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I-80/GILMAN STREET INTERCHANGE IMPROVEMENT PROJECT

WELCOME TO THE OPEN HOUSE!

I-80 GILMAN
INTERCHANGE IMPROVEMENT PROJECT

ALAMEDA
County Transportation Commission

CITY OF BERKELEY

Caltrans

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PROJECT BACKGROUND

Background

Over the years, the City of Berkeley has completed numerous studies to identify the improvement needs for Gilman Street in the vicinity of the I-80 interchange.

- A combination of **freeway congestion, inefficient roadway geometries, increased rail traffic** and changes in land use contribute to the heavy traffic congestion in the project area.
- The Union Pacific railroad track crosses Gilman Street at 3rd Street, two blocks from the I-80/Gilman Street ramp intersections. The increase in **rail traffic impedes local traffic circulation**, and causes delays at the Gilman Street and 3rd Street at-grade crossing.
- The city's development in recent years has **generated additional traffic** accessing the I-80 freeway through Gilman Street.
- The existing five-leg and six-leg stop-controlled intersections at **the interchange cannot efficiently clear the traffic** movements, resulting in substantial delay in the project area.

Previous Studies

West Berkeley Parking and Circulation Study (1998)

Analyzed parking and circulation deficiencies in the area bounded by Cedar Street, Sixth Street, University Avenue and Eastshore Highway.

Recommendation: Outline possible solutions to improve traffic flow at the Eastshore Highway and West Frontage Road in the interchange area.

Gilman Street Interchange Improvement Study (2005)

Further analyzed the roadway circulation and provided recommendations for interchange reconfiguration.

Findings: A dual roundabout design with a connecting segment between the I-80/Gilman Street intersections would provide the most benefit and was considered the most viable alternative to improve traffic flow while meeting safety, accessibility and mobility needs.

Draft Project Study Report (PSR) (2005)

Suggested that the dual roundabout design was the most viable solution to achieve acceptable levels of service without any modifications to freeway structures.

Recommendation: Conduct additional analyses to address the operational issues.

West Berkeley Circulation Master Plan Report (2009)

The City of Berkeley issued the Master Plan for the west Berkeley area including the I-80/Gilman Street interchange's operating conditions, including bicycle and pedestrian travel.

Findings:

- Gilman Street interchange is an area of concern
- The Gilman Street interchange and adjacent frontage roads experienced congestion and delay during all periods of the day and all days of the week.
- The at-grade rail crossing near the interchange also added to vehicle queuing when rail activity blocked the roadway.

Project Study Report-Project Development Support (PSR-PDS) (2014)

This study evaluated four alternatives including a no-build alternative.

Findings: Alternative 3, a double roundabout with by-pass lanes, is the only alternative that will provide acceptable level of service for the design year (2040).

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PROJECT PURPOSE AND NEED

Project Purpose

The purpose of the proposed project is to:

- **Simplify and improve the navigation, mobility, and traffic operations** at the I-80/Gilman Street Interchange.
- **Reduce congestion, vehicle queues and conflicts** at the I-80/Gilman Street Interchange.
- **Improve local and regional bicycle connections and pedestrian facilities** through the I-80/Gilman Street interchange.
- **Improve safety** for all modes of transportation.

