

# PROJECT BACKGROUND

## Project Needs

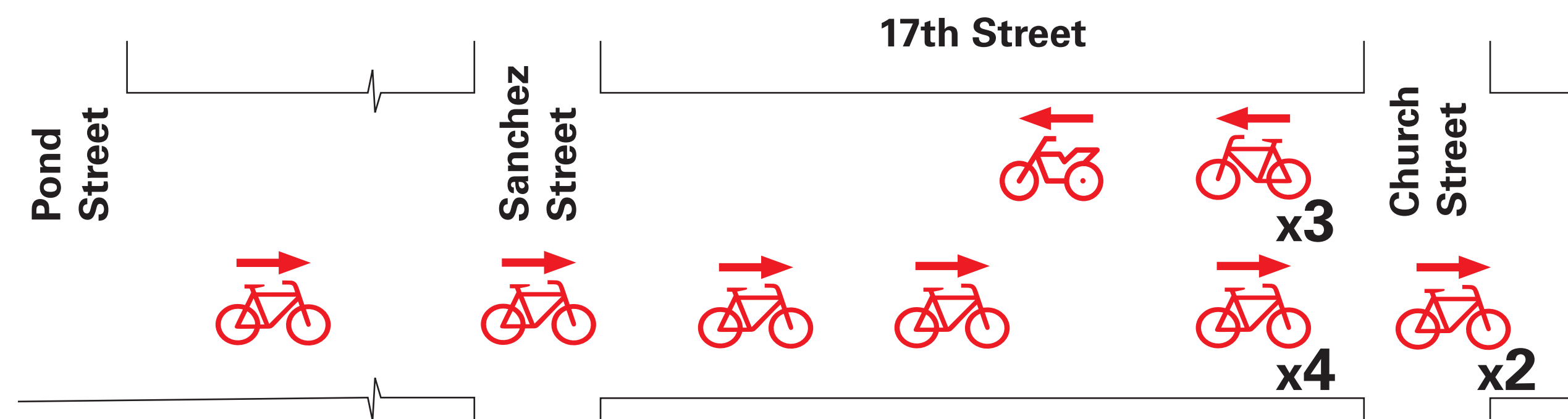
1. 17th Street between Church Street and Sanchez Street is identified as a location where there is a disproportionate number of crashes involving people riding bikes.
2. There is currently no marked bicycle facility at this location and people riding bikes must ride in mixed traffic on a street with rail tracks.
3. There is a significant number of bicyclists using 17th Street to avoid hills and access bicycle facilities north of Market Street, such as the Wiggle.

## Key Considerations

### Crash History

Within a 5 year period for 17th Street between Market Street and Church Street, 14 incidents of bicyclists crashing on the tracks were reported to the San Francisco Police Department.

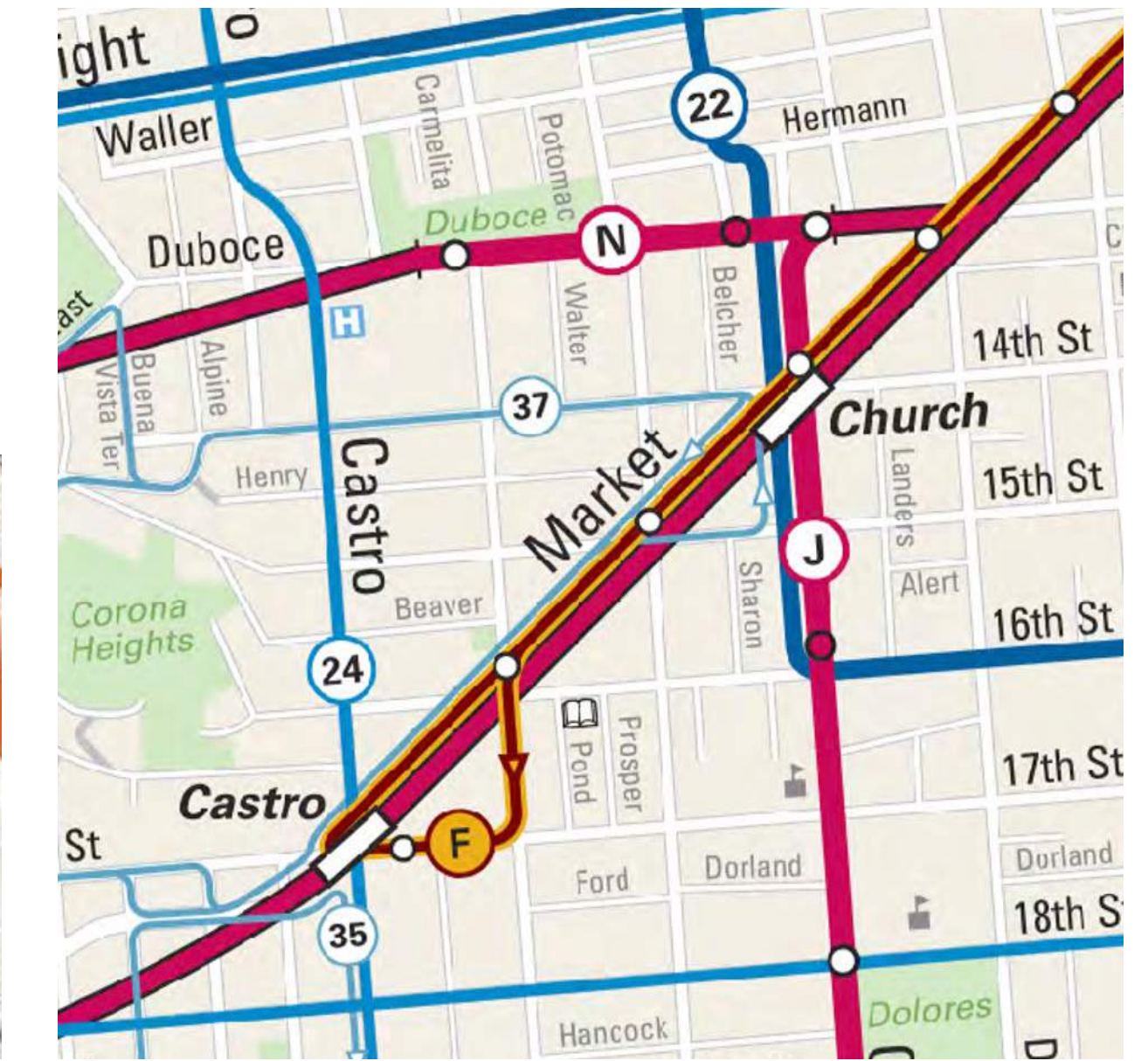
### Diagram of Reported Crashes Involving Tracks



