



FHWA



South Access to the Golden Gate Bridge

DOYLE DRIVE

Citizens' Guide to the Final Environmental Impact Statement/Report

October 2008

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INTRODUCTION

A Final Environmental Impact Statement/Report (FEIS/R)/Section 4(f) Evaluation for the South Access to the *Golden Gate Bridge: Doyle Drive Project* has been prepared.

Federal and state laws require review and analysis of projects that may affect the environment. The Draft Environmental Impact Statement/Report (DEIS/R), which identified short- and long-term environmental impacts of the proposed project, was circulated in December 2005. Public hearings were held in January and February 2006.

The FEIS/R document presents an update of the DEIS/R that reflects design refinements to the Preferred Alternative and includes minimization/mitigation measures and other revisions as appropriate or in response to comments on the DEIS/R. It also contains all of the comments received in writing or at the public hearings, along with written responses to the comments.

This guide is intended to be an overview of the Doyle Drive Project mitigation measures of the FEIS/R. While this guide summarizes the avoidance, minimization and proposed mitigation measures contained in the final environmental document, it is not intended to be a part of the formal FEIS/R.

The final Mitigation Monitoring Reporting Plan will be formally adopted when the project is approved with the signing of the Record of Decision and filing of the Notice of Determination.

Readers who want detailed and complete information on the environmental analysis for the Doyle Drive Project should read the FEIS/R. The FEIS/R is available on the project Web site www.doyledrive.org.

This Citizens' Guide was developed by the San Francisco County Transportation Authority (Authority) as an overview of key elements of the FEIS/R which was jointly prepared by the Authority, the California Department of Transportation and the Federal Highway Administration.



PROJECT PARTNERS

A number of agencies are participating in the environmental assessment process.

Federal Lead Agency

- The Federal Highway Administration (FHWA) is the lead National Environmental Policy Act (NEPA) agency and has the responsibility of complying with federal environmental regulations
- The San Francisco County Transportation Authority and California Department of Transportation are co-lead agencies

Federal Cooperating Agencies

- The Presidio Trust, the United States Department of the Interior, National Park Service (NPS)-Golden Gate National Recreation Area, and the Department of Veteran Affairs are the NEPA-cooperating agencies

State Lead Agency

- The San Francisco County Transportation Authority is the lead California Environmental Quality Act (CEQA) agency and has the responsibility of complying with state environmental regulations

State Responsible Agencies

- California Department of Transportation, the Golden Gate Bridge, Highway and Transportation District and the City and County of San Francisco are the CEQA-Responsible Agencies



PROJECT OVERVIEW

PROJECT PURPOSE

Improve the seismic, structural and traffic safety of Doyle Drive within the setting and context of the Presidio of San Francisco and its purpose as a National Park.

Doyle Drive, the southern approach to the Golden Gate Bridge, is the primary highway and transit linkage through San Francisco, between counties to the south (San Mateo and Santa Clara) and to the north (Marin and Sonoma). Currently nearly 120,000 vehicles use Doyle Drive every weekday. Weekend traffic volumes are comparable to weekday volumes, confirming that it serves as both a primary commute and a recreational route.

Originally built in 1936, Doyle Drive is approaching the end of its useful life. It requires extensive seismic, structural and traffic safety upgrades.

Should an earthquake or structural failure force the closure of Doyle Drive for any significant length of time, freeways in the North Bay and East Bay would experience staggering congestion from rerouted trips and the regional transit and ferry systems would be greatly overburdened. Severe economic hardship and job relocation would likely result in North Bay counties as well as in San Francisco.

In the short term, regular maintenance, seismic retrofit and rehabilitation activities are keeping the structure safe. However, in the long term, permanent improvements are needed to bring Doyle Drive up to current seismic and safety standards.

To address the degradation of the roadway, the San Francisco County Transportation Authority (the Authority), the Federal Highway Administration (FHWA), and the California Department of Transportation (Caltrans) have prepared a joint federal and state Final Environmental Impact Statement/Report (FEIS/R) to evaluate design alternatives for the replacement of Doyle Drive.

DOYLE DRIVE DEFICIENCY	RESULTING CONDITION
STRUCTURAL DEGRADATION <ul style="list-style-type: none"> • Age of the facility • Effects of heavy traffic • Exposure to salt air 	<ul style="list-style-type: none"> • Seismically and structurally unsafe
LOCATION <ul style="list-style-type: none"> • Eastern portion is located in an identified liquefaction zone 	<ul style="list-style-type: none"> • Structural failure during an earthquake
DESIGN <ul style="list-style-type: none"> • Original design does not meet today's safety standards (road has narrow lane widths, no shoulders, no median and tight curves) 	<ul style="list-style-type: none"> • Today's vehicle traffic volumes contribute to driving patterns not anticipated when Doyle Drive was designed
ACCESS <ul style="list-style-type: none"> • Lack of direct vehicular access into the Presidio 	<ul style="list-style-type: none"> • Limited access to facilities within the Presidio





THE ALTERNATIVES - as presented in the Draft Environmental Impact Statement/Report

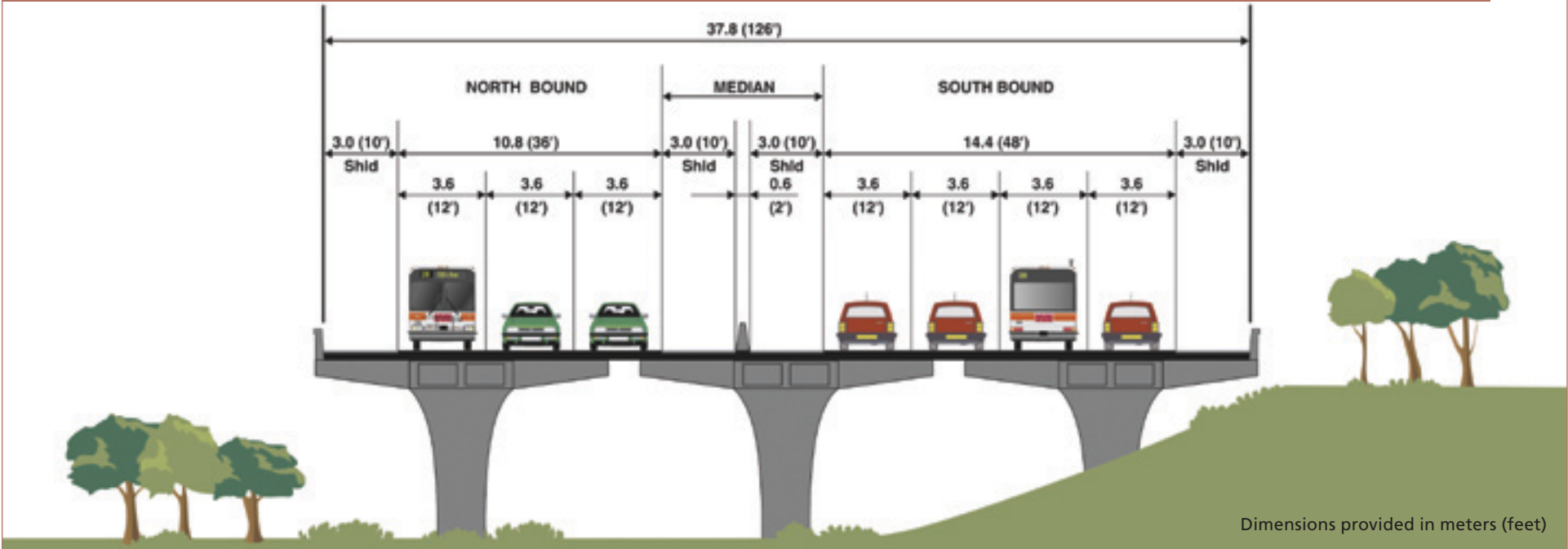
Three Alternatives were considered in the Draft Environmental Impact Statement/Report (DEIS/R) for the Doyle Drive Project:

- Alternative 1: No-Build
- Alternative 2: Replace and Widen
- Alternative 5: Presidio Parkway

