



# CONTRA COSTA COUNTY

## AGENDA

### Iron Horse Corridor Management Program Advisory Committee

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**Monday, February 10, 2025**

**4:30 PM**

**255 Glacier Drive, Martinez  
Conference Room A**

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Agenda Items: Items may be taken out of order based on the business of the day and preference of the Committee

#### AGENDA

1. Roll Call and Introductions

Public comment on any item under the jurisdiction of the Committee and not on this agenda (speakers may be limited to two minutes).

Attachments for February 10, 2025, Iron Horse Corridor Management Program Advisory Committee meeting. [25-464](#)

**Attachments:** [ATTACHMENT A-Record of Meeting 2024-11-07.pdf](#)  
[ATTACHMENT B FY 24-25 IHC Acctg 2nd Qtr Final.pdf](#)  
[ATTACHMENT C IHC Current Projects 2025-02-10.pdf](#)  
[ATTACHMENT D](#)  
[BOLLARD-REPORTIHT-DANVILLE-FEB-1-2023.pdf](#)  
[ATTACHMENT E Mobility Mode Element v3.pdf](#)

#### CONSENT ITEMS

Consent items are routine items handled together in one action. Any committee member or member of the public may request an item be removed from the Consent section for discussion as an individual item.

2. Accept record of November 7, 2024, meeting (Attachment A)

#### REPORTS FROM COMMITTEE MEMBERS AND STAFF

3. Review IHC Trust Fund Fiscal Year Report (Attachment B) (5 minutes). Staff will provide the committee with Trust Fund expenditures and anticipated revenues.

4. Reports from Committee Members and Staff (Attachment C) (10 minutes). Staff will provide the current list of IHC staff projects and their status.

**DISCUSSION/ACTION ITEMS**

5. Bollinger Canyon Pedestrian Bridge Construction (Chris Weeks).
6. Improving Safety on the Iron Horse Trail (Alan Kalin) (15 Minutes).
7. Implementing AB 1025 in the Iron Horse Corridor (Carl Roner) (Continuation).
8. Consider agenda topics and date for the next meeting (5 minutes).

The next meeting is currently scheduled for May 12, 2025.

**Adjourn**

The Committee will provide reasonable accommodations for persons with disabilities planning to attend the Committee meetings. Contact the staff person listed below at least 72 hours before the meeting. Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Committee less than 96 hours prior to that meeting are available for public inspection at 255 Glacier Drive, Martinez, CA 94553, during normal business hours. Staff reports related to items on the agenda are also accessible online at [www.contracosta.ca.gov](http://www.contracosta.ca.gov). If the Zoom connection malfunctions for any reason, the meeting may be paused while a fix is attempted. If the connection is not reestablished, the committee will continue the meeting in person without remote access. Public comment may be submitted via electronic mail on agenda items at least one full work day prior to the published meeting time.

For Additional Information Contact:

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# CONTRA COSTA COUNTY

1025 ESCOBAR STREET  
MARTINEZ, CA 94553

## Staff Report

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**File #:** 25-464

**Agenda Date:** 2/10/2025

**Agenda #:**

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Advisory Board: Iron Horse Corridor Management Program Advisory Committee

Subject: Attachments to February 10, 2025, meeting

Attachments to February 10, 2025, Iron Horse Corridor Management Program Advisory Committee meeting.

## Attachment A

Iron Horse Corridor Advisory Committee  
Record of November 7, 2024 Meeting  
PAGE 1 of 2

# MINUTES

**DATE:** May 7, 2024  
**TO:** Iron Horse Corridor Advisory Committee  
**FROM:** Carl J. Roner, Public Works Department  
**SUBJECT:** November 7, 2024 Meeting

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The following is a record of the Iron Horse Corridor (IHC) Advisory Committee meeting held on November 7, 2024, at Contra Costa County Department of Public Works, 255 Glacier Drive, Martinez.

**Members present:** Nazanin Shakerin (District II, remote), Andrei Obolenskiy (District IV), Charlie Neary, (Town of Danville), Anne Stuthers (Alamo, remote) Scott Perkins (City of San Ramon), Usama Farradj and Ben Guthrie, (City of Pleasant Hill), Lesley Hunt (City of Walnut Creek), Dave Kendall, (East Bay Regional Park District (EBRPD)),

**Staff present:** Carl J. Roner, (County Public Works Department), Steve Kovalewski, (County Public Works Department, Jen Quallick (District II), Lia Bristol (District IV Chris Weeks (City of San Ramon), Suzanne Wilson and Carlos Lare-Masters (EBRPD).

### 1. Open the meeting

Meeting called to order at 4:31 p.m.

### 2. Public Comment (Items not listed on the agenda)

a. None.

### 3. Approval of May 6, 2024 Meeting Minutes

Motion to approve the minutes. Motion passed with the following vote:

AYES: Shakerin, Struthers, Perkins, Neary, Farradj, Kendall, Obolenskiy, Hunt, Arnerich

NOES: None

ABSENT: MacKay

ABSTAIN: None

### 4. Review IHC Trust Fund Fiscal Year Report

Staff provided the Committee with Trust Fund revenue and expenditures. Funding has remained stable. The accounting report was approved and accepted by the Committee.

### 5. Reports from Committee Members and Staff

Carl Roner provided the current list of IHC projects and their status, including the Kinder Morgan Release in Walnut Creek and the status of trees in the IHC at Pleasant Hill Co-Housing (PG&E will not be removing the trees).

## **Attachment A**

Iron Horse Corridor Advisory Committee  
Record of November 7, 2024 Meeting  
PAGE 2 of 2

Chris Weeks from the City of San Ramon provided a brief update on the status of the Bollinger Canyon Pedestrian Bridge, which is under construction. Chris noted some of the traffic diversions that were associated with bridge construction.

### **6. Discussion/Action Items**

The committee discussed briefly the New and Emerging Mobility Modes in the Corridor Element.

### **7. Consider agenda topics and date for next meeting**

The next meeting date is August 5, 2024. Topics to be discussed include the status of PG&E tree removal near Pleasant Hill Co-Housing, and a continuation of the New and Emerging Mobility Modes in the Corridor Element discussion.

The meeting was adjourned at 5:30 p.m.

CJR

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DRAFT

**ATTACHMENT B  
IRON HORSE CORRIDOR ACCOUNTING**

**TRUST FUND 138800 ORG 0678  
Fiscal Year 2024-25**

**Fund Balance as of July 1, 2024**

**\$4,876,599.71**

(\$1,500,000 of the fund balance is held in investments)

**RECEIPTS**

Level 3 Communications Annual License Fees			
Interest on Investments	\$	34,770.69	
IHC (Parking Stalls)	\$	500.00	
Lease of Property (Keys Condo, etc)	\$	31,236.03	
Cratus License Agreement	\$	20,000.00	
Haley & Adrich License Agreement	\$	2,000.00	
Right of Entry Fees	\$	5,000.00	
Reimbursement, WO 5573	\$	579.70	
WO 5575 RW Admin	\$	10.50	
<b>Total Receipts as of 12/31/24 for Fiscal Year 2024/25</b>			<b>\$94,096.92</b>

**EXPENDITURES**

Investment Services	\$	60.00	
Work Order Charges:			
WO 5000 Iron Horse Records Survey	\$	2,208.87	
WO 5506 SPRW IHC License Agreement - Alamo	\$	822.53	
WO 5511 SPRW IHC License Agreement - Carey Dr.	\$	2,243.48	
WO 5549 IHC Bollinger Canyon Ped Bridge	\$	197.37	
WO 5571 SPRW IHC Tree Trimming	\$	1,082.17	
WO 5573 SPRW License Agreement	\$	20,436.25	
WO 5575 SPRW Right of Way Admin/Mtce	\$	70,216.51	
WO 5577 SPRW IHC Mtce Requests	\$	68,115.48	
WO 5578 SPRW IHC Mowing	\$	119,658.70	
WO 5580 IHC Double Tracking Dsgn	\$	10,096.49	
WO 5585 SPRW IHC Encroachment	\$	1,442.13	
WO 5597 SPRW IHC GIS Layer	\$	380.99	
<b>Total Expenditures as of 12/31/24 for Fiscal Year 2024/25</b>			<b>\$ 296,960.97</b>

