
EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This Executive Summary provides a brief overview of the Final Environmental Impact Statement/Section 4(f) Evaluation (FEIS) for Interstate 95 (I-95) - Pearl Harbor Memorial Bridge (Q-Bridge) Crossing New Haven Harbor Study. The information presented in this section is intended only as a basic overview of the Project's development, Recommended Action, and the anticipated impacts from that action. Figure ES-1 shows the project location and the Study Area. The complete text of the environmental documentation associated with this study can be found in the following documents which are on file at the Connecticut Department of Transportation Library (2800 Berlin Turnpike, Newington, Room G114) and at the New Haven Public Library (Elm Street, New Haven):

- Draft Environmental Impact Statement (DEIS) (November, 1991)
- Supplemental Draft Environmental Impact Statement/Section 4(f) Evaluation (SDEIS) (April, 1997)
- Final Environmental Impact Statement/Section 4(f) Evaluation (FEIS) (May, 1999)

This Executive Summary is available for viewing on the Connecticut Department of Transportation (ConnDOT) website at www.state.ct.us/dot. A copy of the Executive Summary can be requested by contacting ConnDOT at telephone (860) 594-2941 or fax (860) 594-3028. Mailing address: 2800 Berlin Turnpike, P.O. Box 317546, Room 2159, Newington, CT 06131-7546.

ES.1.1 Project Purpose and Need

Need:

- remedy the existing Q-Bridge structural deficiencies or replace it with a new structure
- make operational and safety improvements to this section of I-95

Purpose:

- prevent traffic congestion from continuing into off-peak hours
- keep travel delays through the New Haven area of I-95 reasonable

ES.2 THE RECOMMENDED ACTION

ES.2.1 Development of the Recommended Action

The study of the various Q-Bridge replacement strategies began in October 1989, and the resulting DEIS (dated November 1991) was published in January 1992. Public reaction to the alternatives proposed in the DEIS was overwhelmingly negative. Therefore, an extensive consultative process was undertaken to maximize input from the public and interested parties. The centerpiece of this effort was the Intermodal Concept Development Committee (ICDC), comprised of individuals representing diverse community, environmental, and business interests. Using that input, a new set of alternatives was developed and evaluated in the SDEIS, published in April 1997.

Public comment received regarding the SDEIS helped to shape the Recommended Action evaluated in this FEIS. Comments received from the general public supported the SDEIS strategies as detailed in Table ES-1.

The "Other" options (see Table ES-1) that were offered by individuals include, in order of most frequently suggested (ranging from thirteen to one), are:

- Expand I-95 east of New Haven to three lanes in each direction.
- New by-pass expressway/peripheral highway/connector between I-91 (North Haven) and I-95 (East Haven).
- Lower I-95 in the Long Wharf area to connect the harbor for pedestrian access/"Option 5B", as suggested by the South Central Region Council of Governments.
- Various traffic management strategies.
- Suspension Bridge from City Point to the tank farms (4 comments).
- Transit.
- Double-decked bridge (separate local/through/heavy vehicle traffic).
- Monorail.
- Build a second bridge next to existing Q-Bridge.
- Tunnel.
- New I-95 Expressway alignment proximate to (south of) the railroad yard, north of Sargent Drive.
- Car ferry service.

**Table ES-1
PREFERRED SDEIS STRATEGIES**

SDEIS Strategy	Number of Responses	% Response of Total (Approx.)
No Build	7	1 %
Alternative #1	5	1 %
Alternative #2	20	4 %
Alternative #3	41	8 %
Alternative #4	37	7 %
Alternative #5	304	54 %
Alternative #6	33	6 %
Combinations	26	4 %
Alternative #1/#2	2	
Alternative #1/#6	1	
Alternative #2/#5	3	
Alternative #3/#4	3	
Alternative #3/#5	6	
Alternative #4/#5	7	
Alternative #5/#4	1	
Alternative #5/#6	3	
Do Nothing	1	Less than 1 %
None of the SDEIS Alternatives	5	1 %
No Alt. Specified	32	5 %
Other	51	9 %
Total Records	562	100 %