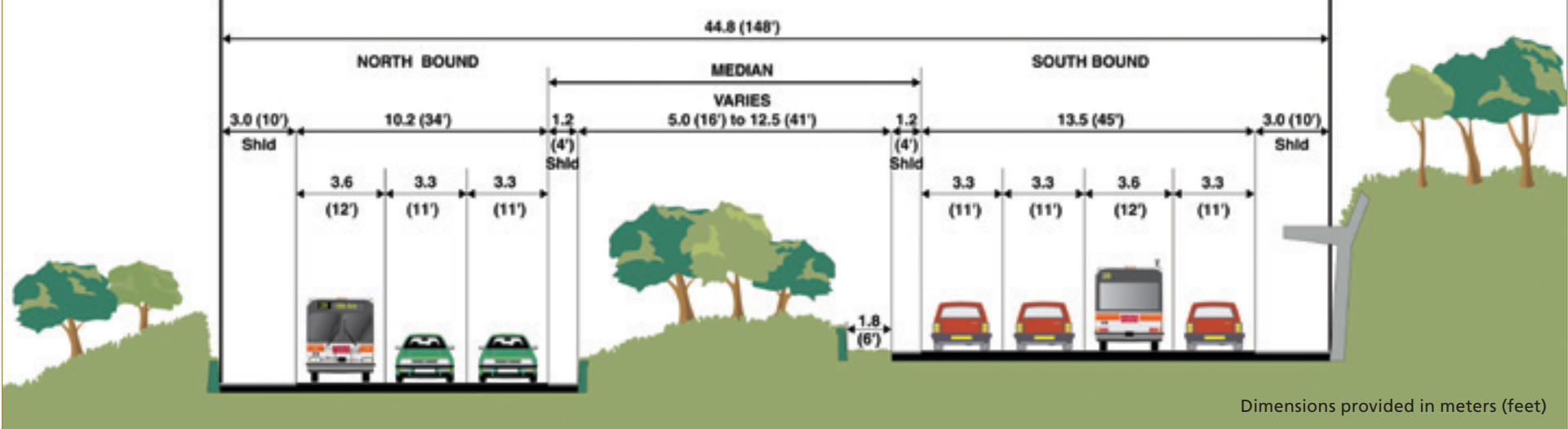
This section provides information about the Alternatives as presented in the DEIS/R.

ALTERNATIVE 1: NO-BUILD			
<p>This alternative consists of retaining the existing Doyle Drive with no major improvements to the project area beyond what is already programmed by the year 2020. It provides the baseline for existing environmental conditions and future travel conditions against which all other alternatives are compared.</p>	<p>FEATURE HIGHLIGHTS</p> <ul style="list-style-type: none"> • Retains current roadway configuration • No improvements in seismic, structural and traffic safety of the roadway • Not a viable alternative as the facility is structurally deficient and must be replaced 	<p>NUMBER OF LANES</p> <ul style="list-style-type: none"> • Six lanes (three 10-foot lanes in each direction) • No southbound auxiliary lane • No fixed median barrier 	<p>SHOULDERS</p> <ul style="list-style-type: none"> • No shoulders
ALTERNATIVE 2: REPLACE AND WIDEN			
<p>This alternative would replace the existing high-viaduct and low-viaduct with new structures that meet the most current seismic, structural design and safety standards. The new facility would be built on the existing alignment and would include an auxiliary lane in the southbound direction from the Park Presidio interchange to the Richardson Avenue ramp.</p>	<p>FEATURE HIGHLIGHTS</p> <ul style="list-style-type: none"> • New high-viaduct and low-viaduct • Entry and exit ramp improvements to improve traffic safety • Median barrier 	<p>NUMBER OF LANES</p> <ul style="list-style-type: none"> • Six lanes (three 12-foot lanes in each direction; with lane width reduction to 11-foot in some areas) • One southbound auxiliary lane (12-foot) 	<p>SHOULDERS</p> <ul style="list-style-type: none"> • Continuous 10-foot shoulder on inside and outside lanes in both directions
ALTERNATIVE 5: PRESIDIO PARKWAY			
<p>The Presidio Parkway Alternative would replace the existing facility with a new six-lane roadway and an eastbound auxiliary lane between the Veterans Boulevard Interchange and the new Presidio access at Girard Road. It combines a high viaduct with two short cut-and-cover tunnels and an open depressed roadway with a landscaped median.</p>	<p>FEATURE HIGHLIGHTS</p> <ul style="list-style-type: none"> • New 1,279-foot-long high viaduct that will vary in height from 66 to 115 feet above the ground surface • Two new shallow cut-and-cover tunnels approximately 1,000 feet in length • New open, at-grade roadway with a heavily landscaped median (width ranges from 16 to 41 feet) • New direct access to the Presidio and indirect access to Marina Boulevard in both directions via access ramps from Doyle Drive connecting to an extension of Girard Road • New landscaped berm along the north side of the facility to shield park visitors from the proposed facility 	<p>NUMBER OF LANES</p> <ul style="list-style-type: none"> • Six lanes (two 11-foot lanes and one 12-foot outside lane in each direction) • The southbound direction would include an 11-foot auxiliary lane from the Veterans Boulevard Interchange to the Girard Road exit 	<p>SHOULDERS</p> <ul style="list-style-type: none"> • 10-foot outside shoulders in both directions • 4-foot inside shoulders in both directions

Cross-Section Alternative 2 — Replace & Widen (as presented in the Draft Environmental Impact Statement/Report)



Cross-Section Alternative 5 — Presidio Parkway (as presented in the Draft Environmental Impact Statement/Report)



Alternative 2 — Replace & Widen (as presented in the Draft Environmental Impact Statement/Report)



Access to Merchant Road at the Golden Gate Bridge Toll Plaza:

The existing access remains

Park Presidio Interchange:

The existing ramps would be reconfigured to accommodate the new facility

Presidio Access: Presidio access provided for southbound traffic via a right turn from Richardson Avenue to Gorgas Avenue; no access for northbound traffic

CONSTRUCTION STAGING OPTIONS

- 1) No Detour Option: Would not need a detour during construction because the widened portion of the new roadway would be built around the existing low-viaduct. As new facility is widened, traffic would shift to new facility.
- 2) Detour Option: A temporary detour road would be constructed to maintain traffic through the construction period.