**Fund Balance as of 12/31/24 for Fiscal Year 2024/25**

**\$4,673,735.66**

LAST UPDATE	PROJECT NAME	TYPE OF PROJECT	LOCATION	DESCRIPTION	STATUS
8/9/2022	Encroachments	Trees, fences, bridges, pavers, etc.	Corridor-wide	Staff continues to find encroachments in the IHC, and sends letters to property owners to remove them. If the encroachment is a fence that is not encroaching on Kinder Morgan's easement, the property owner will be required to enter into a license agreement and pay an annual fee for the encroachment to remain.	Staff is continuing to work with property owners in Pleasant Hill, Alamo, Danville and San Ramon. New encroachments are addressed as they become apparent (Ongoing.) Currently working on a license agreement with the Assembly of Alamo (church).
2/26/2024	City of Concord Monument Bikeway	License Agreement	Monument Boulevard to Mayette	City of Concord received a grant to construct a 1.1 mile long, 12 foot wide, asphalt paved pedestrian and bikeway within the County right-of-way. The County will enter into a license agreement for the City to maintain the improvements. The City and County are working with DTSC to obtain approval for mitigating the arsenic as part of the project.	Email request sent to Real Property on January 3, 2019 to draft License Agreement Amendment with the City of Concord that will transfer to Concord the responsibilities of recurring inspections and reviews of the draft Land Use Covenant with the Department of Toxic Substances Control. Monument Corridor Shared Uses Trail License Agreement Amendment (with the City of Concord) is currently under review by County Counsel. The amendment will transfer reporting responsibilities stipulated in the draft DTSC "Covenant to Restrict Use of Property" to the City of Concord. The County is waiting for DTSC to finalize this document.
8/9/2022	Flood Control Line F1	Storm Drain	Alamo: between South Avenue and Las Trampas Road	The purpose of this project is to address flooding at the intersection of South Avenue and La Serena Court. The proposed project will construct a drainage line that will connect with the existing drainage network and reduce flooding in the area. The newly created drainage line (Line F-1) will consist of a 24" to 30" pipe that will run along the Iron Horse Trail Corridor from existing line Line "F" at Las Trampas Road (1300 ft.), to the intersection of South Avenue. From this point the pipe will extend another 180 ft. to the southwest, to the intersection of South Avenue and La Serena Court where two drainage inlets will be constructed. (Fig.1) Line F-1 will be added to Drainage Area 13.	Flood Control has finalized pipe alignment working with utility agencies (i.e., Kinder Morgan, CCCSD, EBMUD.) The preferred alignment is between KM line and CCCSD line. The design request is being finalized and will next be sent to the Design Division. (No change.)
1/24/2019	Move IHC Record of Survey to a GIS Layer	Administrative	Corridor-wide	The existing Record of Survey CADD files showing all current easements, license agreements, etc. were updated. Staff is now working on conversion to a GIS layer.	Survey has created a KMZ index for the ~100 sheets of the IHC records of surveys. These currently link to an archive on the G drive and Surveys has created another version with the links to point to the public portal (LaserFiche) locations. (Ongoing.)
4/26/2013	Risk Assessment	Administrative	Corridor-wide	The County contracted with ENGEO to perform a risk assessment for the IHC. This assessment will include assembling all sampling data for the IHC, identify areas that have no sampling data and make recommendations on what use can be allowed/not allowed.	ENGEO gathered data. Staff will request County Haz Mat to review/approve recommendations so that staff and the advisory committee will have this information to respond to requests for improvements within the IHC. Ongoing.
4/8/2024	Kinder Morgan Release on South Broadway, Walnut Creek	Ongoing soil and groundwater remediation	Walnut Creek	Ongoing investigation and remediation work in Walnut Creek over release plume.	Arcadis, Kinder Morgan's consultant, conducted a pilot test in August 2023. Air sparging/soil vapor extraction was not particularly effective in cleaning up the site. The RWQCB has approved monitoring and natural attenuation as a potential remediation method. They will be evaluating this over the next few months. (Ongoing) Floating product continues to be found in the immediate vicinity of the spill, but has mostly dissipated at any distance from the spill site. Petroleum products are not being found in surface water.

# Improving Safety on the Iron Horse Trail Danville, California Bollards, Bicycles & Pedestrians



February 1, 2023

## Executive Summary

This report focuses on and identifies safety hazards posed by the dull dark brown bollards on the Iron Horse Trail in Danville, California. Bollards are 4" PVC posts placed in the middle of the trail to discourage unauthorized automobile traffic, but they create a barrier for bicycle and pedestrian traffic, are a potentially deadly hazard for cyclists, and are difficult for cyclists and motorists to see.

The existing bollards were installed many years ago when modern trail standards and guidelines were in their infancy. We propose that the East Bay Regional Park and the Town of Danville create an active partnership to improve the safety conditions on the trail, especially at street crossings where the bollards are installed, by following recommendations from the 2020 CalTrans Highway Design Manual (Chapter 1000) and the City of Oakland.

- Paint the bollards a bright yellow color and add at least two levels of reflectorized tape.
- Paint 10 ft yellow diamonds on the pavement up and downstream of each bollard.
- Use bollards that will break or bend at ground level when struck by a cyclist.
- Reinstall bollards so there is never more than one in the lane of travel (i.e., two travel lanes).



- Reinstall bollards so there is at least 60 inches between the bollard and the adjacent fence post or gate.
- Remove standalone bollards from the trail.
- Create a bollard standard so that trail users and motorists can more easily recognize the barrier.

## **Introduction**

Residents of Danville have the privilege of easy access to the Iron Horse Trail. The trail was established in 1986 and its bicycle and pedestrian facilities have been evolving and improving as the population of Danville grew from about 28,000 to 43,000 and traffic on the trail increased significantly. Today an average of about 700 bicycles per day travel the trail in Danville together with about the same number of pedestrians (ref. EBRPD data at Love Lane). We believe that safety improvements have not kept pace with increases in trail use and local population.

On April 23, 2022, Rob Reyes (photo below) was killed when he crashed into a bollard while riding his bicycle with a group of friends on the West County Regional Trail in Santa Rosa.



In memory of Rob’s death and in order to reduce the risk of a similar occurrence, we decided to review the safety hazards and potential dangers that dull dark brown bollards pose to cyclists and other trail users on the Iron Horse Trail (IHT) from Hartford Drive to Fostoria Way in Danville. Details are provided in the attached Appendix. The dark brown bollards were installed by and are maintained by the East Bay Regional Park District (EBRPD).

## **Discussion**

Every year, hundreds of thousands of people travel on the IHT; from recreational cyclists to groups of cyclists riding to work, students riding individually or groups (bicycle trains) to one of the six schools located near the trail, friends chatting as they walk together, people exercising their dog(s) on leash, others off leash, solo/groups of joggers, and even the occasional person riding a horse. Plus, over the last few years, a new and growing category of trail users have become more common: electric bicycles (e-bikes) and electric scooters (e-scooters). We observed and spoke with a number of adults and children riding e-bikes and e-scooters on the IHT, including, for example, a SUPER 73 E-Bike (weight 73 lbs.) traveling at 28+mph and a FREEGO E-bike (weight 59 lbs.) traveling at 30+mph.

How many people use the IHT? East Bay Regional Park District maintains a trail user counter on the IHT at the Love Lane crossing. According to the data, from March 2019 to March 2020,

262,678 bicycles traveled on this section of the IHT. During a five-month period, from April to August 2020 a total of 155,987 bicycles passed the counter, a monthly average of 31,197 bicycles and a daily average of 1,000 bicycles. How many students use the IHT to ride to/from school? We looked at Charlotte Wood Middle School and counted bikes in a bicycle corral filled daily with approximately 160 bicycles, suggesting that 17% of the students ride a bicycle to/from school. How many students ride bicycles to/from the other five schools located near the IHT?

**The Problem with Bollards.** Cyclists frequently ride in small groups (peloton) chatting along the way. As a result, the front cyclist(s) often block the line of sight for cyclist(s) at the back of the peloton. Yes, front-middle cyclists should call out and/or provide hand signals notifying riders behind about hazards ahead. Unfortunately, noise, distractions, areas of shade, low visibility, fog, rain, twilight, hearing disabilities etc. all contribute to the cyclists near the back NOT hearing or seeing the warning and could easily result in a collision with the bollard.

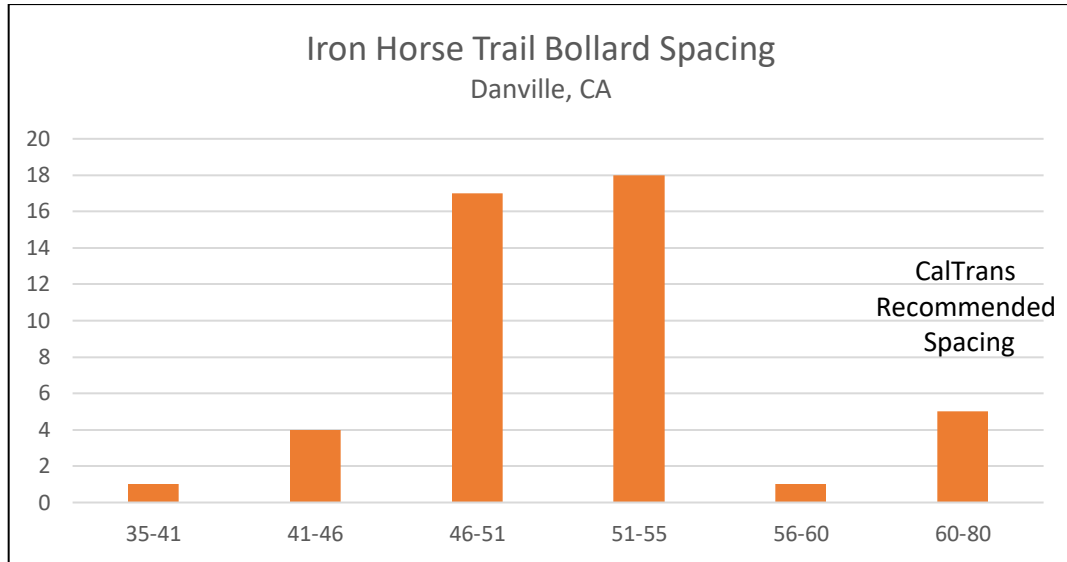


All the bollards on the IHT are 4” PVC pipes painted a dull dark brown with a single fluorescent strip of 4-inch tape near the top. None of these dark brown bollards are illuminated at night. This makes them hard to see in low light or bright sun/shade conditions. Some crossings have one bollard (two travel lanes) and some have two bollards (three travel lanes – photo above). None are marked on the pavement to warn trail users of their presence.

