



APPENDIX C. LINK21 ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES MAP BOOK

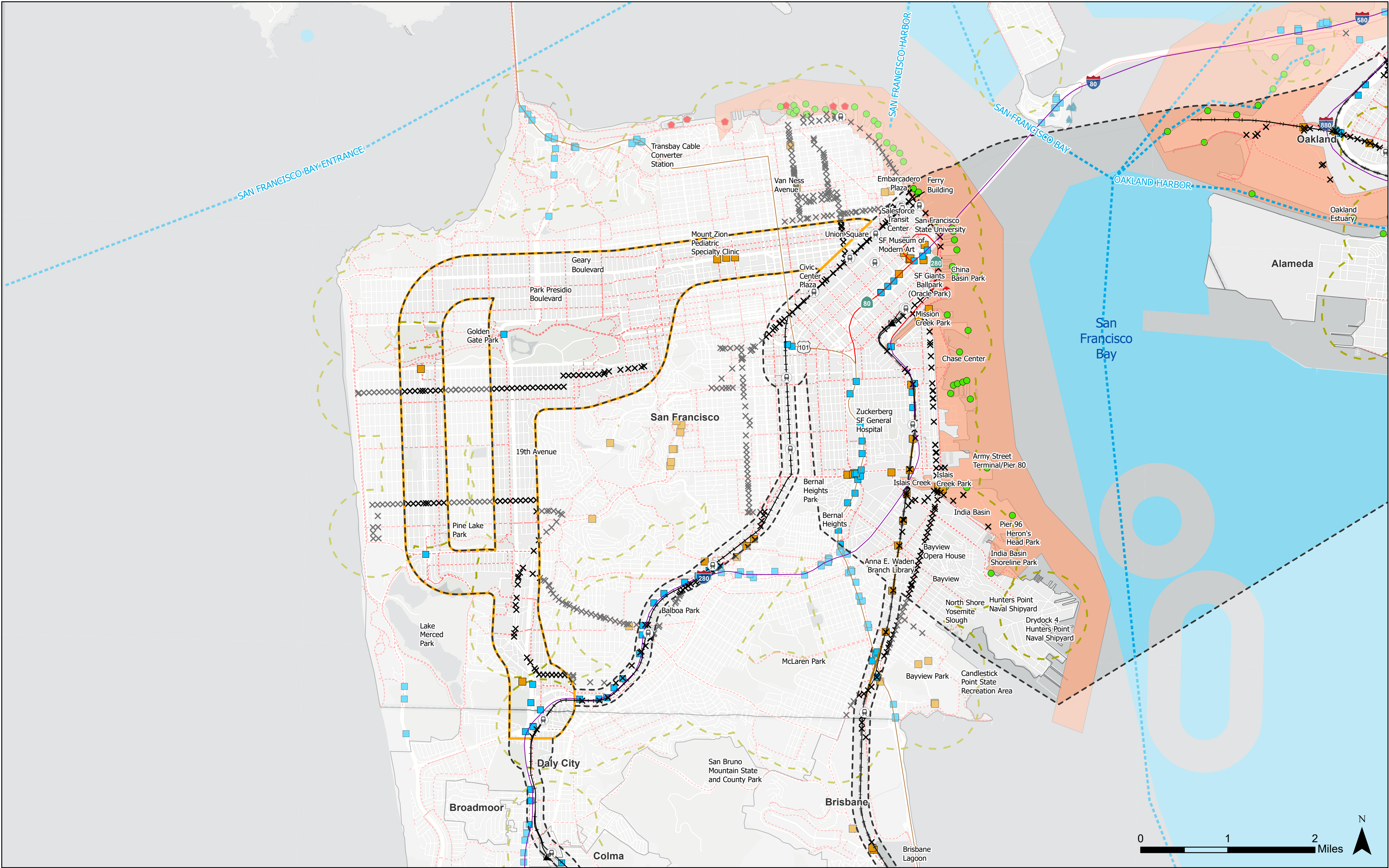
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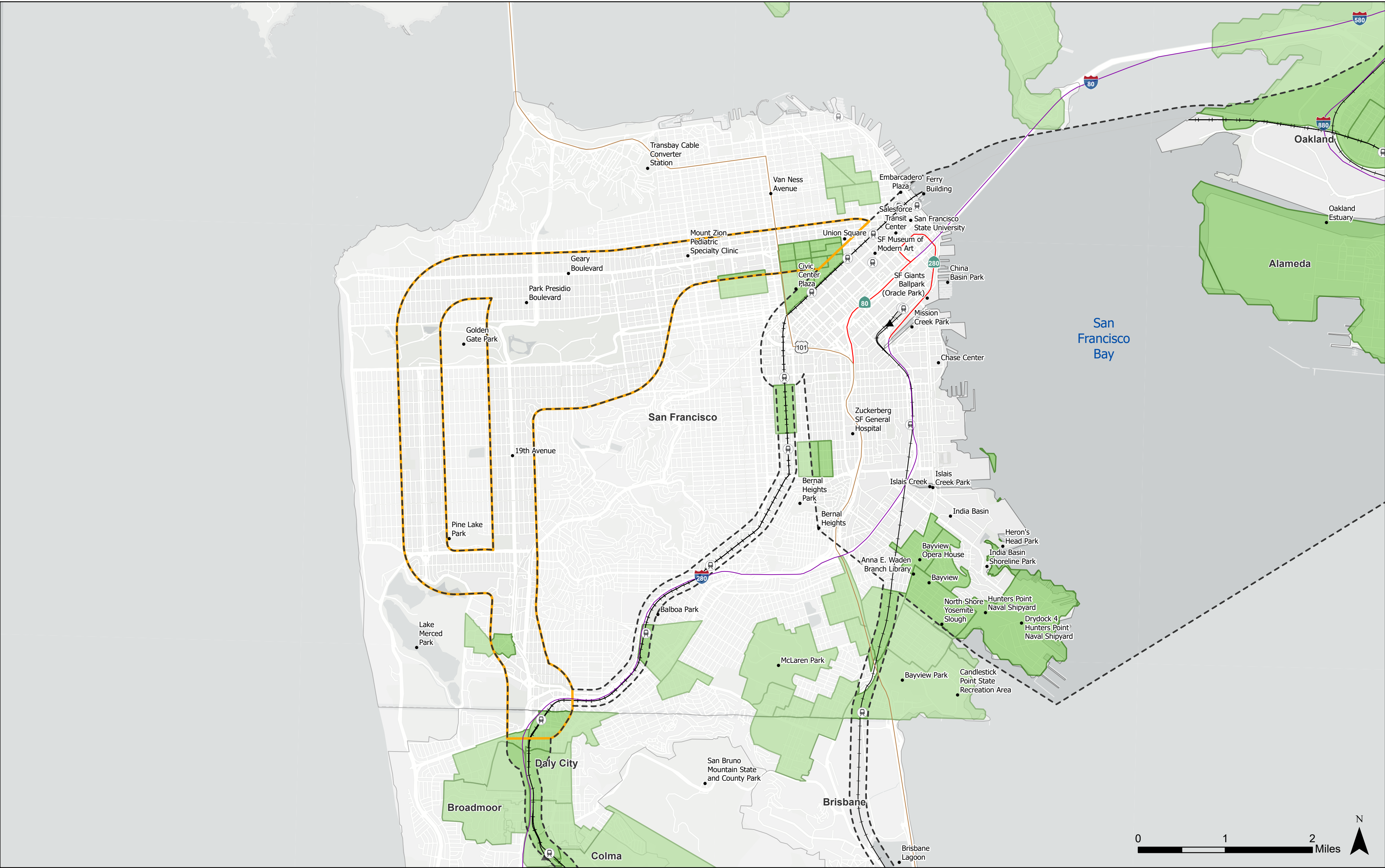
- | | | |
|---------------------------------|------------------------------|---------------------------|
| ECO Study Area | Interstate | Train Station |
| ECO Subarea Boundary | U.S. Route | Rail Maintenance Facility |
| City Boundary | State Highway | Highway Bridge |
| MTC Transit Priority Areas 2021 | Bicycling/Pedestrian Pathway | Local Bridge |
| Anchorage Area | Statewide Rail Network | Mooring Point |
| Port Location | Existing Passenger Rail | Port - MTC |
| Navigable Waterway | Rail Tunnel | Rail Crossing |
| | | US Coast Guard Units |

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Transportation
Western San Francisco ECO Subarea
Panel 1 of 1



Note:
Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Priority Population
- Interstate
- U.S. Route
- State Highway
- Existing Passenger Rail
- Rail Maintenance Facility
- Train Station
- Landmark

Source: Link21 2022.

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

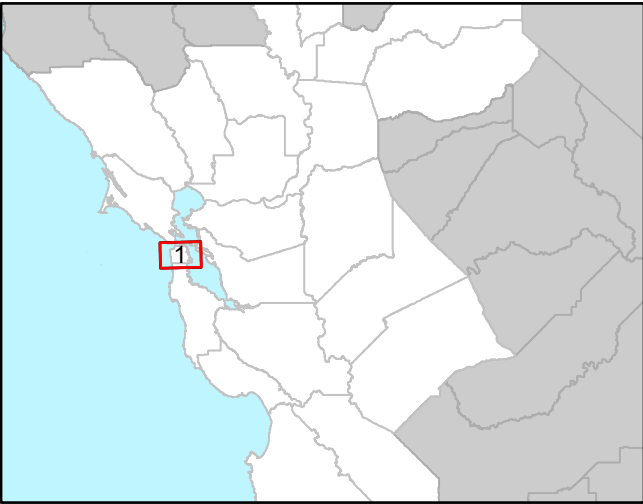
Priority Populations
Western San Francisco ECO Subarea
Panel 1 of 1

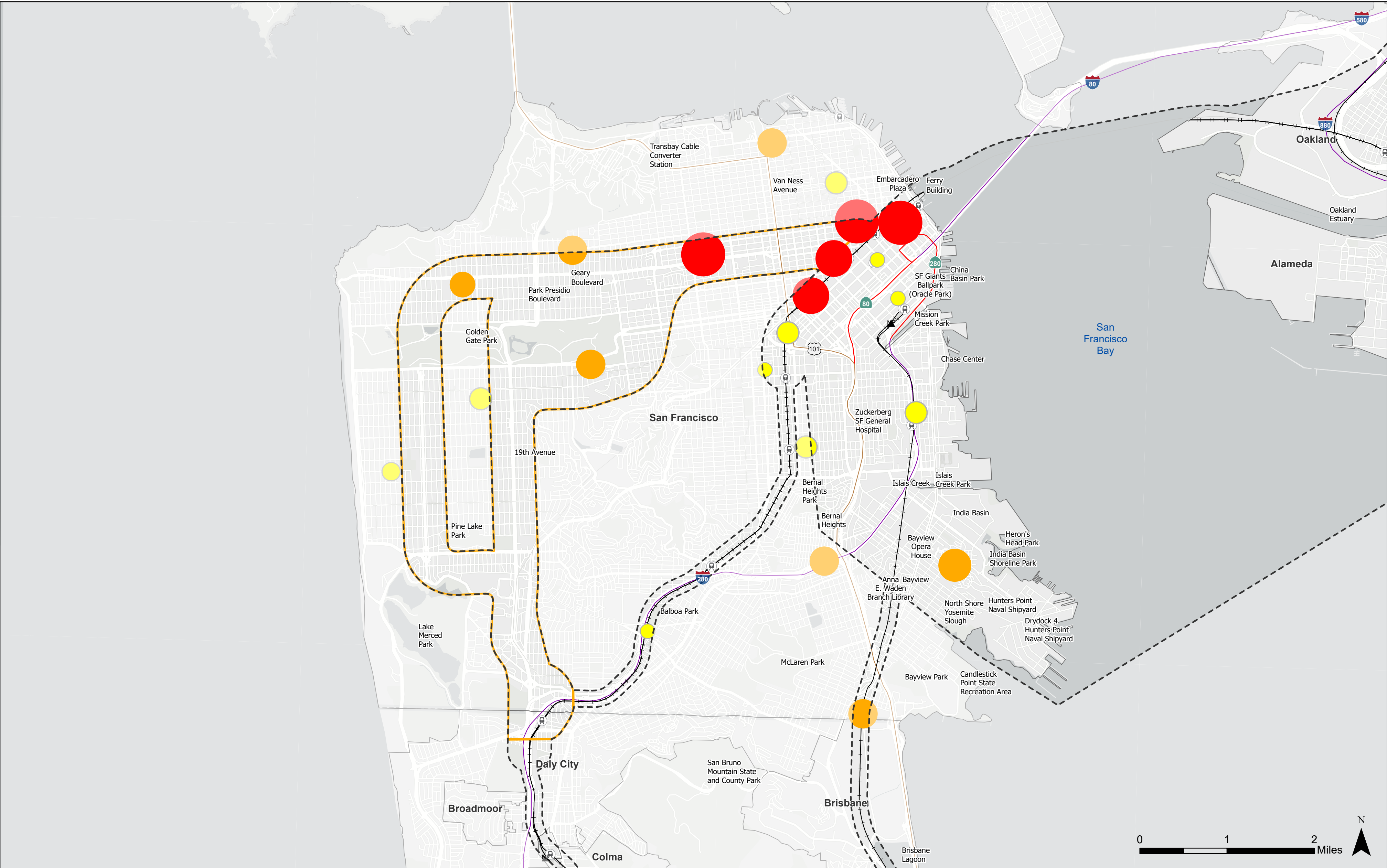


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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Train Station
- Rail Maintenance Facility

Equity-weighted Unmet Transbay Rail Potential (Relative)

- Medium
- High
- Higher

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Market Analysis - Unmet Rail Potential
Western San Francisco ECO Subarea