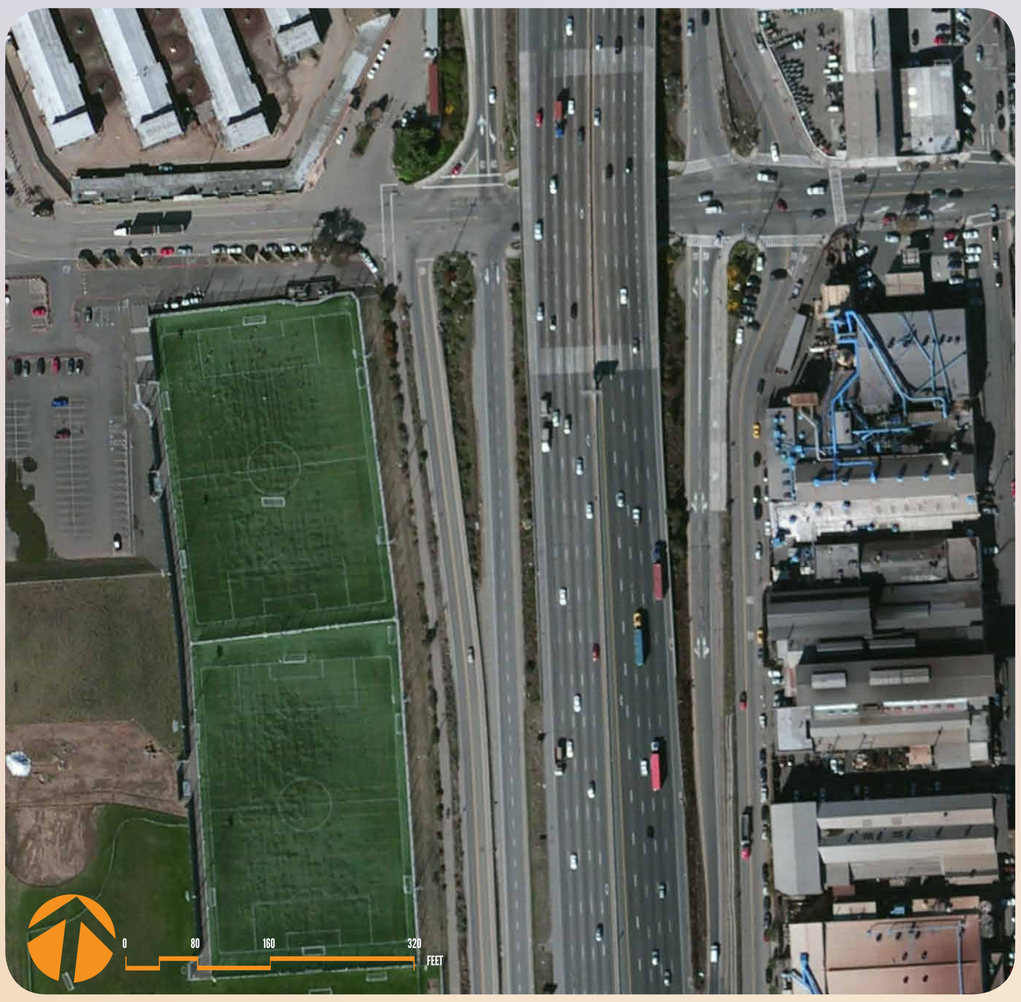
Project Need

I-80 is a 10-lane freeway that extends through the Berkeley/Gilman Street area. Gilman Street is classified as a major arterial with a posted speed limit of 25 miles per hour and is designated as a truck route. Vehicular traffic on Gilman Street is comprised of commuter, local and commercial truck traffic. Traffic controls along Gilman Street include pavement markings, with turn channelization at the 6th, 8th, and 9th Street intersections only.

The I-80/Gilman Street Interchange is a four-lane arterial roadway (Gilman Street), with two lanes in the east/west direction that are intersected with four I-80 on- and off-ramps, an existing frontage road, and Eastshore Highway. Traffic controls on all approaches to Gilman Street consist of stop signs and pavement markings.

These conditions, along with an overall increase in vehicle traffic, have created the need to address the poor and confusing operations in the interchange area.

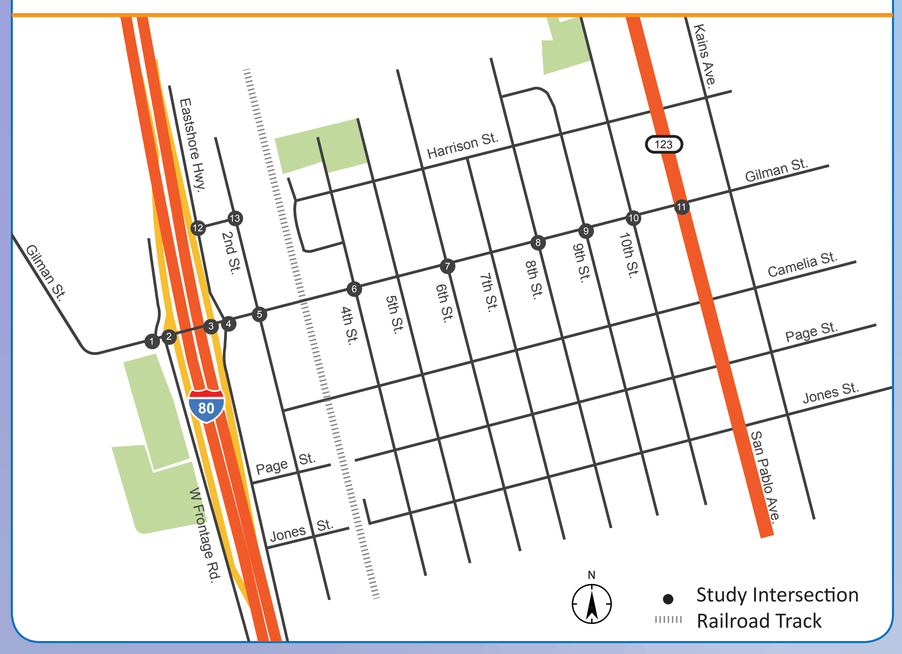
In addition, other needs related to modal interrelationships and social considerations have been identified, including closing the gap in the Gilman Street and regional San Francisco Bay Trail bikeway system in the area, and providing safe pedestrian and bicycle access to and from the project study area.



