# San Pablo Dam Road
# Road Diet Feasibility Study

December 6, 2023

# Overview

- Introduction
- Background
- Road Diet Feasibility Study
- Next Steps
- Q&A & Open Discussion

# Introduction

- Purpose of the road diet feasibility study
  - To determine the feasibility of installing bike lanes on San Pablo Dam Road by implementing a “road diet”
- Goal of installing bike lanes
  - To enhance safety, mobility, and access for all road users and move us closer towards a “complete streets” environment
- The road diet feasibility study began in late 2019 but was delayed due to the COVID-19 pandemic
- Purpose of today’s presentation
  - Present the findings of the study and recommended alternative and obtain community feedback

# Background

- San Pablo Dam Road is a major arterial road and route of regional significance.
  - Arterial roadways move high volumes of traffic to and from freeways. Their traffic function is of regional, countywide, and intercity importance for safe and efficient movement of motorists and bicyclists, rather than servicing local area traffic.
  - Routes of regional significance are, in general, roads that provide links between major hubs of the County and may serve as links between counties

# Long Term Goals for San Pablo Dam Road

- Goals
  1. Improve safety, comfort, accessibility, and connectivity for all users.
  2. Meet the needs of local residents living along San Pablo Dam Road and those commuting on the corridor.
  3. Provide a multi-modal friendly environment supporting all modes of travel.
  4. Encourage a shift in trip modes by Contra Costa County residents and visitors from motor vehicles to active modes such as walking and biking to create a more sustainable community and reduce greenhouse gas emissions.

# What is a Road Diet?

- A road diet typically involves converting an existing four-lane, undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL).
- A road diet, or roadway reconfiguration, may provide the following benefits: improve safety, calm traffic speeds, and provide better mobility and access for non-automobile road users.
- However, an in-depth analysis and engineering discretion are needed when considering road diets on roads with more than 20,000 vehicles per day, as there is a potential for increased traffic congestion.

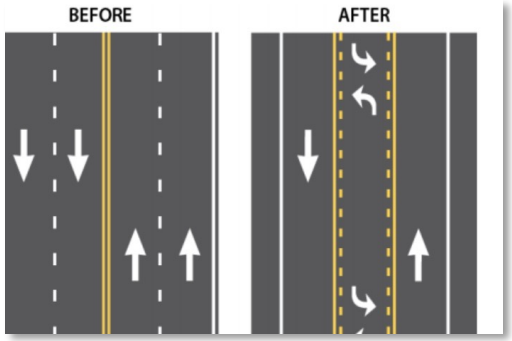
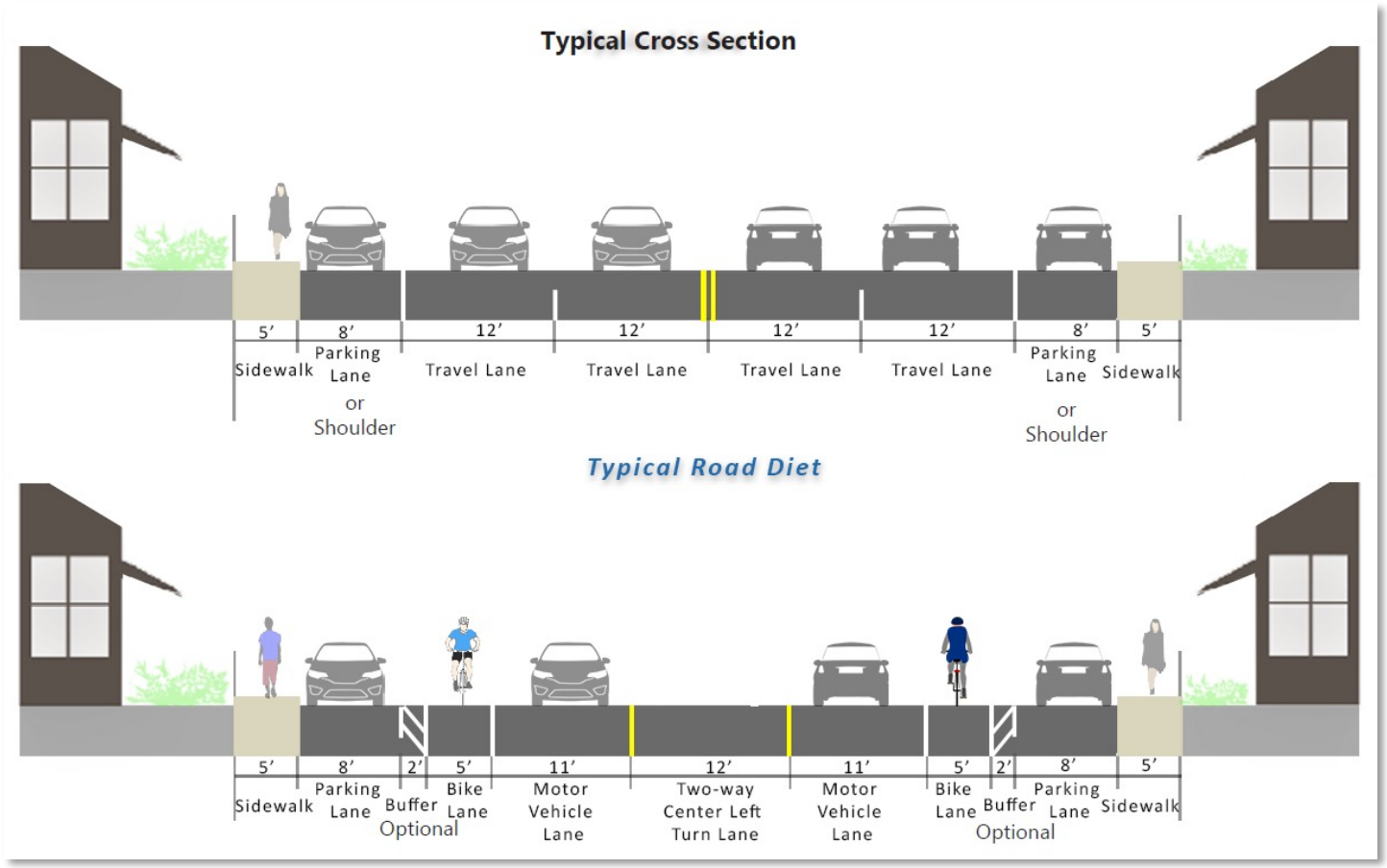


