Appendix A FHWA PEL Questionnaire

I-84 Danbury PEL Study

Prepared for: The Connecticut Department of Transportation

August 2025

I-84 Danbury

Federal Highway Administration
Planning/Environmental Linkages Questionnaire

This questionnaire is intended to act as a summary of the Planning process and facilitate the transition from planning to a National Environmental Policy Act (NEPA) analysis. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environment Linkage (PEL) process.

The Planning and Environment Linkages study (PEL Study) is used in this questionnaire as a generic term to mean any type of planning study conducted at the corridor or subarea level which is more focused than studies at the regional or system planning levels.

1.0 Background

A. What is the name of the PEL document and other identifying project information?

Answer: I-84 Danbury Planning and Environment Linkages (PEL) Study. State Project Number 34-349.

B. Who is the lead agency and sponsor for the study?

Answer: CTDOT is the lead agency and sponsor.

C. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were conducted including both the start and end date.

Source: I-84 Danbury PEL Study Chapter 1 (Section 1.1)
Chapter 2 (Section 2.2)
Chapter 3 (Section 3.0)

Answer: This project was initiated in August of 2016 with plans to prepare an Environmental Impact Statement. From 2016 through early 2019, reports documenting the existing environmental conditions within a study corridor surrounding I-84 near Exits 3 through 8, primarily located within the City of Danbury were prepared. The reports included:

- Inventory and Analysis of the Physical Environment: Utilities (6/01/19)
- Inventory and Analysis of the Existing Human Environment (6/18/19)
- Inventory and Analysis of Existing Cultural Resources and Section 4f Resources (8/13/19)
- Inventory and Analysis of the Existing Transportation Environment (8/13/19)
- Inventory and Analysis of the Existing Natural Environment (1/17/20)

Also, a Needs and Deficiencies study for I-84 from Exit 3 to Exit 8 areawas prepared, entitled: I-84 Danbury Project Needs and Deficiencies Report, Technical Memorandum No. 1 (October 2018).

In late 2019 the CTDOT recommended that the study limits be extended to approximately 2 miles west of the New York state border. This was implemented to coordinate with NYSDOT's planning study of the I-684/I-84 corridors in Brewster, New York.

The following supplemental reports were prepared:

- Supplemental Existing Conditions Analysis (7/9/2022)
- I-84 Danbury Project Supplemental Needs and Deficiencies Study,Technical Memorandum No. 2 (December 2020)

Based on the added project length needed for data collection and a needs and deficiencies analysis across extended project limits, as well as uncertainty in alternatives development needed for an EIS, CTDOT pivoted to performing a PEL Study. The PEL study was initiated in 2019 as a platform to make sound planning decisions and perform analyses to identify future projects that would address current and future needs. The PEL study allows development and refinement of specific

concepts that have potential for recommendation as projects to be brought forward into the NEPA/CEPA process.

The following is a summary of major milestones:

- Development of PEL Purpose, Fall 2019
- Existing Conditions/Data Collection, Early 2020
- Concept Development and Analysis, late 2019 to early 2023
- Publication of the draft PEL Study Report, Q2 2025
- Publication of the final PEL Study Report, Q3 2025 (projected)

D. **Provide a description of the existing transportation corridor, including project limits, length of study corridor, modes, number of lanes, shoulder, access control and surrounding environment (urban vs. rural, residential vs. commercial, etc.)**

Source: I-84 Danbury PEL Study – Chapter 1 (Section 1.1); Inventory and Analysis of the Existing Transportation Environment (8/13/19); Supplemental Existing Conditions Report (7/9/20)

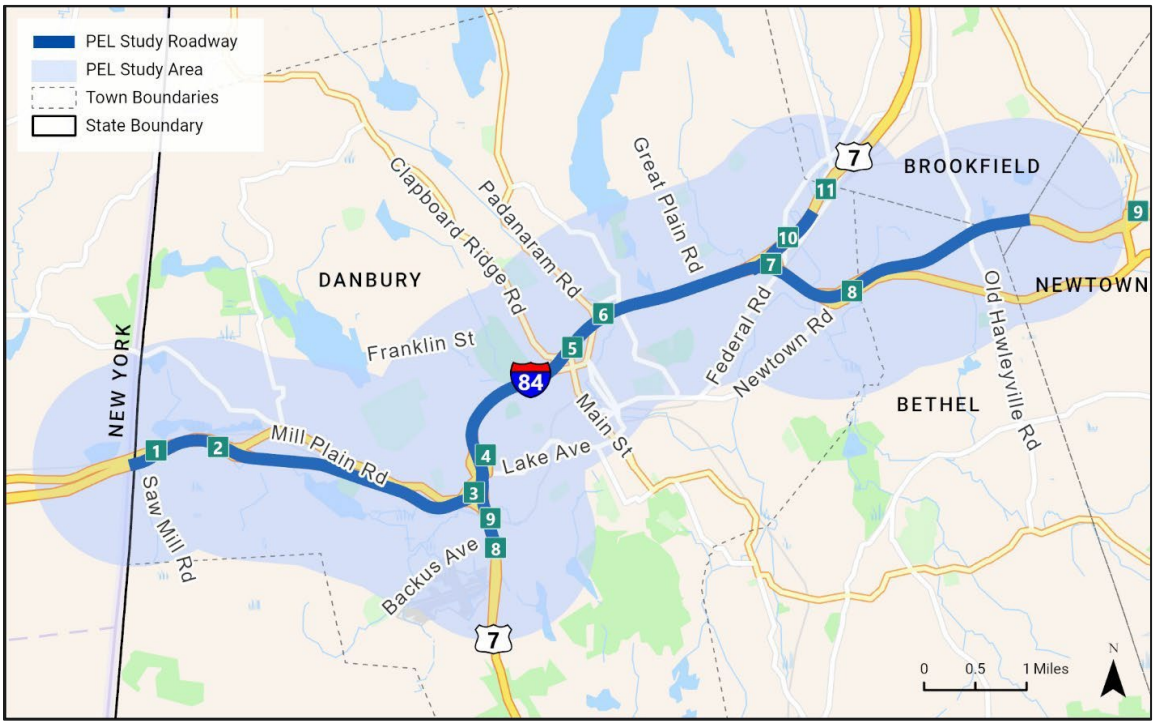
Answer: The limits of the study along I-84 begin from the vicinity of the New York State Line through Interchange 8, which is approximately 11 miles in length. Along U.S. Route 7, the study limits are between I-84 and Interchange 11 in the east portion of the corridor, which is approximately 1.2 miles. **Figure A-1** shows a study area map highlighting the study limits in "blue".

