

# COUNTYWIDE ACTIVE TRANSPORTATION PLAN



3

# COMMUNITY PROFILES

June 2019

# Acknowledgements

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Board of Supervisors

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AC Transit

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Bay Area Rapid Transit

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Board of Supervisors

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Board of Supervisors

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Board of Supervisors

Wilma Chan  
Board of Supervisors

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City of Albany

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City of Berkeley

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City of Pleasanton

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Carmela Campbell, City of Union City

### **Alameda CTC Staff**

Cathleen Sullivan  
Principal Transportation Planner

Aleida Andrino-Chavez  
Associate Transportation Planner

Chris G. Marks  
Associate Transportation Planner

### **Consultant Team**

Kittelson & Associates, Inc.

Erin M. Ferguson

Laurence Lewis

Amanda Leahy

Michael Sahimi

Mike Alston

Alex Garbier

Toole Design Group

Jessica Zdeb

Brooke DuBose

# Table of Contents

1	Introduction .....	4
2	Alameda .....	5
3	Albany .....	10
4	Berkeley .....	15
5	Dublin .....	20
6	Emeryville .....	25
7	Fremont .....	30
8	Hayward.....	35
9	Livermore .....	40
10	Newark .....	45
11	Oakland .....	50
12	Piedmont.....	55
13	Pleasanton.....	60
14	San Leandro .....	65
15	Union City.....	70
16	Unincorporated County.....	75



# 1 | Introduction

This book discusses biking and walking in Alameda County at the community level (cities and unincorporated County areas).

This book is organized by jurisdiction and presents the following:

- **Map Book** – We present a map book, displaying the following maps organized by jurisdiction and presented in the following sequence:
  - **Local Bicycle High Injury Network**
  - **Local Pedestrian High Injury Network**
  - **Barriers**
  - **Existing and Planned Bicycle Facilities**
- Discussion of Conditions – Following the map book, we discuss conditions within each jurisdiction, organized as follows:
  - **Local High Injury Networks** – An analysis of the roadway network within each jurisdiction was conducted to identify each jurisdiction's local bicycle and pedestrian HIN. These local HIN categorize collisions and roadways in the context of each jurisdiction's roadway network as opposed to the county-level HIN discussed in Book 2, *The State of Biking and Walking in the County*. The results of local bicycle and pedestrian analysis to develop the HIN are presented in the following percentile groups representing relative severity-weighted frequency:
    - 90th to 100th Percentile
    - 75th to 90th Percentile
    - 50th to 75th Percentile
    - 0 to 50th Percentile

The top tenth percentile represents the local HIN for each jurisdiction.
  - **Comfort and Connectivity** – Bicycle level of stress and connectivity within each jurisdiction are discussed. Existing and planned network analysis maps for each jurisdiction, based on the countywide map presented in Book 2, are provided in the appendices. Changes between existing and planned connectivity are also mapped and provided in the appendices.
  - **Major Barriers by Jurisdiction** – Major barriers in each jurisdiction are discussed, with detailed maps provided. This provides a more focused, local discussion of the major barriers that were mapped at the county level in Book 2.

## 2 | Alameda

### **Local High Injury Networks**

Approximately eight miles of the local roadway network in Alameda are considered part of the local bicycle HIN, and approximately eight miles are part of the local pedestrian HIN. Each represents approximately 4% of the local roadway network.

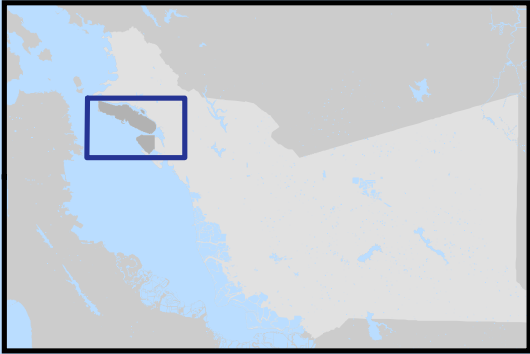
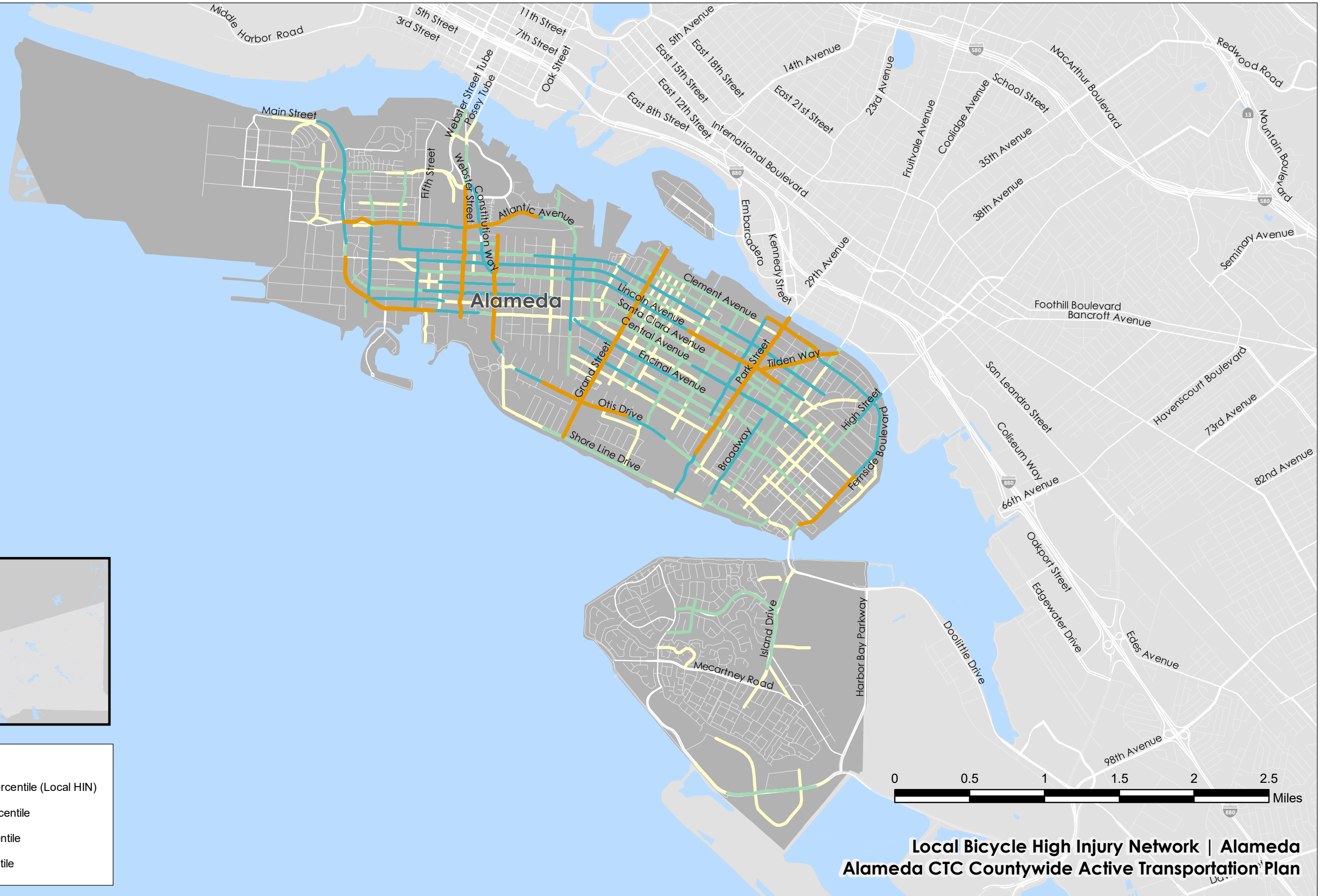
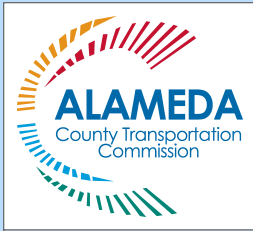
### **Bike Comfort and Connectivity**

Connectivity is generally low across the city, but better on portions served by several major trails such as on portions of Webster Street and around Shore Line Drive and Harbor Bay Parkway. Planned improvements would result in increased connectivity in the central portion of the city with its grid roadway network. Alameda will begin updating their local bicycle plan in July 2019, and one key goal is to create a connected network.

### **Major Barriers**

The major barrier to pedestrian and bicycle travel for Alameda is not within the city, but for access to and from Oakland. The Oakland Estuary currently has only four roadway crossings, with three clustered at the eastern end of the city. These three bridges provide sidewalks on both sides for pedestrians, and bicyclists are allowed as well, but only if walking their bikes. The Webster Tube connecting to downtown Oakland does not allow pedestrians or bicyclists, and while the Posey Tube does, it is a very narrow pathway in an enclosed motorist tube, and so creates an unpleasant and stressful experience. Alameda CTC is currently conducting the Oakland-Alameda Access Project which is exploring a limited set of options for improving pedestrian and bicycle connections in this area. The lagoons in south-central Alameda also create barriers which block north-south access.

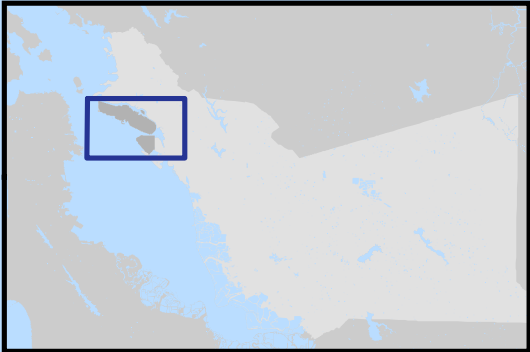
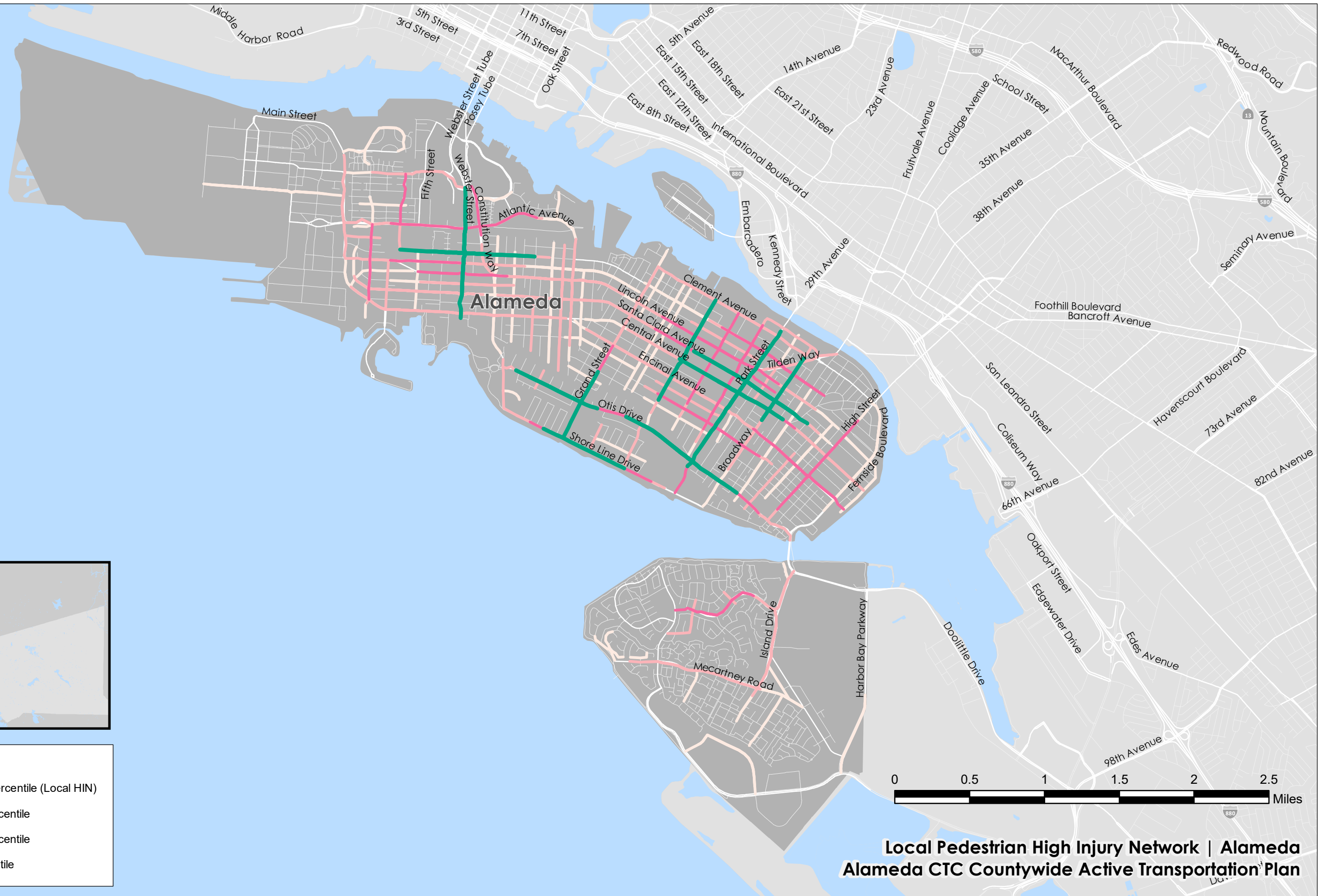




**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile

**Local Bicycle High Injury Network | Alameda**  
**Alameda CTC Countywide Active Transportation Plan**



**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Alameda**  
**Alameda CTC Countywide Active Transportation Plan**





## Existing and Planned Bicycle Facilities

Alameda

### Bicycle Facilities

- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

Existing

Planned

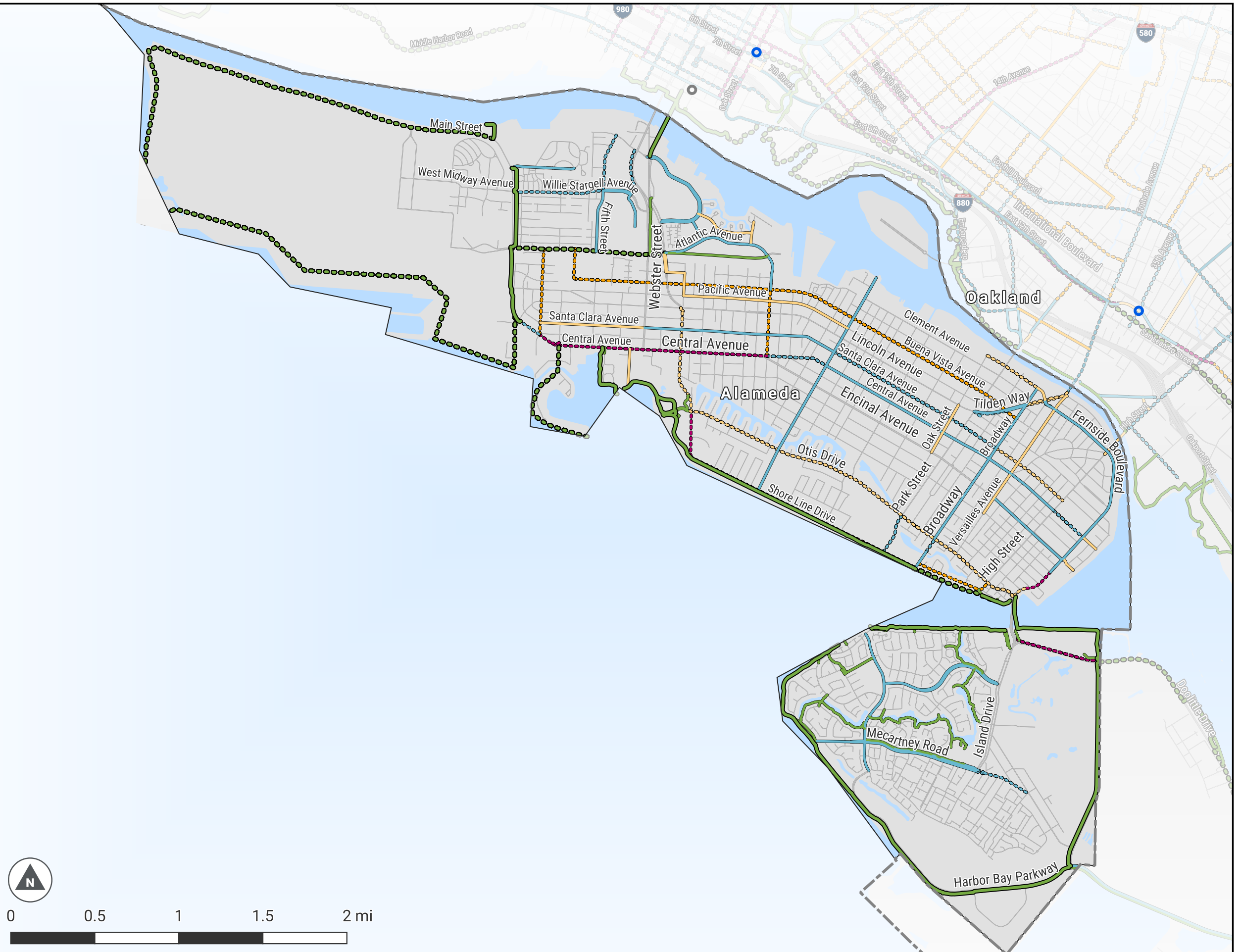
Study Corridor

### Stations

- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan





**All Barriers**

**Alameda**

**Rail Barriers Median Detour Ratio**

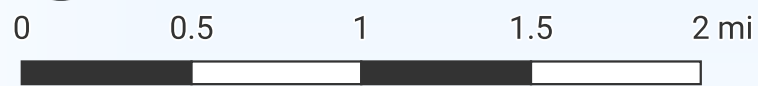
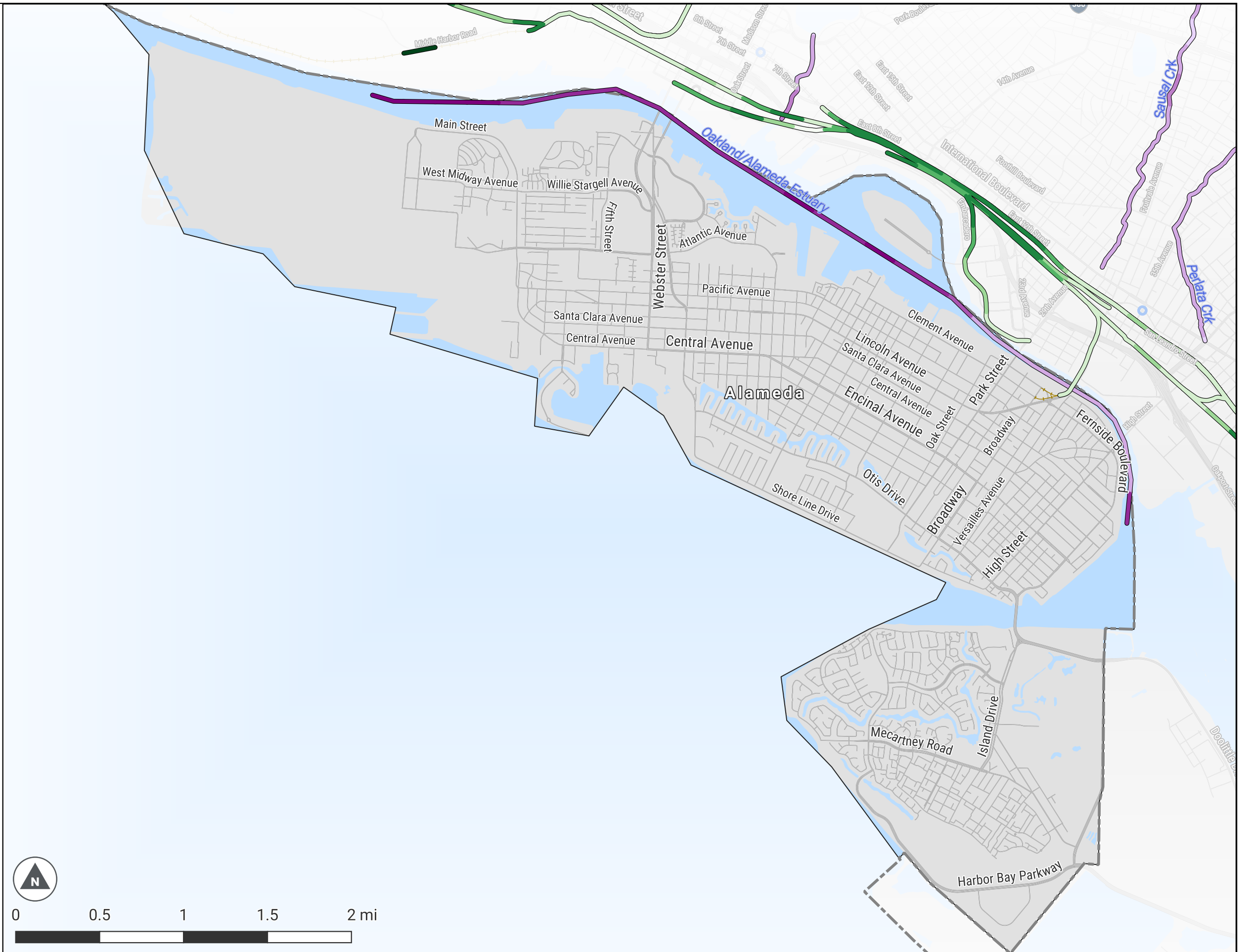
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- BART Lines





## 3 | Albany

### Local High Injury Networks

Approximately three miles of the local roadway network in Albany are considered part of the local bicycle HIN, and approximately two miles constitute the local pedestrian HIN. These represent approximately 1% of the local roadway network.

### Bike Comfort and Connectivity

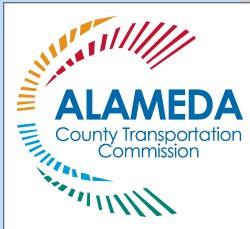
Low-stress connectivity is significantly better for bicyclists in Albany east of San Pablo Avenue than west of this major arterial. This major street creates a barrier for access to destinations because the offset nature of intersections creates few low-stress crossings. Bicyclists riding from one low-stress local street to another across San Pablo are forced to ride along the high-volume, higher-speed street to make the connection. Additionally, the impact of offset crossings can be seen across Marin Avenue where some adjacent blocks have lower scores than others in the neighborhood. Spot improvements in these locations could improve connectivity.<sup>1</sup>

### Major Barriers

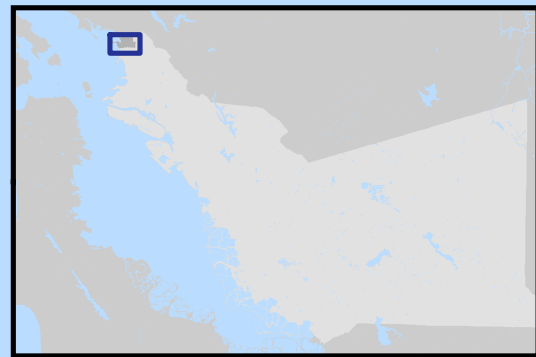
Connectivity within Albany is relatively unchallenged by rail and water barriers, with the exception of connection from University Village across rail lines and I-80 to the future Bay Trail through Golden Gate Fields. A grade-separated crossing has been studied to overcome this barrier. Both Cerrito Creek and Cordonices Creek interrupt the street network and thus create barriers at the northern and southern borders of Albany with El Cerrito/Richmond and Berkeley, respectively. Cerrito Creek has a greater impact on connectivity, especially west of San Pablo Avenue which crosses the creek, but is a high-stress street for bicycling. A concept design study of a bridge at Adams Street is currently under development by Alameda CTC. Pedestrian and bicycle access from El Cerrito Plaza BART and the Ohlone Greenway to the Bay Trail in Albany is hindered by the need for multi-jurisdiction coordination. The planned alignment for connecting these destinations crosses county borders (Contra Costa and Alameda) and three city borders (El Cerrito, Richmond, Albany).

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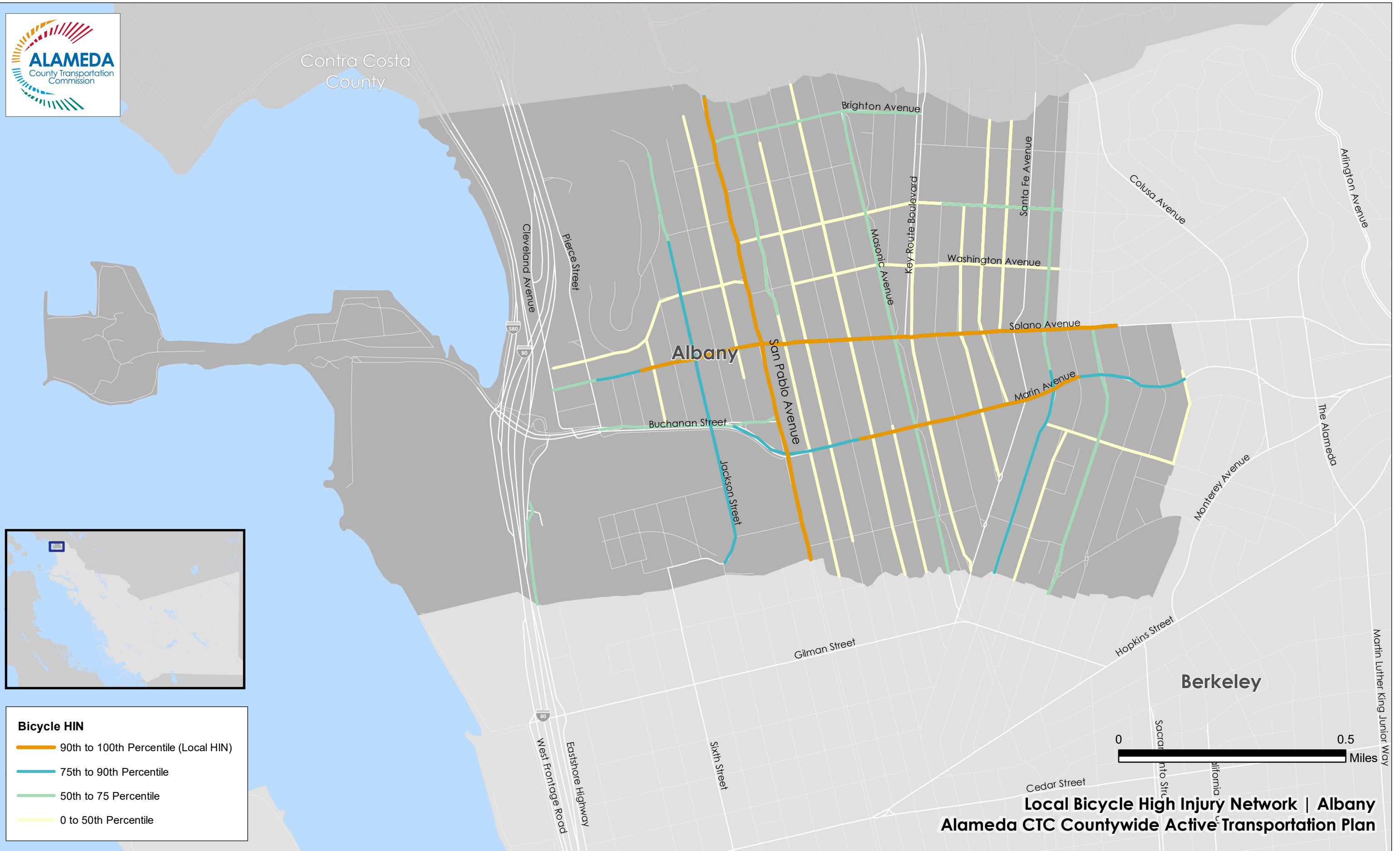
<sup>1</sup> Note that data regarding planned bicycle facilities was not provided for this analysis, so results only reflect current conditions in Albany.



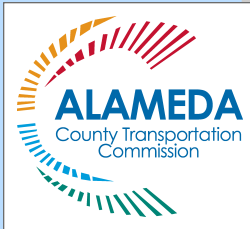
Contra Costa  
County



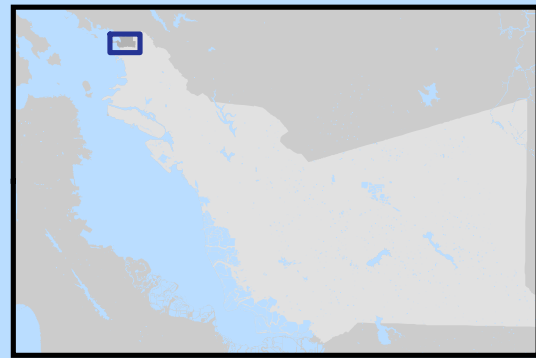
- Bicycle HIN**
- 90th to 100th Percentile (Local HIN)
  - 75th to 90th Percentile
  - 50th to 75 Percentile
  - 0 to 50th Percentile



**Local Bicycle High Injury Network | Albany**  
**Alameda CTC Countywide Active Transportation Plan**

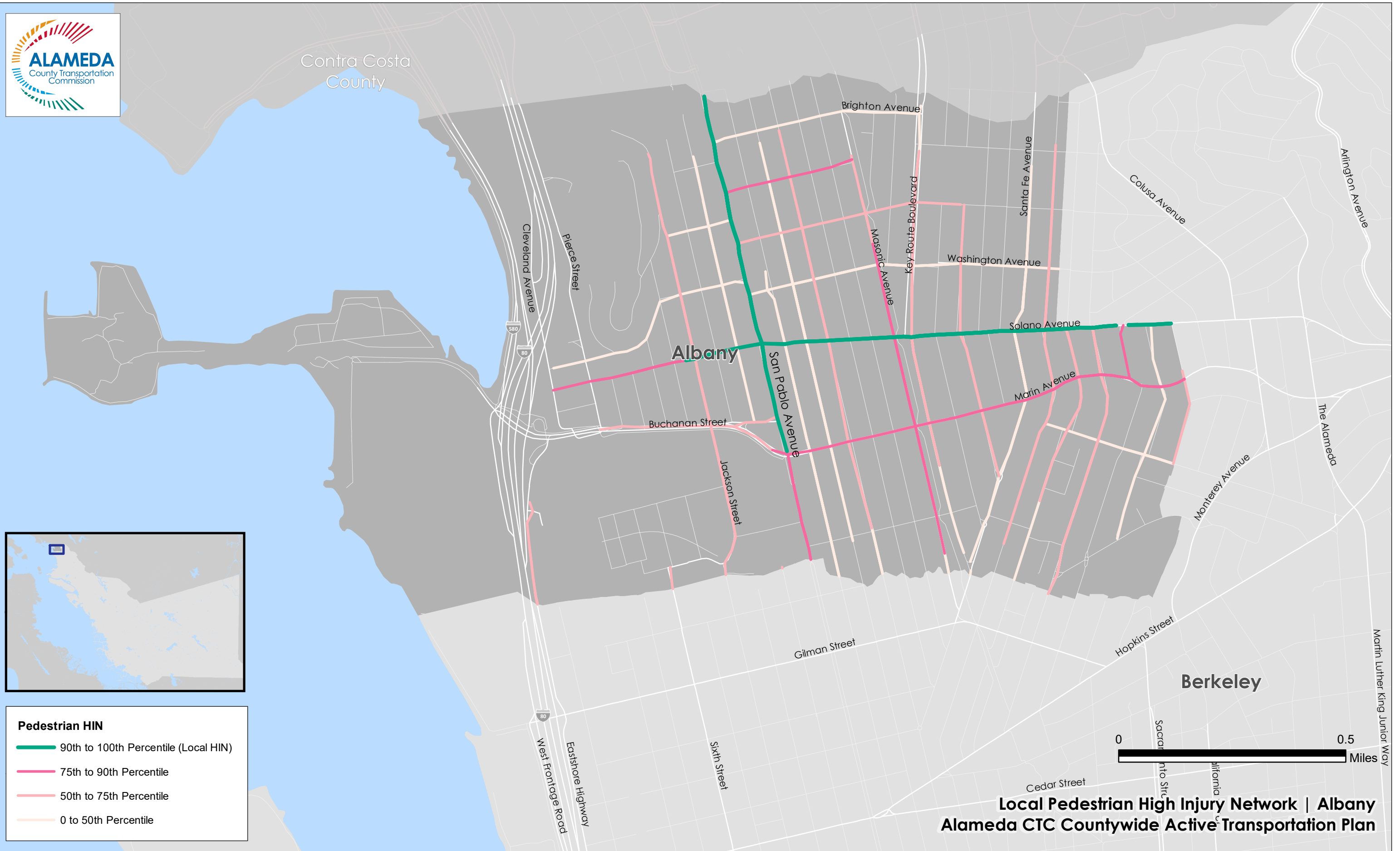


Contra Costa  
County



**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Albany**  
**Alameda CTC Countywide Active Transportation Plan**



# Existing and Planned Bicycle Facilities

## Albany

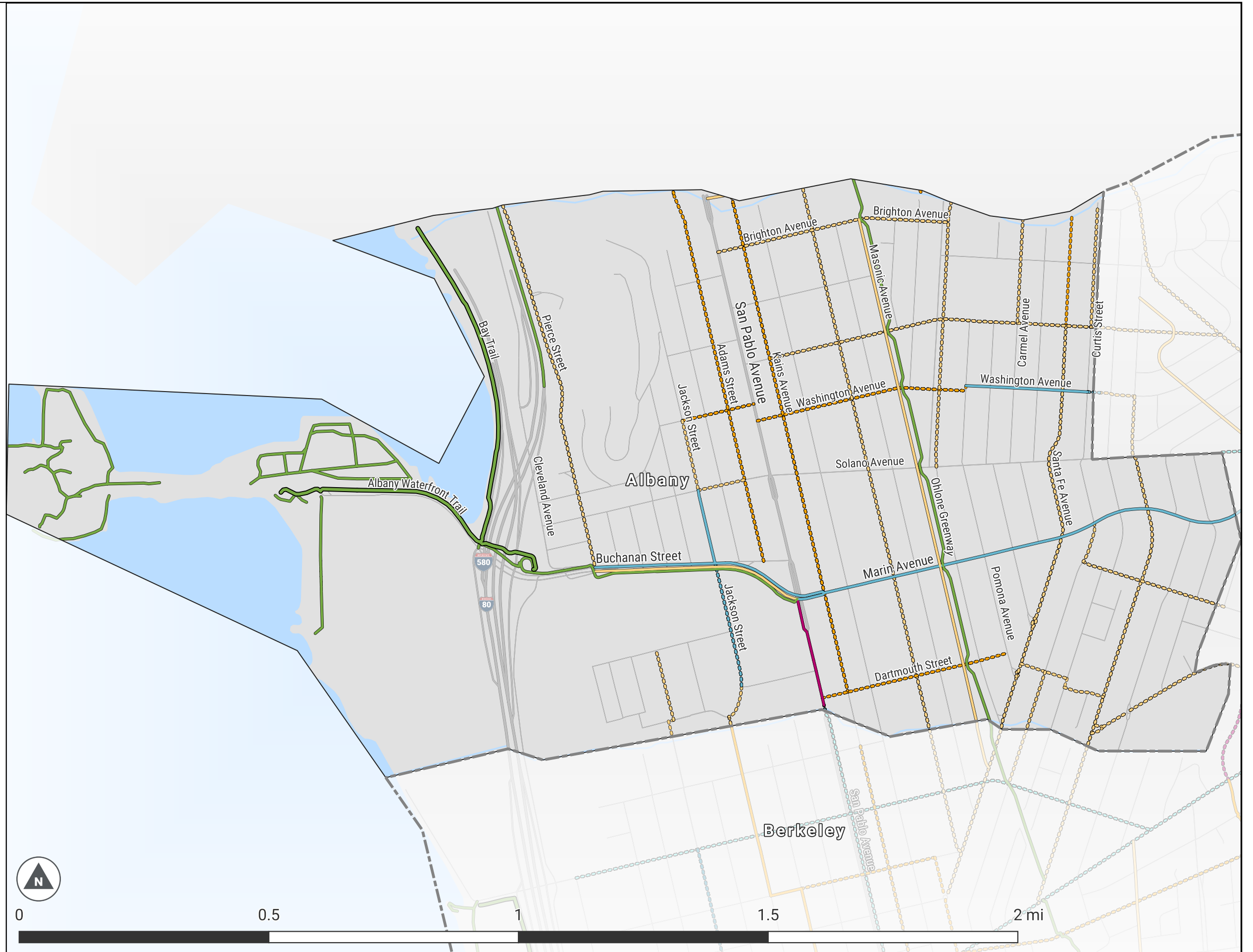
### Bicycle Facilities

- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

- Existing
- Planned
- Study Corridor

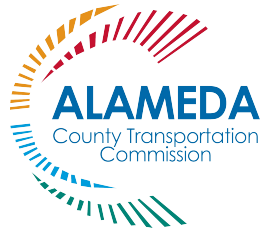
### Stations

- BART Station
- Amtrak Station
- ACE



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**All Barriers**

**Albany**

**Rail Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- BART Lines



## 4 | Berkeley

### Local High Injury Networks

One hundred fifteen (115) miles of the roadway network in Berkeley are considered part of the local existing or planned bicycle network. Approximately 17 miles of the local roadway network in Berkeley are considered part of the local bicycle HIN, and 16 miles constitute the local pedestrian HIN. Each represents approximately 6% of the local roadway network.