4a
TRAFFIC CONDITIONS

Turning Movement and Average Daily Traffic Counts

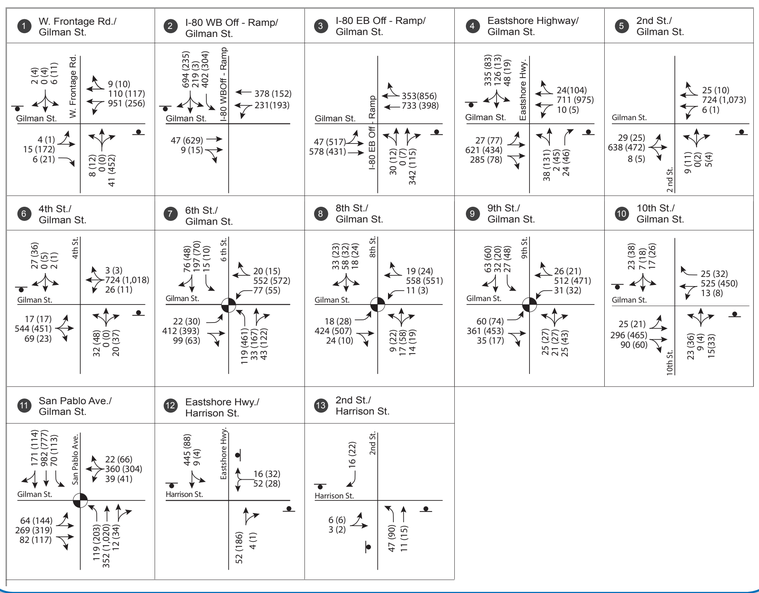
MAP



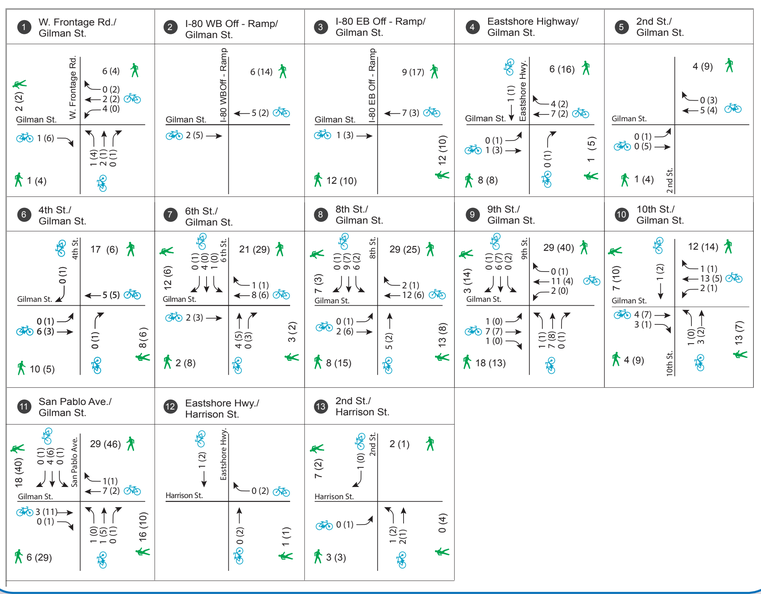
ADT SUMMARY

Date	Day	A. Gilman St (Between I-80 Ramps) Volume (Vehicles) EB	WB	Total	B. Gilman St (Between Second St and Fourth St) Volume (Vehicles) EB	WB	Total	C. Gilman St (Between Seventh St and Eighth St) Volume (Vehicles) EB	WB	Total
1/22/2016	Friday	9,851	6,889	16,740	8,687	11,194	19,881	7,757	8,148	15,905
1/23/2016	Saturday	8,024	6,153	14,177	8,833	10,198	19,031	7,852	7,856	15,708
1/24/2016	Sunday	7,083	5,890	12,973	8,239	8,786	17,025	7,066	6,884	13,950
1/25/2016	Monday	9,066	7,487	16,553	8,412	10,313	18,725	7,204	7,601	14,805
1/26/2016	Tuesday	9,386	7,536	16,922	8,328	11,044	19,372	7,164	7,920	15,084
1/27/2016	Wednesday	9,676	7,516	17,192	8,447	11,452	19,899	7,441	7,967	15,408
1/28/2016	Thursday	9,567	7,740	17,307	8,566	10,949	19,515	7,425	7,964	15,389
Average		8,950	7,030	15,981	8,502	10,562	19,064	7,416	7,763	15,178

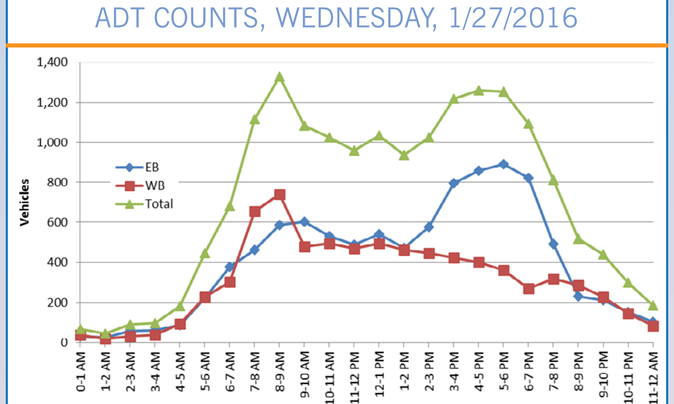
LANE GEOMETRY, CONTROLS & TURNING MOVEMENT
WEDNESDAY, 1/27/2016



PEDESTRIAN AND BICYCLE VOLUMES
WEDNESDAY, 1/27/2016



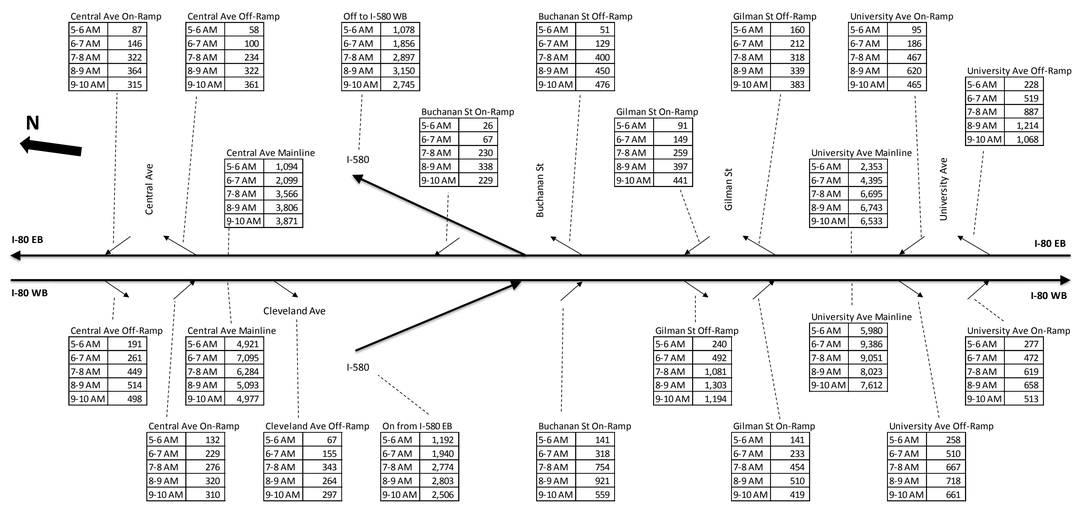
HOURLY VOLUMES AT GILMAN STREET (BETWEEN I-80 RAMPS)
ADT COUNTS, WEDNESDAY, 1/27/2016



