Improving Downtown Streetscape in Klamath Falls

Community Education & Outreach Workshop

Klamath Falls, OR – June 12, 2017

Project Team

PROJECT MANAGEMENT TEAM

- Joe Wall, *City of Klamath Falls*, jwall@klamathfalls.city
- Evan Manvel, *Oregon Dept. of Land Conservation and Development*
- Devin Hearing, *Oregon Dept. of Transportation*
- Scott Edelman, *Oregon Dept. of Land Conservation and Development*

CONSULTANT TEAM

- Ben Weber, *SERA Architects*, benw@seradesign.com
- Matt Arnold, *SERA Architects*
- Rob Burchfield, *Toole Design Group*

Tonight's Topics

1. Project Introduction, Process, and Goals
2. Example Main Streets
3. Existing Conditions and Opportunities
4. General Principles for Creating Safe and Vibrant Downtown Streets
5. Switching Streets to Two-Way Traffic
6. Workshop Activity

Appendices: Downtown Parking Strategy; Parking; Street Design; Best Practices; Two-Way

What's The Big Picture?

Improve **multi-modal connectivity** and promote accessibility to **downtown destinations** where people want to spend time

Build on the momentum and ideas from the Blue Zones **"Downtown for People"** effort

Implement safety improvements identified in the 2012 Transportation System Plan

How Does This Project Help?

Help residents and business owners learn about best practices for designing **safe downtown streets** for all users, and how they apply in Klamath Falls.

Explore designs that **convert Main Street and Klamath Avenue to two-way traffic**, as well as options to improve safety while maintaining one-way flow.

Help City leaders develop **policies and implementation strategies** for downtown streetscape and traffic with goals for safety and livability

Project Process

MARCH

Project Team Site Tour

Stakeholder Interviews

Issue and Opportunity Identification

APRIL

Best practice research

Concepts designs

Preliminary implementation thinking

MAY

JUNE

Community Outreach and Education Workshop

Additional public input

Identify more in-depth concept solutions

JULY

Project report on findings, concepts, and recommendations

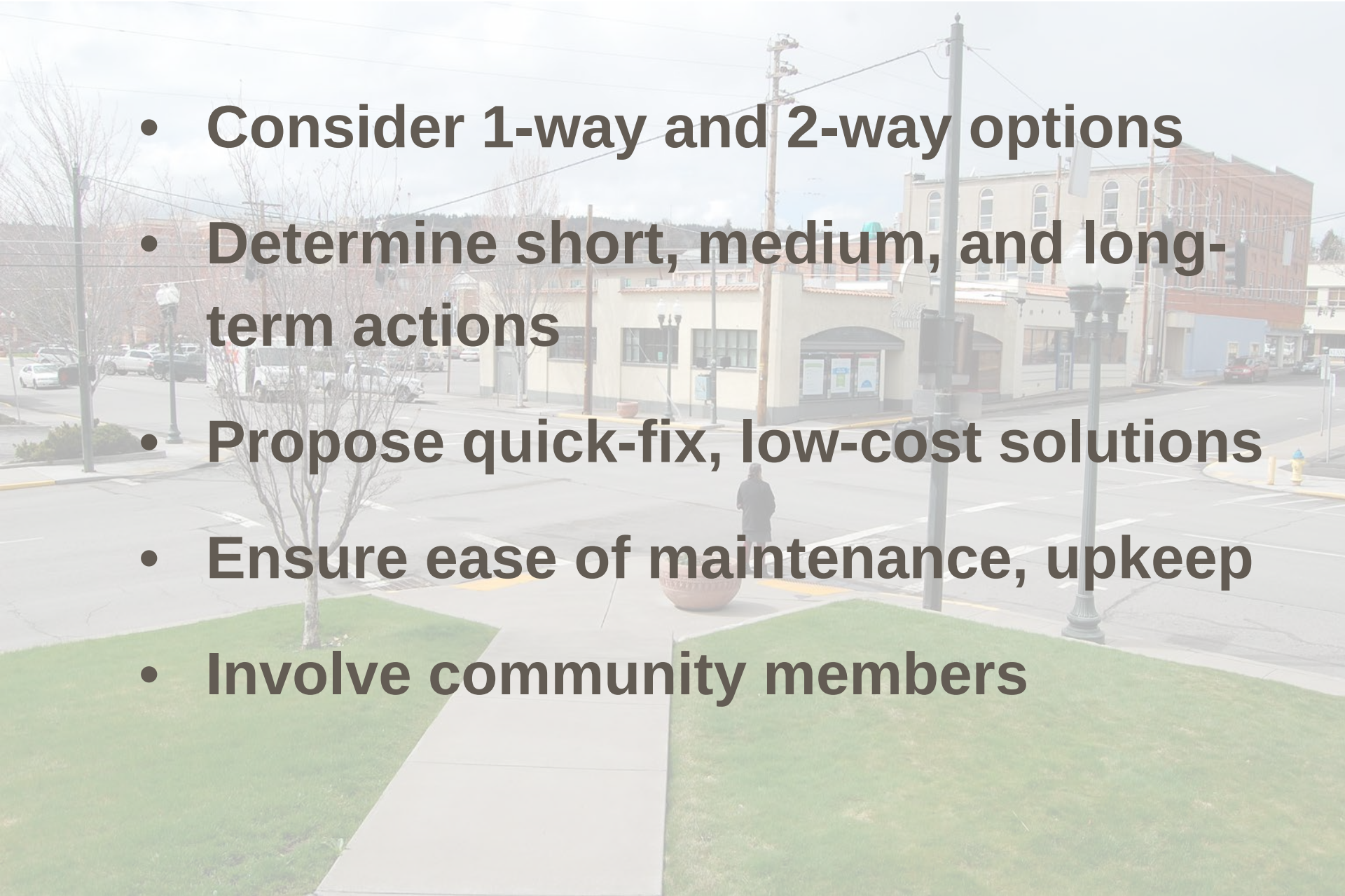
Goal: Improve Safety

- Make walking easy and safe
- Create safe facilities for bicycling
- Design streets for all ages and abilities
- Slow down traffic
- Provide more direct connections

Goal: Economic Development

- **Provide better access to businesses**
- **Make Downtown a more distinct and welcoming place**
- **Improve business visibility**
- **Concentrate on Main Street**
- **Enhance transit connections**

Goal: Implement



- Consider 1-way and 2-way options
- Determine short, medium, and long-term actions
- Propose quick-fix, low-cost solutions
- Ensure ease of maintenance, upkeep
- Involve community members

Potential Strategy: 2-Way Streets

- **Reduces major traffic crashes**
- **Provides better connections and more direct access**
- **Increases business visibility**
- **Makes a more walk- and bike-friendly street**

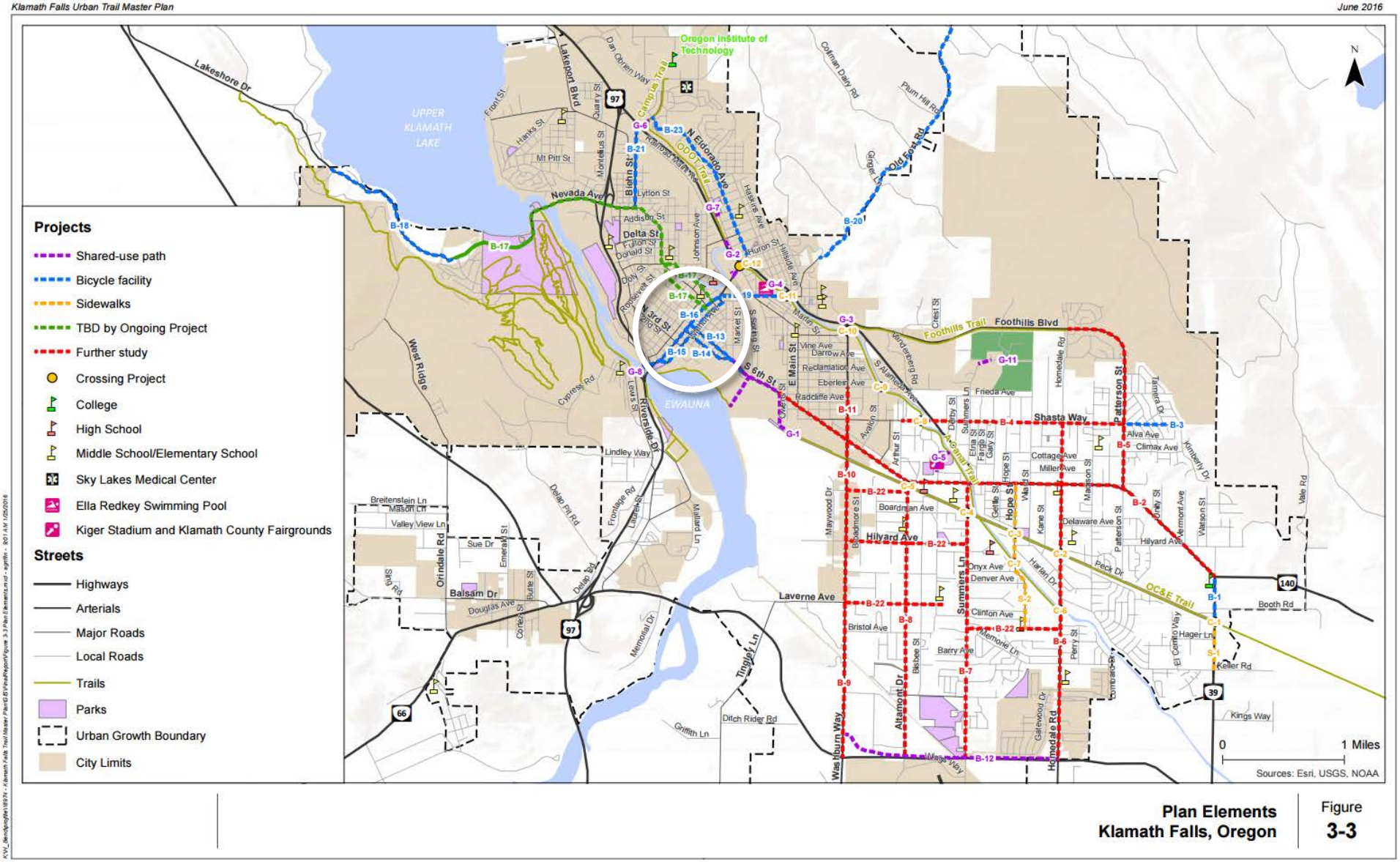
Klamath Falls (1911)

