4.8 Visual and Aesthetic Conditions

This section describes the existing landscape's character and quality and discusses the Project's potential visual effects. It discusses potential mitigation measures, including ways to avoid or minimize effects on visual quality and restore or enhance visual quality.

The Project's potential effects include removing trees, altering 'Ewa-Koko Head and mauka-makai views, blocking some views, and introducing project components that are out of scale or character with their setting. Potential effects consider viewer response to project changes, new light and shadow sources in sensitive areas, and effects on views designated in policy documents. The viewpoints and view direction are identified in Figure 4-16. For additional information and references, see the *Honolulu High-Capacity Transit Corridor Project Visual and Aesthetics Resources Technical Report* (RTD 2008e).

4.8.1 Background and Methodology

City policy documents and ordinances include provisions for protecting, enhancing, and developing resources related to the visual integrity and quality of communities and areas covered by these plans. The following plans include objectives related to the visual environment and identify key views within their plan areas:

- *City and County of Honolulu General Plan* (DPP 2002a)
- *'Ewa Development Plan* (DPP 2000)
- *Central O'ahu Sustainable Communities Plan* (DPP 2002b)
- *Primary Urban Center Development Plan* (DPP 2004a)
- *'Aiea-Pearl City Livable Communities Plan* (DPP 2004b)
- *Waipahu Livable Communities Initiative* (DPP 1998a)
- *Waipahu Town Plan* (DPP 1998b)

Special District Regulations in Chapter 21 of the *Revised Ordinances of Honolulu* (ROH) (ROH 1978a) include policies that safeguard special features and characteristics of particular districts to allow for their preservation and enhancement. Districts that may be affected by the Project include Hawai'i Capitol (Section 21-9.30), Punchbowl (Section 21-9.50), and Chinatown (Section 21-9.60).

Visual assessment for the Project follows USDOT guidance. Although this guidance was developed for highway projects, it was used because the Project is a linear transportation facility and the FTA has not issued guidance specific to transit projects. DPP and other interested groups (e.g., the Outdoor Circle, Scenic Hawai'i, Inc., the Honolulu Chapter of the American Institute of Architects) also provided data or input. The major components of the visual assessment process included the following tasks:

- Establishing the affected environment—this includes identifying visually sensitive resources, such as landmarks, significant views and vistas, and view corridors
- Describing and assessing the affected environment's character and quality
- Determining major viewer groups that have views to and from the project alignment
- Evaluating views that will be interrupted by the facility and views from the facility, including viewer group response
- Describing visual effects that will occur to include the change in visual character and view plane changes, plus the viewer group response
- Developing measures to mitigate the Project's significant impacts

4.8.2 Affected Environment

The visual environment that will be affected by the Project includes areas that will have a view of the Project, areas visible from the corridor, and views that the Project could affect or create.

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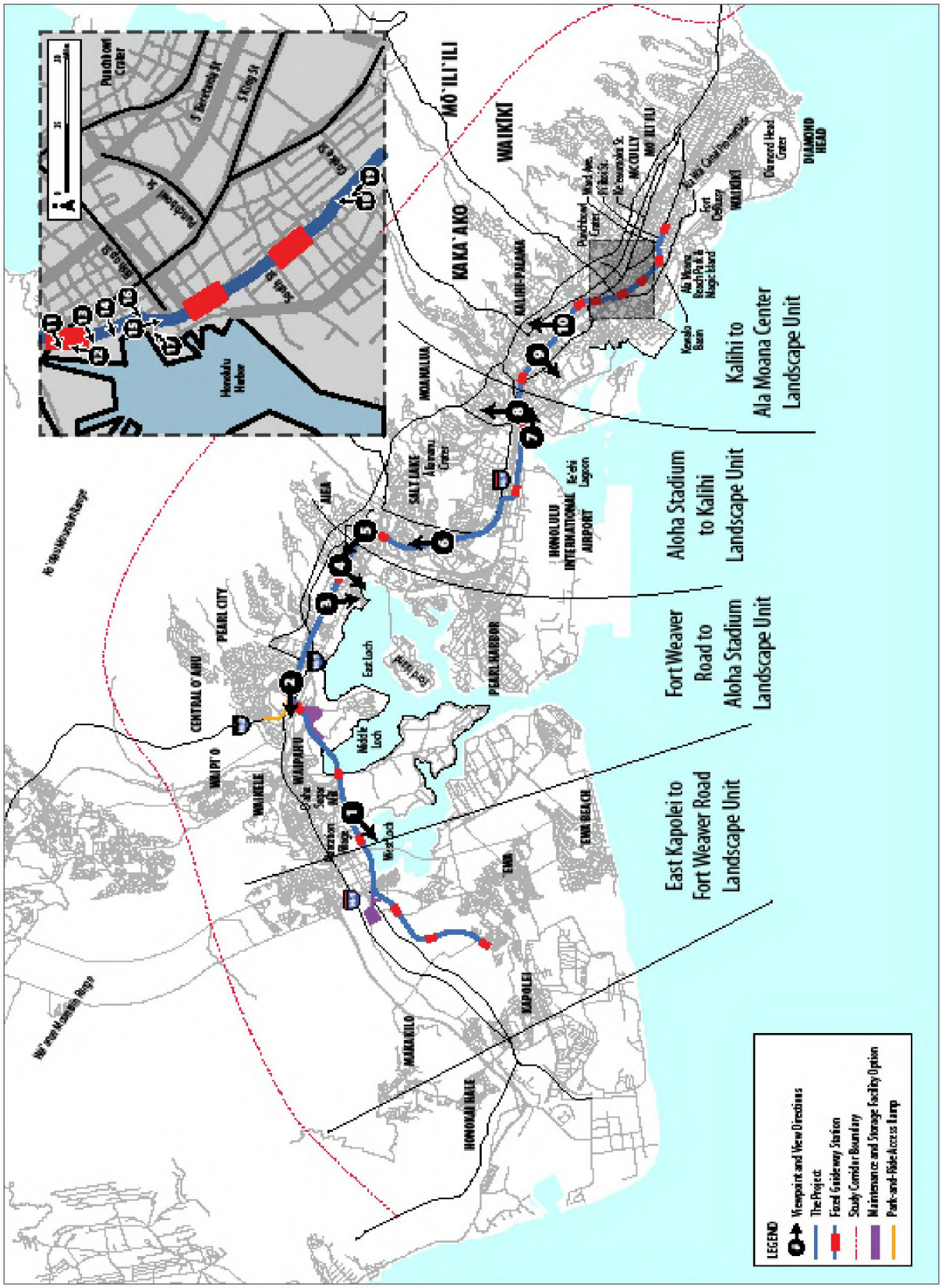

Figure 4-16 Visually Sensitive Resources and Representative Viewpoints within the Project Corridor

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The Waiʻanae and Koʻolau Mountain Ranges and the coastline are visible from most of the project corridor along Farrington Highway, Kamehameha Highway, and Interstate Route H-1 (H-1 Freeway). The integrity of these landforms and the condition of public open spaces are important factors in determining visual character and quality.

Within coastal areas, the most scenic views are often captured when looking laterally along the coastline. These views capture the contrast between ocean and land form, usually in a distinctive visual pattern. Views at a strict 90-degree angle from the shoreline (e.g., along roadway corridors) are generally flat and uniform.

Viewer Groups

Major viewer groups within the project corridor include residents, commuters, business owners, recreationists, and visitors. *Residents* are people who observe the visual environment daily and for extended periods. *Commuters* are those who frequently travel through an area and, therefore, are familiar with the existing visual environment. However, this group may not have the same sense of ownership as residential viewer groups because they do not reside within that environment but only pass through it. *Business owners* have a vested interest in the visual environment surrounding their operations. Most business owners are familiar with their surrounding environment and may have a sense of ownership. *Recreationists* include people who frequent local parks, hiking trails, bikeways, and watercourses. They have definite expectations about the visual environment's condition. Visitors consist of both first-time and repeat visitors to the area. *Visitors* may consist of tourists, delivery or service personnel, or business employees and customers. This viewer group is less familiar with the existing visual environment's specific details, but they tend to have some sensitivity to and expectation of the surrounding environment.

Visually Sensitive Resources

Visually sensitive resources in the project corridor include landmarks, significant views and vistas, historic and cultural sites, and Exceptional Trees. These resources are important because of their scenic quality, scale, and prominence within the visual environment and have been identified as such. Historic and cultural sites are discussed in Section 4.16, and Exceptional Trees are discussed in Section 4.15.

Landmarks, such as parks or open space, represent unique characteristics of a place or provide great value to local residents and visitors. Landmarks are also places or structures that have a unique style based on their architectural period, artistic merit, and the intrinsic qualities of Hawaiʻi. Landmarks represent the heart of a community and the people affected by events that occurred. Pearl Harbor is considered a historical landmark because of the part it played in the island's history.

Protected views and vistas are identified in policy documents that govern the project corridor and include protected mauka and makai views, as well as views of prominent landmarks. The protected views and vistas are identified in Figures 4-17 to 4-19.

The Project's visual environment changes from rural in the Waiʻanae end of the corridor to dense high-rise development at the Koko Head end. The visual analysis considers the corridor in the following four landscape units, each of which is incrementally more urbanized (Figure 4-16).

Landscape Units are geographic areas where views of the Project would have a similar context or character.

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East Kapolei to Fort Weaver Road Landscape Unit

This landscape unit extends from Kapolei to Fort Weaver Road and includes the communities of Kapolei and ʻEwa. Much of Oʻahu's current and future population growth is expected to take place in this area, but it is still relatively rural and most of the area currently consists of agricultural cultivation and open space. Views across the ʻEwa Plain are still relatively open, allowing for mountain and ocean vistas as well as distant views of Downtown high-rises. Protected views and vistas in this landscape unit are identified in the *ʻEwa Development Plan* (DPP 2000) and include the following (Figure 4-17):

- Views of central Honolulu and Diamond Head from the ʻEwa Plain (see View and Vista A)
- Views of na puʻu at Kapolei, Pālailai, and Makakilo (see View and Vista B)
- Distant views of the shoreline from the H-1 Freeway above the ʻEwa Plain (see View and Vista C)
- Views of the Waiʻanae Mountain Range from the H-1 Freeway between Kunia Road and Kaloʻi Gulch and from Kunia Road (see View and Vista D)

Fort Weaver Road to Aloha Stadium Landscape Unit

This landscape unit extends from Fort Weaver Road to Aloha Stadium. This area contains the