According to the CalTrans Highway Design Manual Chapter 1000; bollards should be “reflectorized for nighttime visibility and painted, coated, or manufactured of material in a bright color to enhanced daytime visibility.” The City of Oakland, Department of Transportation, Safe Streets Division Standards recommends that bollard’s locations have markings painted on the pavement to identify and establish bollard standards to educate and warn cyclists.

Additionally, the Highway Design Manual states “If the decision is made to add bollards, they should be spaced to leave a minimum of 5 feet of clearance of paved area between obstacles (measured from face of obstacle to face of adjacent obstacle).”

**The Problem with Bollard Path Openings.** There are 11 street crossings of the IHT in Danville, each side of which contain bollards, and 46 bollard path openings. Most of the bollard path openings are less than the 60” recommended by CalTrans (chart below).



According to our measurements, 41 (89%) of the 46 bollard path openings (photo below) were significantly below the minimum 60-inch distance for bicycles to pass between safely. In fact, almost half of the 46 bicycle path openings were 35” to 50” wide.



**The Problem with Bollard Visibility.** At certain times of the day, the dull dark brown bollards seem to blend into their surrounding and become camouflaged (photo above & two photos below). This is especially the case in shady areas on a bright sunny day, and during times of low visibility such as fog, rain and twilight hours. Dark brown bollards are a Clear and Present Danger to cyclists who ride in a group, especially those at the back of the group where their line of sight is blocked by riders ahead and groups of pedestrians walking on the trail. The dark brown color significantly increases the probability of collisions, injuries and possible fatalities (photos below).

West Prospect Ave (South side) - Single & Double Bollards



San Ramon Valley Blvd (South side) – Single Bollard



**The Problem with Multiple Bollards.** The Highway Design Manual discourages multiple bollards: “If the decision is made to add bollards, an odd number of openings increase the risk of head-on collisions if traffic in both directions tries to use the same opening.” Several of the IHT crossing locations had an odd number of path openings between bollards (photo below). The occasional 3-path bicycle openings significantly increase the probability of a cyclist colliding with another trail user or colliding with a bollard and being seriously injured or killed.



**The Problem with Standalone Bollards.** Standalone single bollards in the middle of the trail located in areas that seem unnecessary present an additional hazard to unsuspecting cyclists (photo below). As cyclists approach an intersection, they are constantly multitasking, looking left and right for vehicles and attempting to make eye contact with motorists, pedestrians, joggers, dog walkers and other cyclists. They are NOT expecting see a standalone bollard in their path.



**American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, 2012 (Fourth Edition).** “The routine use of bollards and other similar barriers to restrict motor vehicle traffic is not recommended.” “Bollards should not be used unless there is a documented history of unauthorized intrusion by motor vehicles.

**Contra Costa County Active Transportation Corridor Study, June 2020.**

“Bollards or other barriers should not be used unless there is a documented history of unauthorized intrusion by motor vehicles.”

**Press Democrat Newspaper:** “The controversial poles along Sonoma County’s bike path have been repainted and striped yellow (photos below) to the paths safer after a **cyclist crashed into one and died in August.**”



## Conclusion

East Bay Regional Park and the Town of Danville should partner to improve safety conditions on the trail, especially at street crossings where bollards are installed. Recommendations from the 2020 CalTrans Highway Design Manual (Chapter 1000) and City of Oakland should be followed.

- Paint the bollards a bright yellow color and add at least two levels of reflectorized tape.
- Paint 10 ft yellow diamonds on the pavement up and downstream of each bollard.
- Use bollards that will break or bend at ground level when struck by a cyclist.
- Reinstall bollards so there is never more than one in the trail (i.e., two travel lanes).
- Reinstall bollards so there is at least 60 inches between the bollard and the adjacent fence or gate.
- Remove standalone bollards from the trail.
- Create a bollard standard so that cyclists can more easily recognize the hazard.
- Create a bollard standard so that motorists can more easily recognize them and NOT drive onto the trail.

Alan Kalin  
COL, USA (Ret.)

Bruce Bilodeau



# Appendix A

We examined and documented all eleven-road crossing on the Iron Horse Trail in Danville. The following comprehensive list explains the hazards at each one starting at the northern most crossing at Hartford Road and ending at the southernmost at Fostoria Way. All of the bollards are dull dark brown with a single strip of fluorescent tape at the top. None of the bollards had three strips of fluorescent tape and almost all were taller than the 42” required by EBRPD Standard Plans (10/01/2020).

- 1. Hartford Road IHT Crossings:** North Side has a single dark brown bollard (2-path opening) and the South Side has double dark brown bollards (3-path dangerous openings). Both sides are below the minimum 60” width recommendation. Notice the different size gates, resulting in the South Side having a 3-path dangerous opening.



2. **Del Amigo Road IHT Crossings:** North side single dark brown bollard (2-path opening). South Side Below dark brown bollard (2-path opening). Both sides are below the minimum 60" width recommendation.





3. **Love Lane IHT Crossings:** North and South sides single dark brown bollards (2-path opening). Both sides are below the minimum 60" width recommendation.



4. **Linda Mesa Ave Crossings:** North and South sides single dark brown bollards (2-path opening). Both sides are below the minimum 60" width recommendation.



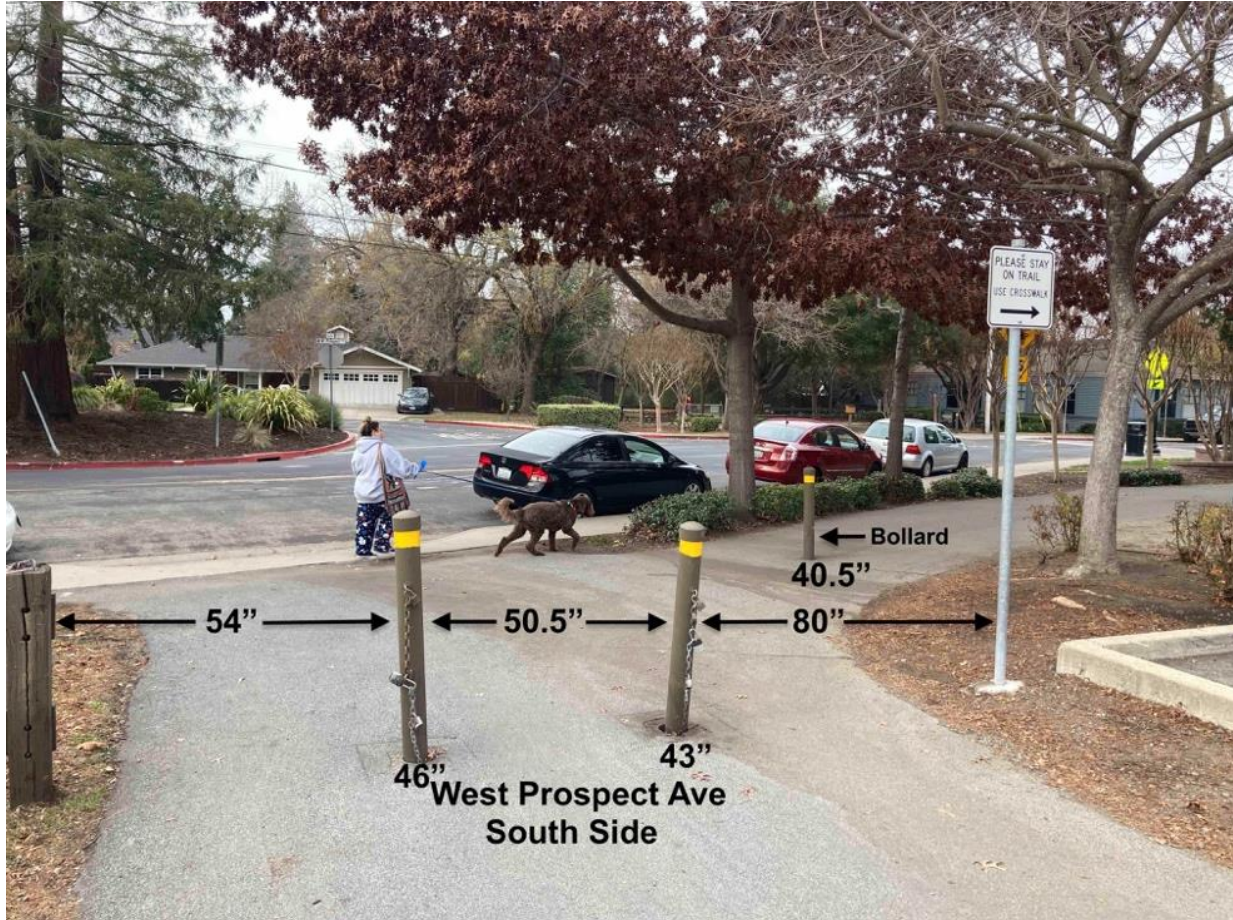
5. **West Prospect Ave IHT Crossings:** North and South Side have six dark brown bollards. The north side has a single bollard 2-path opening which meets the 60-inch minimum recommendation. But there are also two standalone single bollards at the crosswalk on both North & South sides, which present a hazard to unsuspecting cyclists.