Panel 1 of 1

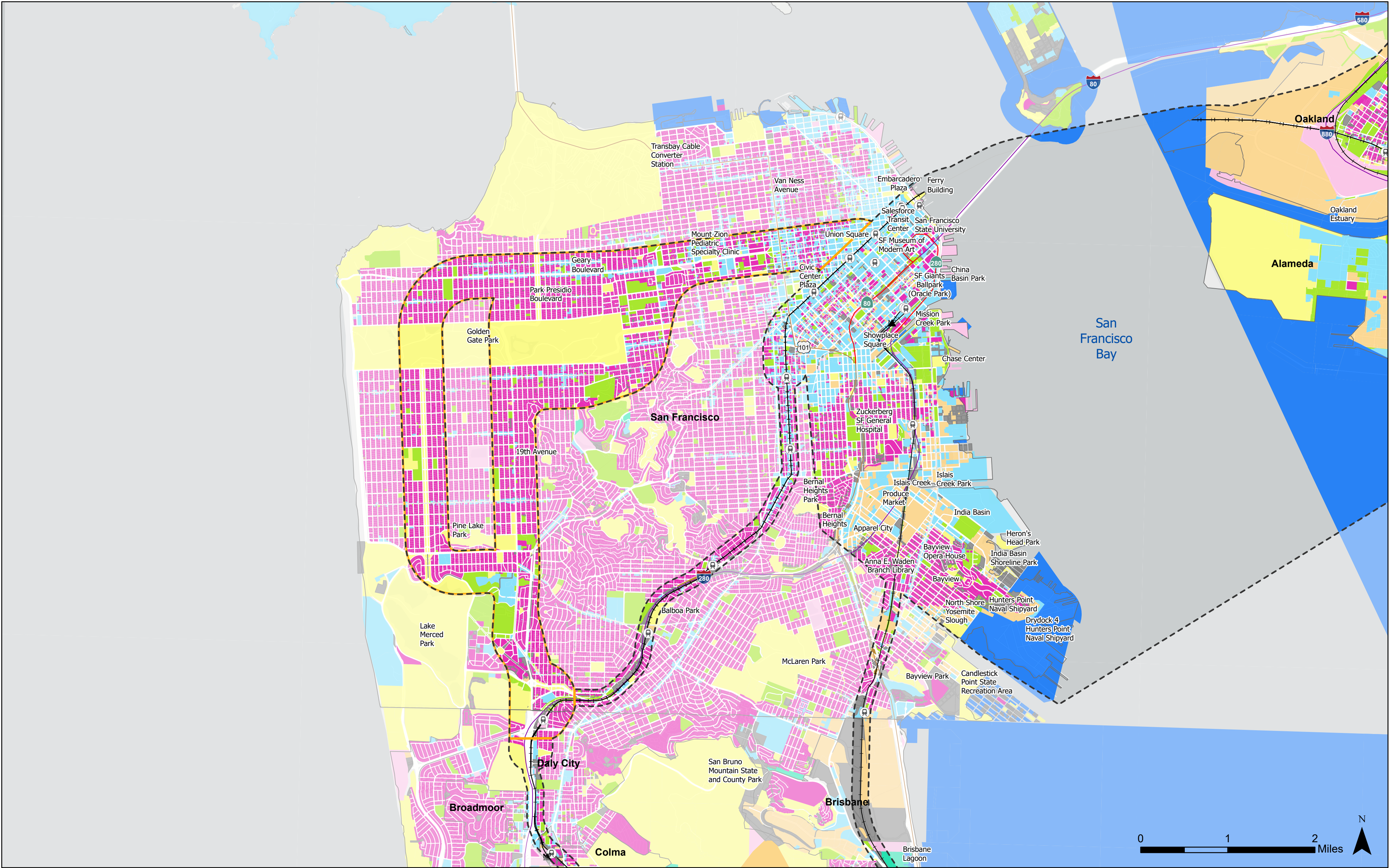
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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Existing Land Use
- Agriculture
- Civic Institutional
- Commercial
- Industrial
- Mixed Use
- Natural Conservation
- Natural Resources
- Open Space
- Residential
- Transportation Utilities
- Water
- Other

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Land Use - Existing Land Use
Western San Francisco ECO Subarea
Panel 1 of 1

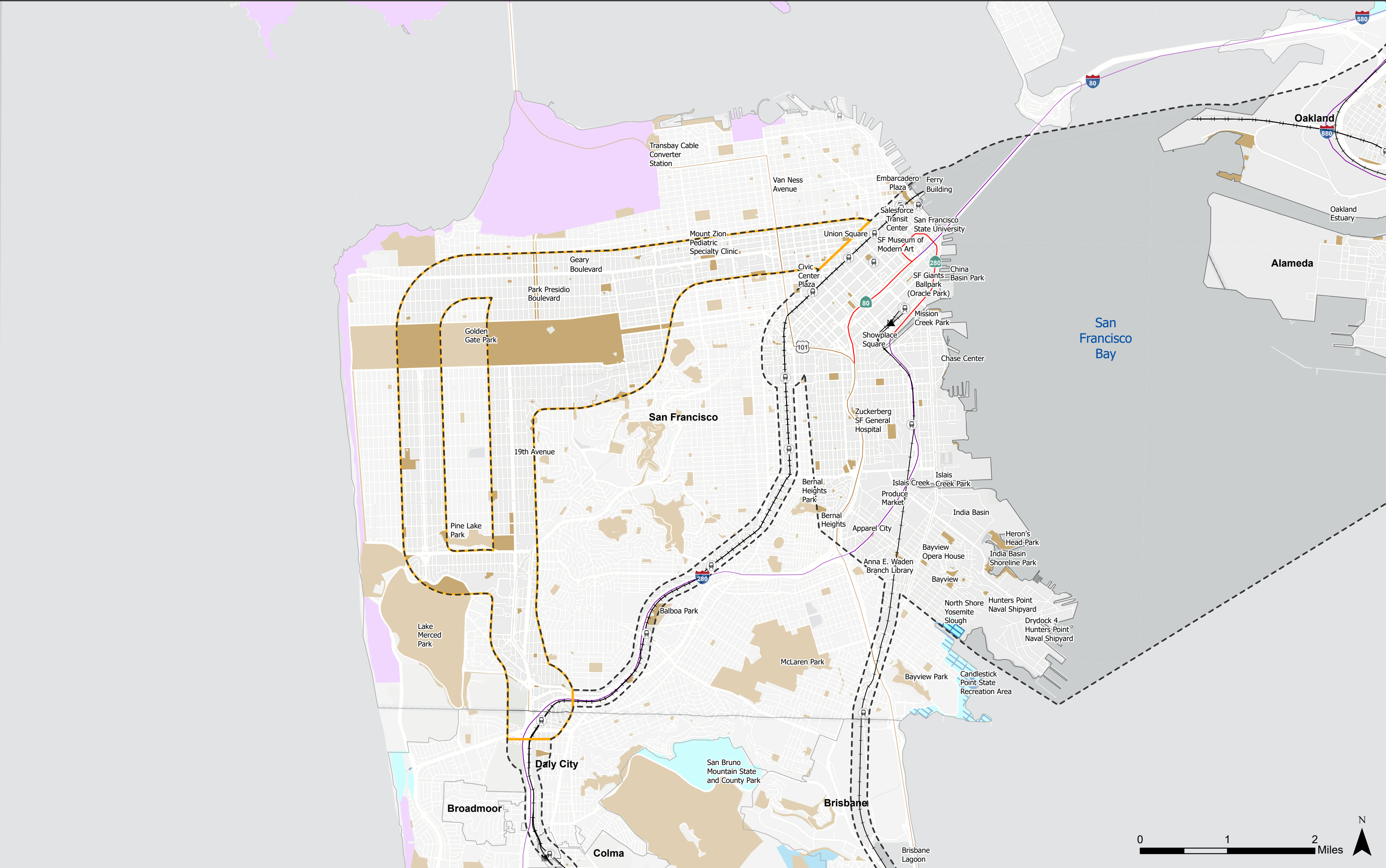


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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Local Government
- CA Dept. of Parks and Recreation
- CA Dept. of Fish and Wildlife
- Other State Lands
- National Park Service

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

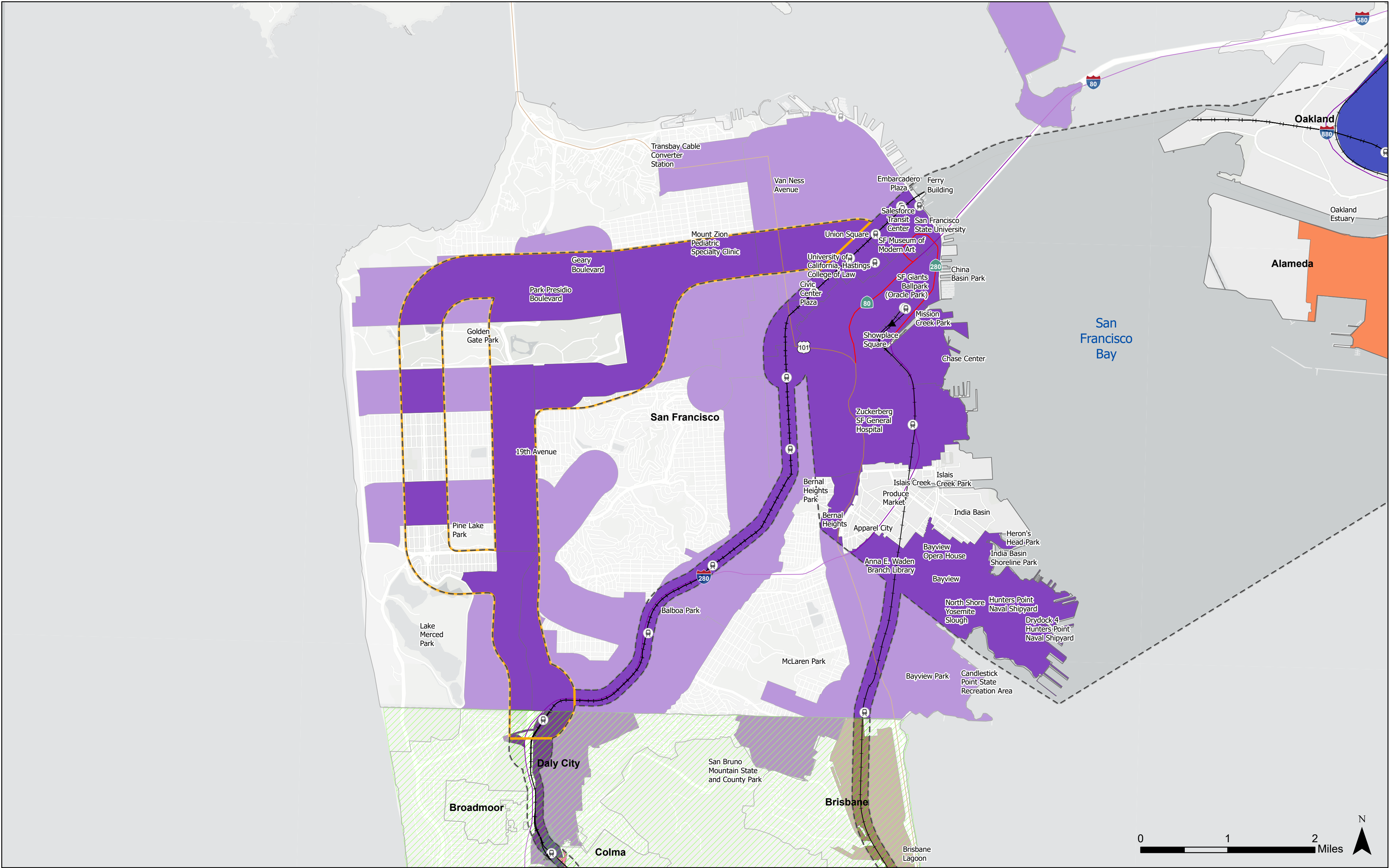
Land Use - Land Ownership
Western San Francisco ECO Subarea
Panel 1 of 1



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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway

- MTC Urban Growth Boundaries 2019
- MTC Priority Development Areas 2050
- Alameda
 - Colma
 - Daly City
 - Oakland
 - San Francisco
 - San Francisco & Brisbane
 - Unincorporated San Mateo

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Land Use - Priority Development Areas and Urban Growth Boundaries

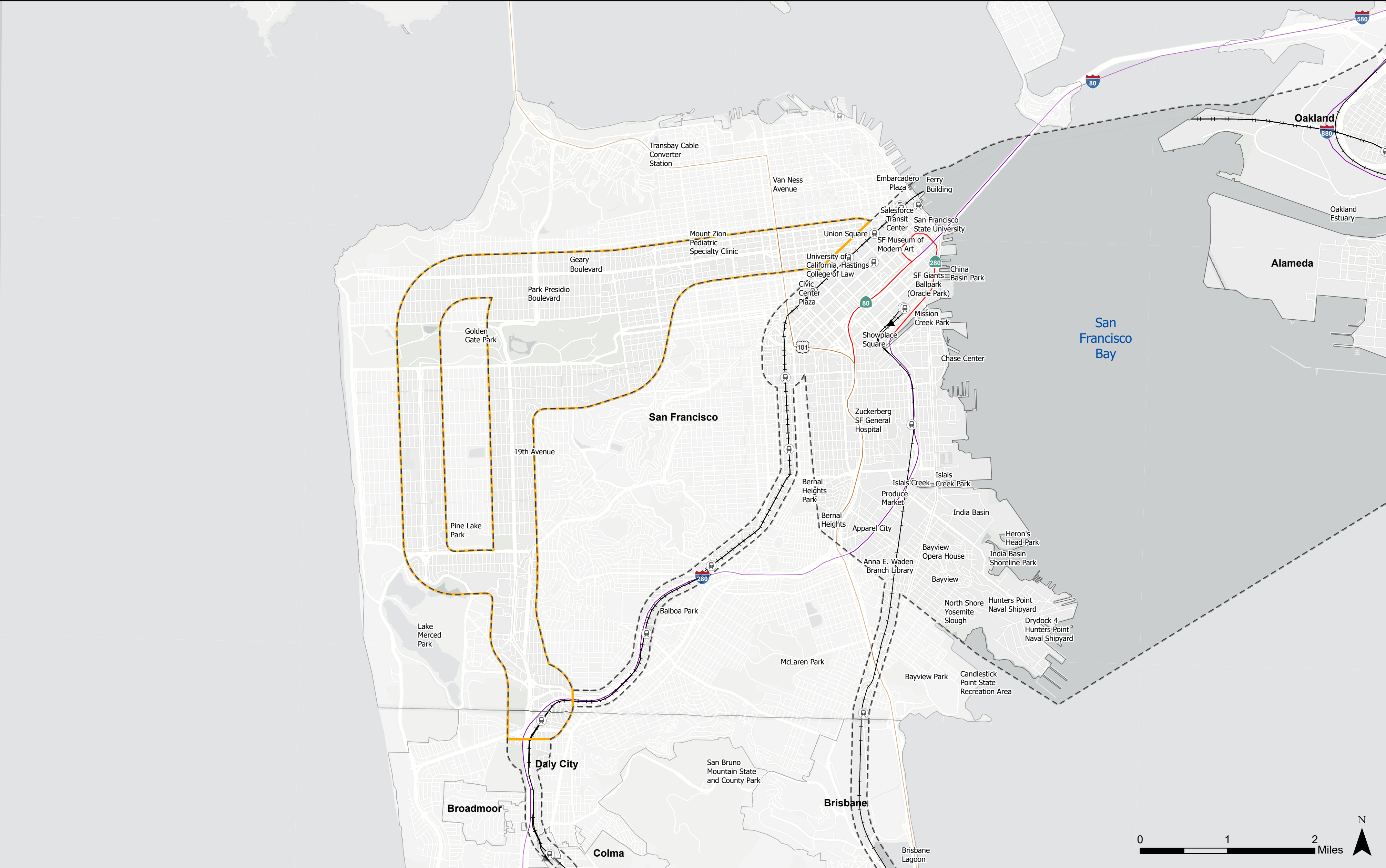
Western San Francisco ECO Subarea

Panel 1 of 1



Note:
Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Train Station
- Rail Maintenance Facility
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway

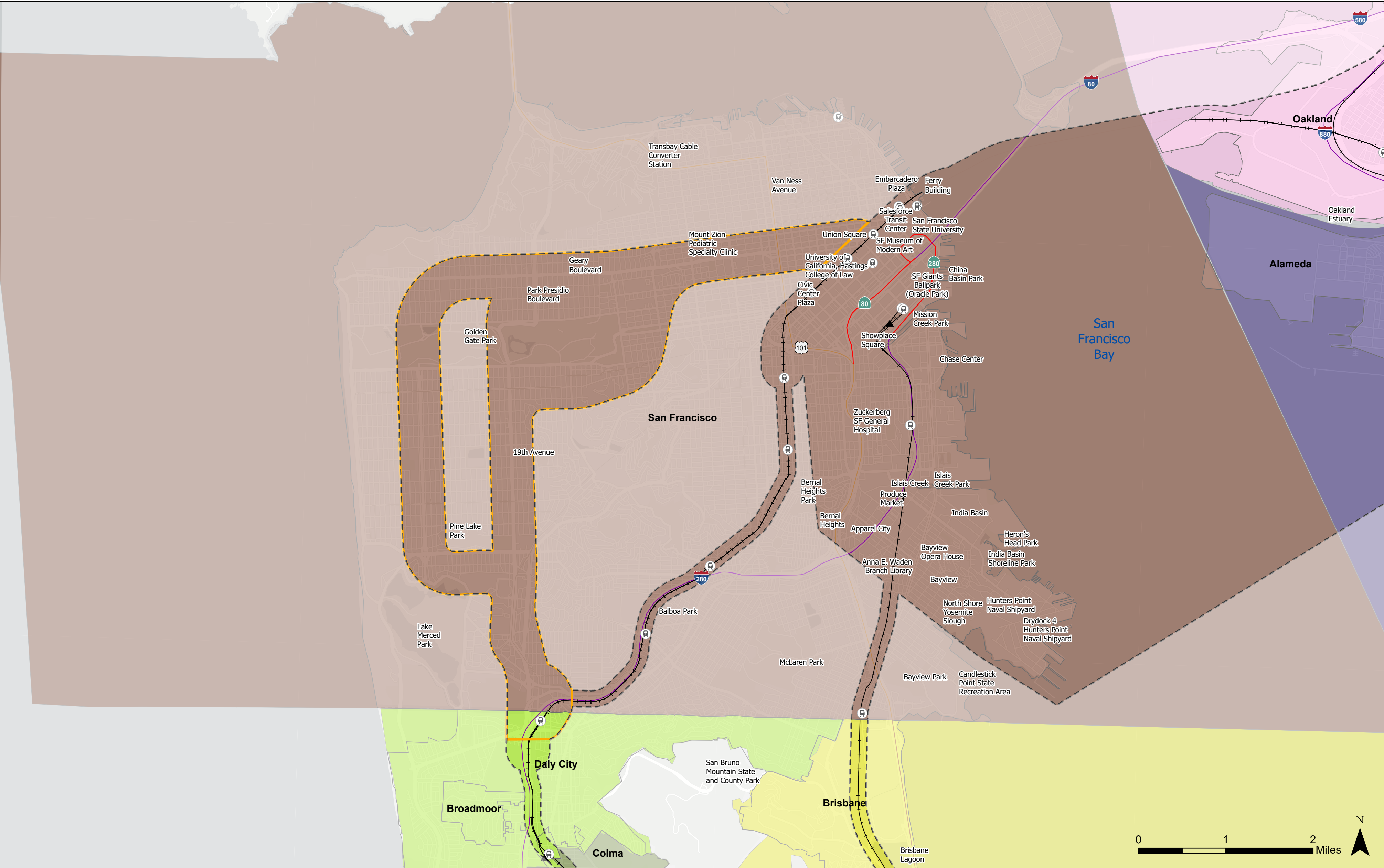
ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Land Use - Important Farmland
Western San Francisco ECO Subarea
Panel 1 of 1



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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Train Station
- Rail Maintenance Facility
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Alameda
- Brisbane
- Colma
- Daly City
- Oakland
- San Francisco

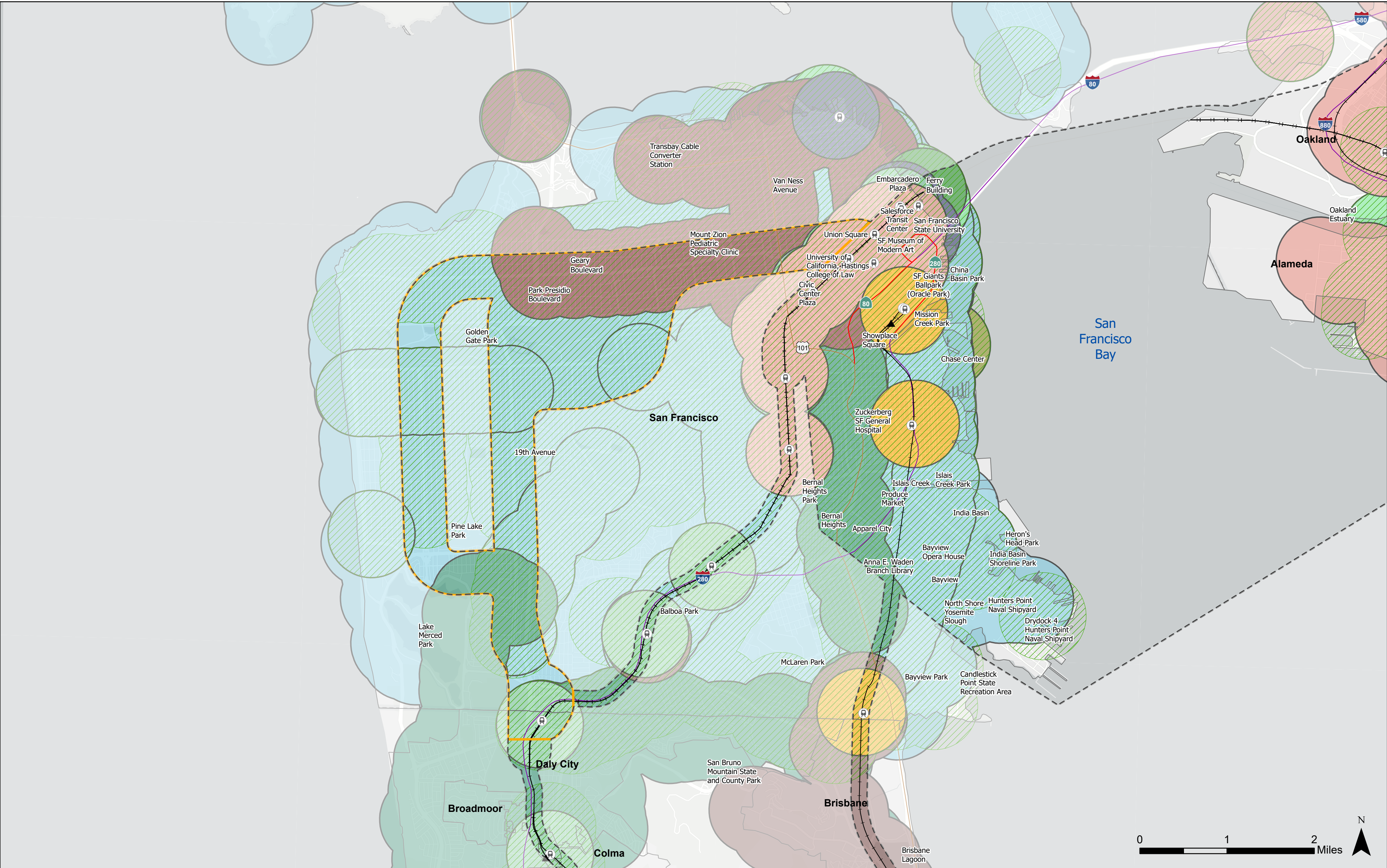
ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Land Use - Spheres of Influence
Western San Francisco ECO Subarea
Panel 1 of 1



Note:
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- ECO Study Area

ECO Subarea Boundary

City Boundary

Rail Maintenance Facility

Train Station

Existing Passenger Rail

Interstate

U.S. Route

State Highway
- MTC Transit Priority Areas 2021

MTC Transit Service Areas 2020

AC Transit

Bay Area Rapid Transit

Caltrain

Capitol Corridor Joint Powers Authority

Commuter.org Shuttles

Emery Go-Round
- Golden Gate Ferry

Golden Gate Transit

SamTrans

San Francisco Bay Ferry

San Francisco Municipal Transportation Agency

SolTrans

Tideline Water Taxi

WestCat (Western Contra Costa)

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Land Use - Transit Priority and Service Areas
Western San Francisco ECO Subarea

Panel 1 of 1

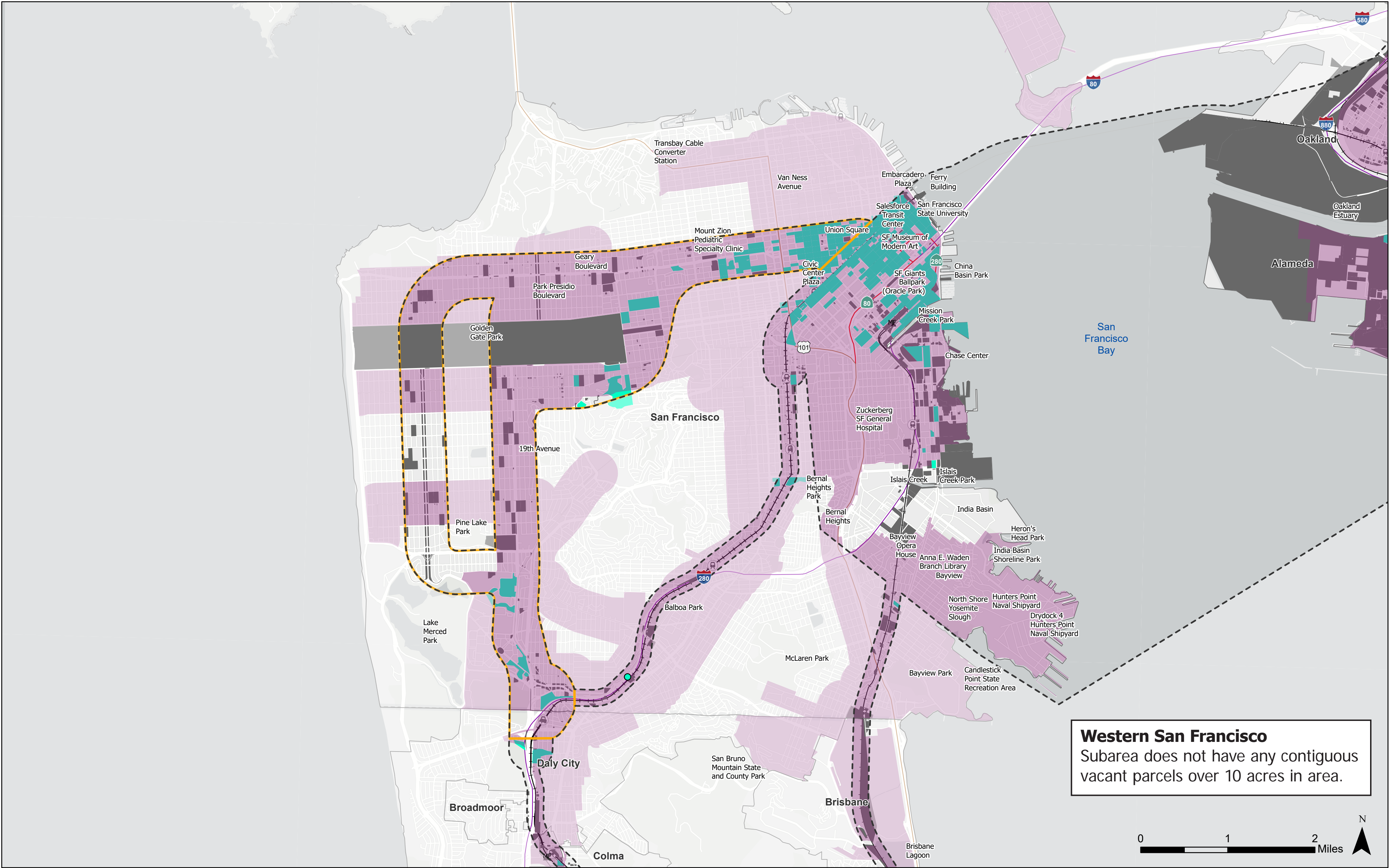
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- | | | | |
|--|---------------------------|--|---|
| | ECO Subarea Boundary | | Targeted Growth Area (TGA) |
| | City Boundary | | Higher Density Areas (In TGA) |
| | Existing Passenger Rail | | Higher Density Areas (Outside TGA) |
| | Train Station | | Lower Density Areas (In TGA) |
| | Rail Maintenance Facility | | Lower Density Areas (Outside TGA) |
| | Interstate | | Greater than 10 Acres of Vacant Land (Inside the Targeted Growth Area) |
| | U.S. Route | | Greater than 10 Acres of Vacant Land (Outside the Targeted Growth Area) |
| | State Highway | | |

*Targeted Growth Areas: Areas positioned for strategic development as determined by the local Municipal Planning Organization
*Higher Density Areas: Areas that either house or employ over 500 people
*Low Density Areas: Areas with rural or low intensity land uses such as rural residential and warehouses (excludes open space, park, and cemetery uses)
Source: UrbanFootprint Analyst, Land Use Parcel Data; Esri Data Atlas