### Bike Comfort and Connectivity

Berkeley has the best overall low-stress bicycling connectivity today, as well as in the planned condition, in Alameda County.<sup>2</sup> The higher scores result from both the bike network itself, including low-stress bike boulevard alternatives to some arterial streets, and the inherent connected nature of the street grid in the flatter portions of the city (generally, west of the UC Berkeley campus). However, arterial streets are frequent barriers where they interrupt low-stress bike routes. State Routes 123 (San Pablo Avenue) and 13 (Ashby Avenue) present such barriers at many crossings. Connectivity also breaks down in the presence of high traffic volumes and limited bicycle facilities, or where large streets interrupt or dominate the network.

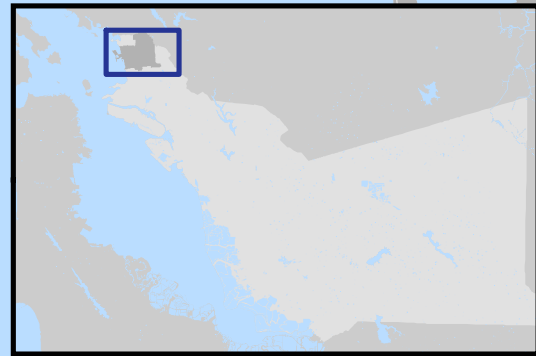
Connectivity scores are also lower in the east where topography is a challenge and fewer alternative route options to destinations exist. Scores do improve in the planned condition in west Berkeley with implementation of a Class IV bikeway on San Pablo Avenue, and connectivity improves in the north hillier areas with implementation of a number of bike boulevards. This assessment does not consider topography, however, which will continue to pose a challenge to most bicyclists.

### Major Barriers

Water and rail barriers are minimal within Berkeley. BART lines are generally underground, and the small aboveground section in North Berkeley is adjacent to the Ohlone Greenway. The Amtrak/Union Pacific Railroad (UPRR) line does create a major interruption of the street grid near Aquatic Park, making it difficult to access the Bay Trail segment here. There is no crossing of the tracks south of Bancroft Way until reaching 67th Street in Emeryville except for a narrow, tunneled sidewalk on Ashby Avenue. Cordonices Creek forms the border between Berkeley and Albany, but it does not create long detours. Arterial streets are frequent barriers in Berkeley where they interrupt low-stress bike routes and have more widely spaced appropriate pedestrian crossing opportunities. There is one major barrier, I-80 hindering access to the Bay Trail, that is currently being addressed by a design project to improve the Gilman Street crossing.

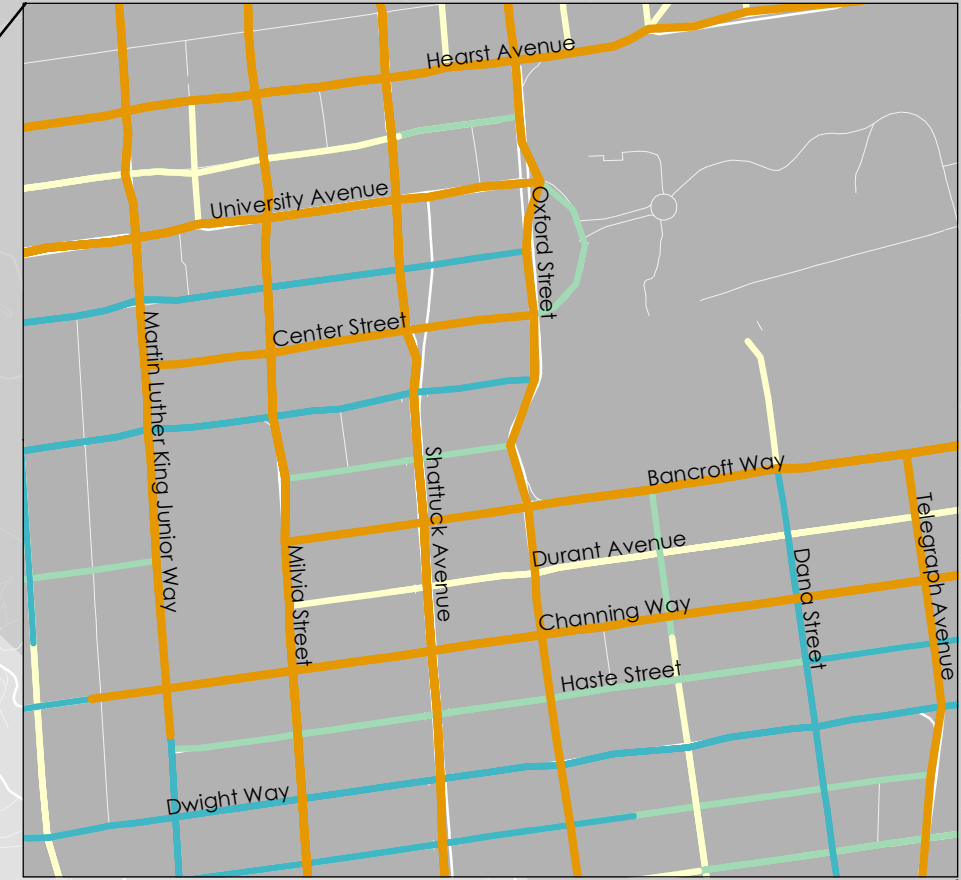
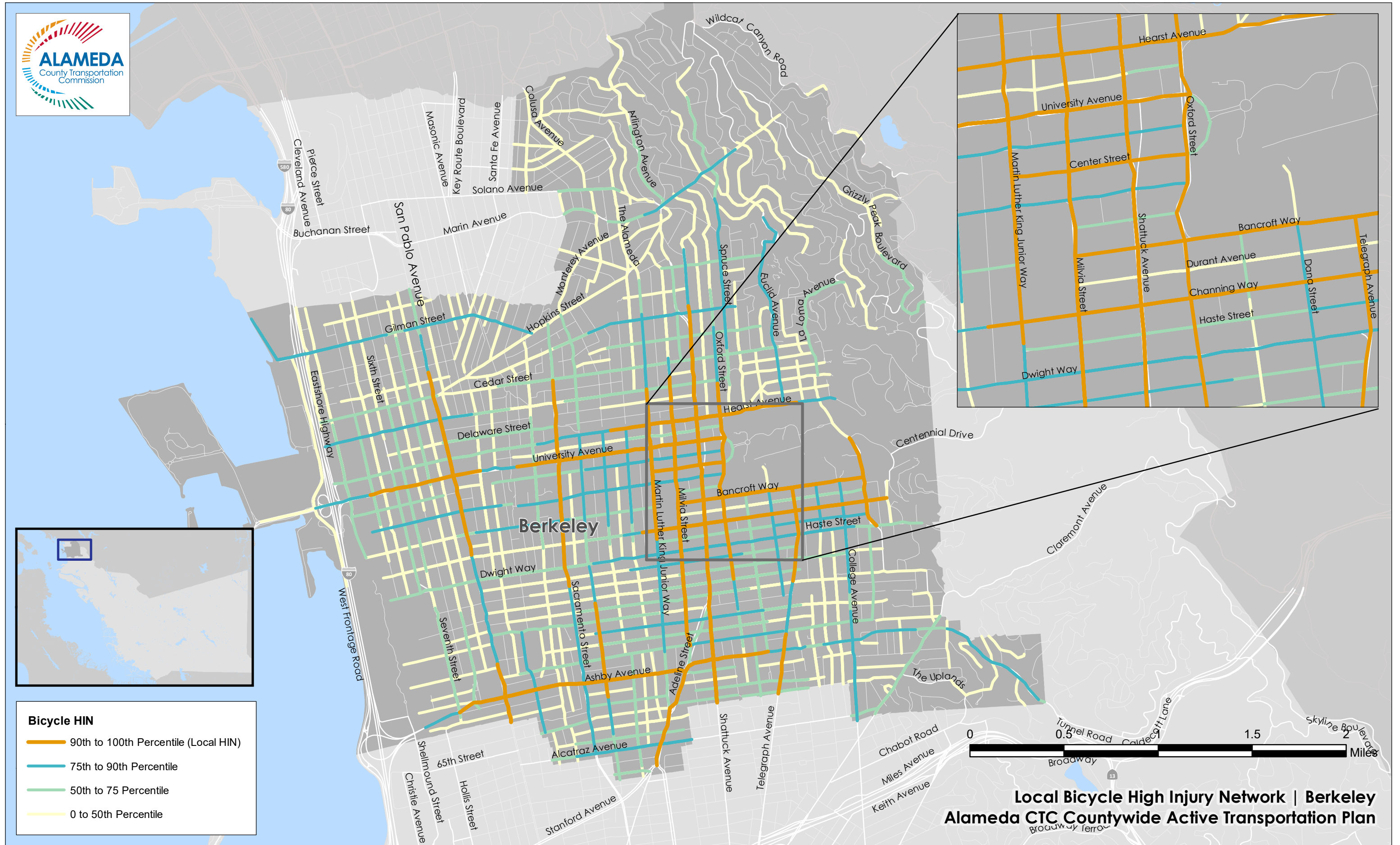
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<sup>2</sup> The City of Berkeley conducted a separate LTS analysis as part of its recent Bike Master Plan, but analysis of connectivity provided here relies upon LTS scoring conducted at part of this Plan process.



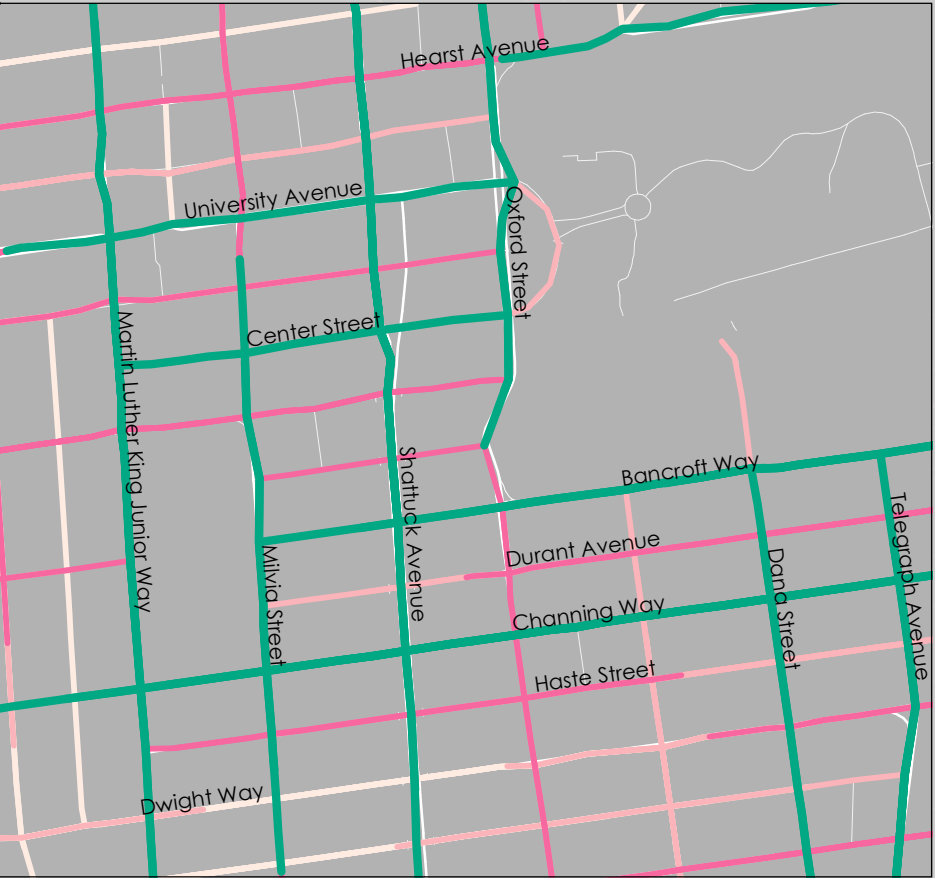
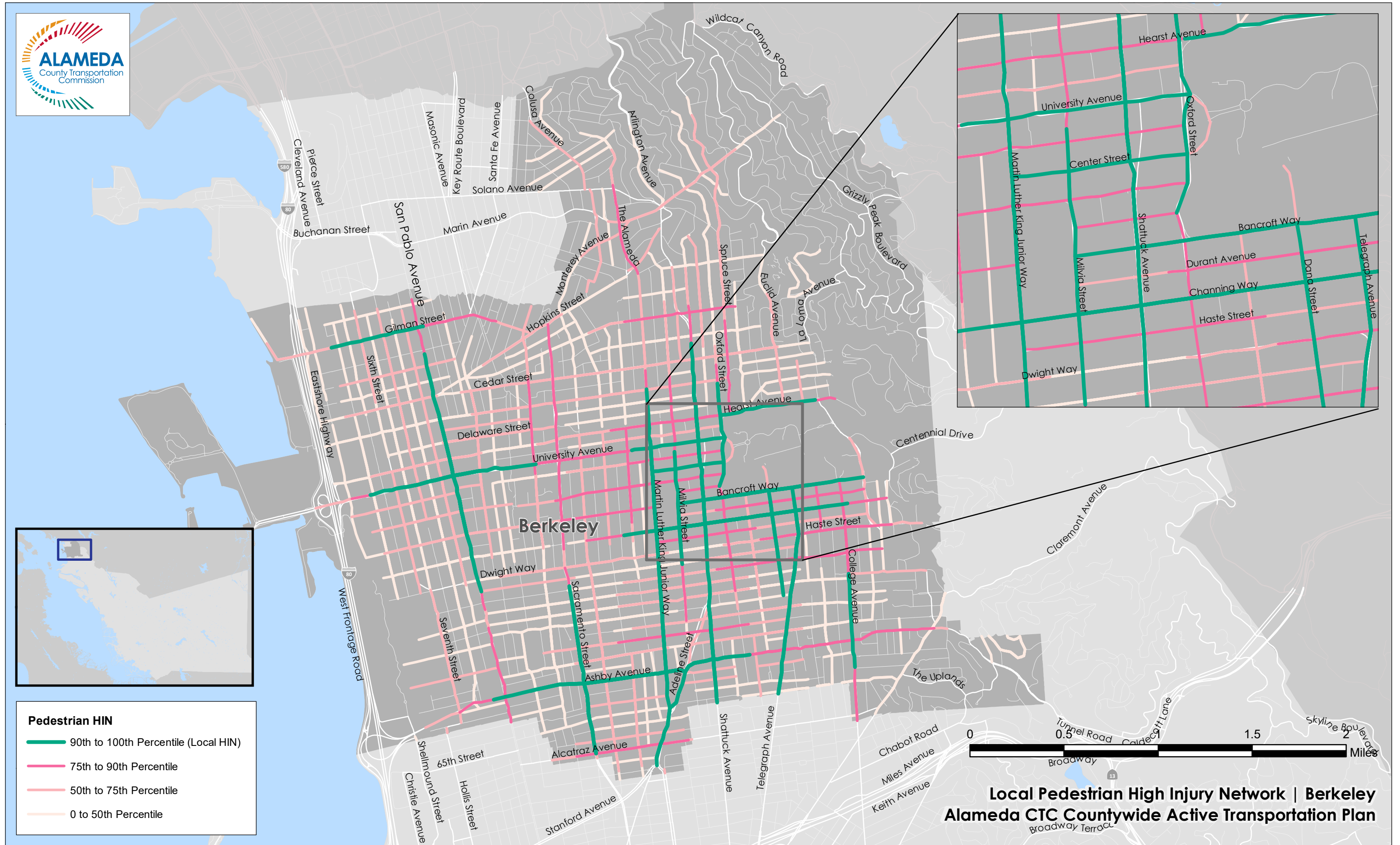
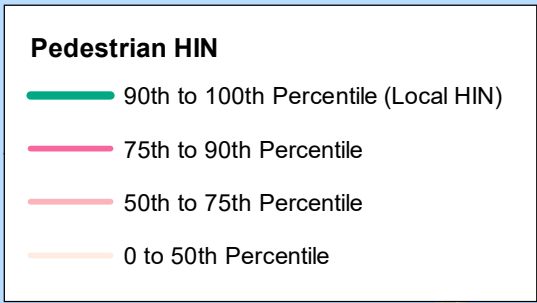
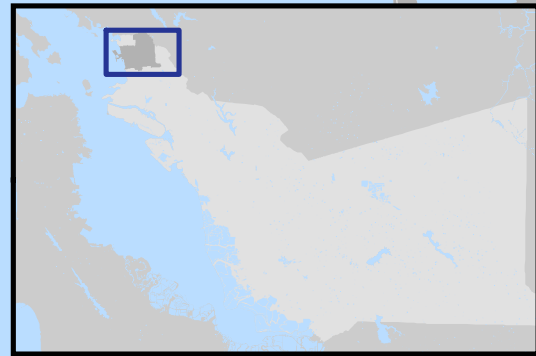
**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



**Local Bicycle High Injury Network | Berkeley**  
**Alameda CTC Countywide Active Transportation Plan**





**Local Pedestrian High Injury Network | Berkeley**  
**Alameda CTC Countywide Active Transportation Plan**





# Existing and Planned Bicycle Facilities

## Berkeley

### Bicycle Facilities

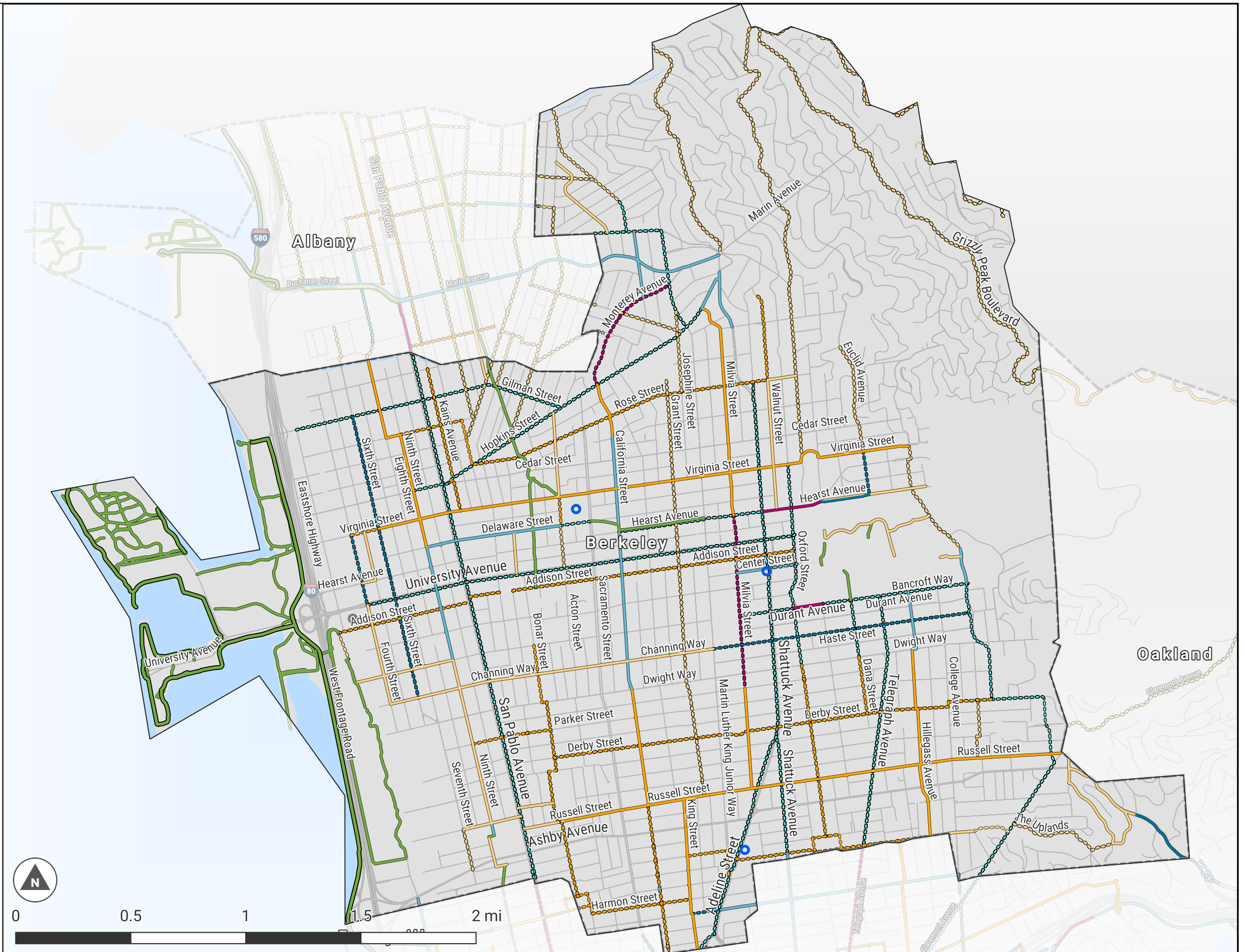
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

### Stations

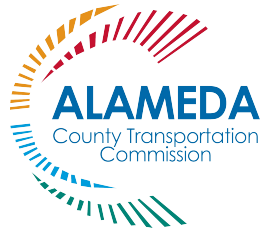
- BART Station
- Amtrak Station
- ACE

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Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**Berkeley**

**Rail Barriers Median Detour Ratio**

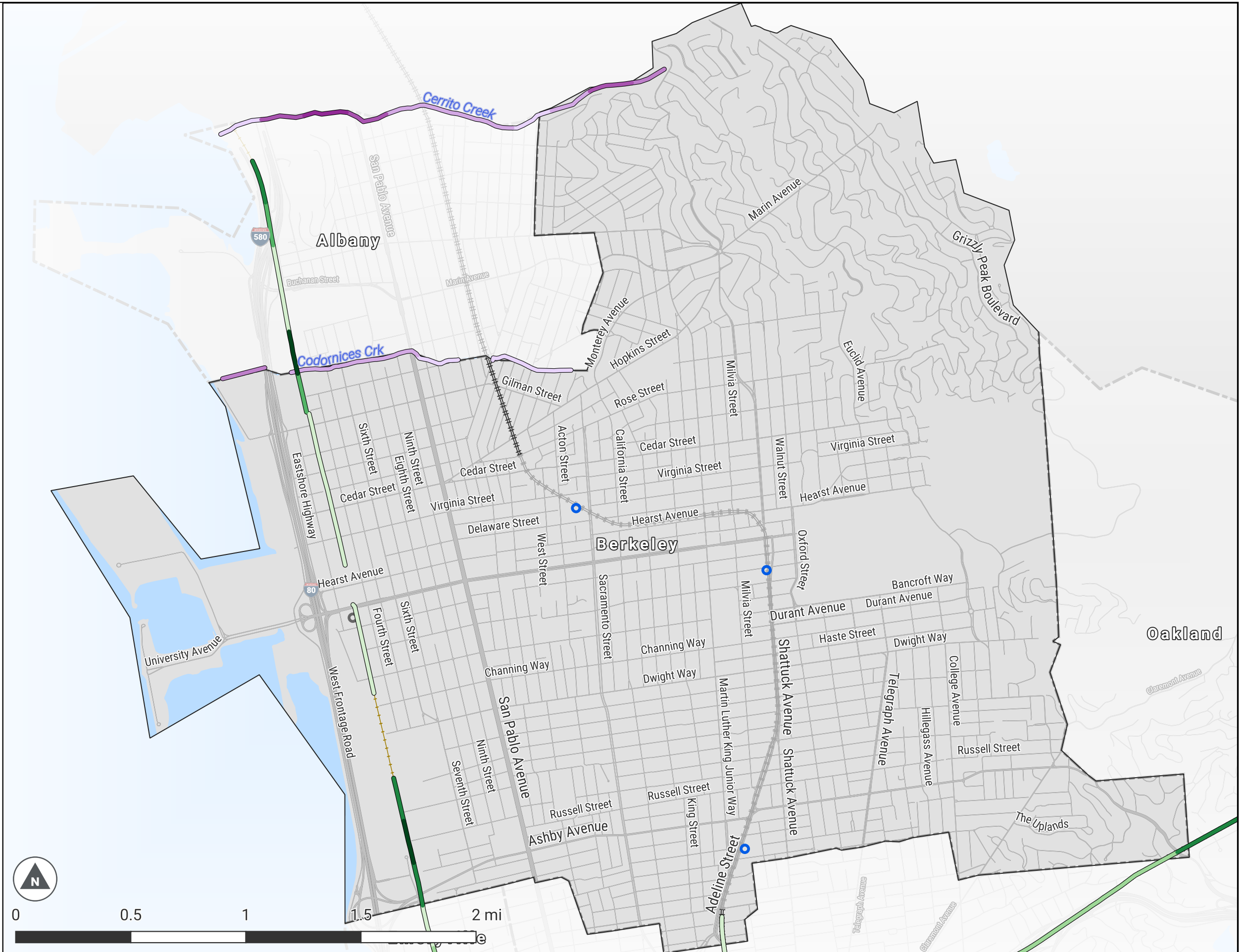
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- BART Lines



## 5 | Dublin

### Local High Injury Networks

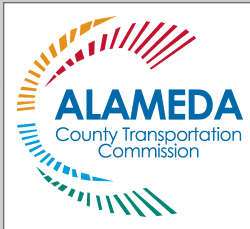
Approximately three miles of the local roadway network in Dublin are considered part of the local bicycle HIN, and five miles make up the local pedestrian HIN.

### Bike Comfort and Connectivity

Dublin's bicycling network today is somewhat well connected in residential areas on the northern half of the city. The core commercial areas to the north and south of I-580 pose high-stress riding environments, especially in the office park south of I-580 where streets are designed to efficiently move large numbers of driving employees at the start and end of the workday. Planned trails throughout the city will improve connectivity, especially as new streets are being built, paralleling I-580 to the north and along additional rural roads.

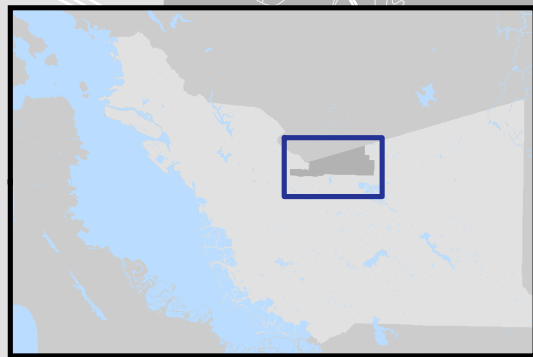
### Major Barriers

There are several water bodies in Dublin that create minor barriers to connectivity. Some of these creeks are accompanied by major topographical differences between the adjacent street network, such as Martin Canyon Creek where streets to the south are at significantly higher elevation than those to the north. The topography challenges mean it is unlikely that a connection will ever be made across this creek. The BART tracks and Dublin Creek also form a barrier that coincides with I-580 and may be addressed by a future crossing project identified in the Caltrans District 4 Bike Plan. Freeway interchanges, BART tracks, and Dublin Creek all represent local barriers.



