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6. Irreversible/Short-Term Effects

6.1 INTRODUCTION

This chapter evaluates the short-term uses of the environment and the maintenance and enhancement of long-term productivity associated with the Honoapiʻilani Highway Improvements Project (the Project) as well as its potential irreversible and irretrievable commitments of resources.

6.2 REGULATORY CONTEXT

Consistent with Federal Highway Administration (FHWA) Technical Advisory T6640.8a, which provides guidance on the preparation of FHWA environmental documents, an environmental impact statement should generally discuss a proposed action's irreversible and irretrievable commitment of resources.

Pursuant to Hawaiʻi Administrative Rules (HAR) §11-200.1-24(m), this section discusses the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity associated with the Project. The extent to which the Project involves trade-offs between short- and long-term gains and losses is also presented. The discussion further includes the extent to which the Project forecloses future options, narrows the range of beneficial uses of the environment, or poses long-term risks to health and safety. In this assessment, short- and long-term do not necessarily refer to fixed periods but are viewed in terms of the environmentally significant consequences of the Project.

As required by HAR §11-200.1-24(n), this section also includes a description of all irreversible and irretrievable commitments of resources that would be involved in the Project, should it be implemented. Unavoidable impacts and the extent to which the Project makes use of nonrenewable resources, or irreversibly curtails the range of potential uses of the environment, is also identified. In addition, the possibility of environmental accidents resulting from any phase of the Project is considered.

6.3 SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

Short-term uses for the Project are associated with construction, which is anticipated to occur over approximately four years and planned for completion in 2030. The impacts associated with the use of resources during construction would be temporary and are not anticipated to have a significant adverse impact on the Project's relationship with the surrounding environment. Construction activities for all Build Alternatives would be anticipated to result in temporary and periodic increases in ambient noise levels, air quality, and traffic within the surrounding area. Short-term uses and long-term productivity of flora and fauna, and health, safety, and well-being are also summarized below.

The long-term productivity of the Project would provide a reliable transportation facility in West Maui and improve Honoapiʻilani Highway's resilience by reducing its vulnerability to coastal hazards. In



addition, the long-term productivity of the Project would provide regional transportation system linkages that support the safe movement of people and goods and support regional land use and transportation plans. Failing to relocate Honoapiʻilani Highway would negatively affect the community and the region due to increased service disruptions and roadway closures resulting from climate change effects. Accordingly, the short-term uses associated with the Project would be consistent with the maintenance and enhancement of long-term productivity for West Maui and Maui County.

6.3.1 Flora and Fauna

The project area generally consists of undeveloped land, historic agricultural uses, open space, rural residential, and State conservation land uses. In general, the vegetation of the project area can be characterized as a mix of coastal dry community. The vegetation throughout the project area has been heavily modified by prehistoric and modern human activities and is now largely dominated by alien species. Vegetative clearing, grubbing, and grading would be required to facilitate the Project, which could have a short-term effect on flora and fauna during construction and a diminished effect over time once the new roadway is constructed.

According to the Biological Survey Report Assessment prepared as part of this Draft Final EIS and the Biological Opinion prepared by USFWS, the Project is unlikely to result in adverse effects to plant species that are State or federally listed as threatened or endangered, or rare native plant species of concern. Hawaiian goose or nēnē (*Branta sandvicensis*) and Hawaiian stilt or aeʻo (*Himantopus mexicanus knudseni*) are two bird species that are State or federally listed as threatened or endangered. These species were observed during and outside of the point counts (that is, standing in a specific location and counting birds) taken for the Project. Based on additional findings, it is highly unlikely that the project area contains the nine endangered plant taxa on the United States Fish and Wildlife Service Information for Planning and Consultation (IPaC) List (which identified threatened and endangered species that may potentially occur in the project area or may be affected by the Project). No terrestrial critical habitat has been identified in the highly disturbed environment of the project area.

A total of 57 plant species were observed in the project area, of which 47 are nonnative species, seven are native species, and three are Polynesian introductions. The native species observed within the project area are found elsewhere on Maui and in Hawaiʻi. In addition, as a majority of the plant species observed were predominantly nonnative species or Polynesian introductions, it is not anticipated that the construction of the Project would have an adverse effect on flora. To keep native plants and resources accessible, the Project would introduce native plants to the extent feasible, particularly those already observed or that may have occurred historically within the project area.

The endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) is found on Maui. This is the only terrestrial mammal native to Hawaiʻi. For the purpose of this assessment, it is assumed that Hawaiian hoary bats may use the project area, although none were observed during the biological survey. Surveys did observe evidence of feral mammals such as deer, pigs, mongoose, and cats. Furthermore, because the Project does not include any coastal, nearshore, or offshore marine environments, marine turtles (*Chelonia mydas* and *Eretmochelys imbricata*) and Hawaiian monk seals (*Neomonachus schauinslandi*) are not anticipated to experience any direct exposure due to Project activities.