I-84, in the project limits, is an interstate expressway oriented in an east-west direction between the New York State Line and Interchange 8. Within the study corridor, I-84 has two lanes in each direction between the New York State Line and Interchange 1 and between Interchanges 7 and 8. Between Interchanges 1 and 7, I-84 has three lanes in each direction. I-84 has both inside and outside shoulders throughout the project limits. Additionally, the eastbound and westbound directions are separated by a concrete median barrier. I-84 meets U.S. Route 7 at two interchanges – on the west side at Interchange 3 and on the east side at Interchange 7. Access control in the study area is characterized by primarily full interchanges, except for Interchange 6, which is a partial interchange.

U.S. Route 7 (Route 7) is an expressway that moves traffic in a north-south direction. Within the study area, Route 7 extends from Exit 7 (Miry Brook/Wooster Heights interchange) to the south, merges with I-84 for approximately 3.8 miles, and then peels off I-84 to Exit 11 on the north side of the merge. North and south of the I-84 merge, Route 7 is characterized by two lanes in each direction and has both inside and outside shoulders.

Other key roadways within the study area include U.S. Route 6 (Mill Plain Road on the west), Route 37 (North Street), Route 39 (Main Street), Route 53 (Main Street), Route 805 (Federal Road), and Route 806 (Newtown Road). These roadways are primarily Urban Arterial roadways.

Figure A-1
I-84 PEL Study Area



STUDY AREA TRANSPORTATION MODES

Non-Highway Travel

Danbury's existing local street network, with its narrow lanes and high volume of traffic, presents challenges for pedestrian and bicycle connectivity and safety, particularly where the street network intersects the expressway and its interchanges.

Bus Transit

The bus transit in the Danbury area is run by Housatonic Area Regional Transit (HART). This system serves the City of Danbury on 7 routes, some extending into the neighboring towns of Bethel, Brookfield, and New Milford. The routes also serve major employers, shopping centers, medical centers, schools, the downtown area, and elderly and low-income housing areas. Most major arterials within the city are well served by the HARTransit Fixed Route system. Each bus is equipped with two bike racks, encouraging multi-modal travel. The HARTransit system operates in a timed transfer "pulse" mode with all routes meeting at a downtown pulse point at Kennedy Park at similar times. Pulse points enable bus passengers to transfer from one bus route to another without delay. The pulse point is located approximately one-half mile away from the Danbury Train Station. During A.M. and P.M. peak periods, buses stop at each location every 30 minutes and during non-peak periods, every 60 minutes. While HARTransit provides transit coverage and headways, general needs and deficiencies exist in the lack of bus stop amenities such as shelters, benches, and level boarding areas. While outside of HARTransit's jurisdiction, deficiencies exist in the lack of uninterrupted sidewalk coverage to facilitate first- and

last-mile connections from a transit user's point of connection from the bus and their final destination of home, work, or school.

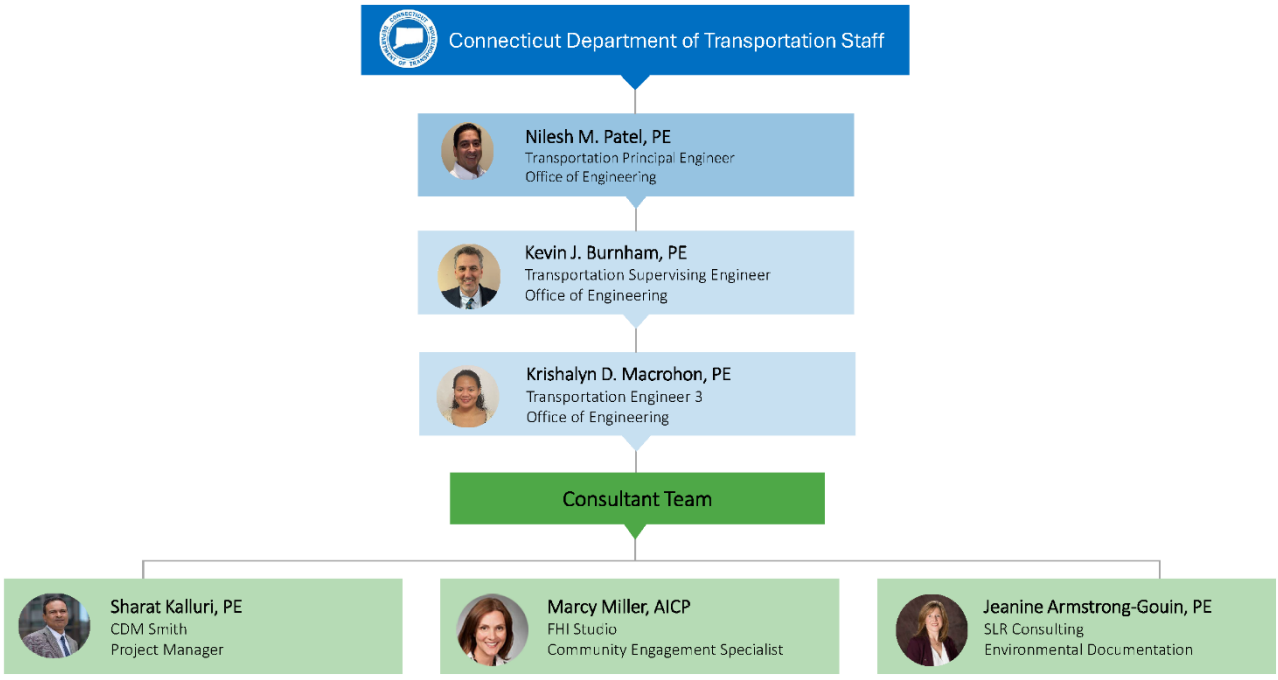
Rail Transit

- **Danbury Branch Line** – The Danbury Branch Line is a 23.6-mile single track, non-electrified rail line running between Danbury and Norwalk. The line has stations in Danbury, Bethel, Redding, Ridgefield (Branchville), Wilton (Cannondale and Wilton), and Norwalk (Merritt 7 and South Norwalk). The current rail service is operated by Metro- North and provides 13 round trips during the weekday and six on Saturdays. The Danbury Branch serves about 1,300 riders daily.
- **Study Area Surrounding Environment –** The land use in the study area is approximately 69% residential, 5% commercial/industrial, 6% parks, recreational facilities, and open space, with the remaining 19% comprised of institutional uses, utilities, transportation facilities, right-of-way, and vacant land.

