General Project Overview

Slide 1: Intro

This presentation will provide an overview of the Union Street Protected Bikeway Project. We'll discuss the project purpose and what it will feel like to bike along the Union Street protected bikeway. We'll cover engineering features including how the bike lane is protected, and new intersection and traffic signal designs.

Slide 2: Project Location

The Union Street protected bikeway runs along East Union Street from South Arroyo Parkway to North Hill Avenue. Union Street is one-way westbound for motor vehicles. With the construction of this project, there will also be a two-way protected bike lane along the south side of the corridor.

Slide 3: Project Location

This project also includes a bicycle boulevard on Holliston Avenue. The bicycle boulevard spans four blocks from Cordova Street to East Union Street.

Slide 4: Project Timeline

The Pasadena City Council approved and initiated contracting for the Union Street Protected Bike Lane design in 2017, although the Pasadena community's planning process for this project began even earlier.

The project began with a public meeting in May 2018, with initial engineering designs presented one year later at the last public meeting in May 2019.

Based on the public's feedback from 2019, the project team advanced engineering and design to where it is today – 90% Design.

The design will then be reviewed by Caltrans and finalized, with construction to be completed by spring 2022.

Slide 5: What is the Purpose of the Union Street Protected Bike Lane?

What is the purpose of the Union Street protected bike lane project?

The Union Street protected bike lane will make it safer and more comfortable for people to get around by bicycle in Pasadena, and specifically on Union Street. It will also make operations smoother for motor vehicles by creating a dedicated space for bicyclists. Union Street has multiple lanes and high volumes of traffic. The physical separation provided by the Union Street Protected Bike Lane is necessary for people

to be safe and comfortable while bicycling, making it possible for people of all ages and abilities to ride a bike on this corridor.

The Union Street Protected Bike Lane maintains many features of the existing roadway design, including parallel parking on both sides of the street, turn lanes, and one-way motor vehicle traffic.

The bikeway will also provide important connections for residents and students traveling around Pasadena.

Slide 6: How is the Union Street Bike Lane Protected?

How is the Union Street bikeway protected?

Along most blocks of the bikeway, parked cars will act as a wide physical barrier between people driving and people riding bicycles. A striped buffer will provide anywhere from three to nine feet of additional separation between the bikeway and parked cars. This buffer provides space for people to get into and out of their parked cars, as well as an accessible path to reach the crosswalk.

In other areas closer to intersections or driveways, where parking and stopping are not allowed for safety reasons, concrete curbed medians will provide separation between bicyclists and moving motor vehicles.

At intersections, dedicated bicycle signals will separate people bicycling from motor vehicles by ensuring these different road users pass through the intersection at different times. This will avoid conflicts and helps to prevent crashes, injuries, and fatalities.

Slide 7: What will biking along Union Street feel like?

You may be wondering, what will it feel like for someone to bike along the Union Street Protected Bikeway? This brief video gives a sense of the user experience.

This sample video was taken along Spring Street in the City of Los Angeles. Motor vehicles travel in one-direction, like Union Street. A row of parked cars and painted buffer separates the two-way bikeway from the travel lanes. People on bicycles are in a dedicated space away from motor vehicles.

Slide 8: New Traffic Signals

Upon completion of the project, all intersections along Union Street will have traffic signals. This means new traffic signals will be installed at the intersections of Union Street and:

- Mar Vista Avenue
- Michigan Avenue
- Chester Avenue
- Holliston Avenue

Slide 9: New Intersection Design

All signalized intersections throughout the Union Street Protected Bikeway Corridor will also have new dedicated bicycle signals except for the transition at the end of the bikeway at Arroyo Parkway.

This slide shows the previous and new intersection design of Union Street and Holliston Avenue.

Multiple safety improvements will be installed, including traffic, signals and high-visibility crosswalks will. The intersections and signals along the protected bikeway are designed to improve safety for all road users.

Slide 10: Bicycle Signals

Dedicated bicycle signals will be installed along the entire Union Street Bikeway corridor. These signals indicate when people riding bicycles can proceed through intersections. The signal face has a bicycle symbol, and each bicycle signal will have a sign attached to it that indicates it is a bicycle signal.

Slide 11: Benefits of Bicycle Signals

There are a lot of benefits of bicycle signals. They provide protection for people biking by separating their movements through intersections from people driving motor vehicles.

Only bicyclists and pedestrians should proceed through the intersection when the bicycle signal is green.

When bicycle signal is red, if a driver wants to turn left and has a green traffic signal, they can make the turn during a time designed to eliminate conflicts or potential crashes with people riding bicycles.

Slide 12: How It Works

Let’s consider an example of how the traffic signal will work at Union Street and Holliston Avenue.

The through and right turn lane on Union Street have a green light, while the left turn lane on Union Street and both directions of Holliston Avenue have a red light. The purple arrows represent motorists which are moving with the green light. The light purple lines represent cars that are stopped at red lights.

Notice that the bicycle signals for both directions of bicycle traffic are also green.

Slide 13: How It Works

These blue arrows represent bicyclists traveling through the intersection in the green bike crossing. Because the left turning motorists on Union Street have a red light, bicyclists can cross the intersection without fear of turning vehicles.

Below the green bike crossing, there's a green rectangular box called a two-stage turn queue box. This acts as a waiting area for bicyclists who want to turn north off of Union Street onto Holliston Avenue. For more information about how a turn queue box works, check out Presentation 3: Two Stage Turn Queue Boxes. To keep things simple, we're just going to focus on bicyclists who are traveling straight through the intersection.

Slide 14: How It Works

Now, the bike signals get a yellow light while the Union Street movements still have a green light. These dotted lines represent bicyclists who are finishing crossing the intersection.

Slide 15: How It Works

The bike signal turns red while the Union Street light is still green. The light blue lines represent bicyclists that are stopped behind the intersection.

Slide 16: How It Works

After bicyclists have had an opportunity to cross the intersection, the left turn lane on Union Street gets a green light. Motorists turning left are allowed to cross the intersection, while through and right-turn motorists still have a green light. Because bicyclists on Union Street have a red light, they aren't allowed to enter the intersection while cars are turning. This reduces the risk of a crash between a turning motorist and a bicyclist on Union Street, making the intersection more comfortable for everyone.

Slide 17: Example Phasing

Now, let's watch a brief video showing how the bicycle signals will work. Here, the left turn lane gets a green arrow before the bike signal. You can see the bicyclist waiting while motorists turn across the intersection. After the left turn arrow turns red, the bike signal turns green, and the bicyclists can cross. The motorists on this street who are not turning left still have a green light.

Slide 18: Additional Union Street Features

The Union Street Protected Bikeway design accommodates many features including Parking, Passenger Loading Zones, Bicycle Turn Boxes, Driveways, and a transition to and from the end of the bikeway at Arroyo.

There are four other public information videos as part of the Union Street Protected Bikeway series that provide more details about each these design features:

1. **Parking and Passenger Loading Zone**

2. **Turn Queue Boxes**
3. **Driveway Treatments.**
4. **Transition to and from the Bikeway at Arroyo**

Thank you so much for taking the time to watch this video.

For more information related to this project, watch the rest of the videos in the series, and check out the project website at saferstreets.cityofpasadena.net