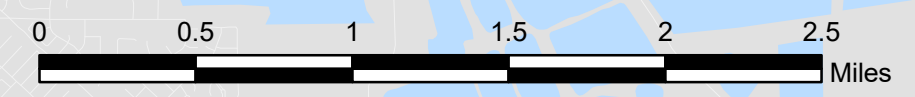
Contra Costa County

Dublin



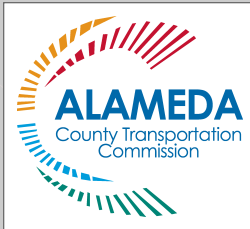
**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



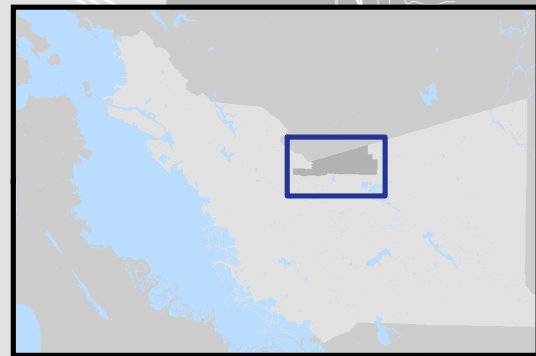
Local Bicycle High Injury Network | Dublin  
Alameda CTC Countywide Active Transportation Plan





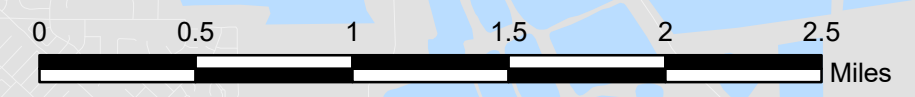
Contra  
Costa  
County

Dublin



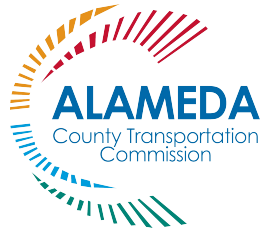
**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Dublin**  
**Alameda CTC Countywide Active Transportation Plan**



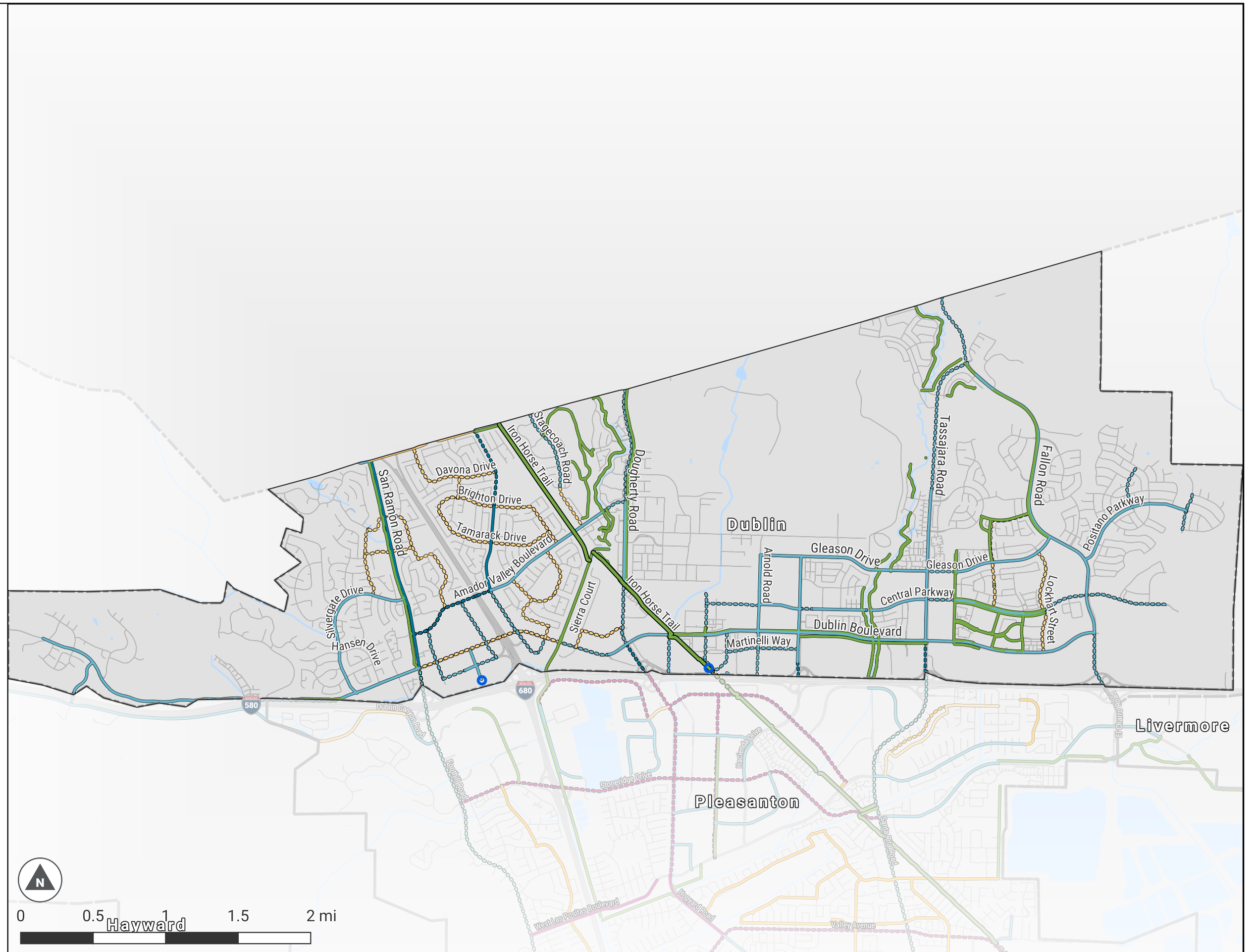


# Existing and Planned Bicycle Facilities

Dublin

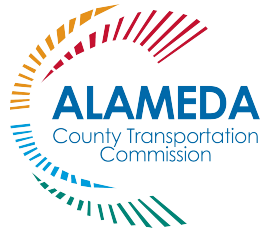
## Bicycle Facilities

- Major Regional Trails
  - Class I - Shared Use Path
  - Class II - Bike Lane
  - Class II - Buffered Bike Lane
  - Class III - Shared Lane
  - Class III - Bike Boulevard
  - Class IV - Separated Bike Lane
  - Existing
  - Planned
  - Study Corridor
- ## Stations
- BART Station
  - Amtrak Station
  - ACE



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Alameda CTC Countywide Active Transportation Plan



### All Barriers

#### Dublin

##### Rail Barriers Median Detour Ratio

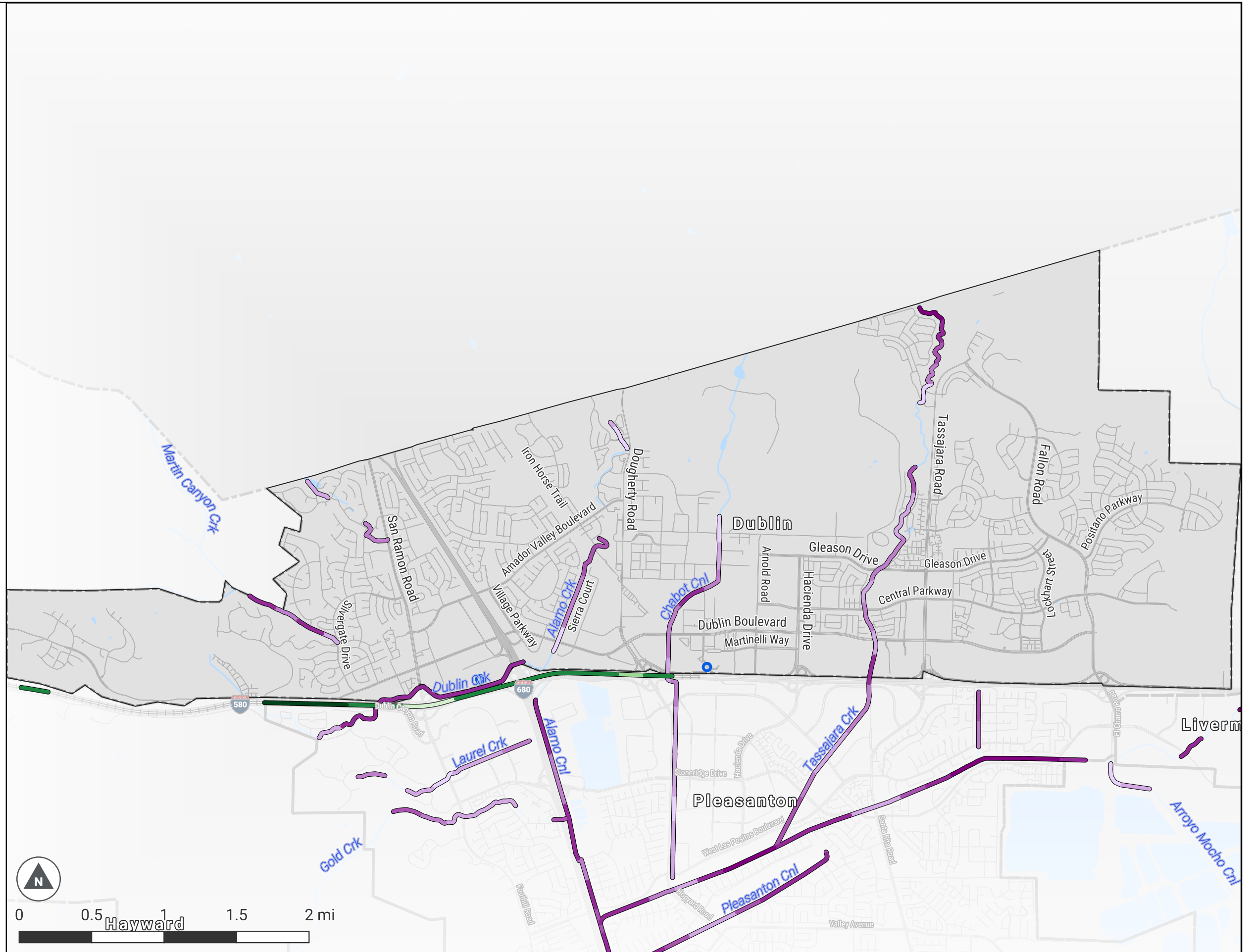
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Water Barriers Median Detour Ratio

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Other

- BART Station
- Amtrak Station
- +—+—+— BART Lines



## 6 | Emeryville

### **Local High Injury Networks**

Approximately one mile of roadway makes up the local bicycle HIN in Emeryville, and another one mile defines the local pedestrian HIN. These HIN each constitute approximately 2% of the City's local roadway network.

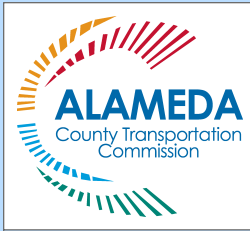
### **Bike Comfort and Connectivity**

Connectivity in Emeryville generally falls into the "good" range of scores. The impact of the Amtrak/freight rail lines likely does not affect scoring because destinations are present on either side of the tracks, and detours to access a crossing are not long. The major barriers discussion in the Countywide Trail Network section puts a finer point on the impact of that rail line on accessibility for both bicyclists and pedestrians.

### **Major Barriers**

The Amtrak/UPRR tracks form a barrier in west Emeryville. Analysis shows that the connectivity impact is greatest just south of 64th Street and in the segment to the east of the Bay Street area. This analysis is based on the entirety of the street network, and sidewalks are present on the existing railroad track crossings. However, the connections across the tracks at Powell Street and Shellmound Street are high-stress for bicyclists, meaning that the rail line more significantly limits network connectivity for that mode. Temescal Creek creates minimal interruption to network connectivity. Additionally, the disconnected street network across San Pablo Avenue forms a barrier to the low-stress bike network.





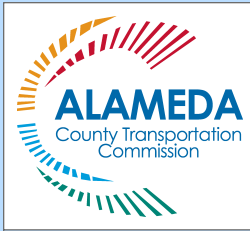
**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



**Local Bicycle High Injury Network | Emeryville**  
**Alameda CTC Countywide Active Transportation Plan**





**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile

**Local Pedestrian High Injury Network | Emeryville**  
**Alameda CTC Countywide Active Transportation Plan**



# Existing and Planned Bicycle Facilities

## Emeryville

### Bicycle Facilities

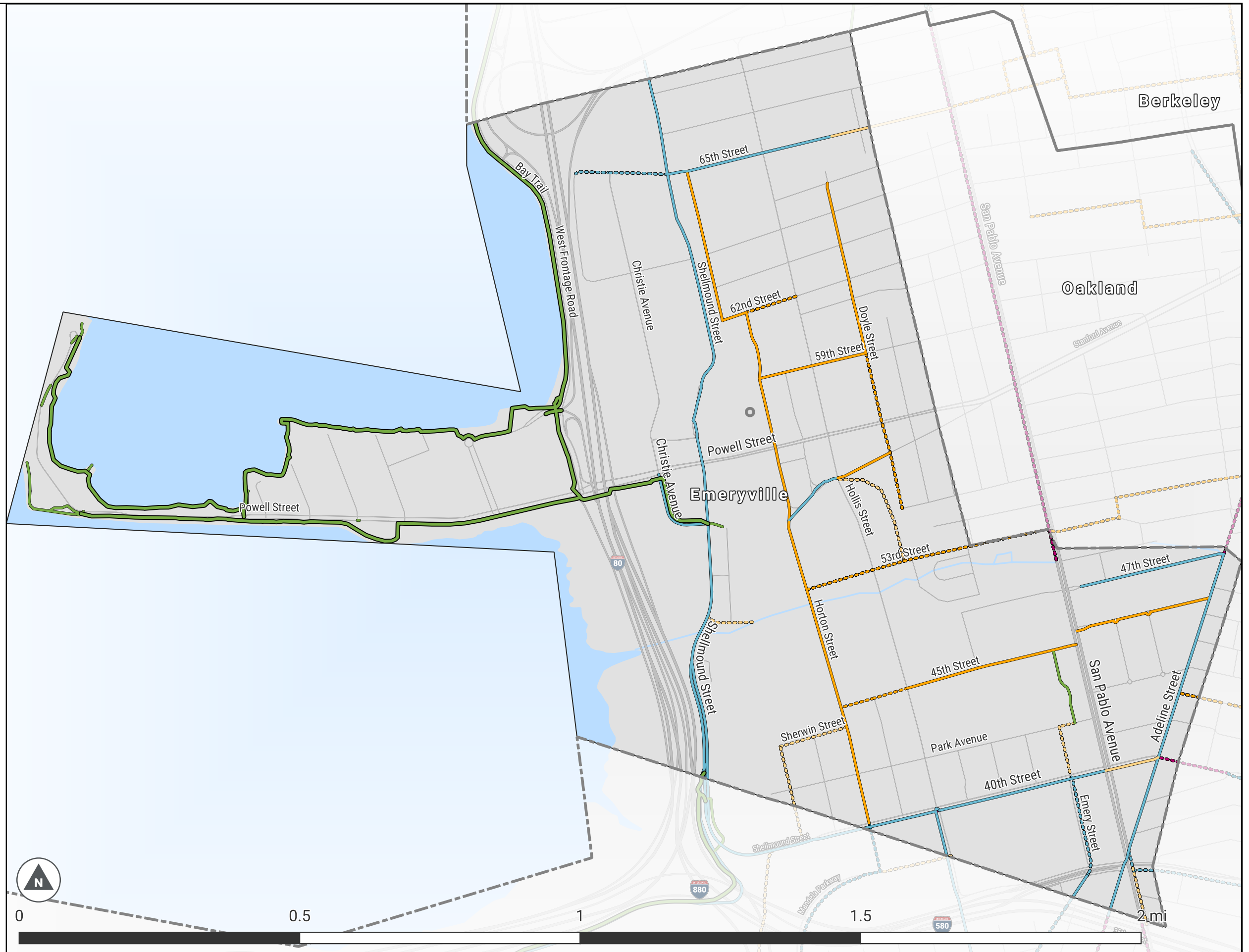
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

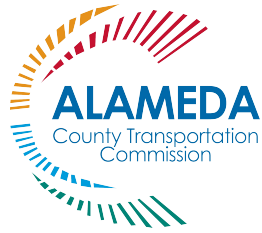
- Existing
- Planned
- Study Corridor

- ### Stations
- BART Station
  - Amtrak Station
  - ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan





**All Barriers**

**Emeryville**

**Rail Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- +—+—+— BART Lines





# 7 | Fremont

## Local High Injury Networks

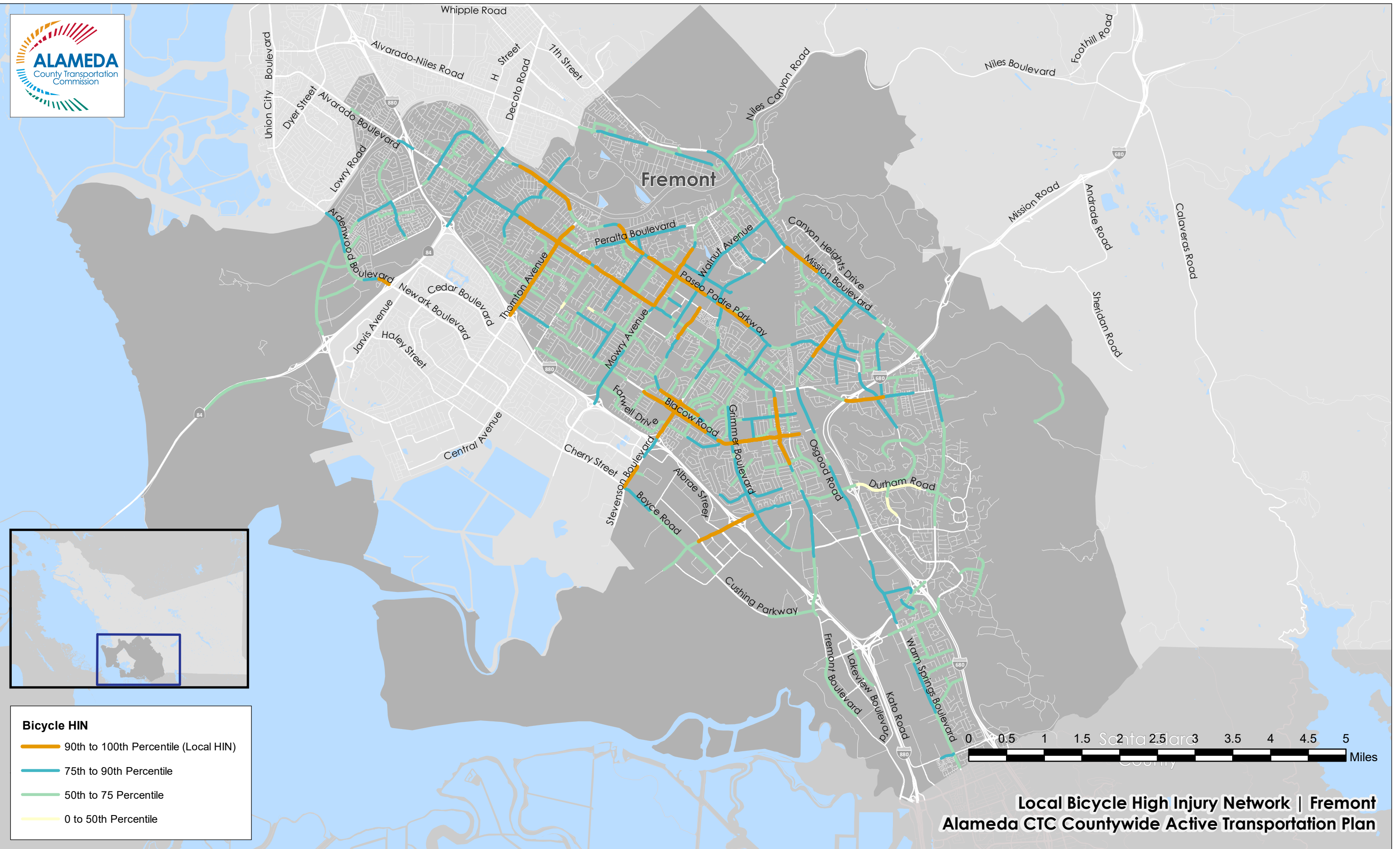
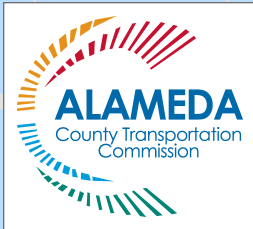
Approximately 15 miles constitute the local bicycle HIN in Fremont, and 14 miles make up the local pedestrian HIN. These each represent about 2% of the City's local roadway network.

## Bike Comfort and Connectivity

In the future, planned facilities such as the separated bike lane on Fremont Boulevard will provide connectivity improvements in downtown Fremont. However, the overall connectivity for these neighborhoods remains poor because such major challenges exist in the underlying street network. It should be noted that the planned network studied included only segment improvements and did not incorporate any intersection projects which could be key to linking existing low-stress streets.

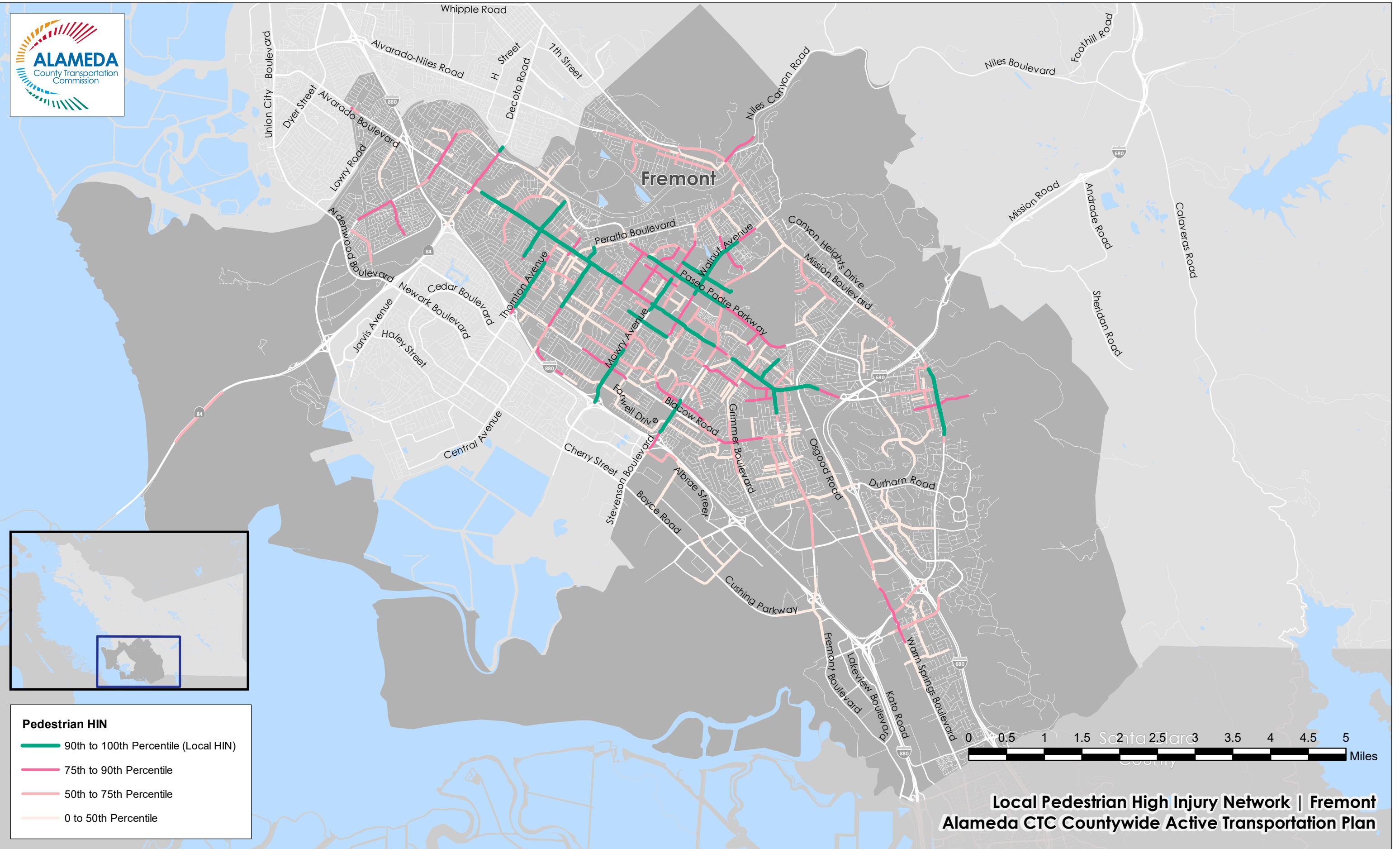
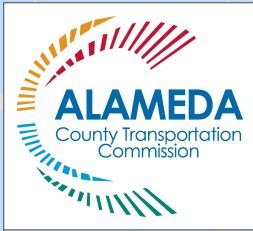
## Major Barriers

Alameda Creek creates a major interruption to network connectivity in Fremont, especially near Decoto Road. The creek forms the boundary between Union City and Fremont, and the lack of network connectivity across it may be additionally hampered by this political boundary since there historically has been less incentive for a developer to bridge such a boundary. Rail lines also impact connectivity in Fremont: the portion near Quarry Lakes and east of the Grimmer-Blacow neighborhood are the most impacted. The rail barrier is compounded by water bodies and adjacency to I-680, respectively, in these locations. I-880 and I-680 also form barriers within Fremont and between Fremont and Newark. There are limited crossings of these roadways, and those that exist are often uncomfortable or impeded by conflicts with on-/off-ramps. Arterials such as Fremont Boulevard and Blacow Road are also barriers to pedestrian and bicycle connectivity.



**Local Bicycle High Injury Network | Fremont**  
**Alameda CTC Countywide Active Transportation Plan**

Data Source: SWITRS/TIMS 2012-2016



**Pedestrian HIN**

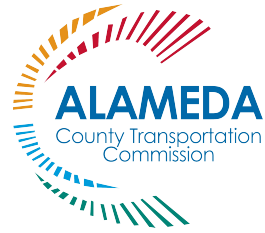
- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Fremont**  
**Alameda CTC Countywide Active Transportation Plan**

Data Source: SWITRS/TIMS 2012-2016





# Existing and Planned Bicycle Facilities

## Fremont

### Bicycle Facilities

- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

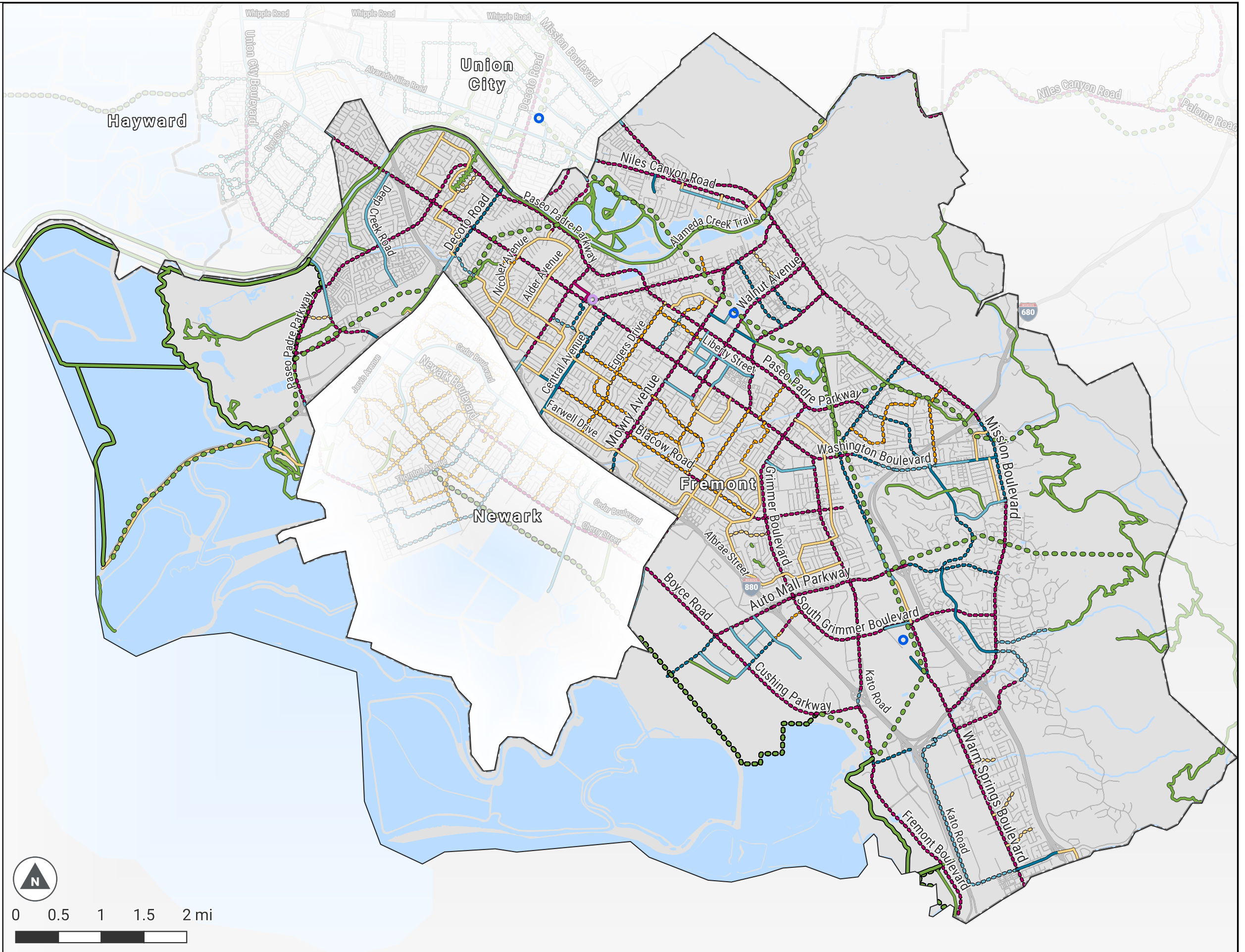
- Existing
- Planned
- Study Corridor

### Stations

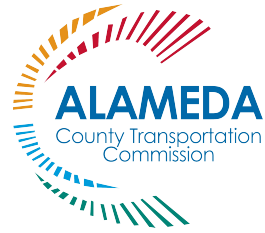
- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**Fremont**

**Rail Barriers Median Detour Ratio**

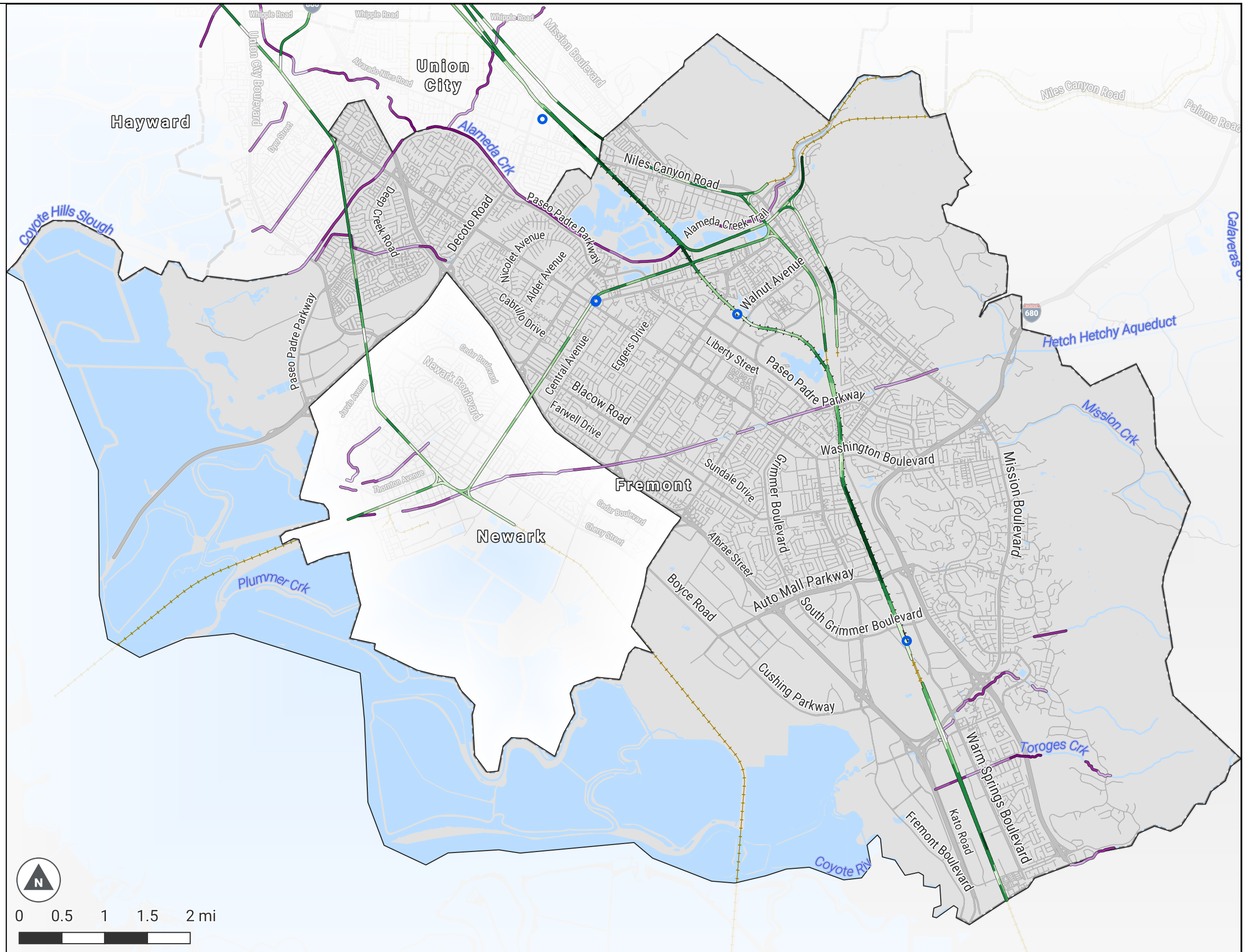
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART, ACE and Capitol Corridor Stations
- BART Lines



## 8 | Hayward

### Local High Injury Networks

Approximately 12 miles constitute the local bicycle HIN in Hayward, and another 12 miles make up the local pedestrian HIN. These each represent about 3% of the City's local roadway network.

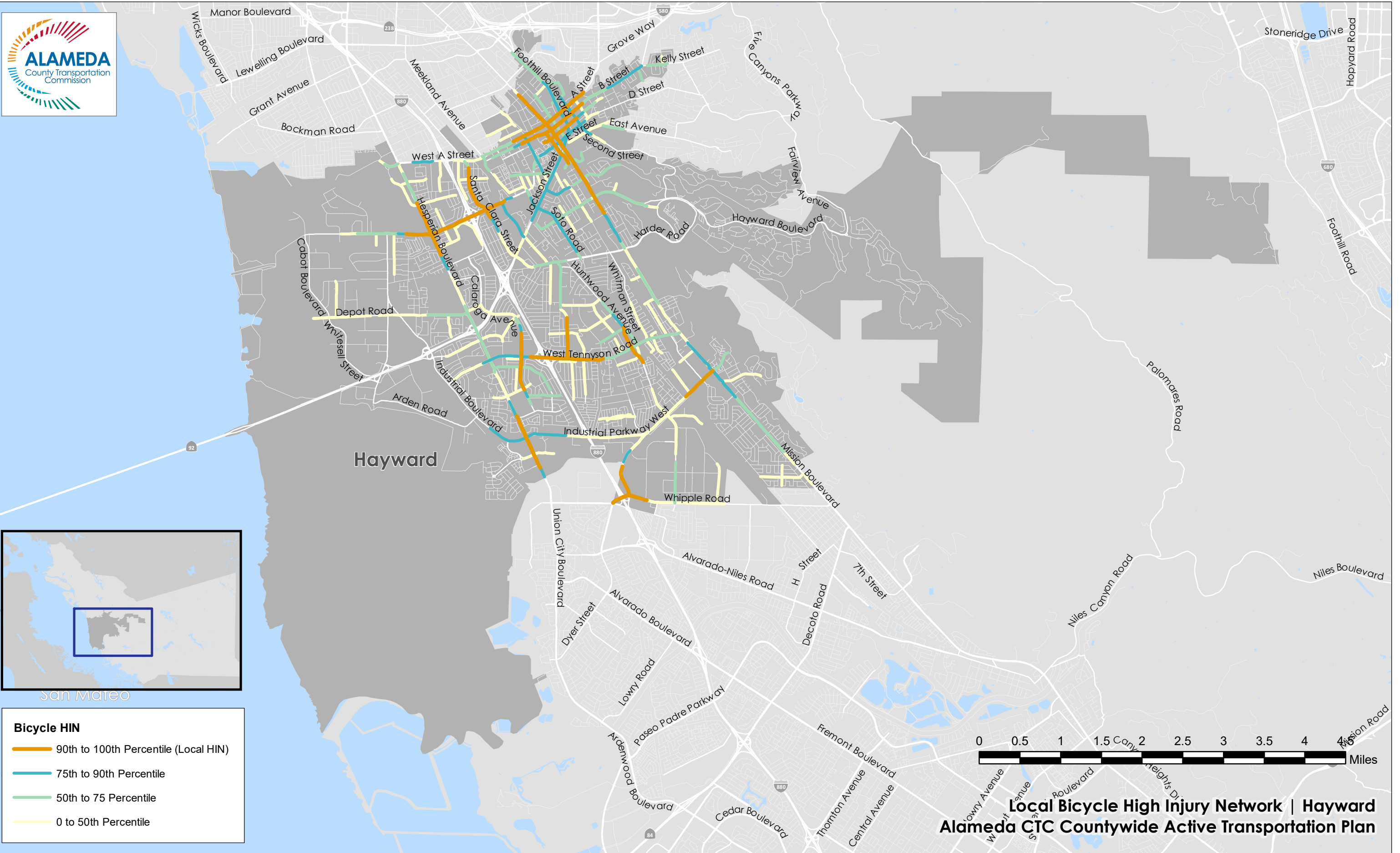
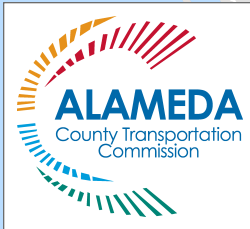
### Bike Comfort and Connectivity

Low-stress connectivity in Hayward today is challenging. Major destinations such as CSU East Bay, Chabot College, and the Hayward and South Hayward BART stations are surrounded by nearby high-stress arterial roadways that would provide key links to these destinations. The City of Hayward is currently updating its bike plan and will be considering connections to these destinations and others in planning a low-stress network. Additionally, future implementation of the East Bay Greenway would improve connectivity to both BART stations and into adjacent communities.