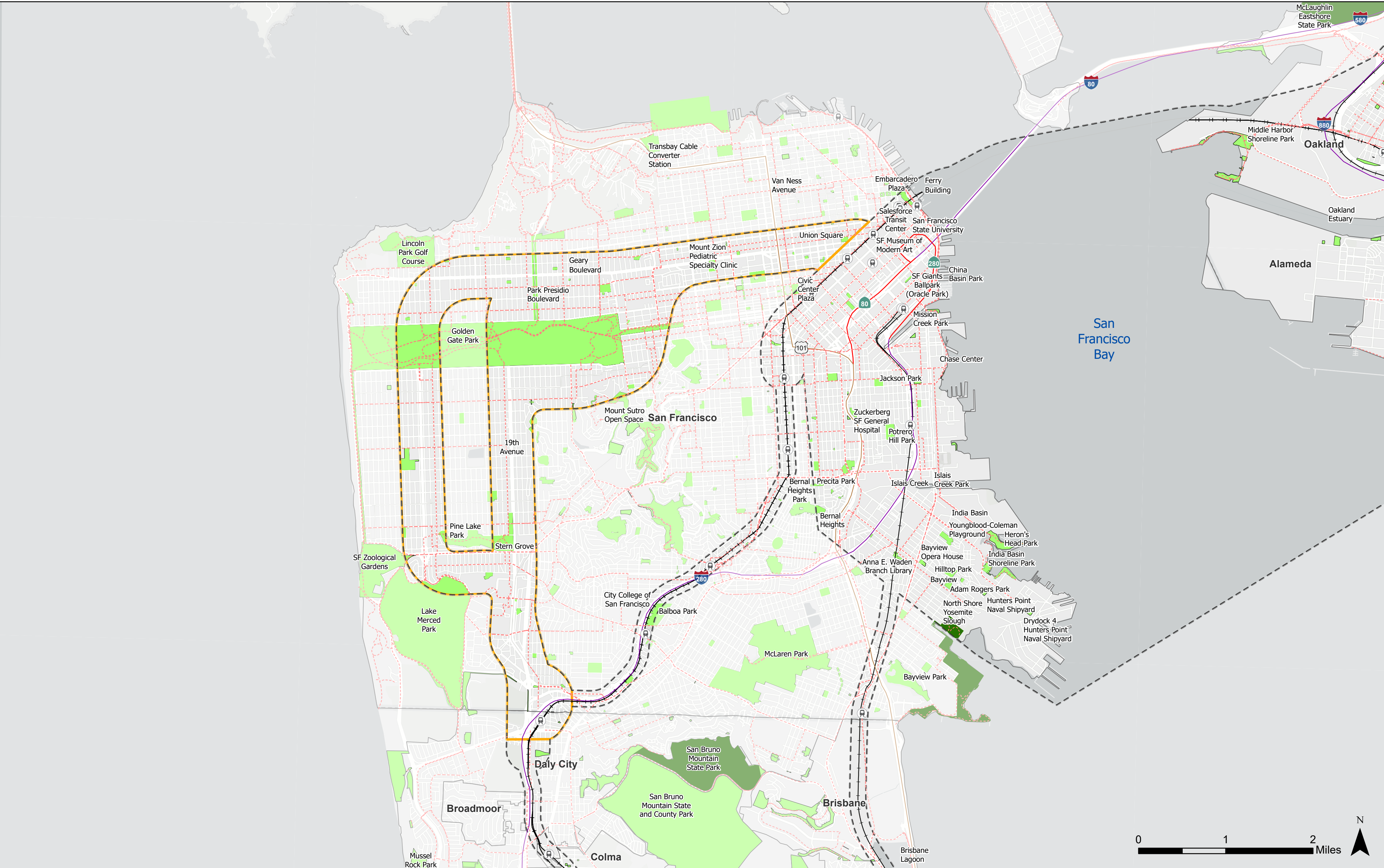
ENVIRONMENTAL CONSTRAINTS & OPPORTUNITIES
Land Use Analysis
Western San Francisco ECO Subarea
Panel 1 of 1



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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- California State Parks
- County and Local Parks
- Interstate
- U.S. Route
- State Highway
- Existing Passenger Rail
- Bicycling/Pedestrian Pathway
- Train Station

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Recreation Facilities
Western San Francisco ECO Subarea
Panel 1 of 1

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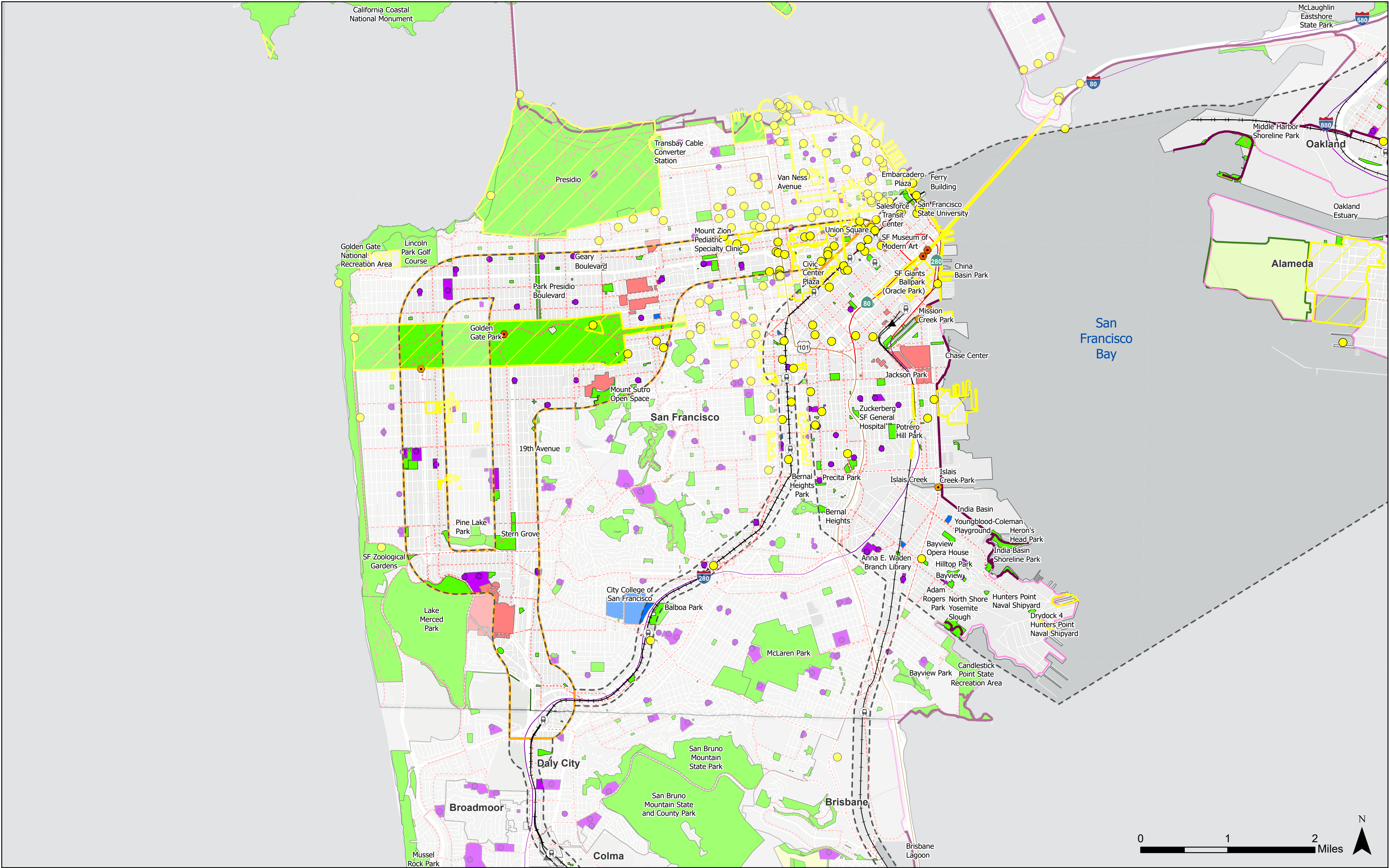
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Note:
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Source: GreenInfo Network 2021, CDFW 2021, MTC 2022, Sacramento, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, Yolo Counties 2021



- ECO Study Area

ECO Subarea Boundary

City Boundary

Alameda Nature Preserve

Protected Area

State Wildlife Refuge

Public School Lands (K-Higher Education)

University Lands

Community College

NRHP-Listed or Eligible District

Interstate

U.S. Route

State Highway
- Existing Passenger Rail

Bicycling/Pedestrian Pathway

San Francisco Bay Trail - Existing

San Francisco Bay Trail - Proposed

State Bridge - Listed in the National Register

Local Bridge - Eligible for National Register listing

Public School K-12 Location

Individual NRHP - Eligible or Listed Built Environment Properties

Rail Maintenance Facility

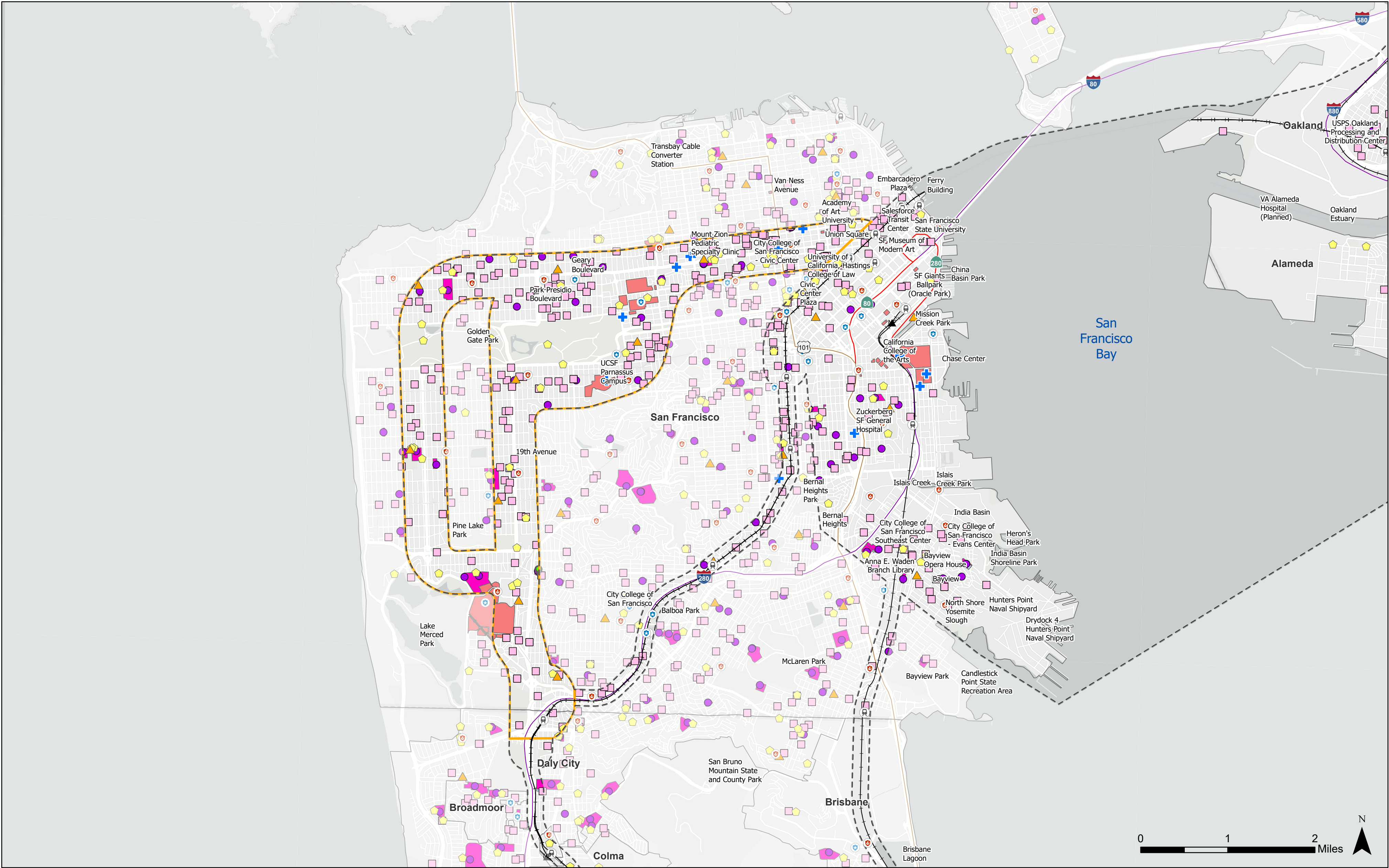
Train Station

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Potential Section 4(f) Resources
Western San Francisco ECO Subarea
Panel 1 of 1



Note: Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color. NRHP-eligible built environment resources depicted on this map reflect publicly available datasets as described in the ECO report. The California Historical Resource Information System contains additional NRHP-eligible built environment resources that will be identified during subsequent phases of program development.





- ECO Study Area

ECO Subarea Boundary

City Boundary

University Lands

Community College

NonPublic K-12 Education Lands

Public School Lands (K-Higher Education)

Interstate

U.S. Route

State Highway
- Existing Passenger Rail

Train Station

Rail Maintenance Facility

Public School K-12 Location

Medical Facilities

Library

Faith-based Facilities

Research Facilities

Emergency Shelter (FEMA)

Local Law Enforcement

Fire Stations

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Community Resources
Western San Francisco ECO Subarea
Panel 1 of 1

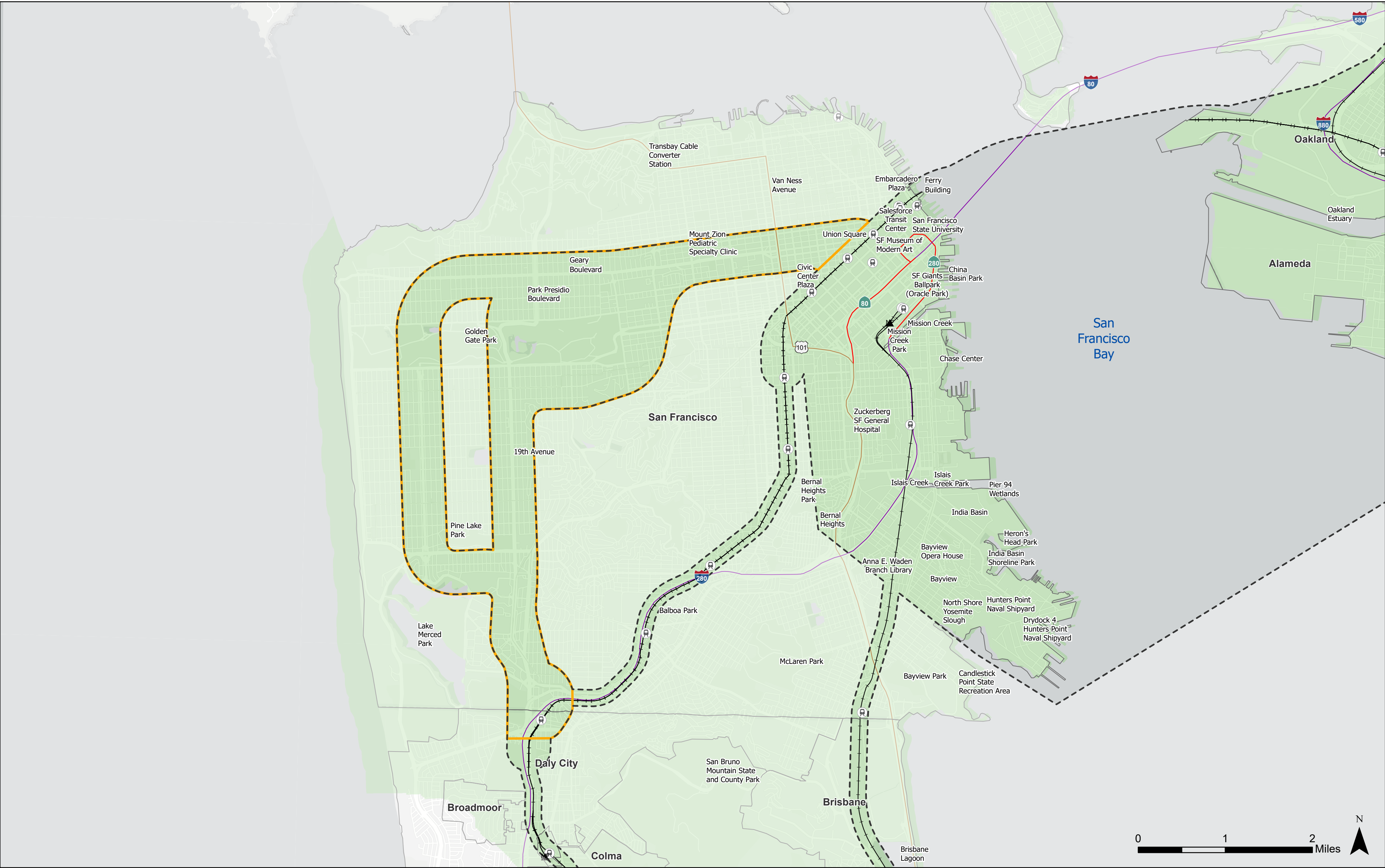


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Note: Resource data may not occur within each map panel extent. For faith-based facilities the dataset includes all registered facilities which may not necessarily be a place-of-worship. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color





