Appendix C: Quick Win Projects Memo

Resilience Improvement Plan
Connecticut Department of Transportation

1 INTRODUCTION

This memo reviews "Quick Win" projects that were identified through a screening process, with the intention to provide a shortlist of resilience projects eligible for PROTECT funding consideration. A "Quick Win" is a project that meets all the Quick Win criteria in Table 1 and is eligible for immediate submission to FHWA for consideration under the PROTECT program. The screening process included reviewing projects proposed or currently in design development by CTDOT and Metropolitan Planning Organizations. The projects draw on the knowledge of known asset vulnerabilities from CTDOT maintenance and engineering, as well as Connecticut Councils of Government (COGs). The Quick Win screening process resulted in the identification of 7 Quick Win appropriate projects. Additionally, Active Capital Projects that did not meet the Quick Wins Screening Criteria were included for their potential PROTECT funding eligibility.

1.1 Quick Win Project Selection Process

1.1.1 PROTECT Funding Eligibility

Projects eligible for funding under PROTECT contribute to the resilience of Connecticut's surface transportation system and may include planning activities (23 USC 176[(d)(3)]) or construction activities (23 USC 176[(d)(4)(A)]). According to 23 USC 176[(d)(4)(A)(I)], projects eligible for PROTECT funding include "construction activities to improve the ability of an existing surface transportation asset to withstand 1 or more elements of a weather event or natural disaster, or to increase the resilience of surface transportation infrastructure from the impacts of changing conditions, such as sea level rise, flooding, wildfires, extreme weather events, and other natural disasters."[1]

1.1.2 Quick Win Suitability

The Quick Win project screening identifies known weather-related vulnerabilities in the state's surface transportation network that have previously been reported to affect local or regional communities. Additional considerations for project screening include asset ownership, project intervention phase, previously allocated federal funding, and project complexity/feasibility. Screening criteria questions employed to filter projects are detailed in Table 1.

[1] Federal Highway Administration. (2021). 23 USC 176: Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Program. https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title23-section176&num=0&edition=prelim#sourcecredit

TABLE 1: QUICK WIN SCREENING CRITERIA

Criteria	Screening
Identified Project	The project has been previously identified within CTDOT's Active Capital Projects list.
Resilience Component	A resilience-related project, addressing or responding to a natural hazard.
Ownership	Involves an asset owned or managed by CTDOT.
Project Phase	The project is in a relatively early phase, such as planning, pre-design, or final design.
Funding	Funding sources have been identified and/or secured. If there is little federal funding available, PROTECT funds can be used to cover the incremental costs for the resilience component of a project.
Feasibility	The project has minimal expected complexities with implementation (e.g., many partners to coordinate, large in scale, extensive studies required, high cost).

2 PROJECT SOURCES

PROTECT-eligible projects were identified from discussions with the COGs, CTDOT staff, and by reviewing statewide transportation sources and regional plans.

2.1 Statewide Sources

Reviewed statewide sources include the CTDOT Active Capital Projects list, including those projects within the CTDOT 2023-2027 Transportation Infrastructure Capital Plan, and the CTDOT 667 project list, which addresses 23 CFR Part 667, "NHS and Non-NHS Facilities Repeatedly Requiring Repairs and Reconstruction Due to Emergency Events." These identified events that fall within the purview of 23 CFR Part 667 National Highway System (NHS) facilities, are mandated by the Federal Highway Administration (FHWA) to be evaluated at least once every four years to assess the need for repair or reconstruction. The review of these sources may contribute to furthering the system's resilience, as opportunities to either upgrade or improve the functionality and resilience of the transportation asset may be considered PROTECT eligible.

2.2 Regional Sources

Input from the COGs were gathered via literature review, interviews, and participatory mapping exercises detailed in Appendix B Stakeholder Engagement.

2.2.1 Literature Review

As part of the literature review process, the following listed regional hazard mitigation and transportation plans were screened for active and proposed transportation resilience projects, including projects in the later planning and design phases. Projects identified in these plans were moved forward for consideration as potential Quick Win projects if they were already present within CTDOT's Active Capital Projects list.