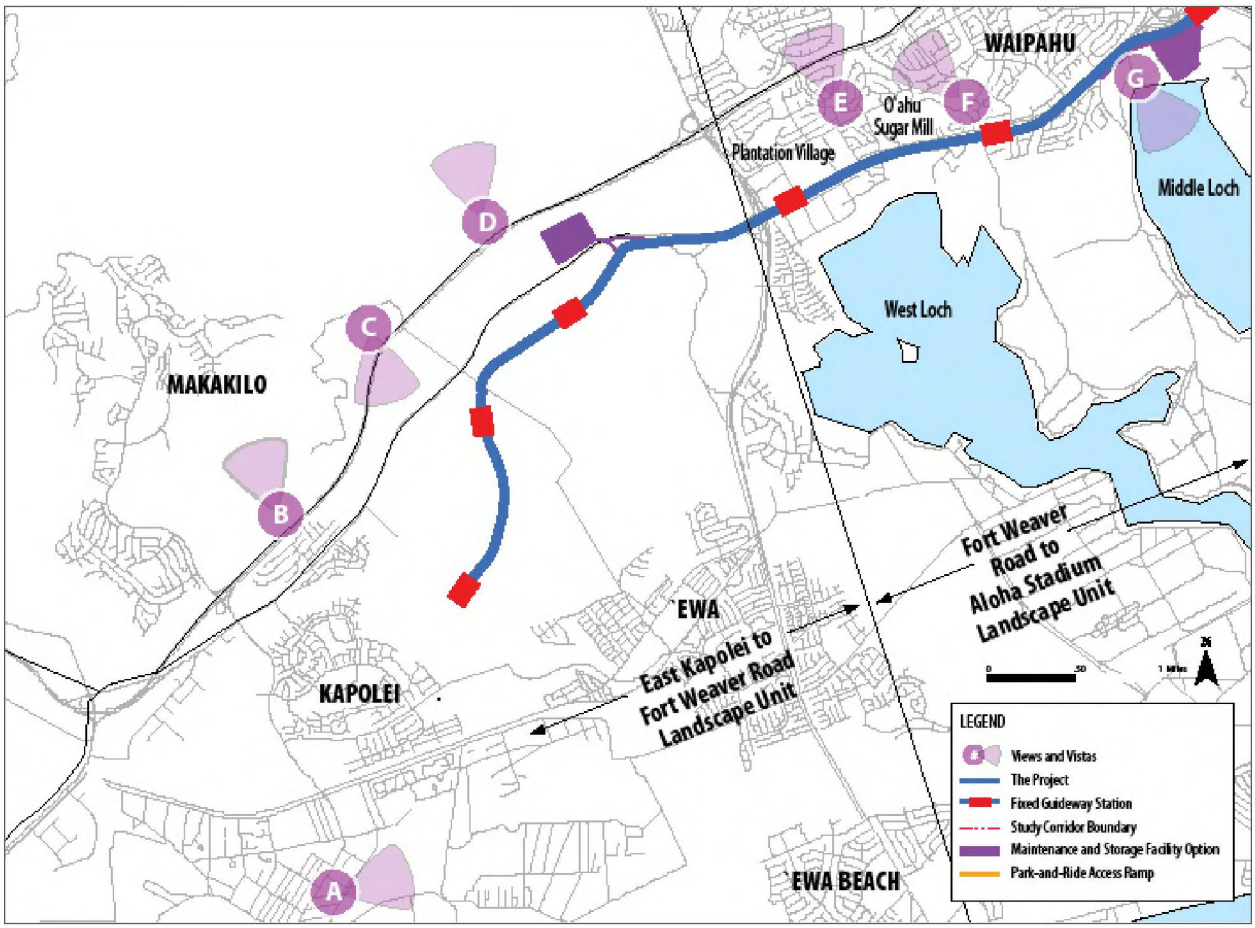

Figure 4-17 Protected Views and Vistas (East Kapolei to Fort Weaver Road)

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wide fertile plateau that connects the Waiʻanae and Koʻolau Mountain Ranges and was previously in extensive agricultural use. It is now a growing suburban area, with access facilitated by the H-1 Freeway, Kamehameha Highway, and Moanalua Road. The demands of growth and development within the Central Oʻahu area have affected the natural environment, reducing some of its natural assets and replacing them with a built environment. This landscape unit is characterized by residential neighborhoods with one- and two-story residences. Clustered one- and two-story businesses are located along the Farrington Highway and Kamehameha Highway corridors. Most businesses are surrounded by parking lots that include large paved areas. Some of the paved areas include pockets of mature trees and shrubs that make the pavement appear less dominant. Utility poles and overhead utility lines are prevalent along both highway corridors. Significant protected views and vistas in this landscape unit are identified in the *Central Oʻahu Sustainable Communities Plan* (DPP 2002b) and the *Primary Urban Center Development Plan* (DPP 2004a) and include the following: (Figures 4-17 and 4-18)

- Views of the Waiʻanae Mountain Range from the Waipahu Cultural Garden (see View and Vista E)
- Views of the Waipahu Sugar Mill from Waipahu Depot Road (see View and Vista F)

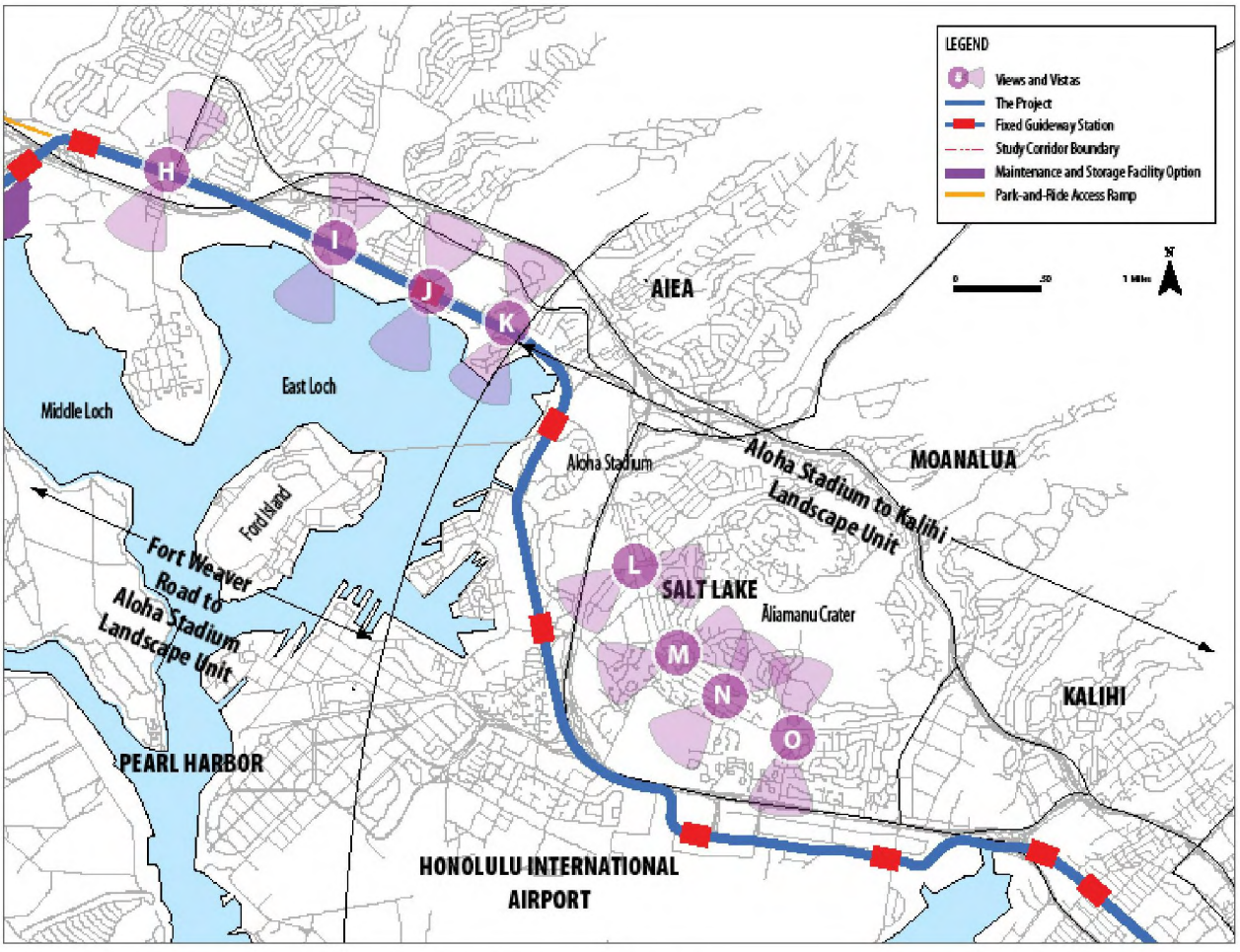

Figure 4-18 Protected Views and Vistas (Fort Weaver Road to Aloha Stadium)

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- Views of Pearl Harbor from Farrington Highway near Waipahu High School (see View and Vista G)
- Waimano Home Road/Kamehameha Highway Intersection (see View and Vista H)
- Kaʻahumanu Street/Kamehameha Highway Intersection (see View and Vista I)
- Kaonohi Street/Kamehameha Highway Intersection (see View and Vista J)
- Honomanu Street/Kamehameha Highway Intersection (see View and Vista K)

Aloha Stadium to Kalihi Landscape Unit

The landscape unit from Aloha Stadium to Kalihi includes the Salt Lake portion of the PUC Development Plan Area, which comprises the communities of Salt Lake, Moanalua, and the Airport Area. These consist primarily of residential neighborhoods of one- and two-story residences and supporting commercial uses. The airport area encompasses industrial and commercial service-oriented buildings surrounded by large paved areas. Honolulu International Airport, Pearl Harbor Naval Base, and Hickam Air Force Base are located within this landscape unit. Views within this landscape unit are somewhat limited to the immediate surroundings because of dense development and the large scale of the many commercial and industrial buildings. The mountains can be viewed periodically from elevated locations and transportation corridors, such as Salt Lake Boulevard and Kamehameha Highway. Protected views and vistas in this landscape unit are identified in the *Primary Urban Center Development Plan* (DPP 2004a) and include the following (Figure 4-18):

- Bougainville Drive—mauka/makai (see View and Vista L)
- Maluna—mauka/makai (see View and Vista M)
- Wanaka Street—mauka/makai (see View and Vista N)
- Ala Likiko'i Street—mauka/makai (see View and Vista O)

Kalihi to Ala Moana Center Landscape Unit

The Kalihi to Ala Moana Center landscape unit comprises a continuous urban corridor and the highest densities of the PUC. Kalihi to Iwilei includes the neighborhood community of Kalihi-Palama, which contains waterfront properties that house extensive maritime operations. Business districts with major wholesale and distribution facilities line King Street and Nimitz Highway. Farther Koko Head, this landscape unit encompasses Downtown, Kakaʻako, and Ala Moana. The mountains and shoreline that define the mauka and makai edges of this landscape unit are dominant elements of the landscape. Within the corridor, open space consists of volcanic craters, streams, and other water bodies, as well as larger parks and campuses. The mauka edge includes the Koʻolau Mountain Range and its undeveloped foothills and slopes. The makai edge includes the shorelines and waters of the Pacific Ocean and such landmarks as Honolulu Harbor and Ala Wai Harbor. Direct views of the mountains and ocean are not common, but the Downtown skyline is visible from several areas. Significant protected views and vistas in this landscape unit are identified in the *Primary Urban Center Development Plan* (DPP 2004a) and include the following (Figure 4-19):

