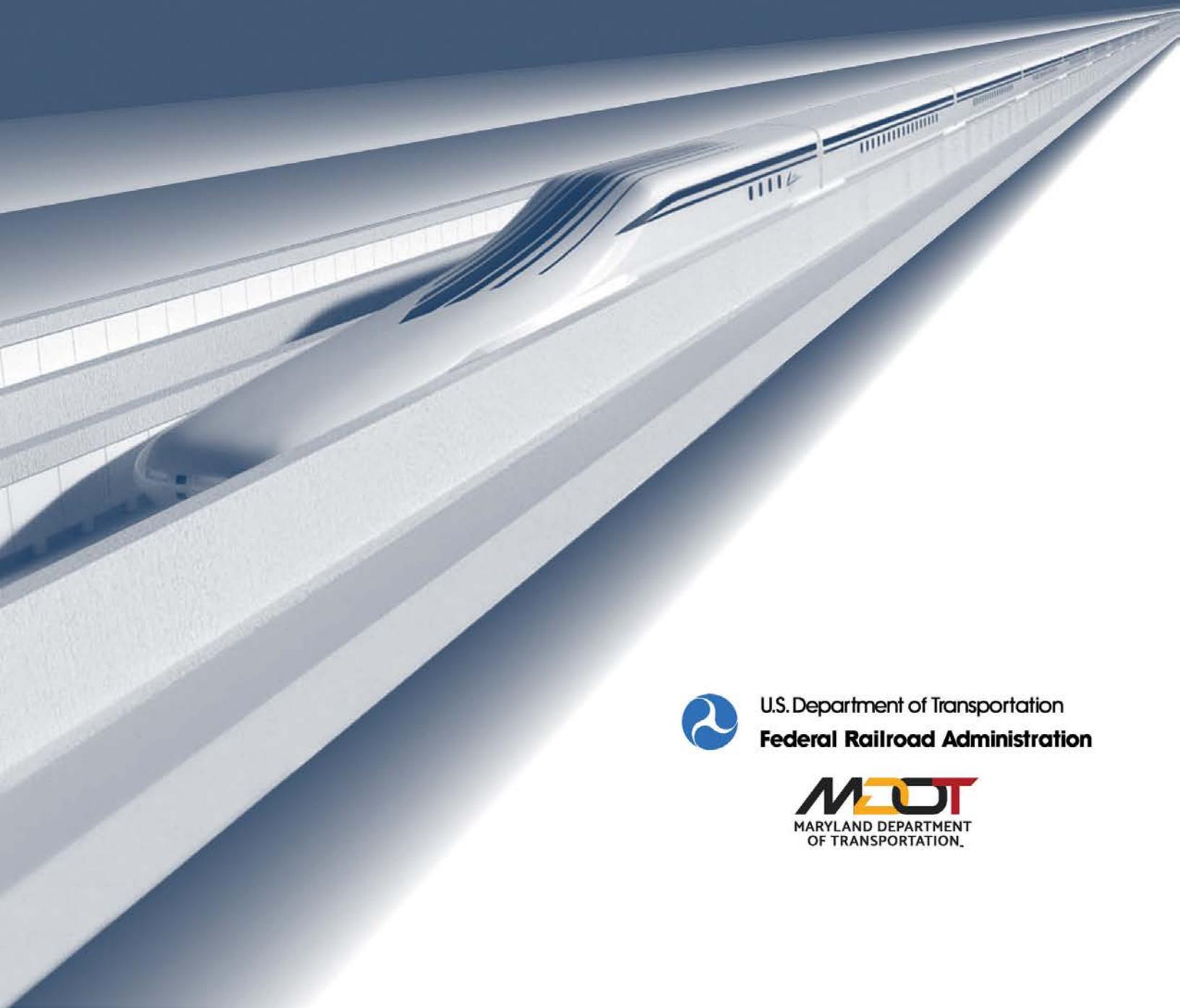


# **Section 4.24**

## **Irreversible and Irretrievable Commitment of Resources**

### **BALTIMORE-WASHINGTON SUPERCONDUCTING MAGLEV PROJECT**

**DRAFT ENVIRONMENTAL IMPACT STATEMENT AND  
SECTION 4(f) EVALUATION**



**U.S. Department of Transportation  
Federal Railroad Administration**



## 4.24 Irreversible and Irretrievable Commitment of Resources

In accordance with the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq., the Council on Environmental Quality (CEQ) regulations, 40 C.F.R. Parts 1500 - 1508, and the Federal Rail Administration's (FRA) Procedures for Considering Environmental Impacts, 64 Fed. Reg. 28545 (May 26, 1999), FRA assessed any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented. An irreversible and irretrievable commitment of resources results in the permanent loss of a resource for future uses (or alternative purposes) as the resources cannot be replaced or recovered.

