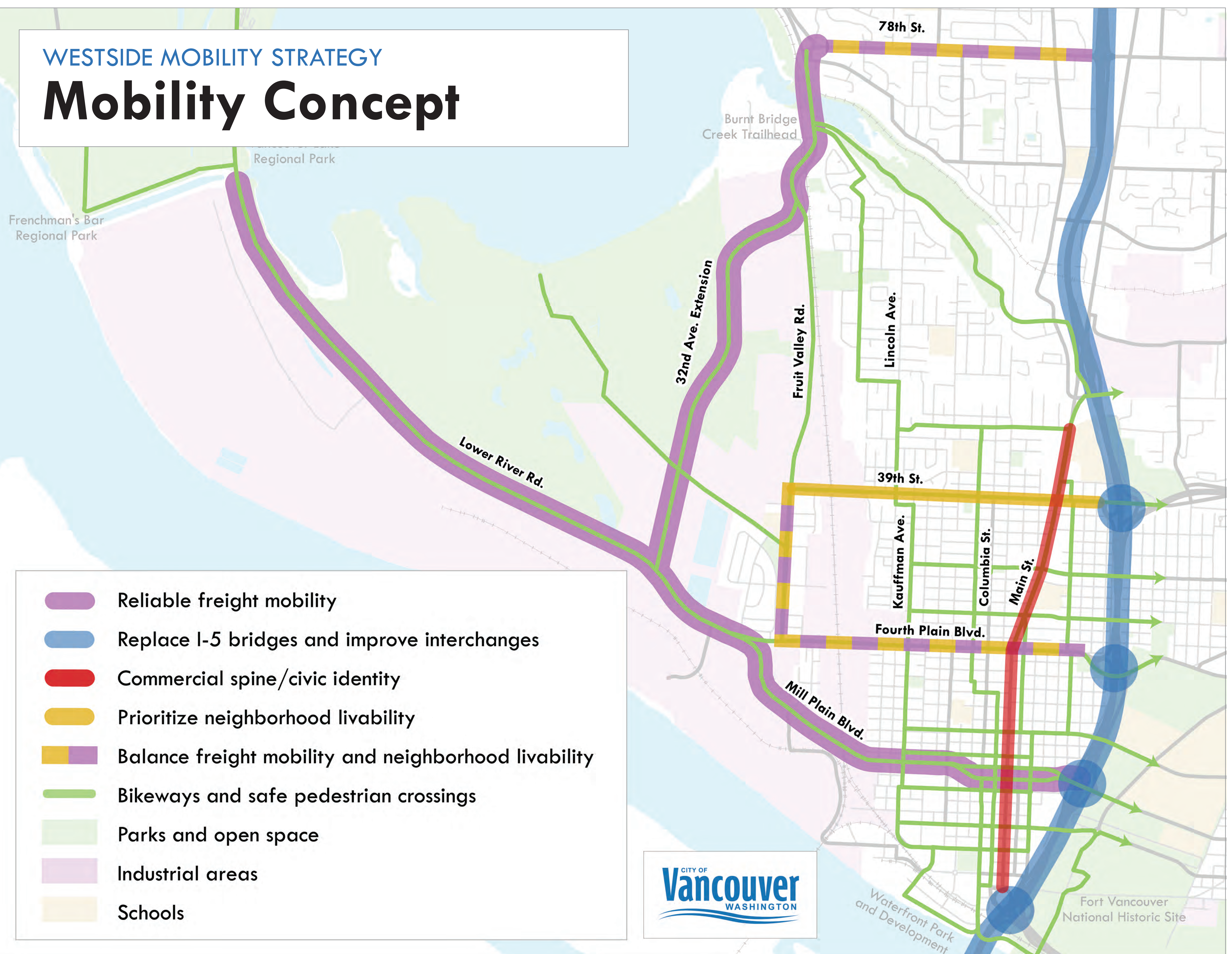


# Mobility Concept



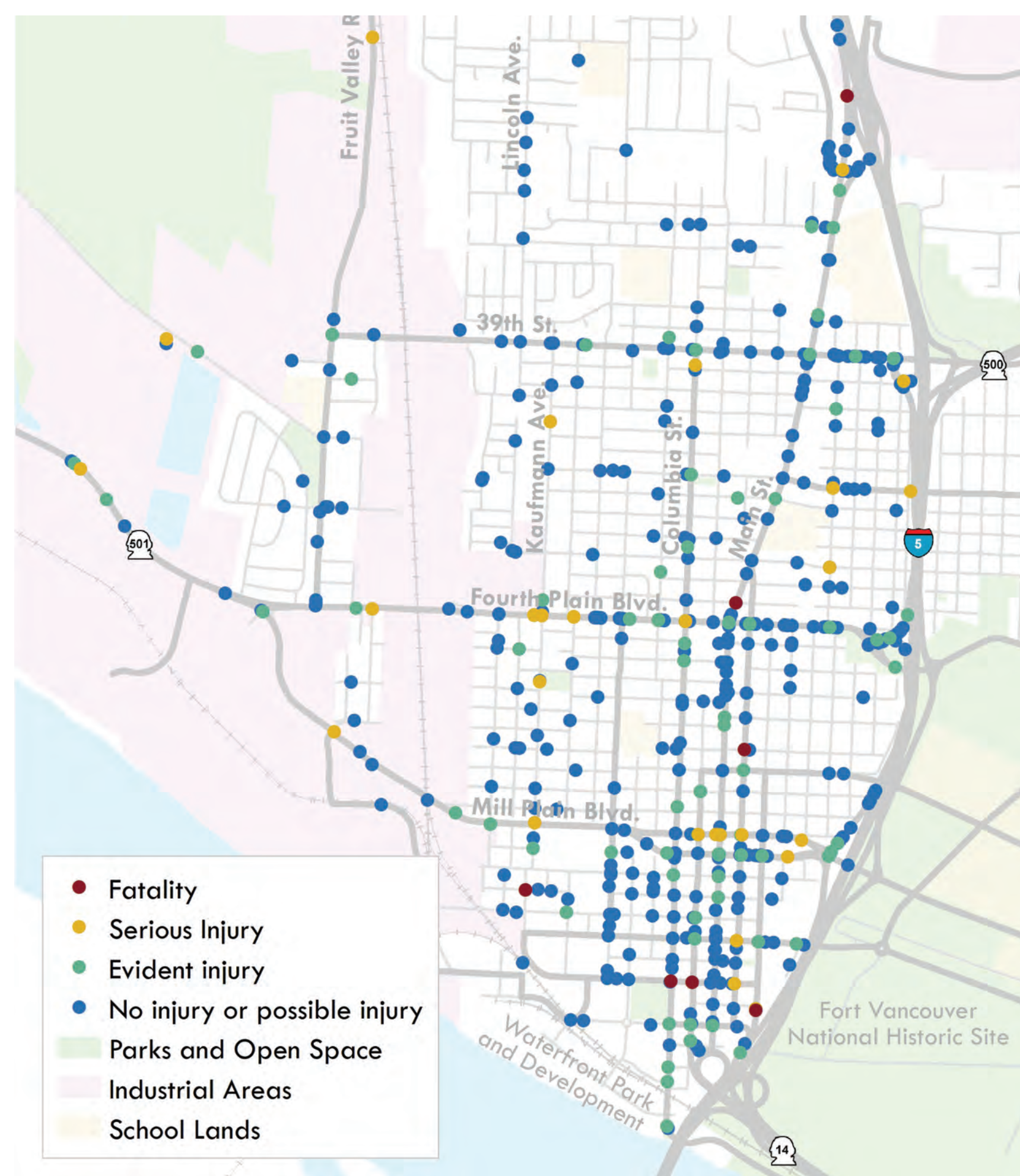
## MOBILITY GOALS AND RECOMMENDATIONS

- 1 Create a Systematic Plan to Increase Safety
- 2 Develop Efficient and Reliable Freight Routes
- 3 Manage Arterials to Preserve Neighborhood Livability
- 4 Retrofit Main Street to Promote Vitality and Safety
- 5 Complete Key Connections in the Bikeway Network
- 6 Make Walking Safe and Convenient for All
- 7 Build Partnerships for Regional Projects
- 8 Monitor Performance of Streets



## MOBILITY GOAL 1

# Create a Systematic Plan to Increase Safety



## Develop a Citywide Transportation Safety Action Plan (TSAP)

The WMS project took the first step in identifying the transportation safety issues in Vancouver's westside neighborhoods with a high-level review of collision data from 2010 through 2014. The second step, a Traffic Safety Action Plan (TSAP), will further analyze the collision data and drill down to identify the causes and develop specific recommendations. TSAP's are common industry practice and are most efficient when conducted at the jurisdiction-level.

- 874 collisions
- 8 fatalities
- 6 of 8 fatalities were people walking or biking
- 4 pedestrian fatalities
- 3 of 4 pedestrian fatalities were someone over the age of 75 and in a marked crossing
- Mill Plain, Main and Fourth Plain have the highest collision rates
- Mill Plain had the most collisions around 9:00 am
- Fourth Plain had the most collisions around 2:30 pm
- Main Street had the most collisions around 5:00 pm