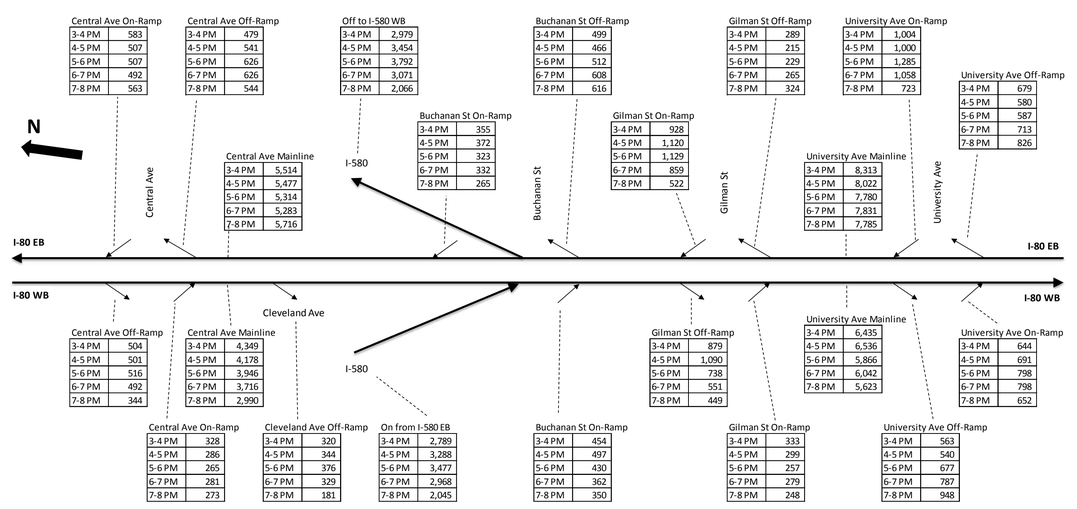
» This table shows a sample plot of hourly volumes aonGilman Street between I-80 ramps on Wednesday, January 27, 2016. The westbound direction peaks between 7:00-9:00 a.m., and the eastbound direction peaks between 3:00-7:00 p.m are plotted.

Freeway and Ramp Counts

AM PEAK PERIOD (5:00-10:00 A.M.) (MIXED FLOW + HOV)



PM PEAK PERIOD (3:00-7:00 P.M.) (MIXED FLOW + HOV)



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TRAFFIC CONDITIONS

Traffic Time Data

» The bottleneck in the westbound (WB) direction in the morning is the I-80/I-580/I-880 maze. It is mainly caused by high traffic demand and extensive weaving activities.

» The bottleneck in the eastbound (EB) direction in the evening is the I-80/I-580 split due to high traffic demand as well as merging and diverging activities. This bottleneck is sometimes hidden by the downstream bottlenecks at San Pablo Dam Road and SR-4. These downstream bottlenecks sometimes back up through the I-80/I-580 split.

» The most congested times are 7:30-9:30 a.m. in the morning (WB), and 4:00-6:00 p.m. in the evening (EB).

Truck Traffic and HOV Volumes

» On average, the truck percentage on I-80 in this project area is about 4.8%.

» The highest high-occupancy vehicle (HOV) volumes on I-80 are close to 1,600 and 1,500 vehicles/hour during the AM and PM peak periods, respectively

HOV Volumes (Vehicles)*

Time	I-80 EB		I-80 WB	
	University Ave[1]	Central Ave[2]	University Ave[1]	Central Ave[2]
AM HOV Hours (5-10 AM)				
5-6 AM	92	74	1,560	1,574
6-7 AM	196	136	1,567	1,562
7-8 AM	274	191	1,431	1,258
8-9 AM	290	217	1,413	1,206
9-10 AM	351	275	1,153	910
Total	1,203	893	7,124	6,510
PM HOV Hours (3-7 PM)				
3-4 PM	1,401	1,291	849	481
4-5 PM	1,464	1,368	758	409
5-6 PM	1,450	1,231	705	406
6-7 PM	1,415	1,238	622	404
Total	5,730	5,128	2,934	1,700

* Tuesdays-Thursdays only, September 15 - November 5, 2015

1 = PeMS VDS 407863; 2 = PeMS VDS 400329; 3 = PeMS VDS 407882; 4 = PeMS VDS 400628.

I-80 Accident Data

Traffic Accident Surveillance and Analysis System (TASAS) data were obtained from Caltrans, covering three-year periods (January 2011 to December 2013) for I-80 Mainline, I-80 WB on-ramp from Gilman Street, I-80 WB off-Ramp to Gilman Street, I-80 EB on-ramp from Gilman Street, and I-80 EB off-ramp to Gilman Street.

Accident Data

Location	Number of Accidents			Actual Accident Rate (Accidents/MV)[2]			Statewide Average Accident Rate (Accidents/MV)[2]		
	Fatal	Injury	Total[1]	Fatal	Fatal+Injury	Total	Fatal	Fatal+Injury	Total
Mainline (I-80) at Gilman Street	2	48	264	0.014	0.35	1.83	0.004	0.33	1.07
WB On-Ramp from Gilman Street	0	2	2	0.000	0.29	0.29	0.002	0.22	0.63
WB Off-Ramp to Gilman Street	0	7	31	0.000	0.63	2.79	0.003	0.35	1.01
EB On-Ramp from Gilman Street	0	6	9	0.000	0.61	0.91	0.002	0.22	0.63
EB Off-Ramp to Gilman Street	0	3	4	0.000	0.46	0.61	0.003	0.35	1.01

Source: Caltrans TASAS

Notes:

[1] Total accidents also include Property Damage Only (PDO)

