

## 6. Summary of Resource Commitments

Chapter 6 presents a description of irreversible and irretrievable commitment of resources and the relationship between the short-term use of the environment and long-term productivity.

### 6.1. Irreversible and Irretrievable Commitment of Resources

Irreversible resource commitments involve the use or destruction of a specific resource that cannot be replaced. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored due to the action. In both cases, permanent loss of the resource occurs.

The No Build Alternative would not require an immediate increase in irreversible and irretrievable commitment of resources, including natural, human, and monetary resources, beyond those resources currently required for the ongoing operation and maintenance of Walk Bridge. Due its age and deteriorating condition, however, it is expected that over time, the commitment of human and monetary resources toward the operation of the bridge will increase. Metro-North reports that due to recent bridge failures along the NHL, it employs a maintenance staff of six bridge mechanics, engineers, and other bridge personnel to address emergencies.<sup>1</sup>

Federal and state funds will be required for the construction of the Build Alternative. State funds will be required for continued operation and maintenance of the project for the extent of its useful life. These monetary resources are irretrievable.

Construction materials that will be required for the Build Alternative include steel, concrete, aggregate and bituminous material, and wood. Labor, energy, and natural resources will be required to produce construction materials. These resources are irretrievable; however, they are not in short supply, and their use will not adversely impact their continued availability.

In accordance with Connecticut's State Solid Waste Management Plan,<sup>2</sup> CTDOT's policy is to recycle and reuse resources where feasible. CTDOT will explore opportunities to reuse the construction demolition materials in proposed areas of retained fill.

Table 6-1 presents a summary table of environmental resources that will be permanently impacted by the project. Permanent impacts would be similar with the Bascule Bridge option and the two Vertical Lift Bridge options. Also presented are the proposed compensatory measures; compensation for impacts will be determined in consultation with federal and state regulatory agencies during the permitting stage of the Build Alternative.

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<sup>1</sup> <http://www.ctpost.com/local/article/Movable-New-Haven-Line-drawbridges-a-concern-1344286.php>

<sup>2</sup> CT Department of Environmental Protection, State of Connecticut, State Solid Waste Management Plan, amended December 2006. Approved December 20, 2006.

**Table 6-1 – Environmental Resource Commitments of the Walk Bridge Replacement Project**

| Environmental Resource | Permanent Impacts (sf) |                           |                            | Proposed Mitigation   |
|------------------------|------------------------|---------------------------|----------------------------|---|
|                        | Bascule Bridge         | Vertical Lift Bridge (8A) | Vertical Lift Bridge (11C) |   |
| Tidal Wetlands         | 3,100                  | 2,500                     | 2,500                      | Restoration of invasive species/degraded tidal wetlands at 4:1 ratio  |
| Freshwater Wetlands    | 600                    | 600                       | 600                        | Restoration or replacement in-kind, out-of-kind wetland creation, invasive species removal, or a combination. |
| Floodplain             | 15,000                 | 19,500                    | 19,500                     | Improvement in hydraulic conditions; no flood storage mitigation needed.                                      |
| Intertidal Flats       | 900                    | 900                       | 900                        | Restoration of invasive species degraded tidal wetlands at 4:1 ratio  |
| Subtidal Habitat       | 1,600                  | 1,400                     | 1,200                      | Net gain of subtidal habitat due to removal of existing bridge substructure; no mitigation needed.            |

## 6.2. Relationship between Short-Term uses of the Environment and Maintenance and Enhancement of Long-Term Productivity

NEPA requires an assessment of the relationship between the project’s short-term uses of the environment and the project’s long-term benefits and productivity. Short-term is defined as the construction period, which is the time period when the majority of environmental impacts will occur. Long-term is defined as the 100-year expected life span of the Build Alternative. Long-term effects also relate to the sustainability of the project and the project’s consistency with local, regional, and state-wide planning and policies.

The No Build Alternative would not involve any project-related construction, and therefore would not incur short-term uses of the environment. However, the ongoing maintenance of the No Build Alternative would not extend the useful life of Walk Bridge; therefore, it would not enhance the long-term productivity of the structure. Further, the No Build Alternative would not be consistent with the regional and state TIP or the regional and state transportation goals to replace Walk Bridge, which would contribute toward more reliable NHL service for passenger, commuters, and freight operators.

