan**

After examining five options, the program review committee recommended the creation of the Connecticut Transportation Board. The Board was considered the best option for initiating, developing and sustaining the strategic planning process. It would act as a "champion" to oversee the process (e.g., environmental scanning, planning and budgeting, goal setting), monitor and hold accountable the participants, and ensure the products (e.g., vision and mission statements, goals and objectives, organizational structure, budgets, etc.) are created. It would not be influenced by the current culture and practices of ConnDOT yet would be accountable to state government leaders.

The Board would develop a vision for the transportation system and mission for the Department of Transportation, create and update a 10-year strategic plan and financial plan that emphasizes a comprehensive and balanced statewide system, oversee any organizational changes, and monitor the plan's implementation as previously described. The board should also consider the actions of and coordinate its planning efforts as necessary with regional planning organizations, other state departments, neighboring states, and any other organization or agency that may have an affect on the operation and success of the transportation system.

## **5. Sustainable Prosperity: An Agenda for New England**

A. T. Kearney (2005) for The New England Council

Purpose: To identify New England's strengths and weaknesses and to focus attention on areas requiring the immediate attention of public and private leaders.

Sustainability is measured by 1) employment growth and wealth creation; 2) industry diversification; and 3) alignment of competitive capabilities.

Identifies five key economic levers: infrastructure and structural costs; education; regional networks and collaboration; "brand" or image; and demographics and immigration -- and compares these levers with places in direct competition for industries, jobs, and people -- 1) Raleigh-Durham focused on manufacturing and worker professions, 2) Atlanta focused on services, 3) Baltimore/Washington D.C. focused on "innovative professionals".

Finds some of New England's economic engines of growth are not running efficiently and that the region needs to make strategic choices to shore up

industries that are aligned with its potentially strongest growth engines. Further, competitors are on a straighter trajectory toward sustainable prosperity outpacing much of New England and are shifting their focus toward more promising industries, retraining workers, and investing in needed infrastructure.

Report comments on infrastructure and structural costs (high wages, state taxes and utility rates):

- New England's weakest lever is playing an alarmingly large role in defining the region and inhibiting business growth; "infrastructure tax" can be debilitating;
- Must pursue creative solutions to structural costs and infrastructure issues;
- Housing costs and transportation are an issue with housing costs four to five times the median household income and the alternative of living in lower cost satellite communities is hindered by insufficient transportation systems which are highly road dependent and require long commutes; limited rail service restricts commuting options and the ability to tie inexpensive living spaces to expensive major centers.
- Sometimes there is insufficient broadband connection for networking and collaborating with peers;
- Poor infrastructure weakens collaborative networks critical to innovation and acts counter to New England's perceived advantage of a highly educated workforce;
- Be creative with infrastructure and structural costs; the perception of New England as prohibitively expensive is true but not uniformly so and creative infrastructural improvements could put this cost differential to work; the I-91 corridor would be an excellent candidate if its somewhat lower cost of housing could be combined with robust networks and an education system aligned to business needs.

## **6. Infrastructure Report Card 2005 for Connecticut**

American Society of Civil Engineers

### **Roads**

- 38% of Connecticut's major urban roads are congested.
- 53% of Connecticut's major roads are in poor or mediocre condition.
- Vehicle travel on Connecticut's highways increased 19% from 1990 to 2003. Connecticut's population grew 6% between 1990 and 2003.
- Driving on roads in need of repair costs Connecticut motorists \$887 million a year in extra vehicle repairs and operating costs --- \$334 per motorist.
- Congestion in the Hartford area costs commuters \$309 per person per year in excess fuel and lost time.
- Congestion in the Bridgeport-Stamford area costs commuters \$566 per person per year in excess fuel and lost time.

- Congestion in the New Haven area costs commuters \$390 per person per year in excess fuel and lost time.

### **Bridges**

- 33% of Connecticut's bridges are structurally deficient or functionally obsolete.

### **Dams**

- There are 12 state-determined deficient dams in Connecticut.
- Connecticut has 238 high hazard dams. A high hazard dam is defined as a dam whose failure would cause a loss of life and significant property damage.
- The rehabilitation cost for Connecticut's most critical dams is estimated at \$150.7 million.

### **Drinking Water**

- Connecticut's drinking water infrastructure needs \$1 billion over the next 20 years.

### **Wastewater**

- Connecticut has \$2.35 billion in wastewater infrastructure needs.

### **Solid Waste**

- Connecticut generates 1.37 tons of solid waste per capita.
- Connecticut recycles 18.8% of the state's solid waste.

### **Schools**

- 58% of Connecticut's schools have at least one inadequate building feature.
- 68% of Connecticut's schools have at least one unsatisfactory environmental condition.

### **Engineer Anecdotes**

"A vast majority of funding for infrastructure, specifically in the transportation sector, comes from the federal government. Without a long term funding package in place the states are not able to create the necessary plans. Infrastructure plans are generally long term and cannot proceed on continuing resolutions at or below previous years' spending limits." - a civil engineer from Bolton, CT

"Areas are growing faster than the infrastructure can absorb. Traffic is an ongoing problem and the mass transit hasn't been sufficient to decrease the problem." - a civil engineer from Danbury, CT

"Past gas tax reduction in Connecticut and lack of a federal transportation bill have significant negative impact on all modes of transportation." - a civil engineer from Marlborough, CT