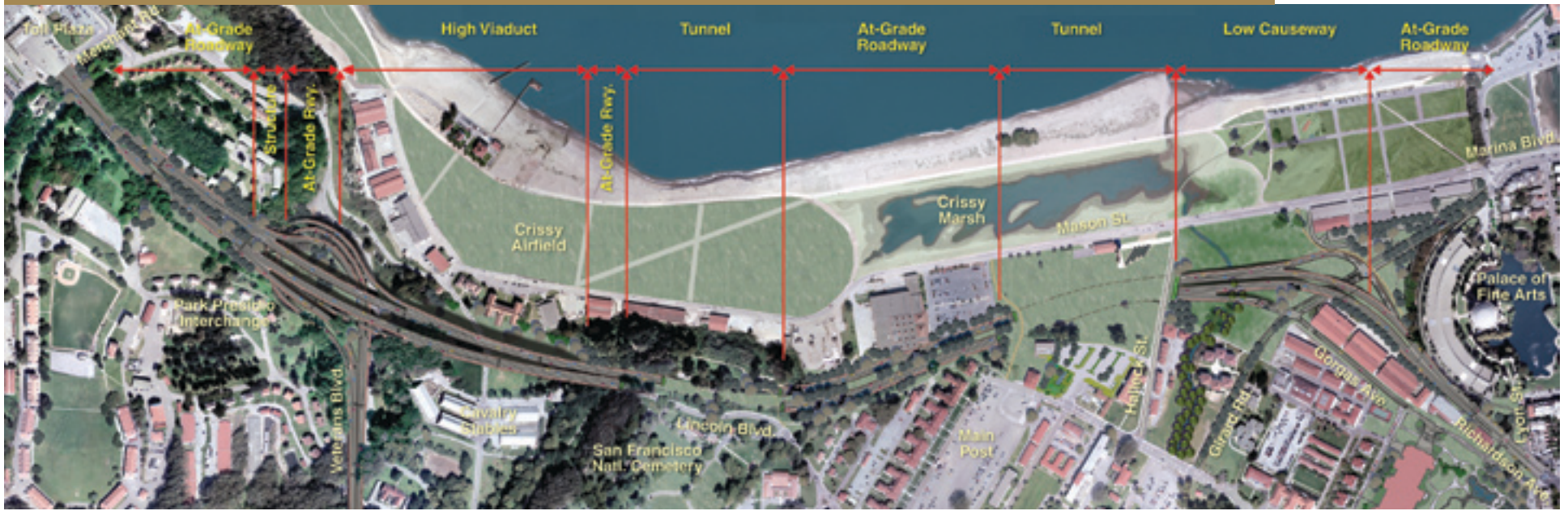
1) No Detour Option



2) Detour Option



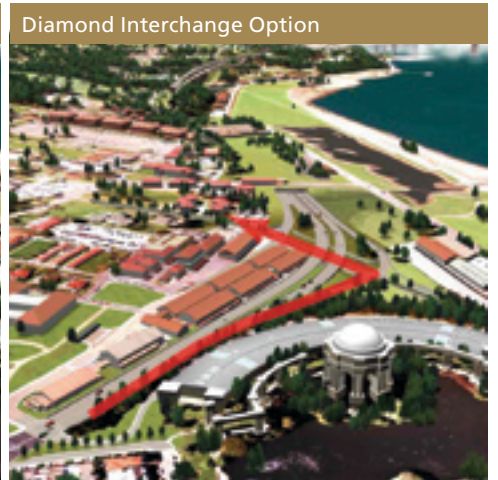
Alternative 5 — Presidio Parkway (as presented in the Draft Environmental Impact Statement/Report)



Merchant Road Slip Ramp Option
 This option would provide a new direct connection from westbound Doyle Drive to Merchant Road and improve access to the Golden Gate Visitors' Center



Park Presidio Interchange: Two design options to improve the connection from northbound Veterans Boulevard to eastbound Doyle Drive



Presidio and Marina Boulevard Access: Two design options to provide new access to the Presidio and maintain access to Marina Boulevard

PREFERRED ALTERNATIVE: REFINED PRESIDIO PARKWAY

Following release of the DEIS/R in December 2005, individuals and agencies provided over 800 comments regarding the environmental analysis and project alternatives. Based on these comments and agency/public workshops, the Presidio Parkway Alternative was refined to reduce impacts to recreational, cultural and biological resources. It was determined that the refined design would best meet the project purpose and objectives and, as such, the refined Presidio Parkway Alternative received unanimous support as the Preferred Alternative.

The alternatives development process used an approach known as Context Sensitive Design that was responsive to community members, resource agencies and local staff. One of the initial steps in the Doyle Drive Project was to assess the character of the project area and to understand the needs of the surrounding community. The project Alternatives were developed to address the unique setting, needs of the community and previous planning efforts.

The development and selection of the Preferred Alternative was carried out in a manner consistent with the principles of sustainability. For example, the alignment of the structure respects natural contours so the facility sits comfortably within the landscape and minimizes cutting, filling and hauling. When compared to the existing facility and Alternative 2-Replace and Widen, the Preferred Alternative is a better complement to the spectacular natural environment in which the facility resides. By eliminating the existing

tall concrete structure, the Preferred Alternative restores scenic views of the Presidio and San Francisco Bay. The project team will continue to analyze and implement sustainability related strategies during detailed design and construction.

ALTERNATIVE EVALUATION CRITERIA

- Improve seismic, structural and traffic safety
- Maintain the existing transportation network and improve the approach to the Golden Gate Bridge
- Preserve the natural, cultural, scenic and recreational values of the area
- Remain consistent with land use plans
- Minimize the effects of noise and air quality on natural and recreational areas
- Improve intermodal and vehicular access to the Presidio
- Redesign the corridor as a parkway

KEY DESIGN REFINEMENTS TO THE PREFERRED ALTERNATIVE

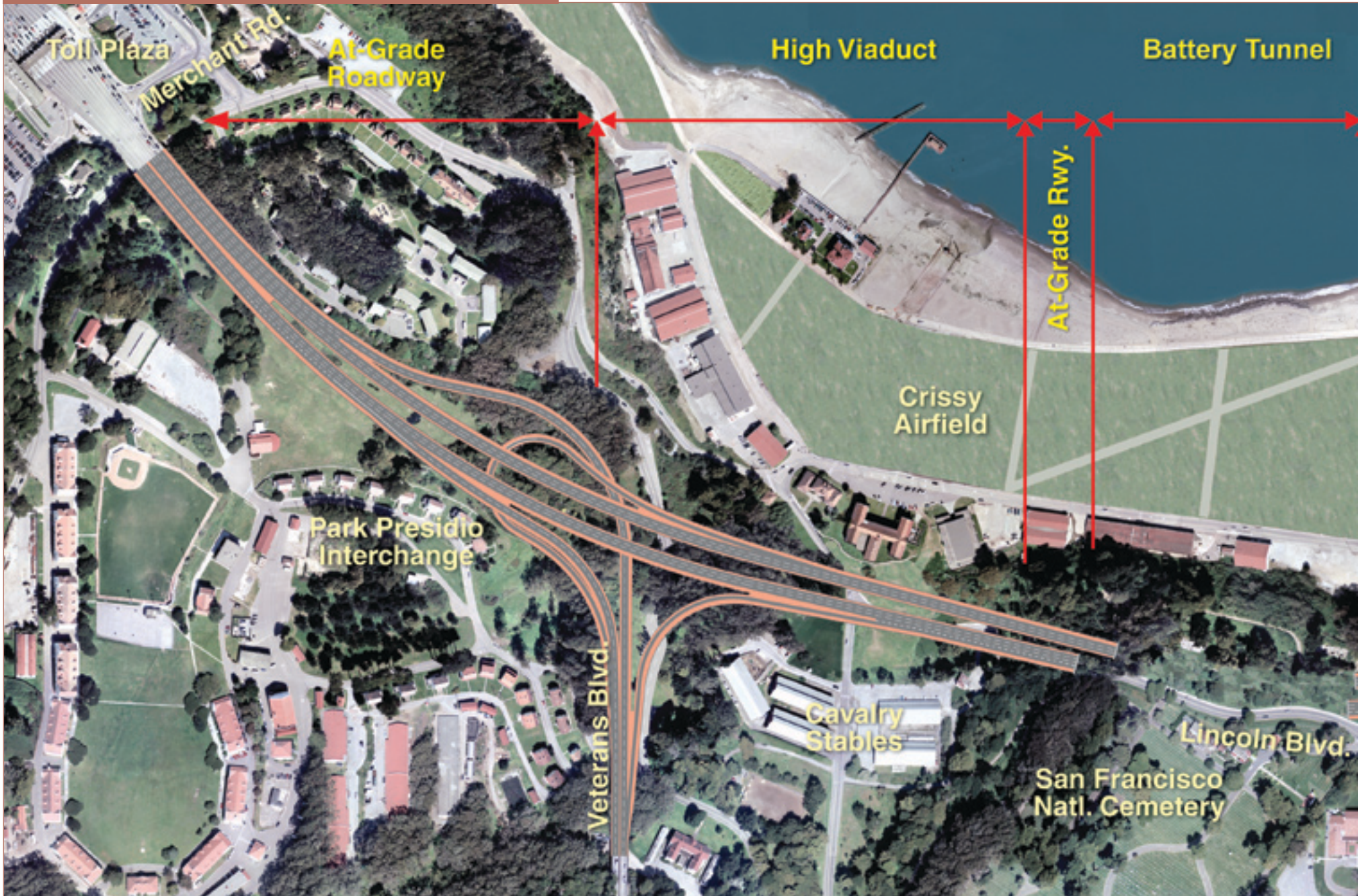
Working with stakeholders and resource agencies, the project team refined the Parkway Alternative to in minimize or eliminate potential impacts to the natural environment, cultural resources, the Presidio and community resources.