E. **Who was included on the study team (Name and title of agency representatives, PMT, consultants, etc.)?**

Answer: The CTDOT project is being managed by the Consultant Design Major Highways Section in the Division of Highway Design, in the Office of Engineering, in the Bureau of Engineering and Construction.

The CTDOT and Consultant Project Team with their respective titles/roles follows:



F. List the recent, current, or near future planning studies or projects in the vicinity. What is the relationship of this project to those studies/projects?

Source: Various plans and studies available to the public (see answer).

Answer: Connecticut's Statewide Long-Range Transportation Plan for 2018-2050 provides statewide transportation trend data. The Housatonic Valley Metropolitan Planning Organization (HVMPO) 2019-2045 Long-Range Transportation Plan, prepared by Western Connecticut Council of Governments (WestCOG), provides regional transportation trend data. The Route 37 Corridor Study (2021) recommends improvements that would enhance vehicle, transit, pedestrian, and bicyclist mobility and safety on Route 37 from (westbound) I-84 Exit 6 in Danbury to 0.2 miles north of Route 39 in New Fairfield, as well as a multi-use path along the eastern bank of the Margerie Lake Reservoir.

CTDOT's Pavement Reconstruction and Rehabilitation Program (PRRP) and the Bridge Rehabilitation Program should be considered when alternatives recommended by the PEL Study move into a project phase. This is needed to understand how planned pavement and bridge reconstruction and rehabilitation projects align with a specific project. Coordination has begun and will continue to be necessary with the City of Danbury regarding multimodal solutions that have been proposed by the most recent Downtown Transit-Oriented Development Study (2019).

The New York State Department of Transportation conducted a Transportation Corridor Study (the Study) in August 2021 for an approximately 12-mile segment of Interstate 684 (I-684) between the Town of Bedford, Westchester County, and Interstate 84/northern terminus of I-684 in the Town of Southeast, Putnam County. The Study also included an approximately 3-mile segment of I-84 from the I-684 Interchange east to the New York State Line. The purpose of the Study was to identify transportation improvement strategies that will address projected traffic growth along the I-684 and I-84 corridors through the Year 2045. The Study recommended preparation of a Master Plan and Feasibility Study to address multimodal improvements and continued analysis of Transportation Systems Management and Operations (TSMO) options for the corridor.

These plans, studies and programs cover areas which intersect with the PEL Study Area. They provide context for what improvements may be contemplated by the PEL Study, and in some cases recommend solutions which may be complementary to alternatives recommended by the PEL Study.

2.0 Methodology Used

A. Did the Study follow the FHWA PEL Process?

Answer: Yes.

B. How did the Study meet each of the PEL Coordination Points identified in 23 USC 168?

Answer: 23 USC 168 involves the integration of planning and environmental review. The I-84 PEL Study has been developed with active consultation with FHWA as the lead federal agency, Federal and State resource agencies, key stakeholders, and a Public Advisory Committee (PAC). During the planning process, notice has been provided through publication and other means (including website, social media, and direct email) to Federal, State, and local governments, the PAC and public who might have an interest in the PEL Study.

The PEL Study has captured the planning steps required under 23 USC 168. These steps have included development of a draft purpose and need, documenting existing conditions, developing multimodal alternatives, establishing a method for screening alternatives which considers both environmental and engineering considerations, and making recommendations that could be used in future projects.

The planning "product" from the Study is the I-84 Danbury PEL Study report. The PEL Study report and supporting documentation may be utilized (some perhaps incorporated by reference) in the NEPA process as CTDOT initiates specific projects that arise from the PEL Study. The PEL Study report has identified needs and deficiencies within the study area, considering geometric deficiencies in the existing roadway, along with community needs based on public input. From this information, preliminary alternatives have been identified, and unreasonable alternatives have been eliminated from consideration.

C. What NEPA terminology/language was used and how did you define them? (Provide examples or list)

Source: I-84 Danbury PEL Study

Answer: NEPA terminology/language was used in the analysis of concepts and in support of recommendations for future projects that will arise from the PEL Study. The following NEPA language is used in the PEL Study:

- **Purpose and Need** – This term was used to specify the impetus for the PEL Study Purpose and serves as the benchmark against which project concepts (alternatives) are evaluated.
- **Environmental Resources** – This term was used to define natural, physical, and built environment resources within and immediately surrounding the PEL Study Area.
- **Concept Development** – This term was used to describe solutions, which could be either partial or full corridor solutions, whose goal was to reduce congestion or increase mobility.
- **Alternative** – A solution that potentially addresses a project's purpose and need and is defined to the extent that it can be screened for impacts to the built and natural environment.