[2] MV = Million Vehicle

5a

PROJECT BUILD ALTERNATIVE

GOLDEN GATE FIELDS

RECYCLING CENTER

HARRISON STREET

UPRR/3RD STREET

2ND STREET

GILMAN STREET

GILMAN STREET

GILMAN DISTRICT

TOM BATES REGIONAL SPORTS COMPLEX

WEST FRONTAGE ROAD

INTERSTATE 80

2ND STREET

CAMELIA STREET

PAGE STREET

EASTSHORE HIGHWAY

JONES STREET

SF BAY

0 80 160 320 FEET

I-80 GILMAN

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SAN FRANCISCO BAY TRAIL

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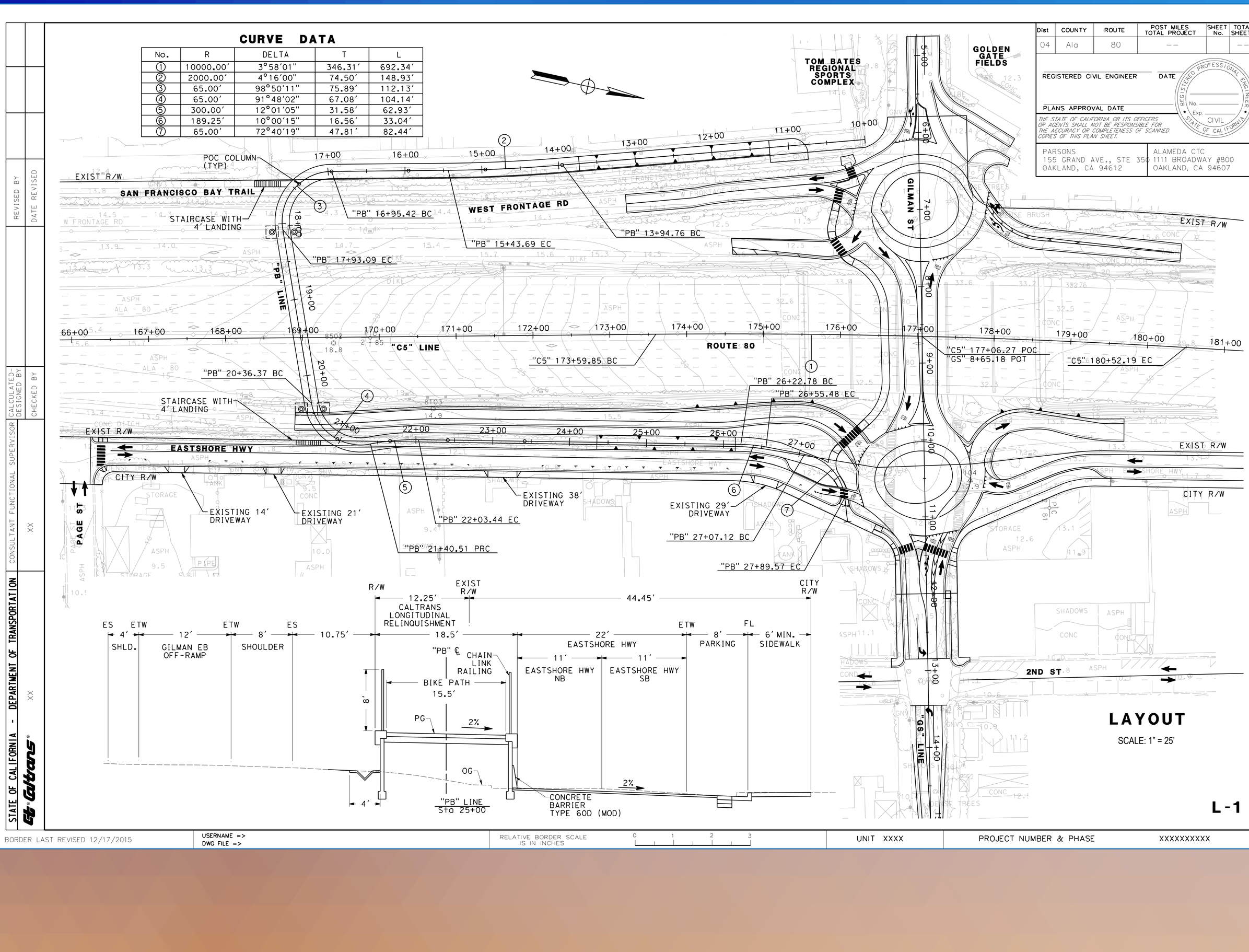
PROJECT BUILD ALTERNATIVE



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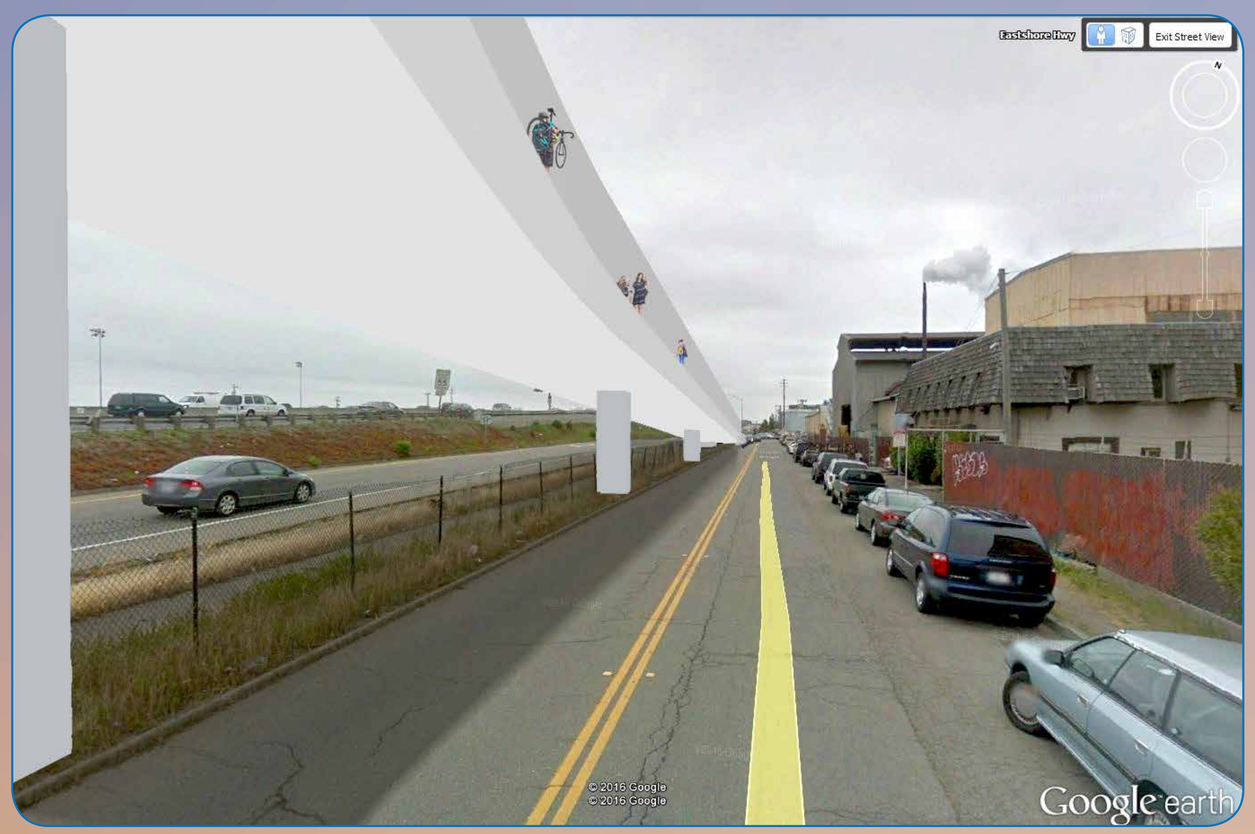
GILMAN PEDESTRIAN OVERCROSSING RENDERINGS