- Bishop Street—mauka/makai (see View and Vista P)
- Panoramic views—Punchbowl Lookout toward Diamond Head (see View and Vista Q)
- Panoramic views—Kakaʻako Waterfront Park toward Punchbowl and the Koʻolau Mountains (see View and Vista R)
- Cooke Street—mauka/makai (see View and Vista S)
- Ward Avenue—mauka/makai (see View and Vista T)
- Panoramic views—Kewalo Basin toward the Koʻolau Mountain Range and Punchbowl (see View and Vista U)
- Panoramic views—Ala Moana Beach Park toward the Koʻolau Mountain Range (see View and Vista V)

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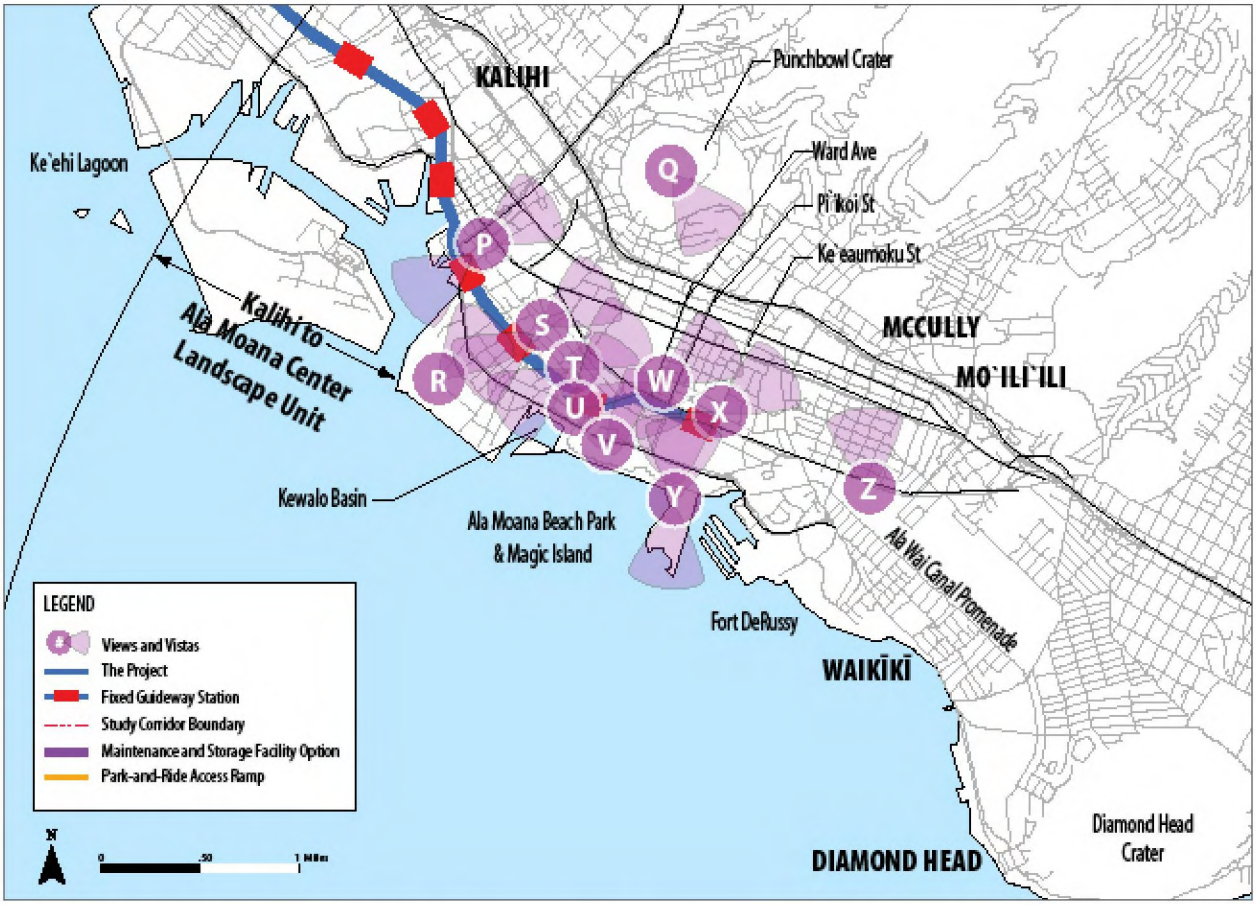

Figure 4-19 Protected Views and Vistas (Kalihi to Ala Moana Center)

- Pi'ikoi Street—mauka/makai (see View and Vista W)
- Ke'eaumoku Street—mauka/makai (see View and Vista X)
- 'Āina Moana Park (Magic Island)—mauka/makai (see View and Vista Y)
- Panoramic views—Ala Wai Canal Promenade toward the Ko'olau Mountains (see View and Vista Z)

4.8.3 Environmental Consequences and Mitigation

Throughout the Draft EIS review and comment period, many commented that visual changes associated with the project elements will result in substantial visual effects. Many comments received expressed concern that the elevated fixed guideway transit system will adversely affect O'ahu's unique visual character by creating blight and degrading views. In addition, commenters requested more information on how the project elements will be integrated with their communities, especially in the areas around stations.

These commenters on view effects are representative of the various viewer groups that have been considered in the visual and aesthetic conditions analysis presented in this Final EIS. In response to their comments, further analysis of views and vistas has been done, and the visual effects of several key views have been reevaluated. The reevaluation resulted in revised ratings from moderate to significant for Views 12, 14, and 15 in the downtown area. The mitigation section has also been expanded to include detailed mitigation measures. Although mitigation measures will minimize many adverse visual effects by providing visual buffers and reducing visual contrasts between

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the project elements and their surroundings, the Final EIS acknowledges that probable unavoidable adverse effects, such as view blockage, cannot be mitigated and will be significant in some areas. The Final EIS also acknowledges that the Project will conflict with Revised Ordinances of Honolulu Section 24-1.4 (ROH 1978b) where project elements such as the guideway will block protected mauka-makai view corridors. This ordinance states that, "…such views shall be protected by appropriate building heights, setbacks, design and siting controls established in the Land Use Ordinance."

Environmental Consequences

Visual and aesthetic consequences are changes to the visual landscape and viewer response to those changes. The Project's visual consequences have been categorized as low, moderate, or significant as follows:

- **Low** visual effects generally occur when transportation elements (such as roadways) are already part of the view, when the view has few or no visually sensitive resources, and when the Project will introduce few (if any) noticeable changes. Viewer groups will not likely notice a visual change or expect a scenic viewpoint. Minor changes in light and glare may occur.
- **Moderate** visual effects occur when changes to the existing view will be noticeable but not substantial and/or when visually sensitive resources will undergo a noticeable change in view. Viewer groups will be somewhat aware and sensitive to visual change. Noticeable changes in light and glare may occur.
- **Significant** visual effects occur when substantial changes to existing views will be made and will result in a greatly changed view and/or when visually sensitive resources will undergo a substantial change in view. Viewer groups will be sensitive to visual change because they will expect attractive views or surroundings. Substantial changes in light or glare will occur.

View obstructions and changes to views will be most noticeable where the guideway and stations are nearby or in the foreground of views, and some viewers may consider this an adverse visual effect. Viewpoints that are not located near these project elements will generally be less affected. For example, view changes are not likely to be obtrusive in wider vistas or regional panoramic views where the project elements serve as smaller components of the larger landscape. The guideway and stations will not be dominant elements in these views.

The viewer's response to view changes may vary with exposure and sensitivity and depend on the alignment orientation and the height of the guideway, stations, and surrounding trees and buildings. Overall, the Project will be set in an urban context where visual change is expected and differences in scales of structures are typical. The Project will also provide users with expansive views from several portions of the corridor by elevating riders above highway traffic, street trees, and low structures adjacent to the alignment.

The potential visual effects of the Project are summarized in Table 4-9.

No Build Alternative

Under the No Build Alternative, the Project will not be built and there will be no impact to the visual and aesthetic conditions. Although the projects in the ORTP will be built, their environmental impacts will be studied in separate documents.

The Project

The Project will be set in an urban context where visual change is expected and differences in scales of structures are typical. However, during the Draft EIS review process, many viewers have commented that visual changes associated with the Project will be substantial. Significant visual effects will result, particularly when considered at a single location. Residents living in high-rise buildings adjacent to

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Table 4-9 Visual Effects of the Build Alternatives (continued on next page)

Viewpoint (illustrated on Figure 4-16)	Location/View Direction	Existing Visual Quality	Visual Impact	Assessment
East Kapolei to Fort Weaver Road Landscape Unit				
n/a	Views assessed are in the general context of planned development	Moderate to High	Low to Moderate	The guideway and stations will noticeably contrast with the smaller scale buildings nearby, such as the U.S. Navy housing. They will also contrast with the open, undeveloped character that is predominant in this area. However, these areas are expected to be developed or redeveloped under the City's land use plans and zoning and become more urban in character. This is expected to occur in a similar time frame as the transit improvements. As a result, the contrast will become less noticeable.
Fort Weaver Road to Aloha Stadium Landscape Unit				
1	Farrington Highway near Waikele Road, looking `Ewa	Moderate	Moderate	The guideway will not substantially affect most panoramic and distant views of the mountains and will have a limited effect on the area's scenic quality. Farrington Highway is a major transportation corridor and project elements will be in character with the surrounding area.
2	Kamehameha Highway Near Acacia Road, looking `Ewa	Moderate	Moderate	The guideway will affect mauka views by partially blocking existing distant views of the sky and mountains. The scale and height of the guideway are in character with the adjacent buildings.
3	Kamehameha Highway at Ka`ahumanu Street, looking makai	Moderate	Significant	The bulk and scale of the guideway and columns will be dominant features, obstructing views of the tree canopies in Neal S. Blaisdell Park and substantially changing makai views toward the park.
4	Kamehameha Highway at Kaonohi Street, looking makai	Low	Moderate	Although changes to the existing view will be noticeable, the project elements will blend with the existing visual environment. The utility lines will be less prominent against the guideway in the background.
Aloha Stadium to Kalihi Landscape Unit				
5	Aloha Stadium, looking `Ewa	High	Moderate	The project elements will change the composition of panoramic views with the high visibility of the guideway. However, these more distant views, which include the mountains and urban skyline, take in a wider view and will not be substantially affected.
6	Kamehameha Highway near Radford Drive and the Pearl Harbor Naval Base Station Area, looking makai	Low	Moderate	The Pearl Harbor Naval Base Station and guideway will dominate the linear view corridor above Kamehameha Highway. However, the highway is a major transportation corridor, and visual effects will not be substantial.
7	Ke`ehi Lagoon Beach Park, looking Koko Head	High	Low	The guideway and columns will be prominent elements in the background of mauka views from the park, where it will extend above Waiwai Loop Road. In addition, the guideway's bulk and scale will contrast with the open character of park facilities as it traverses the perimeter of tennis courts and a ball field. Further Koko Head it will run parallel with the H-1 Freeway viaduct and Nimitz Highway, where it will be less noticeable.
8	Ke`ehi Lagoon Beach Park, looking mauka	High	Low	The guideway will be slightly more visible than the highway in the background. However, it will not noticeably conflict with the view's character.