- ECO Study Area
-
- ECO Subarea Boundary

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Biological Resources - Calveg Ecoregions

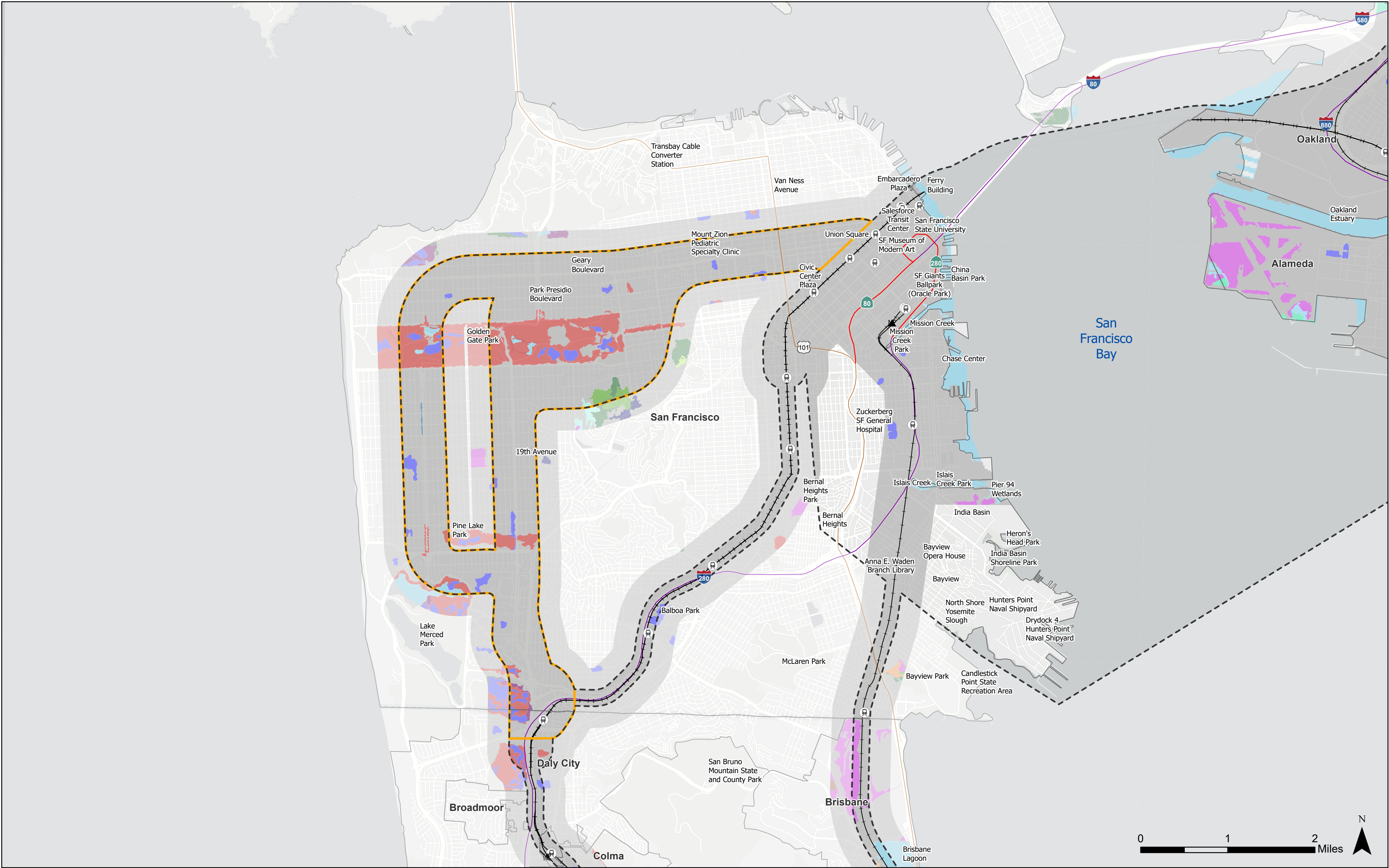
Western San Francisco ECO Subarea

Panel 1 of 1



Note:
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of the ECO subarea may not
match corresponding legend
symbol colors. Resource data
may not occur within each map
panel extent.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Annual Grasses/Forbs
- Blue Oak
- California Bay
- California Sagebrush
- Chamise
- Coast Live Oak
- Coastal Mixed Hardwood
- Eucalyptus
- Interior Mixed Hardwood

- Non-native/Ornamental Con/Hwd Mixture
- Non-native/Ornamental Grass
- Non-native/Ornamental Hardwood
- Pickleweed-Cordgrass
- Urban
- Valley Oak
- Water

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Biological Resources - Calveg Vegetation Types

Western San Francisco ECO Subarea

Panel 1 of 1

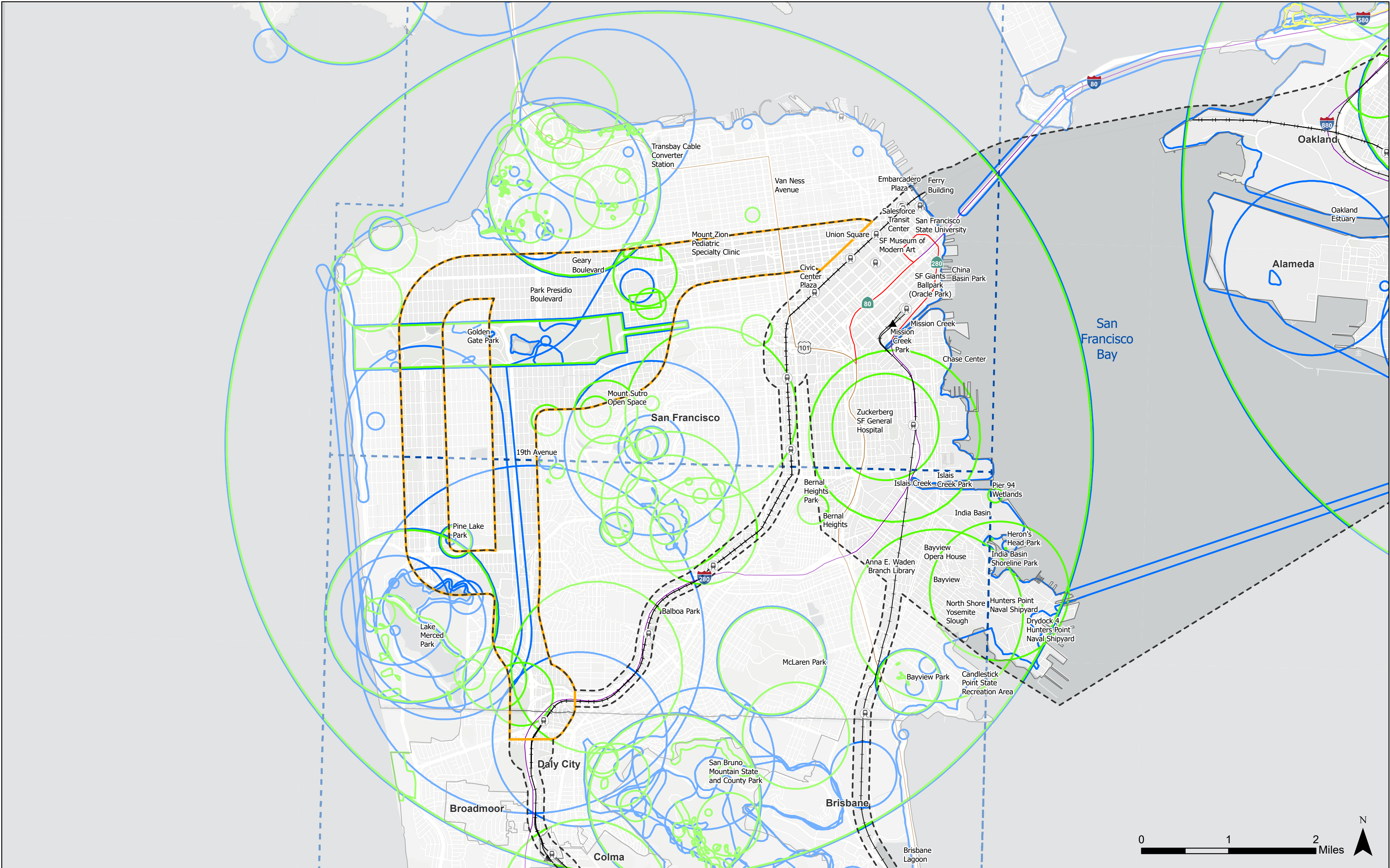


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symbol colors. Resource data
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panel extent.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Rail Maintenance Facility
- Train Station

- CNDDDB Wildlife Occurrence (Sensitive)
- CNDDDB Habitat Occurrence
- CNDDDB Plant Occurrence
- CNDDDB Wildlife Occurrence

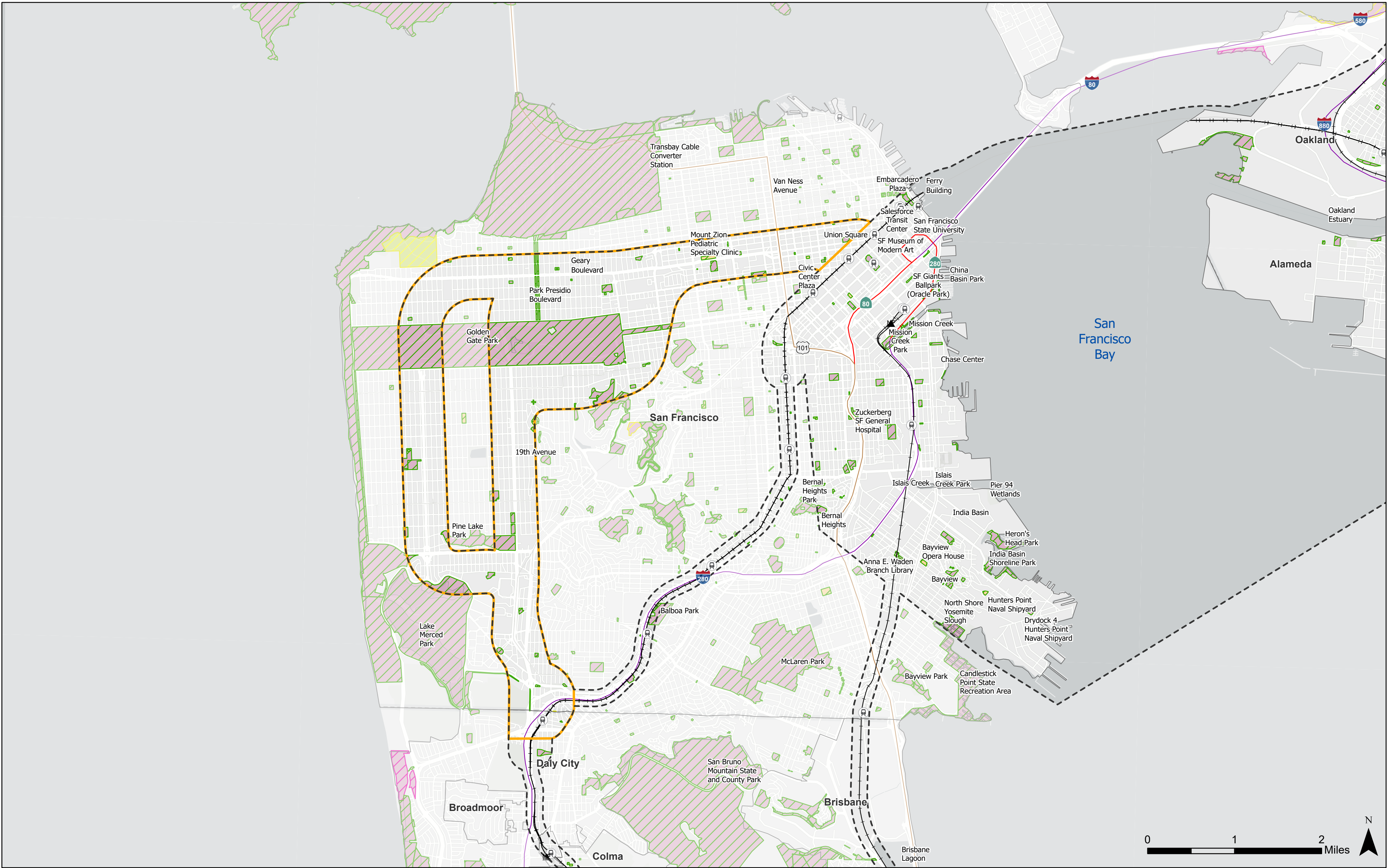
ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Biological Resources - California Natural Diversity Database
Western San Francisco ECO Subarea
Panel 1 of 1



Note: Element Occurrences (EO's) flagged as 'Sensitive' have restricted/suppressed location-specific data and are therefore shown at USGS Quad level.