- 2024 Capitol Region Natural Hazard Mitigation and Climate Adaptation Plan Update (CRCOG)
- 2024 Capitol Region Transportation Improvement Program
- 2023 South Central Regional Council of Governments Hazard Mitigation Plan Update (SCRCOG)
- 2024 South Central Transportation Improvement Program
- 2023 Southeastern Connecticut Council of Governments Multi-Jurisdictional Hazard Mitigation and Climate Adaptation Plan Update (SCCOG)
- Southeastern Connecticut Council of Governments Transportation Improvement Program
- 2021 Western Connecticut Council of Governments Multi-Jurisdiction Hazard Mitigation Plan Update (WestCOG)
- 2020 Western Connecticut Council of Governments Transportation Improvement Program
- 2015 Northeastern Connecticut Council of Governments Regional Hazard Mitigation Plan (NECCOG)
- Northeastern Connecticut Council of Governments Transportation Improvement Program
- 2021 Naugatuck Valley Council of Governments Hazard Mitigation Plan Update (NVCOG)
- 2020 Naugatuck Valley Council of Governments Transportation Improvement Program
- 2021 Lower Connecticut River Valley Hazard Mitigation Plan Update (RiverCOG)
- 2021 Lower Connecticut River Valley Council of Governments Transportation Improvement Program
- 2019 Natural Hazard Mitigation Plan Update (MetroCOG)
- 2024 Metropolitan Council of Governments Transportation Improvement Program
- 2016 Litchfield Hills Natural Hazard Mitigation Plan (NHCOG)
- 2016 Northwest Hills Council of Governments Transportation Improvement Program

2.2.2 COG Coordination and Participatory Mapping

COG stakeholders attended one of three project engagement workshops. As part of these workshops, participants discussed extreme weather impacts in their communities. COG staff also completed a mapping exercise in which they identified approximately eighty locations where environmental hazards, primarily riverine or coastal flooding, had disrupted local infrastructure. Identified problem areas were screened for Quick Win potential. None of the problem areas reported by COGs were classified as a Quick Win, but all of the identified projects that are PROTECT-eligible have been included in Appendix B Stakeholder Engagement Memo for further project development consideration by CTDOT and the COGs.

3 QUICK WIN PROJECTS

3.1 Quick Win Project Identification and Refinement Process

Through the stakeholder engagement process and literature review, identified resilience projects were screened for Quick Win suitability. An initial screening narrowed the list from roughly 400 potential projects to just above 50, using the criteria outlined in Table 1. This list was reduced to approximately 20 projects by eliminating projects that only had a potential, rather than a clear resilience component. During a workshop held on June 10, 2024, CTDOT screened and ultimately recommended the following criteria for further refining and/or expanding the Quick Win project list:

- Projects identified by the COGs that are not Quick Wins should be considered for the overall Resilience Improvement Plan. The COG Hazard Mitigation Plans and COG Participatory Mapping List are found in Appendix B Stakeholder Engagement. These project lists may be considered eligible for PROTECT funding.
- Projects in final design but not set to be delivered until 2025 or later should be considered for Quick Win projects if they are a good candidate for PROTECT funds. Prior to the workshop, only projects in planning and early design phases were under consideration.
- Projects that are potentially PROTECT eligible should be considered, even if another Federal funding source has been identified.

After applying screening criteria and feedback from the CTDOT workshop, seven Quick Win projects were identified. The composite list of Quick Win projects is shown in Table 3, and spatially in Figure 1.

3.2 Quick Win Project List

Table 2: Quick Win Projects

Project Number	Name	Description	Hazard	Asset	Total Cost (State Cost)	COG	Source
0101-0119	CT Route 201 Culvert Replacement	Replace twin 48" CMPs under CT Route 201 in North Stonington, due to failing condition, with either twin 48" Reinforced Concrete Pipes (RCPs) or Concrete Box Culvert with concrete endwalls, pending hydraulic analysis/environmental considerations.	Flood	Culvert	$3,030,000 (unknown)	SCCOG	CTDOT Active Capital Projects / COG TIP
0083-0275	US Route 1 Drainage Improvements	Resolve recurring flooding on US Route 1 in Milford by upgrading and extending drainage network.	Flood	Drainage Network	$4,776,000 ($1,194,000)	SCRCOG	CTDOT Active Capital Projects / COG TIP
0134-0151	CT Route 19 - Culvert Replacement	Replacement of an existing approx. 60' long, 3.5'x3' stone box clapper culvert under CT Route 19 (East Street), located approx. 1/3 mile north of Furnace Hollow Road in Stafford, to ensure the continued stability of the roadway.	Flood	Culvert	$581,000 ($145,000)	CRCOG	CTDOT Active Capital Projects
0126-0176*	Rehab Bridge 00571A - Commodore Hull	NHS - Rehabilitation of Bridge No. 00571A (Commodore Hull) carrying Route 8 over the Housatonic River and Route 110 in Shelton. This is the third phase of the rehabilitation, primarily to address scour and pile stability issues.	Flood	Bridge	$10,400,000	NVCOG	CTDOT Active Capital Projects
0011-0161	Bridge # 01488 Replacement	Replace Bridge No. 01488, which consists of triple 7' x 8' reinforced concrete box culverts located within a FEMA floodway. The hydraulic analysis performed for this project indicates that the existing crossing is inadequate for the 100-year design storm and results in overtopping of the roadway low point by over 2 feet. A single span bridge will replace the box culverts and meet the 1.2x bank full width requirement, reducing or eliminating overtopping potential and improving embankment stability.	Flood	Bridge	$9,195,000	CRCOG	CTDOT Active Capital Projects