The following general comments were offered by individuals:

- The bridge approaches (as well as the bridge) need to be addressed. Additional lanes are needed along I-95 east of New Haven.
- Transit should be at least a component of any selected strategy.
- Save and improve the Shore Line East rail passenger service.
- Improve the I-91/I-95/Route 34 interchange.
- Save historic structures.
- Including a pedestrian/bike path.
- Separate local and through traffic.
- Address the weave from I-91 south (Trumbull Street entrance ramp) to I-95 north move.
- Do not destroy historic structures. Include appropriate mitigation.
- Construct the State Street railroad passenger station now.
- Cut through Fifth and Sixth Streets (City Point).
- Construct a bridge that can be expanded in the future.
- Exclude the interceptor parking lots.
- Consider the New Haven city wide plan.
- Remove Long Wharf Drive and create park-like setting.
- Data used in determining the future travel demand is questionable.

Other proposals developed since the issuance of the SDEIS include the South Central Regional Council of Governments' "Option 5B" Proposal and the ICDC Recommendation.

ES.2.2 Description of the Recommended Action

The Recommended Action is a selection of components from the alternatives presented in the SDEIS, the ICDC recommendation, and public input. The project limits for I-95 improvements are between Interchange Number 46 (Sargent/Long Wharf Drive, New Haven) and Interchange Number 54 (Cedar Street, Branford) (Figure ES-1). The Recommended Action consists of transit and Transportation Systems Management (TSM) components; a ten-lane bridge harbor crossing with adequate inside and outside shoulders (temporarily striped for eight travel lanes due to construction sequencing), similar to SDEIS Alternative 5; and six travel lanes on I-95 within the existing I-95 right-of-way from Interchange 51 to Interchange 54. The Recommended Action will tie into the existing conditions through the Long Wharf area, and features a slight relocation of Interchange Number 46 (Sargent Drive). The Recommended Action is projected to cost \$979 million (in 1998 dollars).

ES.3 ENVIRONMENTAL CONSEQUENCES OF RECOMMENDED ACTION

The following table highlights the environmental consequences associated with the Recommended Action.

**Table ES-2
ENVIRONMENTAL CONSEQUENCES OF THE RECOMMENDED ACTION**

Consideration	Potential Impacts
Traffic and Transportation	<ul style="list-style-type: none"> • Construction period delays, • Long term functional benefits
Land Use	<ul style="list-style-type: none"> • 20 displaced commercial structures and 220 parking spaces, New Haven, East Haven, and Branford • 1 displaced public school in New Haven (the Woodward School) • Some water-dependent businesses difficult to relocate • New State Street Rail Station to benefit downtown New Haven • New Interchange No. 50 ramp configuration may open up east shore for development • Improved emergency vehicle access.
Socio-economics	<ul style="list-style-type: none"> • Limited heightened visual/auditory impacts to Wooster Square Neighborhood, New Haven • 303 displaced employees, New Haven and East Haven • Displaced school in Annex area, New Haven (the Woodward School) • Adverse economic impact on western shoreline area • Positive economic impact on the Annex area, New Haven • Impacts to tankfarm areas, New Haven • Displaced gas station in East Haven • Total annual tax loss est. \$212,295, New Haven and East Haven • Total est. property acquisition costs \$20,000,000, New Haven, East Haven, and Branford