- Screening – This term was used to reference the evaluation process whereby concepts were analyzed for technical feasibility, performance, impact (both positive and negative), and cost as well as redundancy with other concepts.
- Fatal Flaw - Although not commonly used in NEPA documentation, this term was used in this PEL Study to identify impacts or performance that (a) were in direct conflict with the purpose of reducing congestion and improving mobility; (b) could not be constructed without great difficulty or impact; or (c) would be cost prohibitive.
- Reasonable Range of Alternatives – This term was used per the NEPA regulations, whereby "reasonable alternatives" means a reasonable range of alternatives that are technically and economically feasible and meet the purpose and need for the proposed action."
- Mitigation – This term is used to identify measures that alleviate or lessen adverse environmental effects.
- Agency Coordination and Public Involvement – This term was used to refer to communication between the project proponent and governmental agencies at the local, state, and federal levels, project stakeholder organizations, and the public.
- Independent Utility – This term refers to the effect of a project being able to be constructed absent the construction of other projects in the area.
- Logical Termini – This term describes the beginning and ending points and whether the selection of these points has a rational basis, considering the purpose and need of a project.
- NEPA Class of Action – This term refers to categorical exclusion, environmental assessment, or environmental impact statement.
- Connected Actions – Interdependent parts of a larger action that depend on the larger action for their justification. Actions are connected if they:

  (i) Automatically trigger other actions which may require environmental impact statements.
  (ii) Can not or will not proceed unless other actions are taken previously or simultaneously.

D. How do you see these terms being used in NEPA documents?

Answer: These terms are used in their NEPA context, to provide consistency between the PEL Study and NEPA process.

E. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.

Source: I-84 Danbury PEL Study Chapter 2 (Sections 2.1, 2.3)
Chapter 4 (Sections 4.3 and 4.9)
Chapter 5 (Sections 5.5 and 5.6)
Chapter 8 (Section 8.3)

Answer: The key steps and coordination points in the PEL decision-making process included:

- Decision to Undertake PEL Study (early 2019)
- Development of the PEL Study Purpose (Fall 2019)
- Development of the PEL Consultation Plan (Fall 2021)
- Completion of the Concept Development and Concept Screening Process (Late 2019 through early 2023)
- Summary of Concept Screening Results and Recommendations (mid 2021 through early 2023)
- Recommendation of Reasonable Range of Alternatives (January 2025)

CTDOT made significant decision-making points during the PEL Study based on input from the PAC, other stakeholders (i.e., municipalities, agencies, businesses and interest groups) and FHWA. FHWA has provided guidance during the study and has reviewed key documents which contained major milestone decisions.

F. How should the PEL information below be presented in NEPA?

Answer: The PEL Study will be instrumental in the initial phases of NEPA, including during the public scoping process, data collection, existing conditions analysis, and development of alternatives. The information presented in the PEL Study Report will be introduced as a starting point during NEPA, thus providing a mechanism to streamline the NEPA process. Specific data relied upon for the PEL Study may be appropriate to incorporate by reference into the NEPA document. It is recognized that some current existing conditions may require confirmation or updating. The reasonable range of alternatives will be further analyzed, and a recommended alternative determined during NEPA. Additionally, the environmental, community, and economic considerations included in the PEL phase, will inform the NEPA process.

3.0 Agency Coordination

A. Provide a synopsis of coordination with federal, tribal, state, and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.

Source: I-84 Danbury PEL Study – Chapter 8 (Section 8.2 and Section 8.3)

Answer: Throughout the PEL process, State and Federal agencies have been invited to periodic interagency project presentations, including one in-person and one virtual public meeting to present the results of the PEL Study. Agencies have been specifically engaged in the PEL process based on their jurisdiction over resources that could potentially beaffected.

Coordination with FHWA has occurred during the PEL Study, including the agency's review of key chapters contained in the PEL Study Report and a final draft of the PEL Study Report. State and Federal Agencies invited to project presentations have included the United States Army Corps of Engineers (USACE), the United States Fish and Wildlife service (USFWS), the United States Environmental Protection Agency (US EPA) the Connecticut Department of Energy and Environmental Protection (CT DEEP), and the State Historic Preservation Office (SHPO). Meeting opportunities were

provided to discuss specific subjects of interest, concerns, and recommendations at key milestones in the PEL process and to allow agency personnel to provide input on their respective jurisdictions, including the potential for wetland, watercourse, and stream impacts within the PEL Study Area. An initial agency meeting was held in 2017. A second occurred in June 2023. Once projects are initiated, coordination with FHWA on the Class of Action will occur.

B. What transportation agencies (e.g., for adjacent jurisdictions) did you coordinate with or were involved in the PEL study? This includes all federal agencies if the study is being led by a local agency or transit-oriented study seeking to utilize the FHWA PEL Process.

Source: I-84 Danbury PEL Study – Chapter 8 (Sections 8.3.2)

Answer: Several transportation agencies have been invited to Project Advisory Committee (PAC) meetings, including FHWA, Housatonic Area Regional Transit and NYSDOT. Additionally, agencies with a major stake in transportation planning were also included on the Project Advisory Committee (PAC), including the Western Connecticut Council of Governments (Housatonic Valley Metropolitan Planning Organization), and the New York Metropolitan Transportation Council. Numerous neighboring Connecticut municipalities have been included on the PAC, including the Town of Brookfield, Town of Bethel, Town of Newtown, and the Town of Ridgefield. Putnam County New York has also participated in the PAC meetings. Elected and staff officials from the City of Danbury were part of the PAC, including members of the Planning, Engineering, and Traffic Departments.

C. What steps will need to be taken with each agency during NEPA scoping?

Answer: CTDOT will define the scope of the proposed action, the potential alternatives to be considered, and the geographic area of concern. CTDOT will identify the important issues, determining which environmental, social, and economic factors should be addressed in the environmental document. If not previously determined, CTDOT will identify the Class of Action required due to the significance of the expected impacts. CTDOT will solicit input from the public, cooperating agencies, and other stakeholders regarding the scope of the project and the potential environmental impacts. The results of the scoping process, including agreements on the scope of review and methodologies, will be documented by CTDOT and made available to the public.

FHWA, as the anticipated lead federal agency, will play a key role in ensuring the scoping process is conducted effectively and that the environmental document is adequate, through their guidance and technical assistance. FHWA will review and approve the environmental documents provided during the scoping process to ensure compliance with NEPA regulations.