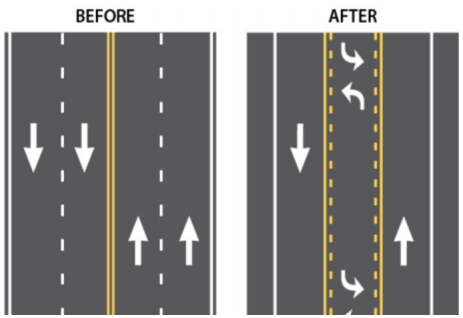

Photo Credit: Virginia Department of Transportation

# Road Diet
# Along San Pablo Dam Road



# Road Diets & Calming Traffic Speeds

- Vehicle speeds should be matched to the context of surrounding land uses, such as through central business districts and neighborhoods, and to all road users. Sometimes this means that lower speeds are more desirable. These areas often have higher pedestrian and bicycle volumes in addition to younger pedestrians and bicyclists. The need to "calm," or reduce vehicle speeds, is often cited for road diet conversions.
- Studies have shown that implementation of a road diet leads to a reduction in 85$^{th}$ percentile speed of less than 5 mph. Another study has also reported a 7% reduction in vehicles traveling over the posted speed limit.
  *Source: https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch3.cfm#s332*
- The most recent speed survey shows the 85 percentile speed as 60 mph along San Pablo Dam Road (measured just east of Lois Lane).



# Road Diet Feasibility Study

# Study Parameters

- Purpose: To determine the feasibility of installing bike lanes by implementing a road diet
- 3 miles of San Pablo Dam Road analyzed: from El Portal Drive to Castro Ranch Road
- Considerations
  - Peak hour traffic congestion, collision history, change in travel time (induced delay)
- Two alternatives were explored
  - Alternative A – Road diet between Appian Way and Castro Ranch Road
  - Alternative B – Road diet between May Road and Castro Ranch Road

# Study Parameters (continued)

- Three timeframe scenarios were considered
  - Pre-pandemic Conditions (2019)
    - Pre-pandemic conditions reflect normal traffic conditions and was used as the baseline of the study.
  - Near-Term Conditions (2025)
    - Near-term conditions reflect the traffic conditions of San Pablo Dam Road by the year 2025. The traffic impacts due to the pandemic are not factored into this scenario. The traffic modelling software considered growth rates based on a multitude of other variables.
    - An annual population growth of 1% compounded annually was applied to the pre-pandemic conditions to project the traffic demands.
  - Future Conditions (2040)
    - Future conditions reflect the traffic conditions of San Pablo Dam Road by the year 2040. The County typically evaluates projects in 2040 conditions as the horizon year to ensure traffic performance is not adversely impacted, which is in conformity consistent with the County's General Plan. The traffic impacts due to the pandemic are not factored into this scenario. The traffic modelling software considered growth rates based on the same variables used in the near-term conditions.
    - An annual population growth of 1% compounded annually was applied to the pre-pandemic conditions to project the traffic demands.