Standalone single bollards in the middle of the trail located in areas that seem unnecessary present an additional hazard to unsuspecting cyclists (photo below).



The south side of West Prospect Ave shown below has a confusing and dangerous 3-path opening and an odd standalone single bollard. There should be one to two bollards centered on the driveway, approximately 10+ feet from curb (person walking). The left and center openings are below the minimum 60" width recommendation.



6. **San Ramon Valley Blvd IHT Crossings:**

The 3-path opening (photo below) is confusing, potentially dangerous and below the minimum 60" width recommendation. There is no need for bollards at this location. When the bollard on the left tilts toward the center, the distance between is 31".



The broken bollard (photo below) is a hazard for pedestrians and cyclists. There is no need for a bollard at this location.



The stand-alone single dark brown bollard below is dangerous and a collision waiting to happen and should be removed.



The 3-path opening (photo below) is confusing, potentially dangerous and below the minimum 60" width recommendation. There is no need for bollards at this location. Notice the single dark brown bollard in the background closer to San Ramon Valley Boulevard.



7. **Sycamore Valley Road IHT Crossings:** Even though the two-path openings meet the minimum 60” recommendation, is this single bollard really necessary at this location (photo below)? The large traffic light pole and the vertical electrical box block the opening of the path.



Notice the long red metal barrier-fence running parallel to Sycamore Valley Road with a locked vehicle access gate in the background, which provides access to the trail. Both sides are below the minimum 60” width recommendation. If vehicle access is blocked by the red fence and controlled by a locked gate, is the bollard (photo below) in the middle of the path really necessary?



8. **Paraiso Drive IHT Crossings:** North side single bollard (2-path opening). South Side dark brown bollard below (2-path opening). Both sides are well below the minimum 60" width recommendation. Reducing the width of the gate would allow for wider spacing between the bollards.





9. **El Capitan Drive IHT Crossings:** North side single dark brown bollard (2-path opening). South Side Below dark brown bollard (2-path opening). Both sides are below the minimum 60" width recommendation.



**10. Greenbrook Drive IHT Crossings:** North side single bollard (2-path opening). South Side bollard (2-path opening). Both sides are below the minimum 60” width recommendation. Reducing the width of the gate would allow for wider openings.



- 11. Fostoria Way IHT Crossings:** North side single dark brown bollard (2-path opening). South Side Below dark brown bollard (2-path opening). Both sides are well below the minimum 60” width recommendation.



## Appendix B

### References and Technical Specifications

1. CalTrans Highway Design Manual, Chapter 1000 - Bicycle Transportation Design (July 1, 2020), Section 1003.1 – Class 1 Bikeways

(17) *Entry Control for Bicycle Paths.* Obstacle posts and gates are fixed objects and placement within the bicycle path traveled way can cause them to be an obstruction to bicyclists. Obstacles such as posts or gates may be considered only when other measures have failed to stop unauthorized motor vehicle entry. Also, these obstacles may be considered only where safety and other issues posed by actual unauthorized vehicle entry are more serious than the safety and access issues posed to bicyclists, pedestrians and other authorized path users by the obstacles.

The **3-step approach to prevent unauthorized vehicle entry** is:

- (a) **Post signs** identifying the entry as a bicycle path with regulatory signs prohibiting motor vehicle entry where roads and bicycle paths cross and at other path entry points.
- (b) **Design the path entry** so it does not look like a vehicle access and makes intentional access by unauthorized users more difficult. Dividing a path into two one-way paths prior to the intersection, separated by low plantings or other features not conducive to motor vehicle use, can discourage motorists from entering and reduce driver error.

(c) **Assess** whether signing and path entry design prevents or minimizes unauthorized entry to tolerable levels. If there are documented issues caused by unauthorized motor vehicle entry, and other methods have proven ineffective, assess whether the issues posed by unauthorized vehicle entry exceed the crash risks and access issues posed by obstacles.

If the decision is made to add bollards, plantings or similar obstacles, they should be:

- **Yielding** to minimize injury to bicyclists and pedestrians who may strike them.
- Removable or moveable (such as posts, bollards or gates) for emergency and maintenance access must leave a flush surface when removed.
- Reflectorized for nighttime visibility and painted, coated, or manufactured of material in a **bright color** to enhanced daytime visibility.
- Illuminated when necessary.
- Spaced to leave a **minimum of 5 feet of clearance** of paved area between obstacles (measured from face of obstacle to face of adjacent obstacle). Symmetrically about the center line of the path.
- Positioned so an **even number of bicycle travel lanes** are created, with a minimum of two paths of travel. An odd number of openings increase the risk of head-on collisions if traffic in both directions tries to use the same opening.
- Placed so additional, non-centerline/lane line posts are located a minimum of 2 feet from the edge of pavement
- Delineated as shown in California MUTCD Figure 9C-2.
- Provide special advance warning signs or painted pavement markings if sight distance is limited.
- Placed 10 to 30 feet back from an intersection, and 5 to 10 feet from a bridge, so bicyclists approach the obstacle straight-on and maintenance vehicles can pull off the road.
- Placed beyond the clear zone on the crossing highway, otherwise breakaway. When physical obstacles are needed to control unauthorized vehicle access, a single non-removable, flexible, post on the path centerline with a separate gate for emergency/maintenance vehicle access next to the path, is preferred. The gate should swing away from the path.”
- When physical obstacles are needed to control unauthorized vehicle access, a single non-removable, flexible, post on the path centerline with a separate gate for emergency/maintenance vehicle access next to the path, is preferred. The gate should swing away from the path.

## 2. **American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, 2012 (Fourth Edition)**

- “The **routine use of bollards** and other similar barriers to restrict motor vehicle traffic is **not recommended**.
- Bollards should not be used unless there is a **documented history** of unauthorized intrusion by motor vehicles.
- Barriers such as bollards, fences, or other similar devices create permanent obstacles to path users.

- **Striping an envelope** around the approach to the bollard is recommend
- Bollards should be **set back** from the roadway a **minimum of 30 feet.**”

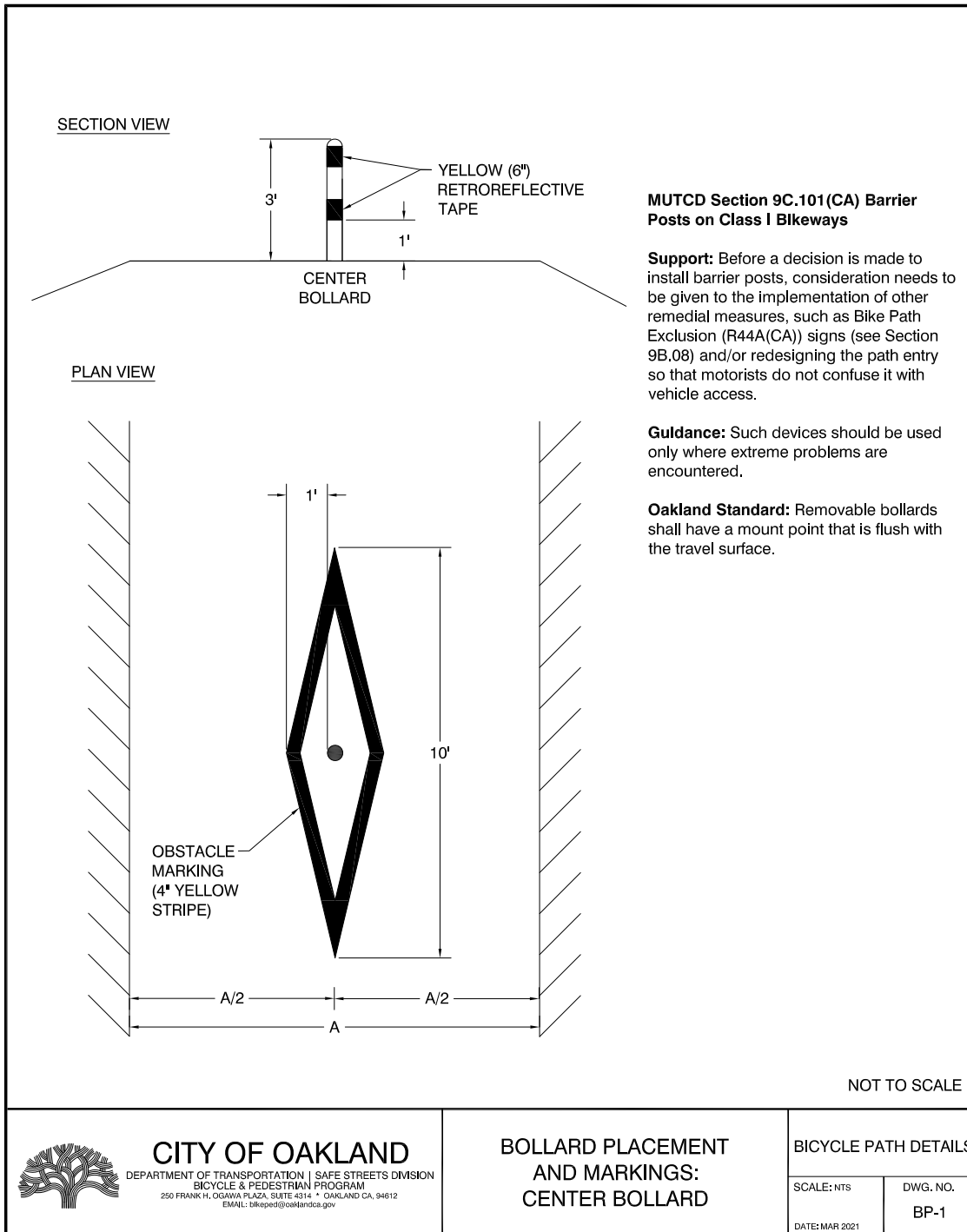
### 3. **Contra Costa County Active Transportation Corridor Study, June 2020**

