



HIGHWAY 101 PEDESTRIAN & BICYCLE CROSSING STUDY

Pedestrian & Bicycle Advisory Committee Meeting
September 4, 2024

Presentation Outline

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1. Background
2. Study Locations
 - a. Corona Road
 - b. Rainier Avenue
 - c. Lynch Creek
 - d. Kenilworth POC
3. Schedule
4. Q&A



Pedestrian Collisions 2016-2020 (Local Roadway Safety Plan) ⁴

101 Collisions

Top Locations

1. McDowell & Madison
2. McDowell & Maria
3. D St. & 4th Street
4. E. Washington & NB Off Ramp
5. E. Washington & Maria



Cyclist Collisions 2016-2020 (Local Roadway Safety Plan)

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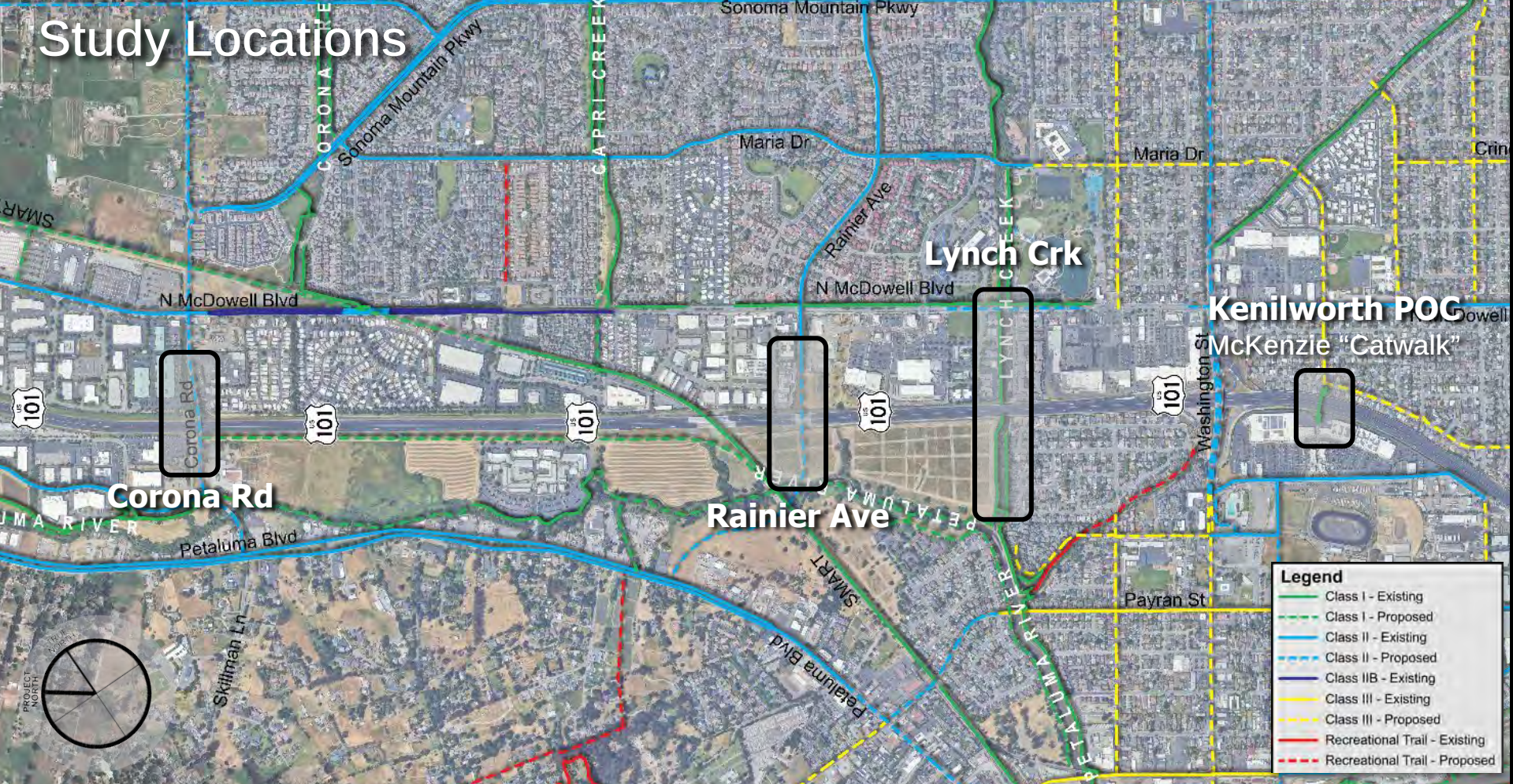
117 Collisions

Top Locations

1. E. Washington & Maria
2. Caufield & St. Francis
3. Caufield & Payran
4. Casa Grande & McDowell
5. E. Washington & NB Off Ramp



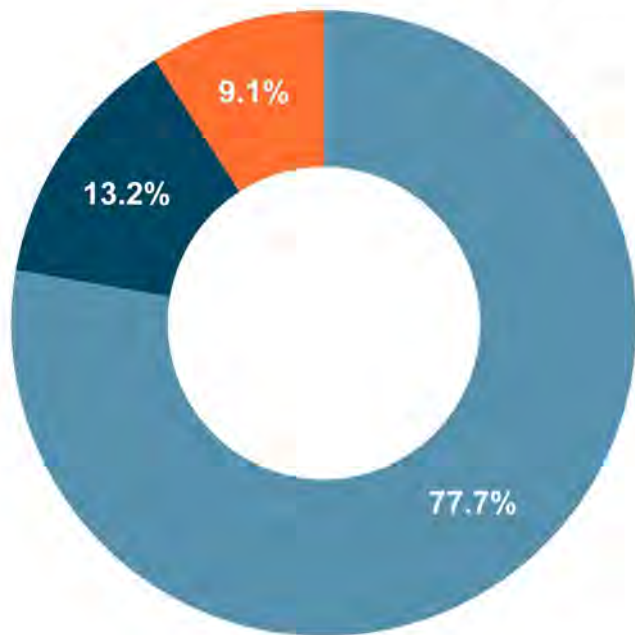
Study Locations



Public Input Survey (Feb. 23 to Mar. 17)

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How important is it to you to improve pedestrian and bicycle connectivity between the east and west sides of Highway 101 in Petaluma?



- New or improved Highway 101 crossings for pedestrians and cyclists is an important key investment for Petaluma.
- The necessity and importance of a new or improved highway crossing for pedestrians and and cyclists is not yet clear.
- Existing pedestrian and bicycle crossings of the highway are sufficient.

389 Responses

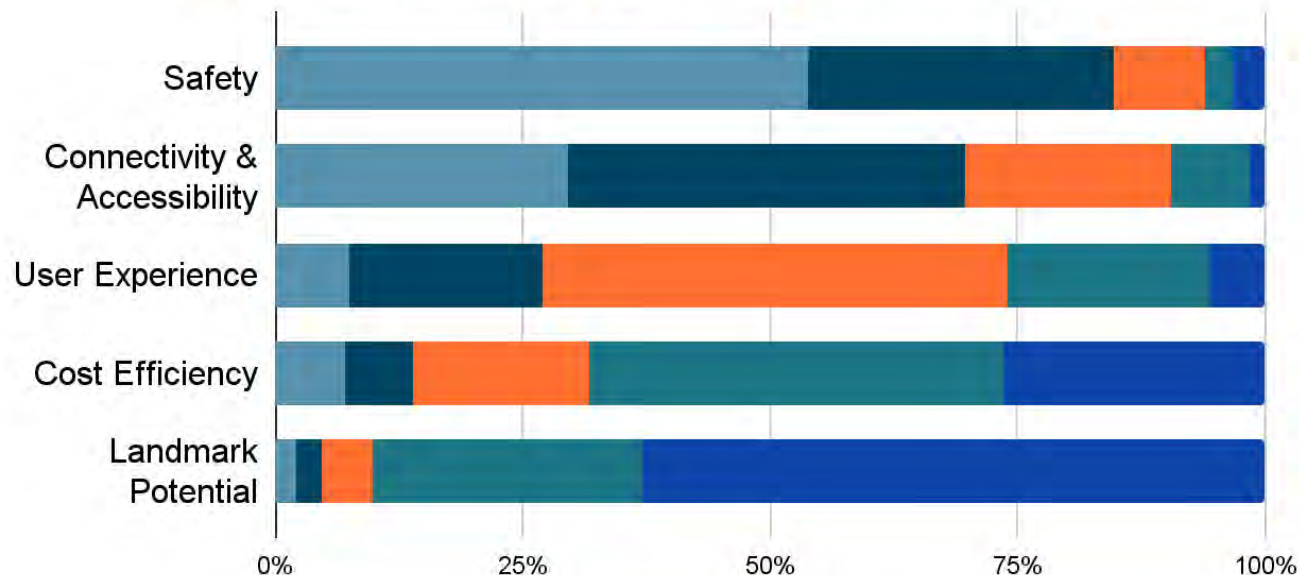
- 46% bike often
- 76% walk often
 - Other adults
 - Errands
 - Pets
- 56% have used the Washington Street OC
 - 66% of users were not comfortable
- 50% have used the Corona Road OC
 - 76% of users were not comfortable

Public Input Survey (Feb. 23 to Mar 17)

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Please Rank Your Priorities for the City's Study of Pedestrian and Bicycle Crossings of the Highway.