## MOBILITY GOAL 7

# Build Partnerships for Regional Projects

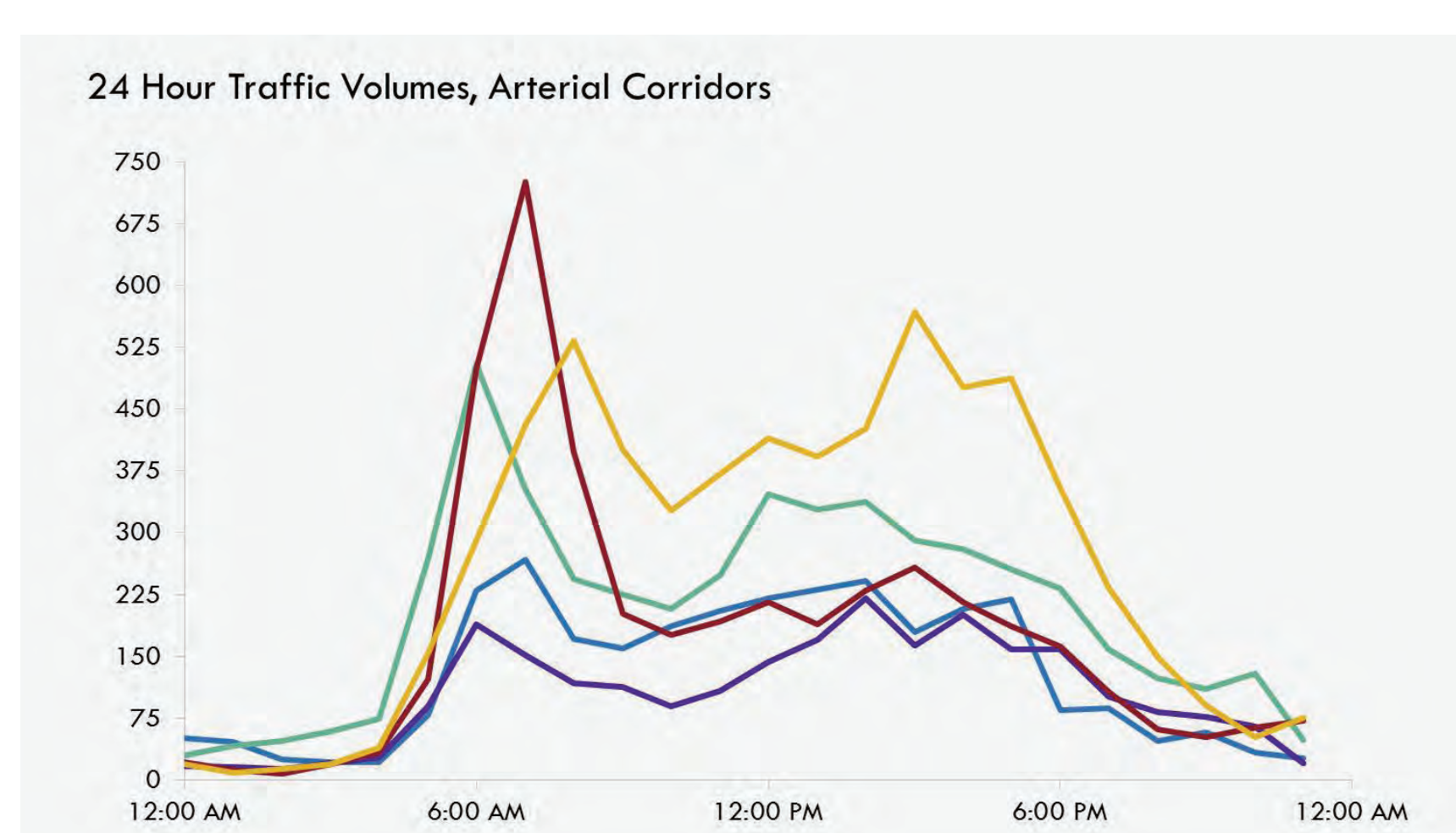


## Coordinate with regional partners to enhance regional facilities that impact the westside.

- Work with regional and state partners to replace the I-5 bridges
- Work with WSDOT to implement Mill Plain Corridor and I-5/Mill Plain Interchange improvement projects
- Partner with Port of Vancouver on 32nd Ave. Extension/Fruit Valley Rd. bridge and Lower River Road improvements
- Work with WSDOT to improve I-5/Fourth Plain interchange speed control on Fourth Plain westbound

## MOBILITY GOAL 8

# Monitor Performance of Streets

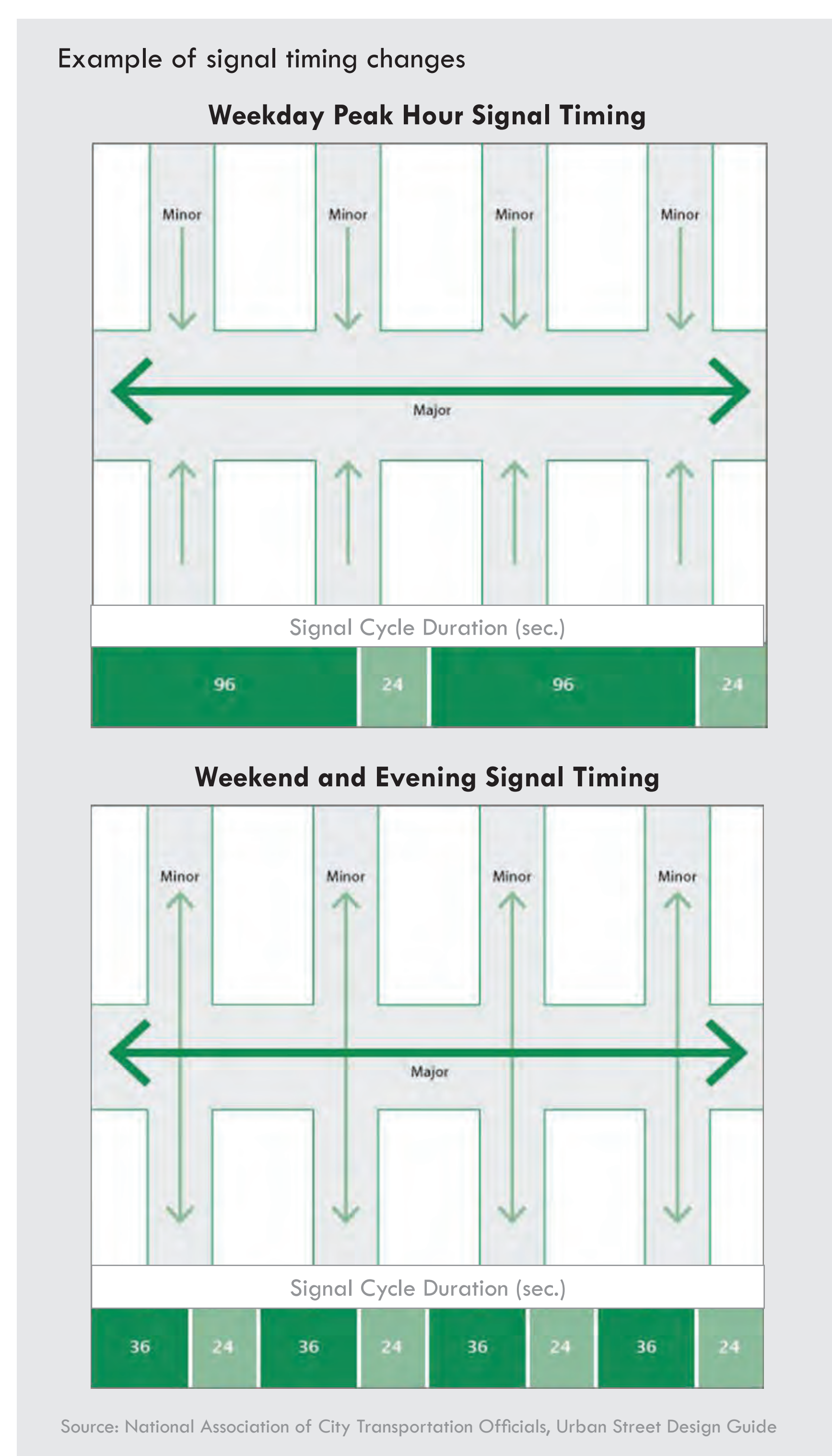


## Continually evaluate performance of streets toward achieving mobility goals and citywide policies.

- Implement a Transportation Performance Measures (TPM) monitoring program for westside arterials and corridors and the city arterial network.
- Report TPM program results to City Council and westside arterials every two years.