Consideration	Potential Impacts
Institutional Resources and public/6(f) Lands	<ul style="list-style-type: none"> • Displace the Woodward School, in the Annex area of New Haven
Farmland	<ul style="list-style-type: none"> • Displace 0.8 acres of active farmland in Branford
Historic Resources	<ul style="list-style-type: none"> • Displace 2 listed/eligible properties: Former Yale Boathouse, south portion of Fitch Foundry Complex, New Haven • Displace 2 architecturally notable buildings at 166 Bridge Street and at 145 Forbes Avenue (Woodward School), New Haven
Archaeological Resources	<ul style="list-style-type: none"> • Excavation for footings in the Harbor Crossing and the East of Harbor areas could impact Native American Resources
Air Quality	<ul style="list-style-type: none"> • Consistent with State and regional plans and conformity requirements • Mesoscale: All pollutants would decrease relative to the No Build scenario • Microscale: No notable air quality impacts
Noise Analysis	<ul style="list-style-type: none"> • No substantial noise impacts (four new noise barriers proposed: one in New Haven and three in Branford)
Visual	<ul style="list-style-type: none"> • More noticeable view of interchange at I-91/I-95/Route 34 • Improved views from interchange at I-91/I-95/Route 34 • Opportunity for attractive design of bridges, roadway features
Terrestrial Ecology	<ul style="list-style-type: none"> • Limited amount of weedy plant species displaced by roadside widenings • Potential impacts to a Special Concern plant near Lake Saltonstall - to be investigated
Fisheries	<ul style="list-style-type: none"> • Minimal indirect effects • 134 lineal feet of culvert extensions in East of Harbor

Consideration	Potential Impacts
	<p>Crossing area</p> <ul style="list-style-type: none"> • Demolition in Harbor may temporarily adversely affect fish
Water Quality	<ul style="list-style-type: none"> • Increased impervious (paved) surface area • Increased Chloride run-off into Harbor • Slight increases in other criteria pollutants • Pollutants will exceed CTDEP Standards, as will No Build scenario • Potential for increased pollutants in L. Saltonstall • Improved geometry should reduce likelihood of accidents/spills
Coastal Resources	<ul style="list-style-type: none"> • 35 sq.yd. net intertidal flats displacement • 156 sq. yd. net harbor bottom displacement • 1,553 cu. yd. net estuarine embayment displacement
Water Dependent Uses	<ul style="list-style-type: none"> • 0.09 acres leased shellfish grounds displaced • 0.47 acres petroleum handling business property, 2 related buildings displaced • 5.5 acres associated with New Haven Terminal/Logistek, 5 related buildings displaced
Floodplains	<ul style="list-style-type: none"> • 3.6 acres net 100-year floodplain impact
Wetlands	<ul style="list-style-type: none"> • 0.079 acres inland wetland displaced • 0.016 acres tidal wetlands displaced • 0.999 acres open water displaced
Waterbodies	<ul style="list-style-type: none"> • Displaced harbor water volume • Extension of existing culverts at Tuttle Brook, Farm River, minor unnamed watercourses • Relocation of drainage ditches • Potential for sedimentation during construction
Environmental Risk Sites	<ul style="list-style-type: none"> • Disturbance of potentially contaminated harbor sediments and industrial land use sites
Energy	<ul style="list-style-type: none"> • 141 million gallons gasoline to construct

Consideration	Potential Impacts
	<ul style="list-style-type: none"> • Saves 120 million gallons of gasoline regionally compared to No Build over 20 years
Pedestrians and Bicyclists	<ul style="list-style-type: none"> • Potential construction-phase inconveniences
Secondary and Cumulative	<ul style="list-style-type: none"> • Impacts will be localized along highway corridor. • Slight decrease in vitality of petroleum transport operations.
Permits & Approvals	<p>Federal Permits/Compliance Requirements</p> <ul style="list-style-type: none"> • The National Environmental Policy Act (NEPA) • Section 404 Wetlands Permit • U.S. Coast Guard Bridge Permit • Clean Air Act Conformity Determination • Endangered Species Consideration • Hazardous Materials Regulation • Section 106 Documentation, MOA • Section 4(f) Evaluation <p>State Permits/Compliance Requirements</p> <ul style="list-style-type: none"> • The Connecticut Environmental Policy Act (CEPA) • Inland Wetlands and Watercourses • Water Quality Certification (Section 401) • Tidal Wetland Permit • Structures, Dredging and Fill in Tidal, Coastal, or Navigable Waters Permit • Coastal Consistency Review • National Pollution Discharge Elimination System (NPDES) Permit / State General Stormwater Discharge Permit • Stormwater and Floodplain Certification (Section 25-68) • Indirect Sources of Air Pollution Regulation (Section 22a-174-100) <p>Misc. Permits/Coordination</p> <ul style="list-style-type: none"> • Relocation of power and transmission lines, underground jet fuel lines, and sewer force mains
Section 4(f)	Adverse impacts to:

Consideration	Potential Impacts
Impacts	<ul style="list-style-type: none"> • Fitch Foundry (Southern portion), New Haven • Former Yale Boathouse, New Haven Minor direct impact to Reserve Parkland at Alabama St., New Haven

ES.4 MITIGATION / PROJECT COMMITMENTS

In addition to the Recommended Action as described in this FEIS, the following commitments and mitigation measures will be pursued:

Land Use.

- alternate routes will be provided (to the extent feasible) to replace affected routes;
- new roads will be constructed (to the extent feasible) to replace affected access roads.

Socioeconomic.

- avoid and minimize acquisitions to the greatest extent possible;
- provide relocation assistance for affected businesses and individuals; and
- continued coordination with the municipalities and neighborhood associations.

Institutional Resources and Public/6(f) Lands.

- continued coordination with the City of New Haven to facilitate relocation of students and staff from Woodward School to other area elementary schools.

Farmlands.

- no mitigation is required or proposed.

Historic Resources.

The historic resources mitigation will be provided in accordance with the approved MOA. General commitments include:

- documentation of 166 Bridge Street;
- coordination among ConnDOT, SHPO, FHWA, and City of New Haven regarding the disposition of the Fitch Foundry Building (127 East Street) and the former Yale Boat House;
- public interpretation. Development of an electronic history of collegiate sculling, including the design and history of the former Yale Boat House. The electronic

- history will be established on the Internet in coordination with the State Archaeologist;
- archaeological survey (Refer to the Archaeological Resources Section, below);
 - dispute resolution. The MOA provides the SHPO with a means to object to any actions proposed pursuant to the MOA.

The full text of the MOA is included in Appendix B of Section 4(f) of this FEIS.

Archaeological Resources.

The historic resources mitigation will be provided in accordance with the approved MOA. Following all relevant guidelines and protocols, an intensive level archaeological survey will be conducted within those areas of the project corridor that are designated as having high or moderate levels of sensitivity. The survey will be conducted in consultation with the SHPO for review and approval.

Air Quality. No specific mitigation is required or proposed.

Traffic Noise. The following new noise barriers are proposed:

In Branford,

- at Greenfield Avenue, along the north side of I-95;
- at O'Brien Road, along the north side of I-95; and
- at Ramona Way, along the south side of I-95.

In New Haven,

- at Allen Place, along the south side of I-95.

The existing noise barrier near the Wooster Square area of New Haven along the west side of I-91 (southbound) will be replaced, as required.

Visual and Aesthetic Character.

- retaining walls of high visual quality, preferably complementing appearance of other structural features (bridge abutments, median barriers) associated with the project; and
- landscape planting and revegetation on all applicable side slopes.

Terrestrial Ecology.

- a survey will be conducted to determine the precise location of a Special Concern plant in the Lake Saltonstall area. ConnDOT will work with CTDEP to avoid or mitigate any impacts, should the plant be located within the project limits.

Wildlife.

- no mitigation is required or recommended.

Fisheries.

- cofferdams will be used around piers to be removed to reduce the adverse effects of bridge pier demolition;
- alternately, air bubble curtains may be created surrounding piers being removed with a hoe ram, or in-water sound dampening devices may be used at piers; and
- seasonal restrictions will be implemented to reduce the likelihood of adversely affecting migrating fin fish.

Water Resources.