1: Most Important 2 3 4 5: Least Important



Top Destinations

East Side

1. Lucchesi Park
2. Future SMART Station
3. Deer Creek and The Plaza Shopping Centers

West Side

1. Downtown Petaluma
2. Regional Library, Swim Center, & Skate Park
3. Petaluma Fairgrounds

Community Workshops (Feb. 29 & May 29)

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Corona Road

- Explore using existing culvert tunnel
- Improve existing structure
- Explore sensors and warning lights
- Improve barriers between cars and peds/bikes
- Keep future west side development in mind
- Explore wildlife crossing

Rainier Avenue

- Retain natural setting/greenway character
- Explore connection to Petaluma River Trail

Lynch Creek

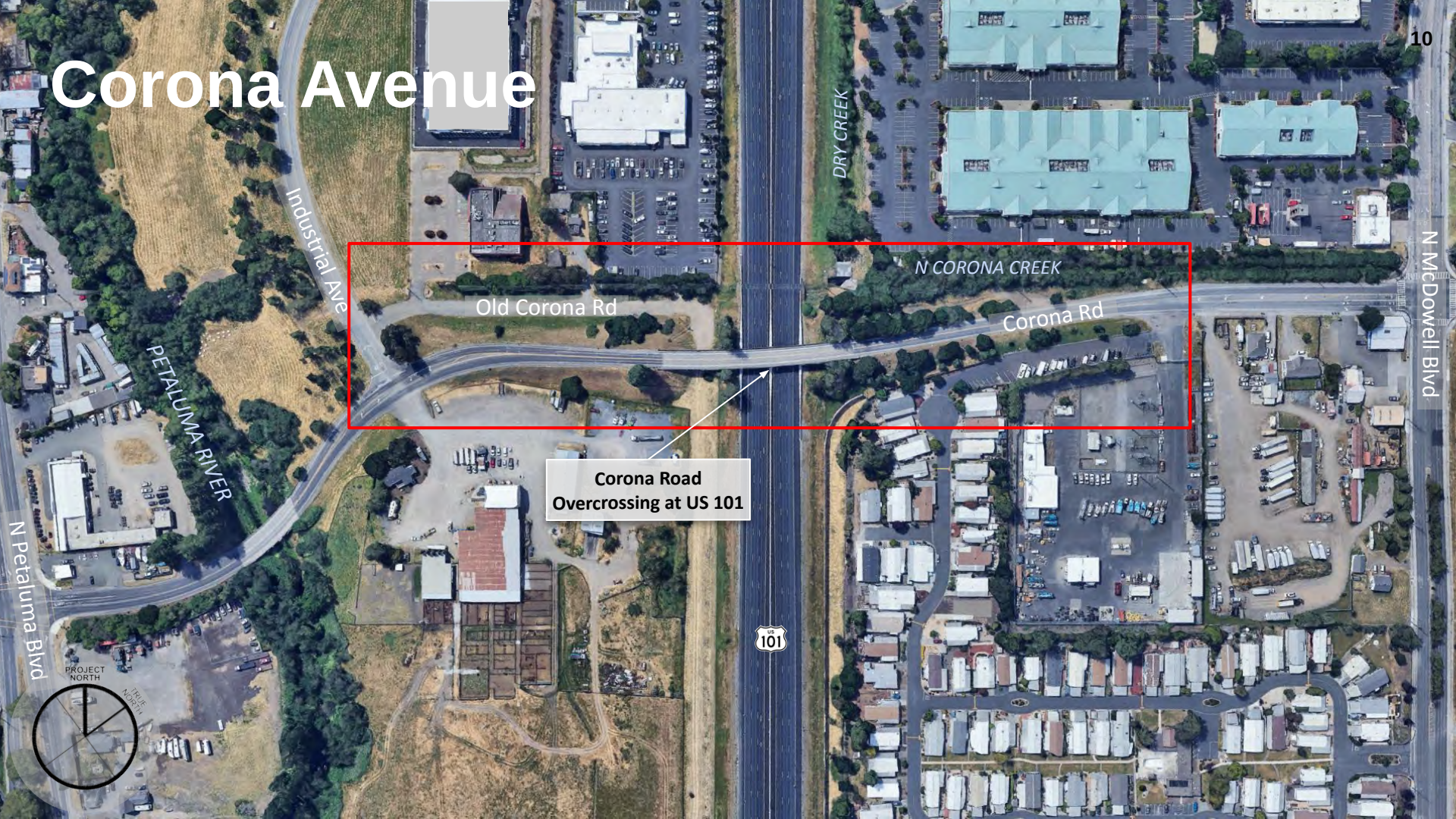
- Improve safety, security, and wayfinding in the short term
- Explore connection to Lynch Creek Way
- Explore safer and easier crossing of McDowell Blvd

McKenzie Avenue

- Integrate with shopping center
- Improve circulation on west side
- Improve access and safety on east side



Corona Avenue



Old Corona Rd

N CORONA CREEK

Corona Rd

Corona Road
Overcrossing at US 101

Corona Road

Purpose & Need

- Address existing safety issues by providing new separated pedestrian and bicycle crossing facilities for all ages and abilities.
- Close gap in pedestrian and bicycle network and connect to future SMART station on east side and Petaluma River Trail on west side.
- Encourage walking and biking.

Opportunities

- Green spaces available for approaches.
- Potential future north-south pathways adjacent to US 101.
- Concentration of existing and future development on east side.
- Caltrans State Highway Operation and Protection Program (SHOPP).

Corona Road Safety



Corona Road Alternatives

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- C1. Undercrossing
- C2. Separate Overcrossing
- C3. Improvements on Corona Road



C1. Undercrossing

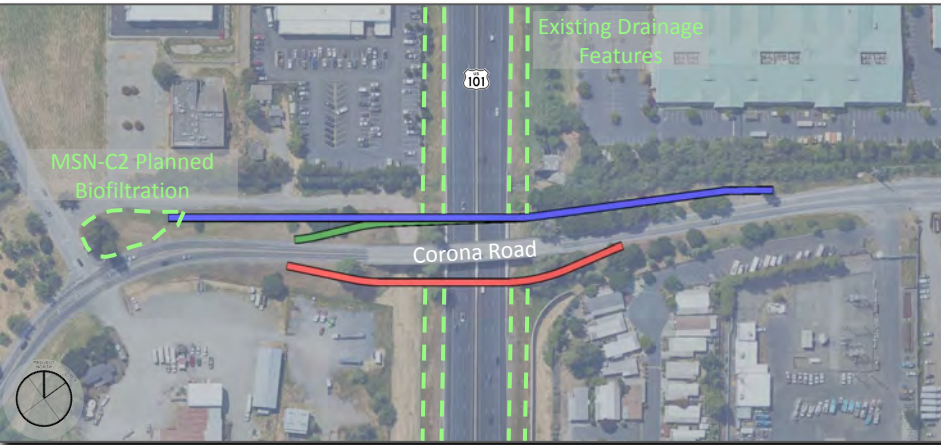
14



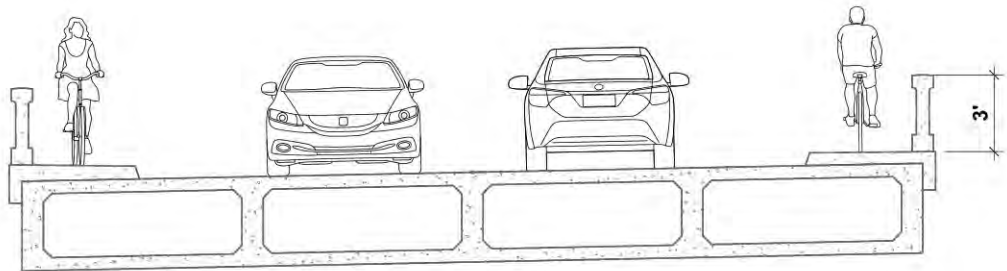
Existing North Corona Creek Culvert

C2. Separate Overcrossing

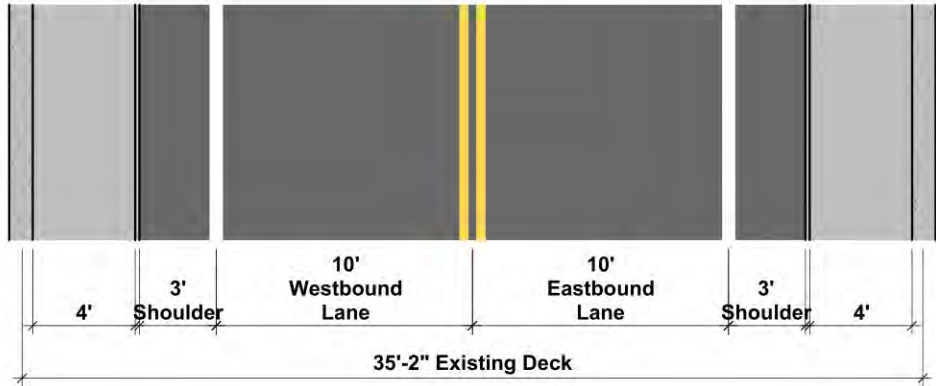
15



Corona Road Existing



North



South



C3. Improvements on Corona Road

17

- a. 9' Shared-Use Path & Class IV
- b. 6' Sidewalks & Class III
- c. 10' Class I Shared-Use Path