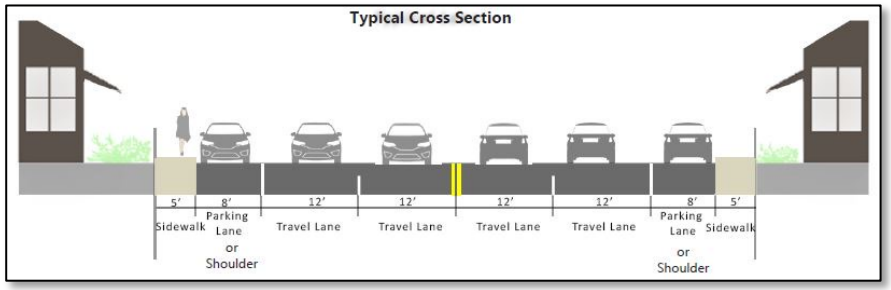
# Relationship to Plans & Programs

- Contra Costa County
  - General Plan
  - Active Transportation Plan*
  - Vision Zero Plan
  - Complete Streets Policy
  - Climate Action Plan
- Contra Costa Transportation Authority
  - Countywide Bicycle and Pedestrian Plan*
- West Contra Costa Transportation Advisory Committee
  - West County Action Plan*

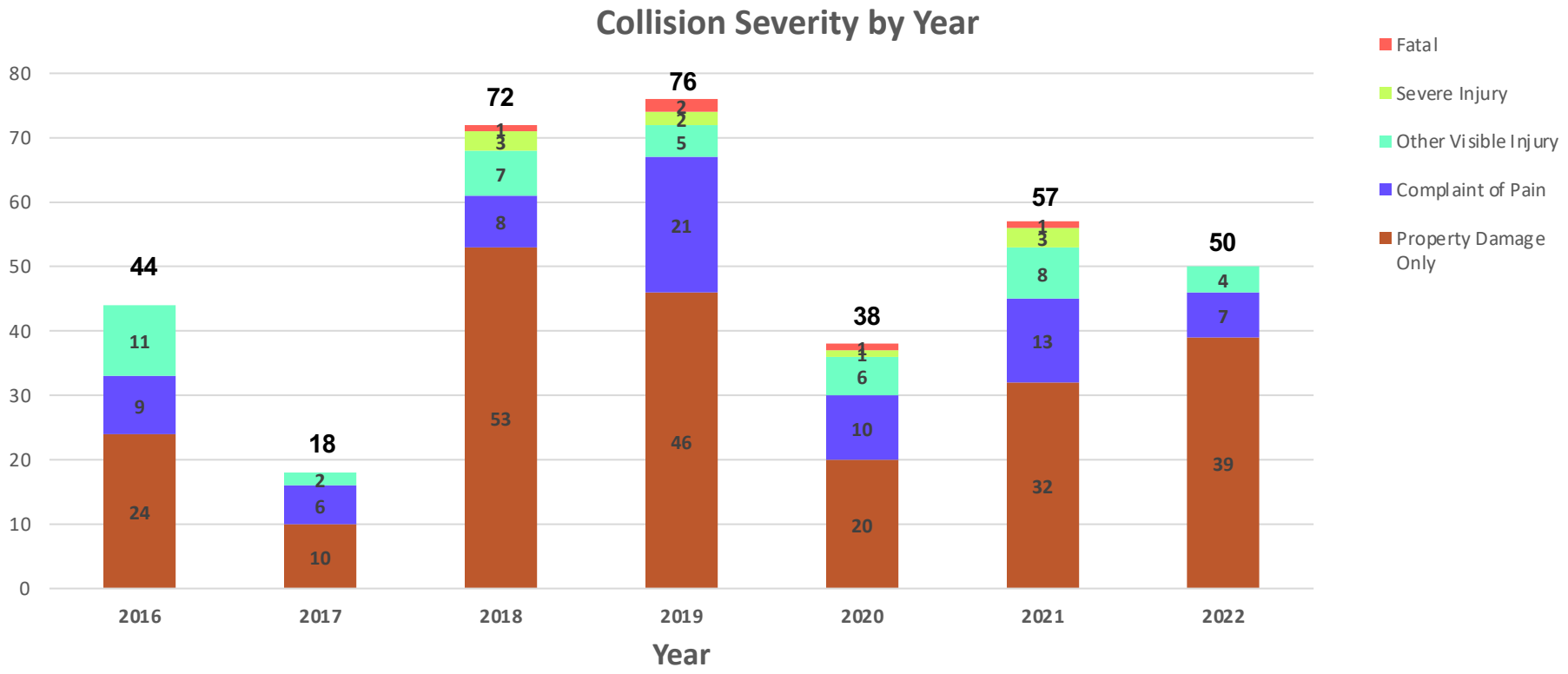
**These plans have identified the need for bicycle infrastructure along San Pablo Dam Road*