FOR INFORMATION PURPOSES ONLY - NOT TO SCALE

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6
WHAT IS A ROUNDABOUT?

Modern Roundabouts

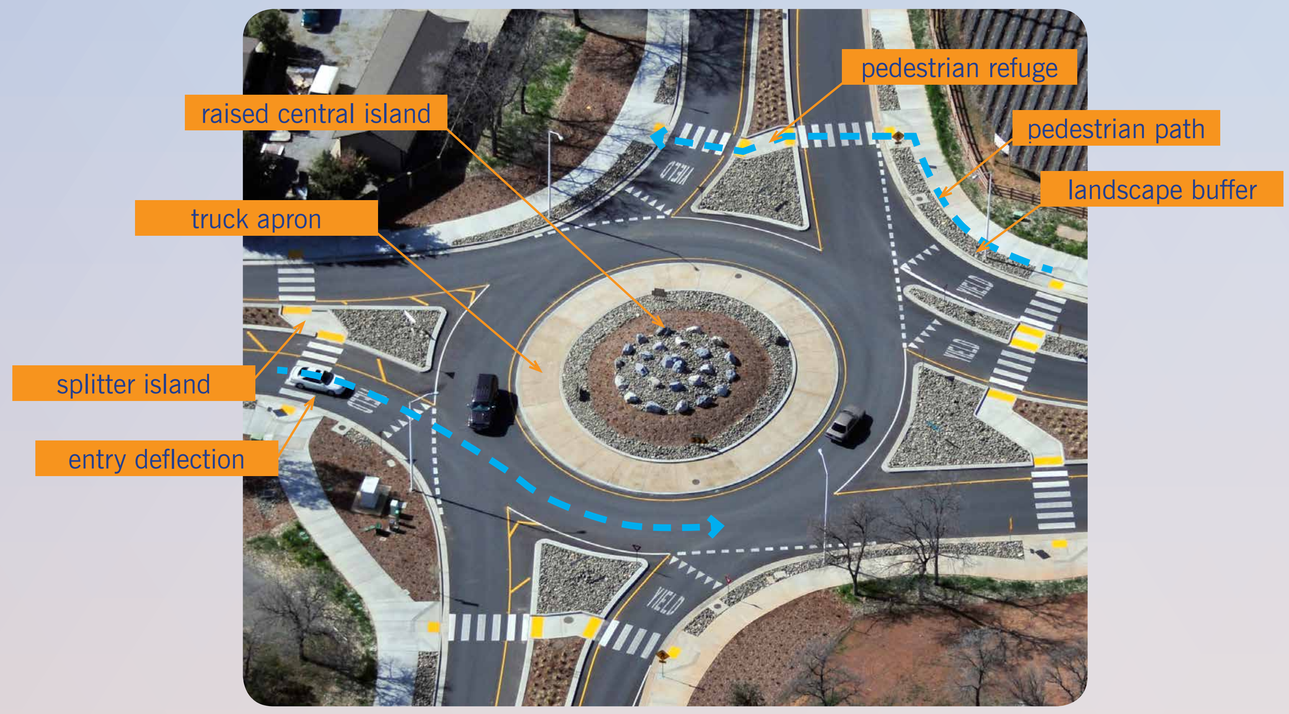
Roundabouts are **circular intersections** with Specific Design Criteria used to control traffic.

Roundabout Applications:

- Most Signalized Intersections
- Closely Spaced or Offset Intersections or Driveways
- Freeway Ramp Termini
- Constrained Roadways (over crossing or under crossing)
- Intersections with High Accident Rates

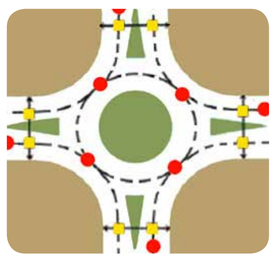
Design Elements

- You only need to watch for traffic coming from one direction at a time
- Shorter Pedestrian Crossings
- Slower Traffic
- Pedestrian Refuges
- Landscape Separation
- Shared-Use Path



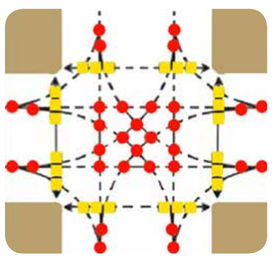
Benefits of the Modern Roundabout

REDUCTION IN CONFLICT POINTS



ROUNDABOUT

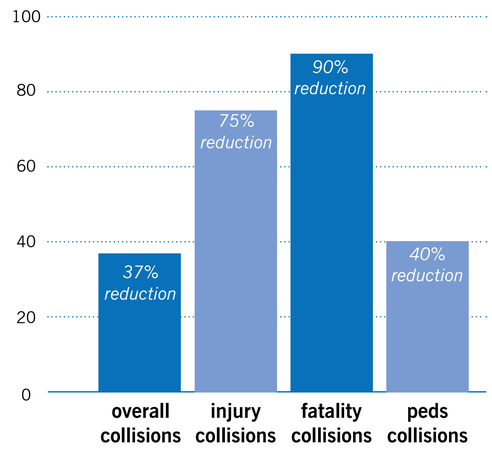
Vehicles - 8 Conflict Points
Peds - 8 Conflict Points