Point count avian surveys identified 301 individuals representing 17 species. Appendix 3.10 contains the full list, which includes common and scientific names of the individual species, the legal regulatory status, the average number of individuals detected per count station, and how many count stations were occupied. These last two metrics were used to provide a qualitative relative abundance of observed bird species. Of these species, 14 are nonnative and three are native. Of the three native species, two are State or federally listed as threatened or endangered. Two Endangered Species Act listed bird species were observed in the project area: Hawaiian goose or nēnē (*Branta sandvicensis*) and Hawaiian stilt or aeʻo (*Himantopus mexicanus knudseni*). These species were observed during and outside of the point count stations.

To avoid potential effects from construction activities and over the long term (once the Project is complete and operational), the best management practices (BMPs) described in Section 3.10, Flora and Fauna, Endangered Species, (as well as the Biological Opinion) would be implemented. These include HDOT Construction and Post Construction BMPs¹ as well as avoidance and minimization measures.

6.3.2 Air Quality

Construction of the Project may result in temporary construction-related effects on the surrounding air quality. To minimize these effects, fugitive dust control measures would be incorporated as discussed in Section 3.15.5, Construction Effects. These measures could consist of frequent watering of exposed soil, the use of wind screens, limiting the total area of disturbance at any given time, and reestablishing landscaping as early as possible. On-site mobile and stationary construction equipment are anticipated to emit air pollutants from engine exhausts. However, due to the limited concentration of emissions and the distance from sensitive receptors (residential dwellings in the project area), no adverse effects to air quality from construction are anticipated.

In addition, the Project is not anticipated to change travel demand, vehicle mix, or the annual average daily traffic. Accordingly, no adverse effects to operational air quality as a result of the Project are anticipated. With low generation of ground-level ozone, the low concentration of pollutant emissions associated with project operations, and the existing low background pollutant concentrations, the Project is anticipated to comply with applicable State Ambient Air Quality Standards and National Ambient Air Quality Standards requirements.

6.3.3 Noise

Construction of the Project may result in temporary construction-related increases to the surrounding ambient noise levels. Section 3.16.5, Construction Effects, describes the areas that would have the potential to be affected by construction noise. High noise levels generated by construction activities may potentially impact one sensitive receptor location at the entrance to the Olowalu Petroglyphs.

Based on the anticipated noise levels at the nearest sensitive receptors, the State of Hawaiʻi Department of Health Community Noise Control criteria is anticipated to be periodically exceeded

1 [Construction BMP Training \(https://www.stormwaterhawaii.com/\)](https://www.stormwaterhawaii.com/).



throughout construction of the Project; therefore, a noise permit would be required. To mitigate the potential construction noise impacts that may exceed the “maximum permissible” property line noise levels, the construction contractor would submit a noise permit application to the State of Hawaiʻi Department of Health. This application would describe the BMPs needed to mitigate noise to the maximum extent practicable, which could include using mufflers on diesel and gasoline engines and using properly tuned and balanced machines.

As described in Section 3.16, Noise, Build Alternative 4 is anticipated to result in an operational adverse noise effect to one sensitive receptor, the Olowalu Petroglyphs. The other Build Alternatives, including the Selected Preferred Alternative (Chapter 5, Selected Preferred Alternative), are not anticipated to result in operational adverse noise effects.

6.3.4 Traffic

The Project is in a section of Honoapiʻilani Highway designated as rural principal arterial that has limited multimodal infrastructure and transit accessibility. During project construction, the existing highway would remain open and operational because the Build Alternatives are not on the existing alignment—with the exception of Build Alternative 1 in the Olowalu area.

Build Alternative 1 differs from the other Build Alternatives in that its alignment would overlap a segment of the existing Honoapiʻilani Highway north of Olowalu. Approximately 2.5 miles of Build Alternative 1 will be constructed in sub-phases, with lane closures causing traffic congestion along the highway corridor. These lane closures would be required for Build Alternative 1 because it uses and crosses the existing Honoapiʻilani Highway.

Additionally, all the Build Alternatives would have phased construction and lane closures at intersections as well as at the north and south ends of the project area, where the new roadway would connect to the existing roadway.

As described in Section 3.14, Transportation, construction of intersections, bridges and viaducts (where proposed) would cause temporary disruption of traffic on the cross streets. Accordingly, best practices for traffic maintenance would be employed during construction. While construction-related vehicles (including for commuting) would temporarily increase traffic on the existing Honoapiʻilani Highway, there would be measures in place to optimally focus these increases during non-peak-hour periods. Further, the design-build contractor would develop a traffic management plan to be implemented during project construction. The purpose of this plan would be to minimize traffic congestion and maintain the efficiency of the highway corridor.