From the Headlines: Amtrak is using three deteriorating bridges on a portion of the Northeast rail corridor as an example of how badly the railroad needs more federal funding. The bridges are located over the Thames, Niantic and Miamicock rivers within 20 miles of New London, Conn. Unless they are repaired, they probably will be shut down within two years, which also would force a shutdown of Northeast Corridor rail traffic between New York City and Boston, Amtrak officials said. If the bridges are shut down, Amtrak would need to consider busing travelers to a waiting train on the other side of the waterway. Amtrak engineers say there is no immediate safety risk for passengers crossing over the bridges, but railroad officials also say the infrastructure would not have so many problems if Congress provided adequate funding. U.S. Rail News 6/30/04

Sources:

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TRIP Fact Sheets, February 2005

Texas Transportation Institute, 2004 Urban Mobility Report

Government Performance Project, Grading the States 2004

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EPA Clean Water Needs Survey, 2000

Association of State Dam Safety Officials

## **7. The 2005 Urban Mobility Report**

Texas Transportation Institute, The Texas A&M University System

Nationally, congestion continued to grow in urban areas in 2003, despite slow growth in jobs and travel. The current pace of transportation improvements is not sufficient to keep pace with congestion even with slow growth in travel demands in most major urban areas.

2005 found that urban areas are not adding enough capacity, improving operations, or managing demand well enough to keep congestion from growing larger. Congestion occurs during longer portions of the day and delays more travelers and goods than ever before.

Mobility problems have increased at a relatively consistent rate during the two decades. Congestion is present on more of the transportation systems, affecting more of the trips and a greater portion of the average week in urban areas of all sizes. Free-flowing travel is less than half of the amount in 1982. The average

annual delay for every person using motorized travel in the peak periods in the urban areas studied climbed from 16 hours in 1982 to 47 hours in 2003. Congestion costs, measured by hours of delay and gallons of fuel consumed, are increasing. This cost does not include the effect of uncertainty, longer delivery times, missed meetings, business relocations, and other congestion impacts. Congestion is more severe in larger areas. As fuel prices climb, the cost of congestion climbs.

A joint solution is needed: 1) to immediately relieve critical bottlenecks or chokepoints, and to aggressively pursue operations improvements and demand management options, and 2) to plan and design major capacity increasing projects.

- More capacity - More road and public transportation improvement projects are part of the equation. Public transportation improvements are particularly important in congested corridors and to serve major activity centers; toll highways and lanes are being used more frequently in urban corridors.
- Greater efficiency - More efficient operation of roads and public transportation can provide more productivity from the existing system at relatively low cost.
- Manage demand - The key will be to provide better conditions and more travel options for shopping, school, health care and other activities.
- Development patterns - Sustaining the urban "quality of life" and gaining an increment of economic development without the typical increment of mobility decline is one way to address congestion.
- Realistic expectations - Identifying solutions and funding sources that meet a variety of community goals is challenging enough without attempting to eliminate congestion in all locations.

The solutions will vary by city, type of development, level of activity, and constraints in particular neighborhoods. All types of improvement actions are necessary. It is important to recognize that actions can make a difference.

Additional roadways capacity reduces the rate of increase of congested period trips. However, the growth in facilities has to be at a rate slightly greater than travel growth in order to maintain constant travel times if additional roads are the only solution used to address mobility concerns.

Regular route public transportation service on buses and trains provides a significant amount of peak period travel in the most congested corridors and urban areas. Public transportation service provides many additional benefits -

access to jobs, shops, medical, school and other destinations for those who do not have access to private transportation.

High-occupancy vehicle lanes provide a high-speed travel option for buses and carpools and are an incentive to reduce the number of vehicle trips. The HOV lanes also provide more reliable service because they are less affected by collisions or vehicle breakdowns. Nationally, HOV lanes carry one-third of the peak-direction passenger load, providing significant passenger movement at much higher speeds and with more reliable travel times than the congested main lanes.

Four techniques (freeway entrance ramp metering, freeway incident management, traffic signal coordination and arterial street access management) provide smoother and more regular traffic flow, which also reduces collision rates and the effect of vehicle breakdowns.

- Freeway Entrance Ramp Metering - creates more space between entering vehicles so those vehicles do not disrupt the mainline traffic flow. Also it encourages using the parallel streets in order to avoid the ramp wait time.
- Freeway Incident Management Programs - attempts to remove crashed and disabled vehicles from lanes and shoulders. Working in conjunction with surveillance cameras, cell phone reported incident call-in programs and other elements; benefits of this program can be 3 to 10 times their cost.
- Traffic Signal Coordination Programs - traffic signal timing can be a significant source of delay. Managing the flow of intersecting traffic on the major street system can reduce delays by approximately one percent.
- Arterial Street Access Management Programs - Typical treatments include consolidating driveways to minimize the disruptions to traffic flow, median turn lanes or turn restrictions, acceleration and deceleration lanes. The program may reduce delays by approximately 3.5 percent.

Studies suggest that nine percent of the roadway delay is being addressed by these four operational treatments. And if the treatments were deployed on all major freeways and streets, the benefit would expand to about 15 percent of delay. These are significant benefits; especially since these techniques can be enacted much quicker than significant roadway or public transportation system expansions can occur. However, the operational treatments do not replace the need for expansions.

Conclusions: The 2005 Urban Mobility Report leaves no doubt that the urban congestion problem is growing. The choice is about how to use each strategy and how much transportation improvement will be achieved by each strategy.

However, if operating improvements deployed on all major streets are not good enough, then the future will require more roadway and public transportation capacity, and that capacity will have to be operated as efficiently as possible.

The travel patterns of commuters and businesses and the design of developments must also be examined if the current congestion levels are to be reduced and new urban residents accommodated over the next 20 years. In 2004, over three-quarters of the initiatives dealing with transportation at the state and local levels were approved by voters, indicating that travelers, shippers, businesses and elected leaders do support improvements.