

ES.2 STATEMENT OF PROJECT PURPOSES AND NEEDS

Routes 82, 85 and 11 serve a vital transportation function in southeastern Connecticut as major travel routes between the capital region and the southeast shoreline area. However, this travel corridor is regarded as inadequate to safely and efficiently accommodate the volume of traffic utilizing these roadways. Routes 82 and 85 are, primarily, two-lane arterials that connect multi-lane, limited access expressways at either end of the corridor study area. These roads currently serve both long distance and local access functions.

Route 85 experiences congested conditions on a regular basis and has, over the years, been the site of frequent accidents. The Southeastern Connecticut Regional Transportation Plan, updated for FY98, cites this route as a continuing regional problem. The Plan indicates that a major corridor improvement would be required in order to realize a meaningful reduction in accidents and congestion relief. Through the combined MIS and EIS processes, current and anticipated future transportation deficiencies, as well as several potential improvement alternatives, have been identified. Each potential alternative is evaluated, herein, relative to its ability or inability to adequately address the established project purposes and needs.

The following six key points summarize the purpose and need for transportation improvements in the Route 82/85/11 corridor:

! HIGHWAY SYSTEM LINKAGE

To complete the final link in the limited access highway between the southern terminus of Route 11 in Salem and I-95/I-395 in Waterford.

! ROADWAY FUNCTION AND USE

To reduce conflicts between increased mobility/efficiency and access to local properties by separating through and local traffic.

! ROADWAY SAFETY AND ACCIDENT REDUCTION

To improve motorist, pedestrian and bicycle safety in the corridor and reduce roadway hazards contributing to accident frequency and/or severity.

! ROADWAY CAPACITY

To provide transportation system improvements that are capable of meeting current and projected future peak traffic demands for all vehicle classes.

! REGIONAL GROWTH AND DEVELOPMENT

To sustain community character in evaluating long-term transportation options.

! COMPATIBILITY WITH PLANS OF DEVELOPMENT

To meet local, regional and statewide transportation needs while observing local growth and development goals; attempt to reduce excess burden on the corridor municipalities.

Through the MIS and EIS processes, the condition, performance and limitations of the existing roadway system are examined relative to existing and estimated future regional and statewide transportation demands. This document will identify the transportation factors and dynamics in southeastern Connecticut affecting the corridor and evaluate alternative strategies aimed at increasing the safety and efficiency of the subject travel routes while complying with all state and federal regulations.

The MIS/EIS research and analysis has focused on the ability of various alternative strategies to achieve the stated project purposes. The six fundamental purposes for conducting this study are more fully described in the following pages. Although ConnDOT and the Federal Highway Administration (FHWA) are fundamentally committed to issues regarding roadway function, capacity and safety, several purposes that are peripheral to the transportation objective, but nevertheless important local issues, have also been included. The order in which the six purposes/needs appear does not reflect a specific priority.

ES.2.1 HIGHWAY SYSTEM LINKAGE (STATEWIDE AND NATIONAL)

Routes 11, 82 and 85 are all designated as part of the National Highway System (NHS) network; as such, these routes form an integral link in serving statewide and national commerce, defense, public safety and general transport needs... One of the important aspects of the National Highway System Designation Act of 1995 (PL §104-59) is to promote a cohesive network of intermodal transportation facilities.

The existing Route 11 is a four-lane limited access expressway extending in a northwest-southeast alignment from Route 2 in Colchester to Route 82 in Salem. Route 82, an east-west route, carries through traffic between Route 11 and Route 85. Route 85 generally parallels and lies east of the existing Route 11 expressway and the proposed Route 11 corridor from Colchester to the New London area. I-95 and I-395 pass through East Lyme and Waterford in west-east and southwest-northeast directions, respectively. They provide direct access to Rhode Island, New York, Massachusetts and the interior of Connecticut. They are also inter-town travel routes for trips originating and ending within the corridor area and the region.

Route 11 is regarded as a missing link in the statewide roadway network. Drivers utilizing Routes 82 and 85 as a through route to connect with Route 11, I-95 and I-395 experience the discontinuity between the higher, constant speeds on the expressways and the less predictable conditions due to the local access purposes served by these routes. Indeed, it is not only a missing link, but the final link in an established network of expressways linking southeastern Connecticut with central and northern Connecticut.