# Manage Arterials to Preserve Neighborhood Livability



## RECOMMENDATIONS

### 1 Reduce freight traffic on 39th Street and manage speeds.

A range of interventions should be considered to reduce freight traffic on 39th Street and preserve the livability of residential neighborhoods, including:

- Traffic control or speed management measures that would increase travel times and discourage freight traffic
- Prohibition of nighttime freight traffic (2017)
- Enhanced pedestrian crossings, including raised crosswalks

### 2 Mitigate the negative impacts of freight and high traffic volumes on Fourth Plain and Fruit Valley Rd.

Current freight and commuter traffic volumes negatively affect the livability and safety of neighborhoods on these corridors. A range of measures should be considered to mitigate these impacts:

- Reduction of speed limit
- Installation of radar feedback signs to manage speeds
- Evaluate restrictions of nighttime freight traffic after improvements to Mill Plain are complete
- Enhanced pedestrian crossings that include traffic signalization, pedestrian refuge islands, signage and lighting

### 3 Modify signal timing to balance directions of travel and variations by day-of-week and time-of-day

Current traffic signal timing favors east-west traffic movement. To better accommodate neighborhood north/south mobility, the traffic signals on east/west arterials should be modified to allow greater north/south green time on weekday evenings and weekends

### 4 Educate freight users of the preferred freight routes

Existing Transportation System Plan (TSP) policies do not differentiate arterial routes intended for freight traffic. To better direct freight traffic to the intended corridor, the TSP should be amended to identify designated freight corridors on arterial system map and city communications should be revised to promote the freight corridors.

### 5 Police enforcement on key arterials

Support more consistent VPD Traffic Unit patrols to target speeding violations and use of unmuffled engine braking by large trucks.



# Develop Efficient and Reliable Freight Routes



Approximate alignment and project components of 32nd Avenue Extension

## RECOMMENDATIONS

### 1 Construct 32nd Ave. Extension, replace the Fruit Valley Road Bridge and improve Lower River Rd.

The 32nd Avenue Extension and Fruit Valley Road bridge improvement projects are currently identified in the City's Transportation Improvement Program (TIP). Preliminary engineering and an environmental impact study for the 32nd Avenue Extension was underway but put on hold in 2009. The Fruit Valley Road Bridge needs to be replaced with a wider bridge better able to safely accommodate freight, vehicles, pedestrians and bicyclists in conjunction with this new arterial roadway. In addition, Lower River Rd. multi-modal improvements are needed to accommodate access to industrial lands and for people who bike through the corridor. There are four primary benefits to building this new roadway, replacing the bridge and improving Lower River Rd.:

- Provide reliable and direct connection from industrial areas to I-5 in both directions, via Mill Plain Blvd. and 78th St.
- Catalyze new industrial development
- Pull freight and commuter traffic away from residential neighborhoods in the core of the westside
- Complete an important connection in regional trail network between Burnt Bridge Creek, Vancouver Lake and Frenchman's Bar

### 2 Optimize Mill Plain corridor and I-5/Mill Plain interchange for reliable freight mobility

Mill Plain Boulevard has been designed and improved over decades to be the optimal route for efficient freight movement between I-5 and industrial areas. Continued growth and shifting industry specializations drive the need for additional improvements. To optimize the corridor for reliable freight mobility while advancing other mobility goals, the City will work with WSDOT to:

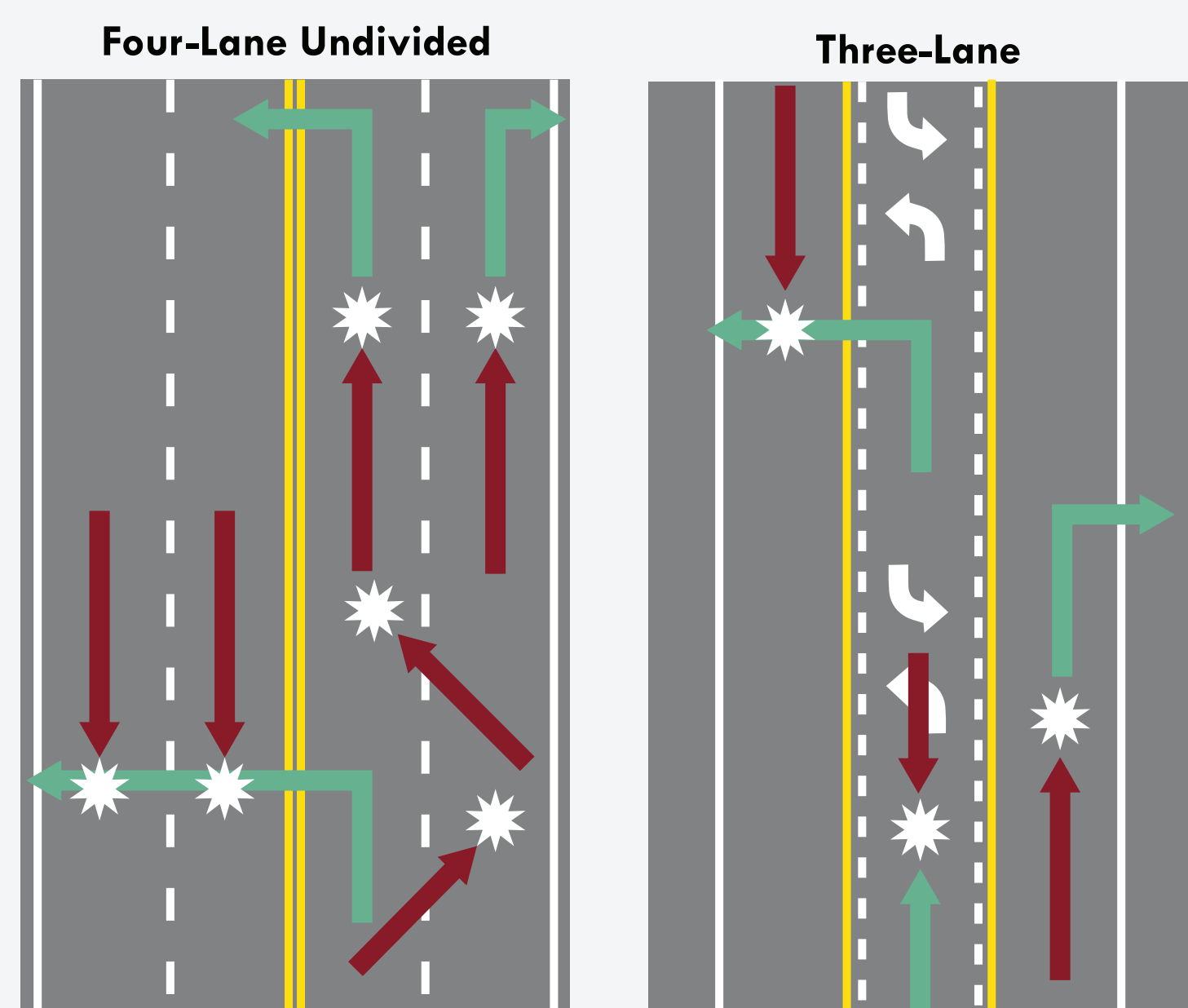
- Replace signal heads and redesign key intersections to accommodate all types of freight vehicles
- Coordinate signal timing to provide reliable travel times
- Assess options for completing a bikeway connection in the corridor on Mill Plain or parallel routes on 13th and 16th St.
- Enhance safety and convenience for pedestrians, where funding can be leveraged to improve pedestrian infrastructure
- Improve the I-5/Mill Plain interchange to significantly enhance safety, traffic flow and freight accessibility