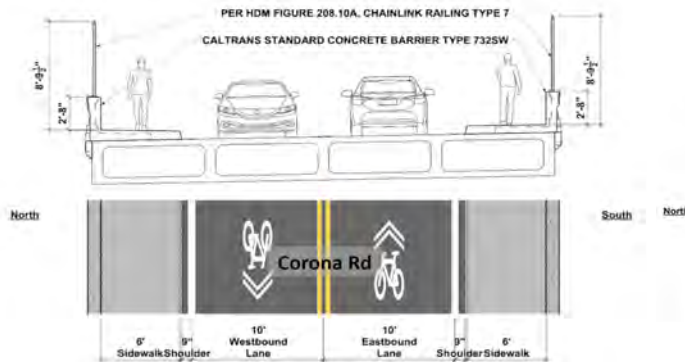
C3. Improvements on Corona Road

18

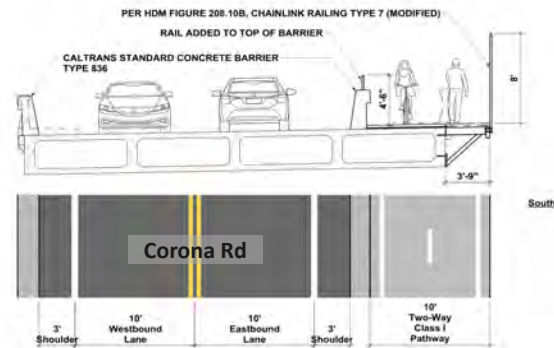
a. 9' Shared-Use Path & Class IV



b. 6' Sidewalks & Class III



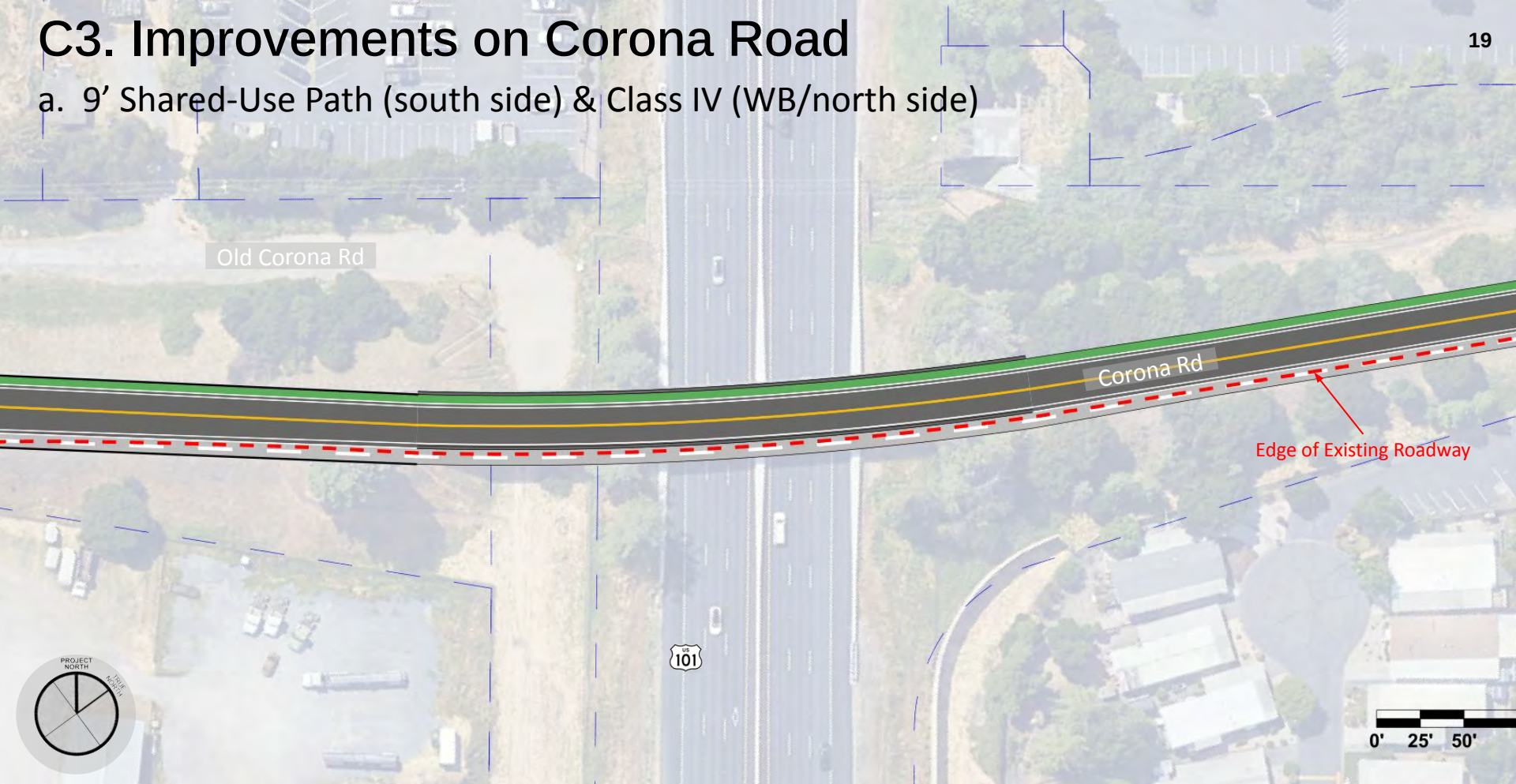
c. 10' Class I Bikeway



C3. Improvements on Corona Road

19

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)



C3. Improvements on Corona Road

20

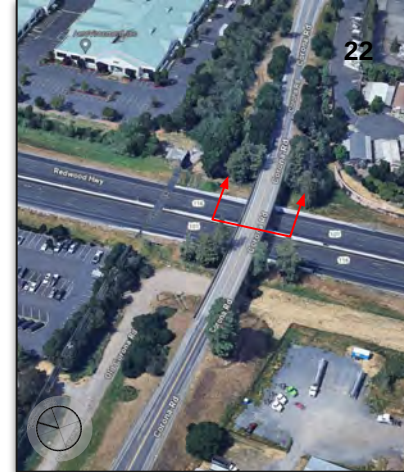
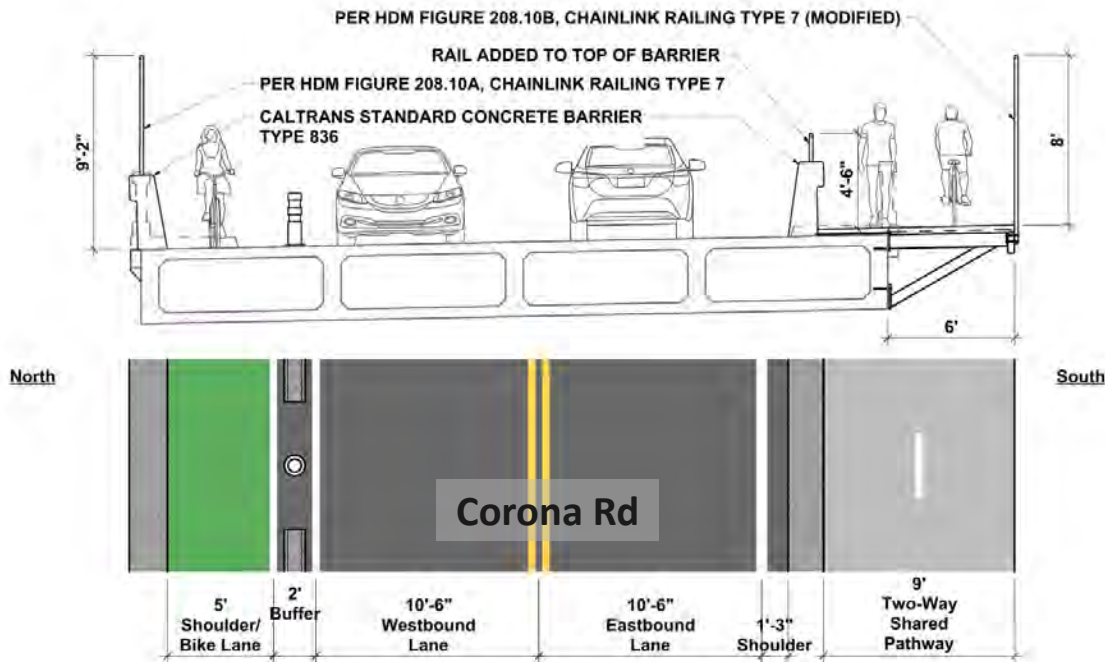
a. 9' Shared-Use Path (south side) & Class IV (WB/north side)



C3. Improvements on Corona Road

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)

Overcrossing Structure



Exceptions & Compromises

- HDM Figure 208.10A - Width EB of shoulder is less than minimum of 4'
- HDM 301.1 - Width of traffic lanes are less than minimum of 11'
- HDM 1003.1(3) - Width of bicycle path on structure is less than minimum of 10'

C3. Improvements on Corona Road

23

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)

Shared-Use Path Eastbound on Overcrossing



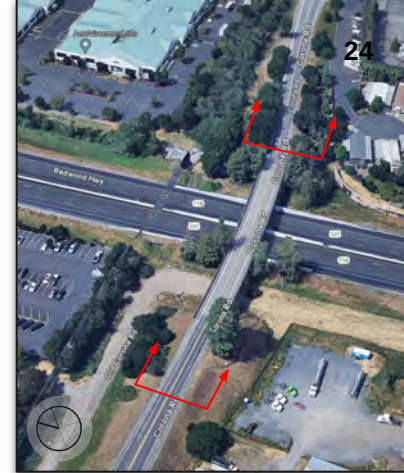
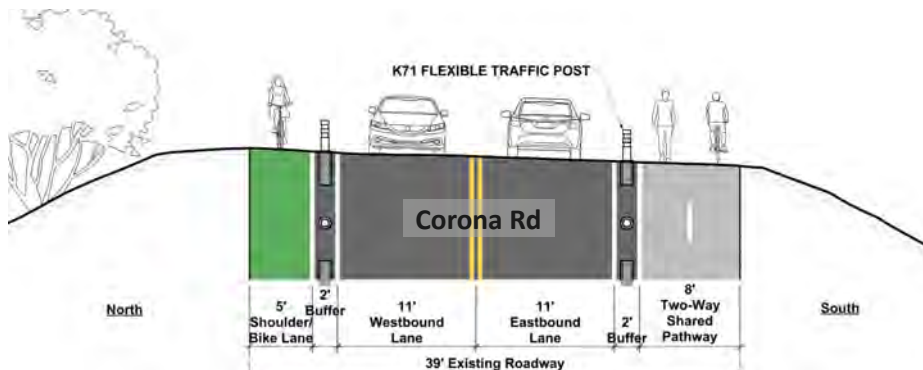
Class IV Westbound on Overcrossing



C3. Improvements on Corona Road

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)

West Approach



East Approach



Exceptions & Compromises

- HDM 301.1 - Width of traffic lanes are less than minimum of 11'