Routes 11, 82 and 85 are all designated as part of the National Highway System (NHS) network; as such, these routes form an integral link in serving statewide and national commerce, defense, public safety and general transport needs. Most of the NHS-designated roads are principal arterial highways that are able to provide direct and efficient access to destinations serving important state interests. Routes 82 and 85 are not typical of the majority of NHS roadways but, nevertheless, have been designated as such because they provide an essential link in the overall road system. One of the important aspects of the National Highway System Designation Act of 1995 (PL §104-59) is to promote a cohesive network of intermodal transportation facilities. The ability of a specific roadway to serve as a connector to air, rail, public transit and port facilities is a factor that is considered in granting NHS designation.

ES.2.2 ROADWAY FUNCTION AND USE

The state system of streets and highways is designed to maximize efficiency and mobility, as well as provide access to individual properties. A fundamental transportation planning goal is to ensure that individual roads within the overall system are able to accommodate varied and complimentary transportation functions. In order to efficiently serve a full range of needs, it is important that the overall roadway system include principal arterials, to achieve the greatest degree of mobility and minimize travel time, and also a network of secondary and rural roads to serve local access needs.

The hierarchal structure of the roadway system recognizes that all roadways are not equally suited to perform all functions. Under current conditions, Routes 82 and 85 are not able to accommodate both local and through traffic efficiently during certain peak periods and, without modification, roadway efficiency is likely to further decline.

Limited access facilities are constructed to accommodate high volumes and high speeds, thus provide the greatest mobility. These major arterial routes cater to longer-distance travelers and must be able to safely accommodate all vehicle classes. Local roads are designed to provide access to neighborhoods, businesses and community facilities; they



CHESTERFIELD FOUR CORNERS, MONTVILLE

are not well-suited to serving through traffic. Mobility and access functions are not necessarily mutually exclusive, however, as traffic volumes become heavier on multi-purpose roadways and/or more properties along the highway are developed, uncontrolled access from abutting properties contributes to congestion, slower traffic and reduced mobility; such is the case with Route 85.

Drivers attempting to turn into or out of numerous commercial and residential driveways and local streets occurring along the entire length of Routes 82 and 85 tend to encounter hazardous and/or frustrating conditions. During certain peak periods when traffic is

heavy, there are few breaks in the steady stream of traffic to allow vehicles to enter the main traffic flow. Due to high speeds, traffic accessing local roads or individual properties experiences greater risk of accident at these low volume times. Additional conflicts arise for pedestrians and cyclists and for school children being picked up or dropped off by school busses. The high speeds, narrow shoulders, congestion, conflicts at intersections, turning traffic and similar factors effectively prohibit safe bicycle and pedestrian travel along Routes 82 and 85.

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Without reconciliation of the inherent conflicts between efficient traffic movement and local land use, residents and business owners are faced with the possibility of reduced quality of life, reduced property values, lost customers and other similar adversities. Where traffic volumes warrant, the most effective way to accommodate both mobility and access functions would be to provide separate facilities for through and local traffic.

ES.2.3 ROADWAY SAFETY AND ACCIDENT REDUCTION

Route 82 generally consists of two 3.6-meter (m.) (12-foot (ft.)) lanes with variable narrow shoulders, except in the immediate area of the Route 11 interchange. Route 85 is two-lane arterial through most of the corridor area, however, a 4-kilometer (km.) (2.5-

mile (mi.) section of Route 85 between I-95 and I-395 in the Town of Waterford has been widened to four lanes. At several locations, additional lanes have been provided to accommodate left-turning traffic.

Deficiencies in roadway alignment, numerous curb cuts, excess speeds and congested conditions have all contributed to the numerous accidents that occur each year along Routes 82 and 85. Many of these accidents have resulted in fatalities.

The variation in roadway geometry, class and conditions between the expressways, four-lane and two-lane roadways requires that drivers transition accordingly. Driver expectation can cause difficulty in adjusting to the presence of interrupted traffic flows, traffic control devices, pedestrians, cyclists and reduced geometric standards on the local access roadway. The discontinuity that typically occurs in transitioning between different roadway classes is considered undesirable and creates a potentially unsafe roadway condition. Deficiencies in roadway alignment, numerous curb cuts, excess speeds and congested conditions have all contributed to the numerous accidents that occur each year along Routes 82 and 85. Many of these accidents have resulted in fatalities.