Klamath Falls (1941)

Courtesy of the Bureau of Reclamation

Regional Importance

Works with Urban Trails Master Plan



Upcoming Projects

SANE LANES

What is the Protected Bike Lane Project?

A team of community members, including partners from the Oregon Tech Honors program, Sky Lakes Wellness Center, Klamath Falls City Council, OHSU Class of 2016 School of Nursing Students-Klamath Falls Campus, and Integral Youth Services, are working to construct a protected bike lane linking Moore Park to downtown Klamath Falls. This protected bike lane will not only benefit the health of the community, but also the health of the economy!

What is a Protected Bike Lane?

A protected bike lane is a conventional bike lane with the added safety and protection of a physical barrier, such as parked cars, planters, or posts.

The addition of a protected bike lane in Klamath Falls will not only help revitalize the local economy, but it will also increase property values of businesses and homes along the protected bike lane. Businesses will be more accessible to patrons and homes more attractive to tenants.

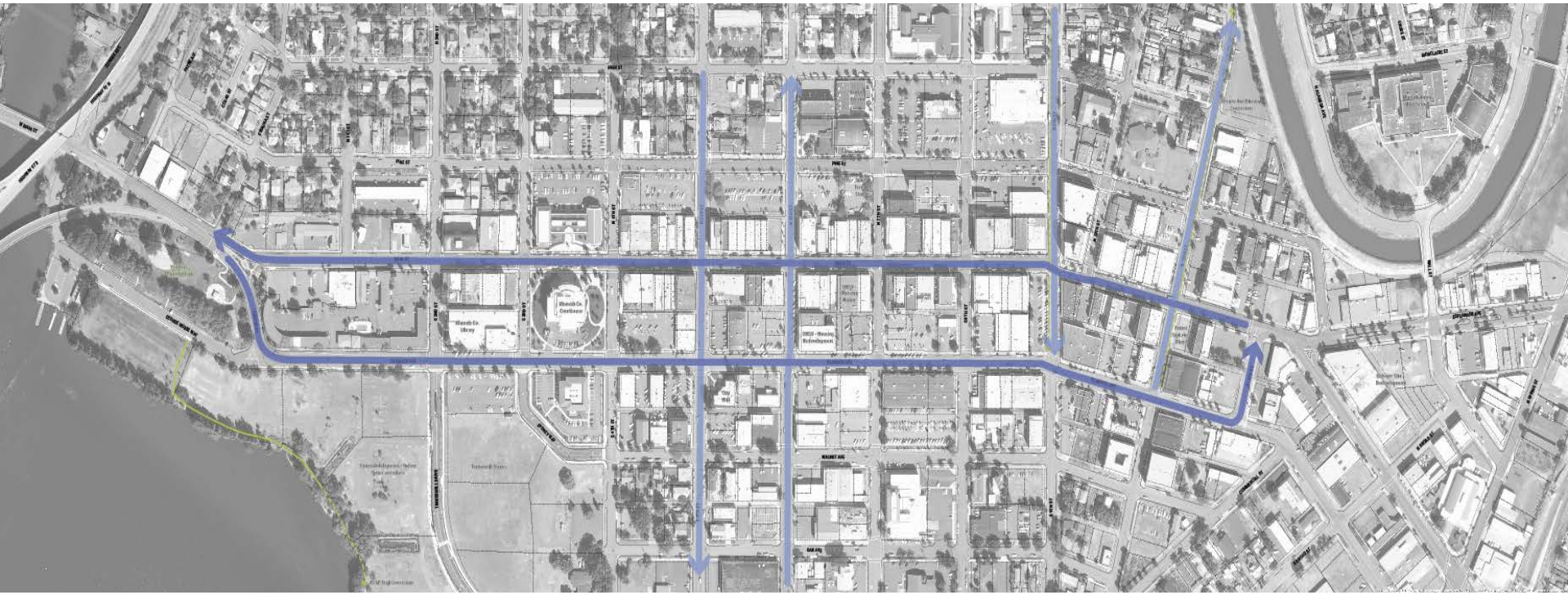
Proposed Protected Bike Route

At this time a team is working to place a protected bike lane along Oregon Avenue, connecting Moore Park with downtown. Feasibility studies and engineering drawings are being created to ensure road widths are sufficient, and to evaluate if a one-way or two-way protected bike lane would be most ideal.

Get Involved!

From raising community awareness to fundraising, there are many ways to get involved. Email Matt Dodson at mdodson@ci.klamath-falls.or.us if you are interested in volunteering and we will contact you when opportunities arise!

Focus on Main Street & Klamath Avenue



Durango, Colorado

Whitefish, Montana

Siloam Springs, AR

Lawrence, Kansas

Sturgeon Bay, Wisconsin

Grants Pass, OR

Sisters, OR

Redmond, Oregon

Existing Conditions

Wide Lanes, High Speeds

Typical Intersection

On-Street Biking

Bus Service in Downtown

Double-Parking for Loading

Various Parking Configurations

South Couplet

North Couplet

(Re)Development Opportunities

Outdoor Seating

Bike Corral / Curb Extension

Enhanced Crossings

Public Plaza

Public Art

Curb Extension / Plaza

Sidewalks

General Principles and Treatments for Creating Safe and Vibrant Downtown Streets

Principles: **Sidewalks**

Sidewalks should be:

- Continuous
- Free from obstruction & navigable by a wide range of users
- Wide enough to walk two-by-two
- Buffered from traffic with landscaping
- Interrupted with as few curb-cuts as possible

Principles: **Pedestrian Crossings**

Pedestrian crossings should be:

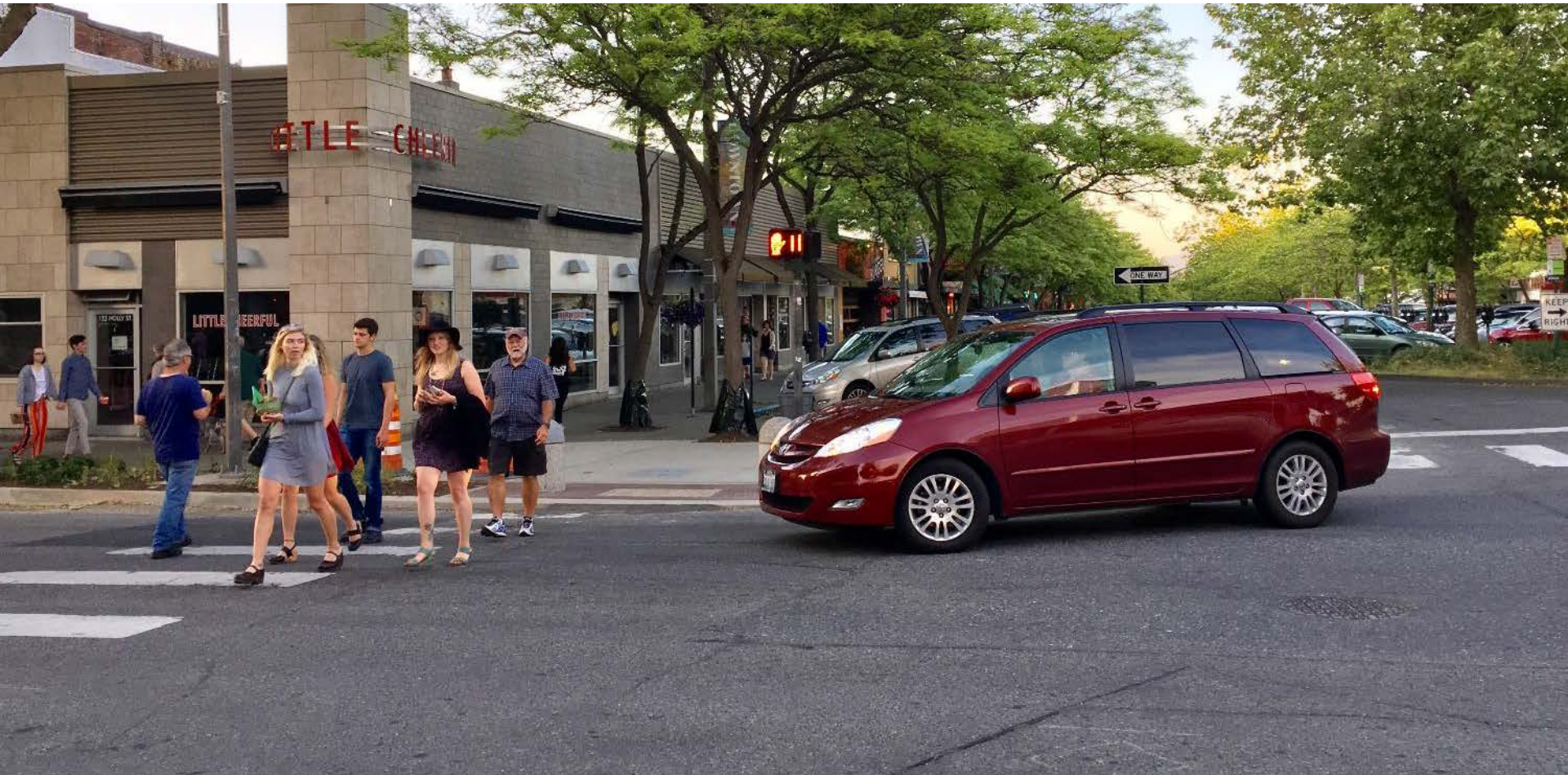
- Well-marked, well-signed, and well-lit
- ADA-accessible
- As short as possible

Sisters, OR

Principles: **Curb Extensions**

Curb extensions should:

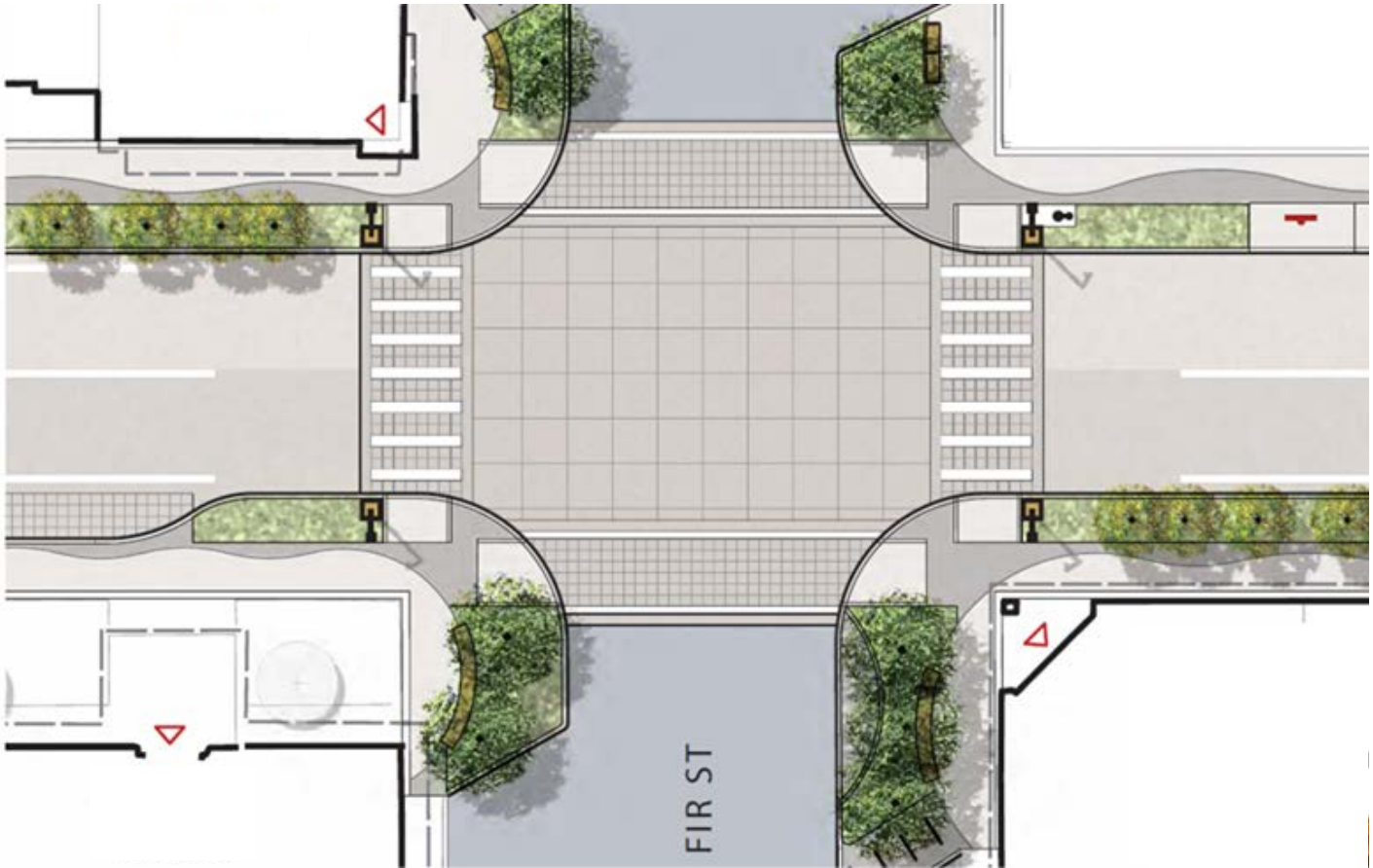
- Shorten crossing distances for people on foot
- Improve the visibility of people on foot by people driving



Principles: **Intersection Design**

Roadway intersections should:

- Provide safe and logical movement for all users / modes
- Be well-marked, well-signed, and well-lit



Principles: **Traffic Calming**

Traffic calming:

- Recognizes pedestrian and cyclists as equal but vulnerable road users
- Utilizes engineering solutions to slow speeding traffic and sometimes volume
- Creates comfortable, often separated, facilities for various modes
- Reduces uncertainty and conflict where modes interact

Principles: **Bicycle Mobility + Access**

Bicycle routes should:

- Safely separate cyclists from motorists
- Be free of obstacles
- Be comfortable to cyclists with a wide range of abilities
- Decrease the stress level of cyclists
- Signal to motorists that cyclists have a right to the road

On-Street Parking

Gateways

- Welcoming entryway to the community
- Navigation aid

Wayfinding

- Unifying navigation and design element
- Helps people mentally map their community

Top Row: Sherwood, OR; Los Angeles; Portland; Sisters, OR

Furnishings

- Adds to town characters
- Provides resting and meeting places
- Enlivens sidewalk activity

Pedestrian-Scale Lighting

“Spillout”