# Existing Conditions

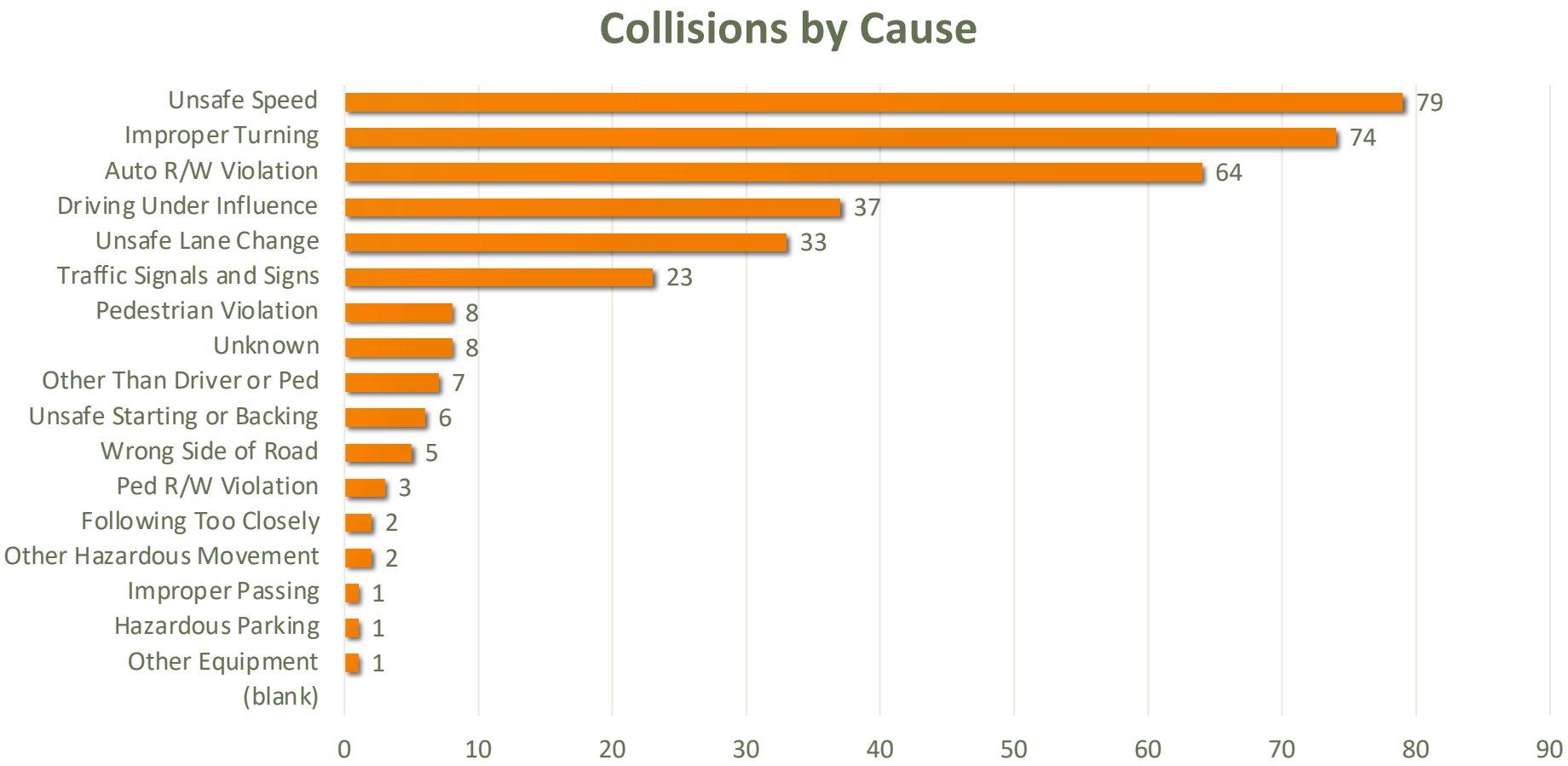
- Average Daily Traffic (ADT) – 11,000 to 31,000 vehicles on a typical weekday.
- Two travel lanes in each direction, with intermittent on-street parking and pedestrian facilities (e.g., sidewalks and crosswalks).
- No direct or parallel alternative routes to San Pablo Dam Road.
- Posted speed limit varies between 25 mph – 45 mph
  - Between El Portal and Milton Drive – 25 mph
  - Between Milton Drive and Castro Ranch Road – 40 to 45 mph
- Current bicycle usage is typically observed throughout the week but heavier on weekends
- The last surface treatment occurred in 2019, and the next will occur in 2028 at the earliest