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Table 4-9 Visual Effects of the Build Alternatives (continued from previous page)

Viewpoint (illustrated on Figure 4-16)	Location/View Direction	Existing Visual Quality	Visual Impact	Assessment
Kalihi to Ala Moana Center Landscape Unit				
9	Dillingham Boulevard at Kalihi, looking makai	Low	Moderate	The bulk of the guideway and columns will be out of scale with existing buildings. However, overhead utility lines are prevalent along Dillingham Boulevard, and the project elements will not contrast substantially with the setting's character.
10	Dillingham Boulevard near Honolulu Community College and Kapālama Station Area, looking `Ewa	Moderate	Moderate	The Kapālama Station and guideway will be dominant features in views along Dillingham Boulevard. The remaining trees will soften this effect.
11	Nimitz Highway Bridge and Chinatown Station Area, looking makai	Moderate	Significant	The Chinatown Station and guideway will be dominant features in views along Nimitz Highway. Distant makai views over Nu`uanu Stream and Honolulu Harbor will be partially blocked. The project elements will contrast substantially with Chinatown's historic character.
12	Nimitz Highway, makai of Nimitz Highway/Maunakea Street Intersection, looking `Ewa and mauka	Low	Significant	The Chinatown Station and guideway will dominate features in views along Nimitz Highway, and mauka views of the Ko`olau Mountain Range will be blocked. These project elements will also contrast with Chinatown's historic character.
13	Maunakea Street, looking makai	High	Moderate	The guideway and columns will be prominent features in makai views of Honolulu Harbor, partially blocking views of the sky.
14	O`ahu Market at King Street, looking makai	High	Significant	The guideway and columns will be prominent features in views down Kekaulike Street in Chinatown's O`ahu Market. The bulk and scale of these project elements will be out of character with the pedestrian-oriented environment created by the O`ahu Market's architecture and streetscape.
15	Nimitz Highway/Fort Street Intersection mauka of Irwin Park and Aloha Tower Market Place, looking Koko Head	Moderate	Significant	The Downtown Station and guideway will be dominant features in views along Nimitz Highway. These project elements will contrast substantially with Irwin Park street trees along the highway and the nearby smaller scale office buildings.
16	Fort Street Mall at Merchant Street, looking makai	High	Low	Just visible through the trees, the guideway structure will partially block a view of the Aloha Tower. Visual effects will be more noticeable for viewers closer to Nimitz Highway.
17	Aloha Tower Drive at Irwin Park and Aloha Tower Market Place, looking mauka	High	Moderate	The guideway and columns will only be slightly visible beyond the trees. However, the bulk and scale of the guideway will contrast with the more pedestrian-scale character of the streetscape.
18	Halekauwila Street/Cooke Street Intersection, looking mauka past Mother Waldron Neighborhood Park	Moderate	Significant	The bulk and scale of the straddle bent guideway and columns will contrast substantially with the scale and character of Mother Waldron Neighborhood Park and the four-story residential building mauka of Halekauwila Street.
19	Mother Waldron Neighborhood Park near Halekauwila Street/Cooke Street Intersection, looking `Ewa	High	Significant	The straddle bent guideway and columns will create a sense of enclosure for drivers on Halekauwila Street and pedestrians on adjacent sidewalks. These project elements will also contrast substantially with the scale and character of Mother Waldron Neighborhood Park and the adjacent four-story residential building. Makai views from these upper-story residences will be blocked.

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the project alignment will experience varied visual changes as a result of the Project.

Visual simulations of the the Project were developed for 19 representative viewpoints that will be affected by the Project to illustrate commonly experienced visual effects. The locations of these viewpoints are shown on Figure 4-16. The simulations (Figures 4-20 through 4-38) depict the guideway and other project elements to illustrate the facilities' sizes and positions but do not include detailed design features. For stations, they show a typical prototype without design detail because station configurations and finishes have yet to be developed, and input will be considered from communities surrounding each station through the Final EIS and design processes.

The fixed guideway and stations will be elevated structures. They will result in noticeable changes to views where project elements will be near existing views or in the foreground of these views. This change will also occur for motorists traveling on the roadways along and under the guideway. Some adverse visual effects, such as view blockage, cannot be mitigated and will result in probable unavoidable adverse environmental effects.

The stations will be dominant visual elements in their settings and will noticeably change views. Stations are shown in the visual simulations in Figures 4-25, 4-29, 4-31, and 4-34. Support facilities, such as traction power substations, will also noticeably change existing views. However, most will be located adjacent to roadways where utilities are already part of the view, so the change will not be dramatic or substantial.

There will be additional lighting associated with park-and-ride facilities, stations, maintenance and storage facility, and trains, which include interior and safety lighting for the stations and interior lighting and headlights on the trains. For most of the alignment, light and glare associated with the guideway and trains are not anticipated to have an effect because the guideway will generally be located in existing roadway rights-of-way, which currently produce transportation-related light and glare. Furthermore, the light intensity from trains is expected to be comparable to or less than existing buildings and vehicles along the alignment.

The shadow pattern created by the elevated stations and guideway will change throughout the day and seasonally, depending on the alignment's direction, time of day, and time of year. Shadow impacts along the alignment will vary with orientation, height of the stations and guideway, and the height of surrounding trees and local development.

Viewpoints not located near the alignment will generally be less affected by changes in the visual environment because they will take in a longer, more expansive landscape. Project elements will be noticeable but not dominant features in these views, and visual effects to significant views and vistas will be low to moderate. Passengers on trains will have enhanced views of these areas compared to passengers in vehicles, whose views are often obstructed by buildings, vehicles, and commercial signage. Public views include views along streets and highways, mauka-makai view corridors, panoramic and significant landmark views from public places, views of natural features, heritage resources and other landmarks, and view corridors between significant landmarks (ROH 1978b). ROH Section 24-1.4 states that, "[s]uch public views shall be protected by appropriate building heights, setbacks, design and siting controls" and that "[t]hese controls shall be determined by the particular needs of each view and applied to public streets and to both public and private structures." The guideway and some stations will partially block mauka-makai public views from streets that intersect with the alignment and, therefore, are not consistent with this land use ordinance.

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Figure 4-20 Viewpoint 1—Farrington Highway near Waikele Road, looking `Ewa

The guideway will not substantially affect most panoramic and distant views of the mountains and will have a limited effect on the area's scenic quality. Farrington Highway is a major transportation corridor, and project elements will be in character with the surrounding area.

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Figure 4-21 Viewpoint 2—Kamehameha Highway near Acacia Road, looking `Ewa

The guideway will affect mauka views by partially blocking existing distant views of the sky and mountains. The scale and height of the guideway are in character with the adjacent buildings.

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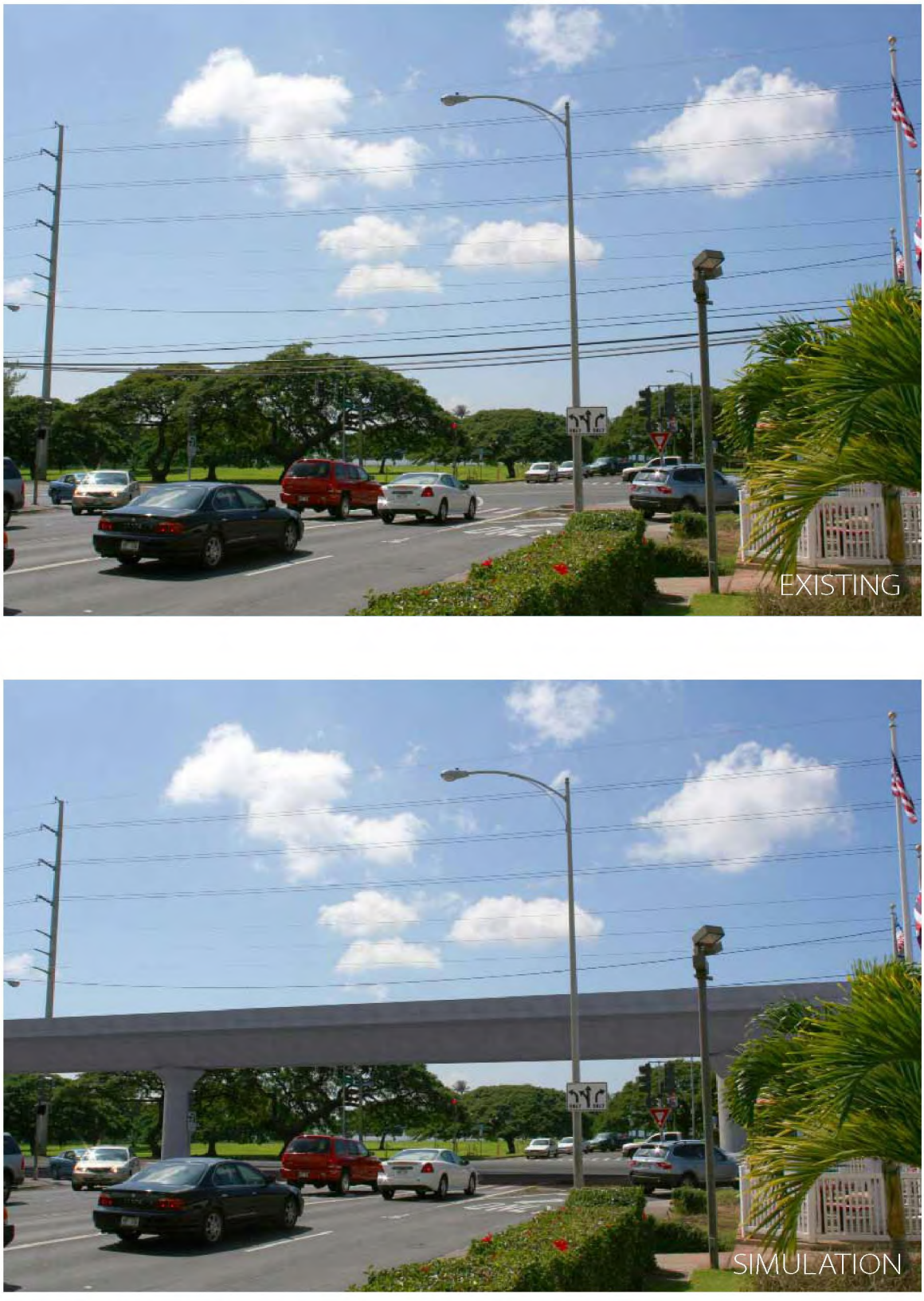

Figure 4-22 Viewpoint 3—Kamehameha Highway at Ka`ahumanu Street, looking Makai

The bulk and scale of the guideway and columns will be dominant features, obstructing views of the tree canopies in Neal S. Blaisdell Park and substantially changing makai views toward the park.

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Figure 4-23 Viewpoint 4—Kamehameha Highway at Kaonohi Street, looking Makai

Although changes to the existing view will be noticeable, the project elements will blend with the existing visual environment. The utility lines will be less prominent against the guideway in the background.