Street Seats

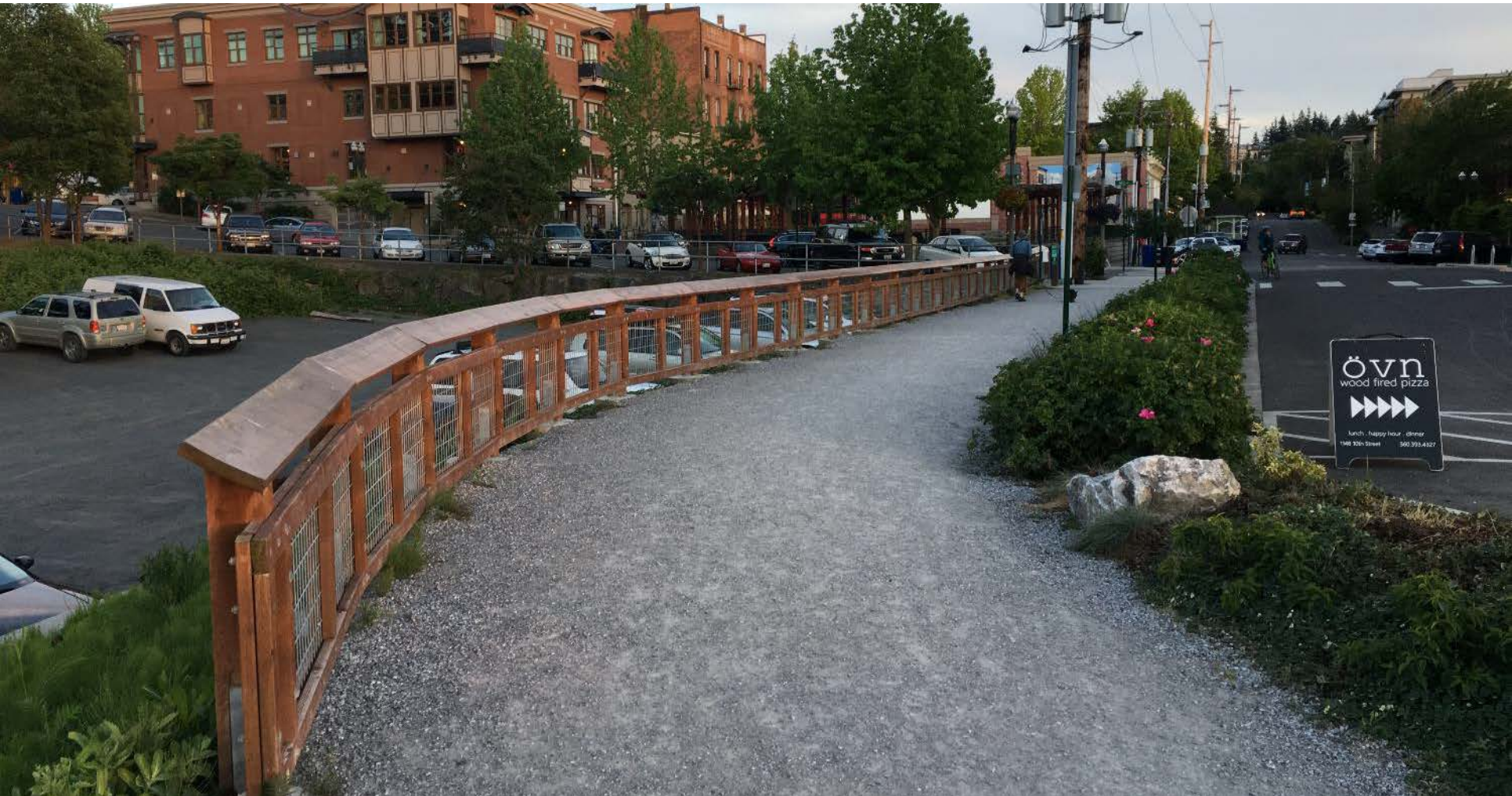
Street Seats

Downtown: **Driveways (if you must)**

- Use pavement treatments to visually identify the area
- Keep plantings low to allow visibility by all users
- Consolidate driveways; avoid placing in heavy bike/ped areas

Trails: **Downtown Connections**

- Direct connections between sidewalks, streets, and trails
- Landscaping and fencing support wayfinding
- Safety with lighting, visibility, and eyes-on-the-trail



Maintenance/Operations (Snow Storage)

Whitefish, MT

Demonstration Projects

Demonstration Projects

Creative Site Use

Quick-Fix → Permanent

1. Before

2. Temporary Fix

3. Permanent Improvements

Quick-Fix → Permanent

1. Before

2. Temporary Fix

3. Permanent Improvements (or Seasonal)

Converting Streets to Two-Way

2-Way Conversion: Key Benefits

- Reduces speeding vehicles and collisions
- Increased/safer bicycle traffic
- Increased/safer pedestrian traffic
- Improved access to businesses; more balanced development patterns
- More “customer friendly”
- Higher visibility destinations
- More direct vehicle circulation
- Expanded options for on-street parking

https://www.freese.com/sites/default/files/Conversion%20of%20One-Way%20Couplet%20Streets%20to%20Two-Way%205-5-16.pdf

Outcomes

Main Street *News* – the monthly periodical of the National Trust's *National Main Street Center*

TABLE 1: How One-way to Two-way Conversions Affect Main Streets

COMMUNITY	POPULATION	VACANCY RATE		REMARKS
		Before	After	
Sheridan, Wyo.	14,000	25%	1%	Traffic increase of 200%.
W.Palm Beach, Fla.	85,000	80%	0%	Positive impact on reducing drug use.
Lafayette, Ind.	50,000	20%	15%	Manager reports positive results.
Washington, Mo.	12,000	30%	2%	Business is very supportive.
Anniston, Ala.	26,400	6%	1%	Even those who opposed conversion now support it.
North Little Rock, Ark.	61,700	75%	60%	

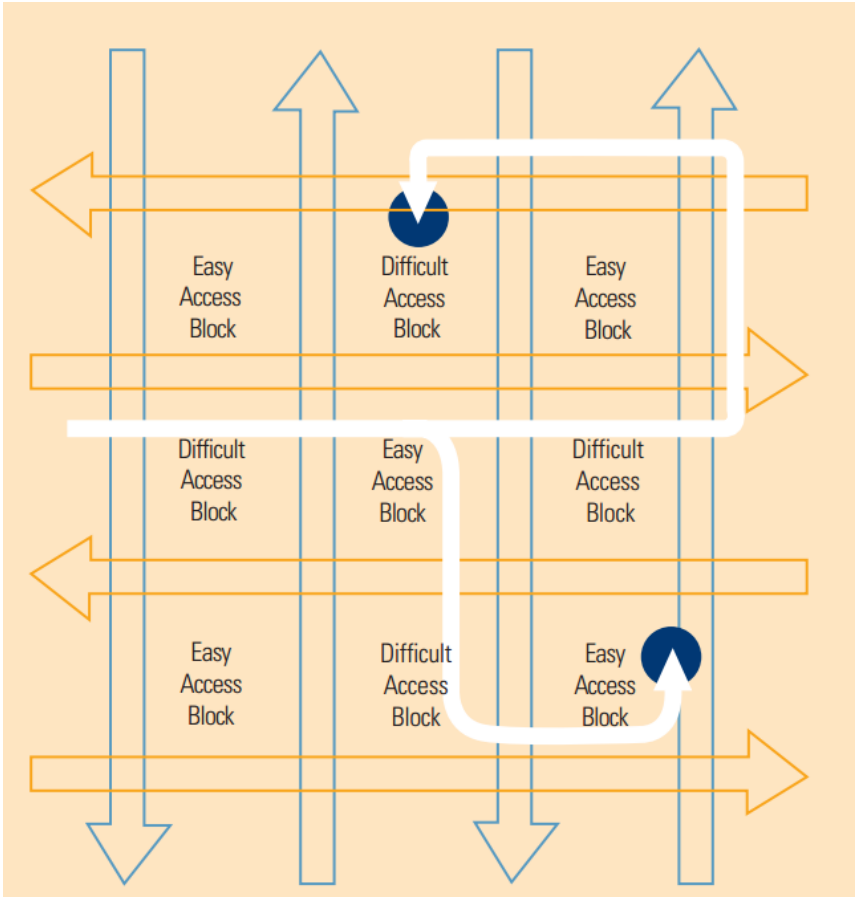
Source: Ted Brovitz, Survey of communities.

http://www.hillsboro-oregon.gov/Home/ShowDocument?id=3826

Outcomes

Main Street *News* – the monthly periodical of the National Trust's *National Main Street Center*

- Heavier pedestrian volumes
- Vehicles speeds <25mph
- Revitalized commercial locations
- Better bicycle routing options



http://www.hillsboro-oregon.gov/Home/ShowDocument?id=3826

South Bend, Indiana

Oregon City, OR (late 2000s)

BEFORE

AFTER

"A two-way Main Street became a unifying characteristic of our downtown marketplace. It's a physical connection that benefits all downtown."

- Director of Main St Oregon City

Other Examples of Conversion to Two-Way Streets

- Boise, ID
- Camas, WA
- Fort Collins, CO
- Great Falls, MT
- Mansfield, OH
- Sheridan, WY
- Redmond, WA
- Walla Walla, WA
- Wichita, KS
- Ann Arbor, MI
- Hickory, NC
- Cincinnati, OH
- Sacramento, CA
- Lubbock, TX
- San Marcos, TX
- Anniston, AL

What's Next

Processing of **public input**

Concept safety improvements and **timelines** for both one-way and two-way street operations