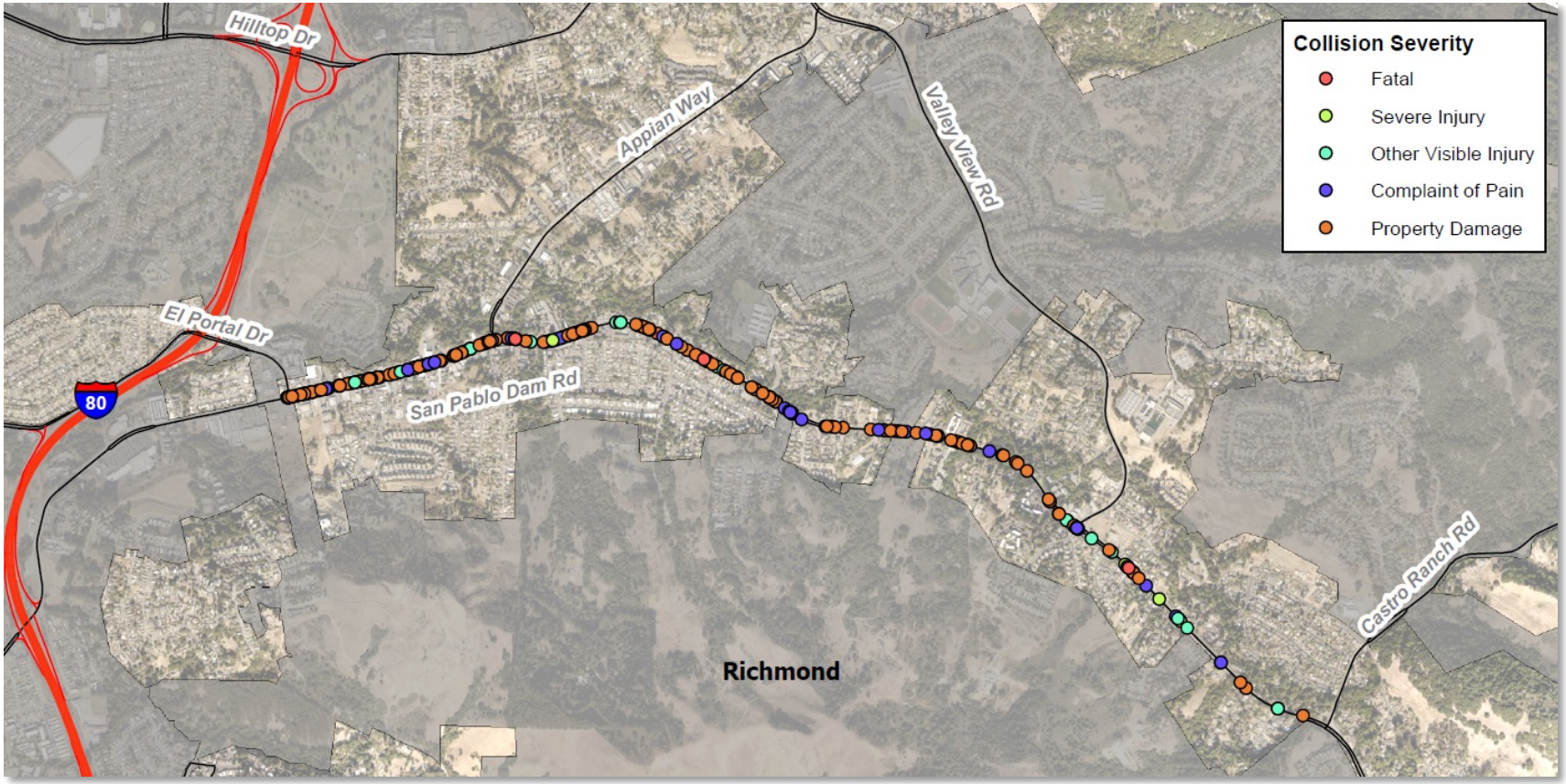

# Collision History by Year
## 2016–2022