4.0 Public Coordination

A. Provide a synopsis and table of your coordination efforts with the public and stakeholders.

Source: I-84 Danbury PEL Study – Chapter 8 (Section 8.3.1)

Answer: The following table describes the Stakeholder Categories and Public Engagement Strategies:

Stakeholder Category	Engagement Events	Engagement Tools
Public	▪ Informal, pop-up events (14) ▪ Public meetings/workshops (4) ▪ Formal public meeting (2)	▪ Project website (1) ▪ Social media accounts (4)/posts ▪ Newsletters and fact sheets (12) ▪ Press advisories (3) ▪ E-Bulletins (16) ▪ Comment cards ▪ Survey, 3 languages (1)
Project Advisory Committee (PAC)	▪ PAC meetings (15)	▪ Presentations (14) ▪ Newsletters and fact sheets (12) ▪ PAC notebooks (25+)
Low Income Communities, Community Based Organizations, and Special Interest Groups	▪ Informal, pop-up events (14) ▪ Stakeholder interviews or small group meetings (43)	▪ School/church letters (100) ▪ Project website (1) ▪ Project video in 3 languages (1) ▪ Social media accounts (3)/posts ▪ Newsletters/fact sheets (12) ▪ Press advisories (3) ▪ Tribuna articles and ads (3) ▪ Social media ads in 3 languages (3) ▪ Survey, 3 languages (1) ▪ E-Bulletins (16)
Elected Officials	▪ Informal public official meetings and listening sessions (11) ▪ Invite legislators to public informational meetings or workshops (3) ▪ Danbury Mayor (2) ▪ State Delegation (1)	▪ Newsletters and fact sheets (12) ▪ E-bulletins (16) ▪ Direct emails (4-6)
Other Targeted Stakeholders	▪ Stakeholder meetings (43) ▪ Focus group meeting (1)	▪ Newsletters/fact sheets (12) ▪ E-Bulletins (16)
Media		▪ News articles (20) ▪ News ads (multiple ads for 3 occurrences) ▪ Social media ads in 3 languages (3) ▪ Press advisories (3) ▪ E-Bulletins (16)

The PAC met fifteen times between January 2019 and January 2025 to ensure that specialized interests and local experts were provided with an opportunity to share key knowledge of specific transportation issues and opportunities, particularly those that are unique to the project area.

PAC members' contributions were incorporated into the final study. Meetings with PAC members also garnered the support of various stakeholders representing a wide variety of interests.

Project Stakeholders have been engaged since 2017, including the Connecticut municipalities of Danbury, Newtown, Brookfield, Redding, New Fairfield, New Milford, Ridgefield, and Bethel; regional planning organizations; area businesses; neighborhood organizations and representatives; law enforcement agencies and organizations; local community organizations, including museums; environmental groups; cemetery representatives; public transportation providers; public health organizations; educational institutions, including area libraries; and nearby New York municipal representatives and planning organizations.

5.0 Corridor Vision/Purpose and Need

A. What was the scope of the PEL study and the reason for doing it?

Source: I-84 Danbury PEL Study – Chapter 2 (Section 2.3)

Answer: The purpose of the PEL study was to identify, develop and advance concepts aimed at reducing congestion and improving the mobility of people and goods within the PEL Study Area. The feasibility and potential impacts of solution-based concepts were addressed through a screening analysis.

B. What is the vision for the corridor?

Source: I-84 Danbury PEL Study – Chapter 2 (Section 2.3)

Answer: The I-84 corridor vision is to reduce congestion and improve mobility of people, goods, and services, including multimodal solutions for zero-car households in the Danbury area.

C. What were the goals and objectives?

Source: I-84 Danbury PEL Study – Chapter 1 (Section 1.1)

Answer: The corridor goals are to reduce congestion and improve mobility. The objective is to inform the NEPA and CEPA process for potential projects which are recommended from the PEL Study.

D. What is the PEL Purpose and Need statement?

Source: I-84 Danbury PEL Study – Chapter 7 (Section 7.2)

Answer: The I-84 corridor between Interchanges 1 and 8 is characterized by significant congestion and limited mobility, which affects both local and regional travel. This portion of I-84 will not reasonably accommodate the 2040 traffic forecast under a No Build Condition. Therefore, the purpose of the I-84 Improvements is to provide transportation improvements and correct geometric deficiencies that will reduce congestion and improve mobility for the local Danbury population base as well as

regional travelers and interstate commerce. The alternatives that achieve the study vision and the goal of reducing congestion are expected to increase safety by reducing the number of congestion related crashes and correcting geometric deficiencies and weaving segments.

E. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?

Source: I-84 Danbury PEL Study – Chapter 7 (Sections 7.2 and 7.3)

Answer: Projects identified from the PEL Study will be further evaluated to refine a purpose and need specific to the needs and deficiencies within the project limits. Refinement of the purpose and need for projects will be coordinated with the lead federal agency, other agency partners, stakeholders and the public as appropriate for the class of action determined and key issues identified.

6.0 Range of Alternatives Considered, Screened, Screening Criteria, and Screening Process:

A. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)

Source: I-84 Danbury PEL Study – Chapter 4 (Sections 4.3, 6.2, 6.3)

Answer: Concepts/Alternatives were developed to address the goals and objectives identified by the needs and deficiencies. Concepts were developed in four geographic segments of the Project Study Area (i.e., mainline, west, center, and east). Twenty-six (26) separate concepts were developed within the various segments. In addition to mainline alternatives, the PEL Study also considered transit options and other multimodal options, such as bicycle and pedestrian improvements.

B. How did you select the screening criteria and screening process?

Source: I-84 Danbury PEL Study – Chapter 4 (Section 4.4)

Answer: The CTDOT Project Team reviewed screening criteria and chose criteria that were consistent with the purpose and need and considered environmental and engineering metrics that met the intent of the PEL Study goals to reduce congestion and improve mobility. Other factors related to overall feasibility and impacts, including community acceptability/stakeholder resources and environmental impacts, were considered.

