

23.0 Commitment of Resources

23.1. Introduction

In accordance with the National Environmental Policy Act of 1969 (NEPA),¹ the Council on Environmental Quality Implementing Regulations for NEPA,² and the Federal Railroad Administration *Procedures for Considering Environmental Impacts*,³ this chapter includes an analysis of any irreversible or irretrievable commitment of resources that would occur due to implementation of either Action Alternative. It also considers the relationship between the Long Bridge Project's (the Project's) potential short-term uses of the human and natural environment and the maintenance and enhancement of long-term productivity throughout the life of the Project.

23.2. Irreversible and Irretrievable Commitment of Resources

An irreversible or irretrievable commitment of resources results from the use of a resource that cannot be replaced or recovered, and results in the permanent loss of the resource for any future or alternate use. **Chapters 5 through 21** describe the measures that the Virginia Department of Rail and Public Transportation, the project sponsor for final design and construction, would implement to avoid, minimize, and mitigate adverse impacts to resources in the Study Area.

Construction of either Action Alternative would require a greater commitment of natural, human, and monetary resources than the No Action Alternative. Generally, these resources would be committed irreversibly and irretrievably. Because Action Alternative B would involve the demolition of the existing bridge and construction of an additional new bridge, it would require a greater commitment of resources, including construction materials and energy, than Action Alternative A.

Construction materials such as concrete, steel, cement, and aggregate would be irretrievably expended during construction of all alternatives, with a greater amount required for construction of either Action Alternative than the No Action Alternative. Although these materials would be largely irretrievable when used, these resources are not in short supply and many of the materials could be recycled for other projects when they no longer meet the design needs for railroad service.

Either Action Alternative would also consume a greater amount of energy in the form of fossil fuels and electricity during construction than the No Action Alternative. These materials are readily available and their use for operation of either Action Alternative would not affect their continued availability for other purposes.

In addition to materials and energy, a greater investment of funds and human labor would be needed to design and construct either Action Alternative than the No Action Alternative. The funds are irretrievable and would not be available for other projects, but the benefits of improved capacity,

¹ 42 USC 4332(C)(iv)

² 40 CFR Part 1502.16

³ 64 FR 28545

33 connectivity, and reliability in the Long Bridge Corridor are anticipated to outweigh the commitment of
34 monetary resources.

35 **23.3. Relationship Between Short-Term Uses of the Environment and the** 36 **Maintenance and Enhancement of Long-Term Productivity**

37 Short-term impacts on the environment typically result from construction impacts. Long-term impacts
38 generally relate to the operations and maintenance of a project, including consistency of a project with
39 local and regional economic, social, planning, and sustainability objectives. This section compares the
40 short-term uses of the environment with either Action Alternative's long-term productivity.

41 **23.3.1. Short-Term Uses**

42 Construction of either Action Alternative would have greater short-term impacts on the environment
43 than the No Action Alternative. In addition, construction of Action Alternative B would have greater
44 short-term impacts than Action Alternative A. However, these effects would be temporary, and any
45 construction-related environmental impacts would be avoided, minimized, and mitigated wherever
46 practicable as discussed in the applicable Resource Chapters.

47 **23.3.2. Long-Term Productivity**

48 The No Action Alternative would likely result in adverse impacts to long-term productivity as it would
49 not address the capacity, connectivity, resiliency, and redundancy constraints afflicting the Long Bridge
50 Corridor. In contrast, either Action Alternative would strengthen the Corridor's resiliency and ability to
51 provide reliable service by adding two additional railroad tracks across the Potomac River and
52 throughout the Corridor. Increasing capacity to four tracks in the Corridor would provide redundant
53 capabilities and relieve this critical location chokepoint. Additionally, either Action Alternative would
54 preserve the Corridor's existing functionality and reduce potential commuter, intercity, and freight
55 railroad service delays caused by unanticipated events or routine maintenance. Therefore, either Action
56 Alternative would result in benefits to long-term productivity.

57 **23.3.3. Short-Term Uses Versus Long-Term Productivity**

58 The localized short-term impacts that would result from construction of either Action Alternative would
59 be temporary and would be offset by the improved rail network once construction is completed. When
60 reviewed in the overall context of the Project and taken in total, the benefits the Project offers—
61 including resiliency and ability to provide reliable service— are greater than the short-term impacts that
62 will cease once construction is completed.