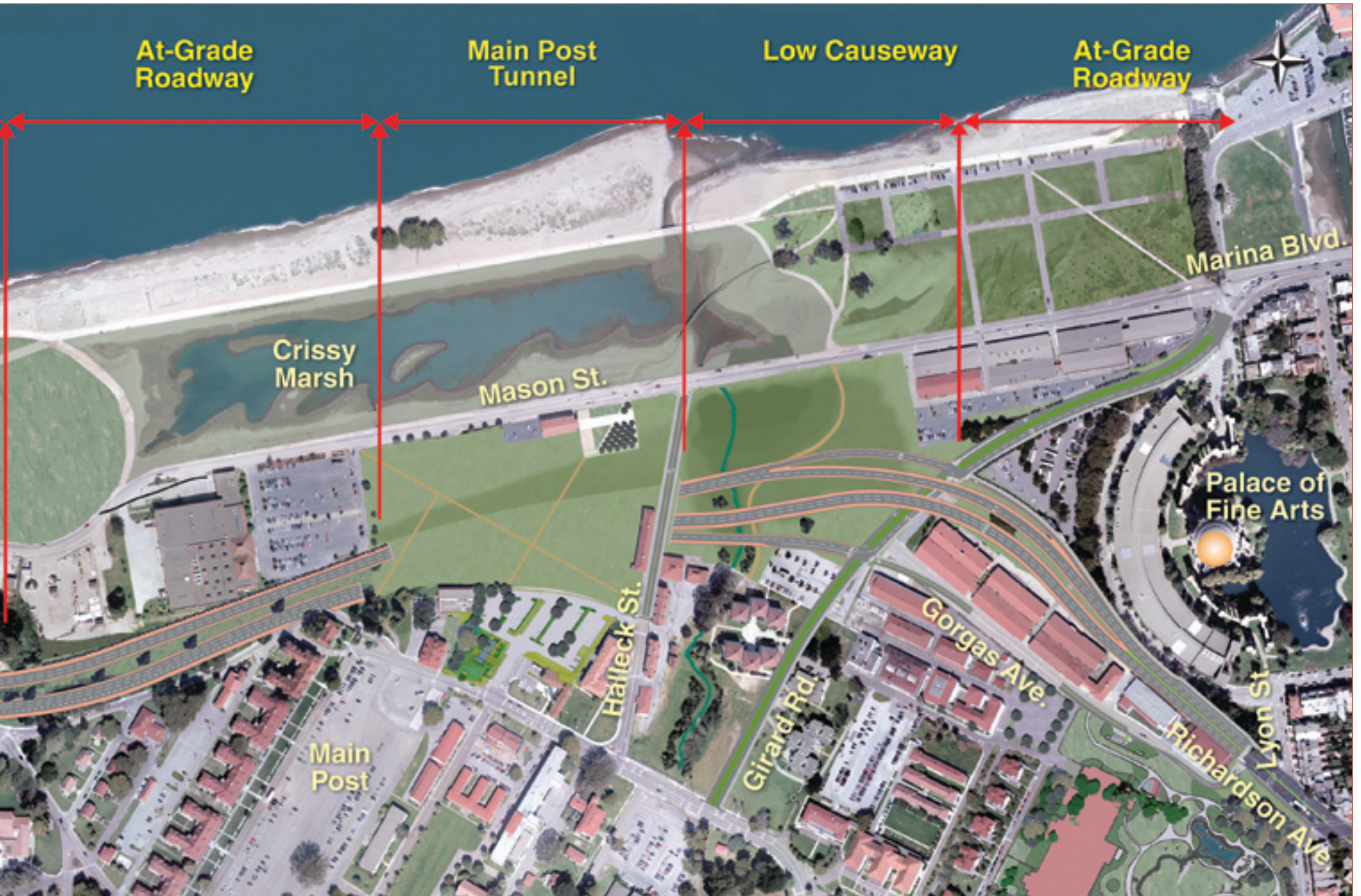
- Raise the original profile of the southbound lanes to preserve the cultural landscape and retain the cultural relationship between the upper and lower portions of the Presidio
- Revise the landscaping of the Main Post tunnels to recreate the bluff north of the tunnels
- Realign the low causeway to create greater separation between the roadways over the future marsh expansion area to increase light penetration and to improve the wildlife corridor; the road curvature introduced by this refinement also calms traffic by reducing traffic speeds before reaching city streets
- Reconfigure the Girard Road interchange to preserve the Gorgas Avenue streetscape adjacent to the historic warehouses and to improve views to the Palace of Fine Arts
- Modify the Gorgas Avenue/Richardson Avenue intersection to improve pedestrian connections, provide consolidated transit access and deter cut-through traffic
- Restore the top portion of Building 201 in the original location to preserve the historic Halleck streetscape and historic bluff
- Treat roadway pollutant runoff with passive, low impact measures to the maximum extent practicable to improve the water quality

Preferred Alternative Simulation



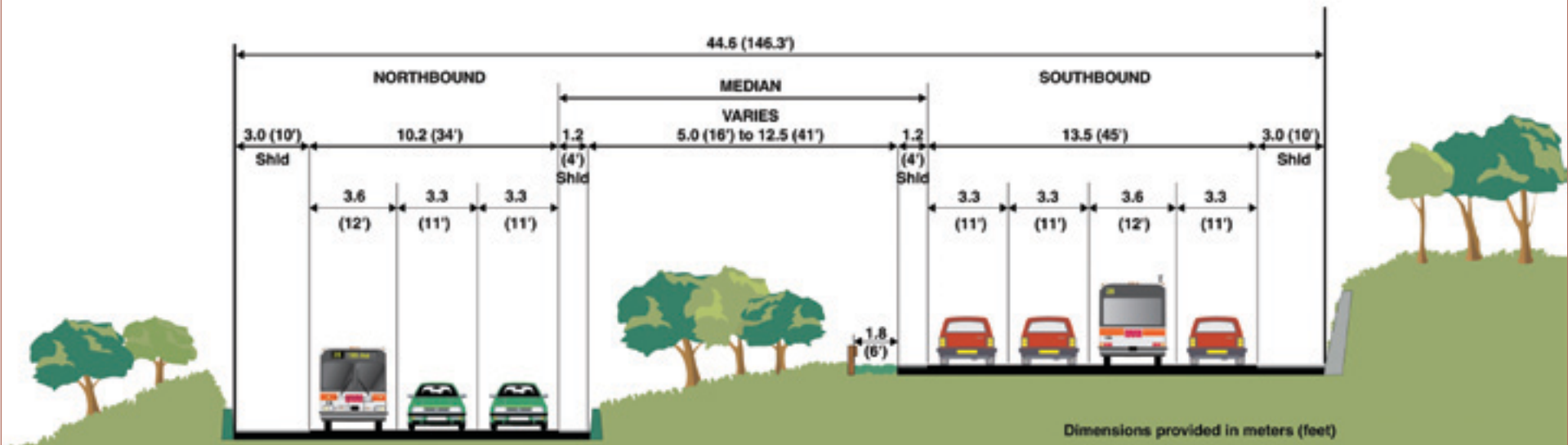
Preferred Alternative Aerial View





Preferred Alternative Cross Section

Preferred Alternative - Refined Presidio Parkway



Preferred Alternative Visual Simulations



Exiting the Battery Tunnel



Entering the Main Post Tunnel

AVOIDANCE, MINIMIZATION AND MITIGATION SUMMARY

This summary provides an overview of the impacts and the avoidance, minimization and mitigation measures to reduce project impacts identified in the FEIS/R for the Preferred Alternative: the Presidio Parkway. The information is grouped by environmental category. The avoidance, minimization and mitigation measures would be applied by the San Francisco County Transportation Authority (the Authority) and Caltrans during design, construction and operation of the facility.

Avoidance and/or Minimization Measures

Measures will be implemented as part of the project in order to avoid and minimize impacts of construction and implementation of a new Doyle Drive. These measures include, but are not limited to, elements which would be designed into the new facility, continued coordination with affected parties and implementation of best management practices (BMPs) during construction.

Mitigation Measures

Additional measures are proposed to mitigate the impacts associated with project construction and implementation. Mitigation measures include actions that rectify the impact by repairing, rehabilitating, or restoring the impacted environment; reduce or eliminate the impact over time by preservation and maintenance operations during the life of the project; and/or compensate for the impacts by replacing or providing substitute resources or environments.





LAND USE AND PLANNING

The land use and planning analysis identifies existing regional and local land use and development plans and policies that apply to the project area. It describes changes that would occur as a result of the project, evaluates the consistency of the project with local and regional planning policies and discusses their effects on community cohesion. The analysis considers if the project physically divides an established community, reduces the usability of the land or disrupts businesses for extended periods.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Coordinate with Presidio Trust regarding location and duration of work to minimize disruption to ongoing operations

IMPACT TO BE MITIGATED

- The permanent removal of eight buildings and partial removal of one building would impact the development plans of the Presidio Trust as described in the Presidio Trust Management Plan (PTMP)

MITIGATION MEASURES

- Adjust the PTMP accordingly upon implementation of the project

PARKS AND RECREATIONAL FACILITIES

The parks and recreation analysis describes potential impacts and benefits to park and recreational facilities in the vicinity of the project. Impacts can be physical in nature or can be related to the users' enjoyment of the facility.