C. How did the team develop Alternatives? Was each alternative screened consistently?

Source: I-84 Danbury PEL Study
Chapter 4 (Sections 4.5, 4.6, 4.7,4.8, and 4.9)
Chapter 5 (Sections 5.2, 5.3, 5.4 and 5.5)

Answer: The alternatives were initiated by engaging the public, stakeholders, and agencies. From this input, concepts were developed considering needs and deficiencies in the corridor. Concepts in the same geographic segment were consistently screened against one another. All concepts were screened initially for fatal flaws (see 6D). Concepts not eliminated by the fatal flaw analysis were then screened for redundancy. The redundancy analysis evaluated functional redundancies and eliminated those concepts with functional disadvantages or greater potential for environmental impact. Concepts not eliminated by the redundancy analysis were screened by a screening

matrix analysis that considered engineering and environmental criteria developed as described in 6B. Those concepts which passed the screening matrix analysis were combined into concept combinations that covered the entire project limits. Concept combinations were screened consistently through a similar 3-tier process (i.e., fatal flaw analysis, redundancy analysis and screening matrix). Those concept combinations which passed all 3 tiers of screening became possible alternatives that could be considered for future projects.

D. For alternative(s) that were screened out, briefly summarize the reasons for eliminating or not recommending the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)

Source: I-84 Danbury PEL Study – Chapter 4 (Sections 4.8, 5.3, 5.4, 5.5)

Answer: Concepts (Alternatives) that had fatal flaws were eliminated from further consideration during Tier 1 screening. Fatal flaws were defined as any of the following conditions:

- Failure to improve mobility and reduce congestion within the I-84 PEL Study Area.
- Requiring highly complex construction methods that are outside the range of techniques typical for a large roadway project.
- Having construction costs which far exceed the function of a concept towards achieving the PEL Purpose.
- Having potential for excessive or disproportionate environmental or community impacts, including disproportionate impacts to a community.

Alternatives/Concepts that were redundant were eliminated from further consideration. Redundancy (Tier 2) was defined as any of the following conditions:

- Addresses the PEL Purpose in a similar fashion to one or more other concepts and, therefore, serves a similar function.
- Does not have a clear advantage over similar concepts.
- Has greater construction, operational, or environmental disadvantages than similarly functioning concepts.

Concepts (Alternatives) that failed the Tier 3 screening matrix were eliminated from further consideration. Failure was based on how the alternative/concept performed from an engineering perspective and potential environmental impacts. Generally average or worse performance or major environmental impacts would be the basis for not advancing an alternative or concept.

E. Which alternatives were recommended? Which should be brought forward into NEPA and why?

Source: I-84 Danbury PEL Study
Chapter 5 (Section 5.5)
Chapter 6 (Sections 6.3.3 and 6.4)

Answer: Concept combinations that passed the screening matrix analyses described in Chapter 5 of the PEL Study were used to formulate recommendations that could be included in the Reasonable Range of Alternatives for further consideration into NEPA.

These combinations include one mainline concept (C1), one west concept (C6), and one east concept (C15).

Concept 1 adds travel lanes to provide three continuous travel lanes in each direction of I-84. Concept 6 eliminates weaving between I-84 and US-7 by adding a new off-ramp from I-84 EB to Segar Street and prohibiting traffic from I-84 EB to the Lake Avenue exit. Concept 15 proposes a collector-distributor road in each direction between Interchanges 7 and 8 to create lane continuity, eliminate left-had ramps, and improve horizontal curvature.

The Concept Combinations only differ in the inclusion of three distinct center concepts (C3, C13, and C26).

The focus of the center concepts is mobility and connectivity to the local street network.

- Concept 3 adds a full interchange at Tamarack, providing better hospital access from all directions.
- Concept 13 adds a partial interchange at Great Plain Road providing better hospital access from points west.
- Concept 26 adds a collector-distributor road between Main Street and North Street, and a new on-ramp from North Street providing improved access for that commercial area.

These alternatives have been recommended to move forward into NEPA in that they meet the PEL Study purpose and were screened as the best performing and/or least impactful concepts of those considered. Each alternative had a unique way to address the needs and deficiencies of the study.

Several independent breakout concepts that address or complement the objectives of the PEL study were recommended for further study or implementation. These include:

- Transit initiatives that would require a comprehensive service analysis.
- Intersection improvements at Main/Downs would enhance local mobility and reduce congestion on the local road network.
- Improvements at Interchange 8 would provide transportation benefits to local traffic and I-84.
- A gap analysis of bicycle and pedestrian needs recommended several options to address mobility and connectivity for those modes.

The most promising option identified in the Transportation Systems Management and Operations Concept is the implementation of Dynamic Lane Use (DLU), which involves the use of the median shoulder as a temporary travel lane during congestion periods. An expansion of the one-lane on-ramp from US-7 SB to I-84 WB to two lanes is also proposed as part of this concept.

F. Did the public, stakeholders, and agencies have an opportunity to comment during this process? Summarize the amount of public interest in the PEL Study.

Source: I-84 Danbury PEL Study – Chapter 8 (Sections 8.3)

Answer: Public outreach has been a central element of the PEL process, with multiple public and stakeholder meetings, a robust project website, use of social media (Facebook, Twitter, and Instagram), attendance at local events, communication through PAC members who represent constituencies, publication of meetings, and the availability of information relating to the process.

The following table summarizes the engagement methodologies.

Stakeholder Category	Engagement Events	Engagement Tools
Public	▪ Informal, pop-up events (14) ▪ Public meetings/workshops (4) ▪ Formal public hearing (1 assumed at end of project)	▪ Project website (1) ▪ Social media accounts (4)/posts ▪ Newsletters and fact sheets (12) ▪ Press advisories (3) ▪ E-Bulletins (16) ▪ Comment cards ▪ Survey, 3 languages (1)
Project Advisory Committee (PAC)	▪ PAC meetings (15)	▪ Presentations (15) ▪ Newsletters and fact sheets (13) ▪ PAC notebooks (25+)
Low Income Communities, Community Based Organizations, and Special Interest Groups	▪ Informal, pop-up events (14) ▪ Stakeholder interviews or small group meetings (43)	▪ School/church letters (100) ▪ Project website (1) ▪ Project video in 3 languages (1) ▪ Social media accounts (3)/posts ▪ Newsletters/fact sheets (12) ▪ Press advisories (3) ▪ Tribuna articles and ads (3) ▪ Social media ads in 3 languages (3) ▪ Survey, 3 languages (1) ▪ E-Bulletins (16)
Elected Officials	▪ Informal public official meetings and listening sessions (11) ▪ Invite legislators to public informational meetings or workshops (3)	▪ Newsletters and fact sheets (13) ▪ E-bulletins (16) ▪ Direct emails (4-6)
Other Targeted Stakeholders	▪ Stakeholder meetings (53) ▪ Focus group meeting (1)	▪ Newsletters/fact sheets (12) ▪ E-Bulletins (16)
Media		▪ News articles (20) ▪ News ads (multiple ads for 3 occurrences) ▪ Social media ads in 3 languages (3) ▪ Press advisories (3) ▪ E-Bulletins (16)