Project Number	Name	Description	Hazard	Asset	Total Cost (State Cost)	COG	Source
0085-0149	Montville: Scour Countermeasures #00265	Bridge 00265 has experienced significant erosion along its Southwest and Northeast embankments. Under this project, the areas of existing erosion will be repaired, and scour countermeasures will be designed and installed to improve embankment stability and prevent future erosion.	Flood	Bridge	-	SCCOG	CTDOT Active Capital Projects
0137-0165	Bridge #01902 Replacement	Replace Bridge No. 01902, a 15-foot span reinforced concrete arch. This scour-critical bridge's hydraulic analysis indicates that the existing structure is hydraulically inadequate with roadway overtopping during the 100-year design event. Under this project, the bridge will be replaced with a hydraulically adequate structure designed to resist scour. This replacement will eliminate roadway overtopping and minimize future scour potential.	Flood	Bridge	$4,450,000	SECCOG	CTDOT Active Capital Projects

*Already moving forward under PROTECT.

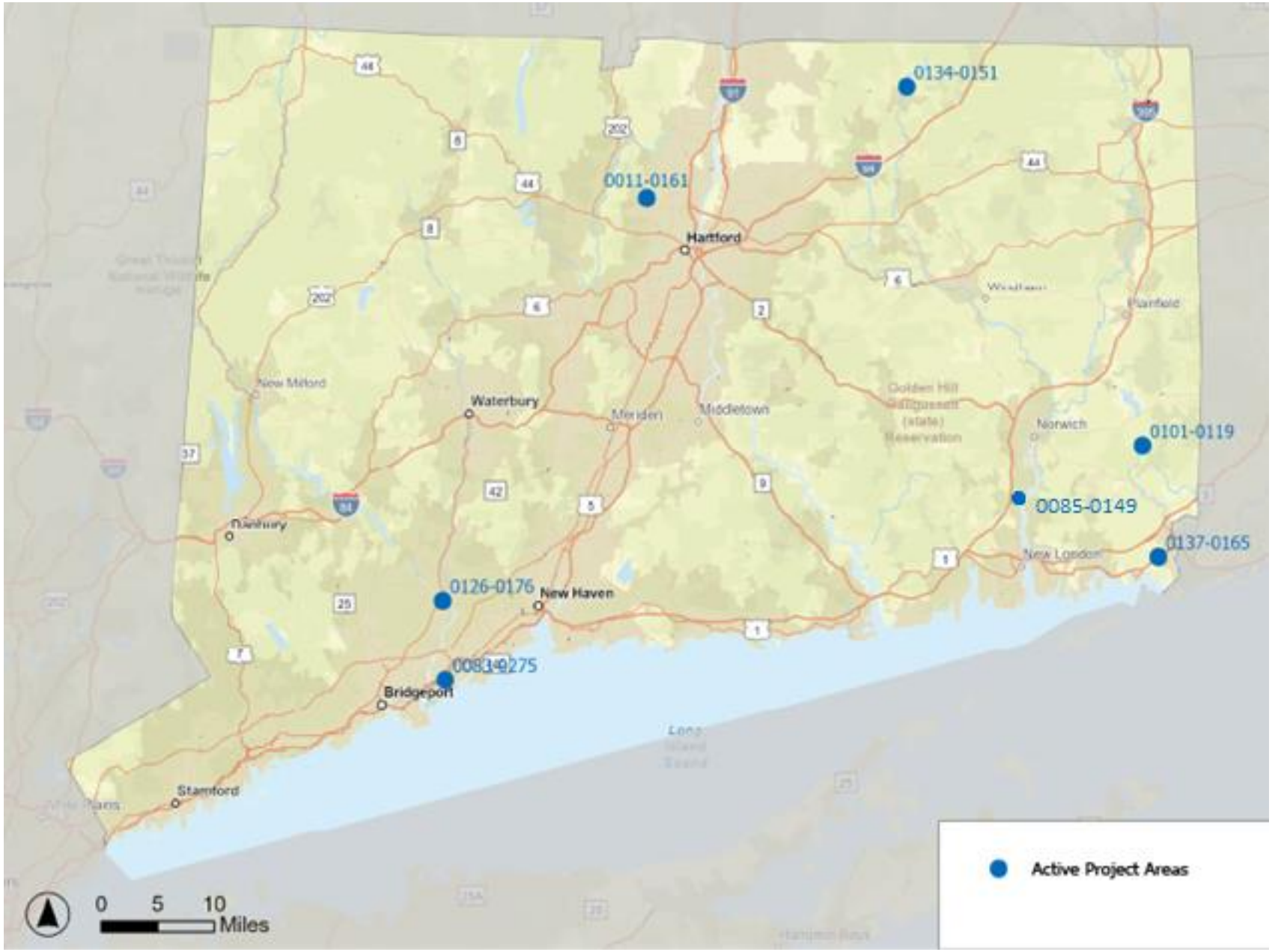
0134-0151
0011-0161
Hartford
Waterbury
New Milford
Meriden
Middletown
Norwich
0101-0119
0085-0149
0137-0165
New London
0126-0176
New Haven
00834275
Bridgeport
Stamford
Danbury
Active Project Areas
0 5 10
Miles