Accident data for the most recent available three-year period (1994-1996) indicates the number of accidents occurring at various corridor intersections. The total numbers of accidents over this period are shown on Table ES-1.

TABLE ES-1
ACCIDENT DATA SUMMARY - SELECTED INTERSECTIONS ALONG ROUTE 85

INTERSECTION	NUMBER OF RECORDED ACCIDENTS
Route 85 / Route 82	31
Route 85 / Forsyth Road	22
Rt 85 / Grassy Hill / Chesterfield Road	15
Route 85 / Route 161	2
Route 85 / I-395	85
Route 85 / Cross Road	44
Route 85 / I-95 southbound ramps	38

Source: ConnDOT (1994-1996 data)

ES.2.4 ROADWAY CAPACITY

The existing Routes 82 and 85 are both considered substandard based on current highway design standards and the volumes of traffic these roads convey. The traffic carrying capability of Route 85 is diminished by the presence of local street intersections,

numerous driveways, some steep grades which lack truck climbing lanes, sections with narrow pavement widths, and narrow shoulder widths. These factors impede traffic flow, reduce capacity, and increase the potential for accidents. In addition, there are substandard stopping and passing sight distances at several locations. Each of these problems is likely to worsen with increased traffic demands in the future.

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During certain peak periods, traffic in the corridor is presently heavy and increasing yearly. It reaches heavy levels during commuter peak periods year round. On summer weekends, when recreation traffic in the corridor reaches its peak, conditions are considered intolerable by many corridor residents.

Average daily traffic (ADT) data, based on traffic volume counts updated in 1998, indicate the ADT in the two-lane section of Route 85 between Salem and Chesterfield ranged from 12,200 to 12,800 vehicles per day. Between Chesterfield and I-395, ADT ranged from 10,800 to 15,400 and between I-395 and Cross Road, from 20,800 to 21,000. ADT from I-95 to Cross Road was 29,100. Future traffic demands in the Route 82/85/11 corridor from Salem to Waterford were projected for the year 2020, based on the updated 1998 counts. ConnDOT's statewide travel demand model was used to relate current and future population and employment and derive future travel demand.

Comparison of the 1998 and 2020 projected traffic volumes indicates traffic can be expected to grow 33 to 50 percent over the next twenty-two years, depending on location. The greatest increases in traffic are expected on Route 11 north of Route 82, Route 85 north of Route 161, Route 85 north of I-95 and Route 161 west of Route 85.

Based on the 2020 volume projections, many intersections within the corridor study area will experience either poor or barely acceptable Level of Service (LOS) ratings in the future year. LOS is the term used to qualitatively describe operating conditions on a given roadway facility under various traffic volume demands. Letter designations, ranging from LOS A to LOS F, are used to describe average vehicle delay times at a specific location with LOS A representing the best operating condition and LOS F the worst. Generally, a LOS of D, E or F, based on the standard A through F classification, would be considered barely acceptable or poor; according to standard engineering practice, LOS D is considered the minimum acceptable LOS for an existing roadway.

Table ES-2 presents existing and projected conditions at several of the higher-volume signalized and unsignalized intersections on Routes 82 and 85 for both AM and PM peak hour traffic conditions.

TABLE ES-2
1998 AND 2020 LEVELS OF SERVICE (SELECTED LOCATIONS)

LOCATION	1998 & 2020 LOS			
	1998 AM	1998 PM	2020 AM	2020 PM
SIGNALIZED INTERSECTIONS				
Route 85 / Route 82	B	B	C	D
Route 85 / Grassy Hill Road	B	B	E	F
Route 85 / Route 161	B	B	B	C
Route 85 / I-395	B	B	B	B
Route 85 / Cross Road Ext.	B	B	B	B
Route 85 / I-95	B	B	C	F
UNSIGNALIZED INTERSECTIONS				
Route 82 / Route 11 off-ramp	B	C	E	F
Route 85 / Forsyth Road	B	D	C	F
Rte 85 / SalemTpk./ Beckwith Hill	C	B	E	D
Route 85 / Turner Road	C	C	D	F
Route 85 / I-395 (n/b ramps)	D	F	F	F
Route 85 / Way Hill / Industrial	D	F	F	F

Source: ConnDOT/Wilbur Smith Associates

ES.2.5 REGIONAL GROWTH AND DEVELOPMENT

The increase in residential development within the corridor has resulted in construction of several new subdivision roads, each serving multiple residences, and construction of additional driveways accessing lots fronting on Route 85.