- **“Bollards or other barriers should not be used** unless there is a documented history of unauthorized intrusion by motor vehicles.
- Bollards are physical barriers designed to restrict motor vehicle access to a multi-use trail. Unfortunately, physical barriers are often ineffective at preventing access, and create obstacles to legitimate trail users.
- Alternative design strategies use signage, landscaping and curb cut design to reduce the likelihood of motor vehicle access.
- No Motor Vehicles signage (MUTCD R5-3) may be used to reinforce access rules.”

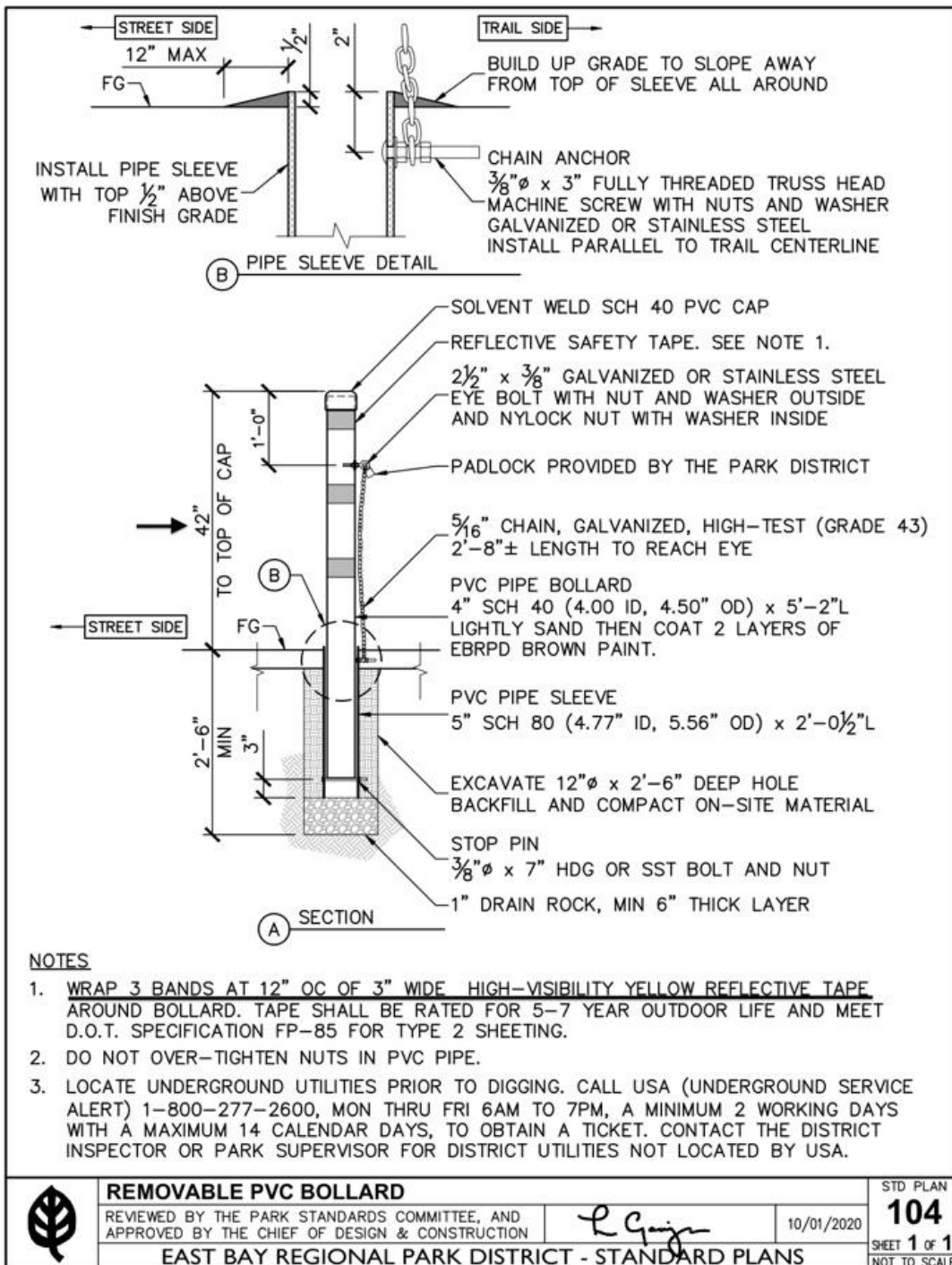
### 4. **Oregon Department of Transportation**

- **“Bollards** may be used to limit vehicle traffic on paths. However, they are **often hard to see**, cyclists may **not expect them** and **injuries result** when cyclists hit them. Overuse of bollards is a serious hazard to bicyclists and may prevent path use by trailers, wheelchairs and other legitimate path users.
- **In a group of riders**, the riders in the front block the visibility of those behind, setting up cyclists in the back of the pack for a crash.
- **Bollards should only be used when absolutely necessary.** When use, they must be spaced wide enough (min 5 feet) for easy passage by cyclists, bicycle trailers and adult tricycles as well as wheelchair users.
- **A single bollard is preferred**, a two may channelize bicyclists to the middle opening, with a potential for collisions.
- They should be not be placed right at the intersection, but set **back 20 feet or more**, so users can concentrate on motor vehicle traffic conflicts rather than avoiding the bollard.
- They should be **painted with bright**, light colors for visibility, illuminated and/or retro-reflectorized.
- **A striped envelope around the bollard** will direct path users away from the fixed object hazard.”

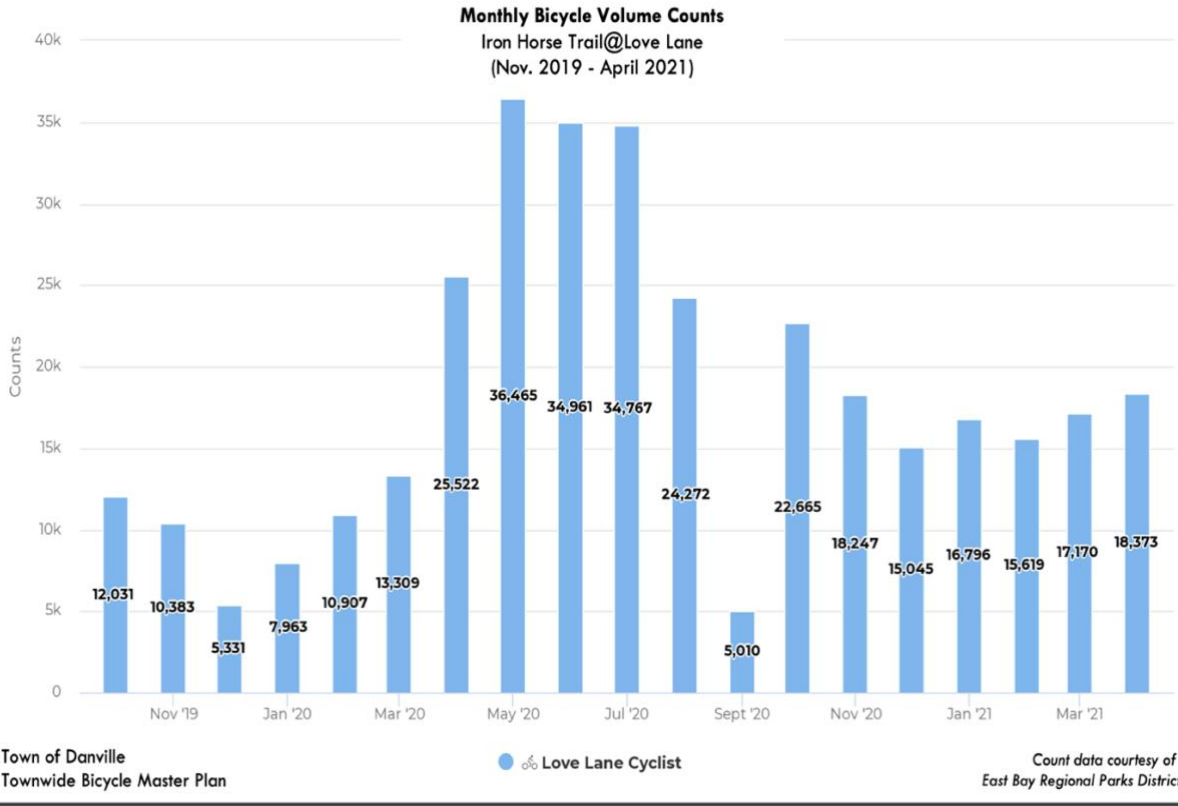
5. City of Oakland, Department of Transportation/Safe Streets Division