## Bicycle Network



## Muni Network



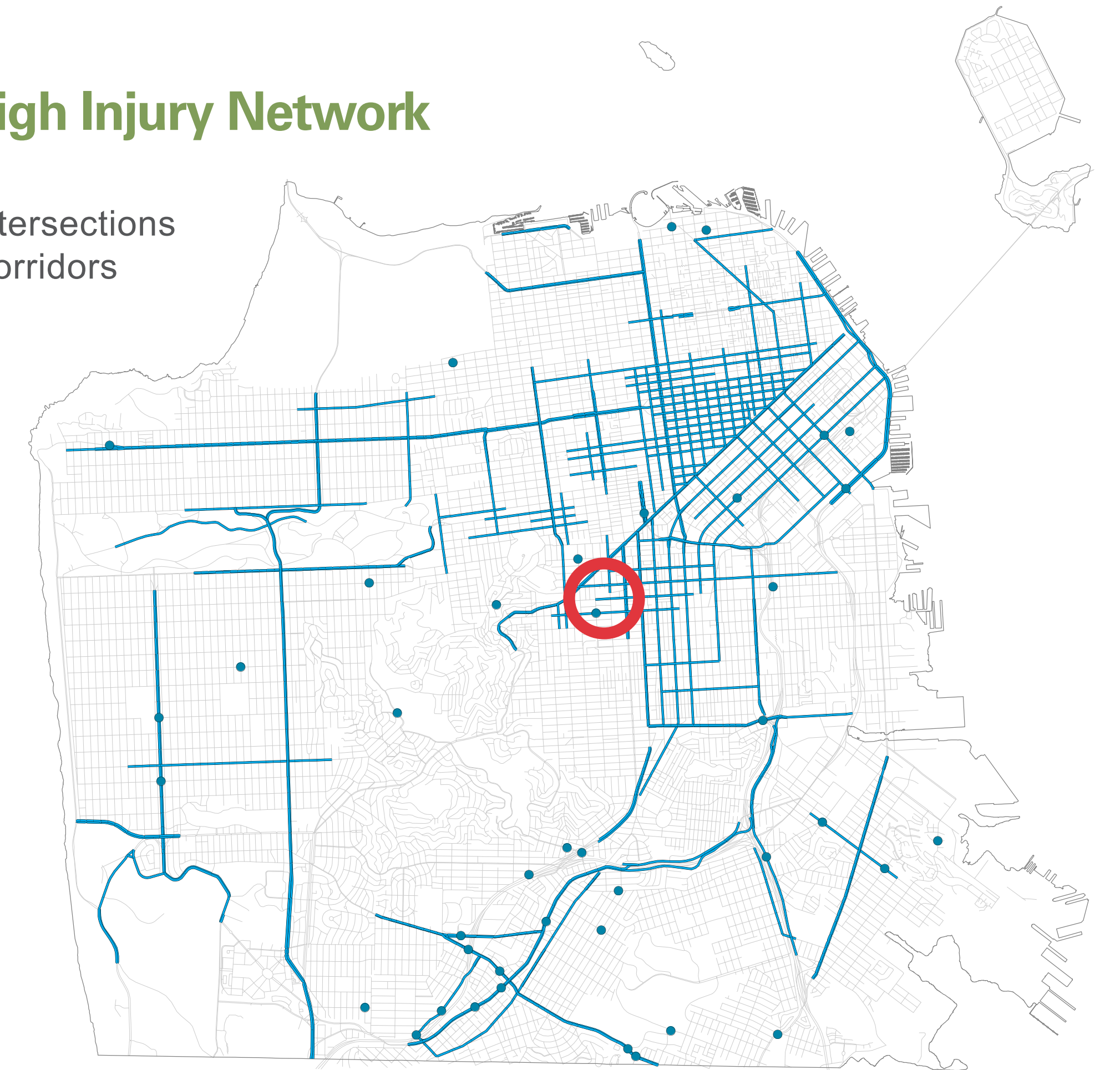
### Vision Zero San Francisco

The City and County of San Francisco adopted Vision Zero San Francisco as a policy in 2014, committing an effort to prioritize street safety and eliminate traffic deaths and serious injuries in San Francisco by 2024.



### Vision Zero High Injury Network

- High Injury Intersections
- High Injury Corridors





# RECENT & PAST IMPROVEMENTS

## Intersection Markings



In 2012, SFMTA added markings on the pavement to guide cyclists on a recommended path of travel through the intersection. The markings are intended to encourage cyclists to cross the tracks at a better angle. These markings were upgraded in 2014.

## Pavement Work



Efforts have been made to fill in potholes and gaps along 17th Street west of Church Street.