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Figure 4-24 Viewpoint 5—Aloha Stadium, looking `Ewa

The project elements will change the composition of panoramic views with the high visibility of the guideway. However, these more distant views, which include the mountains and urban skyline, take in a wider view and will not be substantially affected.

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Figure 4-25 Viewpoint 6—Kamehameha Highway near Radford Drive and the Pearl Harbor Naval Base Station Area, looking Mauka

The Pearl Harbor Naval Base Station and guideway will dominate the linear view corridor above Kamehameha Highway. However, the highway is a major transportation corridor, and visual effects will not be substantial.

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Figure 4-26 Viewpoint 7—Ke`ehi Lagoon Beach Park, looking Koko Head

The guideway and columns will be prominent elements in the background of mauka views from the park, where it will extend above Waiwai Loop Road. In addition, the guideway's bulk and scale will contrast with the open character of park facilities as it traverses the perimeter of tennis courts and a ball field. Further Koko Head it will run parallel with the H-1 Freeway viaduct and Nimitz Highway, where it will be less noticeable.

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Figure 4-27 Viewpoint 8—Ke`ehi Lagoon Beach Park, looking Mauka

The guideway will be slightly more visible than the highway in the background. However, it will not noticeably conflict with the view's character.

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Figure 4-28 Viewpoint 9— Dillingham Boulevard at Kalihi, looking Makai

The bulk of the guideway and columns will be out of scale with existing buildings. However, overhead utility lines are prevalent along Dillingham Boulevard, and the project elements will not contrast substantially with the setting's character.

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Figure 4-29 Viewpoint 10—Dillingham Boulevard near Honolulu Community College and Kapālama Station Area, looking `Ewa

The Kapālama Station and guideway will be dominant features in views along Dillingham Boulevard. The remaining trees will soften this effect.

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Figure 4-30 Viewpoint 11—Nimitz Highway Bridge and Chinatown Station Area, looking Makai

The Chinatown Station and guideway will be dominant features in views along Nimitz Highway. Distant makai views over Nu'uanu Stream and Honolulu Harbor will be partially blocked. The project elements will contrast substantially with Chinatown's historic character.

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Figure 4-31 Viewpoint 12—Nimitz Highway, makai of Nimitz Highway/Maunakea Street Intersection, looking `Ewa and Mauka

The Chinatown Station and guideway will dominate features in views along Nimitz Highway and mauka views of the Ko`olau Range will be blocked. These project elements will also contrast with Chinatown's historic character.

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Figure 4-32 Viewpoint 13—Maunakea Street, looking Makai

The guideway and columns will be prominent features in makai views of Honolulu Harbor, partially blocking views of the sky.

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Figure 4-33 Viewpoint 14—O`ahu Market at King Street, looking Makai

The guideway and columns will be prominent features in views down Kekaulike Street in Chinatown's O'ahu Market. The bulk and scale of these project elements will be out of character with the pedestrian-oriented environment created by the O'ahu Market's architecture and streetscape.

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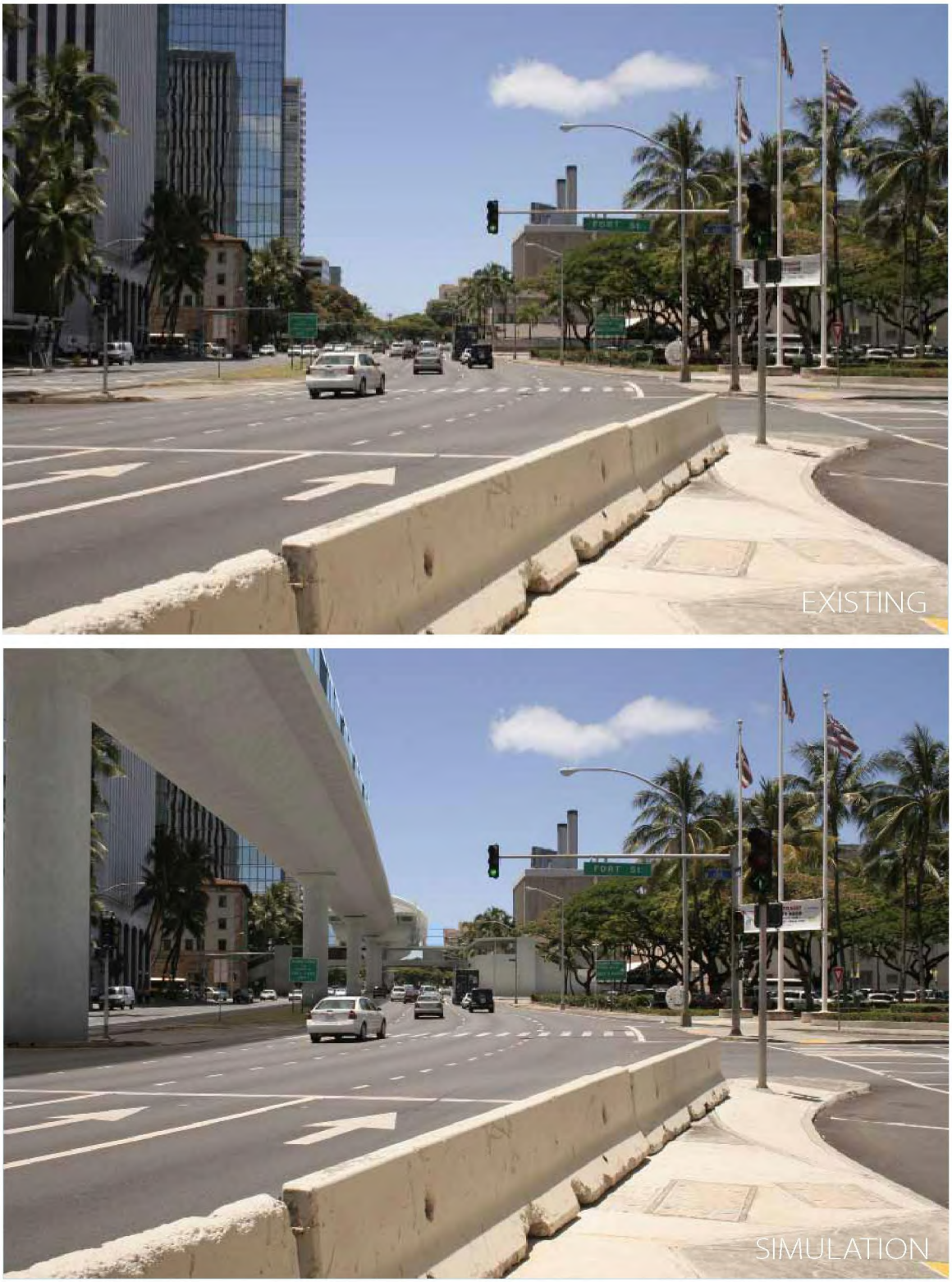

Figure 4-34 Viewpoint 15—Nimitz Highway/Fort Street Intersection Mauka of Irwin Park and Aloha Tower Marketplace, looking Koko Head

The Downtown Station and guideway will be dominant features in views along Nimitz Highway. These project elements will contrast substantially with Irwin Park street trees along the highway and the nearby smaller scale office buildings.

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Figure 4-35 Viewpoint 16—Fort Street Mall at Merchant Street, looking Makai

Just visible through the trees, the guideway structure will partially block a view of the Aloha Tower. Visual effects will be more noticeable for viewers closer to Nimitz Highway.

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Figure 4-36 Viewpoint 17—Aloha Tower Drive at Irwin Park and Aloha Tower Marketplace, looking Mauka

The guideway and columns will only be slightly visible beyond the trees. However, the bulk and scale of the guideway will contrast with the more pedestrian-scale character of the streetscape.

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Figure 4-37 Viewpoint 18—Halekauwila Street/Cooke Street Intersection, looking Mauka past Mother Waldron Neighborhood Park

The bulk and scale of the straddle bent guideway and columns will contrast substantially with the scale and character of Mother Waldron Neighborhood Park and the four-story residential building mauka of Halekauwila Street.

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Figure 4-38 Viewpoint 19—Mother Waldron Neighborhood Park near Halekauwila Street/Cooke Street Intersection, looking `Ewa

The straddle bent guideway and columns will create a sense of enclosure for drivers on Halekauwila Street and pedestrians on adjacent sidewalks. These project elements will also contrast substantially with the scale and character of Mother Waldron Neighborhood Park and the adjacent four-story residential building. Makai views from these upper-story residences will also be blocked.

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RTD will coordinate with DPP regarding the particular needs of each view. The Project will introduce a new linear visual element to the corridor, and changes to some views will be significant and unavoidable. Depending on the degree of view obstruction or blockage, some view changes will be substantial. The viewer's response to this change will vary with exposure and sensitivity and depend on the alignment orientation, guideway and station height, and height of surrounding trees and/or buildings. View changes will be less notable in wider vista or panoramic views where the project elements serve as smaller components of the larger landscape. Generally, the project elements will not be dominant features in these views.

Significant views and vistas and an assessment of expected changes in visual quality for viewpoints and views along the project alignment are presented below for each landscape unit.

The Project will provide users with expansive views from several portions of the corridor by elevating riders above highway traffic, street trees, and low structures adjacent to the alignment.

East Kapolei to Fort Weaver Road Landscape Unit

The surrounding visual environment consists mostly of scattered residential development and open agricultural land. The area is planned for future development, which will substantially alter the visual environment independent of the Project. The Project will change the visual environment in this area, but these changes are expected to occur in a similar time frame as the planned development.

The potential for the guideway and stations to block mauka-makai views and vistas of features and landmarks will vary throughout this landscape unit. Viewpoints that are not close to the alignment will generally be less sensitive to changes in the visual environment because they take in a longer, more expansive landscape. Protected views and vistas identified in the East Kapolei to Fort Weaver Road Landscape Unit are listed in Table 4-10. This table also describes the Project's effect on these views. The locations are identified on Figure 4-17.

The guideway will introduce an elevated linear structure and urban elements (e.g., transit stations, park-and-ride lots, traction power substations, and a possible maintenance and storage facility) to what is currently an open, rural, and country-like setting. The guideway will range from 30 to 45 feet in height. The top of the stations with a concourse will be about 15 feet higher than the guideway where it enters the station. The guideway and stations will noticeably contrast with the smaller scale buildings nearby, such as the U.S. Navy housing. They will also contrast with the open, undeveloped character that is predominant in this area. However, these areas are expected to be developed or

Table 4-10 Visual Effects on Protected Views and Vistas—East Kapolei to Fort Weaver Road

Views/Vistas	Description	Visual Effects
A	Views of Central Honolulu and Diamond Head from `Ewa Plain	Project elements will not be dominant features in these views—low visual effect
B	Views of na pu`u at Kapolei, Palailai, and Makakilo	Mauka of study area—no visual effect
C	Distant views of the shoreline from the H-1 Freeway above the `Ewa Plain	Project elements will not be dominant features in these views—low visual effect
D	Views of the Wai`anae Mountain Range from the H-1 Freeway between Kunia Road and Kaloi Gulch and from Kunia Road	Mauka of study area—no visual effect

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redeveloped under the City's land use plans and zoning and become more urban in character. This is expected to occur in a similar time frame as the transit improvements. As a result, the contrast will become less noticeable.