# Retrofit Main Street to Promote Vitality and Safety

Comparison of Potential Conflict Points, Four-Lane Undivided Roadway vs. Three Lane Reconfiguration



Source: Federal Highway Administration, Road Diet Informational Guide



Four zones of a complete downtown sidewalk



- 1 Frontage zone for sidewalk cafes, entrances, storefront shopping, etc.
- 2 Through zone for comfortable and safe walking
- 3 Furnishings zone for seating, lighting, trees, bike parking, etc.
- 4 Buffer zone for parking, bike lanes, stormwater features, etc.

Source: National Association of City Transportation Officials, Urban Street Design Guide

## RECOMMENDATIONS

### 1 Manage diversion traffic and enhance safety on Upper Main (Fourth Plain to 45th)

Main Street has the second-highest collision rate of all arterials on the westside of Vancouver. The street carries an additional 1,300-2,800 vehicles per week that use the corridor as an alternative to I-5 through Vancouver. High volumes of commuter traffic not only impairs the performance and safety of Main St.; traffic volumes increase on local neighborhood streets in the vicinity of the corridor. These challenges are partly caused by the design of the roadway. Preliminary traffic modeling found that an alternative, three-lane design—in combination with other improvements—would reduce diversion traffic. A three-lane configuration would also significantly improve safety by reducing the number of potential conflict points; this street design has shown to reduce crashes by 19 to 47 percent. The next steps to implementing this change include:

- Detailed study of traffic impacts
- Begin design work to restripe the roadway and coordinate traffic signals to manage speeds

### 2 Enhance pedestrian safety in Uptown Village

The walkability of Uptown Village is one reason why so many people choose to walk on Main Street in this lively, cherished district. While the sidewalks, street furnishings and mature trees provide a pleasant experience, pedestrian crossings are infrequent. As a result, many people cross at unmarked locations. Two additional pedestrian crossings would fill in key gaps and promote a safer, more comfortable experience for pedestrians:

- Main Street and 25th St.
- Main Street and 20th St.