## Track Crossing & School Zone Signs



Starting in 2007, SFMTA has added warning signs to the intersection of 17th Street and Church Street in an effort to alert people about the presence of tracks. More recently, 15 mph school zone speed limit signs were installed.

## Crosswalk Upgrades



Crosswalks on 17th Street were upgraded from standard markings to continental markings to provide higher visibility. The yellow color indicates that a school is nearby.

## Red Zones



Red paint was applied to curbs on 17th Street west of Church Street to provide more room for cyclists to maneuver across the intersection. This treatment also helps increase visibility for all road users.

## Curb Ramps

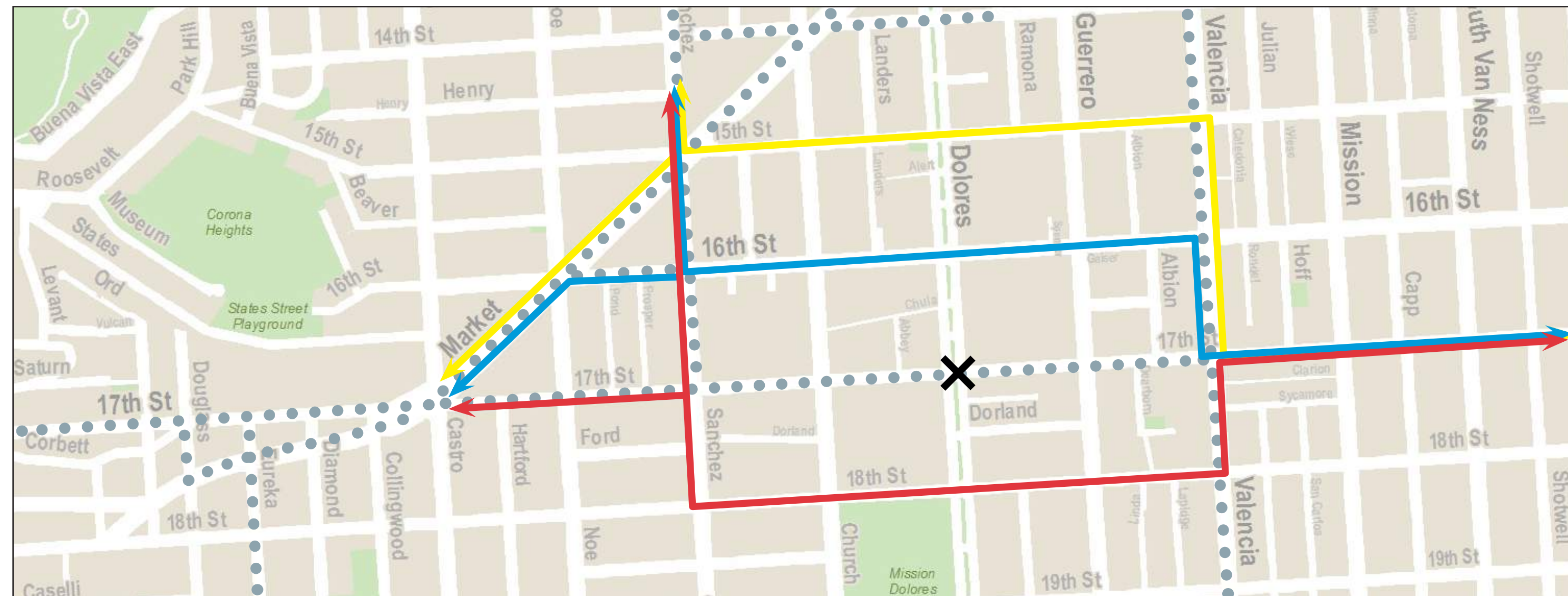


New curb ramps have been requested to help improve crossings along 17th Street, particularly at Church Street, which will help people in wheelchairs navigate across the tracks more easily.