Panoramas and distant views of the shoreline, Downtown, and Diamond Head will change to include views of the guideway, support columns, and stations. However, panoramic views take in a wider, more expansive landscape and are usually less sensitive to change. Generally, the project elements will not be dominant features in these views. However, the open character of large expanses of pavement will be noticeable at the proposed East Kapolei and UH West O'ahu park-and-ride lots. Views of the 'Ewa Plain from the elevated trains and stations will be enhanced. Overall visual effects, including the viewer response to change, will be moderate.

Fort Weaver Road to Aloha Stadium Landscape Unit

Farrington Highway is a major transportation corridor through this area. The West Loch Station and respective transit center will blend well with the bulk and scale of the Waipahu Town Center's commercial character. However, the guideway and columns along the alignment will be prominent visual features due in part to the long, straight view down Farrington Highway and because the guideway's height of about 40 feet will be greater than many of the one- and two-story surrounding buildings.

Although the guideway at 30 to 45 feet in height will obstruct some makai and mauka views across the highway, views of businesses from vehicles traveling on Farrington Highway will not be greatly reduced. Panoramic views near the alignment and from the Waipahu Cultural Garden Park, Hawai'i's Plantation Village, and Waipahu District Park comprise a wider panoramic scene and, therefore, will not be substantially affected. Mature trees in the Farrington Highway median will be removed to accommodate the guideway, reducing the visual interest and memorability of views. Visual effects in this area will range from moderate to significant.

The Waipahu Transit Center Station will be farther Koko Head along the alignment. Similar to the West Loch Station, it will blend well with the bulk and scale of the commercial setting that has developed around this section of the Farrington Highway corridor. As the guideway continues Koko Head toward Leeward Community College, it will be a more dominant feature and dramatically contrast with the suburban residential character makai and mauka of the highway. The mass and height of the guideway and columns will block some residents' views over Middle Loch to Pearl Harbor. However, many views in this area comprise a wider panoramic scene and, therefore, will not be substantially affected. Visual effects in this area will range from moderate to significant.

The guideway will shift makai of Farrington Highway at Waipahu High School, which is near the site of a potential maintenance and storage facility. This area is a flat knoll makai of the H-1 Freeway/ Farrington Highway Interchange. The Leeward Community College Station will be adjacent to a parking lot on the college campus and will be at ground level. The potential maintenance and storage facility will be makai of the interchange. These project elements will be highly visible from low-lying areas mauka of the interchange and from residences on the foothills above. However, most views in these areas comprise a wider panoramic scene and, therefore, will not be substantially affected. Visual effects in this area will range from low to moderate.

The guideway will cross over the H-1 Freeway Interchange and merge with Kamehameha Highway at Pearl City. The Pearl Highlands Station and park-and-ride structure will be 'Ewa of the Pearlridge Center and will blend well with the

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bulk and scale of its commercial character. However, these project elements will be highly visible and dominant features. The guideway will pass by Pacheco Neighborhood Park at Waimano Home Road, where nearby residents mauka and makai of the guideway will experience noticeable changes in their views. Makai views of East Loch and Pearl Harbor from the park and residences near the mauka side of the Waimano Home Road and Kamehameha Highway Intersection will include the guideway and columns, and some views beyond the intersection will be blocked. Visual effects will range from low in the area around the H-1 Freeway Interchange to moderate in the rest of this area.

Koko Head of Pu'u Poni Street, the guideway will cross over the H-1 Freeway and continue above the Kamehameha Highway median to the vicinity of Aloha Stadium. The H-1 Freeway cross-over will be a dominant feature, visible at great distance. However, this change will be in context with the freeway setting and likely will not be perceived as substantial. Farther Koko Head, the guideway will continue above the Kamehameha Highway median through residential neighborhoods and mauka of Neal S. Blaisdell Park before crossing over Waimalu Stream. The bulk and scale of the guideway and columns will substantially change mauka and makai views from residences, such as panoramic views through the park toward Pearl Harbor and Downtown. Panoramic views will be less sensitive to change because they take in a wider, more expansive landscape. Visual effects will range from moderate to significant in this area.

Continuing to the Pearlridge Station and Transit Center, three historic sites, including Sumida Farm, will be mauka of the guideway and station. The elevated station of about 40 feet above Kamehameha Highway will be a noticeable change, altering views and contrasting with the scale of these resources and the surrounding environment. Some 'Ewa and makai views of the skyline from the Sumida Farm will be blocked by the guideway. However, because the farm is already at a much lower elevation than the highway, these views are already somewhat confined by the surrounding embankments. Overall visual effects near the station will be moderate because the project elements will blend with the surrounding commercial character, which is a heavily used transportation corridor with one- and two-story businesses and warehouses.

From residences on the hillside above Pearlridge, Kamehameha Highway is already a prominent feature in makai views toward the 'Ewa Plain, East Loch, and Downtown. However, the guideway will be a noticeable change. These project elements will also change panoramic views over the 'Aiea Bay State Recreation Area where the guideway will be about 30 feet above the Kamehameha Highway and Honomanu Street Intersection. Most scenic views from the recreation area are makai and will not be affected. Overall visual effects from Pearlridge to the Aloha Stadium area will range from moderate to significant.

Throughout this landscape unit, the potential for the guideway and stations to block protected mauka-makai views and vistas of features and landmarks will vary.

Protected views and vistas identified in the Fort Weaver Road to Aloha Stadium Landscape Unit are listed in Table 4-11. This table also describes the Project's effect on these views. The locations are identified on Figure 4-17 and 4-18. View and Vista I is shown in Figures 4-39 and 4-40. View and Vista K is shown in Figure 4-41.

Viewpoints 1 through 5 illustrate views of the Project within this landscape unit (Figures 4-20 through 4-24). Viewpoints that are not close to the alignment will generally be less sensitive to changes in the visual environment because they

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Table 4-11 Potential Visual Effects on Protected Views and Vistas—Fort Weaver Road to Aloha Stadium

Views/ Vistas	Description	Visual Effects
E	View of the Wai`anae Mountain Range from the Waipahu Cultural Garden	Mauka of study area—no visual effect
F	View of the Waipahu Sugar Mill from Waipahu Depot Road	Mauka of study area—no visual effect
G	Views of Pearl Harbor from Farrington Highway in the vicinity of Waipahu High School	Guideway columns will occasionally disrupt line of sight from highway—low visual effect
H	Waimano Home Road/Kamehameha Highway Intersection	Guideway columns will block some views across the intersection, and views of the horizon will be partially blocked, depending on the viewer's position and location (Figures 4-39 and 4-40)—moderate visual effect
I	Ka`ahumanu Street/ Kamehameha Highway Intersection	Guideway and columns will obstruct views of the tree canopies in Neal S. Blaisdell Park and substantially change makai views toward the park—significant visual effect (Figure 4-22)
J	Kaonohi Street/ Kamehameha Highway Intersection	Guideway and columns will noticeably change views—moderate visual effect (Figure 4-23)
K	Honomanu Street/Kamehameha Highway Intersection	Guideway and columns will noticeably change views and views of the horizon will be partially blocked, depending on the viewer's position and location (Figure 4-41)—moderate visual effect

Figure 4-39 Visual Simulation from Waimano Home Road at Fourth Street, looking Mauka

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Figure 4-40 Visual Simulation from Waimano Home Road near Pearl City Elementary School, looking Makai

Figure 4-41 Visual Simulation from Honomanu Street near Nalopaka Place, looking Makai

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will take in a longer, more expansive landscape. The project elements will be noticeable, but not dominant, features in these views, and visual effects to significant protected views and vistas will range from moderate to significant, depending on the viewer's position and location.

Aloha Stadium to Kalihi Landscape Unit

The guideway will continue Koko Head of Kamehameha Highway makai past Aloha Stadium and over Hālawa Stream. Pearl Harbor National Historic Landmark (NHL) is makai of the project alignment. Aloha Stadium is at a major freeway interchange and surrounded by parking lots. Views of East Loch and the NHL from residences near Kohomua Street will be partially obstructed by the guideway and columns. However, the Project will not adversely affect the NHL's visual integrity and will barely be visible in mauka views from the harbor (Figure 4-42). The project elements will be dominant visual elements along the mauka edge of the World War II Valor in the Pacific National Monument Visitor Center parking lot (Figure 4-43).

The Kamehameha Highway Bridge over the Hālawa Stream is historic, and its appearance will be changed by the guideway and support columns. The contrast in the scale and character of the guideway and columns with the existing environment will be a noticeable change. Visual effects in this area are expected to range from moderate to significant.

Between Hālawa Stream and the H-1 Freeway, the guideway will be above the median of Kamehameha Highway. Six historic sites, including the Makalapa U.S. Navy housing and other U.S. Navy facilities, lie along this section of the alignment. The visual effects on these resources are expected to be moderate. Although 'Ewa views of Pearl Harbor from the U.S. Navy housing will change, the project elements will fit within the context of the highway as a transportation corridor, so overall visual effects will be moderate.

The Pearl Harbor Naval Base Station will fit with the scale and character of structures at the intersection of Kamehameha Highway and Radford Drive. However, the guideway and columns will be noticeable changes in the visual environment makai of the H-1 Freeway as it intersects with Nimitz Highway. This area is a major interchange that includes wide paved areas and several elevated ramps. Visual effects will vary from low to moderate.

Project elements, including the Honolulu International Airport Station and Lagoon Drive Station, will fit with the bulk and scale of other structures near the airport, which is surrounded by other transportation elements and industrial buildings. Although the guideway and columns will reduce the open character of parking lots and the streetscape, and mature trees will be removed makai of the H-1 Freeway and 'Ewa of the Honolulu International Airport Station, the overall visual effect will be low.

The guideway will connect with Kamehameha Highway and the Middle Street Transit Center after passing over a portion of Ke'ehi Lagoon Beach Park and Nimitz Highway. The open spatial quality of the park will be altered by the guideway and columns. This change will be noticeable but not substantial to park users because the alignment will be along the periphery of the park and closely follow Nimitz Highway and the H-1 Freeway. Views of Honolulu Harbor and the park are already obstructed by the interchange and will not be substantially affected by the Project. Although the Middle Street Transit Center will be a dominant element, it will fit with the large scale of the interchange and the surrounding developed urban character of the mostly industrial and commercial uses. The overall visual effects will be moderate.

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Figure 4-42 Visual Simulation from Arizona Memorial, looking Mauka

Figure 4-43 Visual Simulation from World War II Valor in the Pacific National Monument Visitor Center Parking Lot, looking Mauka

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View obstructions and changes to views will be most noticeable where the guideway and stations are nearby or in the foreground of views, and some viewers may consider this a significant adverse visual effect. Viewpoints that are not located near these project elements will generally be less affected. For example, view changes are not likely to be obtrusive in wider vistas or regional panoramic views where the project elements serve as smaller components of the larger landscape. The guideway and stations will not be dominant elements in views of regional scenic features, such as Pearl Harbor, the Waiʻanae Mountain Range, Diamond Head, and the Koʻolau Mountain Range.