Note: Map feature symbols outside corresponding legend symbol colors
Resource data may not occur within each map panel extent.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway

- CPAD Super Units
- No Public Access
 - Open Access
 - Restricted Access
- CPAD Units
- No Public Access
 - Open Access
 - Restricted Access

- CPAD Holdings
- Community Center
 - Community Garden
 - Golf Course
 - Other

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Biological Resources - CPAD and CCED
Western San Francisco ECO Subarea
Panel 1 of 1

LINK21

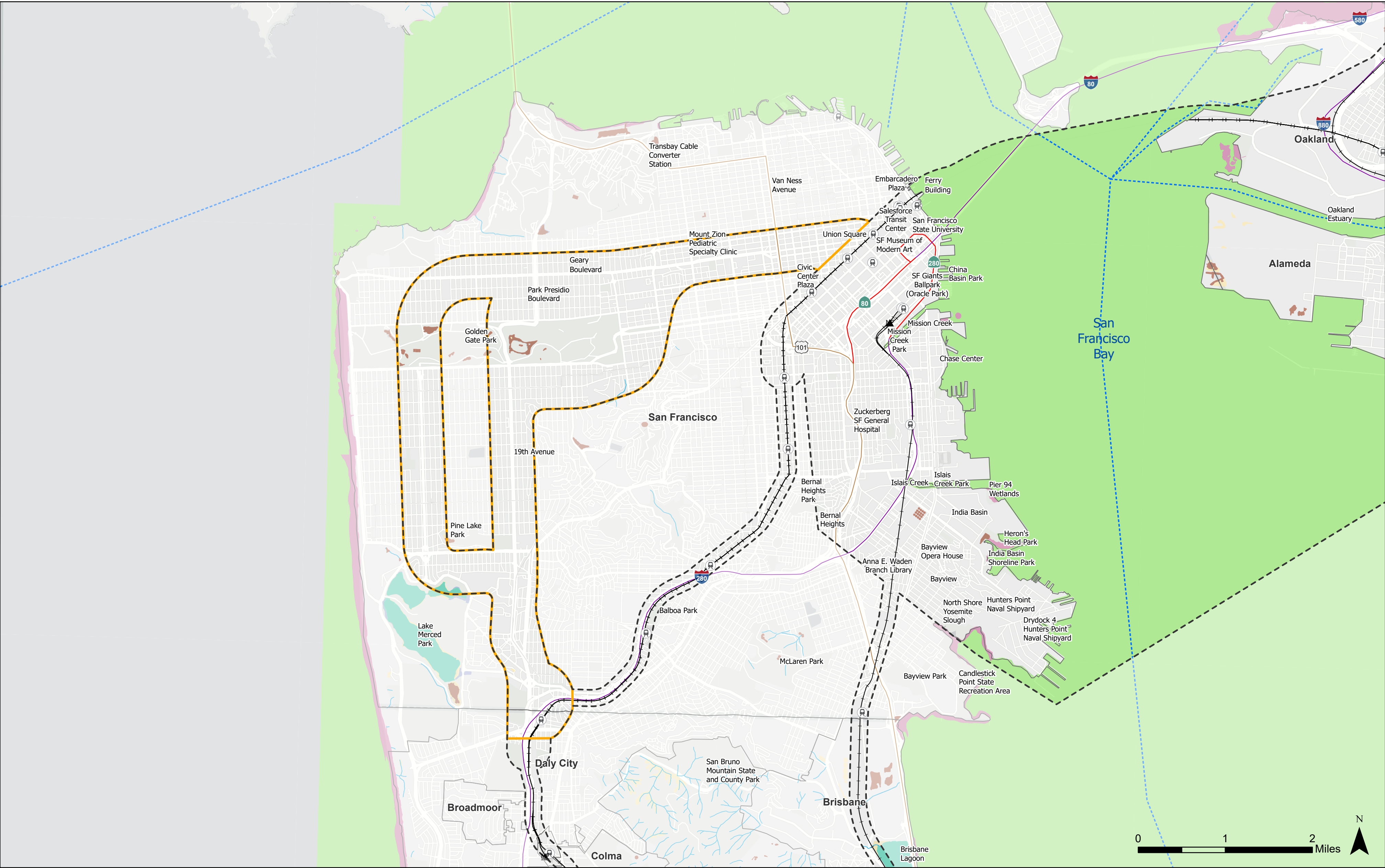
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*CPAD: California Protected Area Database
*CCED: California Conservation Easement Database

Note:
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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate
- U.S. Route
- State Highway
- Jurisdictional Waterways (Navigable)
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetlands
- Freshwater Emergent Wetlands
- Freshwater Forested/Shrub Wetlands
- Freshwater Pond
- Lake
- Riverine

Note: Only Navigable Jurisdictional Waterways are shown

Source: U.S. Fish and Wildlife Service 2020

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Biological Resources - National Wetlands Inventory and Jurisdictional Waters

Western San Francisco ECO Subarea

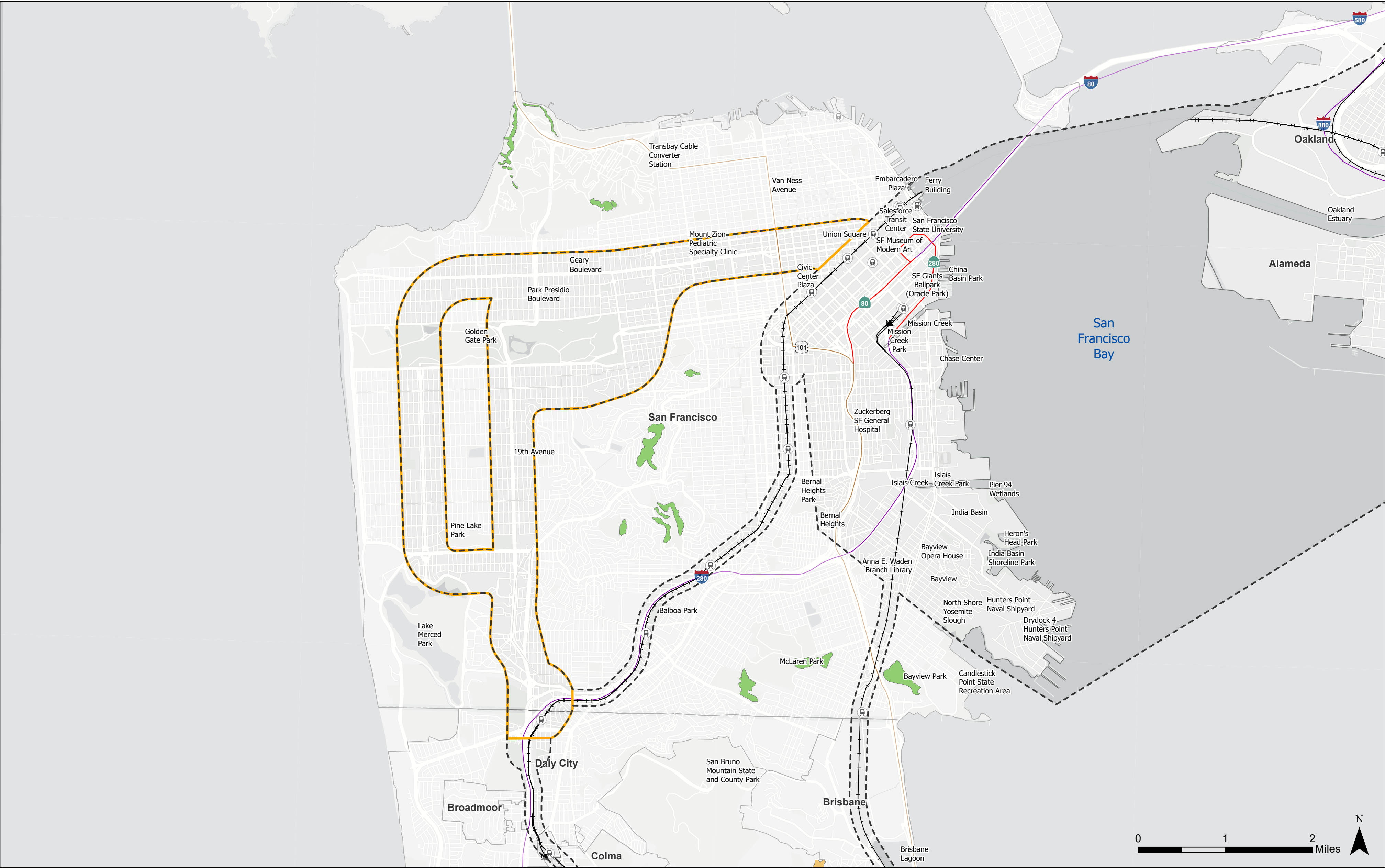
Panel 1 of 1



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- ECO Study Area
-
- ECO Subarea Boundary

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Biological Resources - USFWS Proposed and Final Critical Habitat

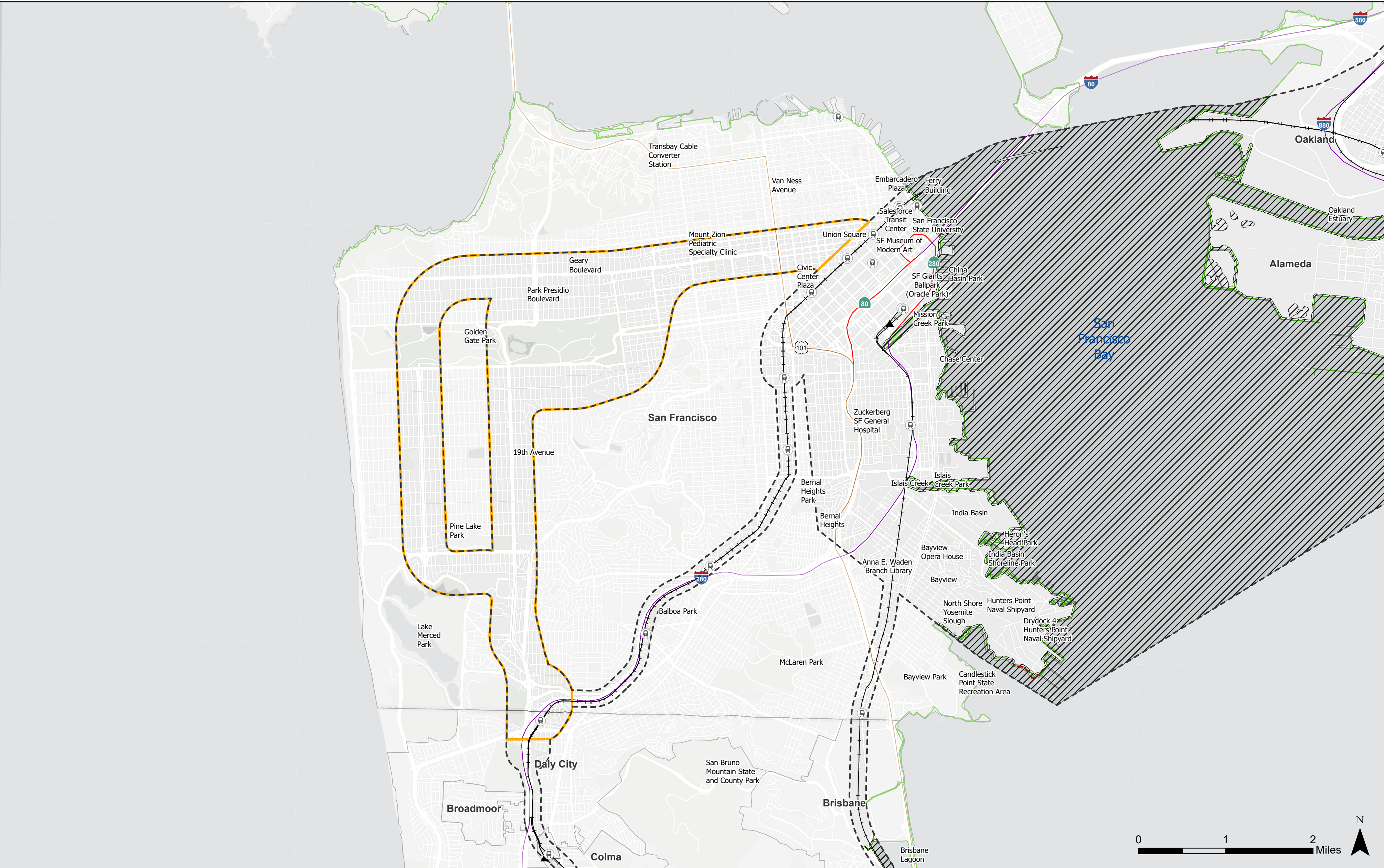
Western San Francisco ECO Subarea

Panel 1 of 1



Note:
Map feature symbols outside of the ECO subarea may not match corresponding legend symbol colors. Resource data may not occur within each map panel extent. All Mapped habitat is Final Critical Habitat (FCH) There was no Proposed Critical Habitat mapped within the study area.