C3. Improvements on Corona Road

25

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)

Shared-Use Path Eastbound on West Approach



Shared-Use Path Eastbound on East Approach



C3. Improvements on Corona Road

26

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)

Class IV Westbound on East Approach

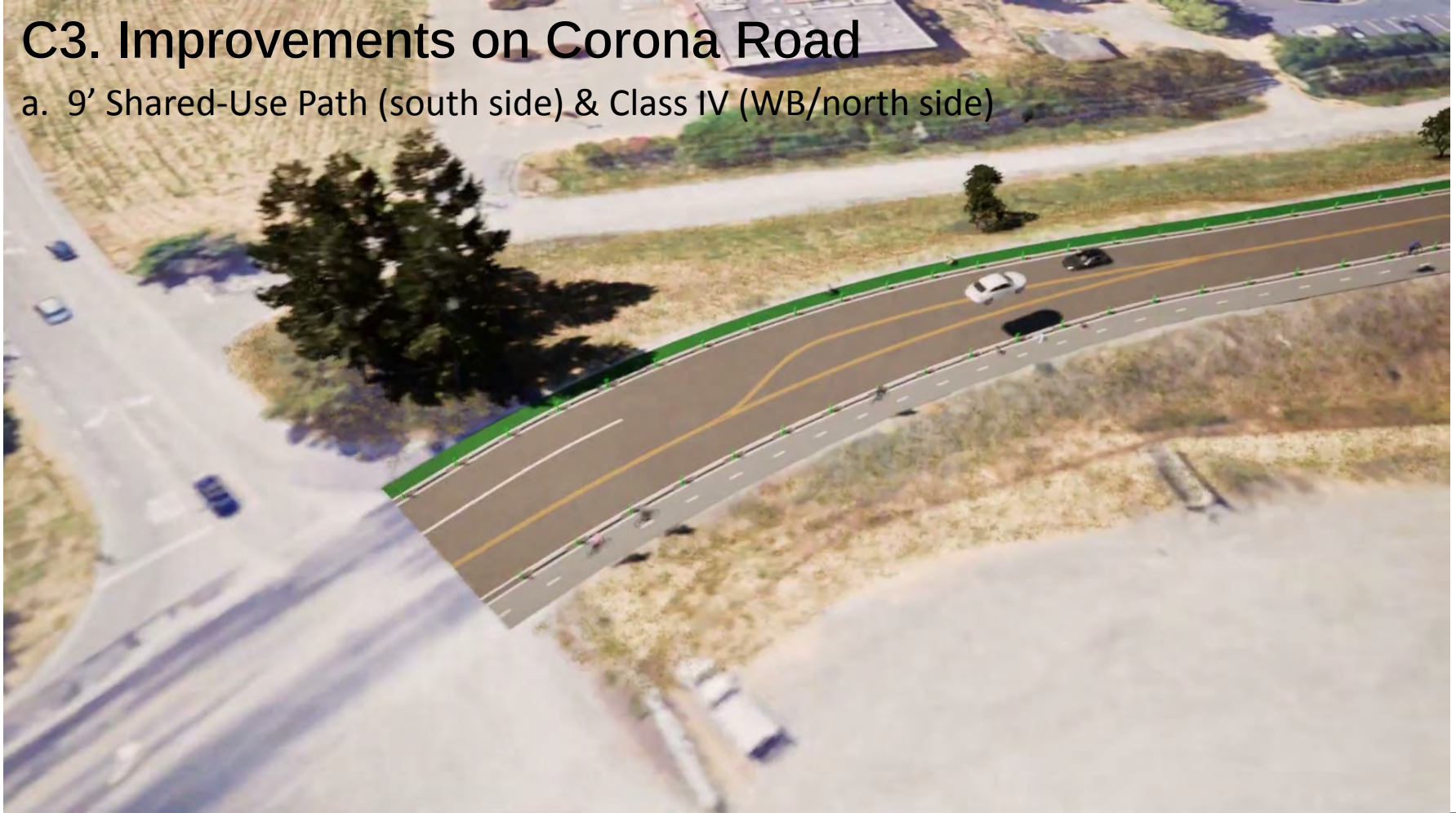


Class IV Westbound on West Approach



C3. Improvements on Corona Road

a. 9' Shared-Use Path (south side) & Class IV (WB/north side)



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Corona Summary

1. **Underpass using existing culvert**
 - Not viable due to limited vertical clearance and Caltrans operations
2. **New separate ped/bike overpass**
 - Longer project duration, likely higher cost
3. **Bike lanes both sides, sidewalk one side**
 - Narrow protected shared path one side of bridge
 - Narrow sidewalk one side of approaches
 - No buffer between bikes and cars on approaches
4. **Shared-use pathway one side**
 - Continuous Class I is feasible with an extension but would not leave space for protected facility on opposite side
 - A 9' wide shared pathway is feasible with an extension and there would be space for a protected facility on the opposite side



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Rainier Avenue

PETALUMA RIVER

SMART

101

N McDowell Blvd

Rainier Ave

Rainier Avenue
Undercrossing at US 101

PROJECT
NORTH



Rainier Avenue

Purpose & Need

- Provide crossing for pedestrians and cyclists to connect to future Petaluma River Trail.
- Provide safer connection across SMART railroad to connect to SMART Trail.
- Encourage walking and biking.

Opportunities

- Potential to utilize undercrossing of US 101 created by recent MSN-C2 project.
- Green space available on west side for open/park space.

Rainier Avenue Undercrossing

34



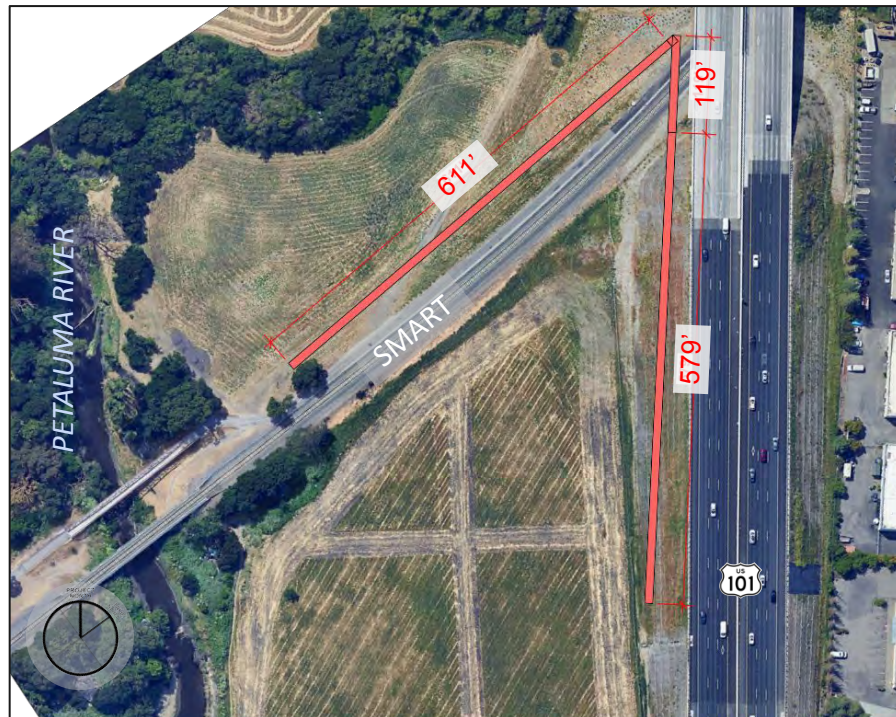
Rainier Avenue SMART Crossing Alternatives

35

- R1. New SMART Overcrossing
- R2. New SMART Undercrossing



R1. SMART Overcrossing



- 10'-Wide Path with 4.9% Approach Slopes
- 23.5' Vertical Clearance over SMART RR

R2. SMART Undercrossing

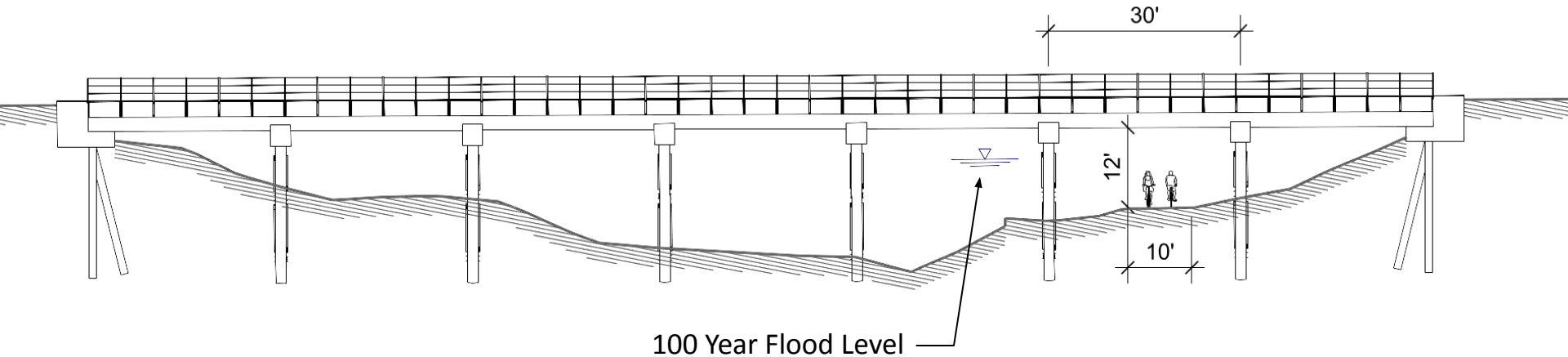
36



- 10'-Wide Path with 4.9% Approach Slopes
- 12' Vertical Clearance under SMART RR