- the Recommended Action will comply with the Connecticut Anti-degradation Implementation Policy (CTDEP 1992). The policy requires the maintenance and protection of water quality in high quality waters;
- the drainage systems associated with the Recommended Action will comply with the new CTDEP General Permit for Stormwater Discharge, which became effective October 1, 1997;
- a closed drainage system will be considered to carry any increased runoff resulting from the Recommended Action away from sensitive areas, such as Lake Saltonstall. The drainage system on the Q-Bridge itself is not anticipated to be closed;
- a State General Stormwater Discharge Permit will be required for the Recommended Action, since it will disturb at least five acres. That permit will likely require the construction of sedimentation basins to minimize sedimentation;
- detention/retention ponds may be required in areas where roadway runoff will alter water flood-levels in existing watercourses and wetlands;
- in drainage areas too small to justify the construction of sedimentation basins, alternative best management practices to control sedimentation will be employed;
- avoidance and mitigation of hazardous material spills: Innovative design features can decrease the probability of an incident or lessen the impact should a spill occur. These measures and policies are described below.
- improved geometric design can reduce the probability of a hazardous material release.

- Construction Pollution Control: Erosion control will be based on ConnDOT's *Standard Specifications for Roads, Bridges and Incidental Construction* (Form 815). These measures will be consistent with the Connecticut Council on Soil & Water Conservation document *Connecticut Guidelines for Soil Erosion and Sediment Control*, as revised, and with ConnDOT's *On Site Mitigation for Construction Activities*, as revised.

Coastal Resources.

- impacts to shellfish resources will be mitigated based upon stipulations set forth in regulations and permits, by such measures as:
- concise construction specifications to minimize the effects of turbidity from construction on the active shellfish grounds. The specific mitigation requirements will be determined by the Connecticut Department of Environmental Protection's permit stipulations and recommendations;
- preservation of access to oyster beds both during and after construction. The construction staging plans will show specific barge mooring locations, and will be reviewed by the CTDEP as part of the permitting process. Permanent impacts will be minimized by consultation with shellfish bed leasers and the CTDEP in the early stages of substructure (including appurtenances, such as fenders) design.
- impacts to tidal wetlands will be mitigated by creating similar grassy tidal wetland vegetation in the Harbor, in the vicinity of the impact. Replacement with a minimum of approximately 0.006 ha (0.016 acres) will be required should avoidance and minimization during design not eliminate impacts prior to permitting. Opportunities for mitigation exist along the creeks in the general study area. Restoration of tidal flows, enhanced by selective weeding and planting of vegetation, may be used to compensate for tidal wetland losses in the harbor.

Water Dependent Uses.

- right-of-way acquisitions will be minimized to the extent feasible as design proceeds and relocation assistance will be provided for the loss of buildings/properties, as stated earlier;
- adjacent businesses will be allowed, as feasible, to use under-bridge areas for parking;
- water dependent uses will be compensated, as feasible, for loss of property with lands that may become available due to the roadway reconstruction;
- concise construction specifications will limit navigational impacts during construction;
- ConnDOT will provide funding for assessment and post-construction monitoring of shellfish resources in the immediate area of the project. All shellfish mitigation

efforts will be developed in coordination with the CT DEP and the Connecticut Department of Agriculture - Aquiculture Division.

Floodplains.

- in the *short term*, the risk of exposing equipment to flooding during larger events will be minimized by staging the construction and timing excavation to take place during drier seasons (if practical);
- temporary disruption of soils and sediments in floodplain will be minimized by working in confined areas, with proper erosion control measures and by following standard ConnDOT best management practices;
- sedimentation and erosion during major flooding events will be controlled by reseeding and mulching disturbed soils;
- to minimize *long term* impacts, during final roadway design, detailed hydraulic analyses will be conducted to assure compliance with storm water criteria and to not adversely affect floodwater elevations;
- the use of sedimentation basins will be considered to store and delay road runoff, helping to offset flood storage area takes from the project; and
- removal of existing bridge piers, Stiles Street ramps, changes of Fulton Terrace, and reconfiguration of road embankment will offset some impacts to 100 year floodplain. The potential regained floodplain totals 1.6 hectares (3.9 ac), all of which is within coastal flood zones.