Protected views and vistas and visual effects on these views are listed in Table 4-12. The locations are identified on Figure 4-18.

Viewpoints 5 through 8 illustrate views of the Project within this landscape unit (Figures 4-24 through 4-27).

Viewpoints that are not close to the alignment will generally be less sensitive to changes in the visual environment because they will take in a longer, more expansive landscape. The project elements will be noticeable, but not dominant, features in these views, and visual effects to significant protected views and vistas will range from moderate to significant depending on the viewer's position and location.

Kalihi to Ala Moana Center Landscape Unit

From Kalihi Koko Head, the guideway will follow Dillingham Boulevard to the vicinity of Kaʻaahi Street. The canopies of several mature trees along Dillingham Boulevard will be trimmed to accommodate the guideway and additional trees will be removed at the Kapālama and Iwilei Station areas. The guideway and columns will be prominent visual features due in part to the long, straight view down the boulevard and because the guideway's height of about 40 feet above Dillingham Boulevard will be slightly greater than many of the one- and two-story surrounding buildings. Mauka and makai views will be obstructed from various points. Makai-view obstructions will be greatest from residences on the mauka side of Dillingham Boulevard. Overall visual effects in this area will be moderate.

The guideway could come within 10 feet of some facades along Dillingham Boulevard, depending on the setback, and will block views from the upper stories of mixed-use buildings Koko Head of Kalihi Street. The upper-story residences along Dillingham Boulevard will be affected by light and glare from trains traveling on the guideway and from station lighting. Due to the close proximity of the guideway and Kalihi and Kapālama Stations, the visual setting of several nearby historic sites will change and views of their facades will be partially obscured. The visual effects on these resources are expected to be significant. However, the Project will require acquisition of three historic resources: Afuso House, Higa Four-plex, and Teixeira House.

Table 4-12 Potential Visual Effects on Protected Views and Vistas—Aloha Stadium to Kalihi

Views/ Vistas	Description	Visual Effects
L	Bougainville Drive—mauka/makai	Mauka of study area—no visual effect
M	Maluna Street—mauka/makai	Mauka of study area—no visual effect
N	Wanaka Street—mauka/makai	Mauka of study area—no visual effect
O	Ala Liliko`i Street—mauka/makai	Mauka of study area—no visual effect

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As the guideway turns farther Koko Head to connect to Nimitz Highway near Iwilei Road, it will blend with the bulk and scale of the surrounding one- and two-story commercial buildings, including light industrial warehouses and distribution centers. The Iwilei Station will be a noticeable visual change, and some views of building facades will be blocked. However, many viewers will not notice a blockage of views since the surrounding land is used mostly for light industry and offices or is under-used. Visual effects in this area will be moderate.

The alignment will follow Nimitz Highway Koko Head to Halekauwila Street. This area of Downtown includes several historic districts and other sensitive visual resources, including view corridors. Although the Chinatown Station will generally be centered approximately 30 feet above Nimitz Highway, it will be a dominant visual element, contrasting in scale with the pedestrian environment and substantially changing makai views of Honolulu Harbor. However, the Downtown Station will not block views of Honolulu Harbor. The guideway and columns will reduce the open character of the streetscape, create shade and shadows, and block portions of makai views along the following perpendicular streets: Kekaulike, Maunakea, Nu'uanu, Bethel, Fort, Bishop, and Richards. Views from the fourth- and fifth-story windows of adjacent offices and residences will also be blocked. In addition, trains traveling on the guideway will create light and glare, and the Chinatown and Downtown Stations will increase this effect. The addition of the guideway and columns will change the visual character of the streetscape and substantially affect the visual setting of the Dillingham Transportation Building. Overall visual effects in this area will be significant.

The alignment will leave Downtown Koko Head along Halekauwila Street where it will begin on the makai side of the street and transition to the center near Punchbowl Street. The canopies of several mature monkeypod trees along Halekauwila Street will be trimmed. The guideway and columns will also block views from the fourth- and fifth-story windows of adjacent offices and residences and create additional shade and shadows. Trains traveling on the guideway will increase light and glare at upper-story residences. Overall visual effects in this area will be significant.

The Civic Center Station area is currently in transition from scattered one- and two-story businesses to higher-density taller structures. The guideway and columns will block views from the fourth- and fifth-story windows of adjacent offices and residences and create additional shade and shadows. Trains traveling on the guideway will increase light and glare. Mother Waldron Neighborhood Park is Koko Head at Cooke Street. The proposed station will substantially change views and contrast with the scale and character of the surrounding environment. Overall visual effects will be significant.

Past Ward Avenue and the Kaka'ako Station, the alignment will transition to Queen Street. Kaka'ako Station will be noticeable, but it will blend with the character of nearby big-box stores and smaller industrial buildings. Property on the mauka side of Waimanu Street will be acquired to allow the alignment to cross over to Kona Street. Although buildings will be removed to allow the crossover, no visually sensitive resources are in this area and visual effects will be moderate.

The guideway will run above Kona Street through Ala Moana Center. Mature trees will be removed from Pi'ikoi Street through the Ala Moana Center Station area, substantially changing the character of the streetscape. With the exception of the mature trees near Pi'ikoi Street, visually sensitive resources will not be affected, and most views of the mountains, Koko Head, and skyline will not be blocked. The Ala Moana Center Station will be at the end of the Project. The station and the guideway will be located between the Ala Moana

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Center and mid- to high-rise buildings and will not substantially change the view from adjacent offices and residences.

Throughout this landscape unit, the potential will vary for the guideway and stations to block protected mauka-makai views of features and landmarks that are identified in policy documents.

Protected views and vistas identified in the Kalihi to Ala Moana Center Landscape Unit are listed in Table 4-13. This table also describes the Project's effect on these views. The locations are identified on Figure 4-19.

Viewpoints that are not close to the alignment will generally be less sensitive to changes in the visual environment because they will take in a longer, more expansive landscape. The project elements will be noticeable, but not dominant, features in these views, and visual effects to significant protected views and vistas will range from moderate to significant depending on the viewer's position and location.

Table 4-13 Potential Visual Effects on Protected Views and Vistas—Kalihi to Ala Moana Center

Views/ Vistas	Description	Visual Effects
P	Bishop Street—mauka/makai	The guideway and columns will be dominant elements in mauka-makai views, and views of the horizon will be partially blocked, depending on the viewer's position and location (Figures 4-44 and 4-45)—variable moderate to significant visual effect
Q	Panoramic views—Punchbowl Lookout toward Diamond Head	Mauka of study area—no visual effect
R	Panoramic views—Kaka`ako Waterfront Park toward Punchbowl and the Ko`olau Mountain Range	Makai of study area; the project setting includes mid-to high-rise buildings that already obstruct some panoramic views—no visual effect
S	Cooke Street—mauka/makai	The guideway and columns will be dominant elements in mauka-makai views, and views of the horizon will be partially blocked, depending on the viewer's position and location (Figures 4-37 and 4-46)—variable moderate to significant visual effect
T	Ward Avenue—mauka/makai	The guideway and columns will be dominant elements in mauka-makai views and views of the horizon will be partially blocked, depending on the viewer's position and location (Figures 4-47 and 4-48)—variable moderate to significant visual effect
U	Panoramic views—Kewalo Basin toward the Ko`olau Mountain Range and Punchbowl	Makai of study area—no visual effect
V	Panoramic views—Ala Moana Beach Park toward Ko`olau Mountain Range	Makai of study area; the project setting includes mid-to high-rise buildings that already obstruct some panoramic views—no visual effect
W	Pi`ikoi Street—mauka/makai	The guideway and columns will be dominant elements in mauka-makai views, and views of the horizon will be partially blocked, depending on the viewer's position and location (Figures 4-49 and 4-50)—variable moderate to significant visual effect
X	Ke`eaumoku Street—mauka/makai	Koko Head of study area—no visual effect
Y	`Āina Moana Park (Magic Island)—mauka/makai	The Project will not be visible behind the Ala Moana Center—no visual effect
Z	Panoramic views—Ala Wai Canal Promenade toward the Ko`olau Mountain Range	Koko Head of study area—no visual effect

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The Project will cross, but not block, views along the following protected mauka-to-makai street view corridors:

- Bishop Street—the guideway and columns will be dominant elements in makai views between Nimitz Highway and Queen Street, and views of the horizon will be partially blocked. The bulk and scale of the guideway and columns will be compatible with Nimitz Highway, which functions as a major transportation corridor. Mauka of Queen Street, these elements will likely appear less dominant because the vista will take in a longer view and be more expansive (Figures 4-44 and 4-45).
- Cooke Street—the guideway and columns will be dominant elements in mauka-makai views, respectively, between Pohukaina Street and Queen Street. Views of the horizon will be partially blocked from viewpoints near the alignment, including mauka views from the park at Halekauwila Street and Cooke Street. The guideway, as viewed from Kaka'ako Park, will serve as a small component of the larger landscape and will not be a dominant feature in these views. The bulk and scale of the guideway and columns will conflict with the pedestrian-oriented streetscape (Figure 4-46).
- Ward Avenue—the guideway and columns will be dominant elements in mauka-makai views, respectively, between Auahi Street and Queen Street. Views of the horizon will be partially blocked from viewpoints near the alignment. The bulk and scale of the guideway and columns will conflict with the pedestrian-oriented streetscape. For mauka views from Ala Moana Boulevard and makai views mauka of Queen Street, these elements will likely appear less dominant because the vista will take in a longer view and be more expansive (Figures 4-47 and 4-48).
- Pi'ikoi Street—the guideway and columns will be dominant elements in mauka-makai views, respectively, between Waimanu Street and Kapi'olani Boulevard. Views of the horizon will be partially blocked from viewpoints near the alignment. Although the bulk and scale of the guideway and columns will conflict with the pedestrian-oriented streetscape, the view includes rows of mature trees, which will reduce this effect (Figures 4-49 and 4-50).
- Ke'eaumoku Street—the guideway and columns will run along the mauka side of Ala Moana Center behind surrounding buildings.
- 'Āina Moana Park (Magic Island)—the guideway will not be visible behind Ala Moana Center in mauka views from Magic Island.

Viewpoints 9 through 19 illustrate views of the Project within this landscape unit (Figures 4-28 through 4-38).

Mitigation

As part of the final design process, RTD has developed specifications and Design Criteria to address the City's requirements for the Project. Guideway materials and surface textures will be selected in accordance with generally accepted architectural principles to achieve effected integration between the guideway and its surrounding environment. Landscaping and streetscape improvements will mitigate potential visual impacts, primarily for street-level views.

Other measures to address visual impacts of the Project are being developed through the station design and planning process. The initial station area plans and design guidelines were first developed with coordination between RTD and DPP. The next level of transit station design focuses on integrating individual neighborhood characteristics of the communities served by stations.