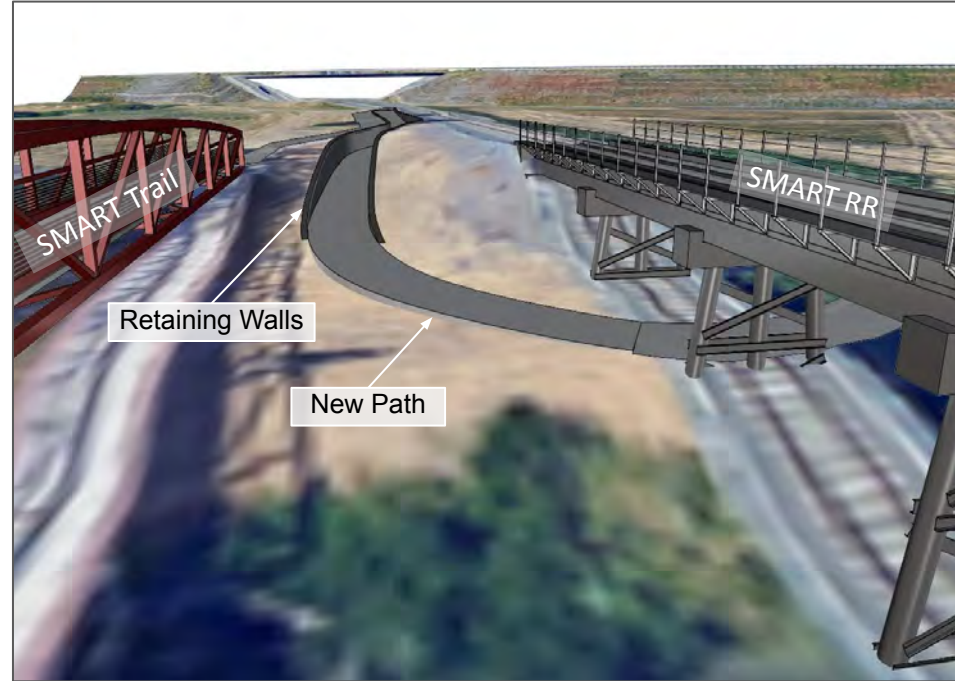
R2. SMART Undercrossing

37



R2. SMART Undercrossing

38



Rainier Summary

1. Existing undercrossing provides an excellent opportunity for new bicycle and pedestrian access across the freeway.
2. New crossing of SMART tracks needed to get to SMART pathway and connect to river trail.
3. Crossing over SMART probably not practicable.
4. Crossing under SMART is viable.
5. Further environmental study is needed on both sides of Highway 101.



Lynch Creek

PETALUMA RIVER

LYNCH CREEK

Lynch Creek Trail
Undercrossing at US 101

101

PROJECT
NORTH

Lynch Creek Way

LYNCH CREEK

N McDowell Blvd

40

Lynch Creek Trail Undercrossing at US 101

41



- Lynch Creek Trail is well-used (80%)
- Most survey respondents are comfortable on the trail and reaching it



Lynch Creek

Purpose & Need

- Close gap in Lynch Creek Trail by providing dedicated crossing for pedestrians and cyclists at McDowell Blvd.
- Address existing safety issue at Lynch Creek Trail and N. McDowell Blvd., where pedestrian and cyclists cross unsafely mid-block.
- Encourage walking and biking.

Opportunities

- Existing trail is well-used as a primary east-west connection.

Lynch Creek Trail at N. McDowell Blvd

43

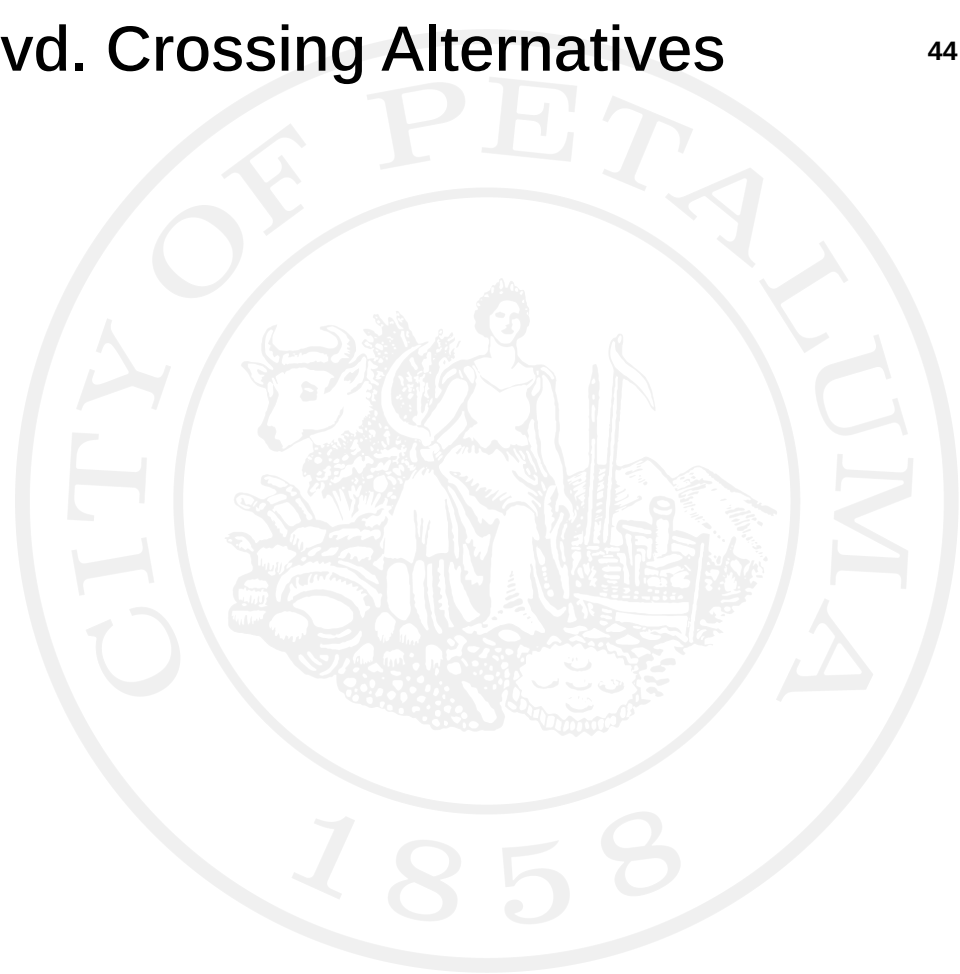
- 61% of survey respondents use the crosswalk at Lynch Creek Way to cross McDowell Blvd.



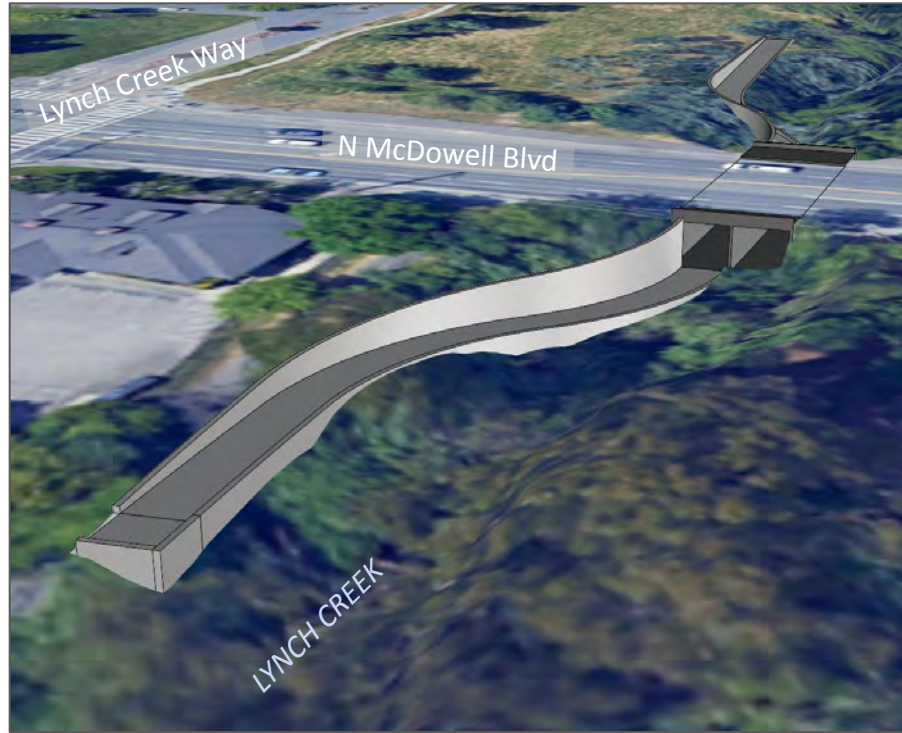
Lynch Creek Trail McDowell Blvd. Crossing Alternatives

44

- L1. Undercrossing of McDowell
- L2. Overcrossing of McDowell
- L3. At-Grade Crossing of McDowell
 - a. Northern At-Grade Crossing
 - b. Diagonal At-Grade Crossing
 - c. Southern At-Grade Crossing



L1. Undercrossing



L2. Overcrossing

45



L3. At-Grade Crossing

46

L3 Var.1 - Northern At-Grade Crossing



L3 Var.2 - Diagonal At-Grade Crossing



L3 Var.3 - Southern At-Grade Crossing



Lynch Creek Summary

1. Existing freeway undercrossing does not warrant significant improvements.
2. Crossing of North McDowell unsafe.
 - Overcrossing and undercrossing are both feasible, but more expensive than at-grade and more impactful environmentally.
 - Overcrossing less impactful environmentally than undercrossing and less permitting required.
 - At-grade crossing feasible. Three alternatives stand out as warranting further study.