Overall **safety, walkability, and bikeability** improvement steps

Assessment of Pros/Cons of a **two-way conversion**

Rough **planning, cost, and timeline estimates** for two-way project

Recommendations for pop-up temporary safety **pilot projects**

Workshop Activity

Breakout around the **tables, with concepts and maps**

Review rough draft **concept designs and improvements**

Identify **issues, problems, and safety** concerns

Tell us **what you like** about downtown Klamath Falls streets

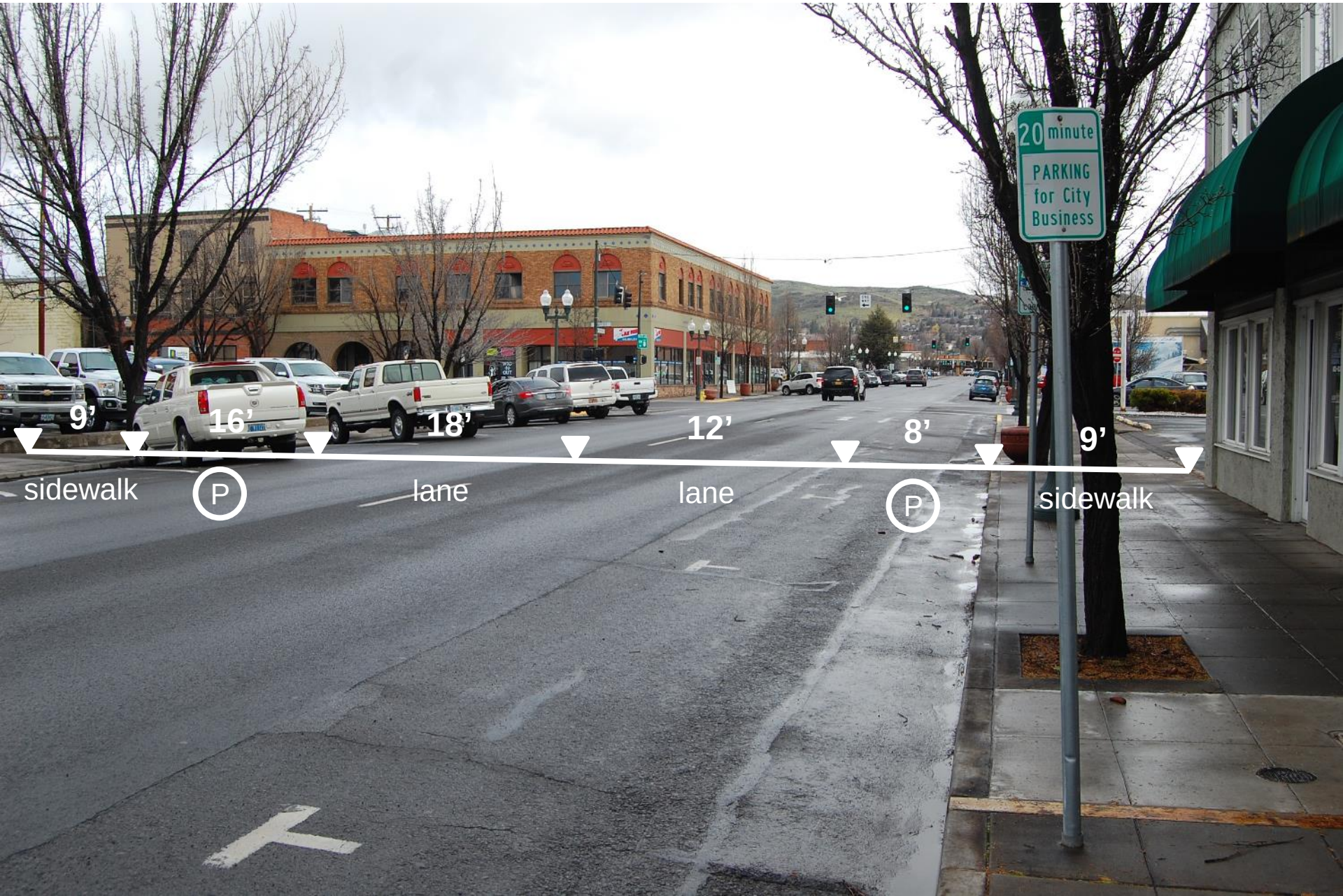
What **design concepts and treatments** just presented do and don't you like? Where would you put them?

What other **streets of the world** do you like? Could those ideas work here?

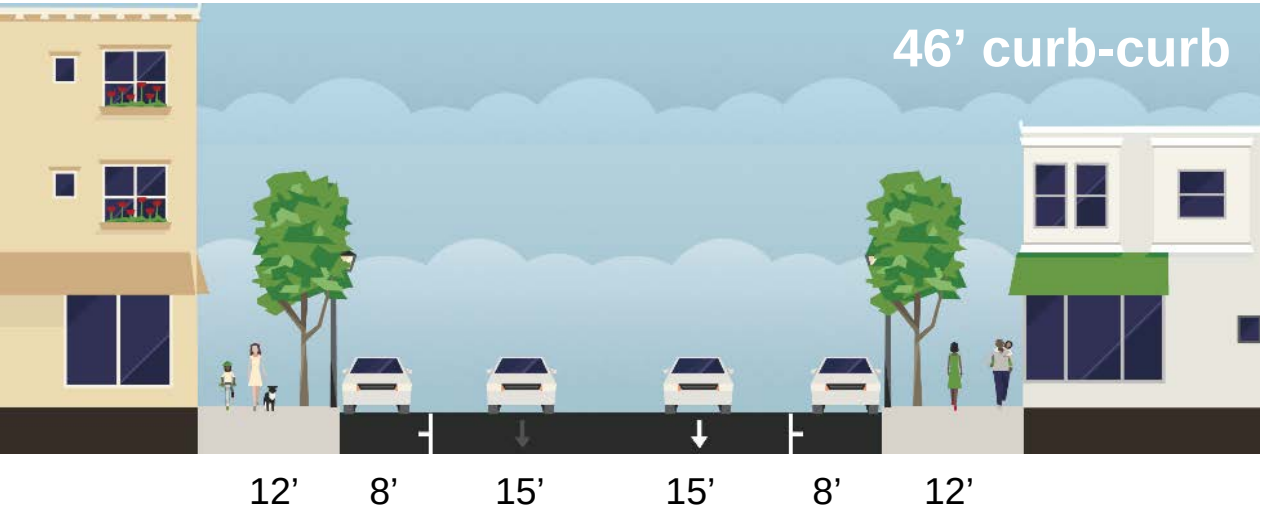
Concepts and Alternatives

Main St. Typical (70’, at 5th)

Klamath Ave. Typical (72’, approaching 6th)

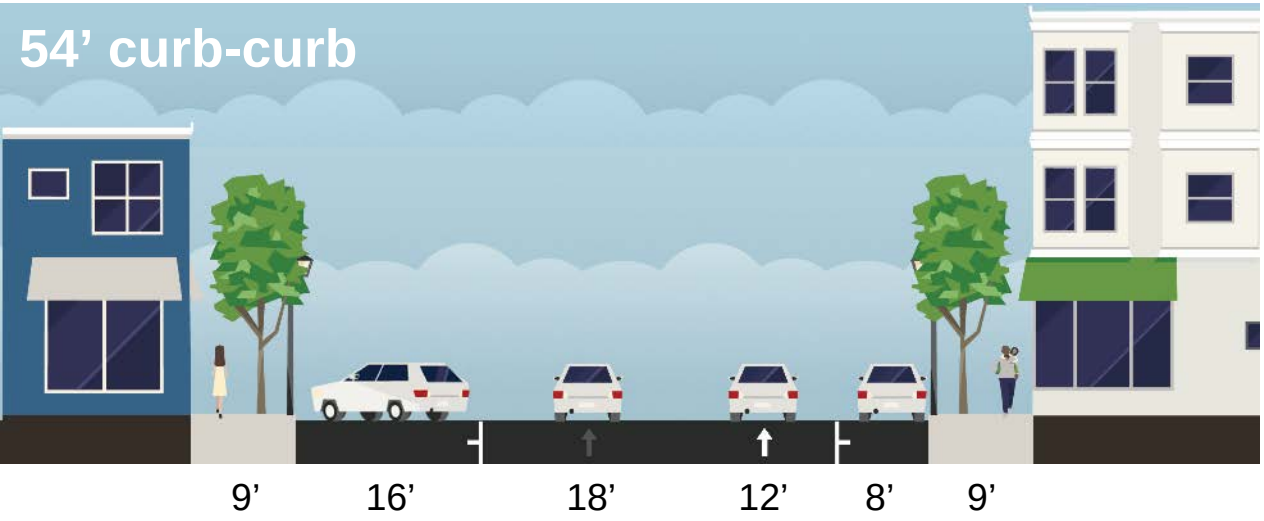


Existing Streets:



MAIN STREET EXISTING

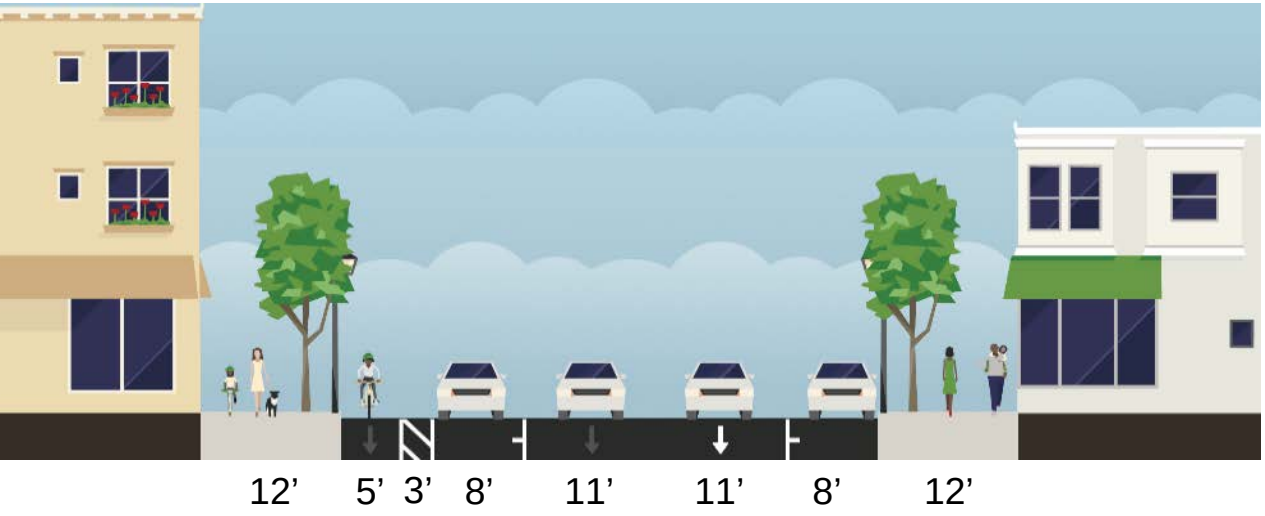
- Some intersections lack crosswalk markings
- No bicycle facilities
- Two wide vehicle lanes
- Predominately parallel parking
- Speeds typically 25mph+ (speed limit is 20)



KLAMATH AVENUE EXISTING

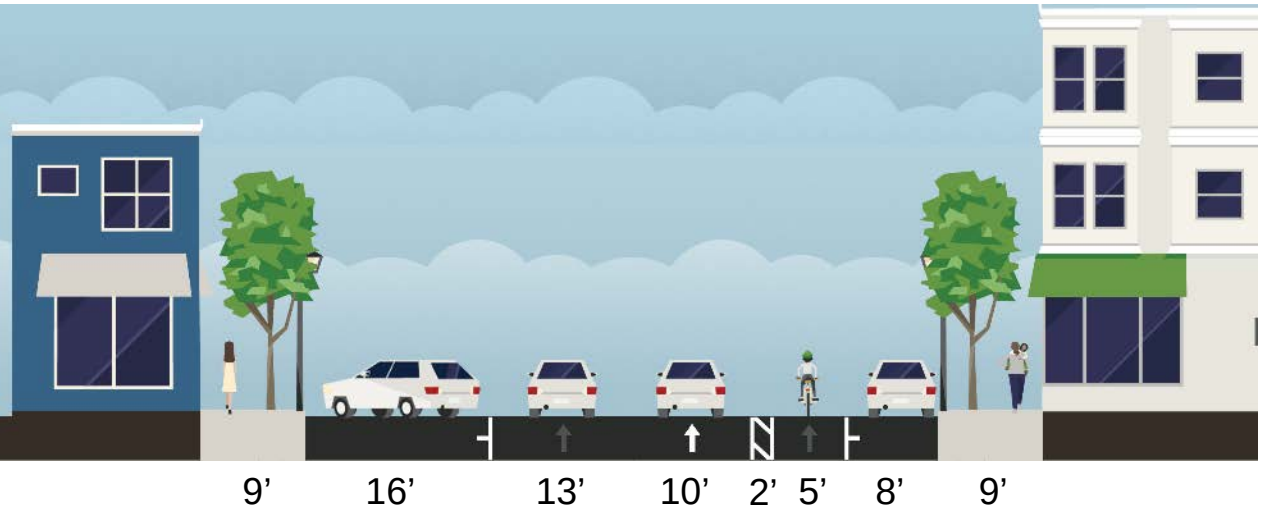
- Some intersections lack crosswalk marking
- No bicycle facilities
- Two wide vehicle lanes
- Mix of angle and parallel parking
- Speeds typically 25mph+ (speed limit is 20)

Concept: **One-Way with Protected Bike Lanes**



MAIN STREET

- Improved intersection crossings
- Parking-protected bicycle lane
- Two narrowed vehicle lanes
- Predominately parallel parking
- Narrowed lanes help clow speeding traffic
- No curb extensions



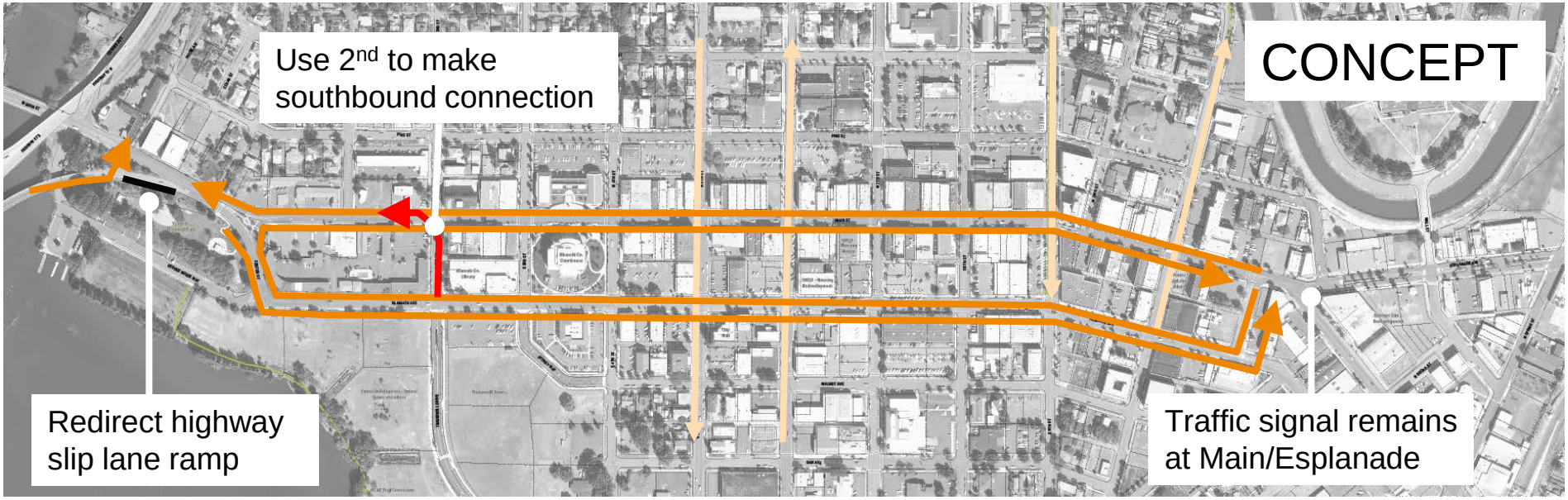
KLAMATH AVENUE

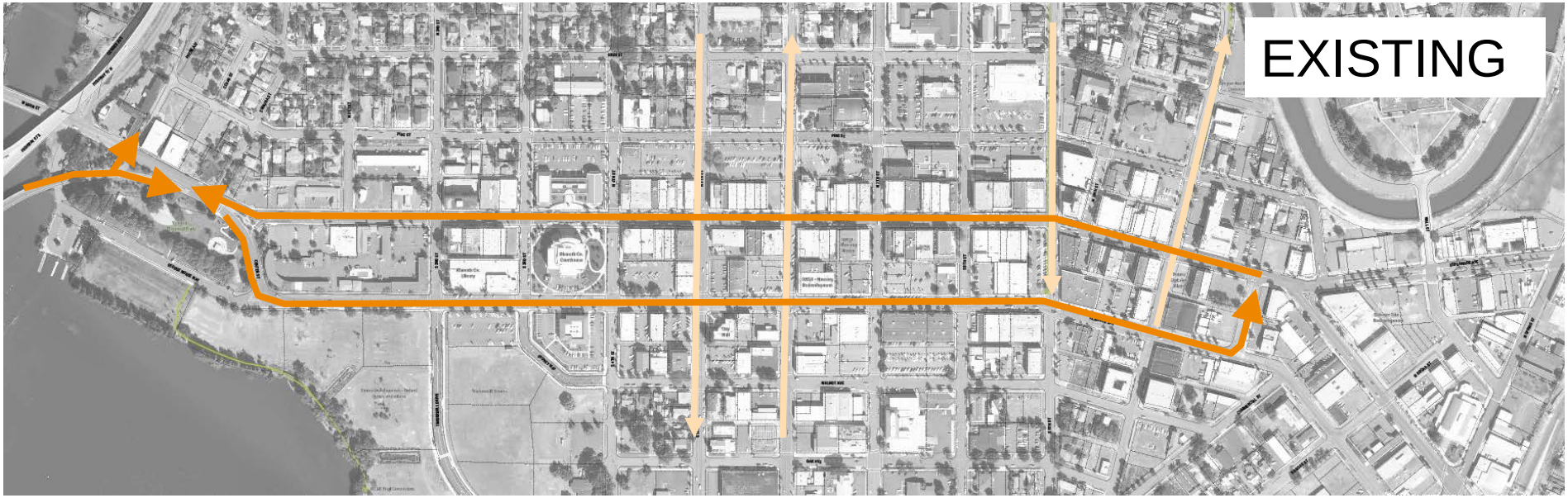
- Improved intersection crossings
- Parking-protected bicycle lane
- Two narrowed vehicle lanes
- Mix of angle and parallel parking preserved
- Physical road narrowing slows speeding traffic
- No curb extensions