AVOIDANCE AND/OR MINIMIZATION MEASURES

- Coordinate with Presidio Trust regarding location and duration of work in areas that may affect park and recreational facilities
- Implement a public information program to keep the public informed of potential impacts/closures to recreational facilities during the construction process
- Maintain pedestrian and bicycle access across Doyle Drive at several locations during construction, including Lincoln Boulevard, McDowell Avenue and Lyon Street. Provide temporary access across the roadway whenever possible

IMPACT TO BE MITIGATED

- Loss of 2.6 hectares (6.4 acres) of parkland

MITIGATION MEASURES

- 2.4 hectares (5.9 acres) of parkland created over tunnels



COMMUNITY

The community assessment reviews various characteristics and resources as they relate to the community, such as population growth, safety, emergency vehicle access and access to community facilities.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Coordinate with Presidio Trust regarding location and duration of work to minimize disruption to ongoing operations

IMPACT TO BE MITIGATED

- Displacement of 35 employees

MITIGATION MEASURES

- Provide relocation-assistance services to affected tenants and tenant businesses, in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and other applicable laws



PARKING

The parking analysis examines existing and future conditions of the project area and quantifies the long-term impacts of the project on parking.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Coordinate with the Presidio Trust to periodically update the parking study to determine the location of available parking

IMPACT TO BE MITIGATED

- Temporary shortage of parking spaces during construction
- Permanent unmet parking demand of 142 spaces

MITIGATION MEASURES

- Consider the Main Post Parade Grounds as a location for temporary replacement parking
- Coordinate with the shuttle service (PresidioGo) to transport individuals to and from their destinations within the Presidio (project sponsors will compensate the Presidio Trust for additional shuttle service)
- Provide signage to inform motorists of any parking changes and to direct them to available parking facilities
- Provide a new parking facility to mitigate the permanent unmet parking demand
- Coordinate with Presidio Trust to identify additional areas to be used for temporary and/or long-term parking



RELOCATION

The relocation analysis provides an assessment of the buildings in the project area that will be removed as a result of the Preferred Alternative.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Avoidance of buildings is a key component of the Preferred Alternative design
- Consider relocation of buildings was considered when avoidance was not feasible
- Temporarily relocate operations in Building 106

IMPACT TO BE MITIGATED

- Permanent removal of eight buildings and partial removal of one building

MITIGATION MEASURES

- Provide relocation-assistance services to affected tenants and tenant businesses (property owners will be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and other applicable laws)
- Temporarily relocate Building 201 and then restore Building 201 at the original location on Halleck Street

ENVIRONMENTAL JUSTICE

The environmental justice analysis complies with a Federal Executive Order to identify and address disproportionately high adverse human health or environmental effects on minority and low-income populations resulting from federal programs, policies and activities.



AVOIDANCE AND/OR MINIMIZATION MEASURES

- Coordinate with Presidio Trust regarding location and duration of work to minimize disruption to ongoing operations
- Temporarily relocate Crissy Center Operations and educational programs within the Presidio during construction

IMPACT TO BE MITIGATED

- No impacts

MITIGATION MEASURES

- No mitigation required



TRAFFIC AND TRANSPORTATION

The traffic and transportation analysis examines existing and future conditions of the project area and quantifies the long-term transportation impacts of the project. It includes potential impacts on travel patterns and the transportation environment. It also describes existing and projected traffic, circulation and pedestrian/bicycle conditions in the area.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Minimize disruption to traffic and transportation flow during construction through continuing coordination with Presidio Trust, National Park Service and extensive public information program
- Adhere to traffic impact-reduction strategies which will be developed as part of the transportation management plan (TMP), including:
 - Encouraging alternatives, such as use of local San Francisco arterial streets (for local San Francisco traffic)
 - Shifting travel to other time periods or alternate transportation modes
 - Coordinating an overall trip-reduction strategy
 - Implementing interactive traffic monitoring as appropriate to determine best strategies to alleviate possible bottlenecks
- Maintain pedestrian and bicyclist access across the construction corridor during Halleck Street closure whenever feasible
- Monitor traffic patterns upon completion of the project and adjust signal timing, as needed, to optimize traffic operations

IMPACT TO BE MITIGATED

- Removal of sidewalk along Doyle Drive

MITIGATION MEASURES

- Create bicycle and pedestrian pathways in accordance with the Presidio Trails and Bikeways Master Plan



TRANSIT

The transit analysis examines existing and future transit systems serving the project area and quantifies the impacts of the project on transit ridership, travel time and level of service.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Implement a public information program to inform the general public of any new, temporary routes which may be in place during construction
- Coordinate with Presidio Trust to ensure the operation of PresidiGo shuttle service is maintained during construction
- Maintain Golden Gate Transit and Muni bus routes on Doyle Drive throughout construction
- Coordinate with Golden Gate Transit to develop appropriate detours for the two weekend closures of Doyle Drive
- Address bus re-routing during construction in a Transportation Management Plan (TMP)

IMPACT TO BE MITIGATED

- Temporary re-routing of transit
- No permanent impacts

MITIGATION MEASURES

- Avoidance measures address temporary impacts



VISUAL AND AESTHETICS

The visual and aesthetics analysis assesses the visual impacts of the project. The analysis looks at potential visual quality, prominent features and scenic resources from representative viewpoints in the project area. Viewpoints where the project could affect existing visual quality are identified and evaluated.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Develop design guidelines in conjunction with the Presidio Trust, National Park Service, Caltrans and State Office of Historic Preservation to:
 - Provide a collaborative planning and design framework for new construction and associated landscaping
 - Ensure appropriate vegetation and landscaping restoration is in accordance with the Presidio Vegetation Management Plan; for example, some vegetation could be selectively removed to enhance views where appropriate and in consultation with Presidio Trust

IMPACT TO BE MITIGATED

- Construction-related adverse change to visual character of area due to removal of existing landscaping and vegetation

MITIGATION MEASURES

- Revegetate all areas affected by construction activities following agreed-upon design guidelines to their appropriate native vegetation in natural areas, or plant appropriate ornamental vegetation in landscaped areas
- Monitor restored areas using standard ecological methods that qualitatively estimate plant cover and document survival rates and growth characteristics until the plant-establishment criteria have been met (in some areas, full restoration of mature natural species may take between 10 and 20 years)



CULTURAL RESOURCES

The cultural resources analysis reports on archaeological and historic resources in the vicinity of the project, along with governing federal, state and local regulations. The Doyle Drive project area and the Presidio of San Francisco contain a rich collection of cultural resources, including archaeological sites, historic buildings, structures and objects, and cultural landscape features. These include the Presidio National Historic Landmark District (NHL) and its contributing elements, the Doyle Drive viaducts, the Golden Gate Bridge (to which Doyle Drive is a contributor), the Palace of Fine Arts, and a prehistoric archaeological site.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Avoidance of cultural and historic resources is a key consideration of the Preferred Alternative design (the overall footprint of the facility and the cross-sectional width were developed using project-specific criteria to avoid cultural resources wherever feasible)
- Design the profile of the facility to minimize impacts to the cultural landscape and preserve the cultural relationship between the upper and lower areas of the Presidio

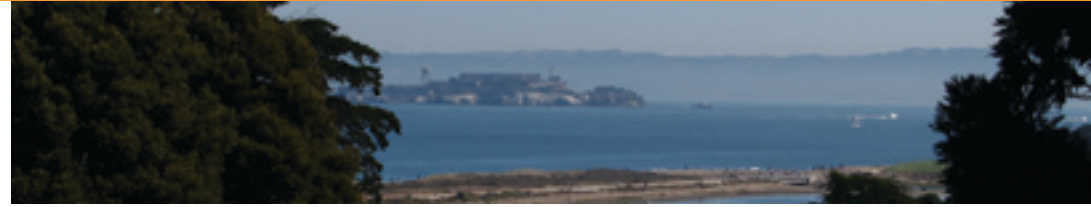
IMPACT TO BE MITIGATED

- Adverse effect on the Presidio NHL, including the cultural landscape and individual historic properties