# BICYCLE NETWORK CONNECTIONS

Requests to relocate the bike route from 17th Street to a parallel street have been studied. Given the connectivity of 17th Street and the lack of a very desirable alternate route, 17th Street will likely continue to see regular cycling use regardless of any alternate route designation.



## 15th Street

### Pros

- » No tracks
- » No transit-bicyclist interaction

### Cons

- » Not a direct connection to the rest of 17th Street, which requires a jog involving more turns, including an additional left turn
- » Narrow and congested at times
- » Does not connect to 17th Street/Corbett bike route to the west
- » Parking removal needed for bikeway

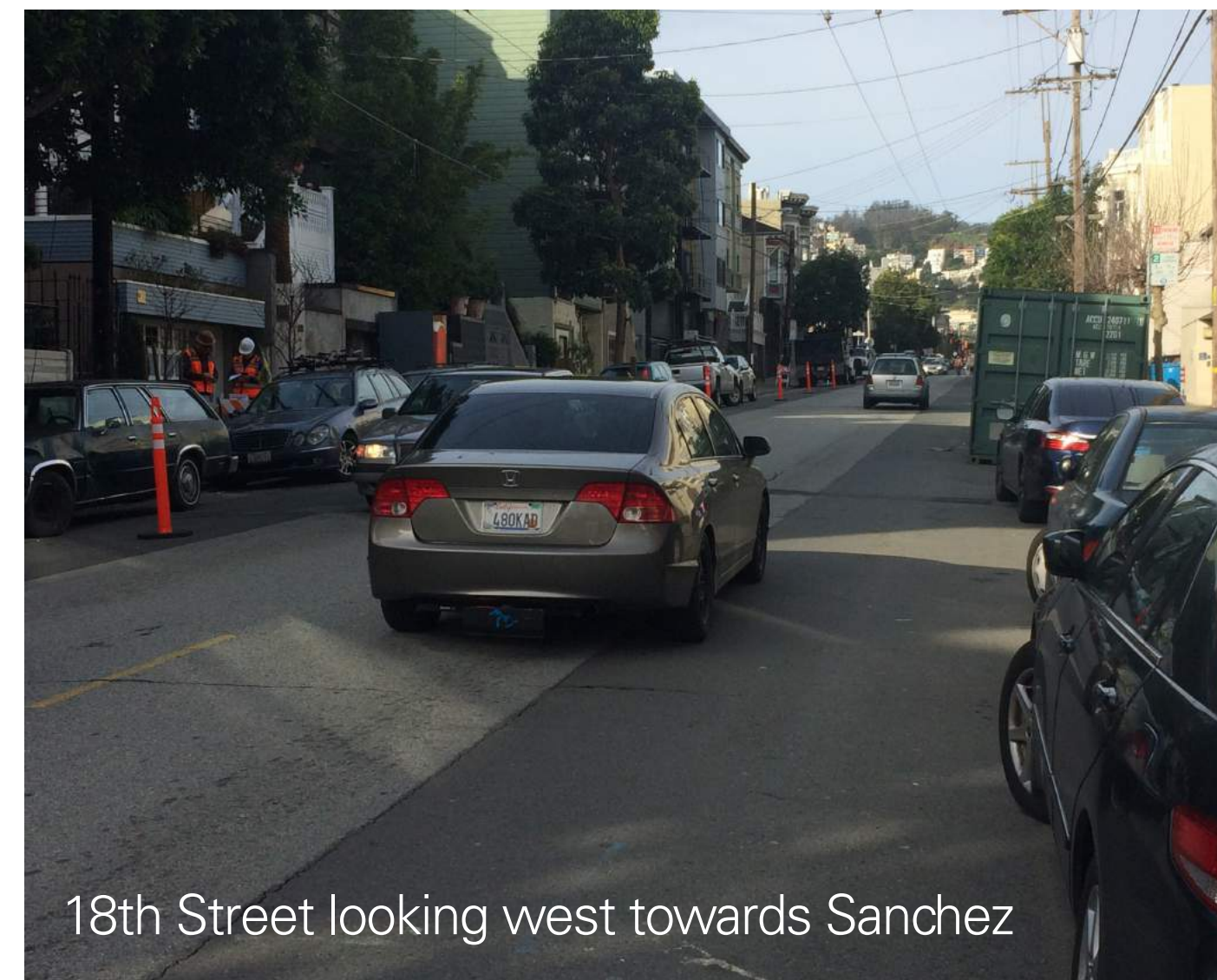
## 16th Street

### Pros

- » No tracks
- » Wider street

### Cons

- » Not a direct connection to the rest of 17th Street, which requires a jog involving more turns, including an additional left turn
- » Lane or parking removal needed for bikeway
- » Transit is on 16th Street between Valencia Street and Church Street