- ECO Study Area

ECO Subarea Boundary

City Boundary

San Francisco Bay Conservation and Development Commission Estimated Jurisdiction

San Francisco Bay Shoreline

Levee System
- Interstate

U.S. Route

State Highway

Existing Passenger Rail

Train Station

Rail Maintenance Facility

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Permitting - BCDC Jurisdiction
Western San Francisco ECO Subarea
Panel 1 of 1

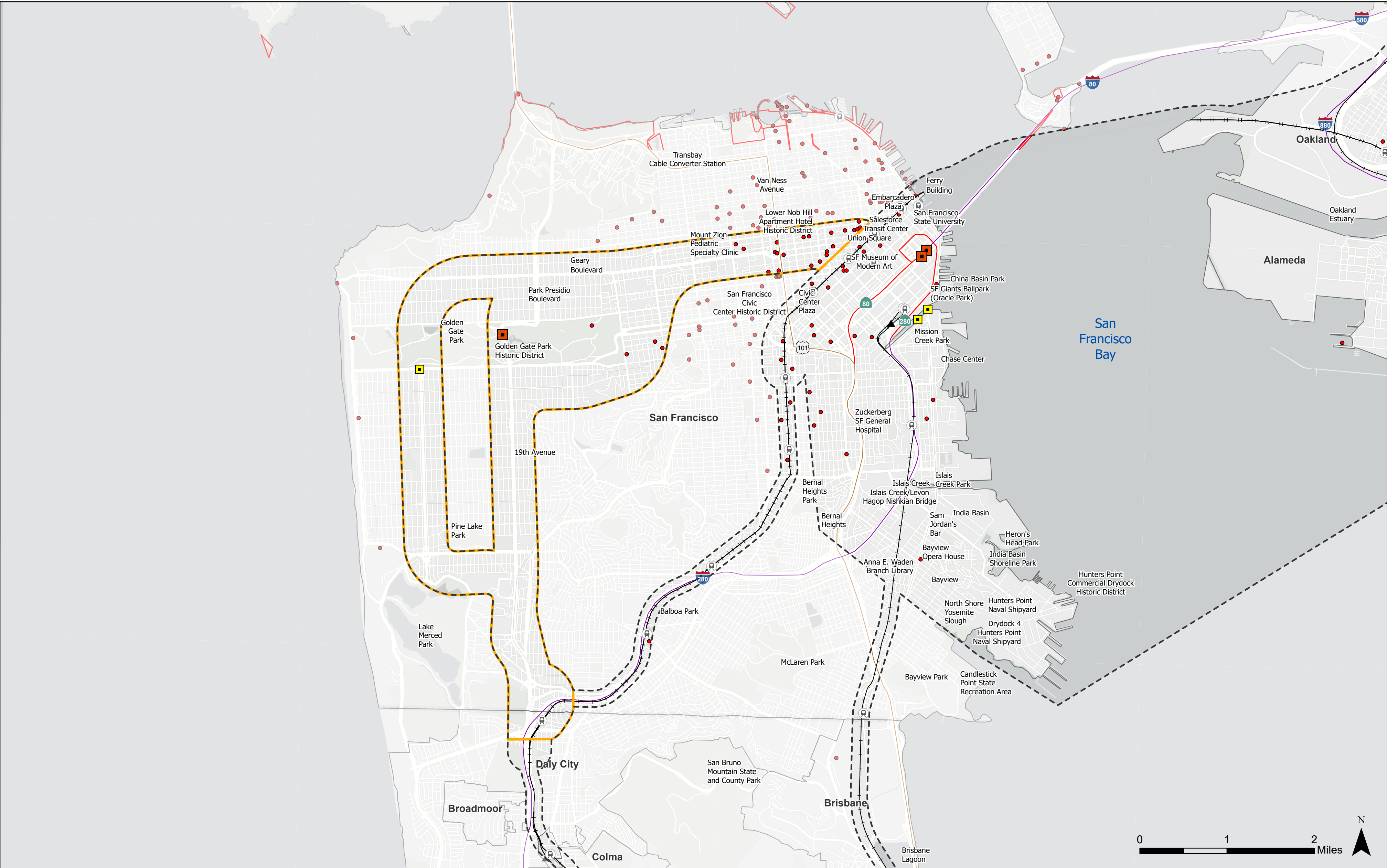


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- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- Interstate

- U.S. Route
- State Highway
- Individual NRHP - Eligible or Listed Built Environment Properties
- NRHP - Eligible or Listed Districts
- Caltrans Historic Bridge Inventory
- Listed in the National Register
- Eligible for National Register Listing

Source: Caltrans 2020, City and County of San Francisco 2022, NPS.

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Cultural Resources - Inventory Results (Non-Confidential)

Western San Francisco ECO Subarea

Panel 1 of 1

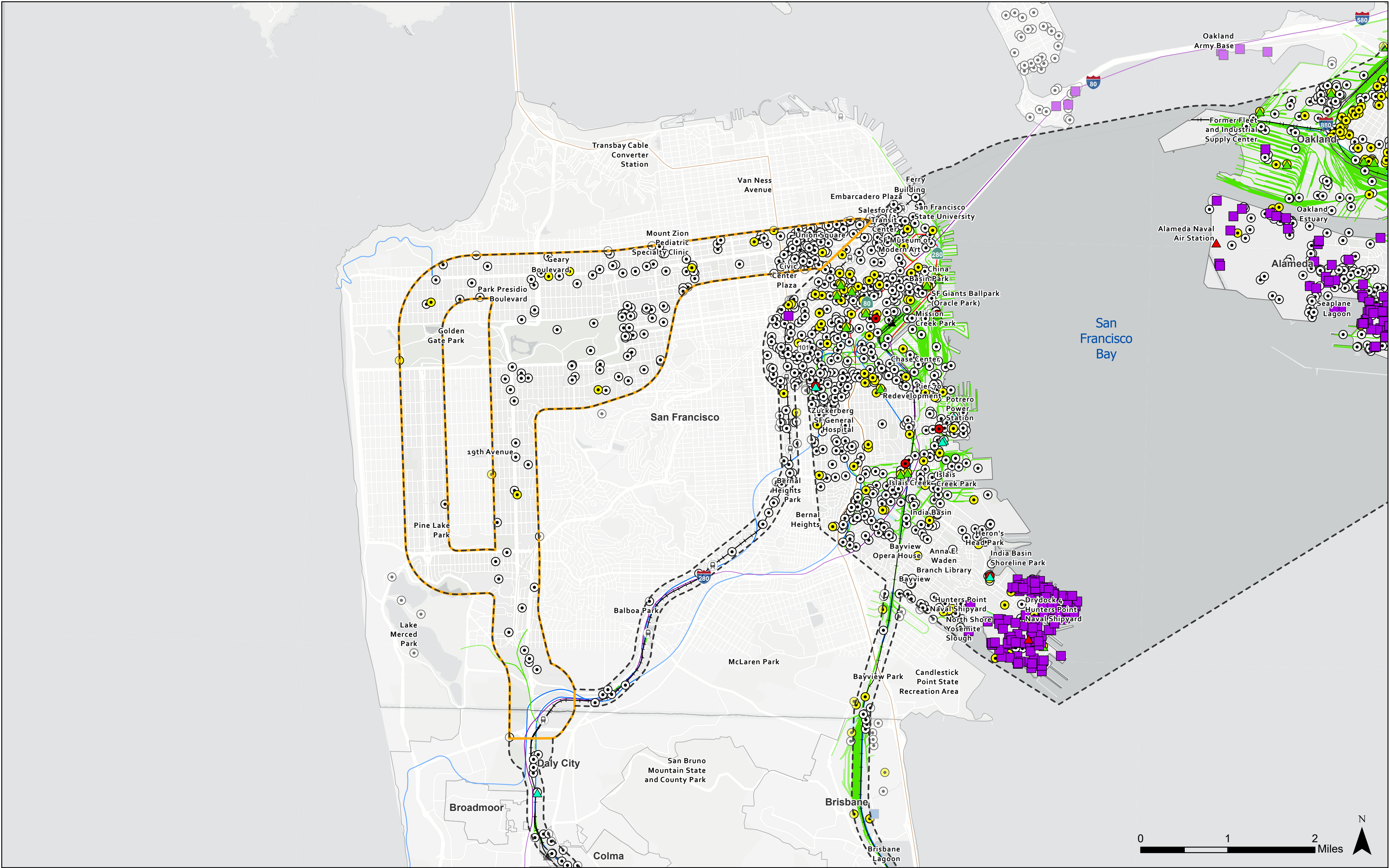


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Note:
Map feature symbols outside of the ECO subarea may not match corresponding legend symbol colors. Resource data may not occur within each map panel extent. Record search data is currently incomplete per methods text.

Note:
The NRHP-listed and NRHP-eligible built environment resources depicted on this map reflect publicly available datasets as described in the ECO report. The California Historical Resource Information System contains additional NRHP-eligible built environment resources that will be identified during subsequent phases of program development.





ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Hazardous Materials and Hazardous Waste

Western San Francisco ECO Subarea

Panel 1 of 1

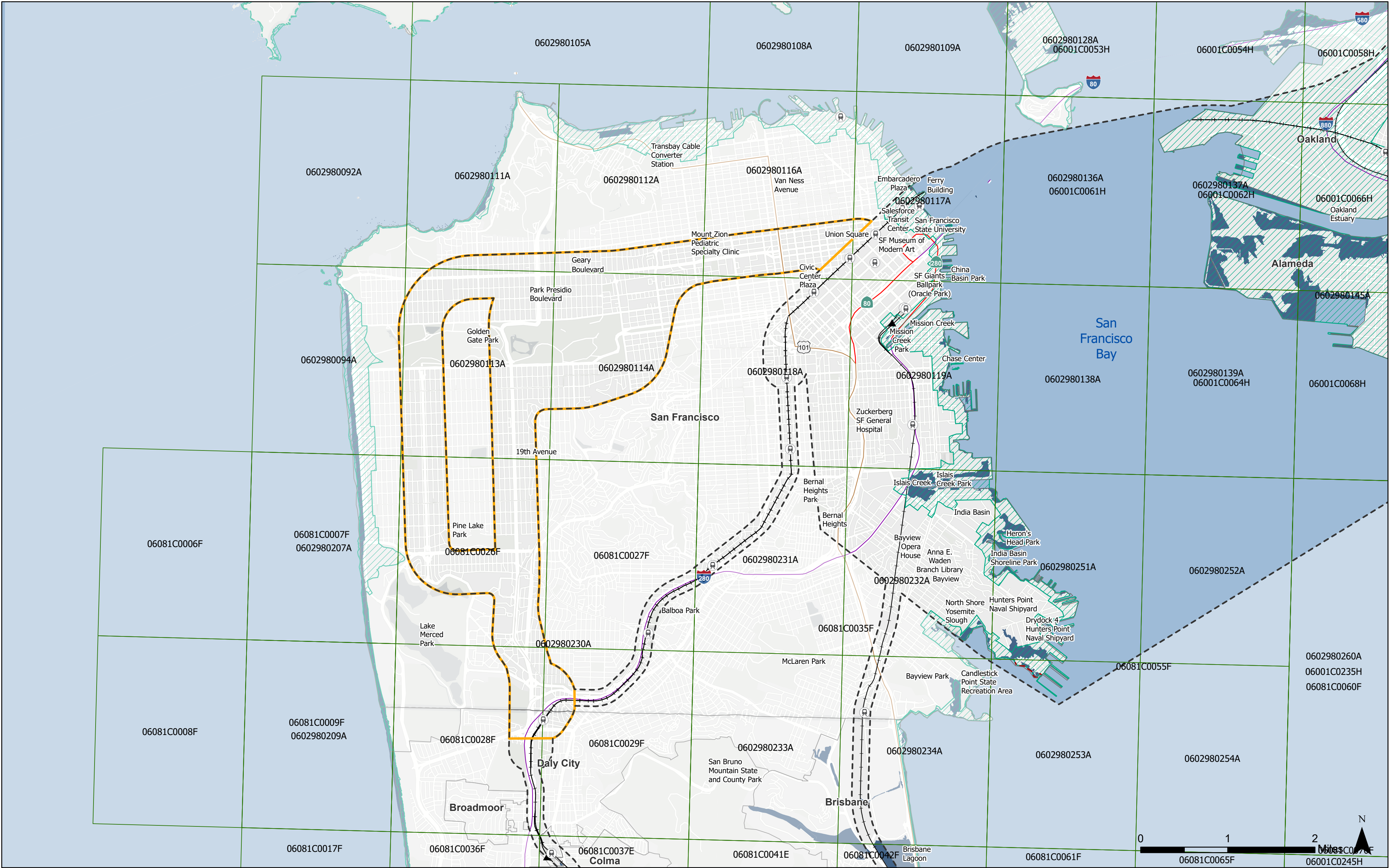


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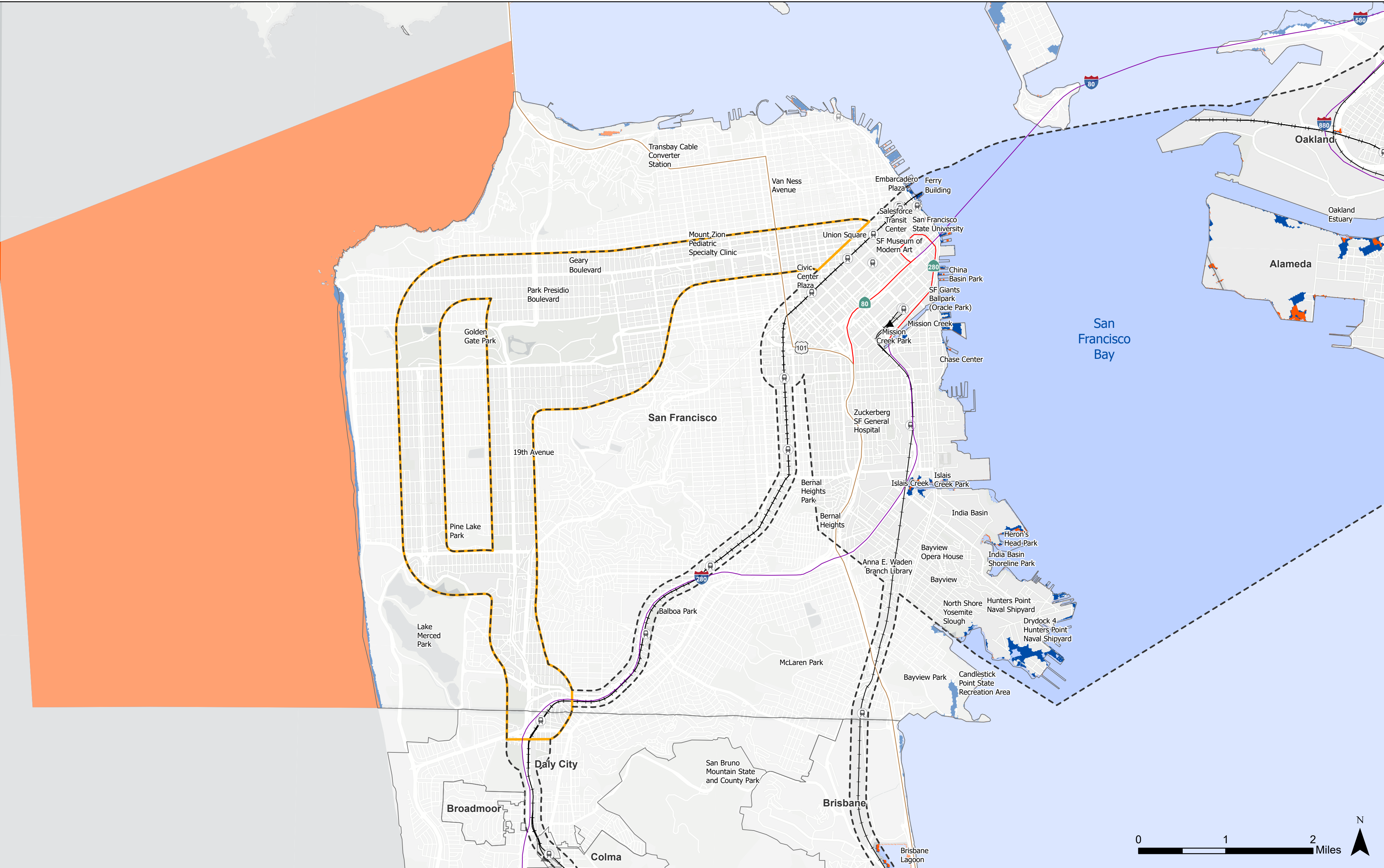
- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Tsunami Hazard Area
- FEMA FIRM Panel Map Index
- Flood Hazard (100yr)
- Water Body
- Levee System
- Interstate
- U.S. Route
- State Highway
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Hydrology - Flood Hazard
Western San Francisco ECO Subarea
Panel 1 of 1



Notes:
Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Interstate
- U.S. Route
- State Highway
- Rail Maintenance Facility
- Train Station
- Existing Passenger Rail
- 2040 Baseline 0 ft SLR + 100 year storm
- 2040 1.6 ft SLR + No Storm - Medium to High (1.3 ft) and H++ Scenario (1.7 ft)*
- 2040 1.6 ft SLR + 100 year storm - Medium to High (1.3 ft) and H++ (1.8 ft)*

*Closest OCOF scenario to the calculated SLR projection.