MITIGATION MEASURES

- Develop a Programmatic Agreement (PA) and associated archaeological and built environmental treatment plans for the project via collaboration of the Authority, Caltrans, and Federal Highway Administration (FHWA) with State Office of Historic Preservation, Presidio Trust, National Park Service, the Advisory Council on Historic Preservation and other interested parties. Specific mitigation measures include:
 - Development of architectural criteria to address how Doyle Drive relates to the existing resources of the Presidio and influence the design so the structure is compatible with the overall character of the Presidio NHL
 - Recordation of buildings and the cultural landscape in accordance with Historic American Building Survey, Engineering Record and Landscape Survey Programs
 - Implementation and analysis of vibration studies
 - Preparation of historic structures reports and condition assessment reports for affected buildings, structures and cultural landscape features
 - Stabilization/monitoring/security for buildings during construction
 - Development of protocols for archaeological monitoring, treatment of archaeological resources, collections management and curation of recovered materials
 - Development of specifications for the portion of Building 201 that will be relocated during construction and for buildings that will be altered to accommodate construction including the underpinning of Buildings 106 and 1167
 - Monitoring of architectural resources and the cultural landscape
 - Rehabilitation of buildings and restoration of cultural landscape features
 - Salvaging of demolished buildings and structures
 - Minor repairs and reconstruction, if necessary
 - Preparation of an updated National Historic landmark nomination for the Presidio of San Francisco and the Golden Gate Bridge

The executed Programmatic Agreement is contained in Appendix I, Section 106 Programmatic Agreement and Coordination Letters of the FEIS/R



HYDROLOGY, WATER QUALITY AND STORMWATER

The analysis describes the regulatory setting and existing conditions applicable to hydrology, water quality and stormwater. The location of groundwater and surface water is documented and potential impacts that result from the project are evaluated. Water quality relates to chemical, physical and biological characteristics of water with respect to its suitability for beneficial use. Roadway projects can affect water quality as increased impervious surfaces can lead to changes in hydrology and affect surface runoff that drains to streams and natural habitats.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Implement measures to minimize or eliminate construction and operational impacts to hydrology, water quality and stormwater runoff
 - During construction:
 - Develop a Stormwater Pollution Prevention Plan (SWPPP) prior to construction to reduce pollutants in stormwater discharges and potential for erosion and sedimentation
 - Design Best Management Practices (BMP) to reduce pollutants in stormwater discharges from the construction site
 - Characterize the quality of groundwater in the vicinity of dewatering operations (prior to initiation of dewatering) and ensure resulting groundwater discharge will occur in conformance with regulatory requirements
 - Maintain the Palace of Fine Arts Lagoon levels
 - During operation of the facility:
 - Eliminate or reduce pollutants in stormwater runoff from the project with one of two treatment options:
 - Option 1.** Collect and discharge stormwater runoff from proposed roadway, including wash-down water (water from cleaning the tunnel) and incidental runoff from within tunnels to the existing sanitary sewer system (runoff treated at City and County of San Francisco wastewater treatment facility)
 - Option 2.** Treat runoff from new roadway prior to discharge to surface waters to extent feasible, at or near new structure (roadway pollutants in runoff treated to the maximum extent practicable prior to discharge to any surface water systems)
- Follow sustainability guidelines with preference for passive, vegetative systems when feasible, for selection of permanent stormwater treatment methods
- Install high-permeability strip drains to maintain existing groundwater flow around tunnels
- Include flood protection in project design for low portions of roadways at eastern portal of Main Post Tunnel and depressed segment of Girard Road

IMPACT TO BE MITIGATED

- Possible alteration to wetland habitat resulting from tunnel construction in the vicinity of the bluffs and potential change in groundwater movement
- Increased potential of flooding of low lying portions of the roadway
- Slight increase to impervious surface area

MITIGATION MEASURES

- Create wetlands in advance of construction to ensure that this habitat is available during and after construction (see also Wetlands Section on page 31)
- Previously untreated roadway runoff will be treated through the selection of appropriate BMPs to reduced or eliminate pollutants



GEOLOGY/SOILS/SEISMIC/TOPOGRAPHY

The geology, soils, seismic and topography analysis evaluates the ground conditions in the project area to determine if there are potential geologic or seismic risks associated with the project.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Address geologic concerns through appropriate subsurface investigation and design considerations as described below:
 - Base road structure designs on a Magnitude 8 earthquake on San Andreas Fault
 - Incorporate special design features into structures that will be placed in soils vulnerable to liquefaction
 - Reuse suitable soils that are excavated as part of the project in other locations to minimize off-hauling and construction traffic
 - Remove invasive plant material and seed from soil and develop an earthwork management plan in coordination with Trust and the National Park Service (NPS)
 - Document any archaeological materials not subject to scientific study that are redeposited elsewhere in the Presidio to inform future researchers

IMPACT TO BE MITIGATED

- Disturbance and removal of geologic resources

MITIGATION MEASURES

- The disturbance and removal of geologic resources for the construction of the new roadway is an unavoidable impact (no mitigation measures are available for this impact)



HAZARDOUS MATERIALS

The hazardous materials and waste analysis provides research and documentation of existing hazardous materials conditions in the project area. The analysis also assesses the potential for hazardous materials to be released during construction, operation and maintenance of the project.

AVOIDANCE AND/OR MINIMIZATION MEASURES

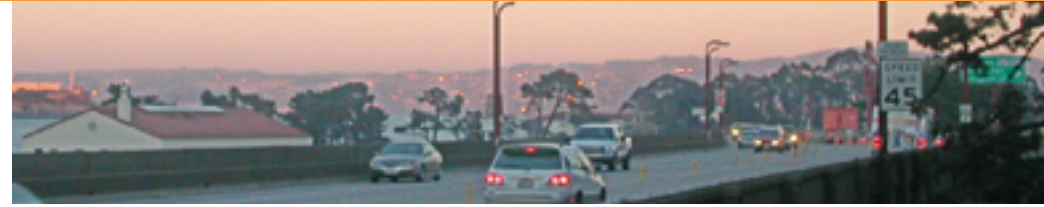
- Identify and remediate hazardous materials along the project corridor
 - Review previous reports and perform a soil investigation prior to project construction to determine the presence and extent of:
 - Aerially deposited metals from vehicle exhaust and viaduct coating
 - Serpentinite bedrock (naturally occurring asbestos) that will be disturbed during project construction
- Characterize soil for contaminants and hazardous materials
- Test groundwater samples in areas slated for dewatering for hexavalent chromium, petroleum hydrocarbons and other contaminants
- Conduct a lead-based paint survey and asbestos-containing materials survey prior to demolition of buildings
- Prepare a Site Management Program/Contingency Plan (SMP/CP) to address known and potential hazardous materials issues during construction (include a site-specific Health and Safety Plan (HASP) to define procedures to protect construction workers and the general public)
- Prepare and submit an Asbestos Dust Mitigation Plan to Bay Area Air Quality Management District (BAAQMD (include BMPs to minimize dust during grading and other earthmoving operations)
- Use techniques during project construction to minimize groundwater dewatering and avoid affecting other areas of groundwater contamination at the Presidio
- Coordinate all construction activities with Presidio Trust to ensure that project development does not affect ongoing investigation and/or remediation of hazardous materials sites

IMPACT TO BE MITIGATED

- Potential release of hazardous materials during construction

MITIGATION MEASURES

- Implement standard construction management practices and pre-construction investigations and procedures, including development of a Site Management Program/Contingency Plan (SMP/CP), to ensure no hazardous waste/material impacts would be associated with the project



AIR QUALITY

The air quality analysis considers potential long-term impacts and benefits to regional air quality and measures compliance with the applicable State Implementation Plan as required by the 1993 Clean Air Act.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Require the contractor to implement the Bay Area Air Quality Management District (BAAQMD)'s basic dust control procedures during construction, including:
 - Watering all active construction areas at least twice daily
 - Covering all trucks hauling soil, sand and other loose materials or requiring all trucks to maintain at least two feet of freeboard
 - Paving, applying water three times daily or applying (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites
 - Sweeping streets at the end of each day if visible soil material is carried onto adjacent paved roads