Wetlands.

- impacts to adjacent wetlands will be minimized to the greatest extent possible by using retaining walls and culvert headwalls to decrease potential impacts;
- drainage swales and ditches will be re-created to offset similar losses created by widening I-95; and
- impact to tidal wetlands will be mitigated by methods described above, under Coastal Resources.

Waterbodies.

- construction methods and staging that minimize disruption of the shipping channel traffic will be utilized as much as feasible;
- cofferdams would be placed prior to excavation for substructure work;
- cofferdams will be constructed around existing pier substructures prior to their demolition, and at a sufficient offset to insure that shock waves due to blasting or other heavy demolition activities are allowed to dissipate sufficiently to reduce the energy transmitted to the water to safe levels; and

- erosion and sedimentation controls will be incorporated, including hay bales, silt fencing, and de-watering basins used during all on-land construction, especially near the harbor.
- in order to maintain Farm River water quality, downstream wetlands, and fisheries resources, the following mitigation measures will be implemented:
- the use of a culvert design that is at least as hospitable to fish migrations (i.e. maintains adequate depth even during periods of low flow) as the adjacent existing culvert; and
- incorporation of erosion and sedimentation controls including hay bales, silt fencing, and de-watering basins used during in-stream construction.
- similar mitigation opportunities exist at the Tuttle Brook crossing and at the unnamed watercourses and waterbodies in the I-95 Branford Extension, but on a much smaller scale.

Environmental Risk Sites.

- as the existing Q-Bridge has lead paint, the area will be contained during bridge demolition, according to all applicable State and Federal standards;
- any material excavated from the project will be tested and disposed of in accordance with State and Federal Regulations. Established protocols will be implemented;
- any dredged spoils will be handled in accordance with NERBC guidelines; and
- asbestos within the Woodward School and any other impacted Structure will be removed and disposed of by a licensed contractor in accordance with all applicable regulations.

Coastal Zones.

- ConnDOT will continue coordination with CTDEP on Coastal Zone issues; and
- CTDEP will have additional design input during the Coastal Zone Consistency Review Process, wherein ConnDOT must seek a determination of consistency from CTDEP before the project can be constructed.

Energy.

- the Recommended Action includes Transit and TSM Components;
- no mitigation is required.

Considerations Relating to Pedestrians and Bicyclists.

- the disposition of any abandoned right-of-way will be determined by the systematic property transfer process. ConnDOT will consider the possibility of making such land available for public space, where appropriate; and
- pedestrian and bicycle route detours will be incorporated into the Recommended Action if and when pathways are closed.

Construction Impacts and Engineering Considerations.

- ConnDOT will implement construction stage mitigation as described above, under "Water Resources"; and
- construction activities will be conducted in accordance with Form 815.

Miscellaneous project commitments.

- ConnDOT will initiate design of a new [State Street rail passenger station](#) project with construction anticipated for year 2000;
- ConnDOT will initiate design of a new Church Street Extension bridge project with construction anticipated for year 2000. Separate environmental documentation will be prepared and processed for this project;
- Additional engineering study and environmental evaluation will be initiated for I-95 between Canal Dock Road and Interchange 45 (Route 10). Such study will be undertaken over the next three years. The evaluation will address various I-95 roadway configurations and improved Interchange 46 configurations which will be compatible with the I-95/I-91/Route 34 Interchange concepts included in the Recommended Action. It will also study improved pedestrian and vehicle access to the New Haven Harbor waterfront at Long Wharf Park and Bayview Park; and
- The geometry for the section of I-95 between Interchanges 50 and 54 will be designed, to the extent possible, within the existing highway right-of-way and in such a manner that the opportunity for implementing a contiguous high occupancy vehicle lane (peak period and peak direction) will not be precluded in the future.