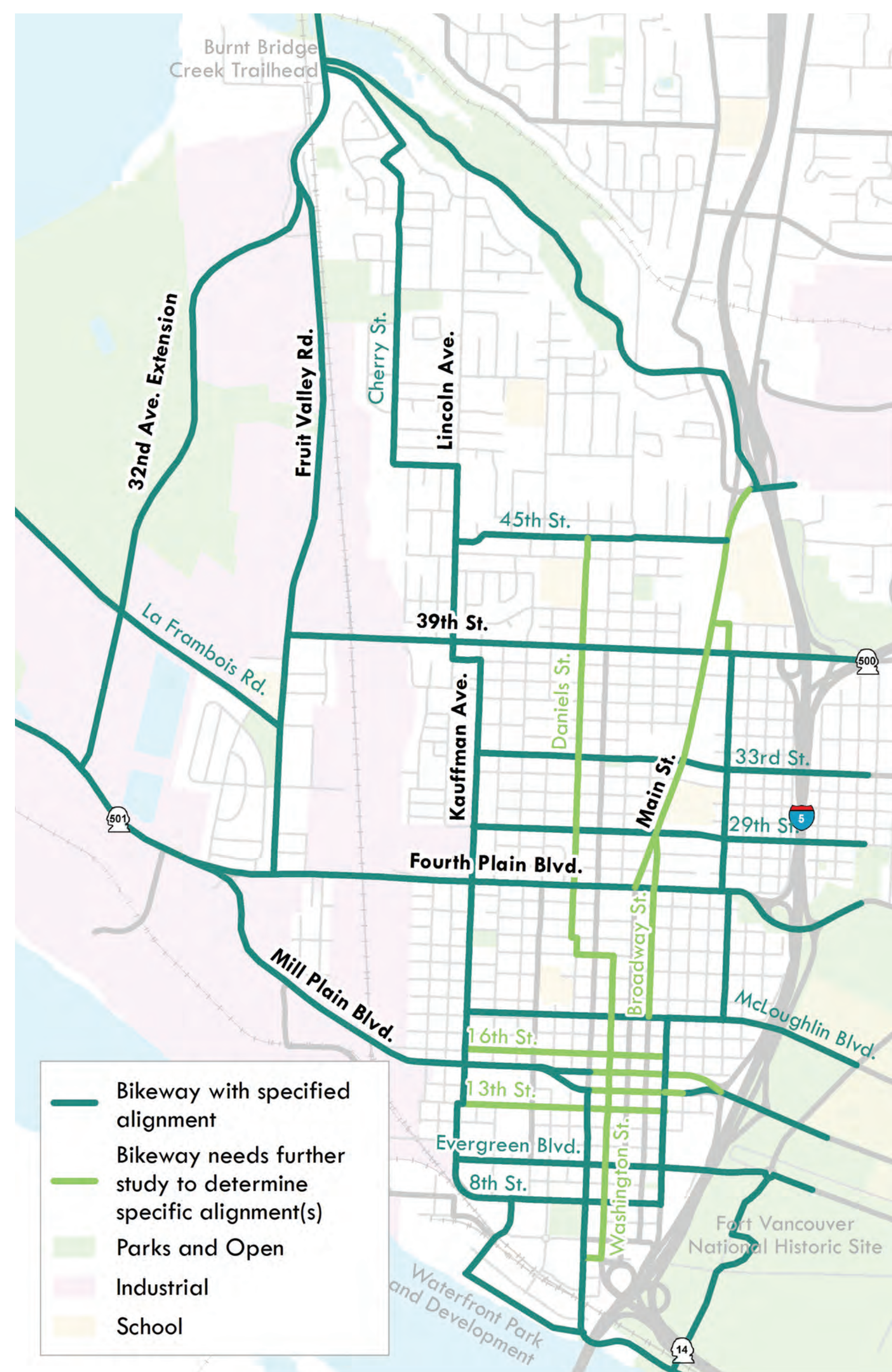
### 3 Prioritize implementation of downtown Main St. streetscape project

Main Street in Downtown Vancouver is an important destination and the historic core of the city. However, inconsistent streetscape, parking design, and traffic control detracts from the attractiveness and safety of the street. A redesign of Main Street in downtown should:

- Build off previous design efforts
- Create a complete, consistent and high-quality sidewalk to support a thriving retail street
- Improve consistency of traffic control and parking



# Complete Key Connections in the Bikeway Network



**Bikeways are streets that support safe biking for all ages and abilities by providing either:**

- Dedicated bike lanes
- A complete package of improvements that make biking on a shared roadway a safe and low-stress experience

## RECOMMENDATIONS

### 1 Create a Daniels-Washington Bikeway

This bikeway would provide a low-stress bike route from the waterfront north to 45th Street. A safe route that connects key destinations through the central core of the westside is critical to supporting bike mobility for all ages, abilities and trip types.