7. East Bay Regional Park District – Standard Plans



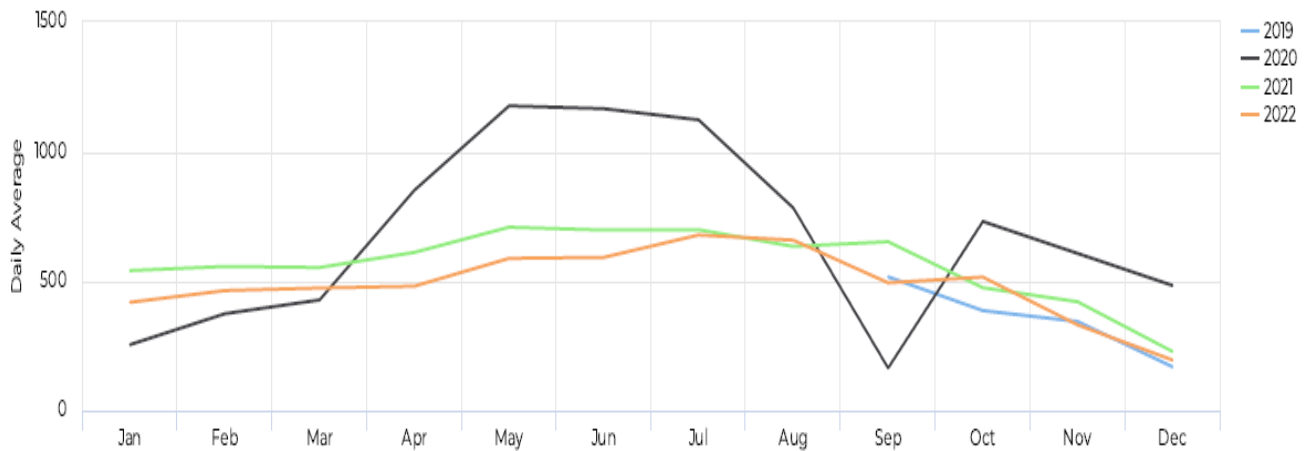
## 8. East Bay Regional Park District – Monthly Bicycle Volume Counts



## 9. East Bay Regional Park District Eco Visio Counter Report at Love Lane (12/28/22)

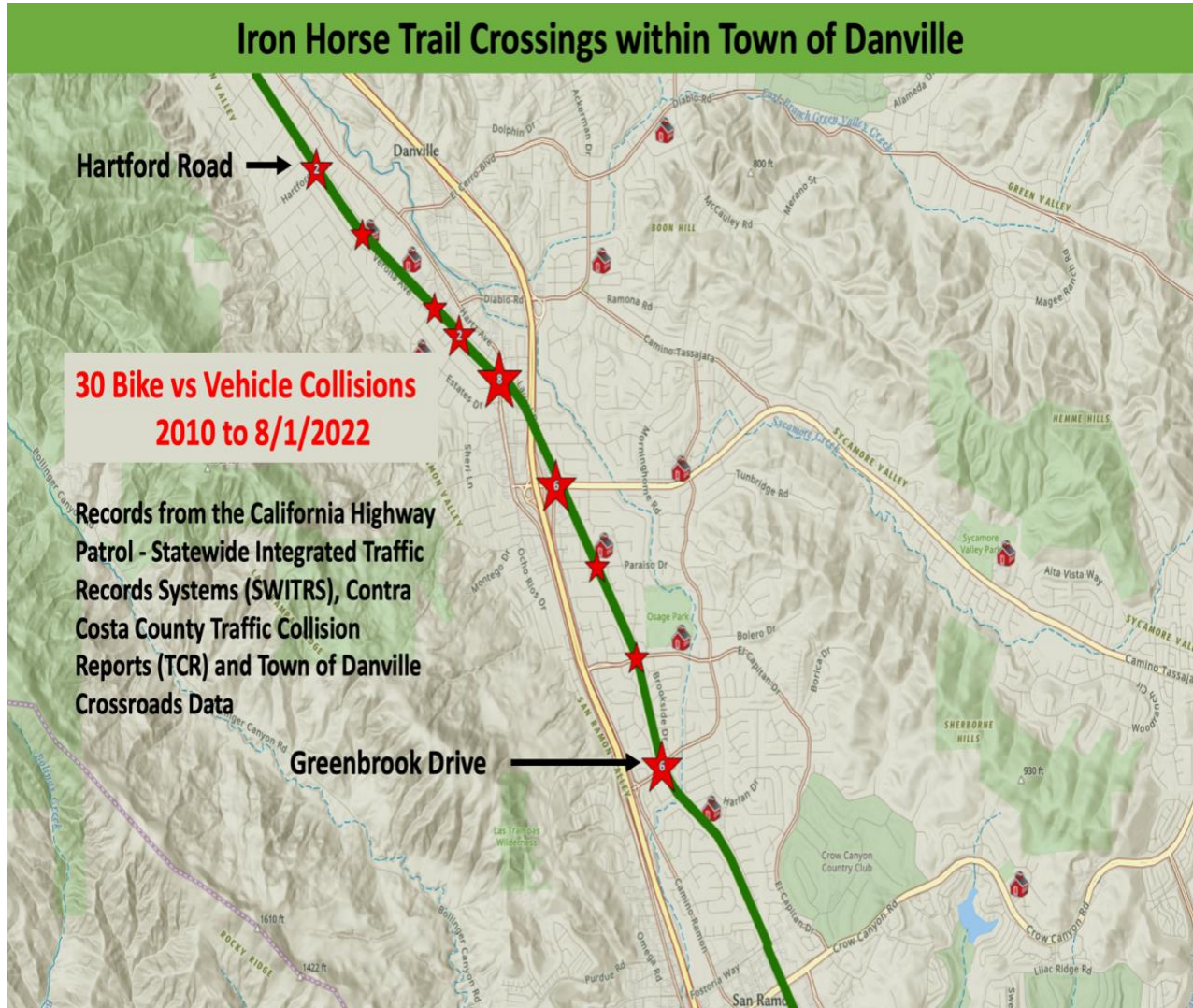
### Annual Comparison - Cyclists

01/01/2019 → 12/27/2022





## 10. Bike vs Vehicle Collisions (IHT from Hartford Road to Greenbrook Drive)



## Appendix C Healdsburg Tribune and Washington State Supreme Court Decision

### 1. Council Urges Action on Bike Path Bollards

#### FATALITY PROMPTS LOOK AT FOSS CREEK TRAIL OBSTACLES

By: CHRISTIAN KALLEN November 24, 2022 (Healdsburg Tribune)

When Santa Rosa chef **Rob Reyes** died on **Aug. 23** by colliding with a bollard along the **West County Regional Trail in Graton**, his friends, family and employees of the La Rosa restaurant he co-owned were shocked and even outraged that a “safety” feature could be fatal. So too were hundreds of local cyclists, the Sonoma County Bicycle Coalition and City Council member (and

vice mayor) Ariel Kelley. The cause of death was given as blunt force trauma to his chest, according to the Sonoma County Coroner's Office. At the Sept. 19 Healdsburg City Council meeting after the incident, Kelley said she uses the Foss Creek bike and pedestrian path daily, and asked that the city look into the **safety issues surrounding bollards in town, in particular on the Foss Creek Trail.**

Public Works Director and City Engineer Larry Zimmer undertook the "Use of Safety Bollards in Healdsburg" study, and had it prepared for discussion at the Nov. 7 meeting of the council. That meeting, however, was canceled by technical audio problems, and the topic was rescheduled for this past Monday's council meeting, Nov. 21. Zimmer's Public Works recommendation was surprising and straightforward: "Based on current Caltrans design standards, it is recommended that many of the **bollards on the Foss Creek Pathway can and should be removed.**" In most cases, only the center bollard needs to remain, said Zimmer, because bollards "make clear that vehicles are prohibited on the pathway, and prevent inadvertent entry.

"Additionally, the center bollard will be a physical means of indicating to cyclists they are entering a street and encourage slowing down," he continued. **Yellow striping would be added to the trail 40 feet before the obstacle and surrounding the remaining bollard,** which would be painted with reflective elements. That solution drew qualified support from Eris Weaver, the executive director of the Sonoma County Bicycle Coalition. In a letter to the council and public comment during Monday's meeting, she cited the same authority Zimmer did, the *California Manual on Uniform Traffic Control Devices*, but pointed out it recommends simple signage and redesigned path entry and other remedial measures before bollards are used. Their advice on bollards was that "Such devices should be used only where extreme problems are encountered."

**"Bollards should be the last resort;** instead, we've stuck bollards everywhere as a first resort," Weaver told the council on Monday. "There is no good data regarding the statistical risk of injury from colliding with a bollard versus the risk of being struck by a driver on a bike path," she wrote in her earlier letter to the city. "Anecdotally, while I've heard many stories about cyclists colliding with bollards, I've not heard any locally about vehicles driving on paths."