IMPACT TO BE MITIGATED

- Temporary air quality impacts from dust and construction vehicle emissions

MITIGATION MEASURES

- Implementation of Bay Area Air Quality Management District (BAAQMD) basic dust control procedures will maintain project construction-related impacts at acceptable levels
- Additional emission reductions for construction equipment will be phased-in over the period of 2008-2015 in accordance with the Environmental Protection Agency (EPA) final rule introducing Tier 4 emission standards



NOISE

The noise analysis considers noise levels associated with construction and future operation of the project. The analysis compares the existing noise environment in the Doyle Drive project study area to predicted future noise levels. The analysis focuses on buildings and locations that are or might be considered noise-sensitive because of their current or future land use.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Temporarily relocate Crissy Field Center operations during construction to avoid disruption to educational programs
- Monitor areas adjacent to the construction zone and deemed sensitive by the Presidio Trust and National Park Service (NPS) for changes in wildlife behavior (a minimization plan, based on distinct behavioral changes and the uncertainty of construction noise, will be developed as needed)
- Develop a detailed construction noise plan for inclusion in construction contract documents. The noise plan will include noise field monitoring of construction impacts to be conducted in concert with Presidio Trust and NPS staff

IMPACT TO BE MITIGATED

- Increase in noise levels at specific locations including residences along Storey Avenue, Armistead Road, Officer Family Housing and Lyon Street

MITIGATION MEASURES

- Construct a noise barrier on the north side of Doyle Drive near Armistead Road*
 - * This mitigation measure was declined by the Presidio Trust as land managers. The Presidio Trust has indicated that the benefits of the sound barrier would be outweighed by the negative effects on the cultural landscape. It has been determined, through application of the historic preservation and architectural criteria, that the sound barrier would be undesirable and inconsistent with the cultural landscape of the Presidio.



VIBRATION

The vibration analysis considers vibration levels associated with construction and future operation of the project. The analysis describes the effects of vibration on buildings and their occupants within the Doyle Drive Project study area. The vibration study evaluates vibrations caused by both the construction of the project and future traffic volumes on Doyle Drive.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Require the following vibration management measures as needed within the Presidio and/or Palace of Fine Arts to maintain vibrations at acceptable levels during construction:
 - Determine appropriate construction vibration limits with vibration testing prior to construction
 - Restrict impact pile driving to acceptable levels within 200 feet of fragile historic structures
 - Select construction methods to ensure compliance with vibration limits in the vicinity of historic buildings and sensitive structures
 - Conduct pre-construction surveys of historic buildings and sensitive structures to document existing conditions
 - Conduct vibration monitoring during construction to ensure compliance with vibration limits
 - Inspect historic buildings and sensitive structures on completion of construction activities
 - Give adequate notice to residents and building occupants before work begins near their buildings

IMPACT TO BE MITIGATED

- Potential construction-related vibration impacts

MITIGATION MEASURES

- Implement proper vibration management measures within the Presidio and/or adjacent to the Palace of Fine Arts to maintain vibrations at acceptable levels during construction



ENERGY

The energy analysis provides information on the potential impact that the project will have on transportation-related energy consumption. Energy is primarily consumed by vehicles transporting people or goods (propulsion energy) but also includes energy used to build, operate and maintain facilities. The assessment considers the supply and demand for three types of energy: electricity, natural gas and other petroleum-based fuels such as gasoline and diesel fuel.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Implement measures to reduce short-term energy consumption associated with construction, such as:
 - Locating material production facilities on site or within close proximity to the project site
 - Using newer, more energy-efficient construction vehicles
 - Implementing a program to encourage construction workers to carpool or use public transportation for travel to and from the construction site

IMPACT TO BE MITIGATED

- Construction-related energy consumption

MITIGATION MEASURES

- Implement appropriate energy conservation measures to reduce construction-related energy consumption



NATURAL COMMUNITIES

The natural communities analysis evaluates the existing plant communities with a focus on biological communities, not individual plant or animal species. An assessment of the wildlife corridors or areas of habitat used for seasonal or daily migration is provided with information on the potential for sensitive habitat fragmentation.

AVOIDANCE AND/OR MINIMIZATION MEASURES

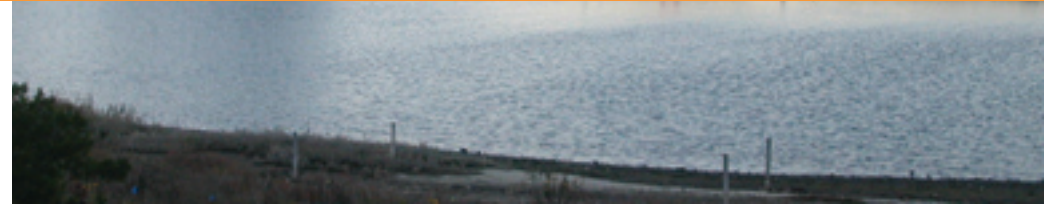
- Establish a Biological Resources Monitoring Program (Monitoring Program) to implement measures to avoid and minimize adverse effects on sensitive resources (in cases where standards are not met, appropriate parties will be notified to take corrective action and implement adaptive management)

IMPACT TO BE MITIGATED

- Removal and disturbance of vegetation during construction

MITIGATION MEASURES

- Implement a plan for the revegetation of temporarily disturbed vegetation (details are described under the Plant Species section on page 32)
- Work to ensure the successful reestablishment of natural communities with the implementation of a Monitoring Program



WETLANDS AND OTHER WATERS OF THE UNITED STATES

The wetlands analysis describes the water bodies (wetlands, streams and marshes) in the project area and outlines the potential effect of the project on those water bodies. Wetlands are unique, natural areas that occur wherever land is inundated, covered, or influenced by the presence of water.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Establish and protect environmentally sensitive areas, including wetland habitat, beyond the immediate construction footprint

IMPACT TO BE MITIGATED

- Permanent loss of 0.13 hectares (0.33 acres) of USACE jurisdictional wetlands and an additional 0.08 hectares (0.19 acres) of Cowardin wetlands
- Temporary loss of 0.03 hectares (0.08 acres) of USACE jurisdictional wetlands and an additional 0.06 hectares (0.16 acres) of Cowardin wetlands

MITIGATION MEASURES

- Address direct and indirect impacts to U.S. Army Corps of Engineers (USACE) jurisdictional waters in order to comply with Section 404 of the Clean Water Act; address impacts to Cowardin wetlands, which are protected by the National Park Service (NPS) and Presidio Trust
- Implement a Wetland Restoration and Enhancement Mitigation Plan to:
 - Avoid, minimize or compensate (in this order) for the temporary and permanent losses of waters of the U.S. and Cowardin wetlands protected by the NPS or the Trust due to the Doyle Drive Project
 - Satisfy the “no-net-loss” policy regarding type, function and value of wetlands per Executive Order 11990 and consistent with the NPS’ and Trust’s policies
 - Improve wetland and riparian value and increase wildlife habitat quality relative to the quality of waters of the U.S. and Cowardin wetlands protected by the NPS or the Trust that will be disturbed or filled
 - Create successful mitigation sites that will become self-supporting natural systems over time
- Adhere to the three basic strategies for mitigation of permanent and indirect impacts that are accepted by the Trust and NPS:
 - Wetland creation
 - Intensive wetland enhancement
 - Wetland enhancement
- Continue the Wetlands Mitigation Monitoring Program until the plantings demonstrate successful reestablishment and the performance criteria have been met

The comprehensive Wetland Restoration and Enhancement Mitigation Plan is contained in Appendix K, Minimization and Mitigation Summary of the FEIS/R



PLANT SPECIES

The plant species analysis describes the individual plant species in the project area and describes potential impacts of the project on these species.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Establish Environmentally Sensitive Areas (ESAs) to protect all sensitive habitat and special-status plant species next to the construction area (ESAs will be off-limits to all construction activity, clearly marked on the project plans and fenced off prior to construction)

IMPACT TO BE MITIGATED

- Potential removal of special-status plant species

MITIGATION MEASURES

- Restore federal or state "species of concern" habitat at a 1.5:1 ratio if avoiding special-status plant species is not feasible (alternate project funding will be required if federal or state species of concern restoration on-site is impracticable).
- *Revegetation of Temporarily Disturbed Areas:* Within the construction corridor, all natural areas disturbed temporarily because of project activities will be revegetated and restored to appropriate native vegetation type in natural areas, or appropriate ornamental vegetation type in landscaped areas. Revegetation and restoration will be completed in accordance with the 2001 Vegetation Management Plan (VMP) and standard National Park Service (NPS) and Trust restoration practices. Sites disturbed before the planting effort will be treated immediately with: (1) a seed mixture and mulch using broadcast methods; or (2) hydroseed. All terrestrial and aquatic revegetation materials will be approved by the Trust and NPS natural resource staff.
- The Biological Resources Monitoring Program will ensure the continued monitoring and maintenance of the restoration sites until their successful reestablishment and the performance criteria have been met. Maintenance will include replacing plants, maintaining erosion control materials and irrigation systems, controlling weeds and removing trash and other debris.