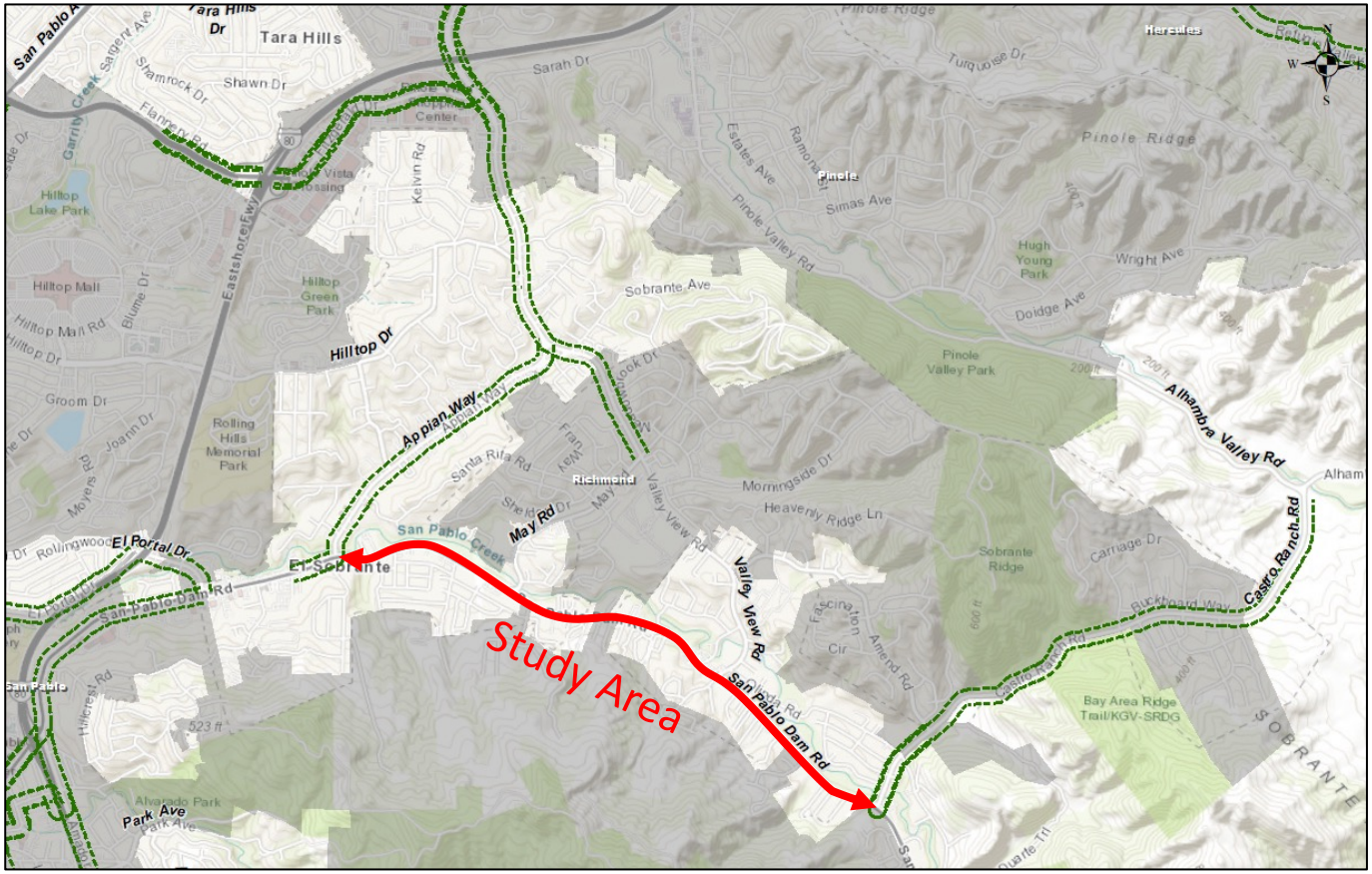
# Collision History by Cause
## 2016–2022