### Major Barriers

Hayward contains many rail lines and water bodies that could be barriers to network connectivity. BART tracks at the Hayward Yard isolate the neighborhood along Mission Boulevard between Whipple Road and Industrial Parkway. This is especially true from a biking perspective as both Whipple Road and Industrial Parkway are high-stress biking environments today. However, freeways and arterials are the more impactful barriers to pedestrian and bicycle connectivity in Hayward. SR 92 interrupts the local street network especially in western Hayward toward the San Mateo Bridge. I-880 has only five crossings along its four-mile length through Hayward, all of which present conflicts for people walking and biking at on-/off-ramps. Hesperian and Mission Boulevards are also connectivity barriers due to more widely spaced signalized intersections.

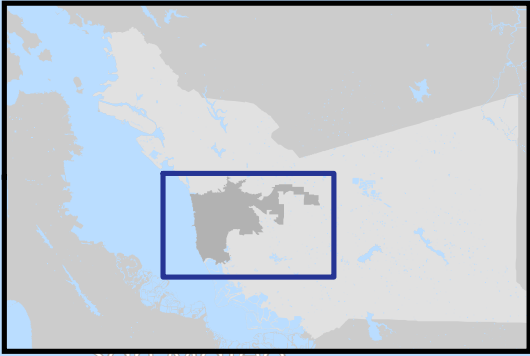
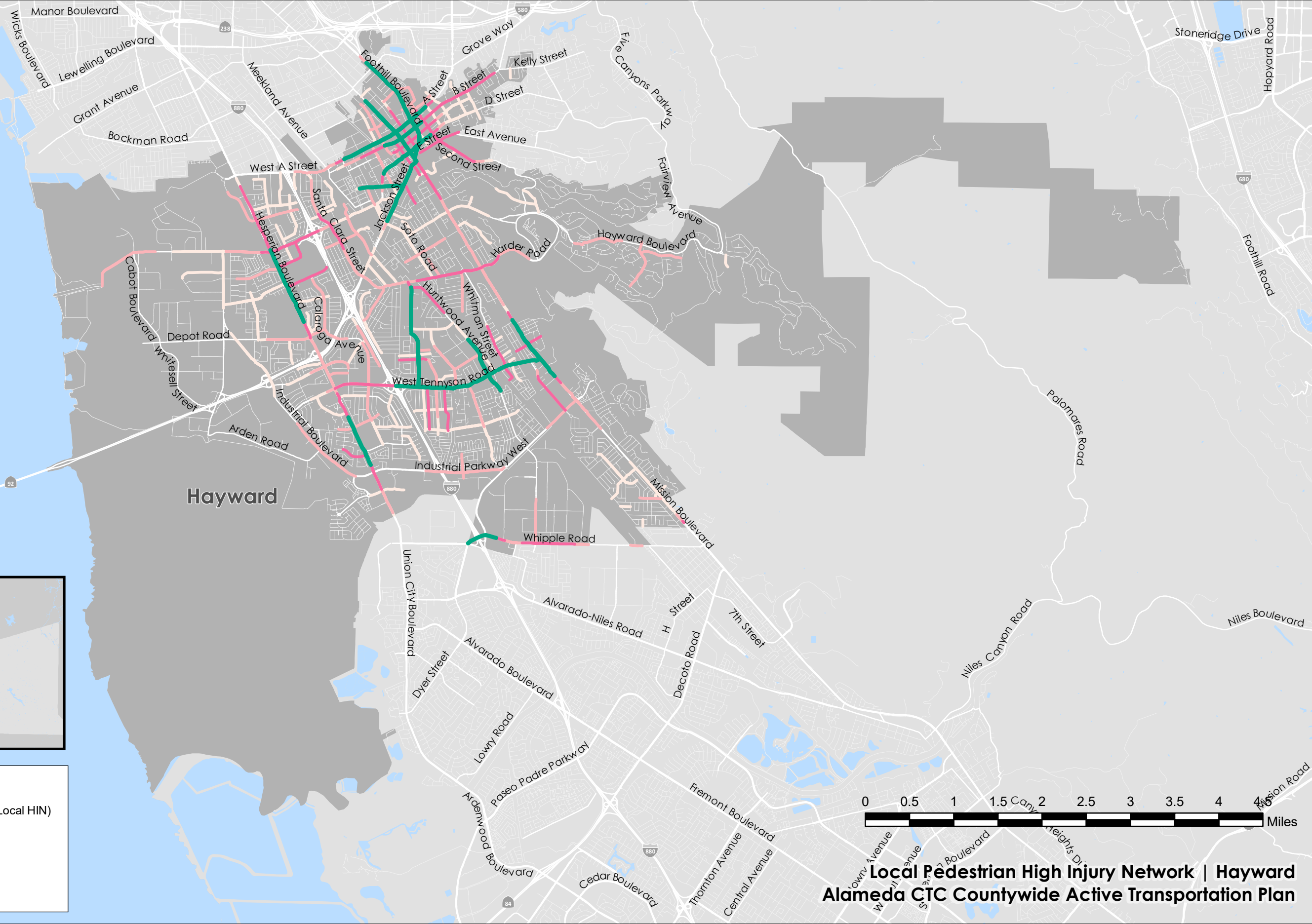
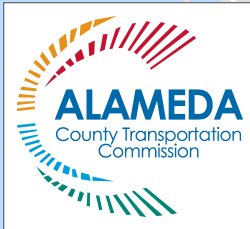




**Bicycle HIN**

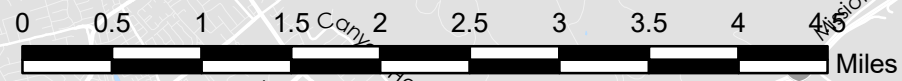
- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile

**Local Bicycle High Injury Network | Hayward**  
**Alameda CTC Countywide Active Transportation Plan**



**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Hayward**  
**Alameda CTC Countywide Active Transportation Plan**





## Existing and Planned Bicycle Facilities

Hayward

### Bicycle Facilities

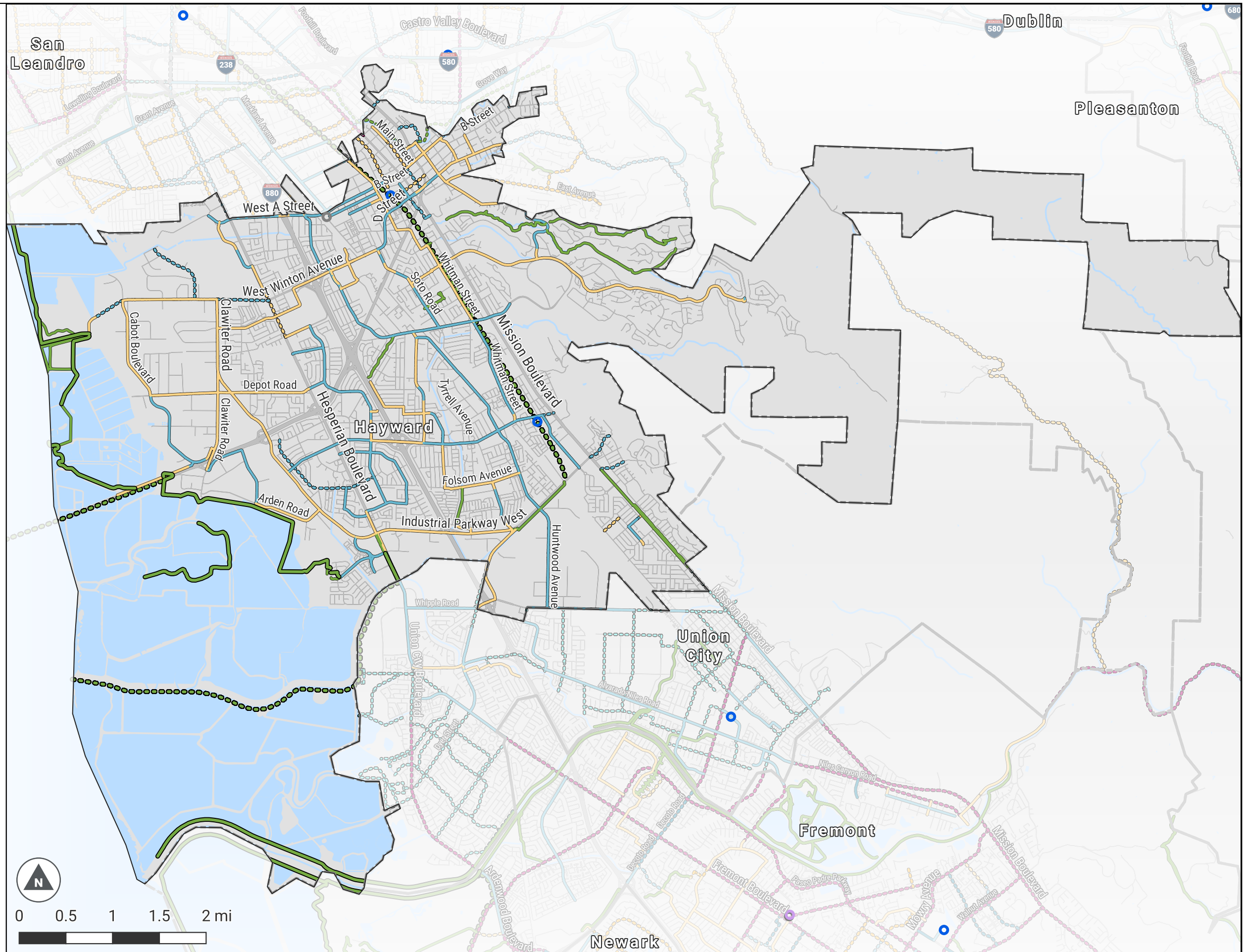
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

### Stations

- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**Hayward**

**Rail Barriers Median Detour Ratio**

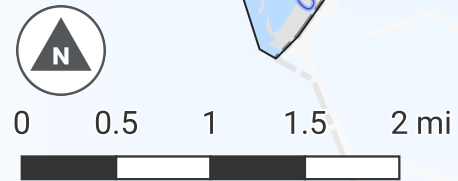
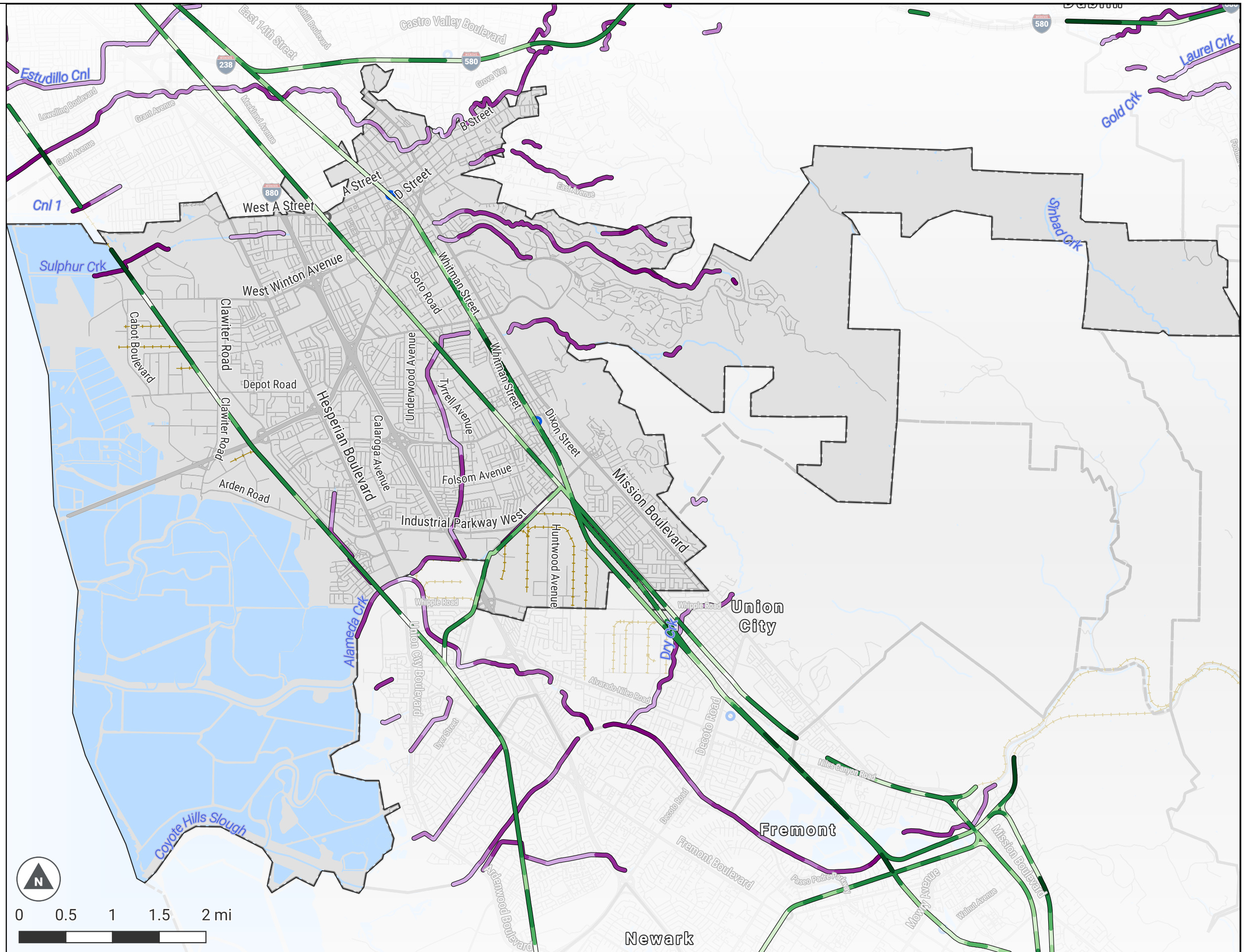
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- +—+—+—+— BART Lines



## 9 | Livermore

### Local High Injury Networks

Approximately seven miles make up the local bicycle HIN in Livermore, and six miles make up the local pedestrian HIN. These each represent about 1% of the City's local roadway network.

### Bike Comfort and Connectivity

The downtown core of Livermore has good low-stress connectivity for bicyclists today, especially to the north of the ACE/freight rail lines. The gridded street network and lower speed streets lend themselves to better connections to destinations such as parks and schools in the neighborhood. The other residential areas of the city are less well connected, facing the challenge of major higher-speed, higher-volume streets on their edges with offset intersections. The area of the National Laboratory is particularly poorly connected for a major destination. Implementation of the City's recently adopted bike plan network would improve conditions significantly in some parts of the city. The plan calls for several low-stress bike facilities that cross through downtown. Blocks to the east of downtown are more connected as a result of the planned Class I Iron Horse Trail paralleling the ACE tracks, and areas to the south are more connected as a result of buffered and separated bike lanes along Holmes Street and Arroyo Road.

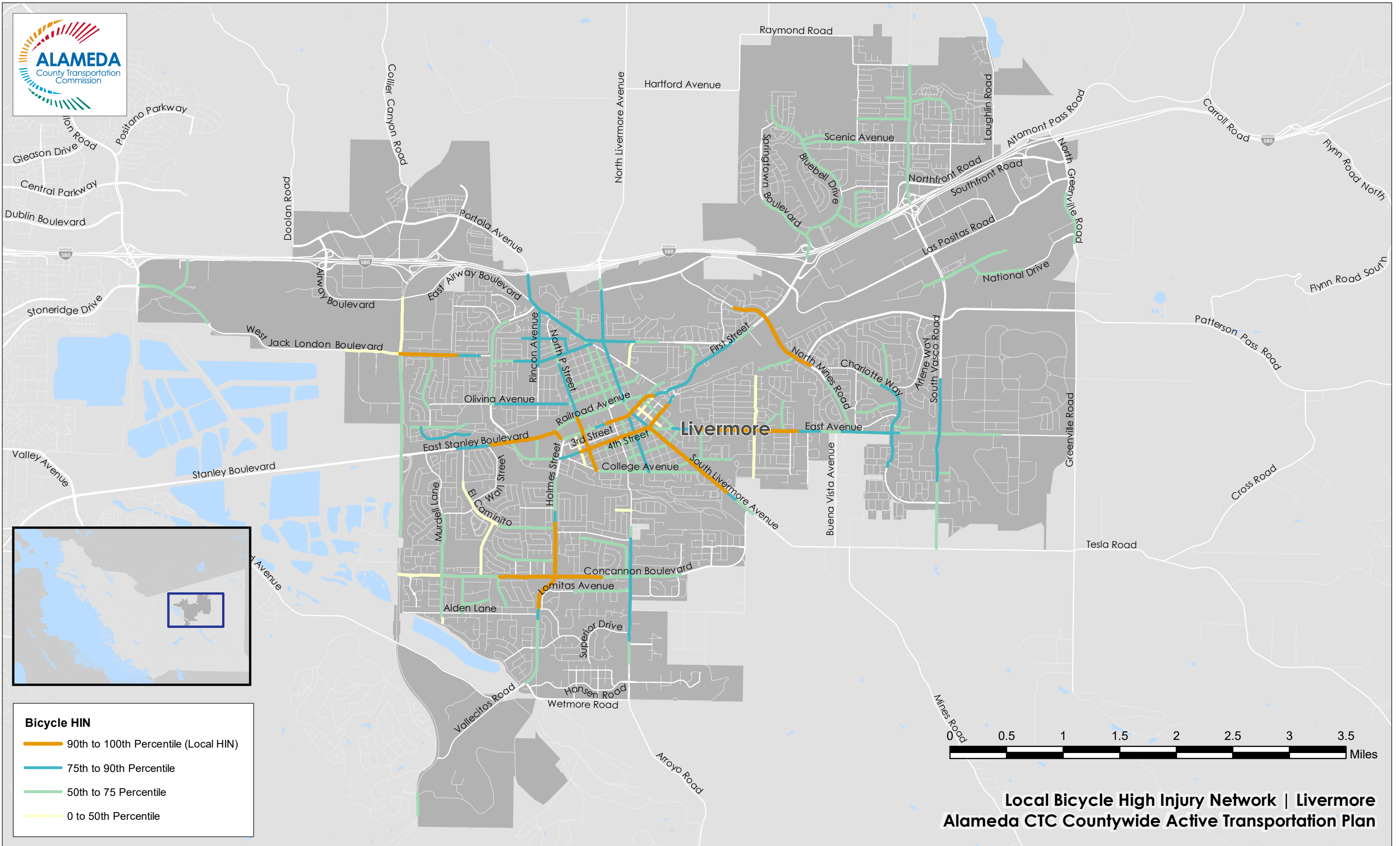
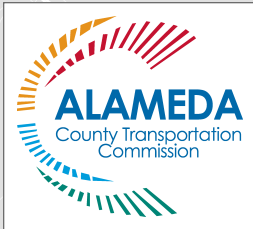
The recently adopted Livermore Active Transportation Plan recommends a range of network improvements and programs aimed at improving safety, comfort, and connectivity. The recommended network improvements include a variety of bicycle facility types including bike boulevards, buffered bike lanes, and separated bikeways. Further, the network recommendations include pedestrian and bicycle crossing improvements at key intersections and trail connections to neighborhoods and regional parks.

The Active Transportation Plan also identifies program recommendations to complement the physical improvements, including components such as wayfinding, mapping, and educational resources to encourage walking and bicycling.

### Major Barriers

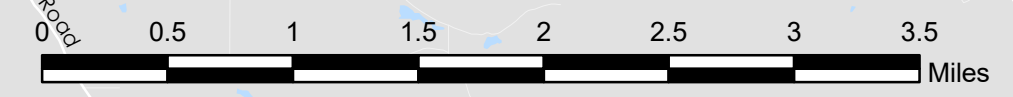
The impact of rail and water barriers on network connectivity in Livermore is minimal. While the analysis shows that rail lines create greater detours outside of downtown, these connectivity issues are actually more related to large parcel sizes in the eastern part of the city, and the combined barrier of the rail line, Arroyo Mocho, and Stanley Boulevard in the west. The Springtown neighborhood and area with Las Positas College are cut off from the rest of the city by I-580, which forms a barrier to bike and pedestrian travel through several interchanges. There are not many major arterials forming barriers in Livermore, but the lack of street connectivity and alignment across some arterials does present a challenge to pedestrian and bike travel.





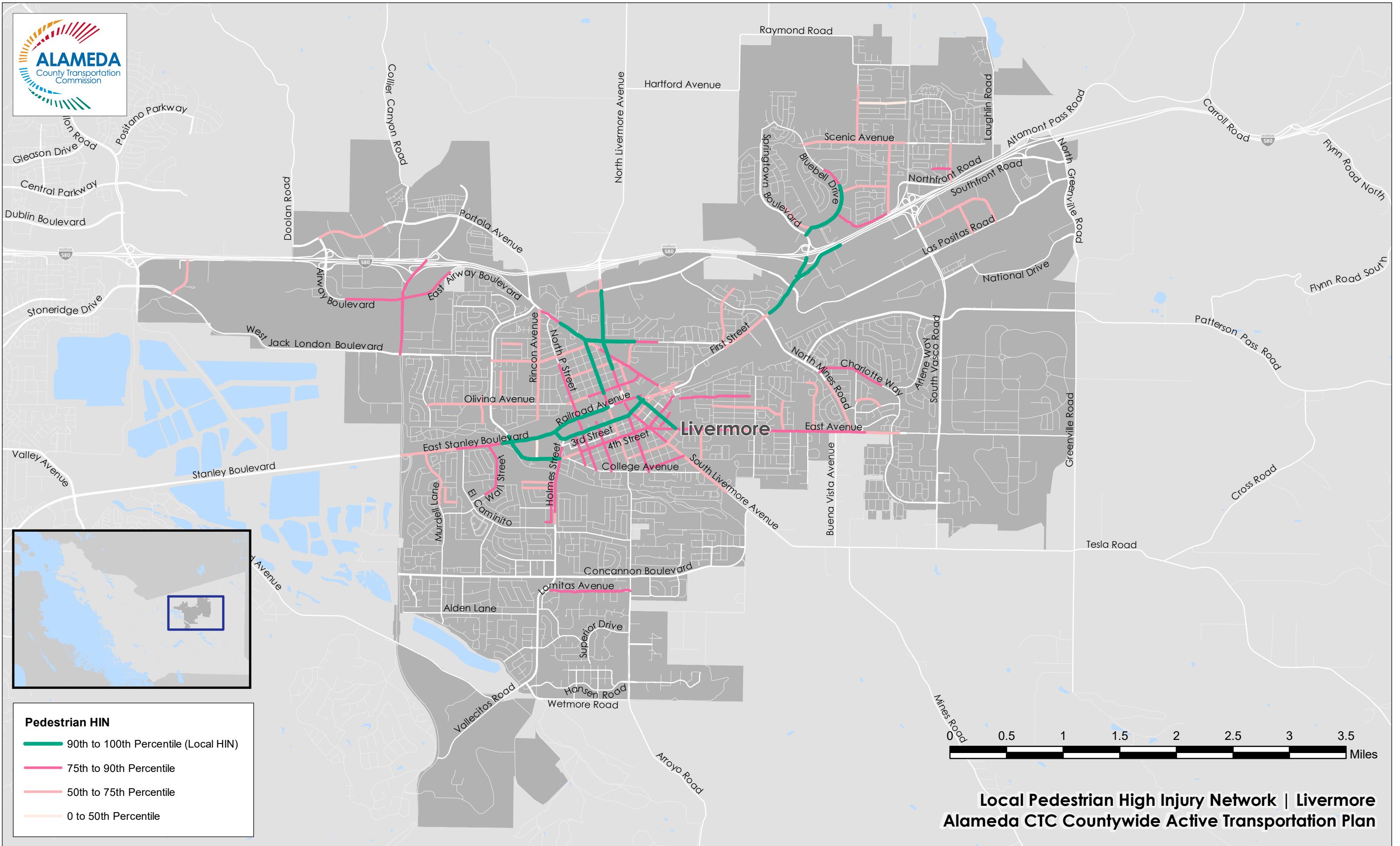
**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



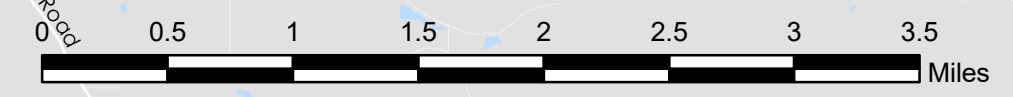
**Local Bicycle High Injury Network | Livermore**  
**Alameda CTC Countywide Active Transportation Plan**



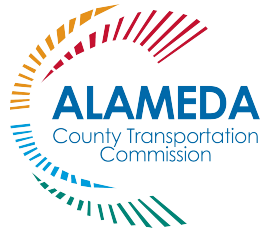


**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Livermore**  
**Alameda CTC Countywide Active Transportation Plan**



# Existing and Planned Bicycle Facilities

## Livermore

### Bicycle Facilities

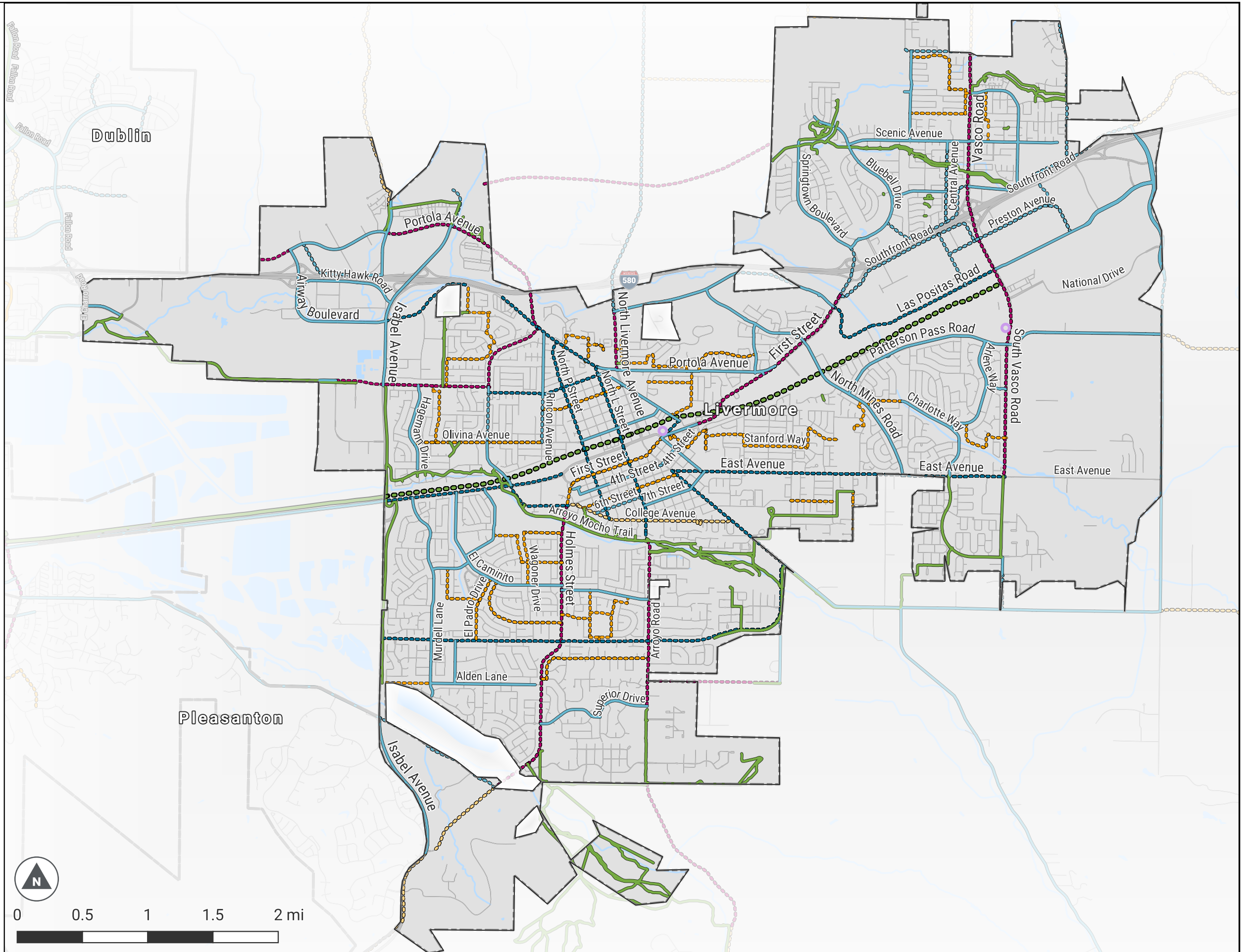
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

### Stations

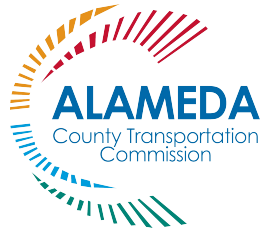
- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**Livermore**

**Rail Barriers Median Detour Ratio**

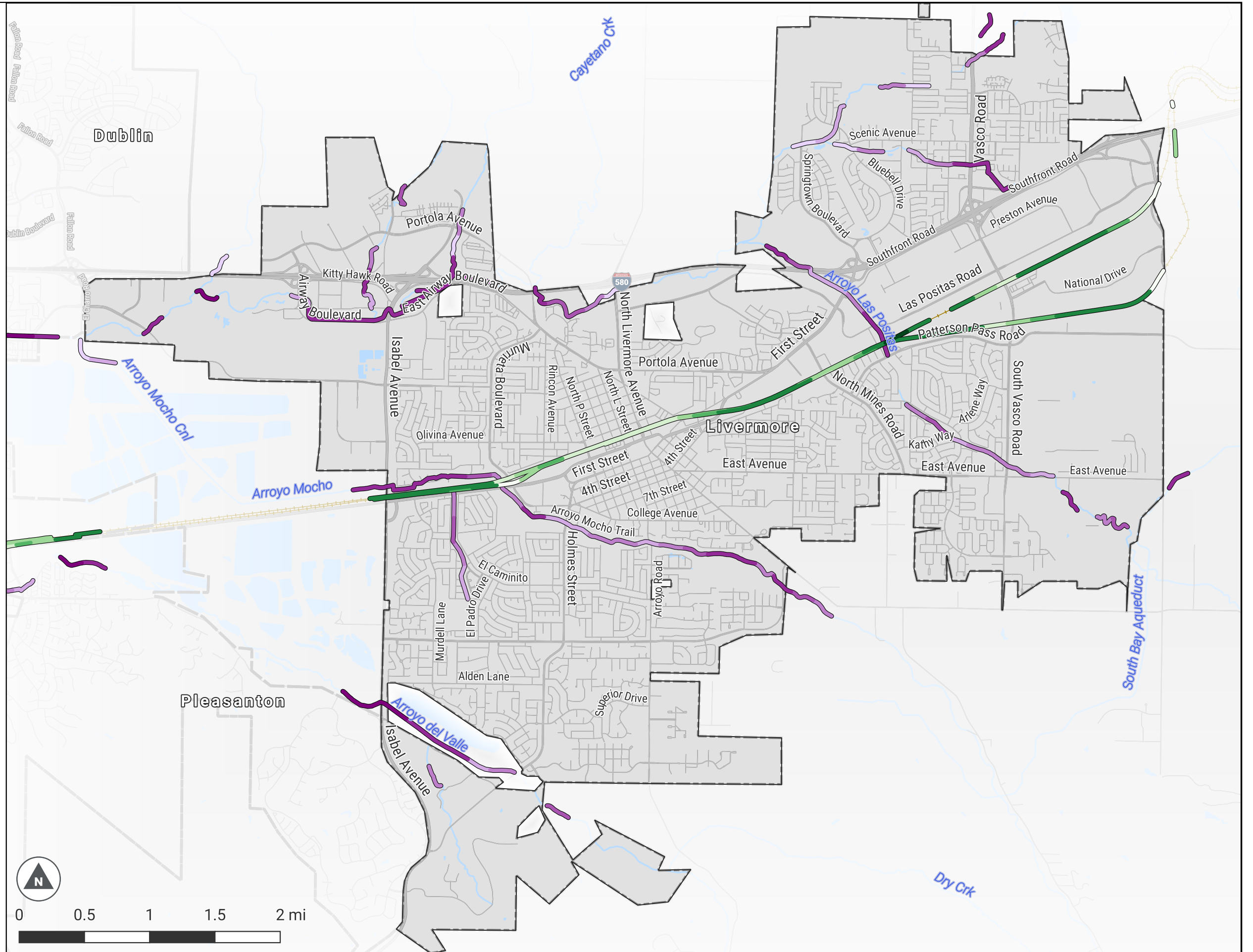
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- BART Lines





# 10 | Newark

## Local High Injury Networks

Approximately six miles constitute the local bicycle HIN in Newark, and three miles make up the local pedestrian HIN. The local bicycle HIN constitutes about 4% of the City's local roadway network, and the local pedestrian HIN accounts for approximately 2% of the City's local roadway network.