Though Weaver's informed testimony was valuable, Zimmer's obligation to run a public works department put less emphasis on immediacy and more on process. Still, her recommendations and his were not that far apart. **Zimmer's study suggested removing all but one bollard, in the center of the bike lane, in most locations where multiple bollards are currently in use.** One single example where Zimmer favored leaving a bollard in place, at a footbridge over Foss Creek adjacent to Grove Street, drew the most attention in the meeting, possibly because the location is not far from the City Council Chambers and familiar to city staff.

Zimmer's argument for retaining the bollards—one at each end of the small bridge—was that the footbridge was narrow, not designed for heavy loads, and any vehicle that tried to cross could cause extensive and expensive damage. But the only way a vehicle could get on the path would

be to enter it illegally from an unmarked driveway off Grove Street near the Montessori School in the first place. Why not block access to the trail at that point with bollards? asked Kelley. Though Zimmer expressed caution and was doubtful such an obstacle would be simple, he agreed to consider it. The council and he agreed too and agreed to remove the bridge bollards but increase signage and striping to call attention to the crossing. “Council felt that the tight bridge crossing and the path curvature warranted their removal,” summarized Zimmer the next day. “Their conclusion is logical, and I cannot disagree.”

The biggest disconnect appeared to be the timeline Zimmer recommended versus the heightened awareness and concern over the risks. He presented a projection that removing about 25 bollards and adding appropriate striping would cost \$55,000. Any alternatives to the recommended project “will result in changes to that estimate,” such as an additional \$35,000 if new flexible bollards were called for. The Public Works proposal suggested delaying the project until it could be scheduled and fit within the department’s contracted work, which would delay any work until Fiscal Year 2023-24 at the earliest, and possibly a year beyond that.

“Since these bollards have been in place for many years, it is not considered urgent to replace them immediately, but that the work can be budgeted and scheduled for a future fiscal year,” read the report. While four council members were generally supportive of Zimmer and his report, Kelley led the charge to encourage a sooner response than a later one. “I’d love to see this proceed swiftly. I know that often it takes a really long time to get things in motion. So even if we did try to calendar it for down the road, it sometimes even gets kicked further down the road.”

Mayor Ozzy Jimenez agreed, saying “doing and starting this as soon as possible is something I’d be interested in.” Councilmember Evelyn Mitchel asked if there were funds and human resources available to start the work sooner than the next budget cycle, and Assistant City Manager Andrew Sturmfels said there was a balance in Measure T funds that could be accessed. (That measure uses a half-cent sales tax to fund public safety.)

That became the council’s direction to Zimmer—start making plans for bollard removal to begin in the spring, as soon as resources are rescheduled and a budget amendment could be passed to enable Measure T funds. “This is a great opportunity to demonstrate our desire to be a more bike-friendly community,” said Kelley, “and prioritize the safety of our cyclists and pedestrians.” “I’m glad that the council asked that the poles on the bridge near Grove Street be removed,” said Weaver the next day. “The approved action will, I think, be an improvement, offering a little more space for cyclists to maneuver and making the poles more visible.”

But she said the action fell short of her hopes for a comprehensive study of the use of bollards, which would have required additional study—and funds.

## 2. **Davis Law Group Wins Washington Supreme Court Case on behalf of Severely Injured Bicyclist (Updated on: 9/26/2022)**

The Washington Supreme Court issued an [important decision](#) Thursday morning in relation to a lawsuit that Davis Law Group filed nearly five years ago on behalf of a **man who was paralyzed after a serious bicycle collision in King County in 2017**. Our client, Carl Schwartz, was riding his bicycle on the Green River Trail in Tukwila, Washington on 2017 when he came upon a single unmarked **bollard** installed in the middle of the trail that he could not see because it **blended into the background**. **King County failed to mark the bollard** in accordance with federal safety guidelines, despite the fact that it adopted the guidelines years earlier but decided not to implement them, and Mr. Schwartz suffered life-changing injuries as a result. Mr. Schwartz never saw the bollard when he collided into it.

The impact not only destroyed his bicycle but left him a quadriplegic. Davis Law Group's investigation showed that other trail users complained about the bollard several years earlier. One person painted warnings on the pavement to alert other cyclists about the bollard's existence.

Davis Law Group filed a lawsuit against King County alleging that the **bollard was an extreme hazard to trail users**, the County knew this fact and failed to follow federal guidelines by adequately marking the bollard so it could be seen. The County denied any wrongdoing and asserted its was immune from responsibility under Washington's Recreational Immunity statute. That law protects landowners who furnish their property for the public's recreational use. Schwartz argued that there is an exception to the Recreational Immunity statute if the condition on the land was a known dangerous artificial latent condition. The County's motion for summary judgment dismissing the case was granted by the trial court. Schwartz appealed to the Court of Appeals which ruled in his favor. The County appealed to the Washington Supreme Court which ruled 5 to 4 in favor of Schwartz.

The **Court ruled** that Schwartz had presented substantial evidence to show that the **bollard was a known dangerous artificial latent condition**. The case goes back to Pierce County Superior Court for a **new trial date**.

## **Iron Horse Corridor Management Program**

### **New and Emerging Mobility Modes in the Corridor Element**

#### **Vision**

The New and Emerging Mobility Modes in the Corridor Element of the Iron Horse Corridor Management Program is intended to comply with Assembly Bill No. 1025 (AB 1025), which states:

SEC. 2 (a) The County of Contra Costa shall do both of the following:

- (1) Revise the bylaws of the Iron Horse Corridor Management Program Advisory Committee to include a seat for a Contra Costa Transportation Authority representative and expand the management program elements to include a new, seventh element that considers proposals to study new and emerging mobility modes and technologies in the corridor.
- (2) Include a new task in the committee's work program to recommend a framework for acting on the proposals.

This document outlines the scope of this element and how the Iron Horse Corridor Management Program Advisory Committee (IHCMPAC) should address any proposals for new mobility modes in the Iron Horse Corridor (IHC or corridor).

In responses to AB 1025, a Contra Costa Transportation Authority (CCTA) representative was appointed to the IHCMPAC effective February 2, 2021.

#### **Background**

In 1978, Southern Pacific Railroad (SPRR) received federal permission to abandon the rail line that once ran along what is now Contra Costa County's (County) IHC property. The IHC stretches 18.5 miles from the Alameda County line northward to Mayette Avenue in Concord. It passes through the communities of Concord, Pleasant Hill, Walnut Creek, Alamo, Danville, and San Ramon. Adjacent property use is both residential and commercial along the IHC.

To facilitate the purchase of the IHC, the County obtained \$10.6 million in grant funding from the state to launch a feasibility study and pay for the partial acquisition in fee title of the SPRR's property. To comply with the terms of the state grants that the County received, the County was required to preserve a 34-foot-wide transit corridor easement for a busway or exclusive mass transit guideway within the corridor. No building or planting projects that would impair the ability to implement a busway or transit guideway were allowed to be implemented in the IHC.

In 1986, the County entered into a license agreement with the East Bay Regional Park District (EBRPD) to operate a 10-foot-wide paved multiuse trail in the IHC called the Iron Horse Regional Trail (IHRT). The IHRT has been expanded northward to include Contra Costa County Flood Control and Water Conservation District (Flood Control) property along Walnut Creek terminating at Marsh Drive, near Highway 4. The trail has also been expanded southward into Alameda County, passing through the City of Dublin before terminating in City of Pleasanton. However, the scope of this element is strictly within the County.

The IHRT connects to a number of EBRPD trails running east and west but remains the sole regional connector trail in the north-south direction in central County. It connects to two Bay Area Rapid Transit (BART) stations at Contra Costa Centre/Pleasant Hill and Dublin/Pleasanton, thus providing a vehicle-free commuting route through the central part of the County.

The IHC is typically 50 to 100 feet wide. In Walnut Creek, the IHC narrows down to the width of the EBRPD trail from Civic Park to Rudgear Road along Flood Control's San Ramon Bypass channel and the City of Walnut Creek's South Broadway roadway (1.8 miles). Similarly, in Danville, the IHC from West Prospect Street south to San Ramon Boulevard is only 30 feet wide.

With the implementation of AB 1025 in 2019, the requirement to maintain space for busway or transit guideway in the IHC was removed, with the understanding that proposals for new mobility modes would be considered by the IHCMPCAC.

Aside from EBRPD's IHRT, much of the IHC property currently remains relatively undeveloped at the surface. The City of San Ramon and the Town of Danville maintain by agreement with County several small rest areas with shade, benches and drinking water in their respective areas. County Service Area R-7 maintains Hemme Station Park adjacent to the IHC in Alamo with restrooms, drinking water, a children's playground, and some bicycle facilities. Civic Park in the City of Walnut Creek provides restrooms and drinking water.