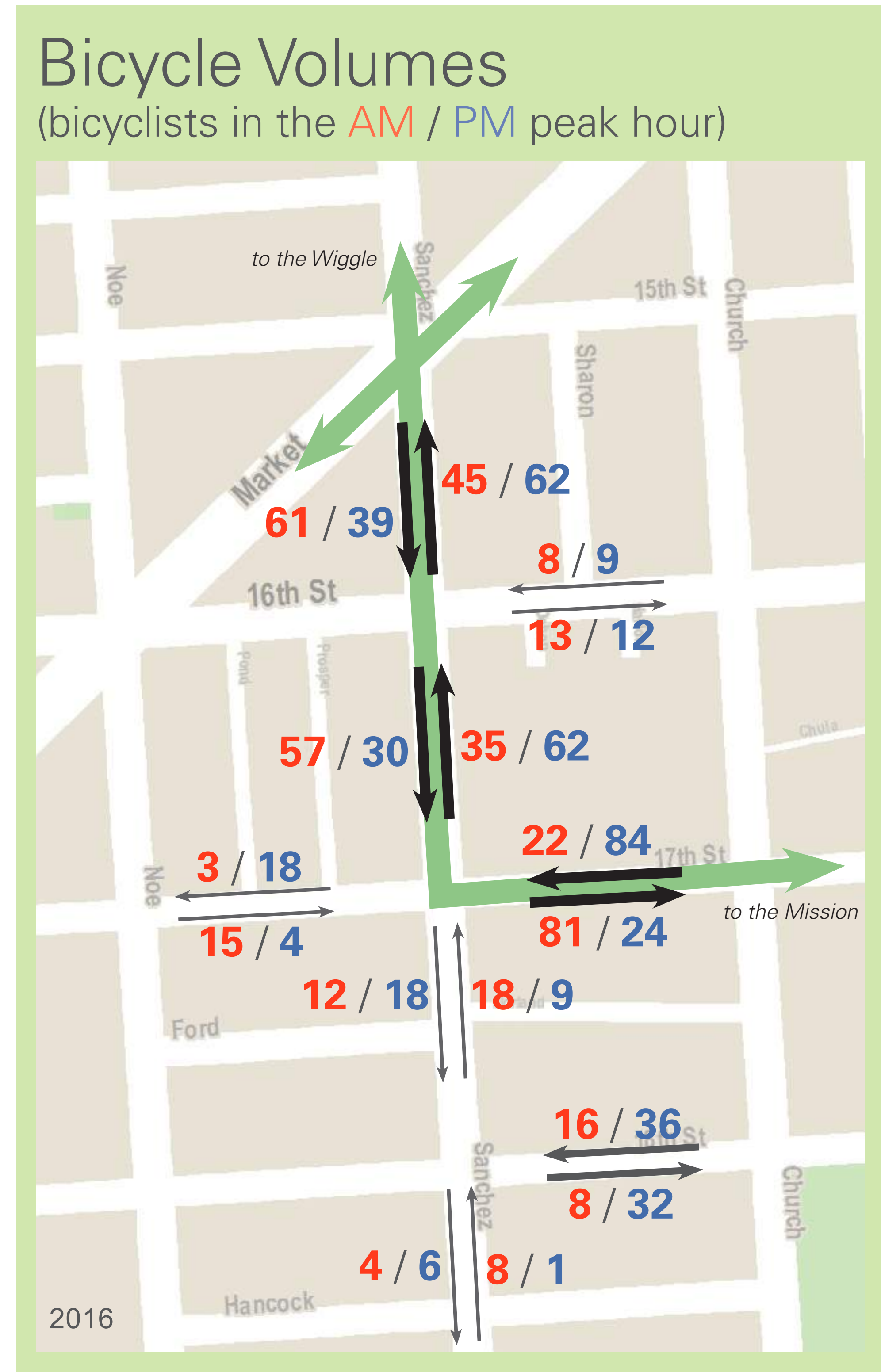
## 18th Street

### Pros

- » No tracks
- » Leads to the Castro neighborhood

### Cons

- » Not a direct connection to the rest of 17th Street, which requires a jog involving more turns, including an additional left turn
- » Narrow and congested at times
- » Transit is on 18th Street between Valencia Street and Sanchez Street
- » Parking removal needed for bikeway
- » Out of the way for people traveling between Sanchez Street and 17th Street