## Bike Comfort and Connectivity

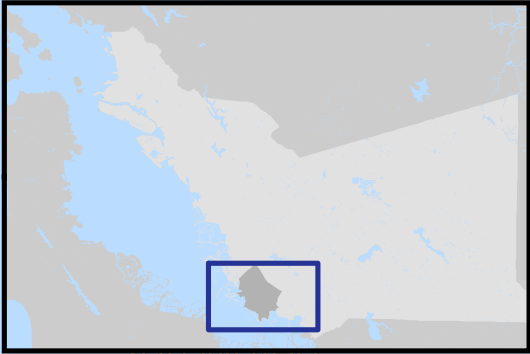
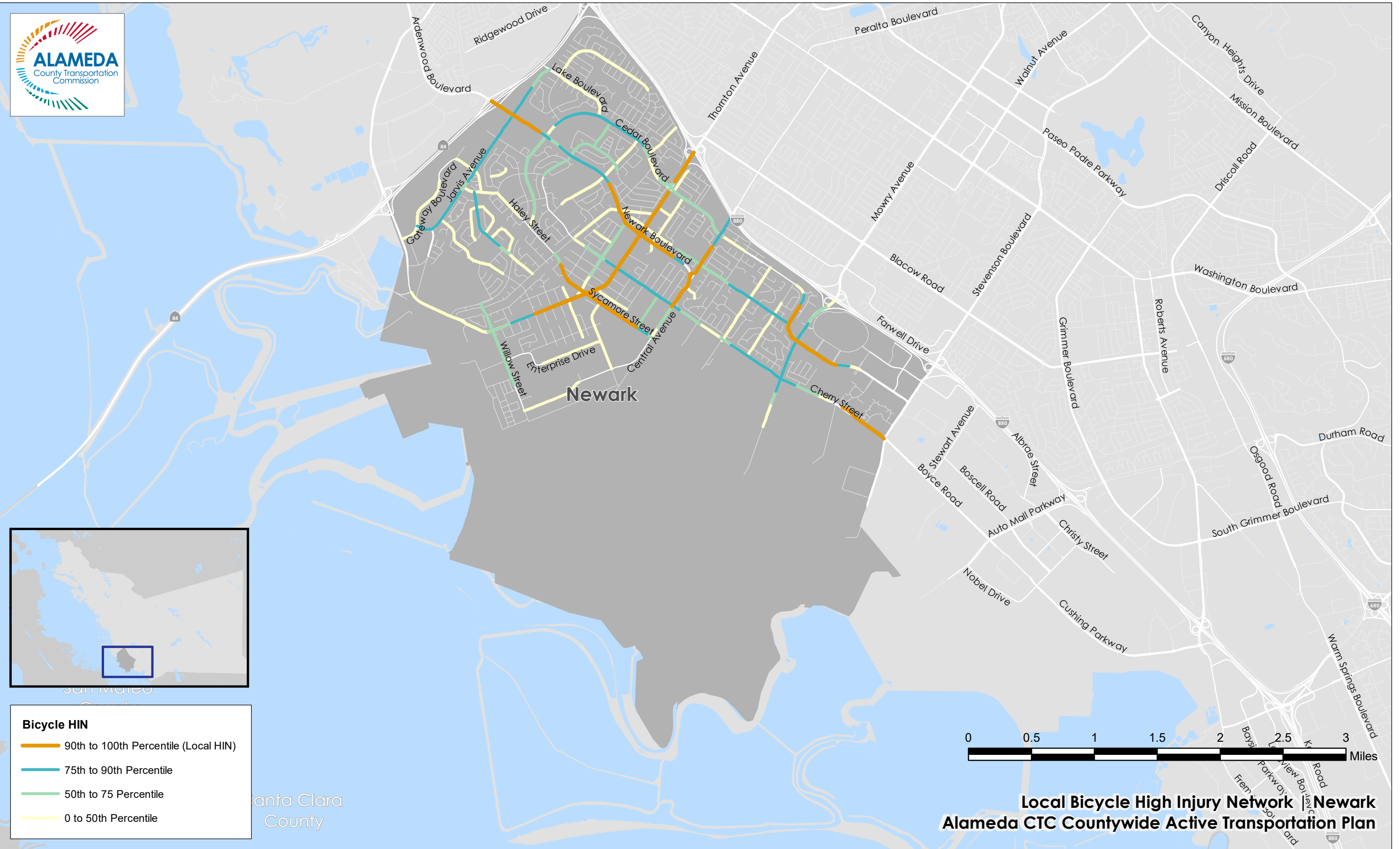
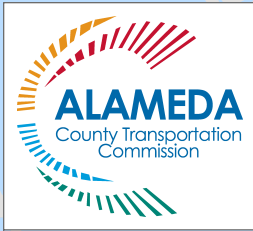
Low-stress connectivity is generally poor today for bicycling in Newark. This issue was highlighted and addressed in the City's 2017 Pedestrian and Bicycle Master Plan, which noted high-traffic streets, high-stress bikeways on major streets, and a particular lack of bike facilities on major north-south streets. I-880 and SR 84, as well as the cul-de-sac street development patterns pose challenges. It is likely that planned projects will help overcome some of these barriers.<sup>3</sup>

## Major Barriers

Generally, rail and water barriers have minimal impact on pedestrian connectivity in Newark. However, some crossings of rail lines, such as Newark Boulevard, are high-stress environments for bicyclists, owing to the speed and volume of traffic. Some arterial streets in the city also create barriers because of wide spacing between pedestrian crossing opportunities and off-set crossings of minor cross streets. I-880 creates a major barrier between Newark and Fremont with a limited number of crossing opportunities, only one of which (Central Avenue) is not an interchange.

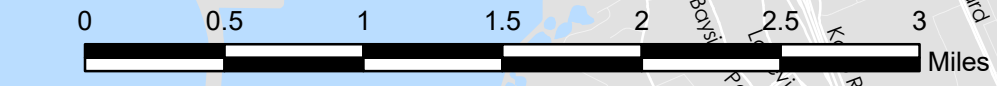
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<sup>3</sup> Data was not available for the planned bike network in Newark's 2017 bike plan for this analysis.

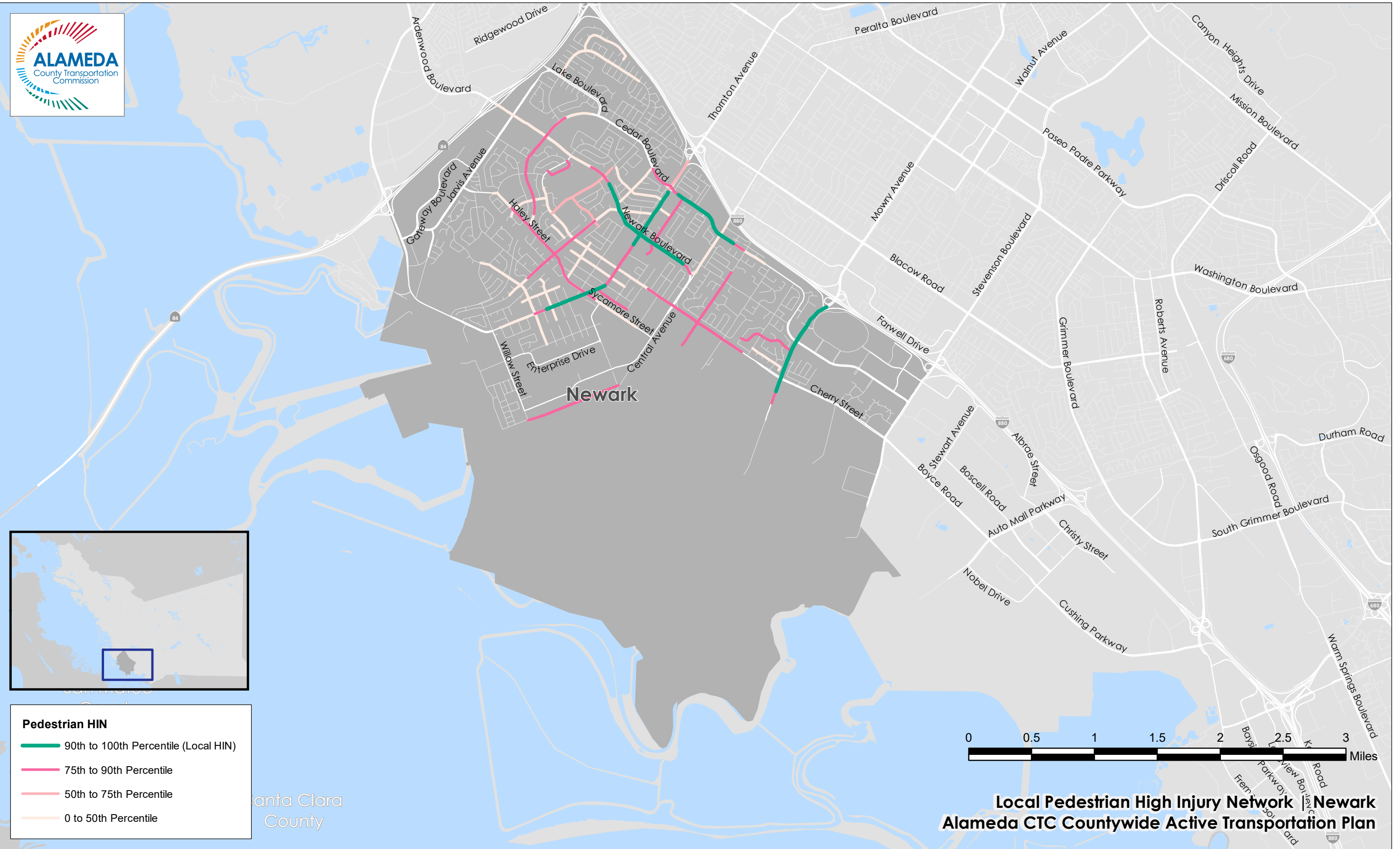
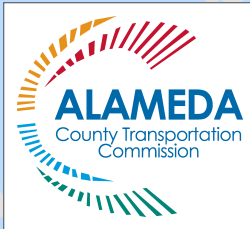


**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



**Local Bicycle High Injury Network | Newark**  
**Alameda CTC Countywide Active Transportation Plan**



**Local Pedestrian High Injury Network | Newark**  
**Alameda CTC Countywide Active Transportation Plan**





## Existing and Planned Bicycle Facilities

Newark

### Bicycle Facilities

- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

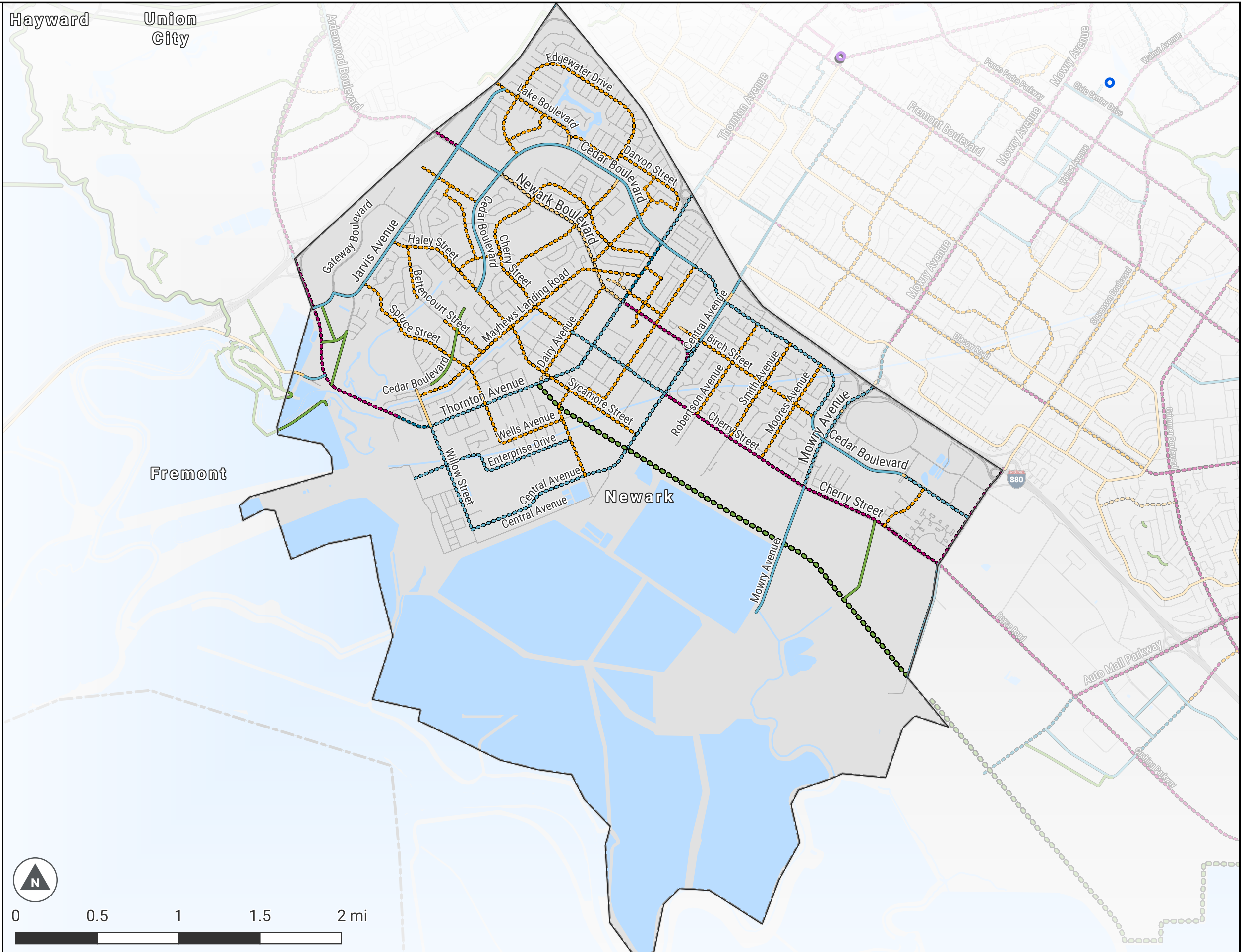
- Existing
- Planned
- Study Corridor

### Stations

- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan





### All Barriers

#### Newark

##### Rail Barriers Median Detour Ratio

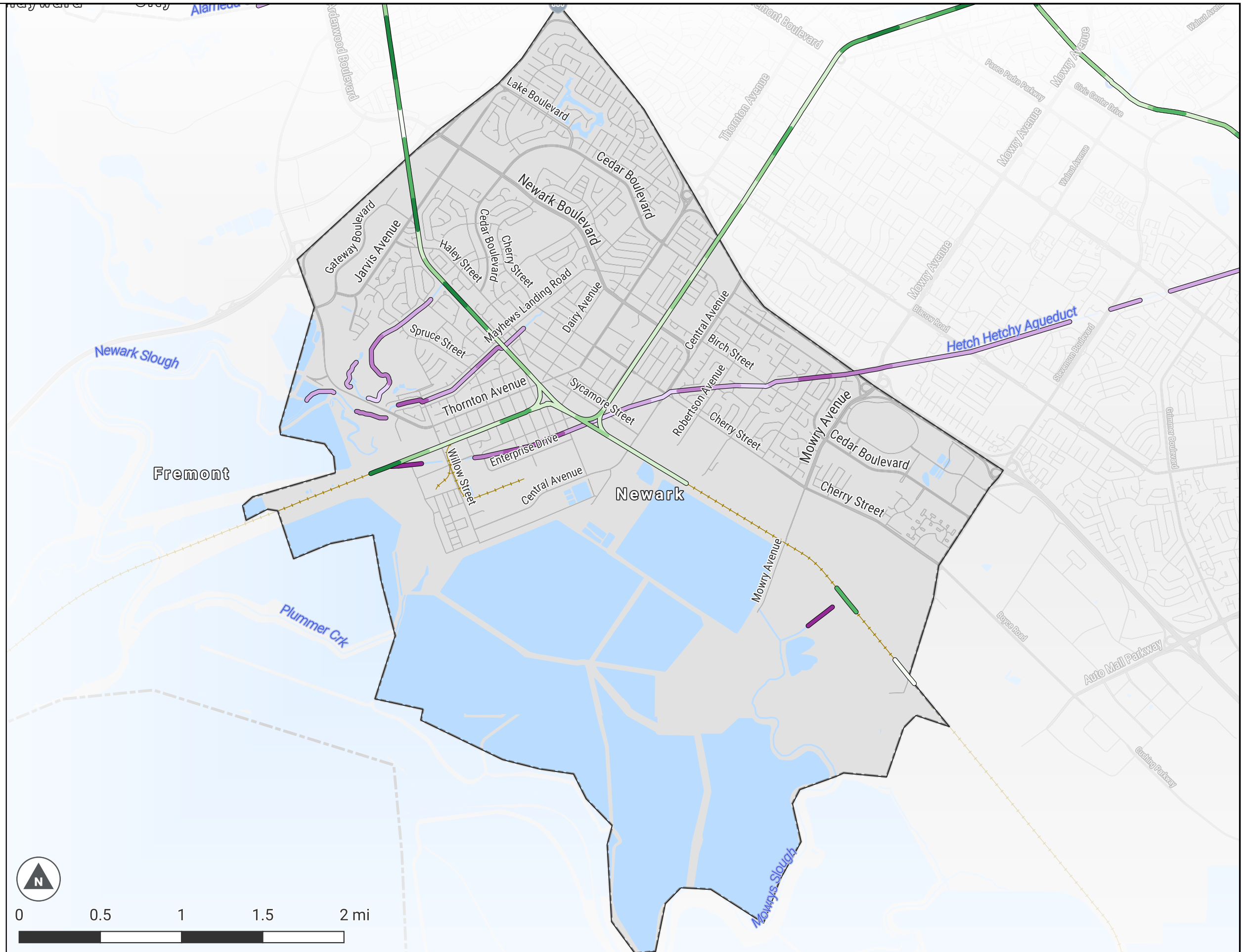
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Water Barriers Median Detour Ratio

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Other

- BART Station
- Amtrak Station
- BART Lines





# 11 | Oakland

## Local High Injury Networks

Approximately 36 miles constitute the local bicycle HIN in Oakland, and 37 miles make up the local pedestrian HIN. These each account for approximately 6% of the local roadway network in Oakland.

## Bike Comfort and Connectivity

Connectivity varies widely across Oakland for low-stress bicycling. The gridded neighborhoods like West Oakland, San Antonio, parts of Central East Oakland, and Elmhurst score fairly well.<sup>4</sup> Challenges are more prevalent in downtown Oakland, near Fruitvale, MacArthur and Rockridge BART stations, in the more industrial areas near the Bay, and in the hills. Connectivity around Rockridge BART improves in the planned condition, however, as a result of the planned bike boulevard running southwest from the station on Shaffer Avenue. The LTS analysis assumed that all planned bike boulevards are low stress, regardless of the street classification.

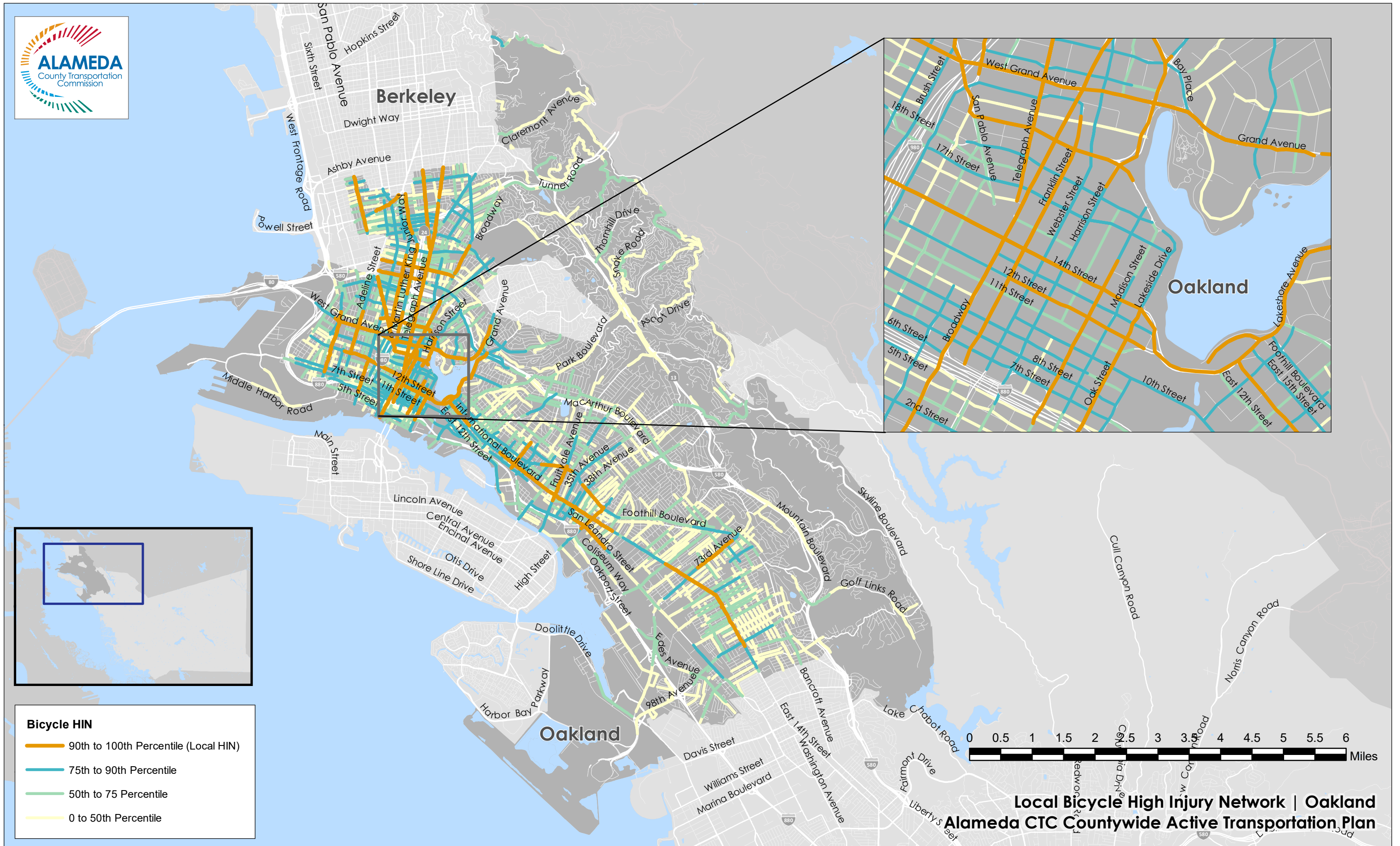
## Major Barriers

Water and rail barriers impact Oakland's connectivity to adjacent communities and the Bay Trail. The Oakland Estuary is a major barrier for connecting to Alameda, and a portion of San Leandro Creek is a barrier to connectivity from the Sobrante Park neighborhood into San Leandro. Nearly all of Oakland's waterfront has rail lines along it, impacting connectivity to varying degrees. Streets that do cross the rail lines, especially in East Oakland, often do not have bicycle facilities, and many of them also have challenging pedestrian environments where sidewalks disappear on the approach to the rail line crossing. There are very few grade-separated rail crossings. SR 24/I-980, I-580, I-880, and SR 13 all impact street connectivity. Many crossings of these barriers are at interchanges, creating conflicts with higher-speed on-/off-ramp traffic, while other crossings are undercrossings that are not well lit for people walking and biking, or are overcrossings without bicycle facilities. Arterial streets also create barriers to pedestrian and bicycle connectivity in Oakland, though the underlying street network is more well-connected than in cities which were developed mostly after World War II.

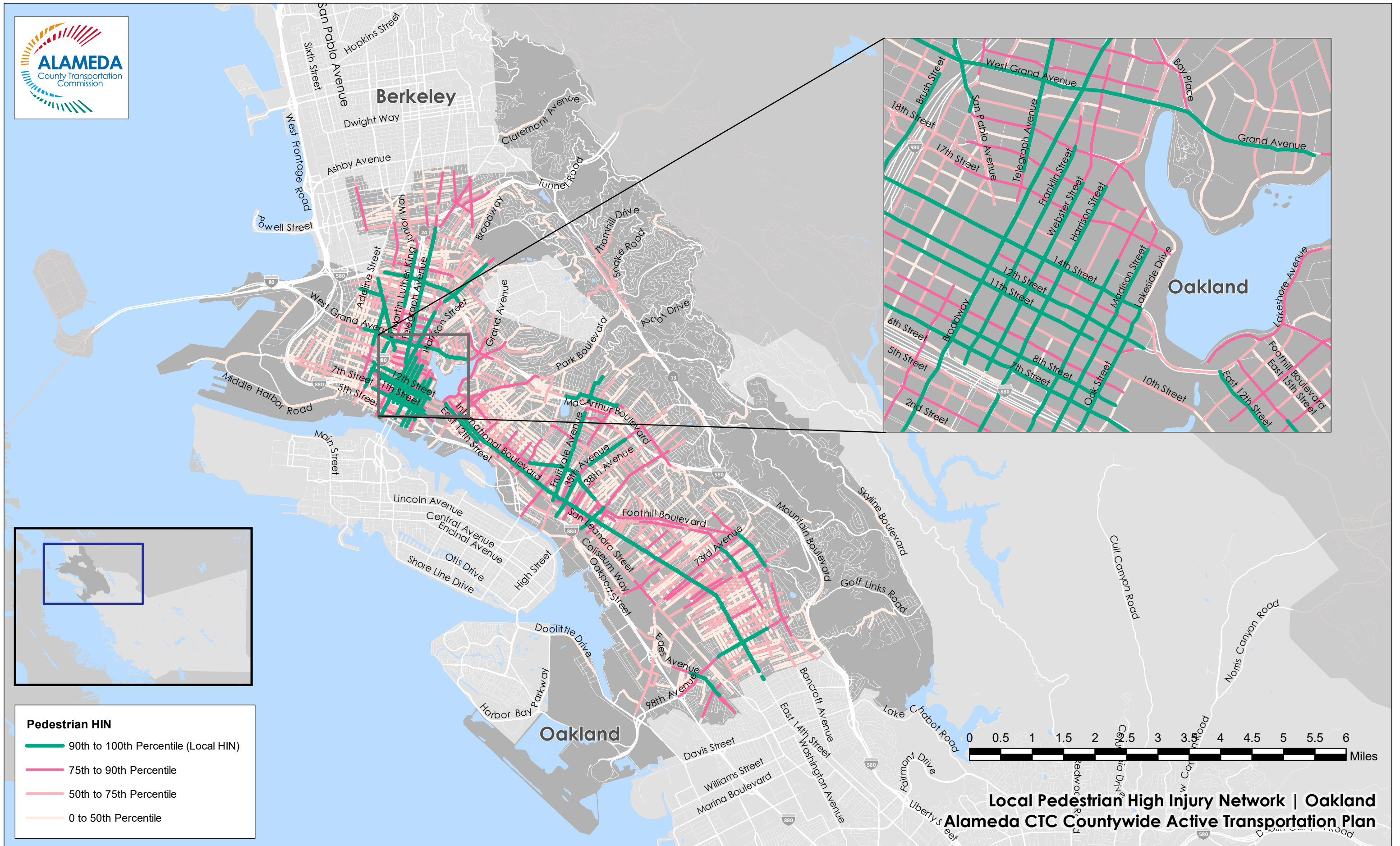
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<sup>4</sup> Existing conditions were assessed using the City of Oakland's recently completed LTS analysis. Planned conditions were evaluated using the methodology for the Plan and data regarding planned facilities from the City's bike plan from 2007 which is currently in the process of being updated.

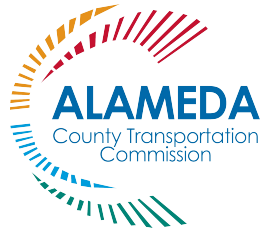












## Existing and Planned Bicycle Facilities

### Oakland

#### Bicycle Facilities

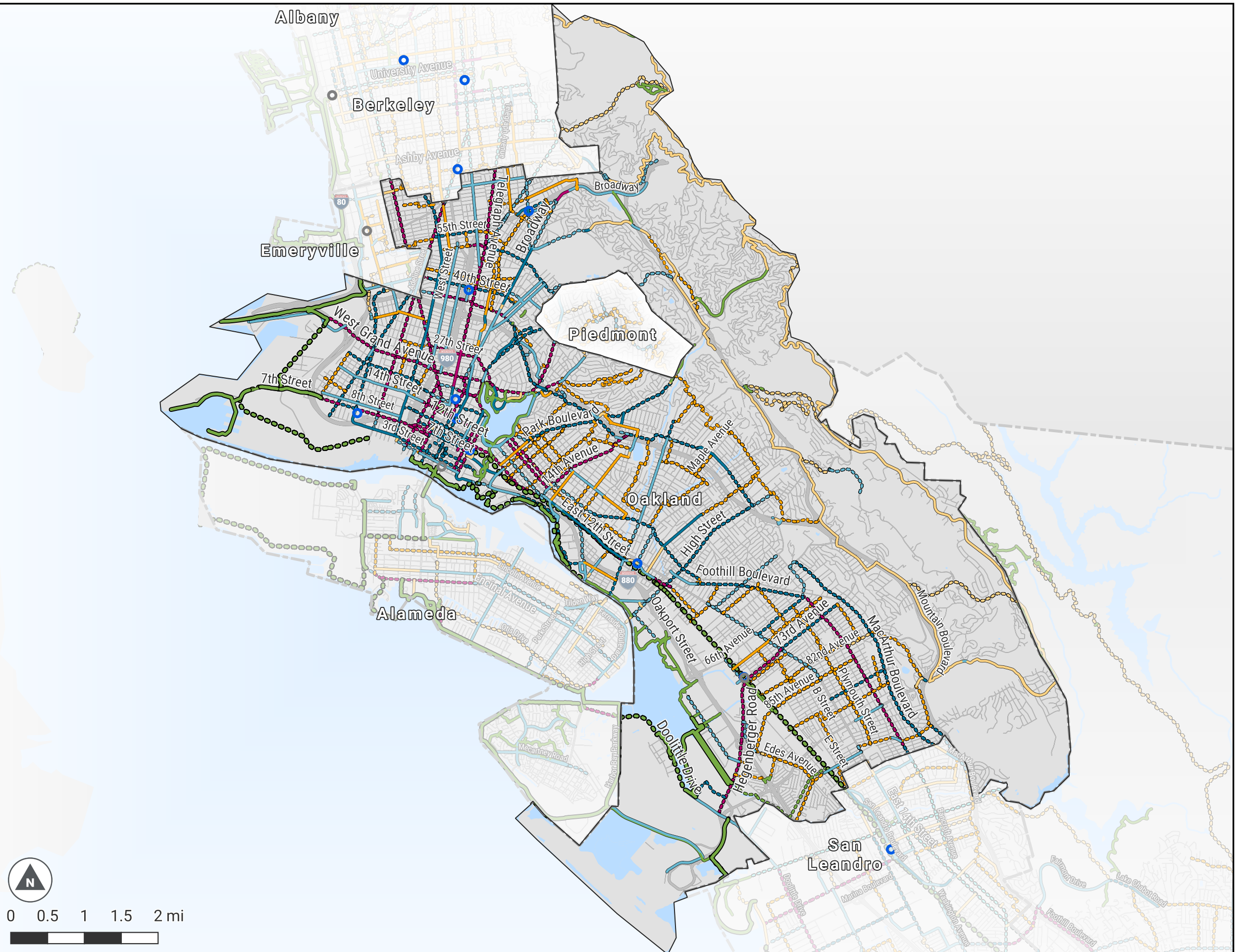
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

#### Stations

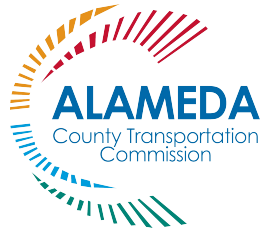
- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide  
Active Transportation Plan







**All Barriers**

**Oakland**

**Rail Barriers Median Detour Ratio**

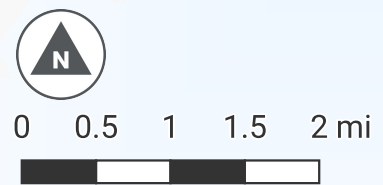
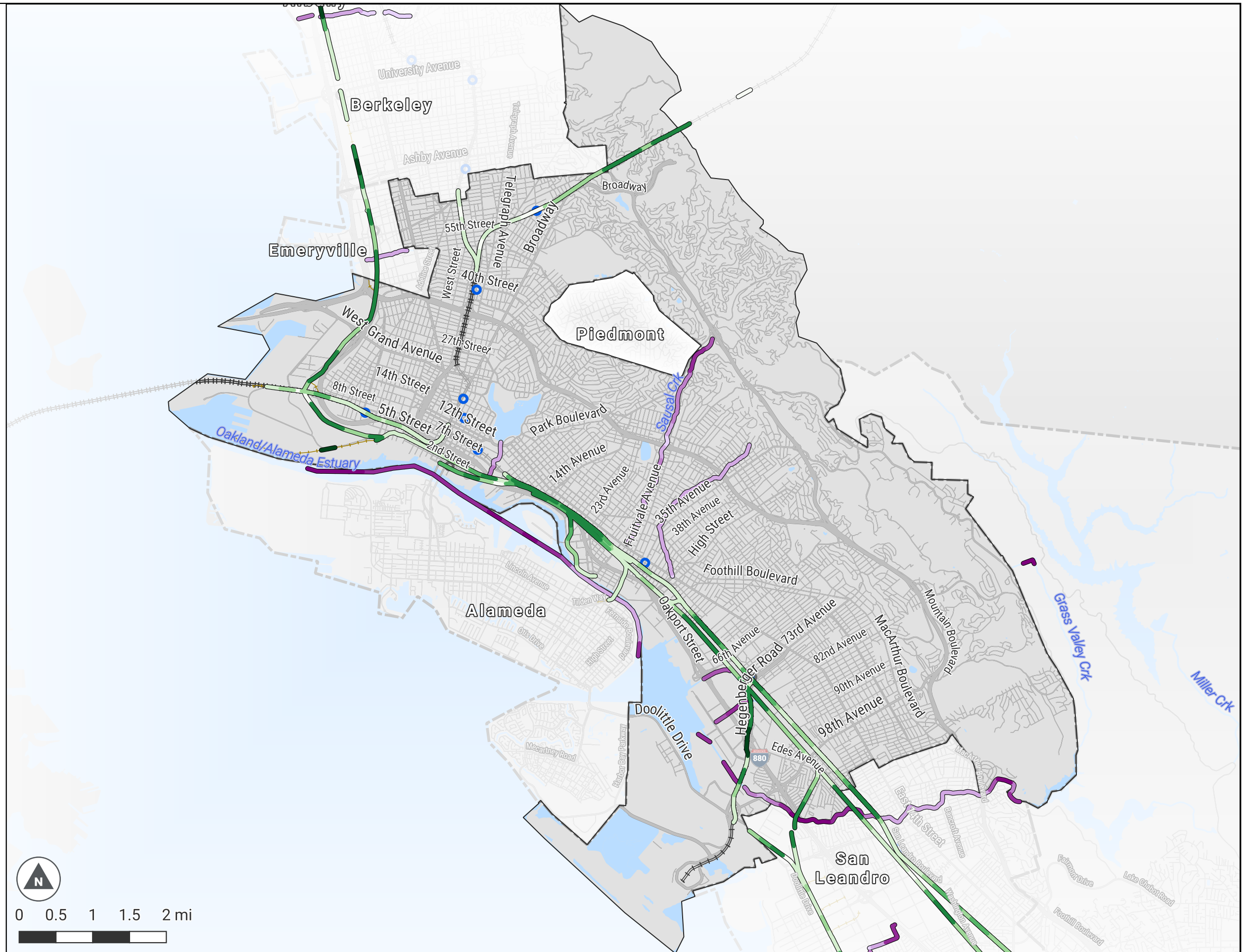
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- BART Lines



# 12 | Piedmont

## Local High Injury Networks

Approximately two miles constitute the local bicycle HIN in Piedmont, and an additional one mile makes up the local pedestrian HIN. The local bicycle HIN constitutes approximately 5% of the local roadway network, and the local pedestrian is approximately 3% of the local roadway network.