If implemented, the Superconducting Magnetic Levitation Project (SCMAGLEV Project) would result in irreversible and irretrievable commitments of resources. Resources considered scarce or rare, such as ecologically sensitive areas and historic resources are of particular concern. The No Build Alternative would not require an irreversible and irretrievable commitment of resources as related to this Project. Construction of any of the Build Alternatives would require the irreversible and irretrievable commitment of identified natural and cultural resources as well as energy.

### 4.24.1 Commitment of Resources

Chapter 4 provides an overview of all resources that could be impacted by the SCMAGLEV Project. Scarce and rare resources identified in the SCMAGLEV Project Affected Environment include natural resources (i.e., wetlands, ecologically sensitive areas, forests), historic resources (i.e., architectural/archaeological resources), and energy. The following provides a qualitative assessment of the types of effects that would result in irreversible and irretrievable commitments of resources. These effects would include impacts to both above and below ground resources due to surface and underground Project elements.

#### 4.24.1.1 Natural Resources

As described in Sections 4.10 through 4.12, the Build Alternatives would permanently impact forests, ecologically sensitive areas, and water resources, including wetlands, streams, and floodplains. Forest clearing, grading, and land development associated with the Build Alternatives would directly impact these resources, most notably along the surface components of each Build Alternative. Natural resource impacts occur primarily where Build Alternative elements would be on undeveloped land on the following properties: National Park Service (NPS) Property, Beltsville Agricultural Research Center (BARC), the Patuxent Research Refuge (PRR), and Fort George G. Meade. Degradation of resource quality, fragmentation, and/or loss of these natural resources as a result of the impacts is irreversible.

The Project Sponsor proposes a mix of underground deep tunnel and aboveground elevated guideway (viaduct) in each Build Alternative to avoid or minimize impacts to natural resources. However, impacts to natural resources cannot be completely avoided. To address impacts, FRA considered avoidance, minimization, and mitigation

measures. In addition, the Project Sponsor will coordinate with agencies having jurisdiction over the affected natural resources to examine ways to further reduce impacts to natural resources and to develop appropriate and specific mitigation strategies.

Permanent increases in impervious surfaces from construction of the Build Alternatives would result in additional stormwater runoff, which can and will be mitigated by compliance with Washington, D.C.'s and Maryland's stormwater management requirements. Impacts to freshwater wetlands and waters of the U.S. will require a permit under Section 404 of the Clean Water Act, and associated mitigation measures. Mitigation strategies are typically resource-specific and could include such measures as use of best management practices (BMPs) during construction, observing time of year activity restrictions for sensitive natural resources, and providing replacements or enhancements to the impacted natural resources.

Additional, construction-related impacts to natural resources related to staging and work areas used temporarily by construction crews could be irretrievable. Construction work areas at waterway crossings and ancillary facilities would be larger in size than the footprint of the permanent structures. The Project Sponsor would restore temporarily disturbed areas to the original state, to the extent feasible to minimize the irretrievable commitment of resources related to temporary construction impacts.

#### **4.24.1.2 Cultural Resources**

Permanent impacts/displacements of cultural resources would be an irretrievable commitment of resources. As described in Section 4.8, Cultural Resources, each Build Alternative has the potential to impact cultural resources. Permanent and temporary construction impacts to cultural resources have been identified as occurring from proposed earthmoving activities, removal of existing structures, and visual changes that change the context of a historic setting. Once physically disturbed, cultural resources cannot be replaced.

FRA is coordinating with Washington, D.C. and Maryland state historic preservation officers to identify potential effects of the Build Alternatives and to identify avoidance, minimization and mitigation strategies. A Draft Programmatic Agreement (PA) has been prepared and coordinated with the consulting parties. [The Draft PA is included in Appendix D.8 for public review and comment.]

#### **4.24.1.3 Energy**

The Build Alternatives would require an irreversible commitment of energy resources. The direct energy consumption of each Build Alternative during operation of the SCMaglev train and ancillary facilities is estimated to be 4.3 trillion British thermal units (BTUs) annually, an expected net increase in energy consumption of 3.3-3.4 trillion BTUs over the No Build Alternative (see Section 4.19, Energy). While energy sources such as fossil fuels are not currently considered rare, once used, they cannot readily be replaced. During construction activities, energy usage and consumption of gas and diesel fuel may increase, but it would not be a permanent increase. Section 4.19, Energy, provides further discussion on the potential use of renewable energy sources and energy efficiencies to mitigate impacts and decrease energy use.

#### **4.24.1.4 Mitigation**

Additional specific mitigation measures related to each of resources discussed above can be found in their respective chapters.