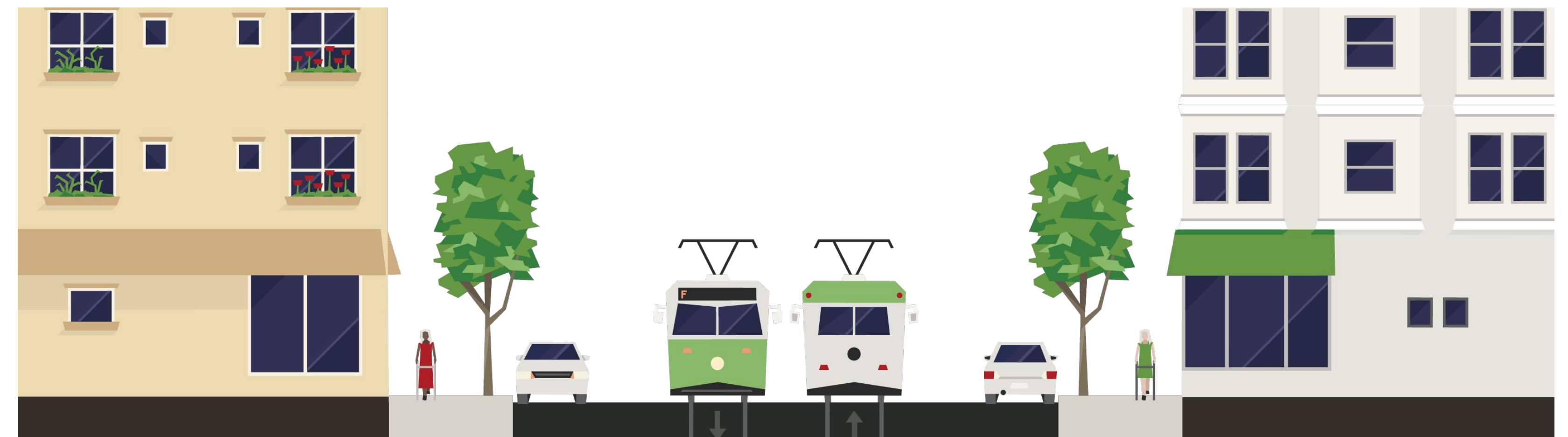


# BIKEWAY DESIGN OPTIONS

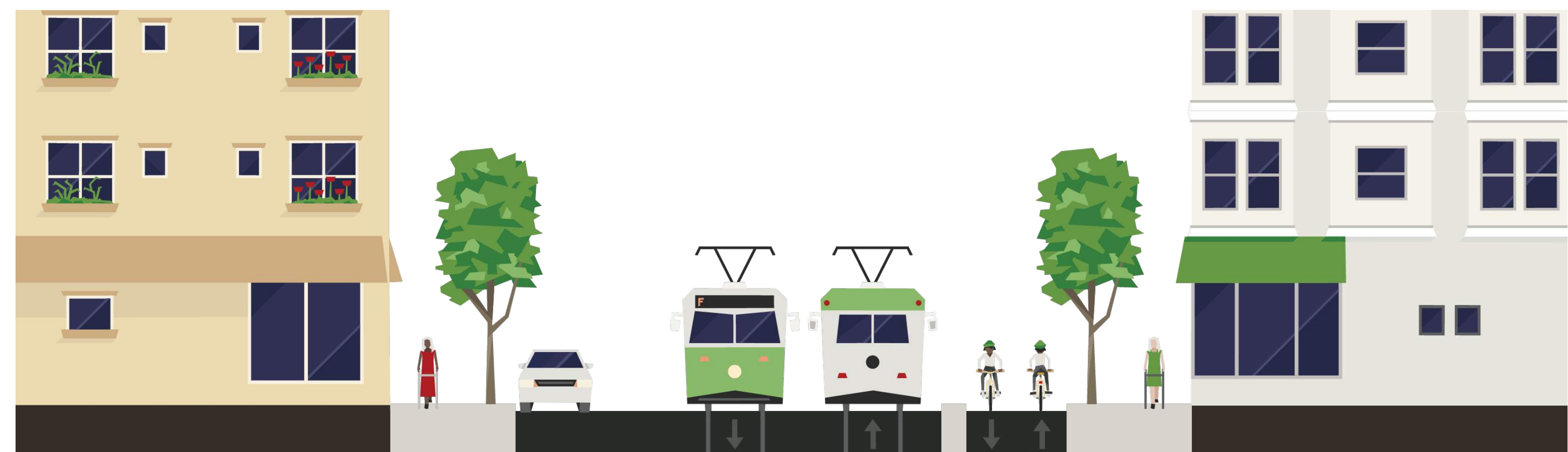
People traveling by bike on 17th Street between Church Street and Sanchez Street currently ride wherever there is room: between large transit vehicles and parked vehicles or by sharing the lane with moving streetcars and cars. While traveling in mixed traffic, bicyclists also have to watch out for double-parked vehicles and tracks in the roadway.