Throughout the PEL process, State and Federal agencies have been invited to periodic interagency project presentations and have been specifically engaged in the PEL process based on their jurisdiction over resources that could potentially be affected. For projects resultant from this PEL Study, public and agency coordination, as well as public outreach will continue through the environmental, design and construction phases. The following table summarizes agency coordination during the PEL study.

Meeting Date	Meeting Name	Purpose/Key Themes	Meeting Attendees
May 18, 2017	PEL Agency Coordination Meeting	Study goals & considerations, study approach, existing resources, next steps	CT DEEP, USACE, US EPA
January 5, 2022	Interagency Meeting	Access Modification	FHWA
January 19, 2022	Interagency Meeting	Screening process & methodology	FHWA
November 22, 2022	Interagency Meeting	PEL Chapter Reviews, Agency coordination meetings, PEL Risk Analysis	FHWA
March 27, 2023	Interagency Meeting	PEL Chapter 4 Review, TSMO and Access Modification	FHWA
June 12, 2023	PEL Agency Coordination Meeting	PEL Study - background information, study updates	CT DEEP, USACE
May 1, 2024	Interagency Meeting	PEL Study updates	FHWA

G. Were there unresolved issues with the public, stakeholders and/or agencies?

Source: I-84 Danbury PEL Study – Chapter 7 (Sections 7.2 and 7.3)

Answer: There were no unresolved issues identified; however, items such as highway noise, land use, property impacts, project funding and mitigation commitments will need to be studied at greater detail during the NEPA process.

7.0 Planning Assumptions and Analytical Methods:

A. What is the forecast year used in the PEL study?

Source: I-84 Danbury Needs and Deficiencies Report (10/18) and I- 84 Danbury Supplemental Needs and Deficiencies Study (11/20)

Answer: 2040

B. What method was used for forecasting traffic volumes?

Source: I-84 Danbury Needs and Deficiencies Report (10/18) and I- 84 Danbury Supplemental Needs and Deficiencies Study (12/20)

Answer: A statewide travel demand model, maintained by CTDOT, was used to forecast existing condition traffic volumes into a future year. More details regarding the Connecticut Statewide Travel Demand Model and its application to this project can be found in the I-84 Danbury Project Needs and Deficiencies Report Technical Memorandum No. 1 (Appendix B, Section 2.2 Existing Traffic Operations).

C. Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan?

Source: I-84 Danbury PEL Study – Chapter 1 (Section 1.1)

Answer: Yes. Starting in 2015, both FHWA and CTDOT established that improvements in the I- 84 corridor through Danbury had merit and were a high priority. Completion of the PEL Study, including development of the Purpose and Need for the study, is consistent with CTDOT's long-range planning efforts.

D. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?

Source: I-84 Danbury PEL Study – Chapter 1 and Chapter 8

Answer: A future design year of 2040 was selected based on an anticipated completion of construction of this project. The future year includes forecasted traffic volumes that incorporate socio-economic changes, i.e., employment and population growth. In addition, major traffic generators associated with land use development approved by the CTDOT and through a local planning and zoning process were added to the forecasted traffic volumes.

Local, regional, and state-wide planning documents were also consulted to confirm future land use, economic development, and contemplated transportation network changes aligned with forecasted traffic volumes. This review included consultation with stakeholder agencies and municipalities, including the City of Danbury.

8.0 What pieces of the PEL can transfer directly to the NEPA phase of a project?

Source: I-84 Danbury PEL Study

Chapter 2 – Section 2.2
Chapter 3 – Sections 3.1, 3.2, and 3.3
Chapter 5 – Section 5.6
Chapter 6 – Sections 6.2, 6.3, and 6.4

Answer: The Reasonable Range of Alternatives and Breakout Projects recommended from the PEL Study, as described in Chapter 5 and Chapter 6, can transfer directly into NEPA. In addition, needs and deficiencies identified for the study area along with an analysis of existing conditions can transfer directly to the NEPA phase; however, updates to specific resources will be considered and incorporated as necessary.

9.0 Resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:

A. In the PEL study, at what level of detail were the resources reviewed and what was the method of review?

Source: I-84 Danbury PEL Study – Chapter 3

Answer: Refer to Table 9A, below.

B. Is this resource present in the area and what is the existing environmental condition for this resource?

Source: I-84 Danbury PEL Study – Chapter 3

Answer: Refer to Table 9A, below.

C. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?

Source: I-84 Danbury PEL Study Chapter 4 – Section 4.8
Chapter 5 – Section 5.5

Answer: The most notable issue/impact to be considered during NEPA will be that of direct and indirect land use and property impacts, including access and relocation of existing land uses. Noise and air quality impacts will require additional data collection and modeling. Identification and analysis of project-specific mitigation measures will need to be addressed as part of the NEPA process.

D. How will the data provided need to be supplemented during NEPA?

Answer: The NEPA analysis will need to expand on the resources evaluated under PEL, including detailed air and noise quality assessments, aesthetics, hazardous risks, and a more detailed analysis of land use impacts. The analysis will also confirm traffic volumes in the corridor to determine if any updates are needed. A complete listing of resources that should be considered during the NEPA phase are provided in the table below. The data and information collected during the PEL assessment may require reassessment based upon potentially changed conditions.

A breakout project to implement the TSMO Dynamic Lane Use (DLU) strategy has moved forward to project development. Once DLU is constructed, both traffic and noise data will need to be updated as an existing condition for future projects entering the NEPA phase.