4-WAY INTERSECTION

Vehicles - 32 Conflict Points
Peds - 24 Conflict Points

REDUCTION IN COLLISIONS



Source: Federal Highway Administration and Insurance Institute for Highway Safety

- Improved Safety
- Increased Traffic Capacity / Reduced Delay
- Environmental Benefits
  - Less Emissions
  - Less Fuel Consumption
  - Noise Reduction
- Landscaping Opportunities
- Less Costly to Operate

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7

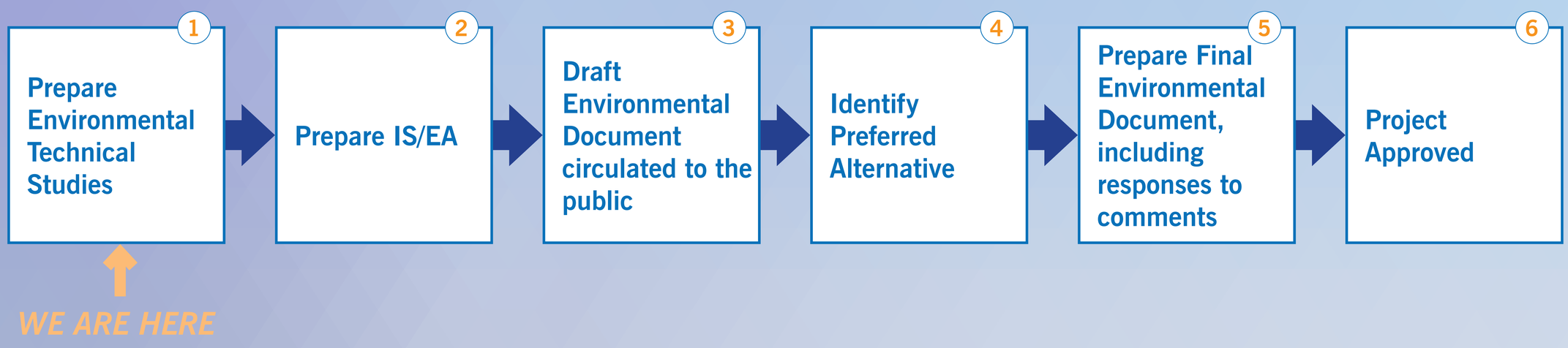
ENVIRONMENTAL REVIEW PROCESS

Environmental Process

Potential environmental impacts will be analyzed and presented to the public as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

- An Initial Study (IS) / Environmental Assessment (EA) will include the results of focused technical studies.
- The Initial Study (IS) / Environmental Assessment (EA) is scheduled for public review and comment in 2017.

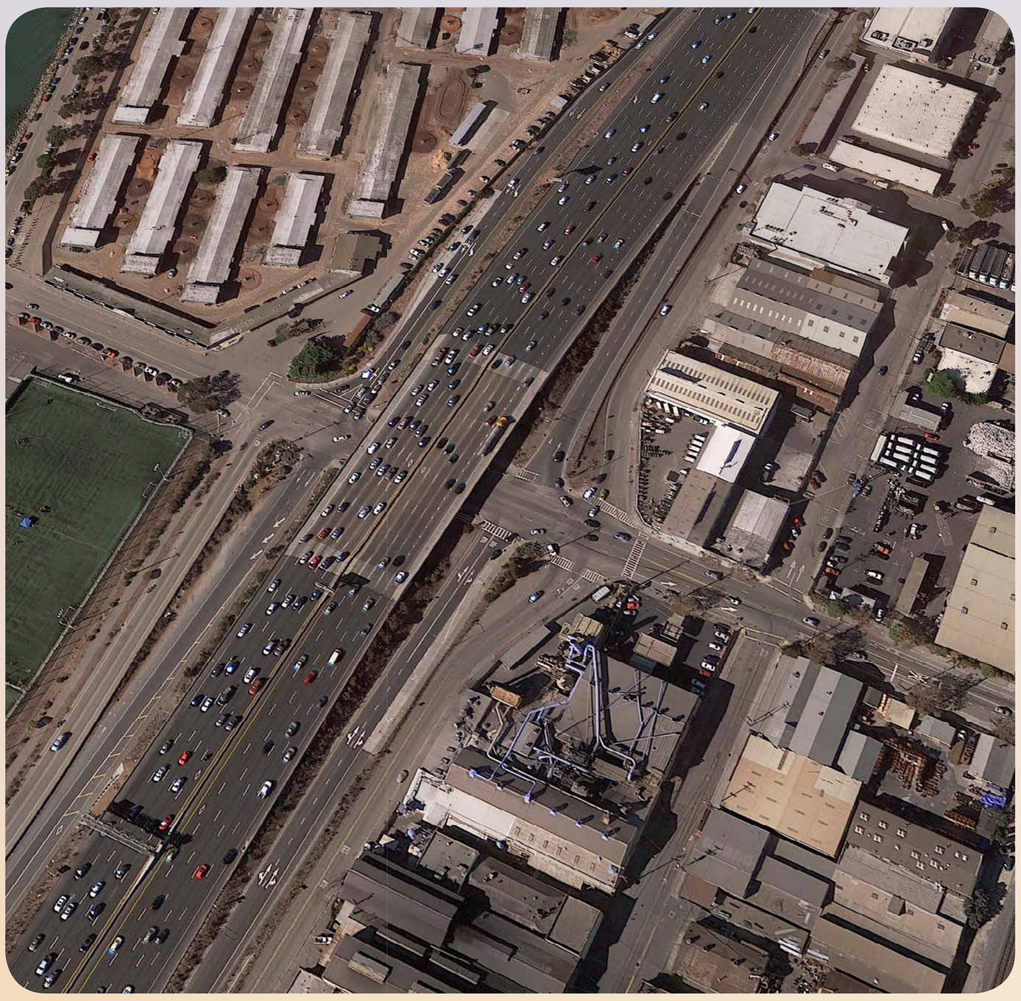
ENVIRONMENTAL REVIEW PROCESS FLOWCHART



Environmental Resources to be Studied

Focused, technical studies are planned to consider project impacts to the following environmental resources:

- Visual/Aesthetic Resources
- Cultural Resources (historic, archaeological, & Native American coordination)
- Water Quality, Hydrology, & Floodplain
- Geology, Soils, Seismic, & Topography
- Paleontology
- Hazardous Materials
- Air Quality
- Noise & Vibration
- Wetlands
- Habitat for Special-Status Species
- Traffic, Bicycle, & Pedestrian
- Community
- Utilities



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8 PROJECT DELIVERY

Agency Roles and Funding

AGENCY ROLES

The **Project Sponsors** are:

- **Alameda County Transportation Commission (Alameda CTC)**
- **City of Berkeley**

The **Implementing Agency** is:

- **Alameda CTC**

The Implementing Agency is responsible for managing the scope, cost and schedule of the current Project Approval and Environmental Document (PA&ED) phase of this project.

The **Lead Agency** is:

- **Caltrans**

The Lead Agency implements environmental review under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

FUNDING

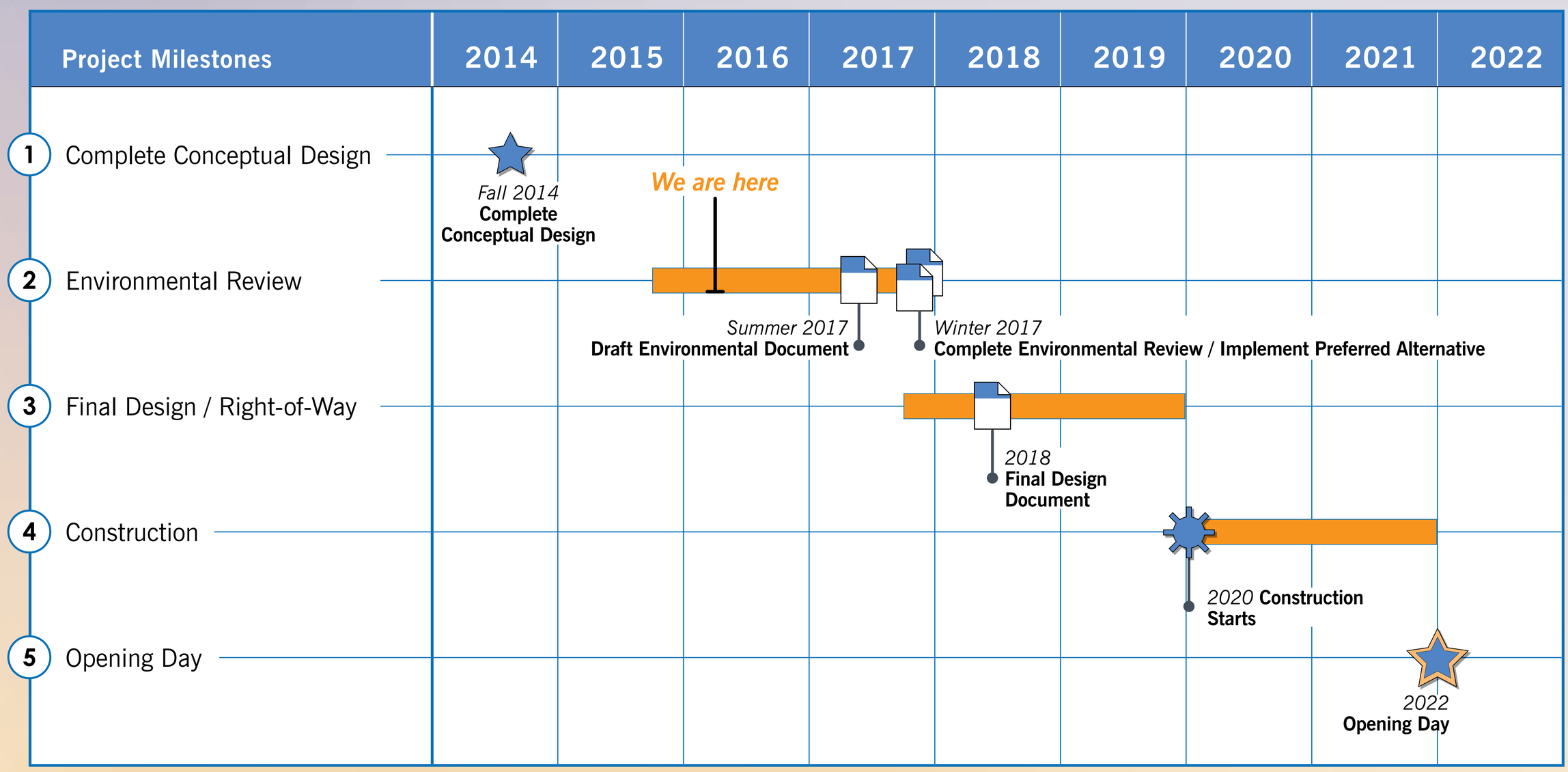
- Project would be funded with local, regional, and federal funds, with the major funding being provided by the Alameda County Transportation Commission via Sales Tax Measure BB.

  In 2014 voters passed Sales tax Measure BB, which implements a 30-year Transportation Expenditure Plan by renewing an existing 0.5 percent transportation sales tax approved in 2000, and increasing that tax by 0.5 percent, for a full 1.0 percent.

- Transportation Expenditure Plan commits $24 million for the I-80/ Gilman Street Interchange Improvement Project, with additional funding from the Federal Highway Administration (FHWA) and the City of Berkeley.

Current project cost estimate: **$24 million** for construction.

Project Schedule



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