- Segment 1: Daniels St. bike boulevard from 45th to 20th
- Segment 2: Washington St. two-way protected bike lane from 20th to 13th
- Segment 3: Washington St. two-way protected bike lane from 13th to waterfront

### 2 Complete key network connections

Vancouver's westside has many destinations that should be more accessible for people who bike. These short connections at key locations are important to linking together the bikeway network.

- Bike lanes on Evergreen from C St. to Jefferson St.
- Bike lanes on 8th St. from C St. to Jefferson St.
- Bike boulevard on 48th St. and Cherry St.
- Bike lanes on Bernie Road to Burnt Bridge Creek trailhead

### 3 Improve existing bikeways

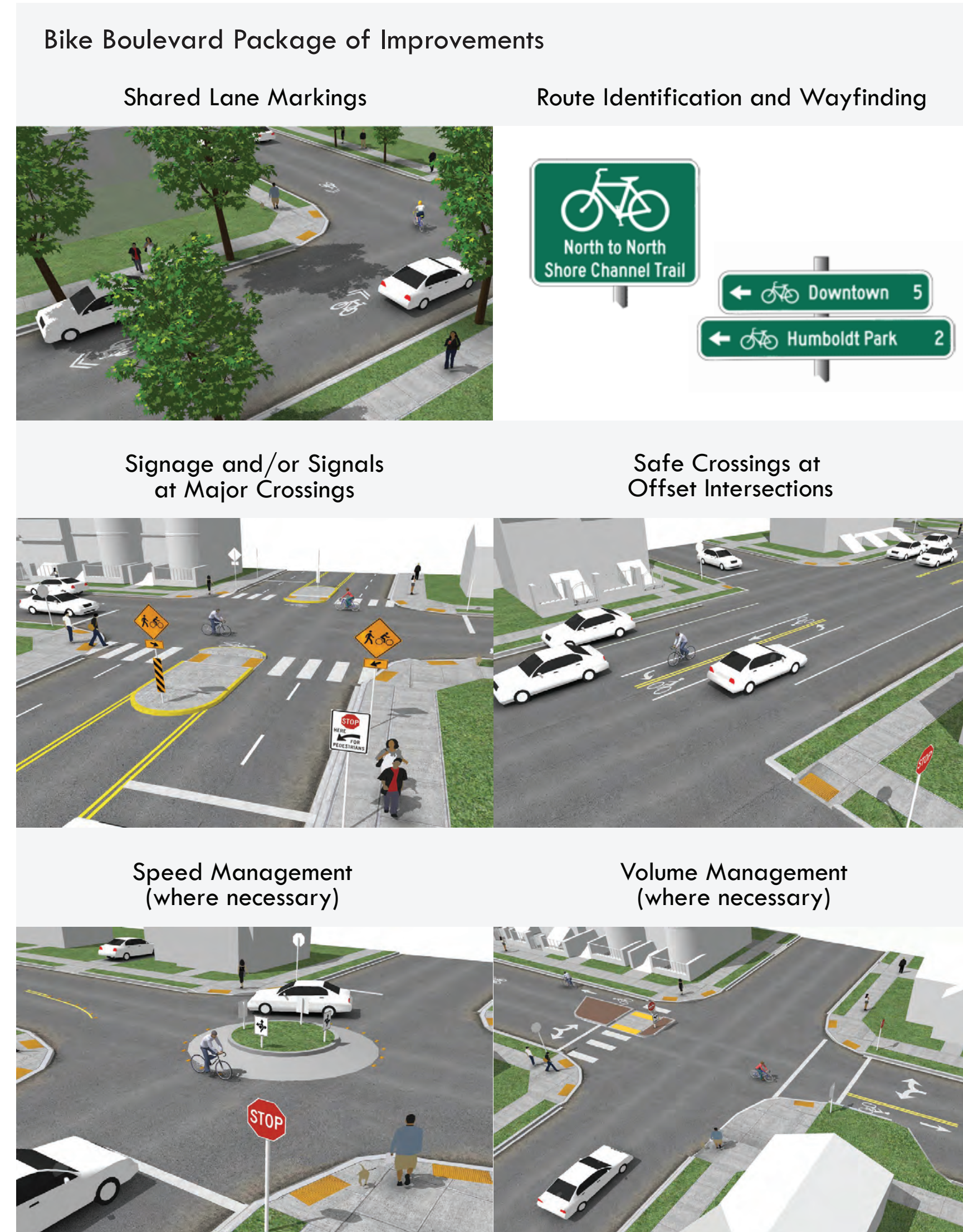
Several existing bikeways are either discontinuous or lack the full package of improvements for safe and low-stress riding. These bikeways need design and engineering to work effectively.