A = Mapped SLR elevation	C = SLR scenario
B = Storm or no storm	D = State guidance projections for scenario

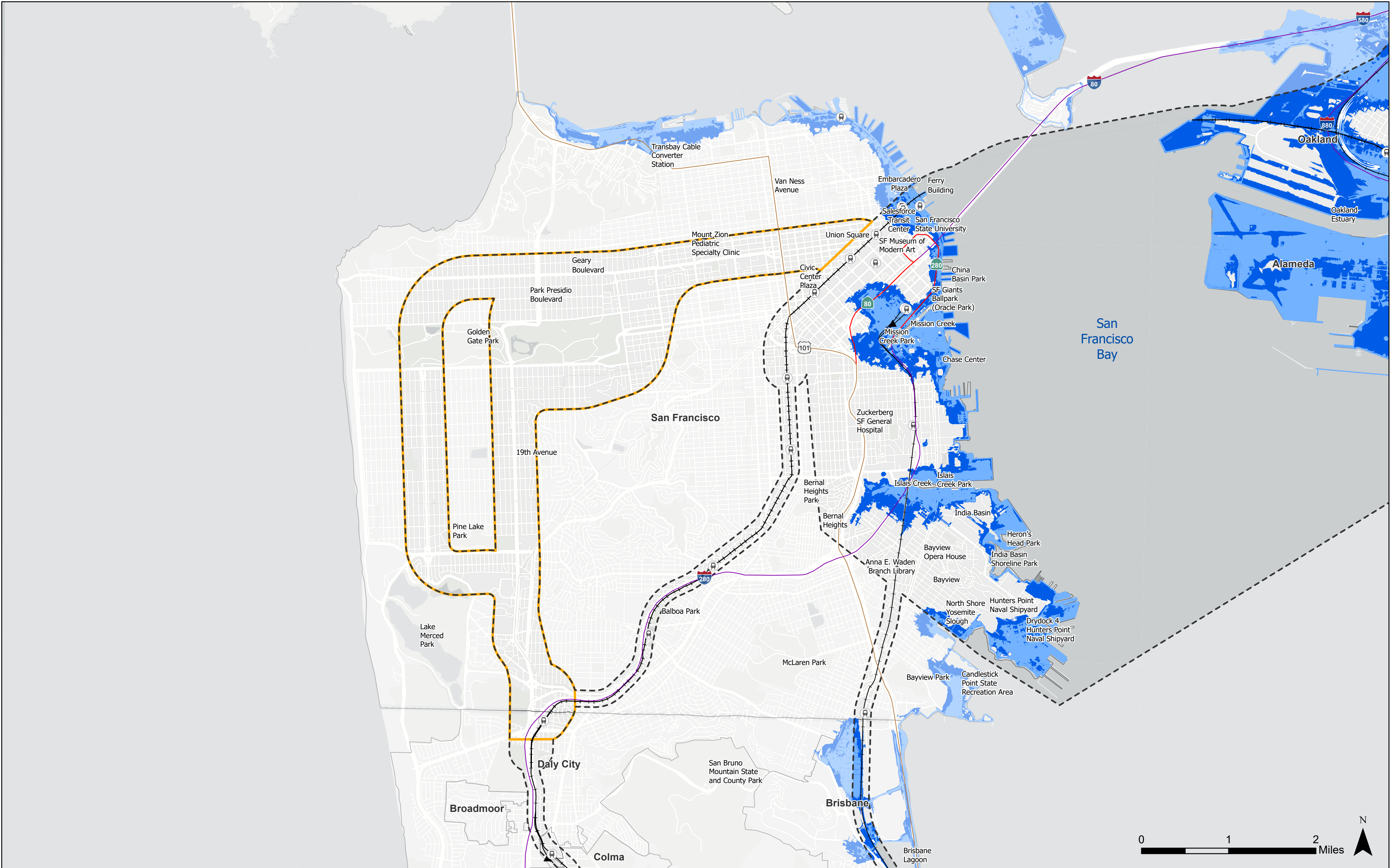
Source: Our Coast, Our Future 2019, Adapting Rising Tides 2019, Cal Adapt 2018

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Sea Level Rise - Our Coast, Our Future Approximate 2040 Scenarios
Western San Francisco ECO Subarea
Panel 1 of 1



Note: Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color





- ECO Study Area

ECO Subarea Boundary

City Boundary

Interstate

U.S. Route

State Highway

Existing Passenger Rail

Train Station

Rail Maintenance Facility
- 2090 5.5ft SLR + No Storm - Medium-High (5.6ft)*
- 2090 9ft SLR + 100 Year Storm - H++ (8.3ft)*

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES
Sea Level Rise - Approximate 2090 Scenarios
Western San Francisco ECO Subarea
Panel 1 of 1

*Closest ART scenario to the calculated SLR projection.

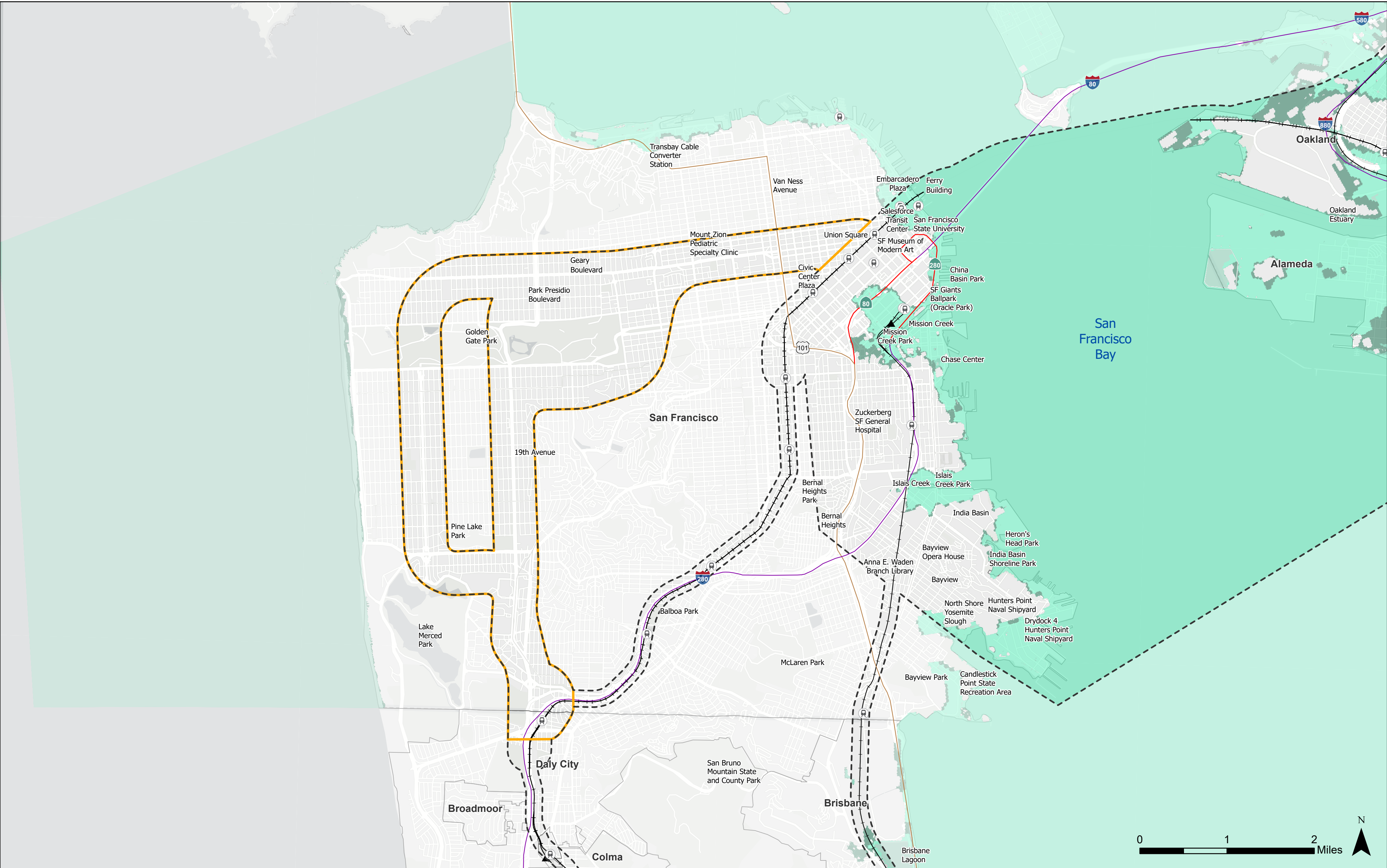
SLR Label Key (2090 **A** ft SLR + **B** - **C** (D ft))

A = Mapped SLR elevation
B = Storm or no storm
C = SLR scenario
D = State guidance projections for scenario



Note: Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Interstate
- U.S. Route
- State Highway
- Train Station
- Existing Passenger Rail
- Rail Maintenance Facility

- 5.7 ft SLR + No Storm - Medium to High Scenario (5.6 ft)*
- 5.7 ft SLR + 100 year Storm - Medium to High Scenario (5.6 ft)*
- 6.6 ft SLR + No Storm - H++ Scenario (8.3 ft)*
- 6.6 ft SLR + 100yr Storm - H++ Scenario (8.3 ft)*

*Closest OCOF scenario to the calculated SLR projection.

SLR Label Key (2090 **A** ft SLR + **B** - **C** (**D** ft))

A = Mapped SLR elevation
B = Storm or no storm
C = SLR scenario
D = State guidance projections for scenario

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Sea Level Rise - Our Coast, Our Future Approximate 2090 Scenarios

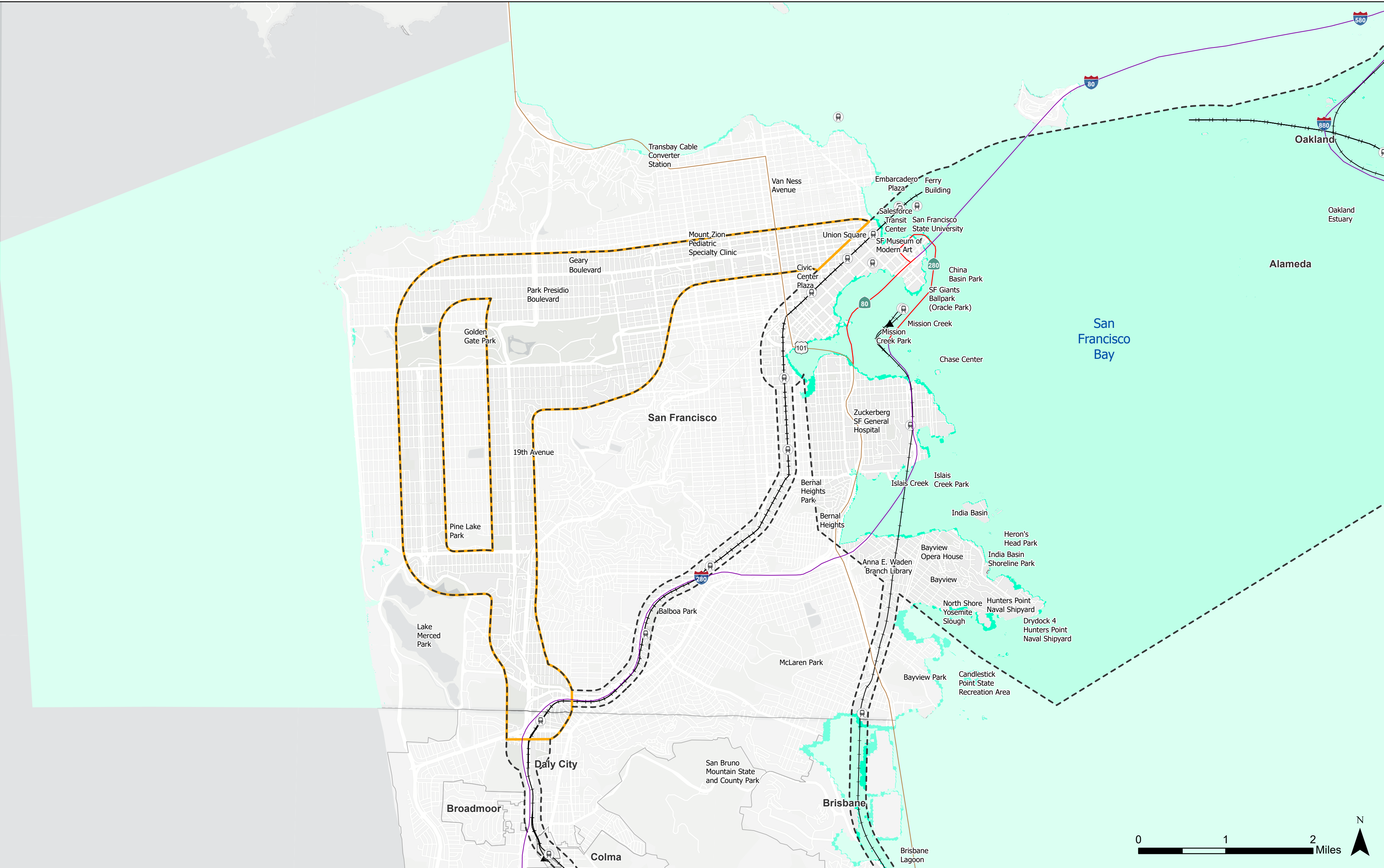
Western San Francisco ECO Subarea

Panel 1 of 1



Note: Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color.





- ECO Study Area
- ECO Subarea Boundary
- City Boundary
- Interstate
- U.S. Route
- State Highway
- Existing Passenger Rail
- Train Station
- Rail Maintenance Facility

16.4 ft SLR + No Storm - Medium-High (11.4 ft) and H++ (19.1 ft)*
16.4 ft SLR + 100-year Storm - Medium-High (11.4 ft) and H++ (19.1 ft)*

ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

Sea Level Rise - Our Coast, Our Future Approximate 2140 Scenarios

Western San Francisco ECO Subarea

Panel 1 of 1

*Closest OCOF scenario to the calculated SLR projection.

SLR Label Key (2140 A ft SLR + B - C (D ft))

A = Mapped SLR elevation
B = Storm or no storm
C = SLR scenario
D = State guidance projections for scenario

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Note:
Resource data may not occur within each map panel extent. Map feature symbols outside of the ECO subarea may not match corresponding legend symbol color.