McKenzie Avenue

E Washington St

Johnson St

Kenilworth Dr

101

McKenzie Avenue
POC at US 101

N McDowell Blvd

McKenzie Ave

Maria Dr

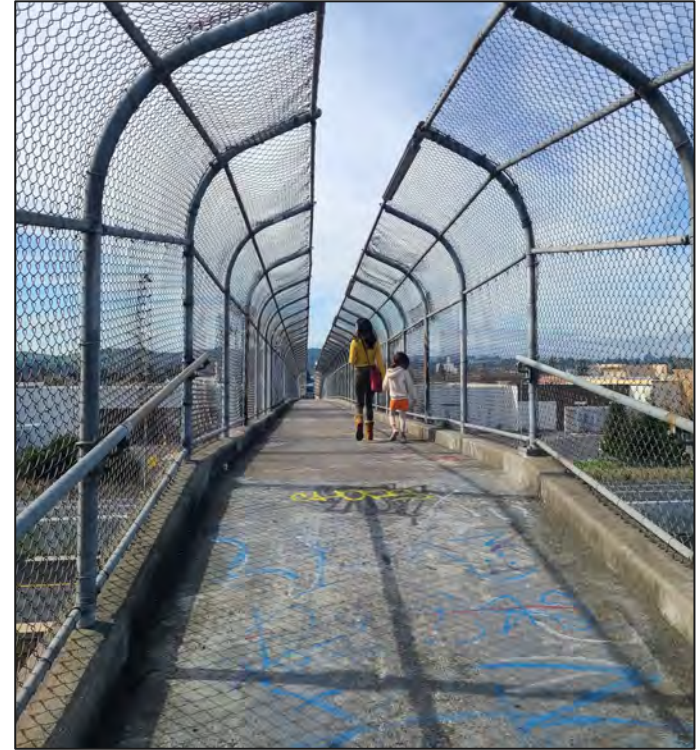
Stuart Dr

PROJECT
NORTH



Existing Kenilworth POC

49



Kenilworth POC

(McKenzie Avenue “Catwalk”)

Purpose & Need

- Provide a safer and ADA-compliant crossing that encourages walking and biking.
- Existing crossing 1,000 feet to the north at Washington Street/US 101 interchange has a history of pedestrian and bicycle collisions.

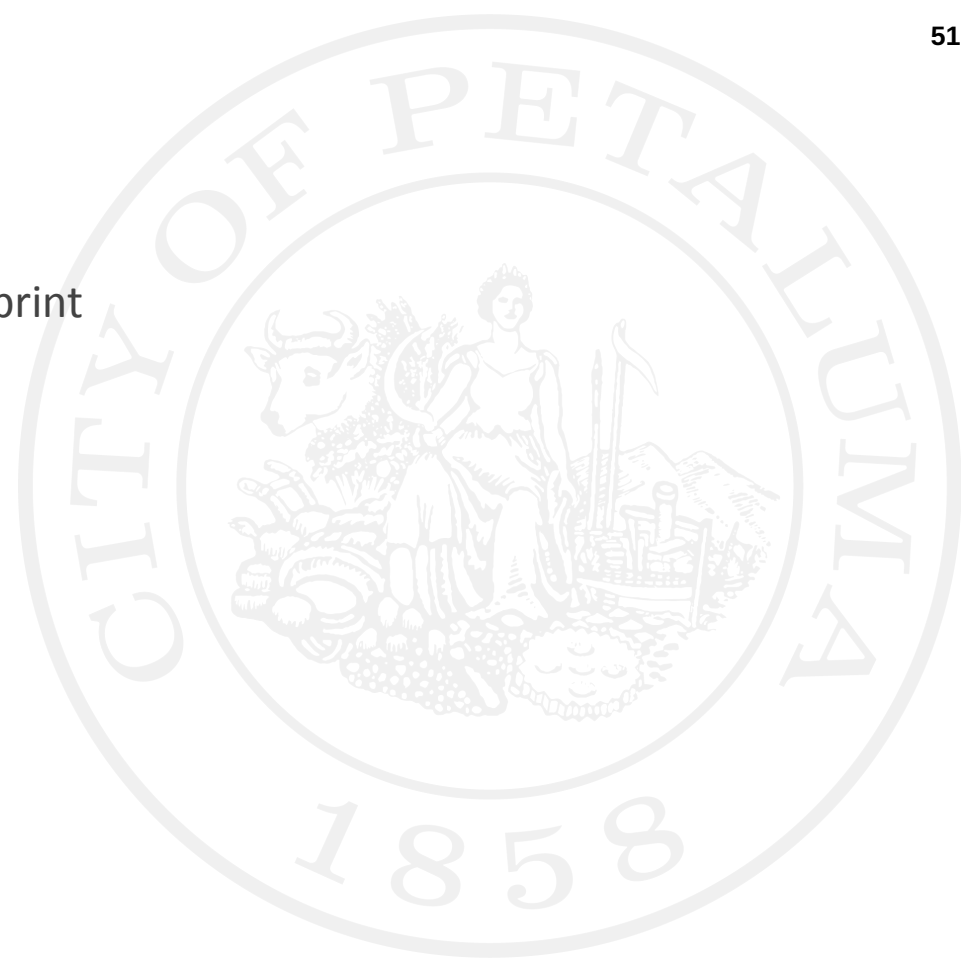
Opportunities

- Short-term improvements to encourage use are feasible.
- Adjacent concentrations of businesses and homes.
- Closest crossing location to Downtown Petaluma and Petaluma Fairgrounds.

McKenzie Avenue Alternatives

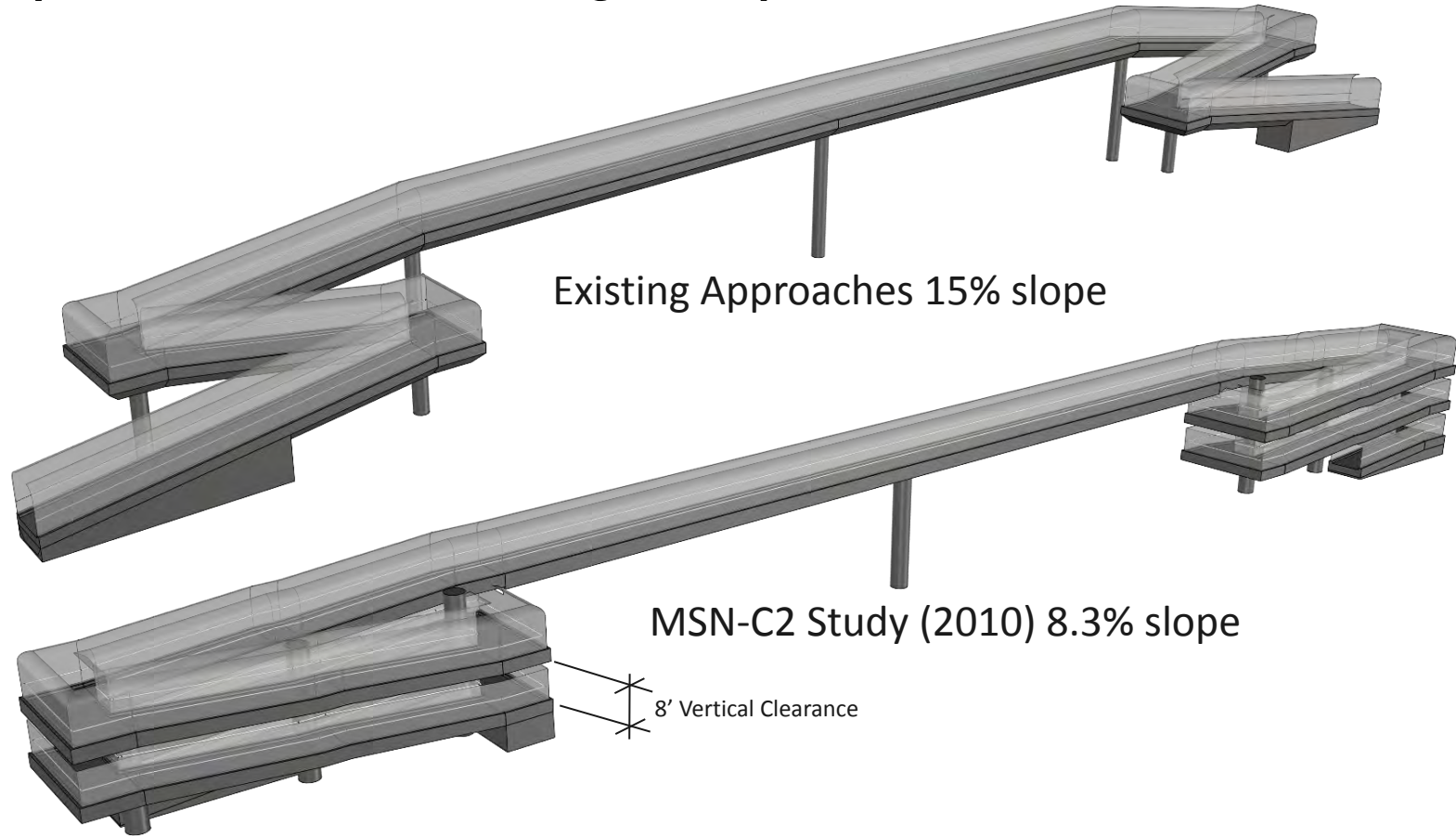
51

- M1. Replace POC in Existing Footprint
- M2. Incremental Improvements
- M3. New Overcrossing with Expanded Footprint
- M4. New Overcrossing with Elevator



M1. Replace POC in Existing Footprint

52



M1. Replace POC in Existing Footprint

53



2" Openings
(Existing Structure)