To address safety concerns and growing bicycle use, two conceptual protected bikeway designs are being considered for 17th Street between Church Street and Sanchez Street.

## Existing Conditions



## Two-Way Protected Bikeway



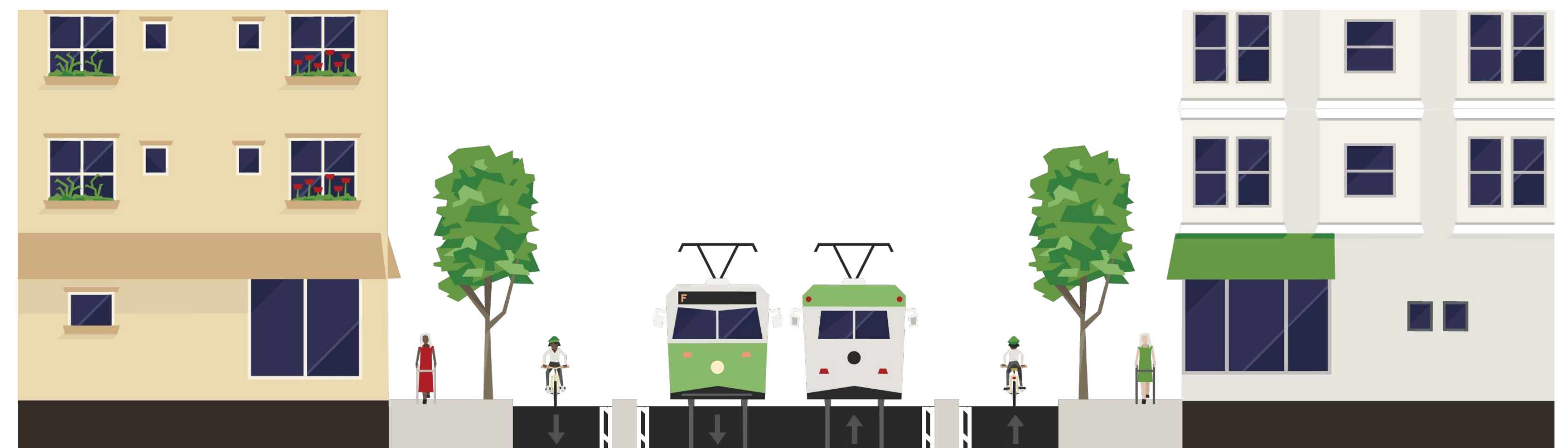
### Advantages

- » Provides a protected two-way bikeway

### Challenges

- » Removes on-street parking on one side of the street
- » Complex and unusual transitions in and out of the two-way bikeway
- » Narrow bikeway
- » Causes more track crossings for some cyclists than today

## One-Way Protected Bikeway



### Advantages

- » Provides a protected bikeway on each side of the street
- » A more intuitive and predictable design at intersections

### Challenges

- » Removes on-street parking on both sides of the street

### Existing Parking on 17th Street from Church Street to Sanchez Street

North Side: 26 spaces  
South Side: 19 spaces



# TRACKS & PAVEMENT

## Maintaining the Tracks



- » The F line serves over 20,000 daily customers.
- » In 2017, the 17th Street tracks will resume carrying 20 streetcars a day into service to and from Cameron Beach Yard and for their return trip to the Cameron Beach Yard. Additionally, the many civic events (both planned and unplanned) necessitate the city to maintain tracks to allow transit to continue to operate during festivities.
- » While all of our tracks are not on revenue lines, all of our existing track is necessary for continued operation of our extensive rail system. No track work is planned to be removed in this corridor.
- » Streetcar service has been and will continue to be a vital part of our diverse transportation network.