Protected Bike Lane Example: **Parking Protected**

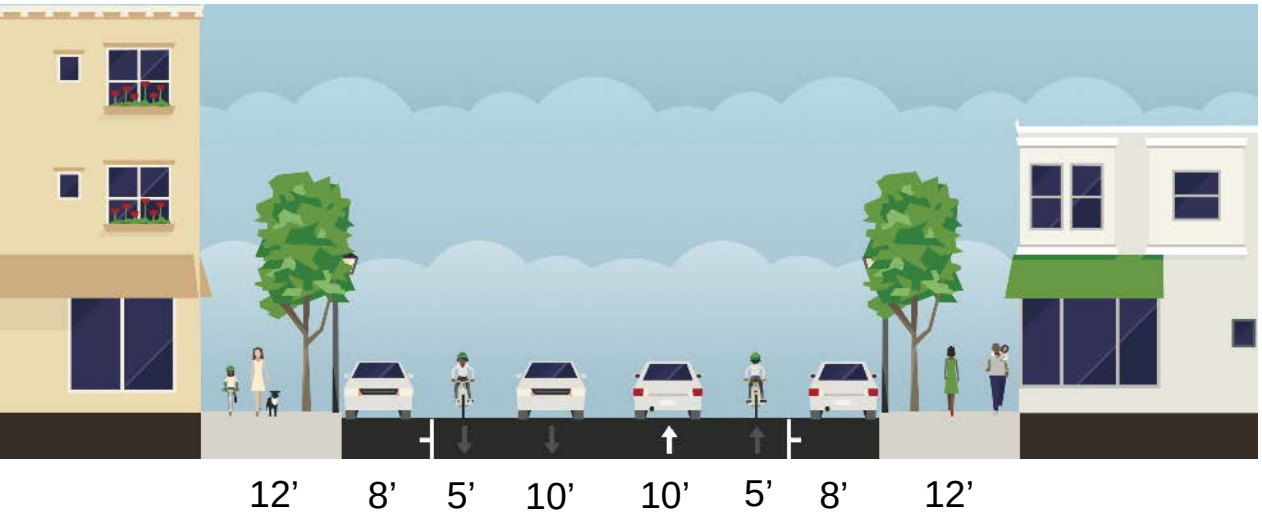
NE Multnomah – Portland, OR

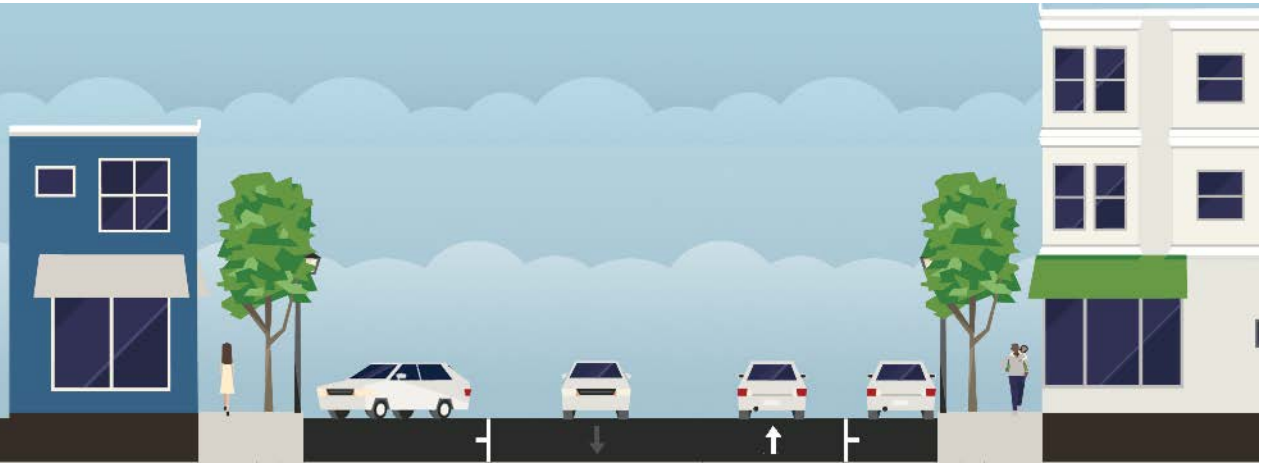
Two-Way Conversion Concept:





Concept: **Two-Way; Quick-Fix**





MAIN STREET

- Improved intersection crossings
- Conventional bike lanes
- Two-way flow; one lane each
- Predominately parallel parking
- Physical road narrowing slows speeding traffic
- Curb extensions at intersections

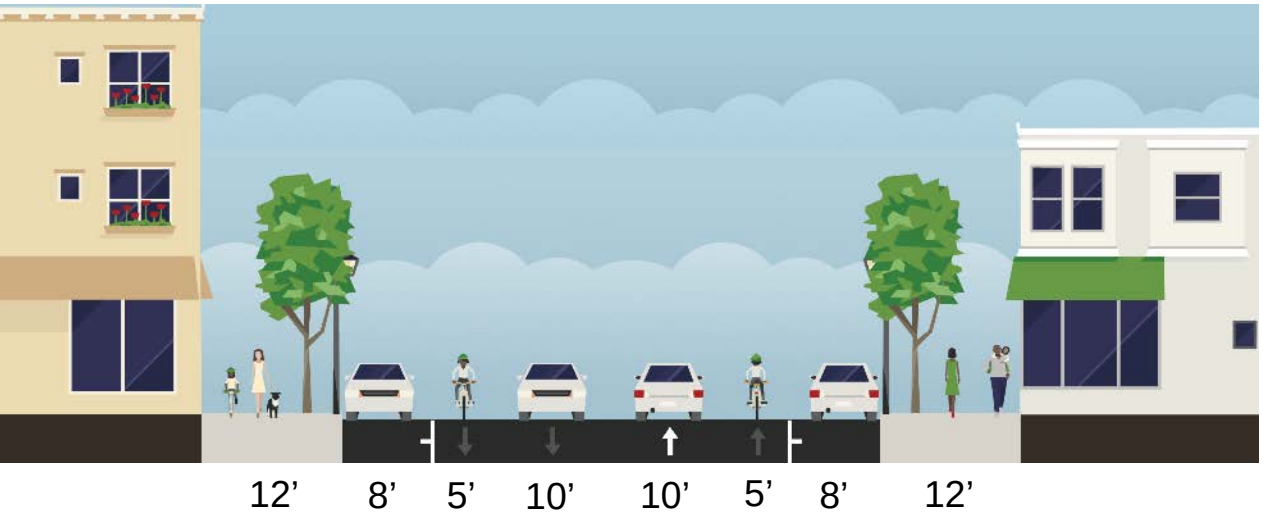
KLAMATH AVENUE (INTERIM)

- Improved intersection crossings
- No bicycle facilities
- Two-way flow; one lane each
- Angle parking direction flipped for new southbound traffic
- Physical road narrowing slows speeding traffic
- No curb extensions