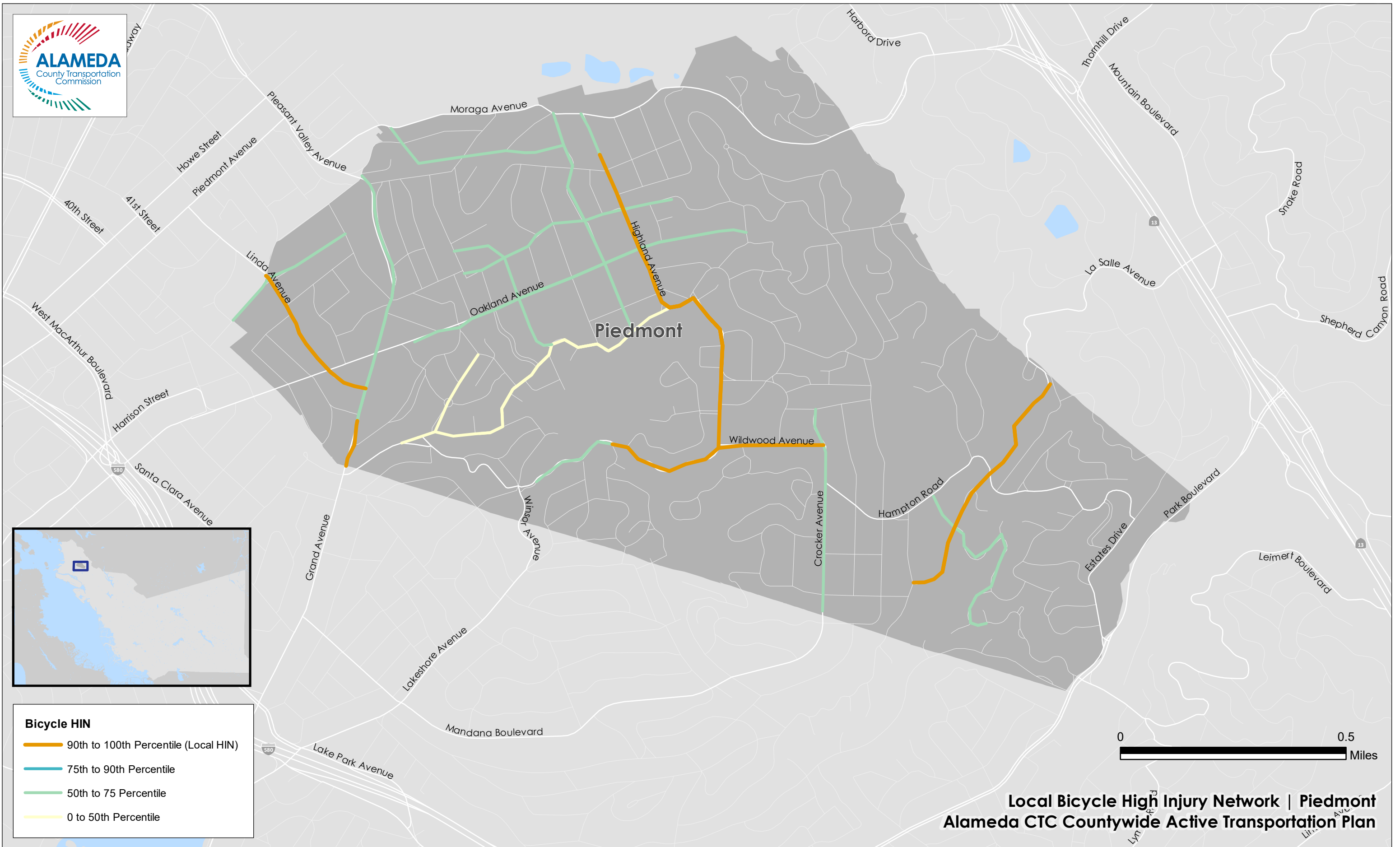
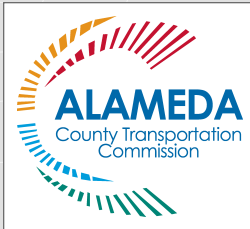
## Bike Comfort and Connectivity

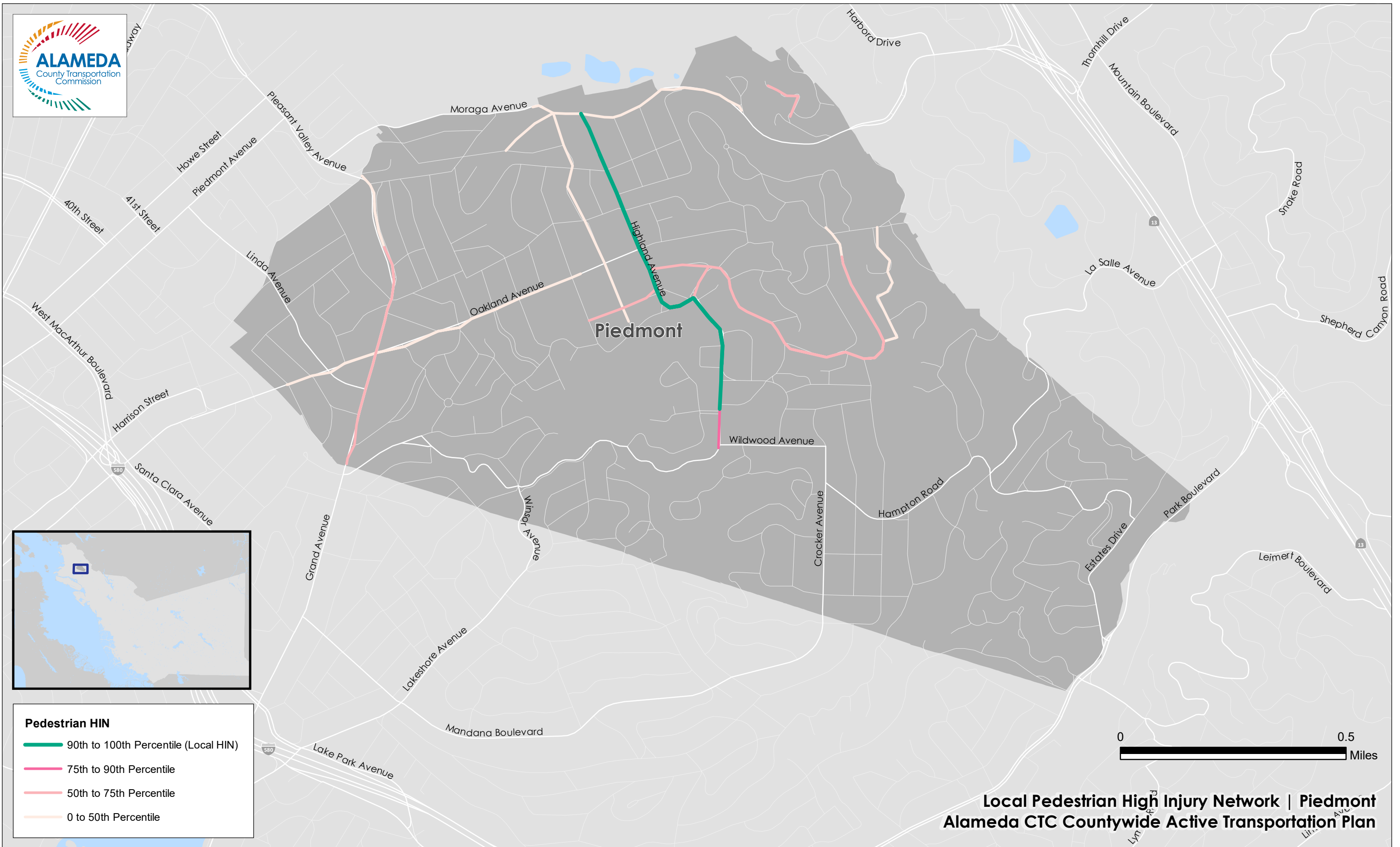
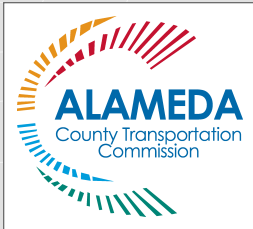
Low-stress connectivity in Piedmont is has been rated as generally decent for bicyclists using the BNA. Challenges to bicycling within Piedmont would likely be more related to topography than the existence and connectivity of low-stress streets since nearly all of the city's network consists of local streets. There are few high-volume, high-speed streets, and the major connectivity barrier in the BNA is actually created by Piedmont Park.

## Major Barriers

There are no rail or water barriers within Piedmont. Large arterial streets and freeways are also not present. Piedmont's biggest barrier to pedestrian and bicycle connectivity is the underlying disconnected street network in some areas, though some pedestrian connections have been made through staircases. This development pattern is somewhat driven by the city's topography which creates additional challenges for people walking and biking.





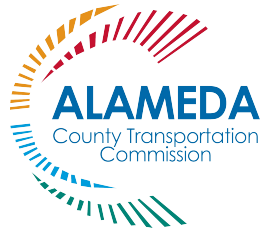


**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile

**Local Pedestrian High Injury Network | Piedmont**  
**Alameda CTC Countywide Active Transportation Plan**





## Existing and Planned Bicycle Facilities Piedmont

### Bicycle Facilities

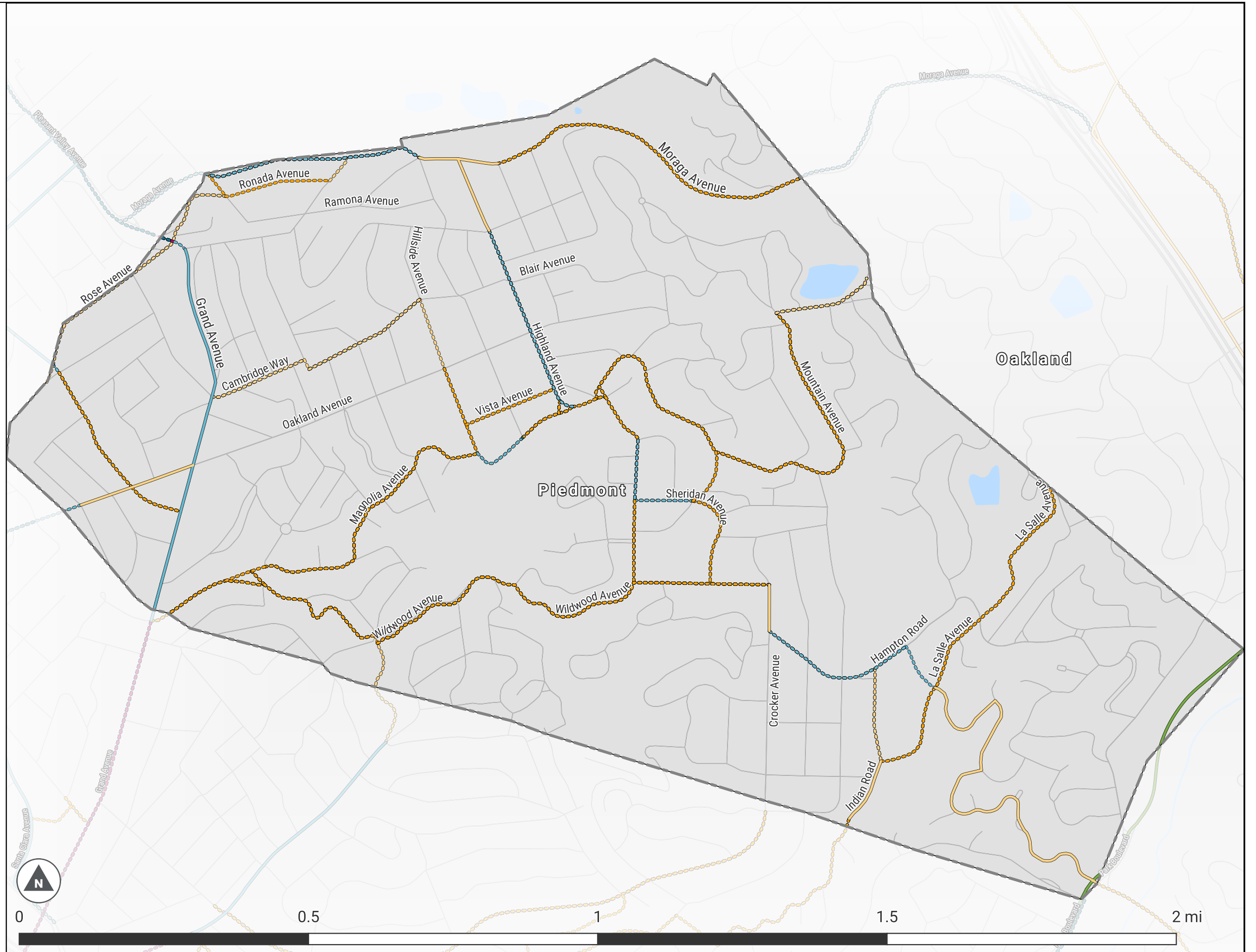
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

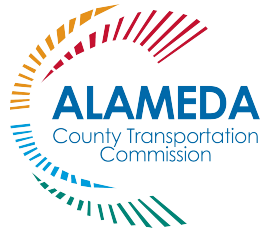
### Stations

- BART Station
- Amtrak Station
- ACE

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Alameda CTC Countywide  
Active Transportation Plan





### All Barriers

#### Piedmont

##### Rail Barriers Median Detour Ratio

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Water Barriers Median Detour Ratio

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Other

- BART Station
- Amtrak Station
- BART Lines





# 13 | Pleasanton

## Local High Injury Networks

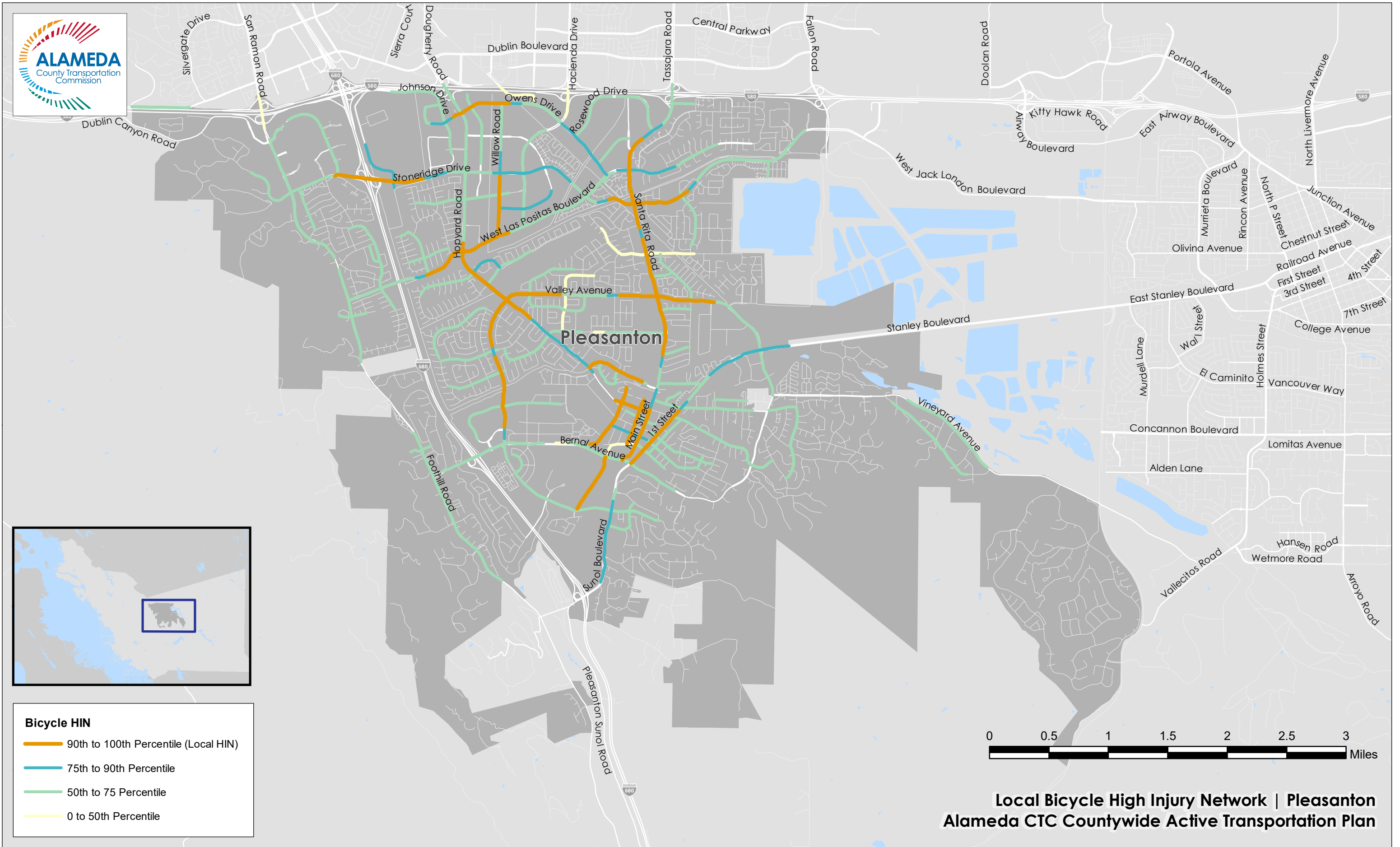
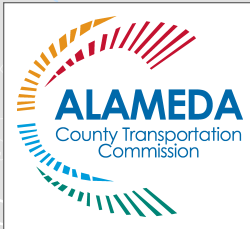
Approximately 12 miles constitute the local bicycle HIN in Pleasanton, and an additional seven miles make up the local pedestrian HIN. The local bicycle HIN constitutes approximately 3% of the local roadway network, and the local pedestrian HIN constitutes approximately 2% of the local roadway network.

## Bike Comfort and Connectivity

The lack of many large arterial streets means that Pleasanton already rates as fairly well connected in many neighborhoods, especially for a suburban jurisdiction. Hopyard Road in the northwest part of the city is one of the only four-lane, higher-speed streets in the city, and its impact on connectivity (along with the disconnected residential street network adjacent) can easily be seen. There are also some connectivity challenges to retail nodes in Pleasanton, notably at Valley Avenue and Santa Rita Road.

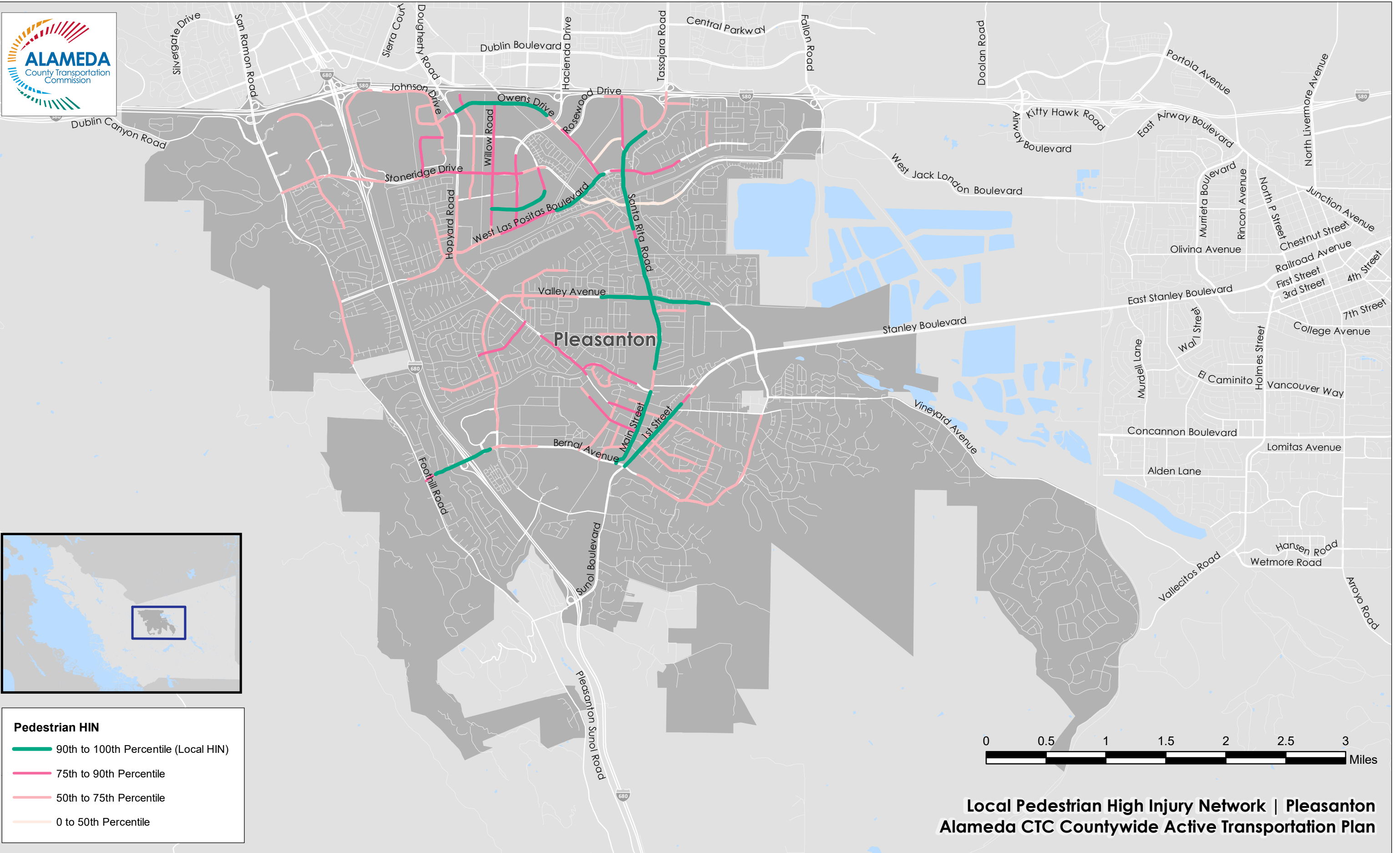
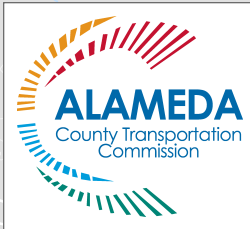
## Major Barriers

There are several canals and arroyos within Pleasanton that have led to a disconnected street network and create longer detours for people walking and biking. Arroyo de la Laguna, in tandem with I-680, creates a barrier between the Foothill Road neighborhoods and the rest of Pleasanton. The City's bike plan calls for paving an existing informal path along the arroyo that would continue under I-680, improving connectivity and adding a low-stress bike connection. Rail lines have minimal impact on connectivity in Pleasanton. I-580 also creates a major barrier to connecting into Dublin by walking or biking, with all crossings happening at interchanges with the exception of the Iron Horse Trail and Alamo Canal/Centennial Trail. Arterial streets also form barriers in Pleasanton as high-stress bike routes with a limited number of crossings for pedestrians. The City is currently working on improving one such arterial with a study of West Las Positas Boulevard.



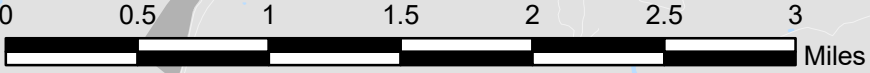
**Local Bicycle High Injury Network | Pleasanton**  
**Alameda CTC Countywide Active Transportation Plan**





**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Pleasanton**  
**Alameda CTC Countywide Active Transportation Plan**



## Existing and Planned Bicycle Facilities

Pleasanton

### Bicycle Facilities

- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

Existing

Planned

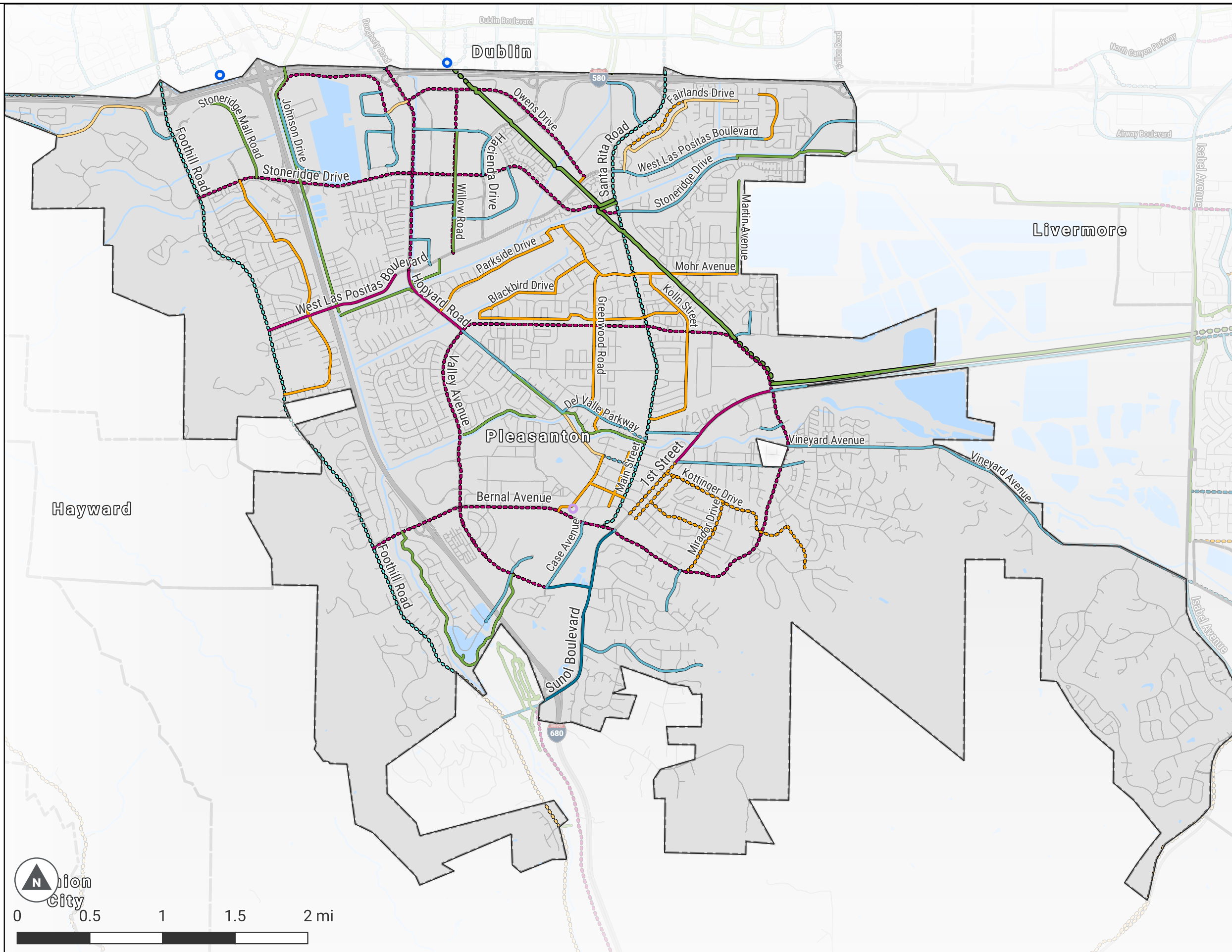
Study Corridor

### Stations

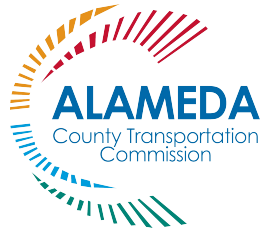
- BART Station
- Amtrak Station
- ACE

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Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**Pleasanton**

**Rail Barriers Median Detour Ratio**

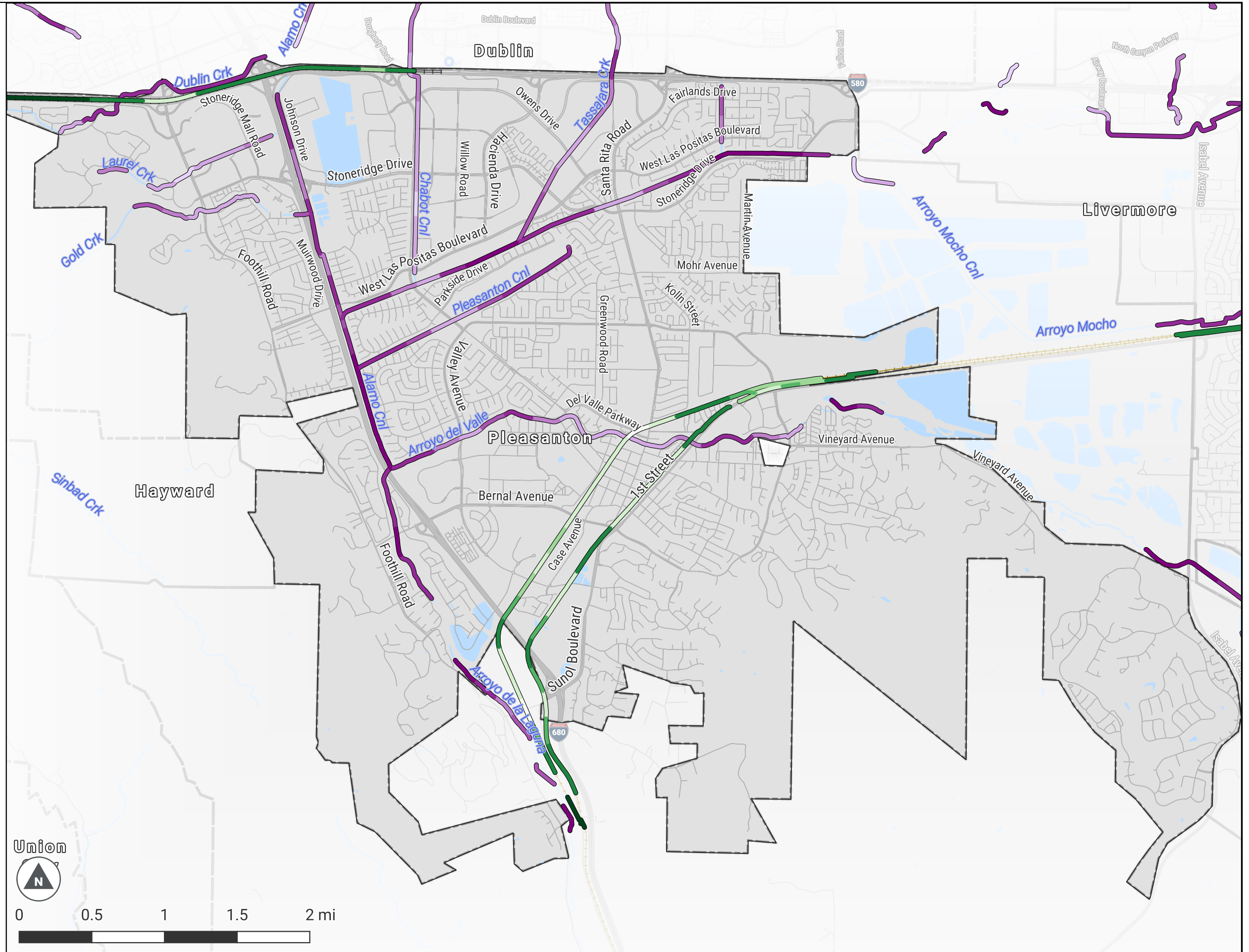
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- = BART Lines



Union



0 0.5 1 1.5 2 mi



# 14 | San Leandro

## Local High Injury Networks

Approximately nine miles constitute the local bicycle HIN in San Leandro, and an additional seven miles make up the local pedestrian HIN. These account for approximately 4% and 3% of the local roadway network, respectively.