## Upgrading Pavement Around Tracks

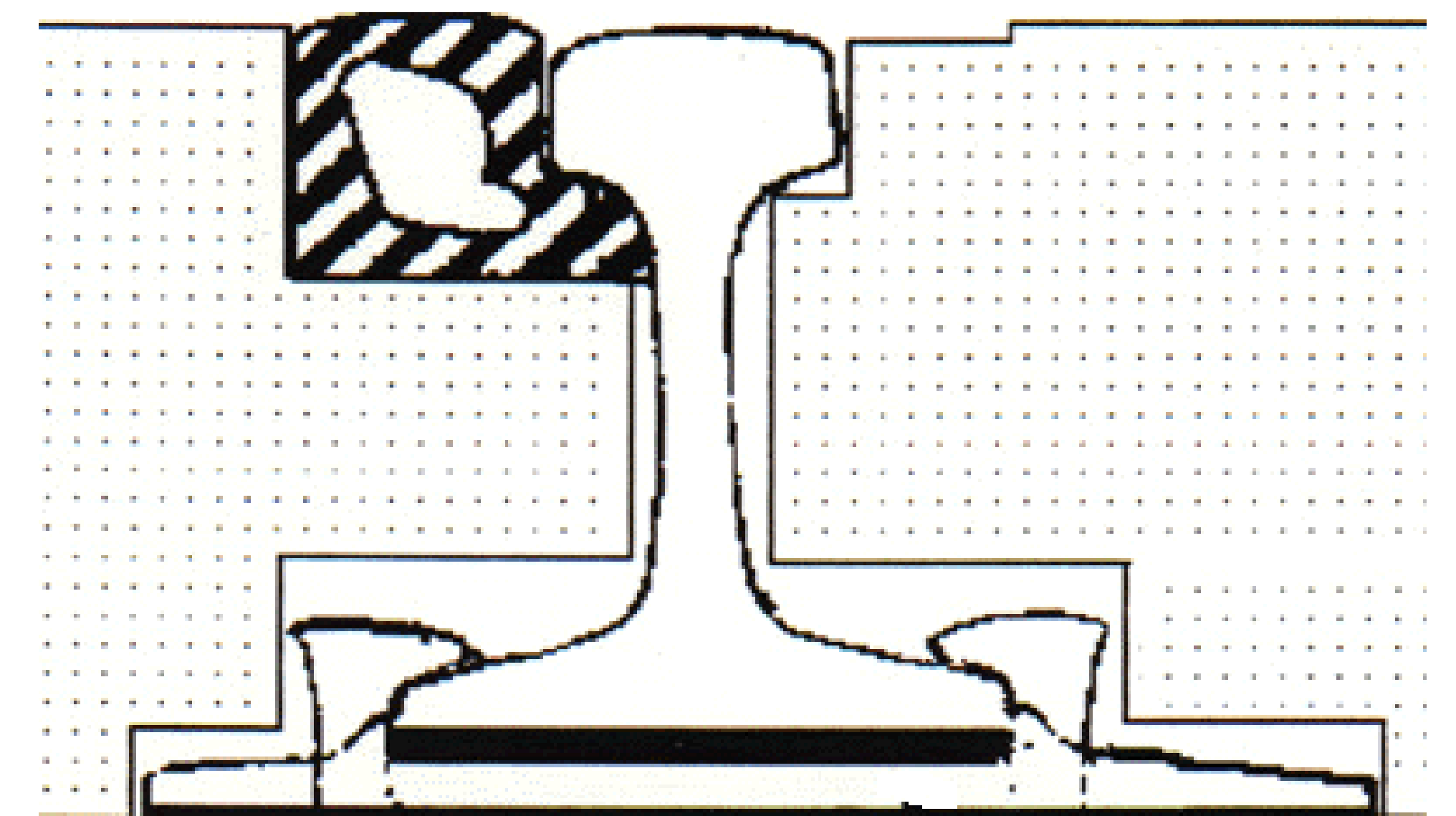


Pavement patching around the tracks has started and should be completed by summer after the rain subsides. Additional pothole and pavement patchwork requests can be directed to 311.

At this time, there are no plans to fully repave this section of 17th Street.

## Flangeway Fillers

Though flangeway fillers seem like a promising product to fill in space along a rail where bicycle or wheelchair wheels can fall in, there has yet to be a product that can handle streetcar and light rail vehicle applications. Products so far can only handle heavy rail vehicles traveling on straight sections of rail at very low speeds (approx. 5 mph or less).





# OTHER IDEAS CONSIDERED



## Intersection Changes

Changes at the intersection can include:

- » Signal upgrades that allow cyclists and pedestrians to go before traffic (a “head-start”)
- » Left turn restrictions to simplify the intersection
- » Striping to better separate drivers and cyclists

A bike/pedestrian head start requires new signal heads, which means this older signal would need to be rebuilt to allow for more wires to be pulled through it, a 4+ year process once funding is identified.

A No Left Turn sign for Church Street needs approval and may not be warranted here given it is a two-lane local road where turn prohibitions may be ignored.

## One-Way Street

The idea to make 17th St one-way to create room for a marked bikeway does not work well with a set of tracks that operate as two-way, but other sections of 17th Street with no tracks could be made one-way to discourage traffic on the street.



## Enforcement

Enforcement of speeding and double parking can improve conditions, but with limited resources that do not allow for 24-7 enforcement, design changes to the street are a more effective approach.



## Traffic Calming

Traffic calming options become very limited for a street that has streetcar tracks as that precludes the ability to put in speed humps, islands, or chicanes that tighten the roadway and force drivers to slow.



## White Zones for Passenger Loading

This can help create space along a curb for people to pull over. Drivers do not always use curb space even when it is available, so there may still be double parking on the street. Passenger drop-offs and pick-ups occur with the school but also with people using taxis, Lyft, and Uber.