Natural Resource	Methodology/Data Source(s) Used	Present/Relevant in the Study Area?
Floodplains	Existing studies, geographic information system databases, field reconnaissance	Y
Wetlands	Existing studies, geographic information system databases, field reconnaissance	Y
Watercourses	Existing studies, geographic information system databases, field reconnaissance	Y
Terrestrial Resources	Existing mapping, geographic information system databases, field reconnaissance	Y
Threatened and Endangered Species	CT Natural Diversity Database, existing studies, geographic information system databases, field reconnaissance	Y
Water Quality	Existing studies, geographic information system databases, field reconnaissance	Y
Aquatic Resources	Existing studies, geographic information system databases, field reconnaissance	Y
Physical/Built Environment Resource	**Methodology/Data Source(s) Used**	**Present in the Study Area?**
Transportation Resources	Existing mapping, geographic information system databases, field reconnaissance	Y
Land Uses and Development Patterns	Existing mapping, geographic information system databases, field reconnaissance	Y
Utilities	Existing mapping, geographic information system databases, field reconnaissance	Y
Noise	Field investigations	Y
Social/Cultural Resource	**Methodology/Data Source(s) Used**	**Present in the Study Area?**
Cemeteries	Existing mapping, geographic information system databases, field reconnaissance	Y
Recreational Resources	Existing mapping, geographic information system databases, field reconnaissance	Y
Low Income Communities	State and federal databases and mapping	Y
National/State Register Listed Properties	State and federal databases	Y
Historic Architecture	Phase 1A analysis	Y
Section 4(f) Properties	Phase 1A analysis	Y
Resources Not Considered in PEL	**Methodology/Data Source(s) Used**	**Present in the Study Area?**
Aesthetics	Not specifically analyzed	Y
Air Quality	Not specifically analyzed	Y

10.0 List resources that were not reviewed in the PEL study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why:

Source: I-84 Danbury PEL Study – Chapter 3

Answer: Air quality, hazardous material risk, prime farmland, geography/soils, and aesthetic impacts were not evaluated in detail in the PEL analysis as it was not anticipated these resources would be a factor in the development and screening of alternatives. However, these resources may require more detailed assessment in NEPA. During project scoping, agreement on what resources are important in the evaluation of alternatives and for decision-making will be required. State of Connecticut and the Federal United States Fish and Wildlife Service species listings can change over time. Although these changes were tracked and reviewed over the life of the PEL Study, they should be revisited for the NEPA analysis.

11.0 Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found:

Source: Not applicable.

Answer: Cumulatively, the effects of all potential concepts and the impacts to all resources (i.e. built and natural) were evaluated.

12.0 Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA:

Source: Environmental White Papers (for each concept) I-84 Danbury PEL Study

Answer: Potential mitigation strategies were identified in a series of Environmental White Papers associated with the concepts. Examples of potential mitigation strategies include implementation of best management practices during construction near water resources; design measures that minimize property impacts; coordination with utility companies along with design modifications to avoid critical utilities; and retaining wall structures near cemeteries to limit property impacts and minimize visual impacts. Mitigation has been mentioned in portions of the PEL Study Report; however, identification and analysis of project-specific measures will need to be addressed as part of the NEPA process.

13.0 What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?

Source: I-84 Danbury PEL Study – Chapter 7 (Sections 7.2 and 7.3)

Answer: It is anticipated that the PEL Study will be referenced in the NEPA process, particularly during NEPA scoping, to provide background information. Additionally, the PEL concept development, screening, and analysis is anticipated to be integral to the NEPA alternatives analysis. All substantial information from PEL is currently posted on the I-84 Danbury website, including concept mapping, white papers, meeting presentations, FAQs, etc., as will this PEL Study Report.

14.0 Are there any other issues a future project team should be aware of?

Examples: Utility conflicts, access or ROW issues, encroachments into ROW, problematic landowners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.

Answer: The following items should be brought forward to future work:

- Coordination with the NYSDOT on potential I-84 expansion and/or TSMO improvements.
- Given that the DLU strategy is in project development, future alternatives will need to be considered in the context of DLU being an existing condition, once constructed and prior to any future projects in the Study Area. This includes a reassessment of traffic volumes and existing noise levels.
- Providing a full interchange in the vicinity of Route 37 (North Street), Interchange 6 will require detailed evaluation and coordination due to ROW impacts and local street access.

15.0 Provide a table of identified projects and/or a proposed phasing plan for corridor build out:

Source: I-84 Danbury PEL Study – Chapter 7 (Sections 7.2 and 7.3.4)

Answer: A breakout project to implement the TSMO DLU strategy is in project development. The following table identifies additional breakout projects and preliminary schedule information.

Breakout Project	Additional Information
I-84 Dynamic Lane Use/Flex Lane	Potential construction start – 2028
Main Street/Downs Street Intersection Improvements	Environmental review, design and right of way phases are required
Mill Plain Road Side Path	Environmental review, design and right of way phases are required
Bus Transit Improvements	Comprehensive service analysis required – Coordination with HART transit authority

The future build out of improvements to I-84 Danbury will likely be phased and dependent on the longevity of the Flex Lane associated with the DLU breakout project. It is anticipated that the design and construction of the full build out of one of the I-84 Danbury alternatives would be divided into multiple contracts.

16.0 Provide a list of what funding sources have been identified to fund projects from this PEL:

Source: I-84 Danbury PEL Study
Chapter 7 – Sections 7.2 and 7.3
Appendix M – Funding Sources Memo

Answer: Competitive funding sources for which the I-84 Danbury Study could be eligible include:

- Discretionary grant opportunities administered by the US Department of Transportation (USDOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA)
- New and legacy formula funding programs that distribute funding through FHWA or FTA to CTDOT, MPOs or transit agencies in the State
- The Transportation Infrastructure Finance and Innovation Act (TIFIA) federal financing option
- State Funding Options (Local Transportation Capital Improvement Program (LOTCIP), Community Connectivity, Local Capital Improvement Program (LoCIP), and Local Bridge Program)
- Congressional Earmarks

Appendix M of the I-84 PEL Study Report provides additional information on funding options that can be utilized for design and construction activities for project(s) that complete the necessary environmental reviews.