Portions of southeastern Connecticut have seen a surge in population and general growth in recent years. The towns of Salem and Colchester have been among the fastest growing in the state. The increase in residential development within the corridor has resulted in construction of several new subdivision roads, each serving multiple residences, and construction of additional driveways accessing lots fronting on Route 85. There is currently limited land area held in reserve for potential future roadway development or improvement. Most of the land, both developed and undeveloped, within the corridor study area is held in private ownership.

While issues related to growth and development are not traditional transportation-related project purposes, these issues have been underscored by the corridor Advisory Committee (AC) as having substantial local importance and, therefore, have been included along with the primary transportation purposes.

ES.2.6 COMPATIBILITY WITH PLANS OF DEVELOPMENT

Similar to the consideration given to growth and development issues noted above, compatibility with local planning objectives has also been included among the project purposes and needs, although not a standard transportation-related purpose. The corridor AC has stressed that a major transportation improvement is likely to influence and shape local development. This secondary purpose is, therefore, included to assure specific consideration of local compatibility issues.

The study area towns, in their respective Plans of Development, all anticipate some improvements or changes being made within the Route 82/85/11 corridor.

The study area towns, in their respective Plans of Development, all anticipate some improvements or changes being made within the Route 82/85/11 corridor. Route 85 in Waterford and the Waterford “Business Triangle” (bordered by I-395 on the north, I-95 on the southwest and Route 85 on the northeast) have great potential for growth and development due largely to good access from the south, east and west.

Montville cites among its transportation-related goals to “promote completion of Route 11 in such a manner that the long term economic and environmental goals of Montville are ensured”. East Lyme’s Plan of Development states support for the completion of Route 11 and expresses a specific desire for Route 11 to extend to I-95/I-395. Salem’s Plan of Development stresses the traffic problems on Route 85, noting both public inconvenience and safety concerns; the Plan further states that “the urgency and importance of the proposed Route 11 extension through Salem by ConnDOT cannot be overstated”.

Policy initiatives set forth in the *Conservation and Development Policies Plan for Connecticut 1998-2003* strive to balance human, environmental, and economic needs in a manner which best suits the future of Connecticut (Connecticut Office of Policy and Management (OPM)). Issues the plan addresses include population, employment, transportation, energy, housing, poverty, and the environment. Regarding transportation initiatives in the state, the plan’s goal is “to provide an integrated, efficient, and economical transportation system that provides mobility, convenience, and safety for all citizens, including the transit-dependent and people with disabilities.” The Plan also promotes a strong and diverse economy; establishment, protection and management water supply sources; preservation of prime agricultural lands; and management of waters of the state for water supply, water-based recreation, and for the protection and propagation of fish, shellfish, and wildlife.

ES.2.7 ARMY CORPS OF ENGINEERS' BASIC PROJECT PURPOSE

The Army Corps of Engineers (ACOE) is charged with developing a Basic Project Purpose for projects coming under their jurisdictional oversight (relative to §404 of the Clean Water Act); this statement differs from the more comprehensive NEPA statement of purpose and need developed by ConnDOT and FHWA, with input from the AC.

The Basic Project Purpose for the Route 82/85/11 corridor has been defined by the ACOE... “to address existing and future year (2020) safety and capacity deficiencies in the existing Route 82 and 85 corridor.”

The Basic Project Purpose, once established, serves to guide the ACOE review and permitting processes to ensure that the alternatives under consideration are focused and reasonably relate to the reason for the permit request. All of the alternatives presented in this DEIS will be examined by ACOE to determine how well each alternative meets the Basic Project Purpose. The DEIS compares each of the alternatives relative to their ability to meet both the NEPA purpose and need and the ACOE Basic Project Purpose. The ACOE has defined the Basic Project Purpose for the Route 82/85/11 corridor improvements as follows: “to address existing and future year (2020) safety and capacity deficiencies in the existing Route 82 and 85 corridor.”