- Kauffman-Lincoln from Jefferson St. to 48th St.
- 33rd St. from H St. to Kauffman St.
- East-West Connectors: 45th St. and 29th St. and McLoughlin
- Burnt Bridge Creek Trail access from F St. and Hazel Dell Ave.

### 4 Integrate bikeway planning into arterial corridors

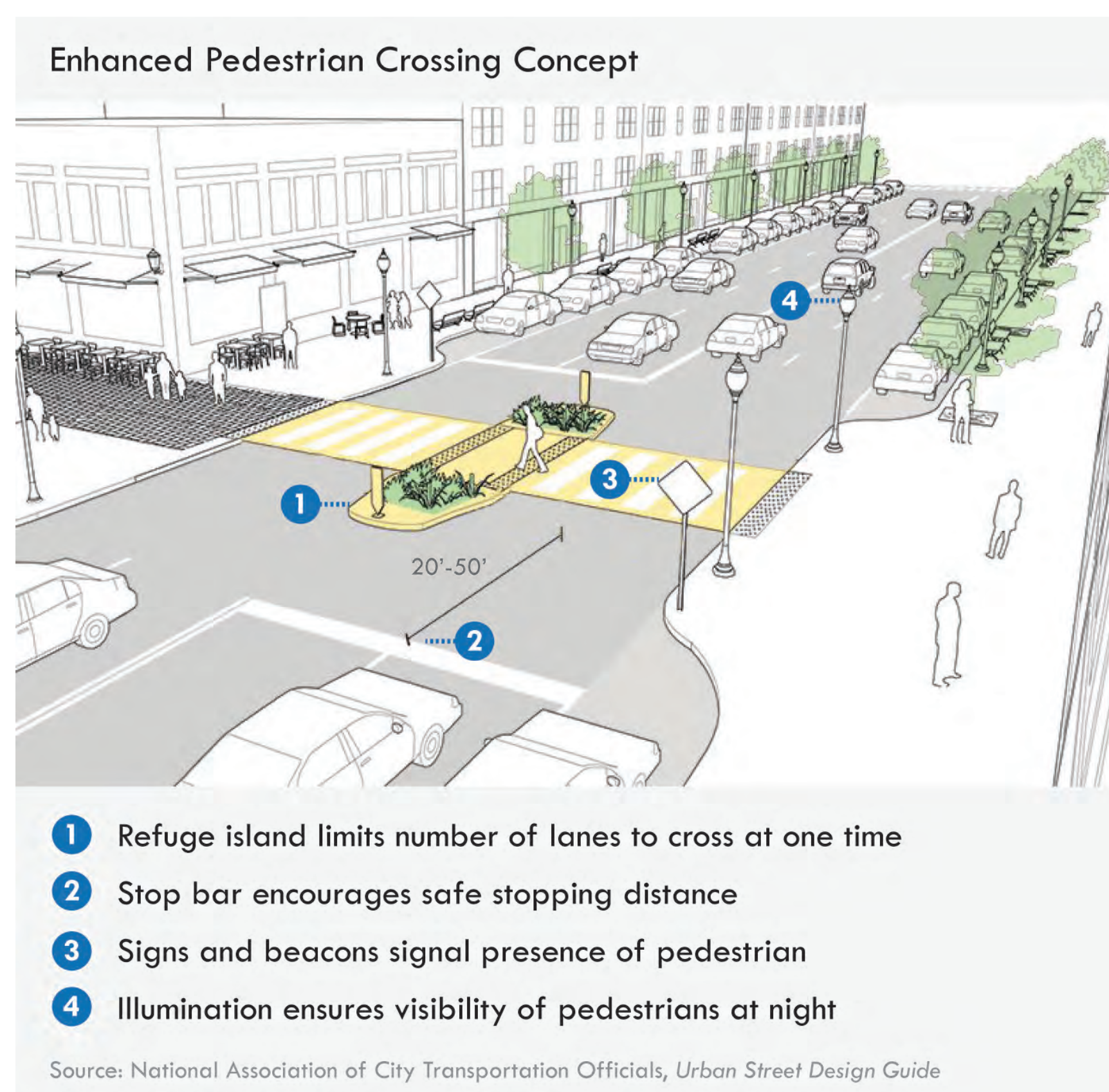
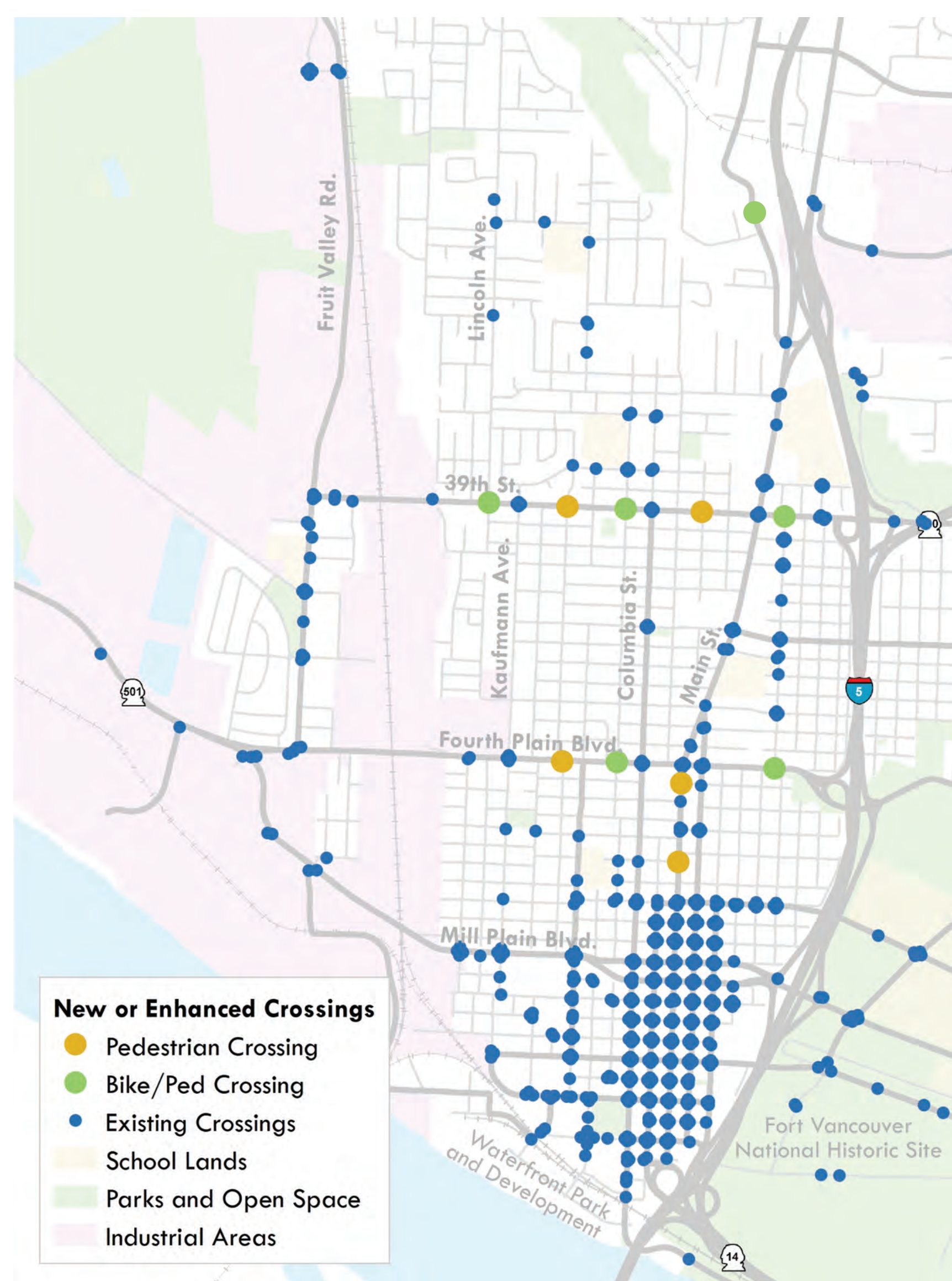
New bike facilities or improvements to existing bike facilities will be implemented at the following locations:

- Mill Plain Corridor between I-5 and the Port of Vancouver
- Fourth Plain between I-5 and C Street
- 32nd Ave corridor between Lower River Road and 78th St.
- Main Street between Fourth Plain and 45th Street





# Make Walking Safe and Convenient for All



Lincoln St. is the only arterial on the westside that lacks sidewalks

## RECOMMENDATIONS

### 1 Install a series of enhanced pedestrian and bike crossings on high-volume arterial streets

North/south mobility across busy east/west arterials is critical to make walking more convenient and safe in Vancouver's westside neighborhoods. More frequent pedestrian crossings featuring best-practice enhancements, such as pedestrian refuge islands and pedestrian-activated traffic signals, will make crossing busy arterials safer for people who walk and people who bike.

### 2 Build sidewalks on Lincoln St. north of 39th St.

Residents north of 39th Street have the least amount of sidewalks of any neighborhood on Vancouver's westside. Lincoln Street is the longest continuous north/south street through the Northwest neighborhood and provides key connections to schools, parks and transit facilities. Sidewalks on Lincoln Street are the best place to begin sidewalk infill north of 39th Street.

### 3 Coordinate with citywide Sidewalk Management Program to prioritize future sidewalk and crosswalk infill and repair

The need for infill and replacement sidewalks and crosswalks throughout westside neighborhoods will need to be systematically evaluated and prioritized based on methodology currently being developed as part of the Citywide Sidewalk Management Program

### 4 Modify signal timing for more predictability and safety for pedestrians

Westside traffic signal operations are oriented to favor east-west vehicle travel patterns. Inconsistent and long pedestrian waiting times at signalized crosswalks contributes to pedestrians crossing streets against traffic signals and crossing streets mid-block. Westside traffic signals can be reprogrammed to be more consistent, efficient and predicable for pedestrians.