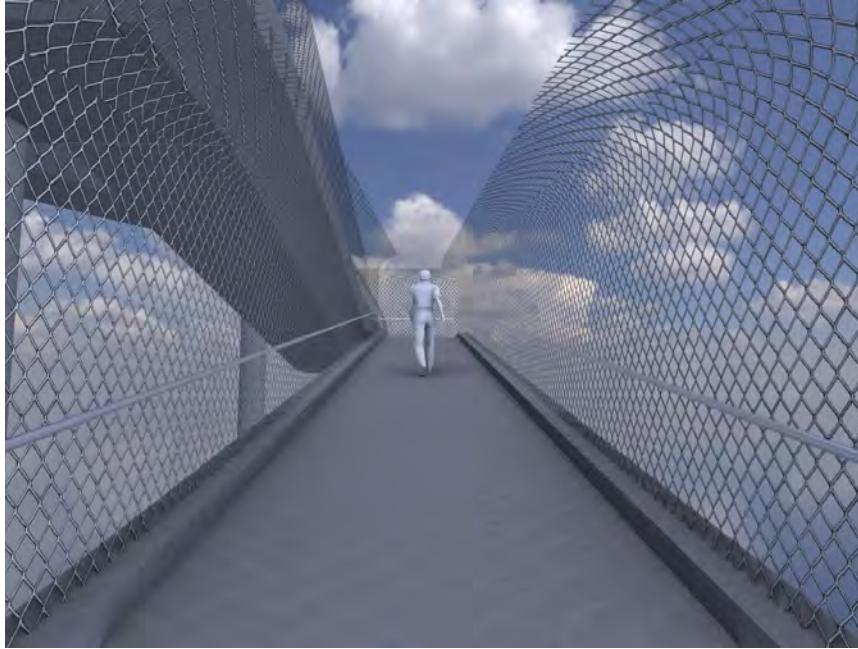


1" Openings

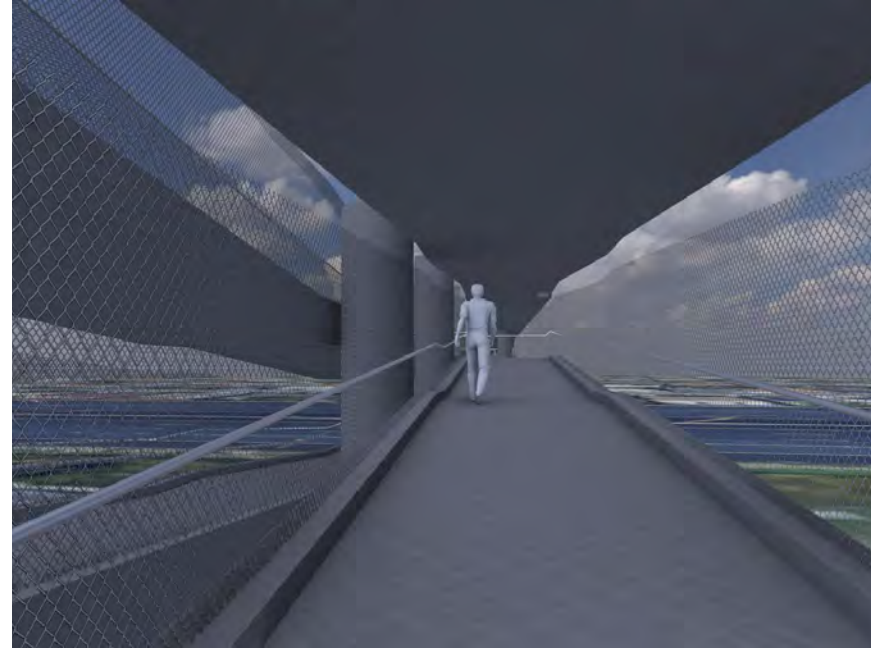


M1. Replace POC in Existing Footprint

54



Existing Approach and Fencing



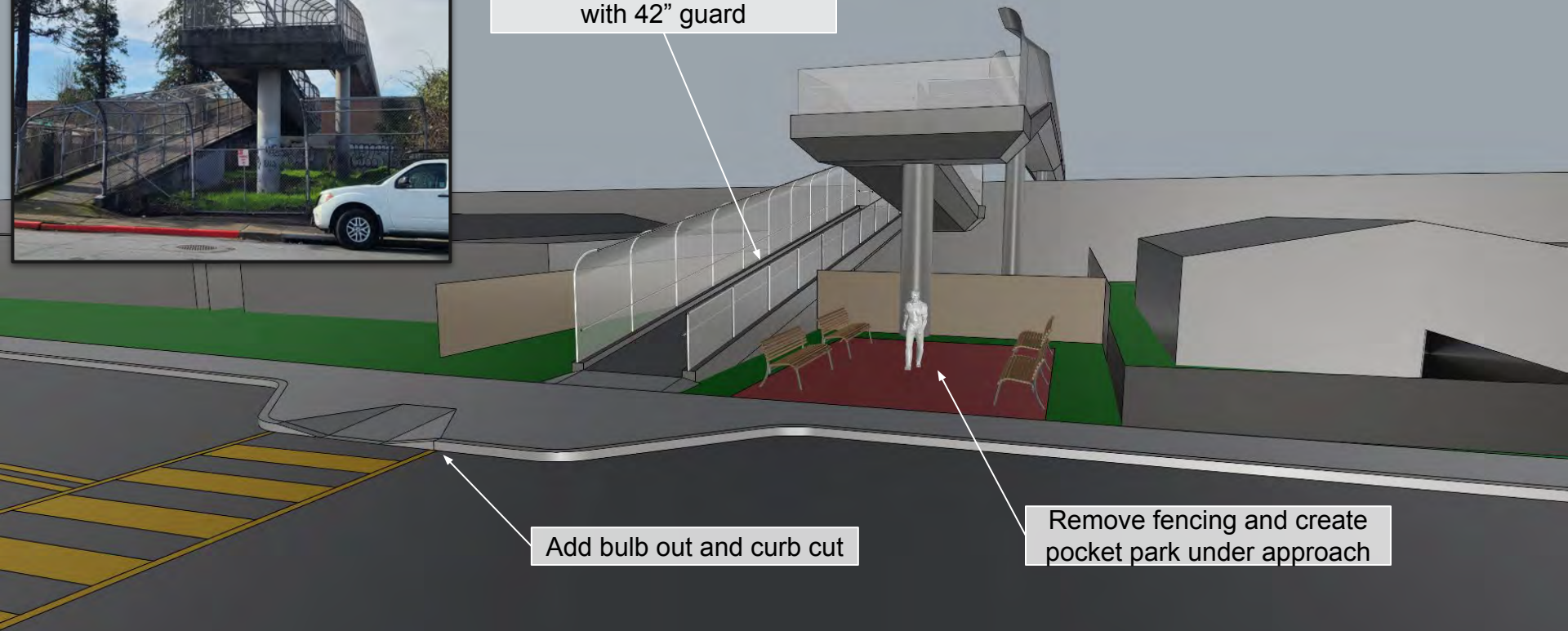
Approach and Fencing Based on 2010 Study

M2. Incremental Improvements

55



Remove fencing and replace with 42" guard



Add bulb out and curb cut

Remove fencing and create pocket park under approach

M3. New Overcrossing with Expanded Footprint



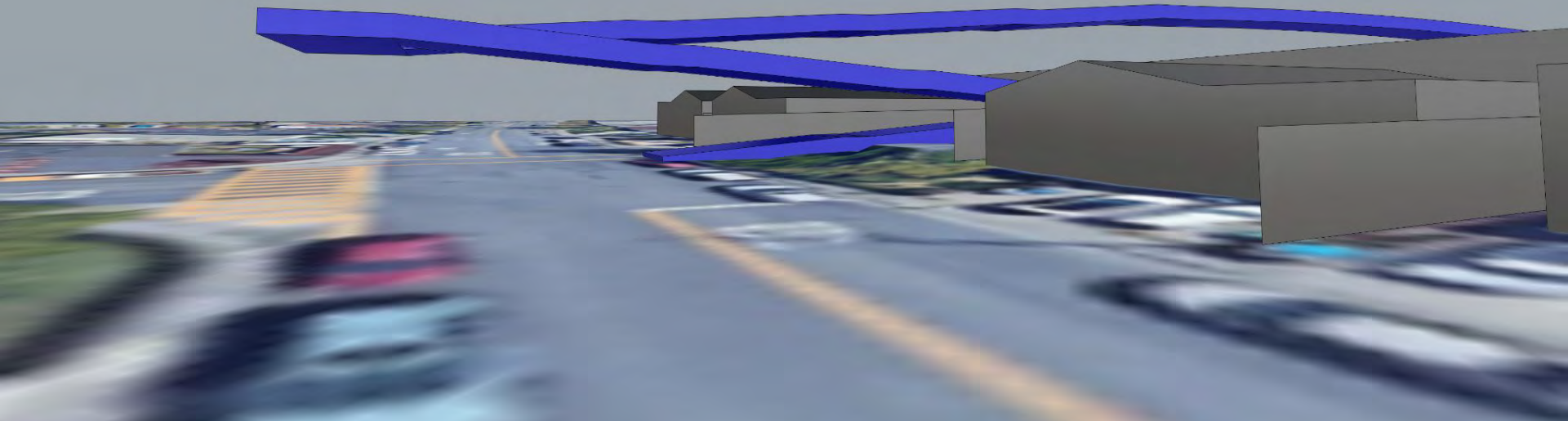
M3. New Overcrossing with Expanded Footprint