# Map of Collision History
## 2016–2022



# Existing Bicycle Infrastructure

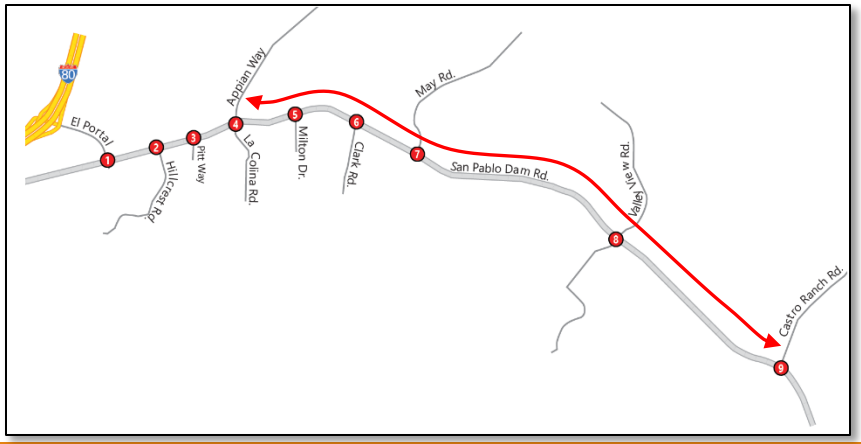



Existing bike lanes shown as solid green lines

# Alternative A

## Road Diet from Appian Way to Castro Ranch Rd.

- Segment length: 2.4 miles
- Bike lanes would provide a connection between existing infrastructure on Appian Way and Castro Ranch Road
- Automobile travel time between Appian Way and Castro Ranch Road in the near term (2025) during peak time will increase as follows:
  - AM Peak (7-9 AM)
    - Westbound: from 7:03 (*mm:ss*) to 9:55 (**+2:52**) / Eastbound: from 4:43 to 6:39 and (**+1:56**)
  - PM Peak (4-6 PM)
    - Westbound: from 5:24 to 7:40 (**+2:16**) / Eastbound: from 4:24 to 4:40 and (**+0:16**)
- Future term (2040) increases:
  - AM Peak (7-9 AM)
    - Westbound: from 10:40 to 14:43 (**+4:03**) / Eastbound: from 4:41 to 6:22 and (**+1:41**)
  - PM Peak (4-6 PM)
    - Westbound: from 8:08 to 12:33 (**+4:25**) / Eastbound: from 4:28 to 5:05 and (**+0:37**)
- Parking would not be impacted
- Project Cost: $4.14M

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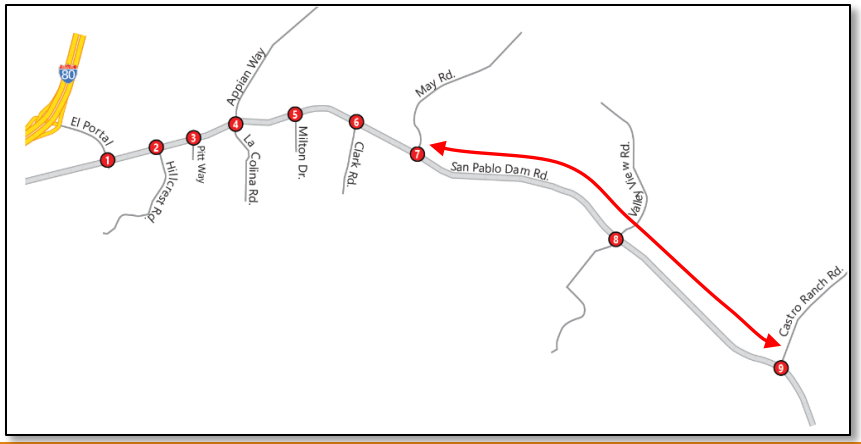
# Alternative B

## Road Diet from May Rd. to Castro Ranch Rd.

- Segment length: 1.6 miles
- Automobile travel time between Appian Way and Castro Ranch Road in the near term (2025) during peak time will increase as follows:
  - AM Peak (7-9 AM)
    - Westbound: from 7:03 (*mm:ss*) to 7:15 (**+0:12**) / Eastbound: from 4:43 to 6:03 and (**+1:20**)
  - PM Peak (4-6 PM)
    - Westbound: from 5:24 to 7:12 (**+1:48**) / Eastbound: from 4:24 to 4:26 and (**+0:02**)
- Future term (2040) increases:
  - AM Peak (7-9 AM)
    - Westbound: from 10:40 to 11:36 (**+0:56**) / Eastbound: from 4:41 to 5:48 and (**+1:07**)
  - PM Peak (4-6 PM)
    - Westbound: from 8:08 to 11:45 (**+3:37**) / Eastbound: from 4:28 to 4:34 and (**+0:06**)
- Parking would not be impacted
- Project Cost: $3.21M

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# Project Impacts to Travel Time