6.3.5 Health, Safety, and Well-Being

Nearby residents and businesses may experience increased noise, fugitive dust, or emissions associated with construction of the Project. However, these potential increases are not anticipated to constitute a significant threat to the health, safety, and well-being of the public. The Project would relocate Honoapiʻilani Highway closer to several sensitive receptors and would therefore increase noise to these receptors. While an increase in noise levels is anticipated, this would not constitute an



adverse effect (with the exception of one sensitive receptor, the Olowalu Petroglyphs under Build Alternative 4).

The Project would result in a positive impact on the health, safety, and well-being of the local community, West Maui, and Maui County by providing a reliable transportation facility in West Maui and improving Honoapiʻilani Highway's resilience by reducing its vulnerability to coastal hazards. In addition, the Project would provide regional transportation system linkages that support the safe movement of people and goods and support regional land use and transportation plans. Further, the Project would maintain access to parklands, recreational facilities, and publicly accessible shoreline within the project area.

Based on this information, considerations of short-term uses of the environmental resources and the maintenance and enhancement of long-term productivity support implementing the Project.

6.4 EXTENT TO WHICH THE PROJECT FORECLOSES FUTURE OPTIONS

The Project is not anticipated to foreclose future options, narrow the range of beneficial uses of the environment, or pose a long-term risk to health and safety. To the maximum extent practicable, in consideration of several factors—including sea level rise and climate change, historic and cultural resources, and constructability—the Project would be constructed on land that is owned by the State of Hawaiʻi or the County of Maui.

6.5 POTENTIAL IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

An irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be reversed or recovered. Under the context of the commitment of resources, “irreversible” refers to eliminating future options for a resource, primarily the impacts of using nonrenewable resources (for example, minerals and raw materials). “Irretrievable” refers to using a resource that is nonrenewable and therefore cannot be recovered for future use.

The Project would use nonrenewable resources during construction and operations. The irreversible and irretrievable commitments of resources during construction may include the following:

- Using fossil fuels for construction vehicles and equipment, including excavators, dump trucks, bulldozers
- Using construction labor and materials (for example, concrete and steel)
- Excavating and disposing soil and sediment
- Displacing, clearing, and relocating existing vegetation
- Spending funds to finance construction

Short-term construction activities would consume fossil fuel and energy, as construction vehicles and equipment typically use either gasoline or diesel fuel. This would also include electrical construction equipment that relies on fossil-fuel generated electricity. Irreversible and irretrievable commitments



to resources during construction activities would be unavoidable but would be minor and temporary in nature.

The Project's land-clearing activities would remove existing trees and vegetation within the alignment of the Selected Preferred Alternative, which would constitute an irreversible and irretrievable loss of natural resources. As described in Section 3.10, Flora and Fauna, Endangered Species, the biological survey did not identify any plant species in the project area that are State or federally listed as threatened or endangered, candidate species for listing as endangered, or rare plant species native to Hawai'i. In addition, the native plant species that were observed within the project area are considered widespread on Maui and elsewhere in Hawai'i. The Project would incorporate native plant species to the extent practicable, particularly those already observed or that may have occurred historically within the project area.

Implementing the Project is anticipated to require acquiring privately owned land and buildings. Acquiring privately owned land would be carried out in compliance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 and Hawai'i's eminent domain procedures.

The Project is anticipated to require removing or altering historic and cultural resources that are listed or eligible for listing on the National Register of Historic Places—either as individual structures or as part of a historic district. Adverse effects on historic resources would be minimized or otherwise mitigated through measures identified in a Programmatic Agreement, which would be prepared pursuant to Section 106 of the National Historic Preservation Act (Section 3.6, Archaeological and Architectural Historic Properties).

The Project would locate new highway infrastructure within and adjacent to mapped surface waters and wetlands. The Hawai'i Department of Transportation (HDOT) would implement all practicable measures to avoid and/or minimize adverse effects to these features resulting from the Project. Potential measures to mitigate adverse effects to mapped surface waters and wetlands have been identified in consultation with the following:

- The County of Maui
- The State of Hawai'i State, Department of Health, Clean Water Branch
- The State of Hawai'i, Department of Land and Natural Resources
- The U.S. Army Corps of Engineers

Fossil fuels, labor, and construction materials such as concrete and steel would be expended irretrievably during project construction. In addition, labor and natural resources would be used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, these resources are not in short supply and their use would not have an adverse effect upon their continued availability. Construction would also require a one-time expenditure of federal and State funds, which are not retrievable.

The short-term use of public funds, construction labor, fossil fuels for construction equipment, and the materials needed to build the Project would ensure the long-term viability of the transportation



infrastructure in West Maui. The commitment of these resources is based on the principle that residents and businesses in the region would benefit from the improved reliability of the transportation system. The long-term benefits include improved safety and accessibility, as well as the enhanced livability, sustainability, and economic vitality of West Maui.