57

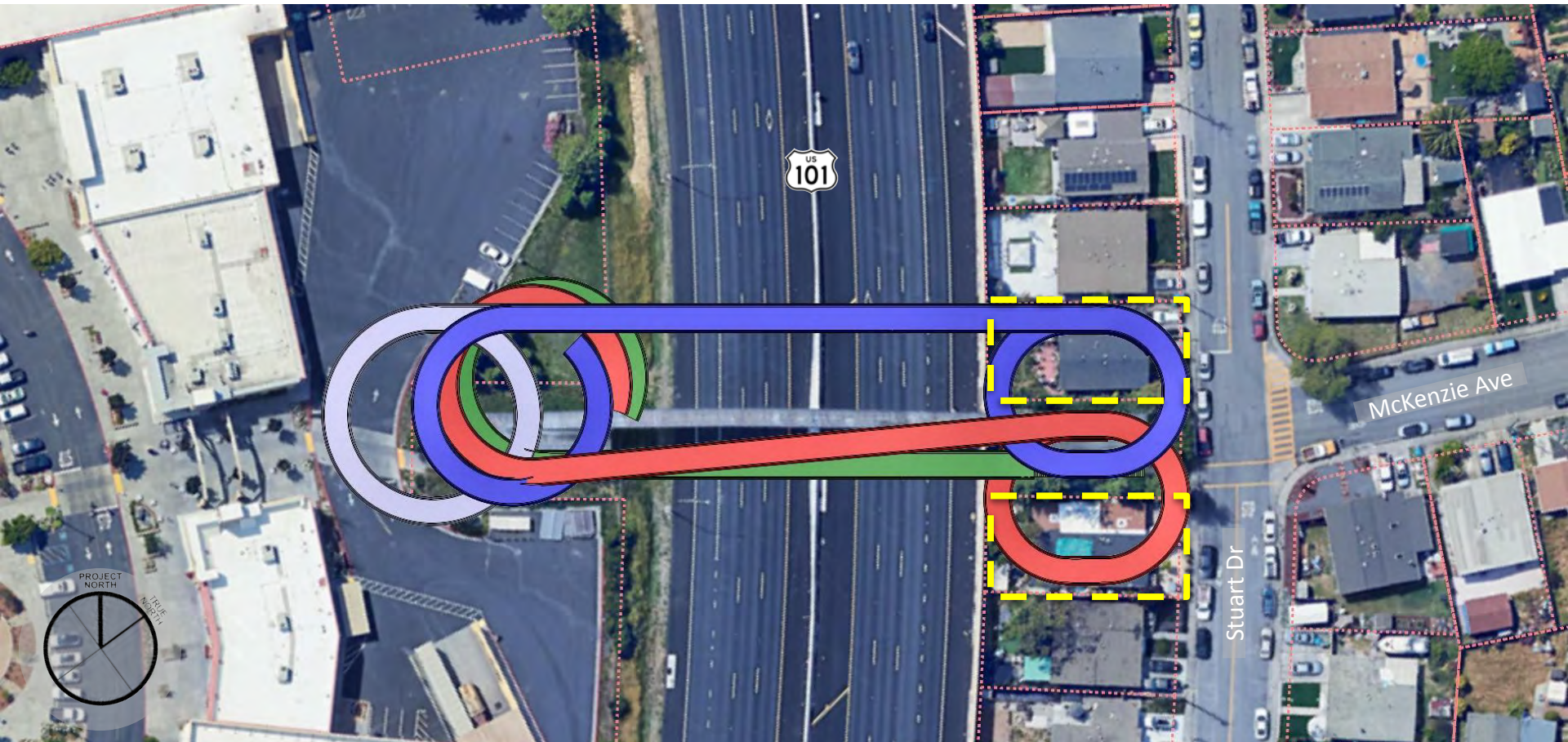


M3. New Overcrossing with Expanded Footprint

58



M3. New Overcrossing with Expanded Footprint



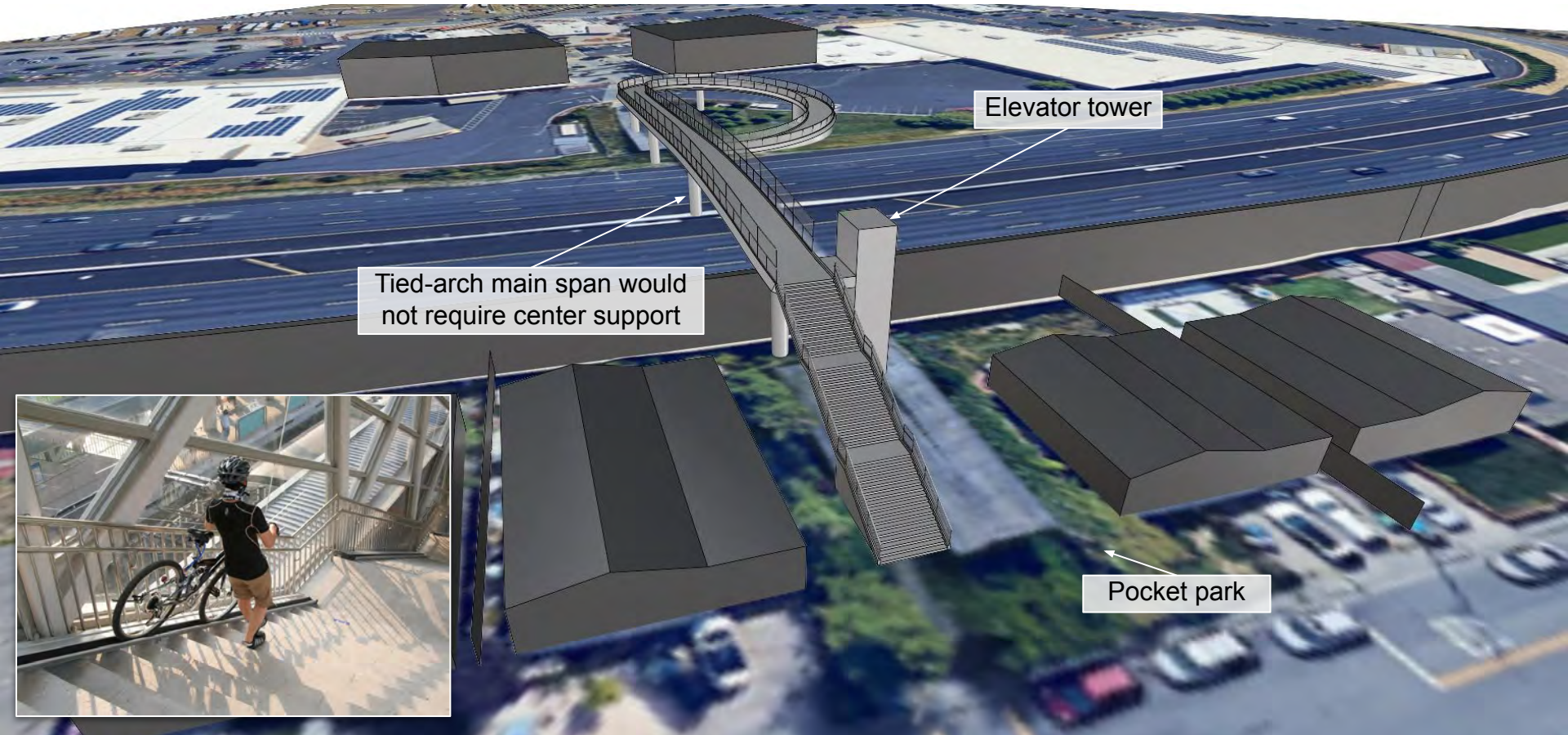
M4. New Overcrossing with Elevator

60



M4. New Overcrossing with Elevator

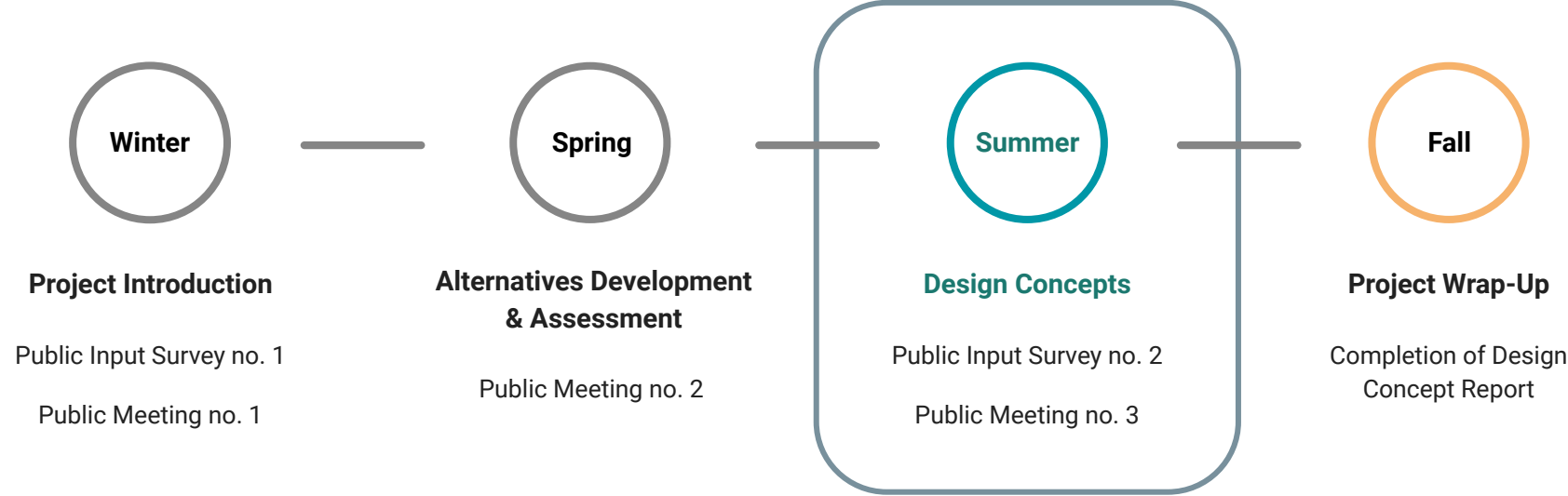
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McKenzie “Catwalk” Summary

1. Existing structure well used but has steep approaches.
2. Attractiveness of existing structure is being improved and other improvements are feasible.
3. Geometric constraints are so tight that replacing with new up-to-current-standards structure would improve accessibility but may result in worse user experience and introduce new safety issues.
4. A new structure within the current footprint but with an elevator on the east side offers greater accessibility, but requires greater ongoing maintenance.
5. Acquiring new right-of-way on the east side would allow for a more comfortable crossing using sloped approaches on both sides.





Thank you!

Project Website:

<http://www.cityofpetaluma.org/101crossings/>