ANIMAL SPECIES

The animal species analysis describes the wildlife that lives within the project area. The location of the wildlife and potential effects that result from the project are evaluated.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Implement the Monitoring Program to ensure that periodic surveys will be conducted before and during construction for raptors and other native avian species
- Conduct a pre-construction training session for all construction workers to present information provided by Presidio Trust and National Park Service (NPS) about working with these agencies and appropriate behavior within national parks, such as picking up all trash and not feeding wildlife
- Designate buffer zones 300 to 500 feet around nests identified by the surveying biologist
- Restrict construction activities to a period (Sept. 1–Dec. 31) outside of the peak bird breeding season (Jan. 1–Aug. 31)
- Remove vegetation (to the least extent practicable) during the non-nesting season (Sept. 1–Dec. 31) to reduce the possibility that nests will occur within construction corridor
- Utilize construction methods that will reduce noise and vibration effects on birds
- Avoid using plant species along or on median of roadway which will attract birds during final restoration planting
- Conduct pre-construction surveys for breeding or roosting bat species, including the Yuma myotis bat, in the event that bats occupy buildings or structures during the year preceding actual demolition and construction

IMPACT TO BE MITIGATED

- Potential impacts to animal species due to removal of habitat

MITIGATION MEASURES

- Determine need for and type of action for specific situations with qualified biologists as the work is taking place



INVASIVE SPECIES

The invasive species analysis describes the plant and animal species in the project area that are considered invasive. An invasive species is any species that is not native to the ecosystem whose introduction does or is likely to cause economic or environmental harm or negatively affect human health.

AVOIDANCE AND/OR MINIMIZATION MEASURES

- Implement Best Management Practices (BMPs) during construction to prevent the introduction or spread of invasive species, including:
 - Inspecting and cleaning construction equipment
 - Implementing eradication strategies
 - Discouraging colonization by stabilizing disturbed soil areas affected by construction areas
- Exclude species listed as noxious weeds for erosion control and landscaping included in the construction of the project
- \$10,000 annually, for up to five years, will be available for the control and/or removal of non-native vegetation; application for the funds would be submitted by the Presidio Trust or NPS depending on the location of the plant population

IMPACT TO BE MITIGATED

- Potential introduction or spread of invasive species

MITIGATION MEASURES

- No mitigation measures would be required as implementation of BMPs during construction of the project would limit the spread of invasive species

COST AND FUNDING

A balanced funding strategy has been developed for Doyle Drive that relies upon a combination of federal, state and local funds. The chart shows anticipated funding sources with committed and proposed funding amounts.

Estimated Project Cost: \$1.045 billion

Costs to be shared among federal, state and local participants.

Funding Source	Amount (in Millions)
Federal	
Public Lands Highway Fund	\$9.4 (committed)
High Priority Highways Fund	\$14.8 (committed)
Urban Partnership Agreement	\$47.3 (committed)
State	
Traffic Congestion Relief Program	\$15.0 (committed)
State Highway Operation and Protection Program	\$405.0 (committed)
Local	
San Francisco Proposition K local transportation sales tax	\$67.9 (committed)
State Transportation Improvement Program - Regional Improvement Program (RIP)	\$71.1 (committed)
Other federal/local*	\$414.0 (proposed)
*Additional funds to come from new and/or redirected federal funds, future RIP, and local sources including GGBHTD and MTC.	



PUBLIC AND AGENCY COORDINATION

Public involvement is an important part of the environmental study, project design and construction process. The San Francisco County Transportation Authority (the Authority) conducted a comprehensive public involvement and agency coordination program during the preparation of the Draft Environmental Document and Preliminary Engineering. The outreach program was vital to ensure that the Preferred Alternative reflects community needs and agency requirements.

Citizen and agency working groups were established to meet and receive updates on design and environmental issues and provide input (see member lists below). Recognizing the important role that all stakeholders play in the project's success, the outreach program has included scoping meetings, public open houses and public hearings, key stakeholder interviews and briefings, ongoing technical and community meetings, project open houses and community workshops, and project information materials such as newsletters, fact sheets and a Web site (www.doyledrive.org).

The Authority will continue to conduct regular coordination meetings to ensure that public dialogue occurs throughout the study process and during construction. Additional outreach will include updates on the project Web site and distribution of study documents for public review.



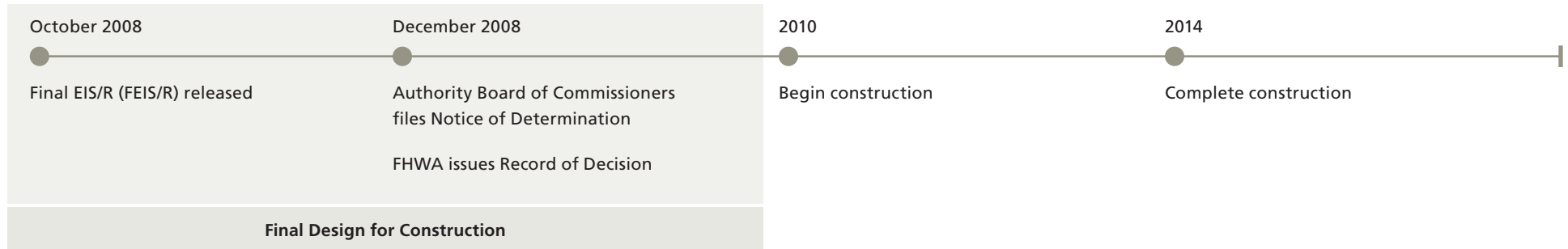
CITIZENS ADVISORY COMMITTEE SUBCOMMITTEE

- Citizens At-Large, San Francisco
- Cow Hollow Association
- Cow Hollow Neighbors in Action
- Fort Point and Presidio Historical Association
- Golden Gate National Recreation Area Advisory Commission
- Marina Civic Improvement & Property Owners Association
- Commuters, Marin County
- Marina Neighborhood Association
- Marina Merchant Association
- Neighborhood Association for Presidio Planning
- Planning Association for the Richmond
- Presidio Residents and Tenants
- San Francisco Bicycle Coalition
- San Francisco County Transportation Authority, Citizens Advisory Committee
- San Francisco Planning and Urban Research Association (SPUR)
- San Francisco Tomorrow
- Sierra Club

AGENCY WORKING GROUP

- Association of Bay Area Governments (ABAG)
- Bay Area Air Quality Management District
- California Department of Transportation, District 4
- Federal Highway Administration
- Golden Gate Bridge, Highway and Transportation District
- Golden Gate National Recreation Area/National Park Service
- Marin County, Department of Public Works
- Metropolitan Transportation Commission
- The Presidio Trust
- San Francisco Bay Conservation & Development Commission
- San Francisco City and County, Department of Parking and Traffic
- San Francisco City and County, Planning Department
- San Francisco Recreation and Park Department
- San Francisco County Transportation Authority
- U.S. Department of Veterans Affairs

PROJECT SCHEDULE



ENVIRONMENTAL DOCUMENT AVAILABILITY

The Final Environmental Impact Statement/Report (FEIS/R) for the Doyle Drive Project is now available.

WHERE CAN I GET A COPY OF THE FEIS/R?

A hard copy of the FEIS/R is available at the following libraries:

Caltrans Transportation Library

111 Grand Avenue
Oakland, CA 94612

San Francisco Public Library

Government Information Center
100 Larkin Street
San Francisco, CA, 94102

Marin County Public Library

3501 Civic Center Drive, Suite 427
San Rafael, CA 94903

Visit the project Web site at:
www.doyledrive.org





SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

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