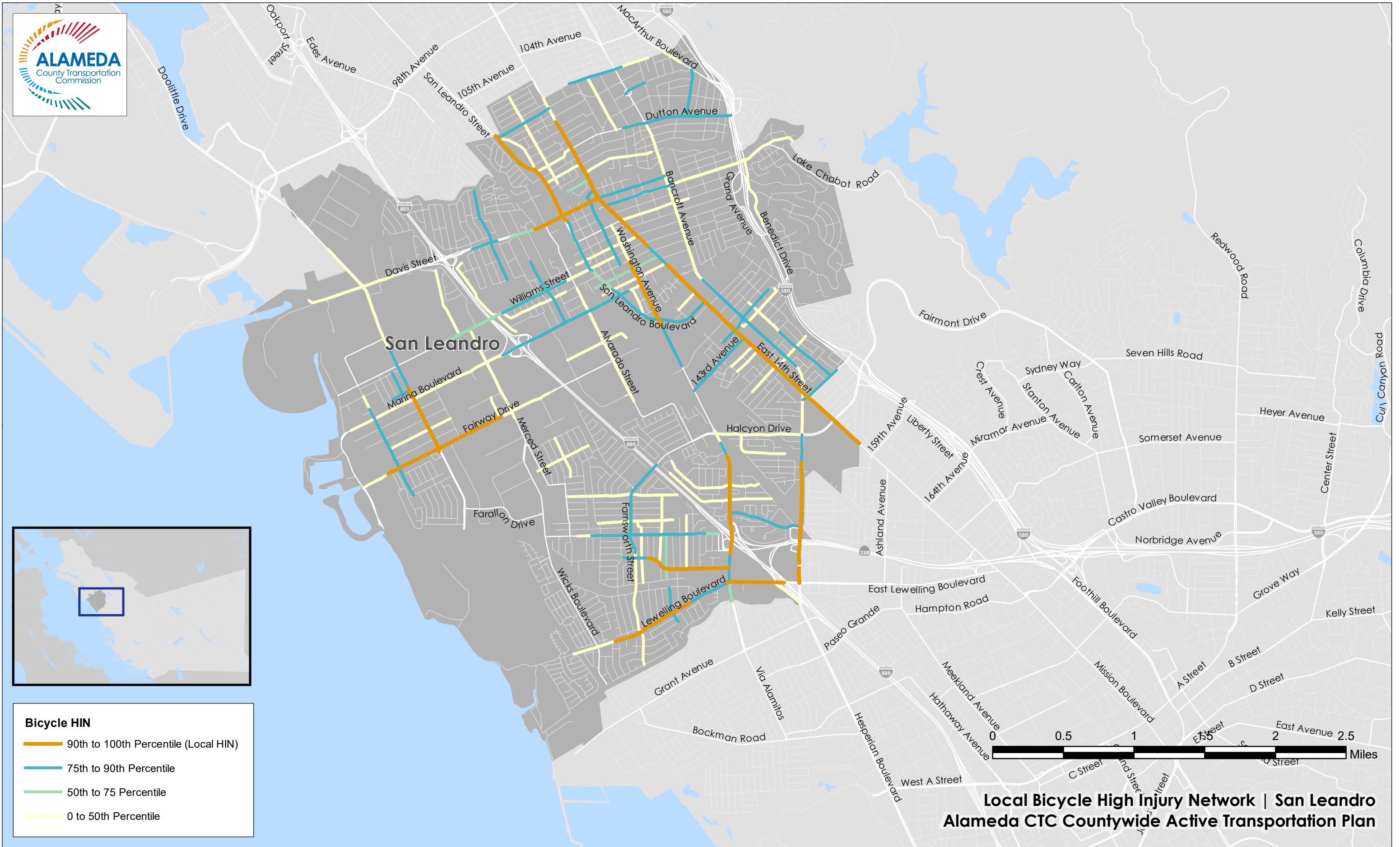
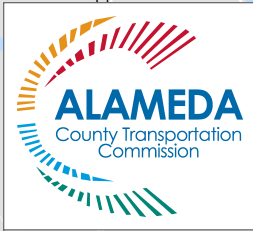
## Bike Comfort and Connectivity

Connectivity today between East 14<sup>th</sup> Street and I-580 in San Leandro is fairly high, as low-stress streets connect to one another and across major streets at signalized intersections such as where Estudillo Avenue crosses Bancroft Avenue. San Leandro recently adopted a new bike plan in 2018. The planned Class IV bike facility on Estudillo Avenue improves connectivity into Old San Leandro and increases the score for a number of blocks around that facility. Higher classification streets around the BART station rate as high-stress streets, but the planned East Bay Greenway provides improved connectivity near the station. Improvements are also anticipated from other planned bike boulevards in the southwest of the city and a Class IV bike facility along Wicks Boulevard.

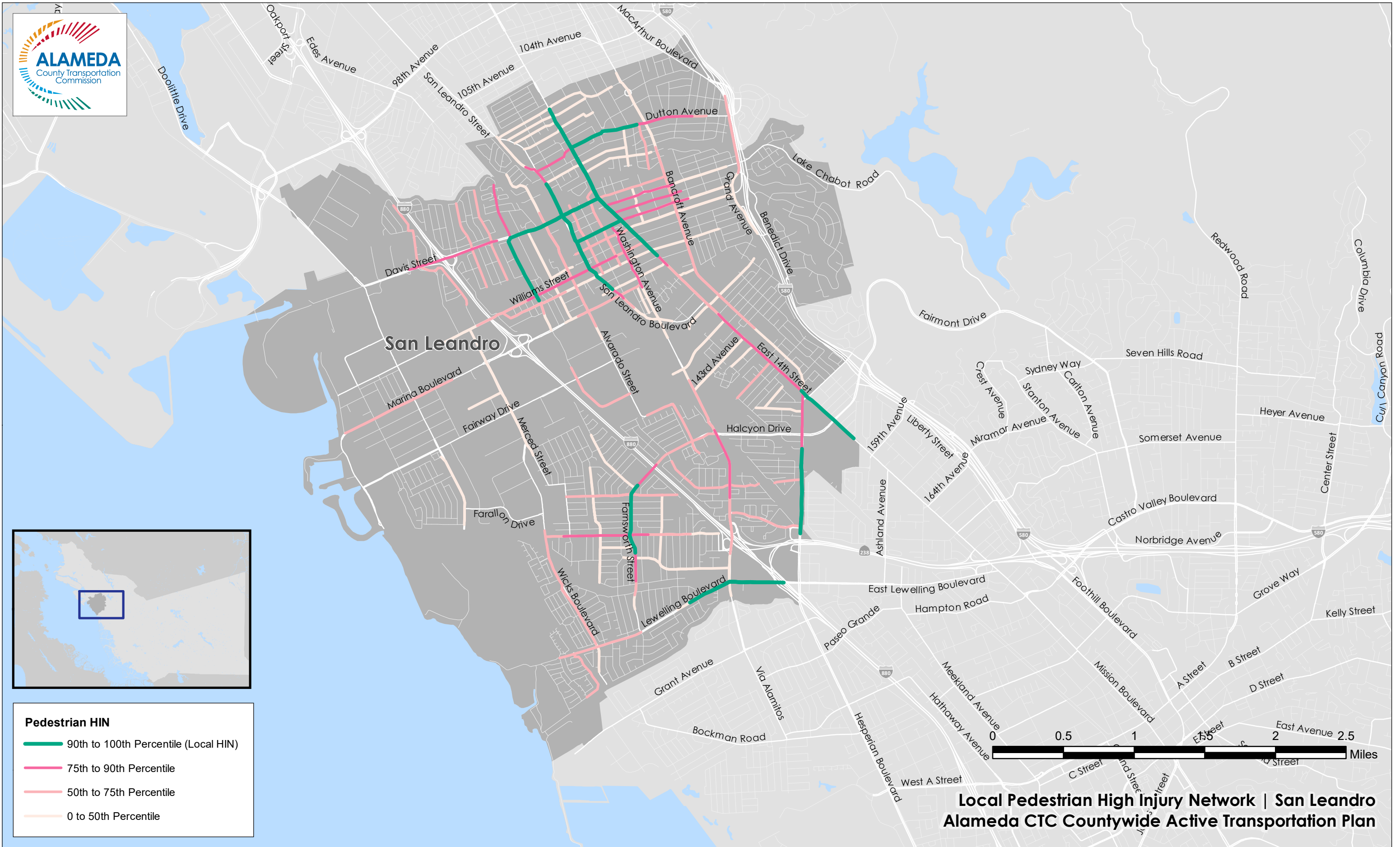
## Major Barriers

Connectivity for walking and biking is not heavily impacted by water barriers in San Leandro, with the exception of connecting into Oakland across San Leandro Creek and into western San Lorenzo across the San Lorenzo Creek. Because these creeks form jurisdictional boundaries, little roadway development has happened across them. Rail lines (BART and freight) also do not have a large impact on overall street connectivity or pedestrian access, but many streets that do intersect with the rail lines (such as Davis Street and Floresta Boulevard) present high-stress bicycling environments.





**Local Bicycle High Injury Network | San Leandro**  
**Alameda CTC Countywide Active Transportation Plan**







# Existing and Planned Bicycle Facilities

San Leandro

## Bicycle Facilities

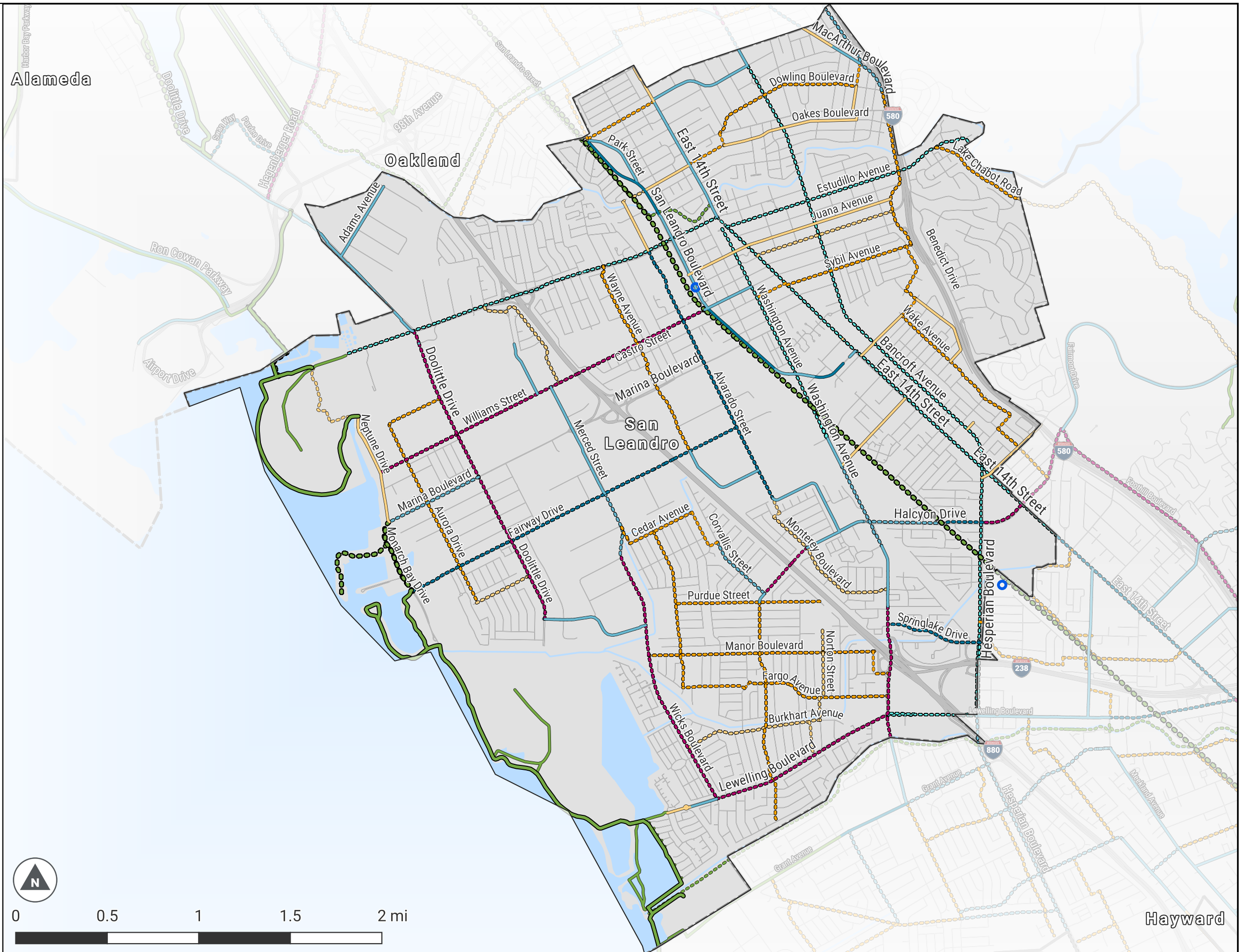
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

## Stations

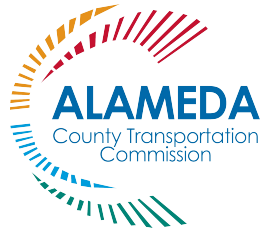
- BART Station
- Amtrak Station
- ACE

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Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**San Leandro**

**Rail Barriers Median Detour Ratio**

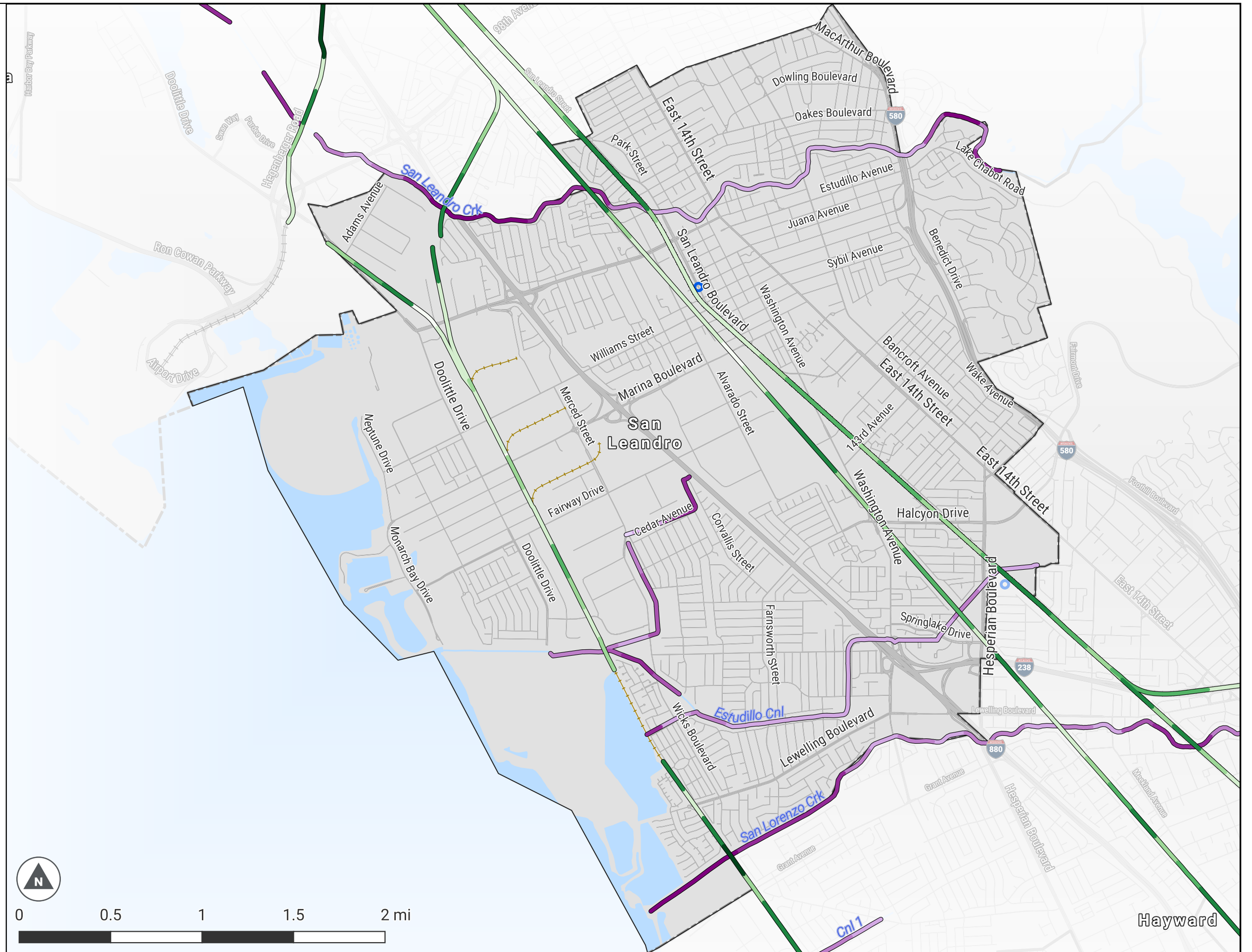
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- BART Lines





# 15 | Union City

## Local High Injury Networks

Approximately four miles constitute the local bicycle HIN in Union City, and an additional four miles make up the local pedestrian HIN. These each account for approximately 5% of the local roadway network in Union City.

## Bike Comfort and Connectivity

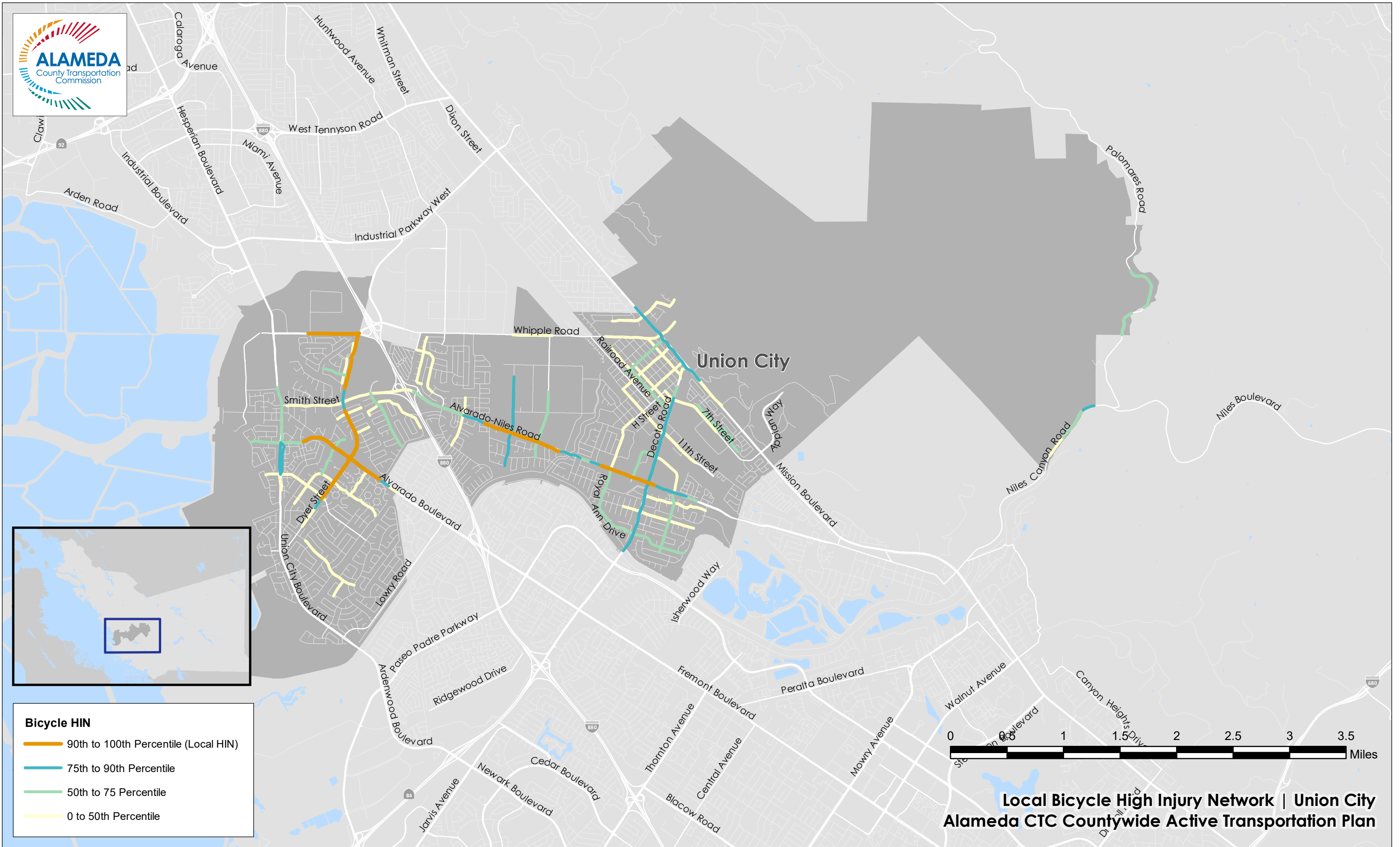
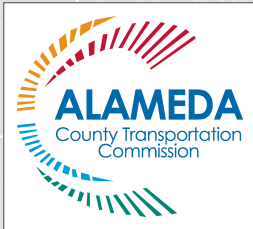
Many of Union City's streets rate as low-stress riding environments, and they connect well within neighborhoods, such as those southwest of I-880. Additionally, Class I paths along the Alameda and Dry Creeks provide longer distance low-stress connections off the street network. However, the challenges of major arterials, the freeway, and rail lines make connectivity difficult. The planned Class I path along the East West Connector, and a planned Class I along the BART line would provide connectivity benefits in the future, especially if connections into neighborhoods are ensured.<sup>5</sup>

## Major Barriers

Alameda Creek forms a major barrier between Union City and Fremont, and other water bodies, in tandem with arterial roadways in some cases, impact connectivity. The western rail lines in Union City do not have a great impact on connectivity. The greatest impact of a rail line on connectivity is on the Fremont border, south of Alvarado Boulevard, where two adjacent residential developments have no connectivity across the jurisdictional boundary and rail barrier. Additionally, there are no crossings of the BART line for a mile between Decoto Road and Alvarado-Niles Road. Both of those arterial streets also act as barriers to bicycling given their high-stress environments.

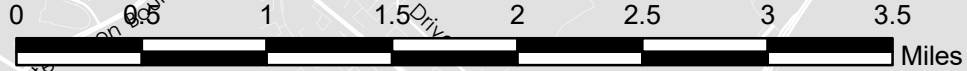
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<sup>5</sup> Data was not available for the planned bike network in Union City's 2012 bike plan for this analysis.



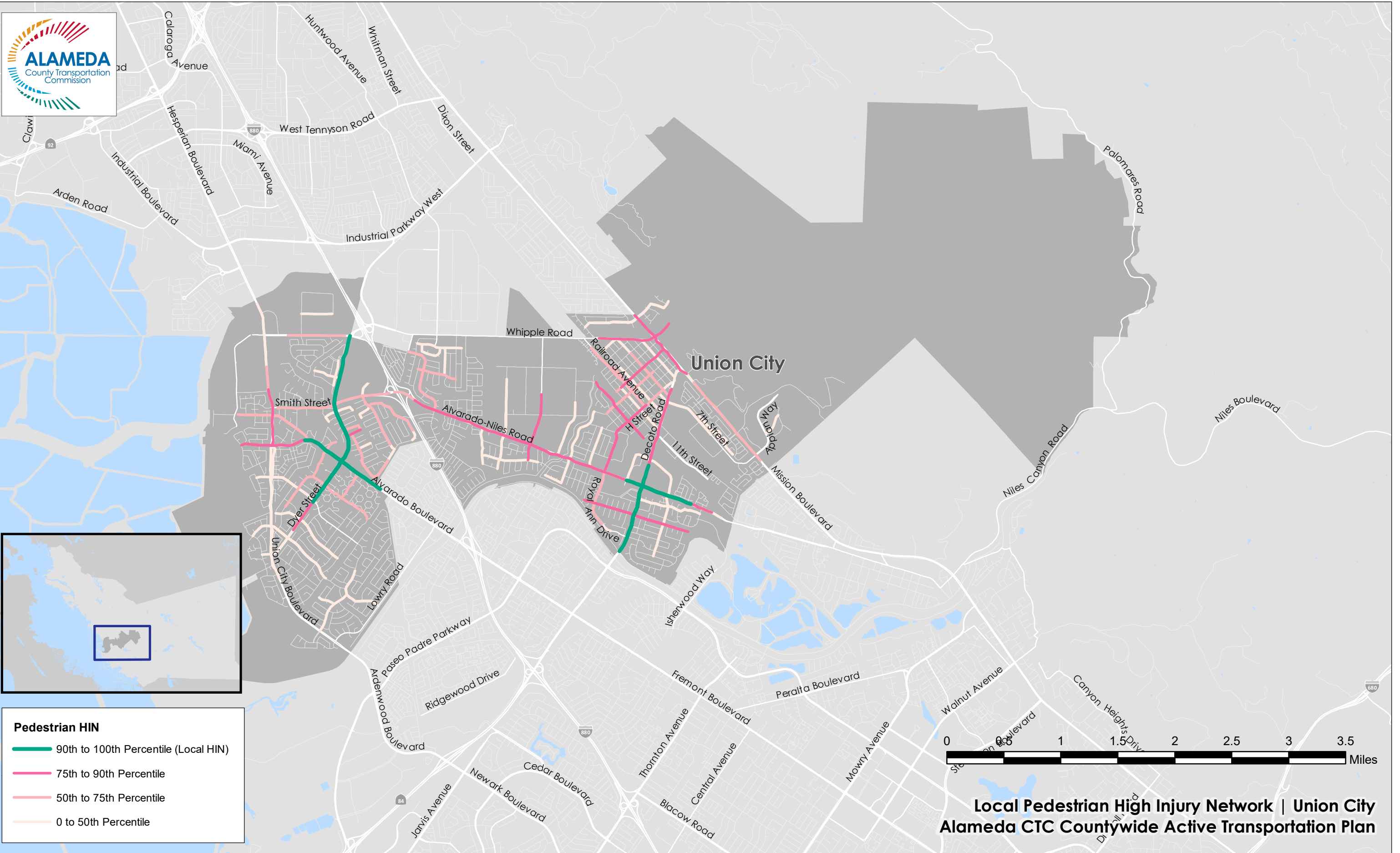
**Bicycle HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



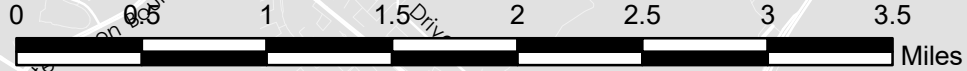
**Local Bicycle High Injury Network | Union City**  
**Alameda CTC Countywide Active Transportation Plan**



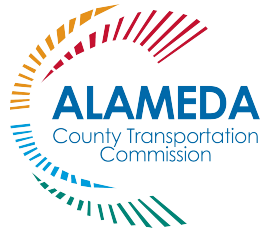


**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



**Local Pedestrian High Injury Network | Union City**  
**Alameda CTC Countywide Active Transportation Plan**



## Existing and Planned Bicycle Facilities

### Union City

#### Bicycle Facilities

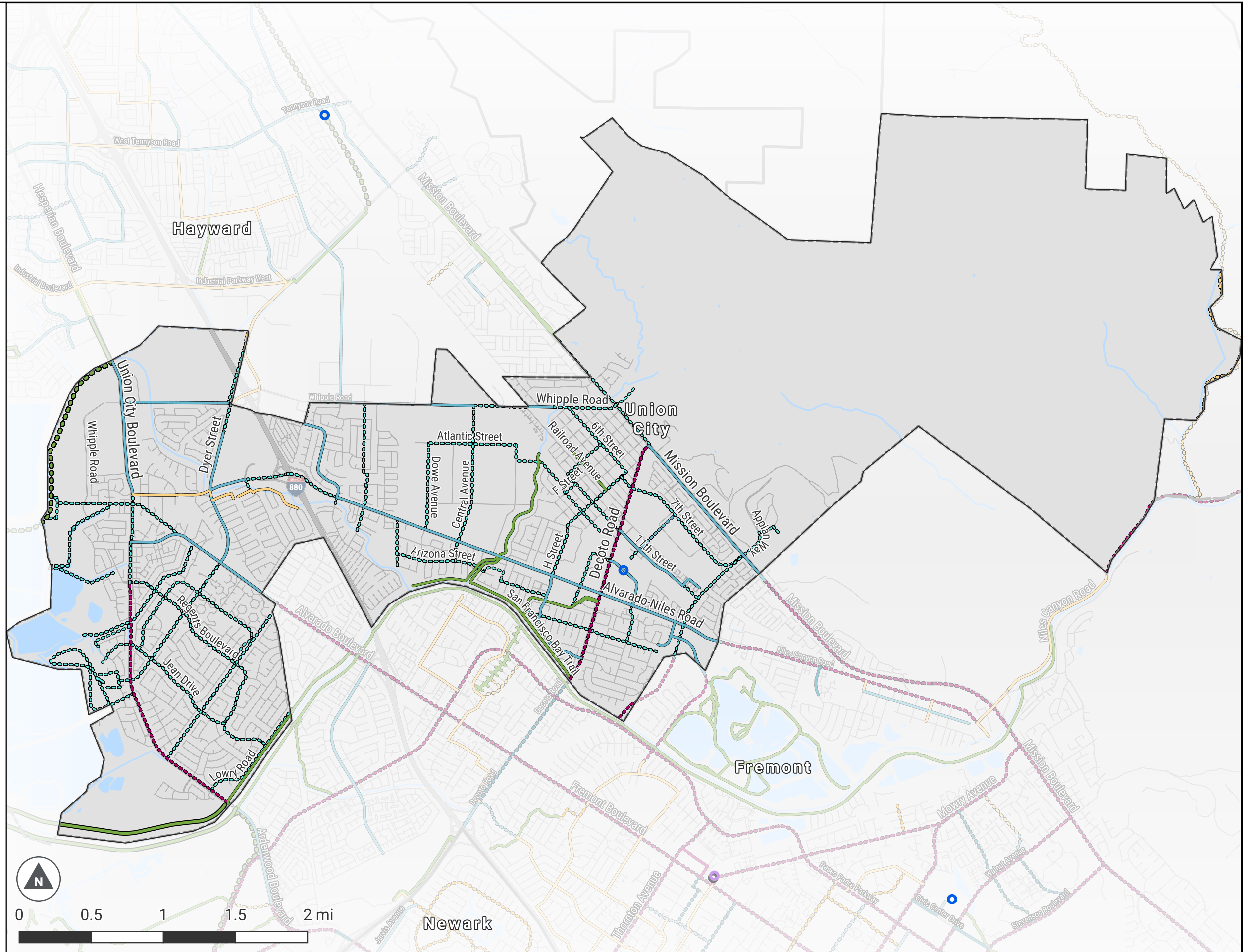
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

#### Stations

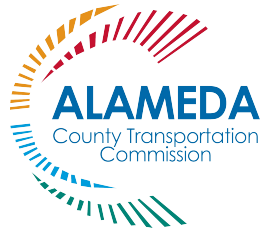
- BART Station
- Amtrak Station
- ACE

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Alameda CTC Countywide Active Transportation Plan







**All Barriers**

**Union City**

**Rail Barriers Median Detour Ratio**

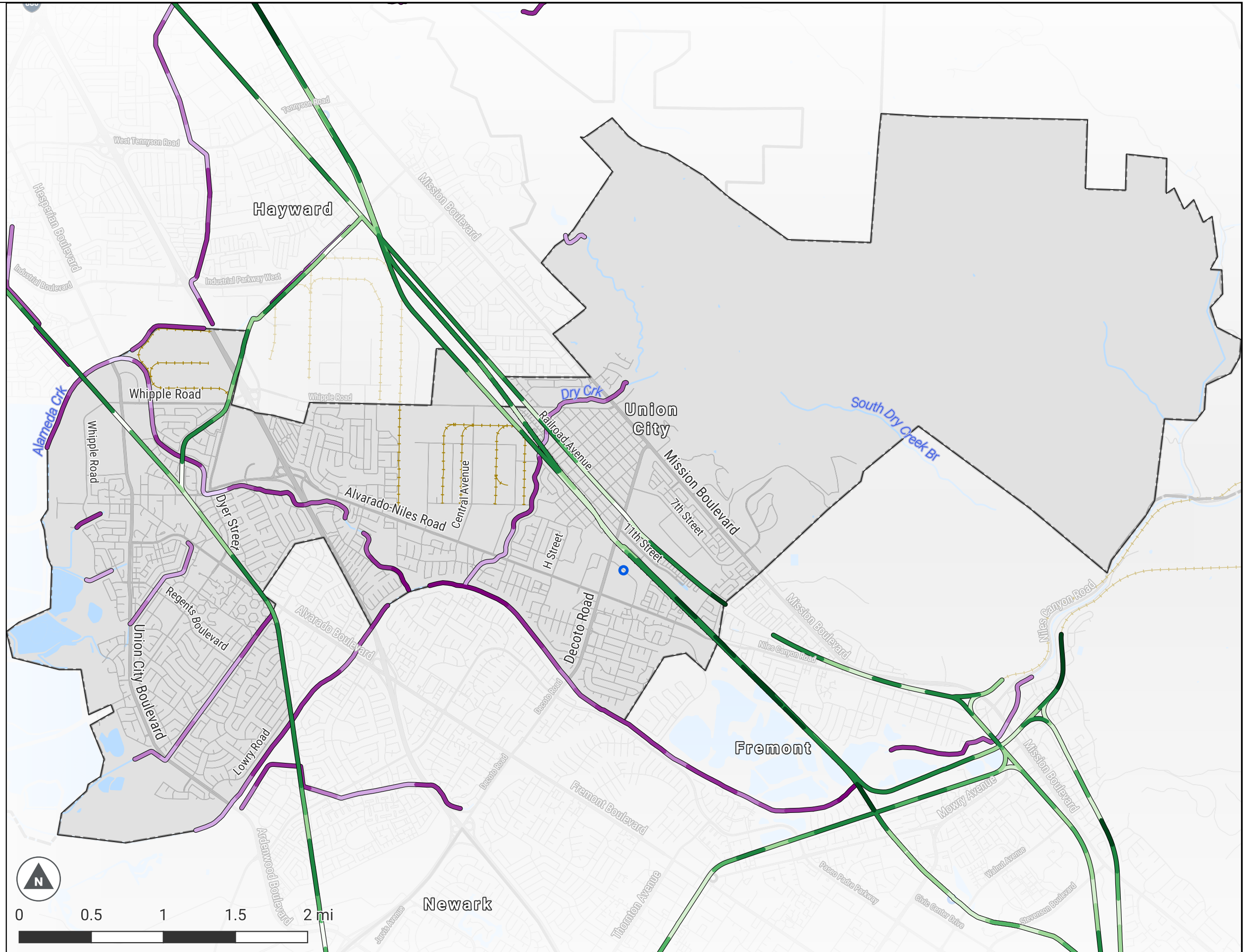
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART Station
- Amtrak Station
- = BART Lines



# 16 | Unincorporated County

## Local High Injury Networks

Approximately 11 miles constitute the local bicycle HIN in Fremont, and eight miles make up the local pedestrian HIN. These each account for about 1% of unincorporated county-owned roadway miles.