The Build Alternative’s short-term uses of the environment are identified in Chapter 5. The work in the waterway, including demolition of the existing bridge, excavation of sediments, and dredging will create short-term impacts. Land construction activities, including track replacement and replacement of the Fort Point Street Bridge, also will create temporary adverse impacts. Short-term uses and corresponding effects will include the following: water quality and aquatic resource impacts; air quality, noise, and vibration impacts; excavation, management, and disposal of potentially impacted river sediments; and traffic delays and detours in South Norwalk and East Norwalk within the vicinity of the project boundaries. The type of short-term impacts would be similar with the three Build Alternative options.

It is anticipated that construction of the Walk Bridge Replacement Project will take up to four years. The duration of project construction would differ among the Build Alternative options. CTDOT estimates that construction of the Bascule Bridge (Option 4S) would take approximately 47 months, with an estimated 37-month long two-track outage and vertical navigation restriction. With the use of a run-around track structure, construction time would be extended. CTDOT estimates that construction of the short span Vertical Lift Bridge (Option 8A) would take approximately 44 months, with an estimated 34-month two-track outage and vertical navigation restriction. CTDOT estimates that construction of the long span Vertical Lift Bridge (Option 11C) would take approximately 40 months, with an estimated 30-month two-track outage and an estimated 16-month vertical navigation restriction.

Property acquisitions and easements, as identified in Section 3.6, are required for the construction and maintenance of the project. Prior to using the acquisition parcels, CTDOT will manage the sites in accordance with its due diligence requirements, as described in Section 3.23. While the parcel acquisitions are identified as permanent impacts, CTDOT's intention is to own and use the sites only for the duration of project construction. Following the completion of construction, CTDOT will sell the parcels acquired for construction staging, returning them to the local real estate market for sale and redevelopment. CTDOT will retain access rights on all four quadrants of the replacement bridge for access, operations, and maintenance.

The Build Alternative will result in short-term and permanent impacts to tidal and freshwater wetlands. It is anticipated that following construction, tidal wetlands which will incur temporary impacts from activities such as trestle shading, will be restored. CTDOT's restoration of degraded saltmarsh along the Norwalk River as part of the anticipated compensatory mitigation for permanent wetland impacts will result in long-term benefits to production and aesthetics of intertidal habitat along this stretch of the Norwalk River. CTDOT also will mitigate for the loss of freshwater wetlands. While the Build Alternative will adversely impact floodplain, the removal of the existing bridge and channel dredging will improve channel hydraulics through the bridge span.

The construction period will produce a short-term benefit to the local and regional economy through direct on-site jobs, indirect jobs in supplier industries, and jobs that are induced in consumer goods and services industries as workers with direct and indirect jobs spend their increased incomes. The estimated range of job-years generated each year during construction for the three Build Alternative options is as follows: 1,100 to 1,200 job-years for the Bascule Bridge (Option 4S); 1,300 to 1,500 job-years for the short span Vertical Lift Bridge (Option 8A); and 1,600 to 1,700 job-years for the long span Vertical Lift Bridge (Option 11C).

The Build Alternative will result in substantial long-term benefits to rail transportation along the NHL. As indicated in Section 3.27, the incremental effect of the project, when added to CTDOT's other NHL improvement projects, will substantially benefit the region, State of Connecticut, and the entire NEC. The project is consistent with local, regional, and state-wide transportation goals and the regional and statewide TIP, as well as the long-range plans of the NEC Commission.

The project's improvements to marine transportation will positively impact the waterway users, the City of Norwalk and the State of Connecticut through the improved marine-based commerce. Additionally, the improved marine navigation conditions also will contribute to beneficial land use impacts. Current marine-based businesses will be more likely to expand and new marine-based businesses will be more likely to locate up-river, expanding the water-dependent land uses. The project is consistent with the State of Connecticut's Maritime Policy for economic and recreational development of Connecticut ports and harbors.