Figure 1: Quick Win Projects Map

4 ADDITIONAL PROTECT-ELIGIBLE PROJECTS

Table 3 lists the CTDOT Active Capital Projects that did not meet the Quick Win criteria but are still eligible for PROTECT funding consideration. CTDOT's annual Capital Plan informs stakeholders of planned Capital investments over the upcoming five-year period. As stated in Section 3.1, these projects are listed here for CTDOT and the COGs to consider funding the incremental resiliency cost of the projects with PROTECT funds.

TABLE 3: CTDOT Active Capital Projects

Project Number	Description	Project Description
0131-0208	Replace Br #04560	Replacement of Bridge #04560 which carries Newell Street over Quinnipiac River in Southington.
0133-0100	Replace Deteriorated 30" Corrugated Metal Pipe	Replace a deteriorated 30" Corrugated Metal Pipe (CMP) below Route 138 that is in failing condition and has slope erosion in Sprague, along with other ancillary improvements (e.g., possible minor roadway widening at culvert, guiderail upgrade).
0068-0217	Replacement Br #02599	Replacement of Bridge No. 02599 (Non-NBI) carrying CT Route 101 over Alvia Chase Reservoir in Killingly.
0162-0159	Bridge #01571 Replacement	Replacement of Bridge No. 01571 carrying Route 263 over East Branch Naugatuck River in Winchester.
0142-0153	Bridge #02245 Replacement	Replacement of Non-NBI Bridge No. 02245 carrying Route 30 over Grants Brook in Tolland.
0010-0091	Bethlehem: Replace Br #05170	Replacement of Bridge #05170 which carries Falls Road over Nonnewaug Brook in Bethlehem.
0095-0260	New Milford: Replace Br #05325	Replacement of Bridge #05325 which carries Wheaton Road over East Aspetuck River in New Milford.
0022-0108	Canterbury: Replace Br #05413	Replacement of Bridge #05413 which carries Tracy Road #1 over Kitt Brook in Canterbury.
0055-0147	Bridge # 02805 Replacement	Replacement of Non-NBI Bridge No. 02805 carrying Route 189 over Brook in Granby.
0130-0192	Southbury: Replace Br #05029	Replacement of Bridge #05029 which carries Poverty Road over the Pomperaug River in Southbury.
0116-0135	Redding: Replace Bridge #01015	Replacement of Bridge No. 01015 carrying CT Route 53 over Saugatuck Reservoir in Redding.
0104-0175	Replace Br 02713 Over Four Mile River & Br 06896 Over Armstrong Brook	Replacement of Bridge No. 02713 (culvert) carrying CT Route 156 over Four Mile River and replacement of Bridge No. 06896 (culvert) carrying CT Route 156 over Armstrong Brook, both in Old Lyme.

Project Number	Description	Project Description
0056-0305	Replace Br. 01872	Replacement of Br. 01872 carrying US Rute 1 over Greenwich Creek in Greenwich.
0401-0016	CTtransit Facility Improvements	CT Transit Hartford roof replacement and mechanical, electrical, and plumbing upgrade
0059-0169	Replace Br. 04379	Replacement of Br. 04379 carrying Route 146 over West River in Guilford.
0119-0124	Replace Br. 02964	Replacement of Br. 02964, carrying Route 47 over an unnamed stream in Roxbury to improve resilience. The existing bridge has poor alignment to the stream and movement is being monitored at the wingwalls close to the edge of the roadway, with one wingwall currently supported by gabions. The bridge will be replaced with a hydraulically adequate structure, increasing the span to reduce or eliminate flooding potential and meet the 1.2x bankfull width requirement, which will improve embankment stability. Roadway drainage concerns will also be addressed in the project to increase resiliency of the roadway.
PP124-0005	Improve Br. 01586	Improvement of Br. 01586 carrying Route 313 over Naugatuck River in Seymour. Bridge is currently scour critical and will either be replaced with a bridge designed to be resistant to scour or rehabilitated along with the installation of scour countermeasures.