## Bike Comfort and Connectivity

Today, the area to the south of Bayfair BART is notably well connected because of the bike lanes on Ashland Avenue that connect underneath I-238 to other existing bike lanes on Lewelling Boulevard. However, the area north of the station is not well connected because of the barrier created by the BART and UPRR line, in addition to high-stress Hesperian Boulevard. In the future case, connectivity improves because the East Bay Greenway (EBG) planned extension will run along the UP alignment. The EBG generally provides major connectivity improvements in blocks along its alignment in the Central planning area. Planned facilities in the draft unincorporated areas plan are also expected to improve connectivity, especially in Castro Valley. Planned facilities in Ashland/Cherryland offer some improvement as well, but the inherent barriers of I-580, I-238, and Mission Boulevard pose challenges to establishing low-stress connectivity in the eastern parts of this area.<sup>6</sup>

In the unincorporated East County, most bicycle riding that occurs today is for recreation. These rural areas may be comfortable for recreational riding by experienced bicyclists, but connectivity is poor for the *Interested but Concerned* rider. The Livermore Parks District trails plan and draft Alameda County Public Works Agency (ACPWA) plan for these areas do call for some Class I paths connecting to natural areas, such as Lake Del Valle, that would provide access to destinations for *Interested but Concerned* riders. Additionally, the planned Niles Canyon Trail would provide a major off-street connection from Sunol into the northern end of Fremont.

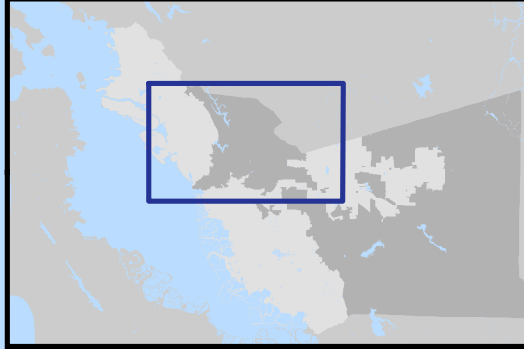
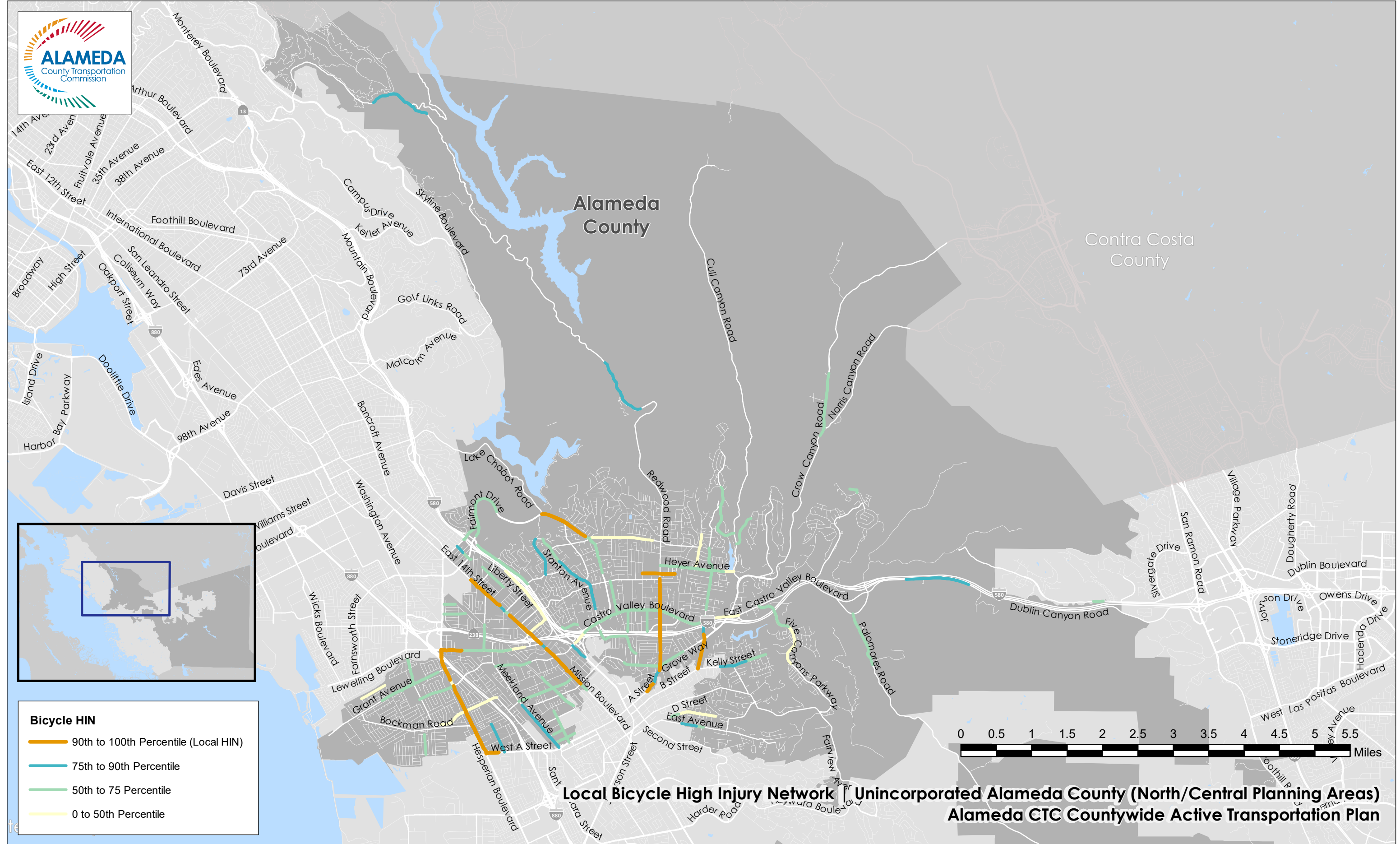
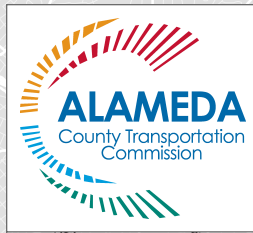
## Major Barriers

Waterways do not have a major barrier impact on connectivity within the urban unincorporated areas with the exception of San Lorenzo Creek and several creeks in the hills above Castro Valley, the latter of which are unlikely to change owing to major topography challenges. A portion of the BART lines in this area create a barrier in tandem with I-580 through Castro Valley where there are limited low-stress bike crossings and often challenging pedestrian conditions with on-/off-ramp conflicts. The BART line near Bayfair also presents a connectivity challenge because it interrupts the street network. The Amtrak/UPRR line also creates a barrier between San Lorenzo and Cherryland where there are limited crossings, spaced at over half-mile intervals in one segment. I-880 presents connectivity challenges, though the crossings at Paseo Grande and Hacienda Avenue are suitable for people walking and biking. There are also several arterials in this area that are barriers to bicycling owing to their high-stress environment. Widely spaced crossings along these streets also present a barrier to pedestrian connectivity, forcing people to walk significantly out of their way to access destinations.

Connectivity for bicyclists and pedestrians is very challenging in Unincorporated East County. This lack of connectivity is not attributable to specific types of barriers other than natural water and topographical features, which helped drive decisions about the location of street network. The underlying issue for people walking and biking in this area is that there are long distances between intersections and the lack of density in the street network. People may bike in these areas for long-distance recreational rides, but these riders are likely to be unconcerned about barriers and connectivity.

<sup>6</sup> It should be noted that planned network analysis was conducted without inclusion of the San Lorenzo Creek Trail which would likely provide significant connectivity improvements through this part of the urban unincorporated areas.



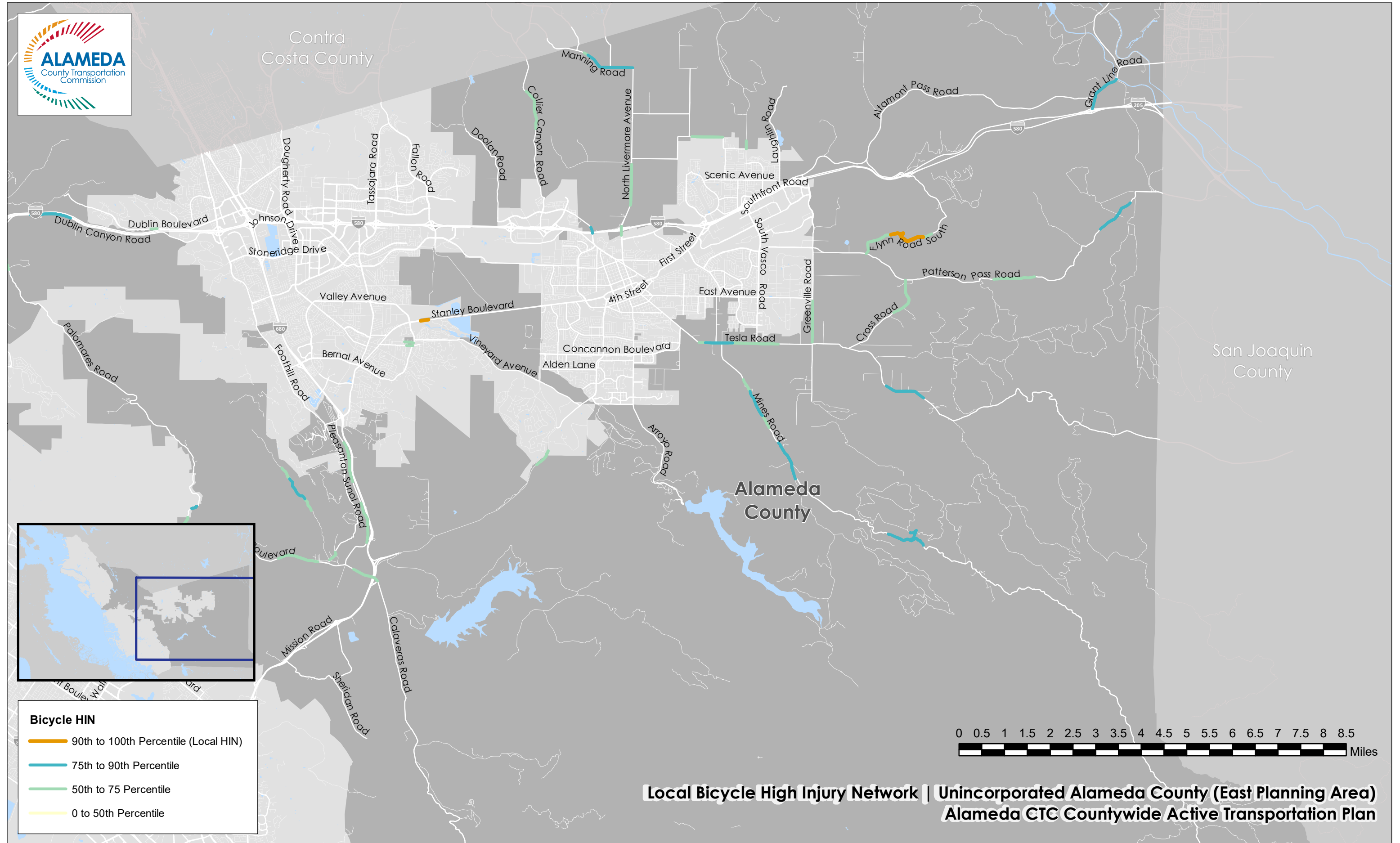
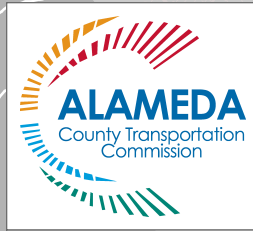


**Bicycle HIN**

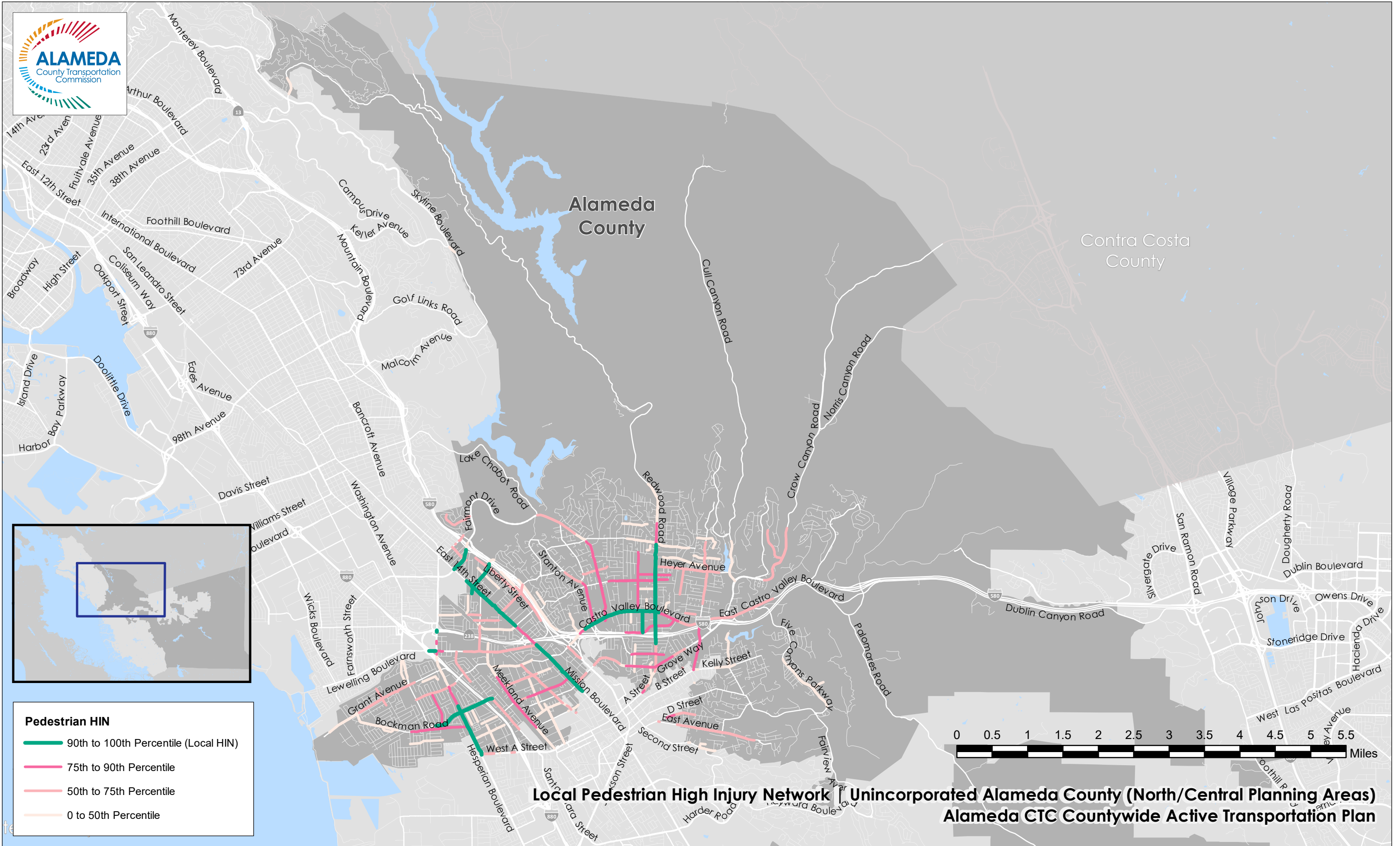
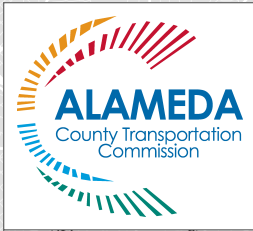
- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75 Percentile
- 0 to 50th Percentile



**Local Bicycle High Injury Network | Unincorporated Alameda County (North/Central Planning Areas) Alameda CTC Countywide Active Transportation Plan**

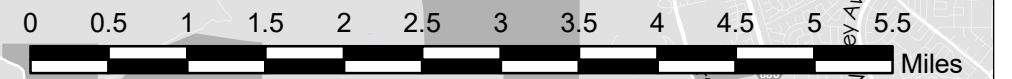




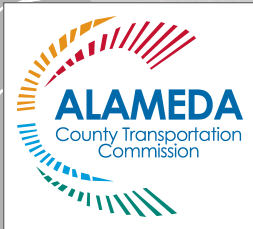


**Pedestrian HIN**

- 90th to 100th Percentile (Local HIN)
- 75th to 90th Percentile
- 50th to 75th Percentile
- 0 to 50th Percentile



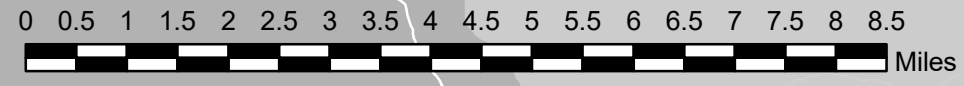
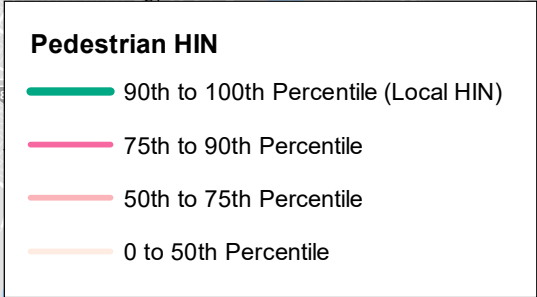
**Local Pedestrian High Injury Network | Unincorporated Alameda County (North/Central Planning Areas)**  
**Alameda CTC Countywide Active Transportation Plan**



Contra Costa County

San Joaquin County

Alameda County



**Local Pedestrian High Injury Network | Unincorporated Alameda County (East Planning Area)**  
**Alameda CTC Countywide Active Transportation Plan**





## Existing and Planned Bicycle Facilities

Urban Unincorporated Areas

### Bicycle Facilities

- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane

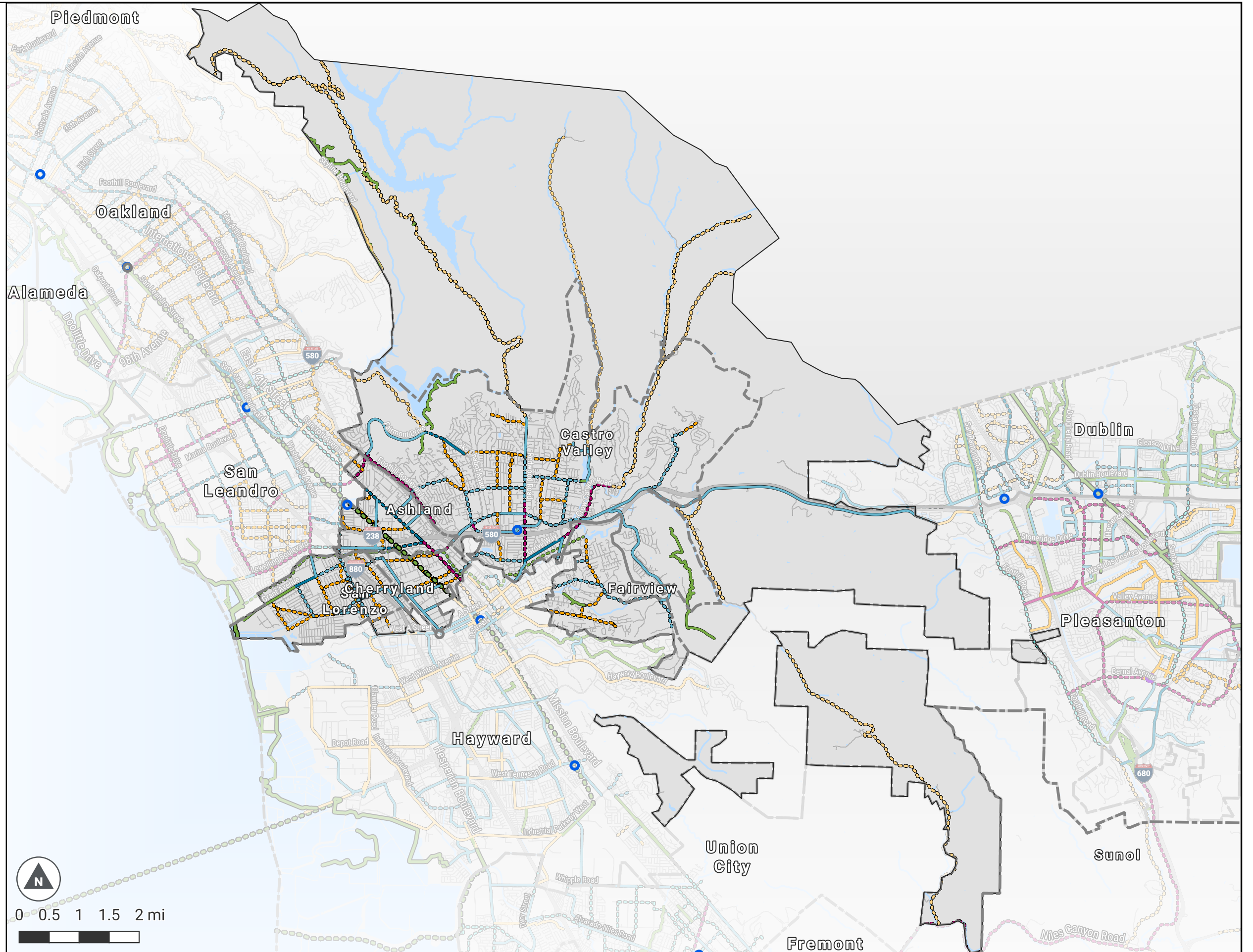
- Existing
- Planned
- Study Corridor

### Stations

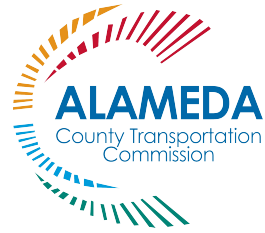
- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan







## Existing and Planned Bicycle Facilities

Unincorporated East County

### Bicycle Facilities

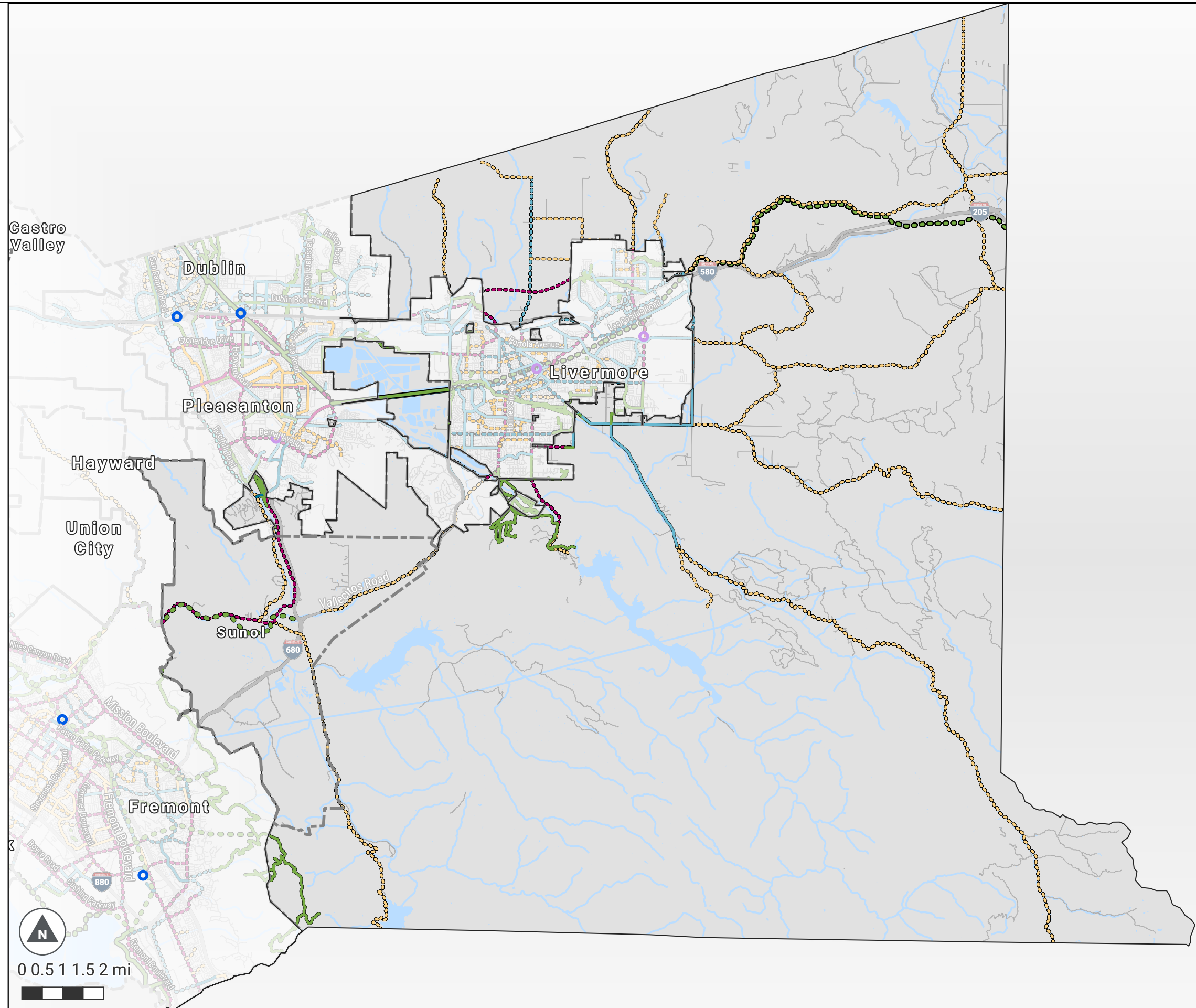
- Major Regional Trails
- Class I - Shared Use Path
- Class II - Bike Lane
- Class II - Buffered Bike Lane
- Class III - Shared Lane
- Class III - Bike Boulevard
- Class IV - Separated Bike Lane
- Existing
- Planned
- Study Corridor

### Stations

- BART Station
- Amtrak Station
- ACE

Note: Data are accurate as of October 31, 2018 and do not include jurisdiction plans updated after that date. Where planned facilities are located on streets with existing facilities, only planned facility types are shown. For the purposes of map clarity, all jurisdiction recommendations for further study or where a facility type is not defined in a jurisdiction plan are included under the header 'Study Corridor'.

Alameda CTC Countywide Active Transportation Plan







### All Barriers

#### Urban Unincorporated Areas

##### Rail Barriers Median Detour Ratio

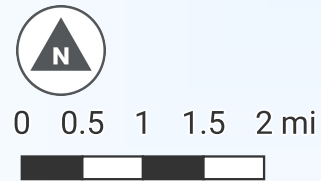
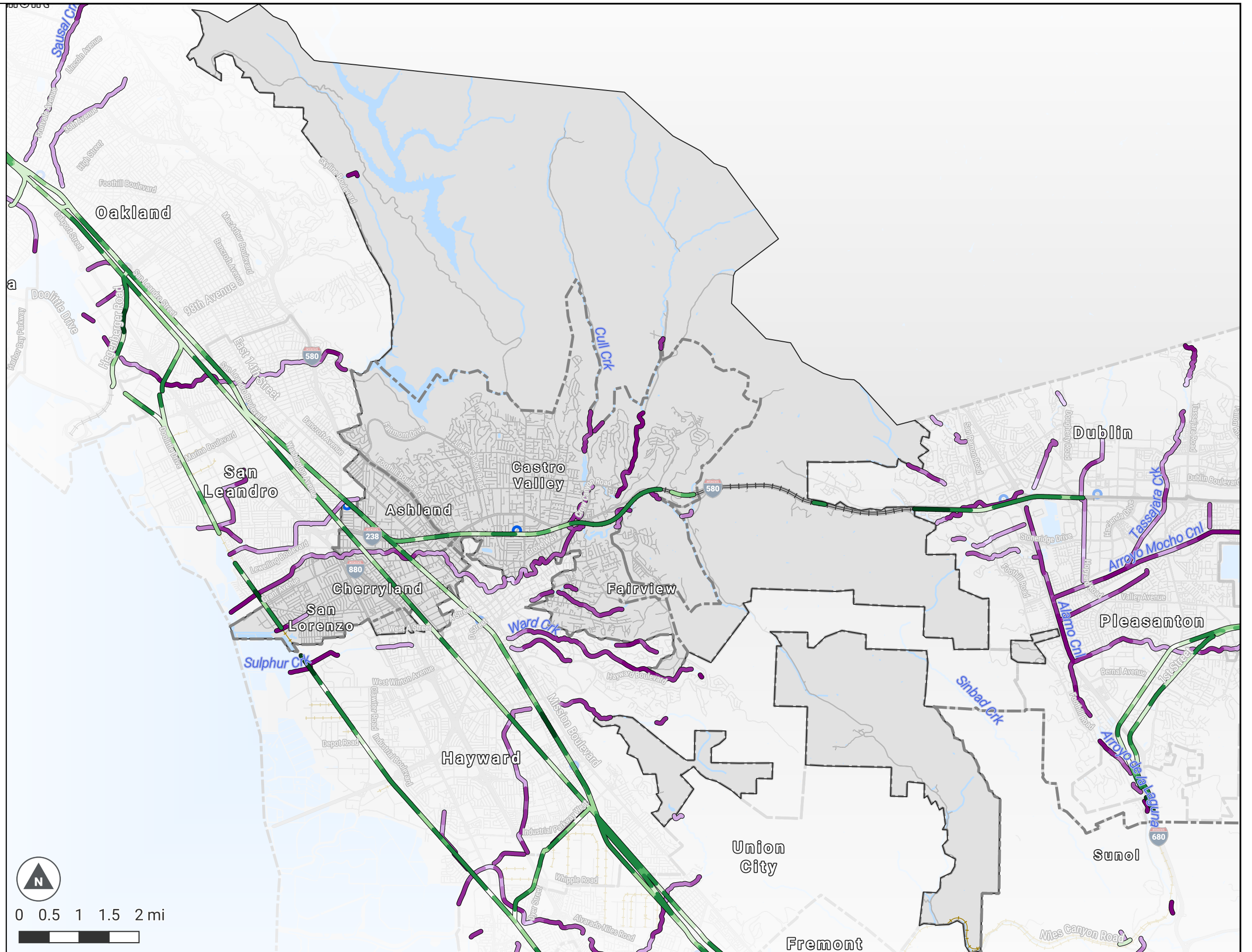
- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

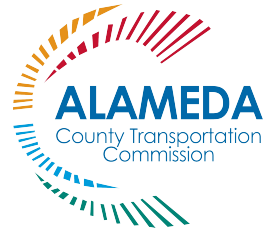
##### Water Barriers Median Detour Ratio

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

##### Other

- BART Station
- Amtrak Station
- BART Lines





**All Barriers**

**Unincorporated East County**

**Rail Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Water Barriers Median Detour Ratio**

- 1x to 1.25x distance
- 1.25x to 1.5x distance
- 1.5x to 1.75x distance
- 1.75x to 2x distance
- 2x to 4x distance
- 4x distance and greater

**Other**

- BART, ACE and Capitol Corridor Stations
- BART Lines