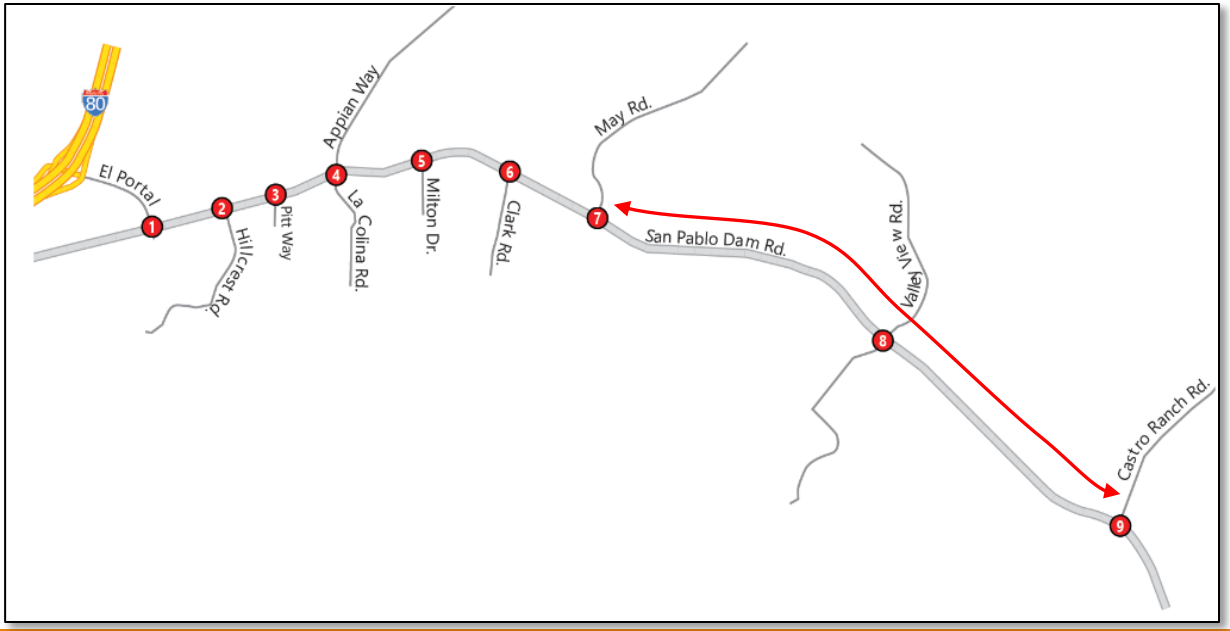
## Appian Way to Castro Ranch Road

| Segment | | Travel Time: Appian Way to Castro Ranch Road (mm:ss) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | No Build | | | Alternative A | | | Alternative B | | |
| | | Pre-Pandemic Conditions (2019) | Near-Term Conditions (2025) | Future Conditions (2040) | Pre-Pandemic Conditions (2019) | Near-Term Conditions (2025) | Future Conditions (2040) | Pre-Pandemic Conditions (2019) | Near-Term Conditions (2025) | Future Conditions (2040) |
| AM Peak | Westbound | 5:30 | 7:03 (+28%)* | 10:40 (+94%) | 7:22 | 9:55 (+35%) | 14:43 (+100%) | 5:45 | 7:15 (+26%) | 11:36 (+101%) |
| | Eastbound | 4:39 | 4:43 (+1%) | 4:41 (+0%) | 6:01 | 6:39 (+11%) | 6:22 (+6%) | 5:26 | 6:03 (+11%) | 5:48 (+7%) |
| PM Peak | Westbound | 5:05 | 5:24 (+6%) | 8:08 (+60%) | 6:43 | 7:40 (+14%) | 12:33 (+87%) | 6:09 | 7:12 (+17%) | 11:45 (+91%) |
| | Eastbound | 4:22 | 4:24 (+1%) | 4:28 (+2%) | 4:43 | 4:40 (-1%) | 5:05 (+8%) | 4:20 | 4:26 (+2%) | 4:34 (+5%) |

Note: Percent change is difference between Near-Term Condition and Future Condition compared to Pre-Pandemic Condition

# Recommendation

- Alternative B is recommended
  - Nominal projected increases in travel time, vehicular delay, and queueing of vehicles at the intersections in the near term (2025) conditions
  - More manageable increases in travel time, vehicular delay, and queueing of vehicles at the intersections in the future term (2040) conditions
  - Improves local bicycle circulation between May Road and Castro Ranch Road
  - Expected traffic calming due to lane reduction



# Next Steps

- Conduct online survey
  - Survey will be open until January 24, 2024
  - Survey Link: https://forms.gle/tB3B7qz59e3J2ii6A
- Report results to community after close of survey
- If supported by community and Board of Supervisors, grant funding will be pursued to install road diet or wait to implement during next road surface treatment
  - Project Cost: $3.21M

QR Code to Online Survey

# Q&A & Open Discussion