A number of underground utilities are present in the subsurface of the IHC and include the following:

- Kinder Morgan Energy Partners LP (SFPP L.P.) (petroleum products pipeline)
- Central Contra Costa Sanitary District (CCCSD) (wastewater pipeline)
- East Bay Municipal Utility District (EBMUD) (water pipeline)
- Pacific Gas and Electric (PG&E) (gas and electrical service)
- Dublin San Ramon Services District (DSRSD) DSRD/EBMUD Recycled Water Authority (DERWA) (recycled water pipeline)
- Level 3/Century Link (Formerly Time Warner) (cable and communications)

- Contra Costa Water District (CCWD) (water pipeline)
- AT&T (Formerly SBC, PacBell) (cable and communications)
- Astound Broadband (cable and communications)

Underground utilities are a significant constraint in the IHC and frequently have strong easement rights.

### **What are New and Emerging Mobility Modes and Technologies and How are They Impacting the IHC?**

Originally, the IHRT in the IHC was envisioned and built to serve equestrians, pedestrians, and cyclists. The use of e-bikes and e-scooters, which are new mobility modes, was not anticipated. In 2019, EBRPD approved the use of Class I and II electric bicycles on the IHRT. Subsequently, these new mobility modes, coupled with the increased use of the trail by pedestrians and cyclists during the COVID19 pandemic, have begun to exceed trail capacity in areas. Furthermore, these new mobility modes frequently are in conflict with pedestrian use of the trail. To accommodate emerging multimodal transportation options, several engineering constraints with the IHC will need to be addressed.

While the authors of AB 1025 had envisioned potentially using the IHC for autonomous vehicles or similar mass transit modes, it is evident that the current trail system requires expansion to safely accommodate all current modes of transportation—including equestrians, pedestrians, bikes, e-bikes and e-scooters—while minimizing conflicts and supporting a sustainable multimodal future.

### **Consideration of Proposals to Study New and Emerging Mobility Modes and Technologies in the Corridor**

The IHCOMPAC will review any proposals put forth by the County, Contra Costa Transportation Authority (CCTA), or a Joint Exercise of Power of the County or CCTA and any other governmental organization for new and emerging mobility modes in the IHC. If the proposal is acceptable to the IHCOMPAC, a recommendation to elevate the proposal to the Contra Costa Transportation, Water, and Infrastructure Committee (TWIC) would be made. If the proposal is approved by TWIC, it would be sent to the Board of Supervisors for approval.

As of 2023, the County Supervisor for District II, Candice Andersen, has proposed that the Department of Conservation and Development (DCD) and the Department of Public Works (PW) begin design for adding a second pathway to the IHC to separate pedestrians from bikes, e-bikes and e-scooters in San Ramon. This work has been initiated, with PW extending a task order to one of our on-call consultants to prepare

bid documents for the double tracking project. This project will extend from Bollinger Canyon Road to Crow Canyon Road in San Ramon.

Criteria that the IHCMPAC will consider when reviewing the feasibility of a proposed change to the mobility modes in the IHC, such as the one noted above, generally fall into seven categories. Proposals for new mobility modes shall address the following items:

1. Funding for the IHC to implement construction and ongoing maintenance improvements;
2. Planning and design/engineering considerations and constraints, especially regarding available space, utilities, and potential soil contamination in the IHC;
3. Adjacent housing and development considerations, such as access and trail capacity, for the IHC;
4. Maintaining and enhancing connections to schools while providing a safe environment for children using the IHC;
5. Providing park-related amenities, such as landscape, restrooms and drinking water, in the IHC;
6. Ability to accommodate additional proposed new mobility modes; and
7. Legal/liability issues associated with accommodation of the new mobility modes.

For each of the above seven categories, there are several issues that need to be addressed by the proposal. The IHCMPAC will consider each of the above-noted criteria in depth. Proposal submissions to the IHCMPAC will require a detailed set of plans and other documents to address the above-noted issues. Proposals will need to address the following:

### **1. IHC funding and ongoing maintenance of IHC improvements**

At present, County operations of the IHC are funded by interest on the IHC trust fund and fees paid by some utilities that have located recently in the corridor, which is very limited. Most (92.1% in 2024) of EBRPD's funding comes from property taxes, and their budget does not have funding for additional facilities in the IHC. Future accommodation of new mobility modes will need to consider the following financial issues:

- The proposal should describe the revenue sources available to fund construction and the ongoing maintenance of the improvements made for new mobility modes.
- The proposal shall include a cost-benefit analysis for the proposed mobility mode.

### **2. Housing and development considerations**



As cities along the IHC work to increase their housing stock, the zoning near the trail will change from industrial or commercial zoning to high-density residential, with a focus on minimizing automobile use. Increased housing near the IHC will impact trail use and the demand for recreation and commute facilities for bicycles, E-bikes, and pedestrians. Implementation of new mobility modes should consider the following regarding adjacent development projects:

- The proposal shall consider and address how the new mobility modes will serve new housing along the IHC. This may include potential cost sharing with developments for trail improvements.
- The proposal should discuss how the new mobility modes will be connected to the trail from new developments and should identify any barriers and potential solutions to these connections.
- The proposal should help prioritize improvements near transit hubs such as BART stations and Bishop Ranch to promote walking or biking on the IHT.

### **3. Maintaining and Enhancing Connections to Schools While Providing a Safe Environment for Children**

There are at least 12 public schools located either on or near the IHC. Every school day, hundreds of children use the trail going to and coming from school. Children often cross streets and spread out on the trail without looking. We need to make the IHC a safe place for children as they go to school. Implementation of new mobility modes should consider the following regarding schools.

- Potential conflicts between pedestrian and bicycle traffic to nearby schools. There is extensive use of the trail by children. Are more crossing guards and over/underpasses needed for children to safely cross streets or the trail?
- How would children safely cross the trail if a new mobility mode is added to the IHC?
- Do we need to create a safety area around schools? Would there need to be a mandatory speed limit for bikes and e-bikes during school commute hours to prevent conflicts between commuters and children?
- Is there a need for emergency call boxes near schools for safety and security purposes?

### **4. Providing Park-Related Amenities in the IHC**

Increased usage of the IHC may drive the demand for more park and recreational facilities, such as restrooms, tables and chairs, drinking water, and shade. The IHC in Danville and San Ramon has long stretches with little to no shade, which has long been

recognized as an issue. Implementation of new mobility modes should consider the following regarding parks and recreation:

- Will the mobility mode conflict with the recreational nature of the IHC?
- How will the County or other entities provide shade, water, restrooms and other recreational facilities along the IHC to accommodate the increased usage? What funds will be used to pay for these amenities?
- How will trees be managed in the IHC? Increasing trail capacity may require tree removal and replanting to provide shade. How will tree planting and replanting be managed, particularly in areas with existing utilities that are in conflict with trees?
- How will irrigation be provided to shade trees? Who will manage and operate the irrigation system (County or EBRPD)?
- How will conflicts between utilities and the need for shade trees be worked out?

## **5. Planning, Design/Engineering and Safety Considerations**

To accommodate emerging multimodal transportation options, several engineering constraints within the IHC will need to be addressed. These considerations include:

- What is the current capacity of the IHC? How will the new mobility mode change use of the IHC?
- What are potential conflicts of the proposed mobility mode with underground and aboveground utilities?
- Will the existing pathways in the IHC need to be realigned or relocated to accommodate the new mobility mode?
- What will be the impacts to motor vehicle traffic at road crossings?
- What is the expected quantity of soil remediation in the IHC that will be needed to accommodate the new mobility mode? Will remediation require excavation and disposal off-site?
- What are the potential conflicts between pedestrians and new mobility modes at overcrossings such as San Ramon's new overcrossing at Bollinger Canyon Road, Walnut Creek's overcrossing at Ygnacio Valley Road, and the County's overcrossing at Treat Boulevard?
- What are the impacts to creeks and IHC drainage?
- How will adding a second lane for bikes change street crossings and the warning signals that been set up at these crossings?
- High speed e-bikes are incompatible with slower pedestrians. How will they be kept separate?
- Where will the new mobility mode be located in those portions of the IHC that are narrow? Examples are the South Broadway area in Walnut Creek.

- There are limited width bridges over a number of creeks along the IHC. Will new bridges need to be built to accommodate the new mobility modes?
- The IHC underground is crowded with utilities, and this will impact our ability to put in an additional pathway for potential new mobility modes. There are issues with compacting over utilities that affect the longevity of the existing pathway.
- What happens to-at grade improvements when utilities construct new, larger pipes or replace existing facilities.
- There are portions of the IHC, such as at the Fostoria Crossing in San Ramon/ Danville, that need realigned to improve pedestrian safety.

## **6. Ability to Accommodate Proposed New Mobility Modes**

Given the limited width of the IHC, there is a limited ability to accommodate proposed mobility modes. Ability to accommodate a particular mobility mode will be dependent on the following:

- Proposed width of the mobility mode and impacts on other uses of the IHC.
- Conflicts with a potential second bicycle pathway and other proposed improvements to the IHC.
- Technology appropriateness (age of technology and application).
- Speed of the proposed mobility mode. Will the new mode exceed the allowable speeds on the trail or create a threat to trail users?
- Where is the most potential benefit to adding a new mobility mode (for example, a second trail)? San Ramon and Pleasant Hill, where development will occur? We need to build where the need is greatest.

## **7. Legal/Liability Issues**

Addition of a new mobility mode will create new risks and liabilities to the County and EBRPD. How will these be addressed?

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