The following mitigation framework will be included with the Project to minimize negative visual effects and enhance the visual and aesthetic opportunities that it creates:

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Figure 4-44 Visual Simulation from Bishop Street at Aloha Tower Drive, looking Mauka

Figure 4-45 Visual Simulation from Bishop Street at Queen Street, looking Makai

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Figure 4-46 Visual Simulation from Cooke Street at Ilaniwai Street, looking Makai

Figure 4-47 Visual Simulation from Ward Avenue near Auahi Street, looking Mauka

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Figure 4-48 Visual Simulation from Ward Avenue at Queen Street, looking Makai

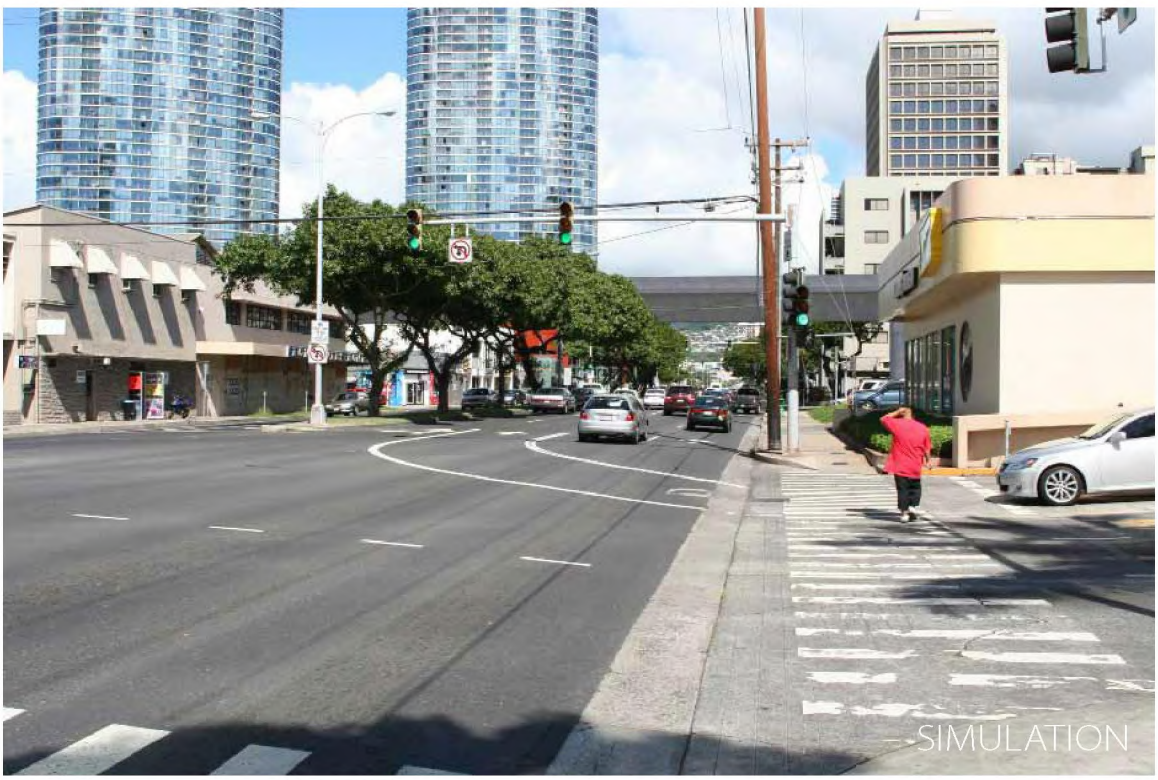

Figure 4-49 Visual Simulation from Pi`ikoi Street at Ala Moana Center Entrance, looking Mauka

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Figure 4-50 Visual Simulation from Pi`ikoi Street at Kapi`olani Boulevard, looking Makai

- Develop and apply design guidelines that will establish a consistent design framework for the Project with consideration of local context.
- Coordinate the project design with City TOD planning and DPP.
- Consult with the communities surrounding each station for input on station design elements.
- Consider specific sites for landscaping and trees during the final design phase when plans for new plantings will be prepared by a landscape architect. Landscape and streetscape improvements will serve to mitigate potential visual impacts.

Design Principals and Mitigation

The following design principals are identified in the *Honolulu High-Capacity Transit Corridor Project Compendium of Design Criteria* (RTD 2009m) and will be implemented in Final Design as mitigation measures to minimize visual effects. Specific sections of the Design Criteria where these mitigation measures can be found are noted.

Environmental Design Criteria: Aesthetics/Visual (Section 3.15)

- Stations and park-and-ride facilities will be designed in a manner that is compatible with the surroundings.
- Area and guideway lighting fixtures and standards will incorporate directional shielding where needed to avoid the intrusion of unwanted light and glare into adjacent sensitive land uses.
- Landscaping will be used to screen the traction power substation from sensitive adjacent land uses, such as residential areas.
- Lighting and security equipment will be located so as not to be visible from adjacent sensitive land uses.
- Local ordinances for screening, signage, and materials will be followed.

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- Where possible, every effort will be made to integrate a traction power substation into a larger structure in the Downtown area.
- Where there is an opportunity, the design will incorporate signage, materials, street furniture, landscaping, etc., to enhance the visual environment.

Architecture Design Criteria: Station Site Design (Section 10.2.2)

- Station sites will be designed to ensure that each station satisfies operational demands and is well integrated into the existing urban fabric and the communities the station serves.

Architecture Design Criteria: Stations (Section 10.3)

- The physical form of the project stations and support facilities will embody Honolulu and Hawai'i's rich cultural heritage.
- Station designs will be context-sensitive, functionally integrated, and culturally expressive of their specific locations.

Architecture Design Criteria: Materials and Finishes (Section 10.8.2)

- Materials used in station construction will be consistent with the cultural and historic guidance and recommendations set forth in the Design Language Pattern Book.

Architecture Design Criteria: Lighting (Sections 10.12.1 and 10.12.3)

- The quality of the lighting design will greatly influence the appearance and attractiveness of stations and will play an important role in enabling the public's acceptance of the system and the stations.
- Glare from transit station lights or reflective surfaces will be reduced to an absolute minimum such that it does not affect the vision of motorists.
- Light spill will be prevented from the stations onto roadways and areas adjacent to stations and station sites.
- Brightness and glare will be reduced to an absolute minimum by:
  - Locating light sources to avoid direct reflection or by selecting anti-reflective finishes.
  - Minimizing or eliminating undesirable reflections in glazed and polished surfaces, glass, walls, and other similar elements.
  - Minimizing or eliminating light spillage onto adjacent properties and eliminating night sky pollution. This will be done using full cut-off luminaries (fixture and lamp design) and low-reflective surfaces.
- Light sources in parking structures will not be visible from outside the structure, particularly those on the upper decks.

Landscape Architecture Design Criteria: General (Section 11.1.1)

- The transit system's place in Hawai'i will be defined by creating an inspired ground plane with landscape planting, paving, and furniture.
- The landscape architectural design components will unify the miles of guideway and stations.
- Design elements will be repeated in all stations while material sections will be varied based on community context.
- All landscaping will be restored to its original condition after construction is complete.

Landscape Architecture Design Criteria: Design Intent (Sections 11.2.1 and 11.2.2)

- Use of limited shrubs and groundcover palette will unify the stations and approaches and create variation primarily in the paving colors and tree selections. Consistent application of these principals will result in a unified system.

- High quality materials will be used in limited amounts to emphasize the station approaches

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and other important features. The natural shape and character of materials will be the focus.

- Specialty stations will be treated with historic context and careful design to reinforce the uniqueness of text or use (e.g., the Kapālama Station should have a special planting of true kamani trees).
- The mauka-makai relationship of streams and perpendicular crossings will be accentuated to add character, variety, and scale to the alignment.
- Trees displaced by the guideway will be transplanted to other areas of the corridor and will be part of the first phase of construction. Any trees that are not able to be saved or salvaged and transplanted will be repurposed.

Landscape Architecture Design Criteria: Streetscape (Section 11.3.1)

- Street tree planting or transplanting will occur adjacent to the station area and along the alignment where the existing streetscape is affected. Trees will be placed every 50 feet when adjacent to residential areas and every 40 feet when adjacent to commercial areas. Tree species, sizes, and detail will conform to City standards.
- All site furnishings removed during construction, including, but not limited to, traffic signal poles and head, irrigation controllers and valves, backflow preventers, fence fabric, and utility boxes, will be delivered at the City's expense to HDOT's O'ahu District Baseyard or disposed of at the City's expense if HDOT does not desire to keep the items.

Landscape Architecture Design Criteria: Station Areas (Section 11.3.2)

- Planting and paving design will play a pivotal role in increasing station visibility and identity. In some locations, planters will be added to soften the station architecture.

Landscape Architecture Design Criteria: Traction Power Substations (Section 11.3.5)

- Tall vertical plantings for vines will be used to screen or minimize the impact of the traction power substation structures. Plants or vines will be a minimum of 6-foot height in secure areas while maintaining visibility to the entrances.
- New utility boxes will be screened by landscaping or placed in underground vaults.

Landscape Architecture Design Criteria: Under Guideway (Section 11.3.6)

- Where the guideway columns fall within curbed areas, vines will be trained onto columns to reduce the likelihood of graffiti and to soften the appearance of the structures. Surface texture of the column design may be enhanced to facilitate vine attachment and growth.

Landscape Architecture Design Criteria: Planting Design (Sections 11.5.2 and 11.5.4)

- Plant material will be used to provide human-scale elements and soften the elevated fixed-guideway and platform and help integrate the appearance of transit facilities.
- Site-specific designs will be created that provide station identity and respond to site conditions, including views, trees, sun and wind patterns, and soils that still relate to the design family of other station areas.
- Station designers will make provisions for specific tree relocations in their plans. A certified arborist will be consulted to determine the likelihood of survival for each tree being considered for transplanting.
- Wherever feasible (as determined by a certified arborist), existing trees will be protected in place.
- During construction, the City will maintain all landscaped areas to HDOT standards utilizing HDOT maintenance specifications,

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including mowing, edging and trimming, weeding, pruning and care of shrubs and trees, fertilizing, pesticide and herbicides, clearing gutters, swales and ditches, invasive plant removal, and rubbish and debris removal and disposal.

Even with mitigation measures, some obstruction and changes to views will result in significant probable unavoidable adverse effects. These effects will be most noticeable where the guideway and stations are nearby or in the foreground of views. The degree of visual effect will vary with the alignment orientation and the height of the guideway, stations, and surrounding buildings and trees, along with the viewer's expectations of view quality. The Project will conflict with ROH Section 24-1.4 in locations where project elements, such as the guideway, will block protected mauka-makai view corridors. This ordinance states that "…such views shall be protected by appropriate building heights, setbacks, design and siting controls established in the Land Use Ordinance." Although changes in visual resources or view planes and the viewer response will be sigificant in some areas and conflict with the City's ordinance, view changes are not likely to be obtrusive in wider vistas or regional panoramic views where the project elements serve as smaller components of the larger landscape.

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