Concept Example: **Two-Way; Quick-Fix**

Bellingham, WA

Concept: **Two-Way; Bike Lanes**



MAIN STREET

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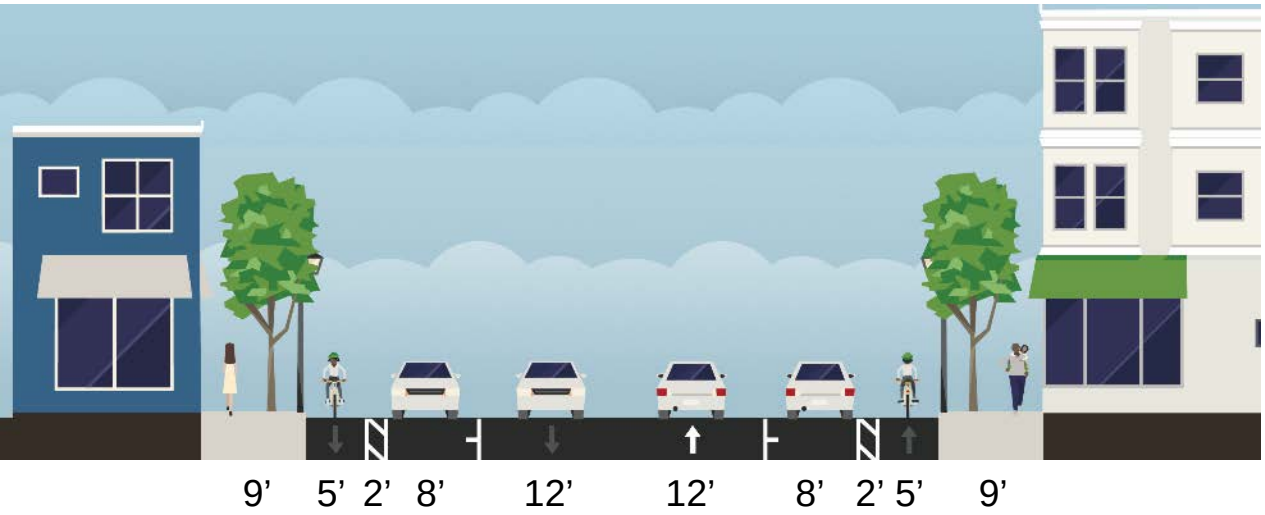
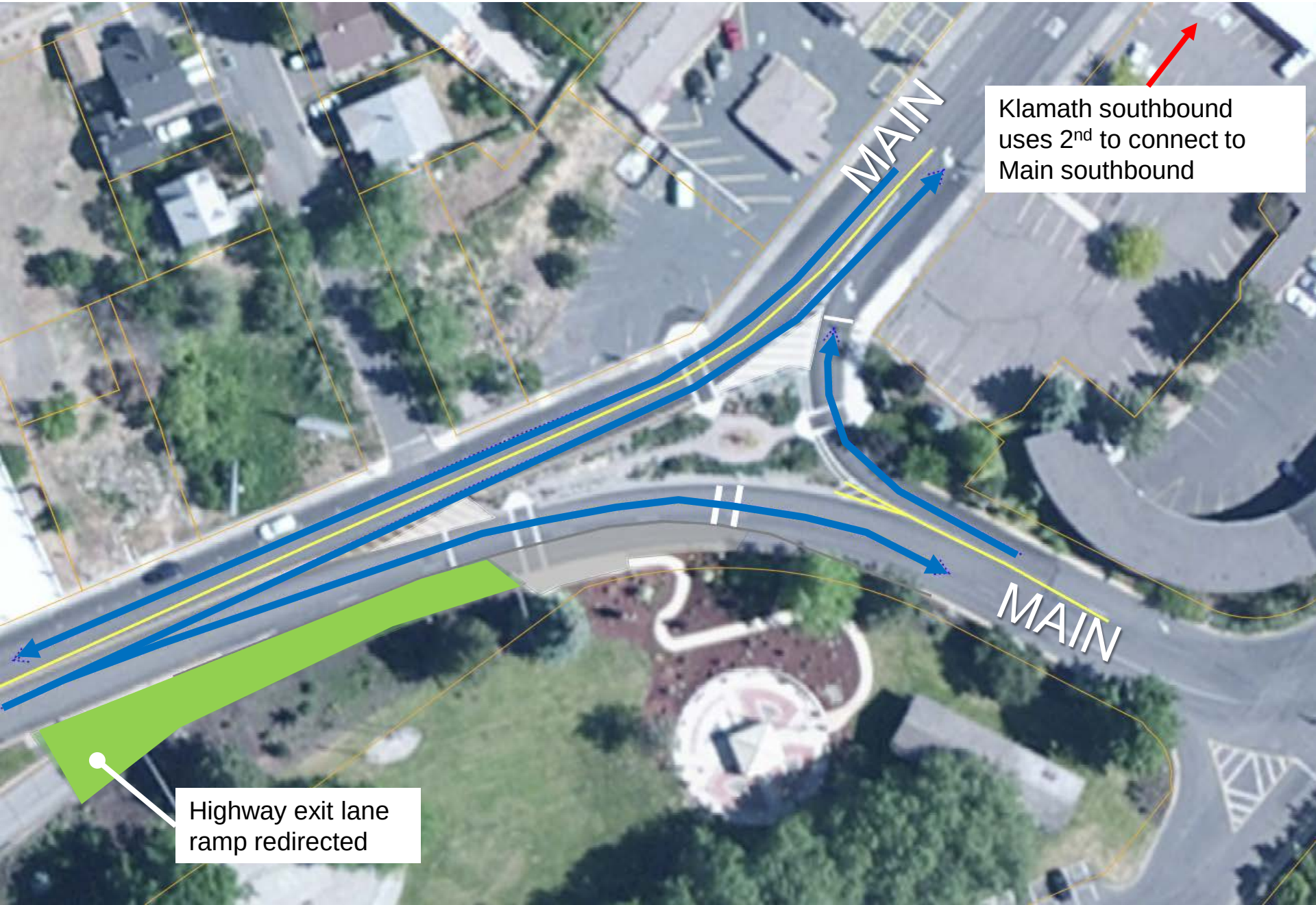


KLAMATH AVENUE

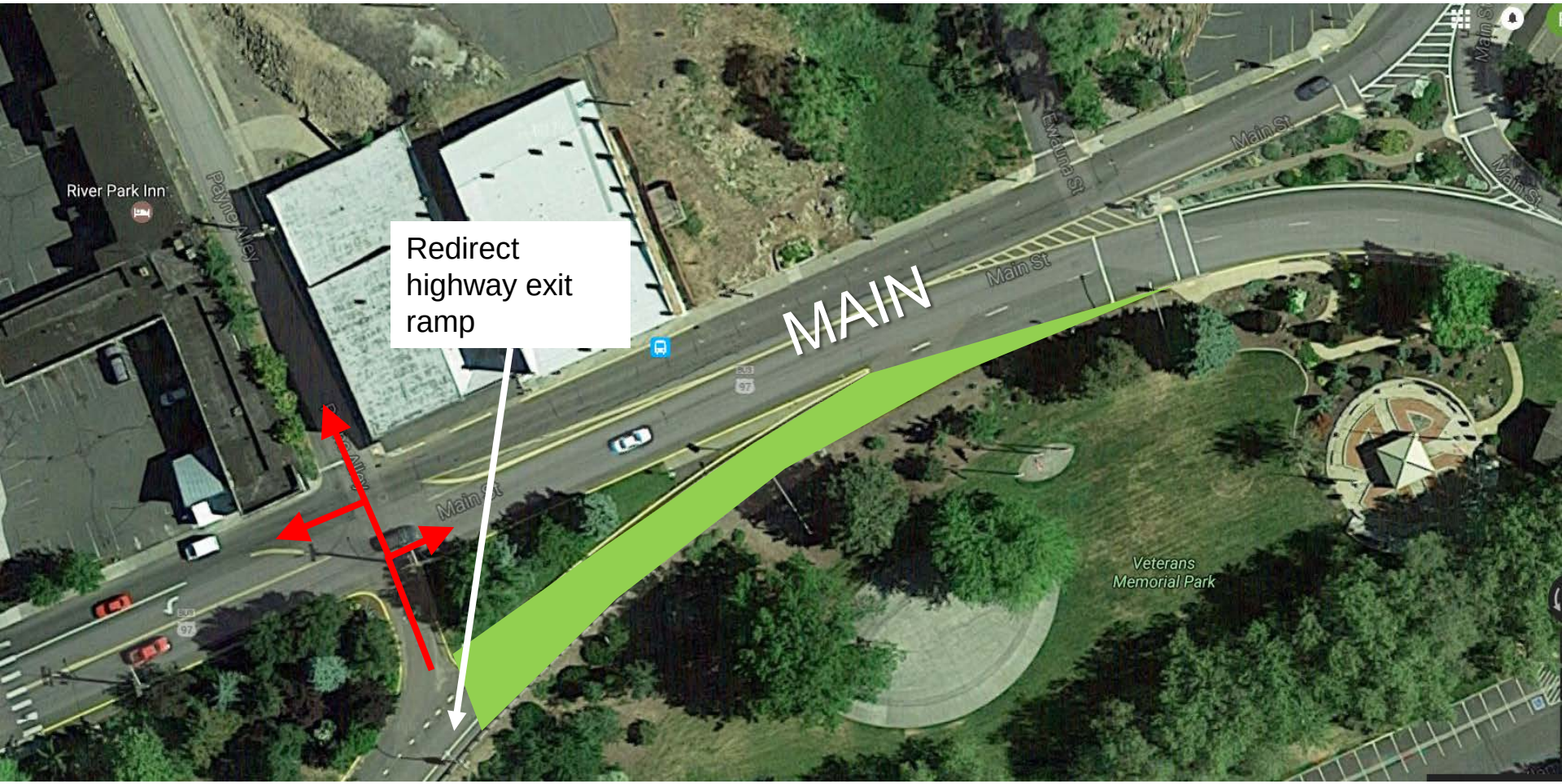
- Improved intersection crossings
- Parking-protected bicycle lane
- Two-way flow; one lane each
- All parking becomes parallel
- Physical road narrowing slows speeding traffic
- No curb extensions

Concept: **North Gateway**

Concept: **South Gateway**



Concept: **South Gateway**



8th/Main – Existing

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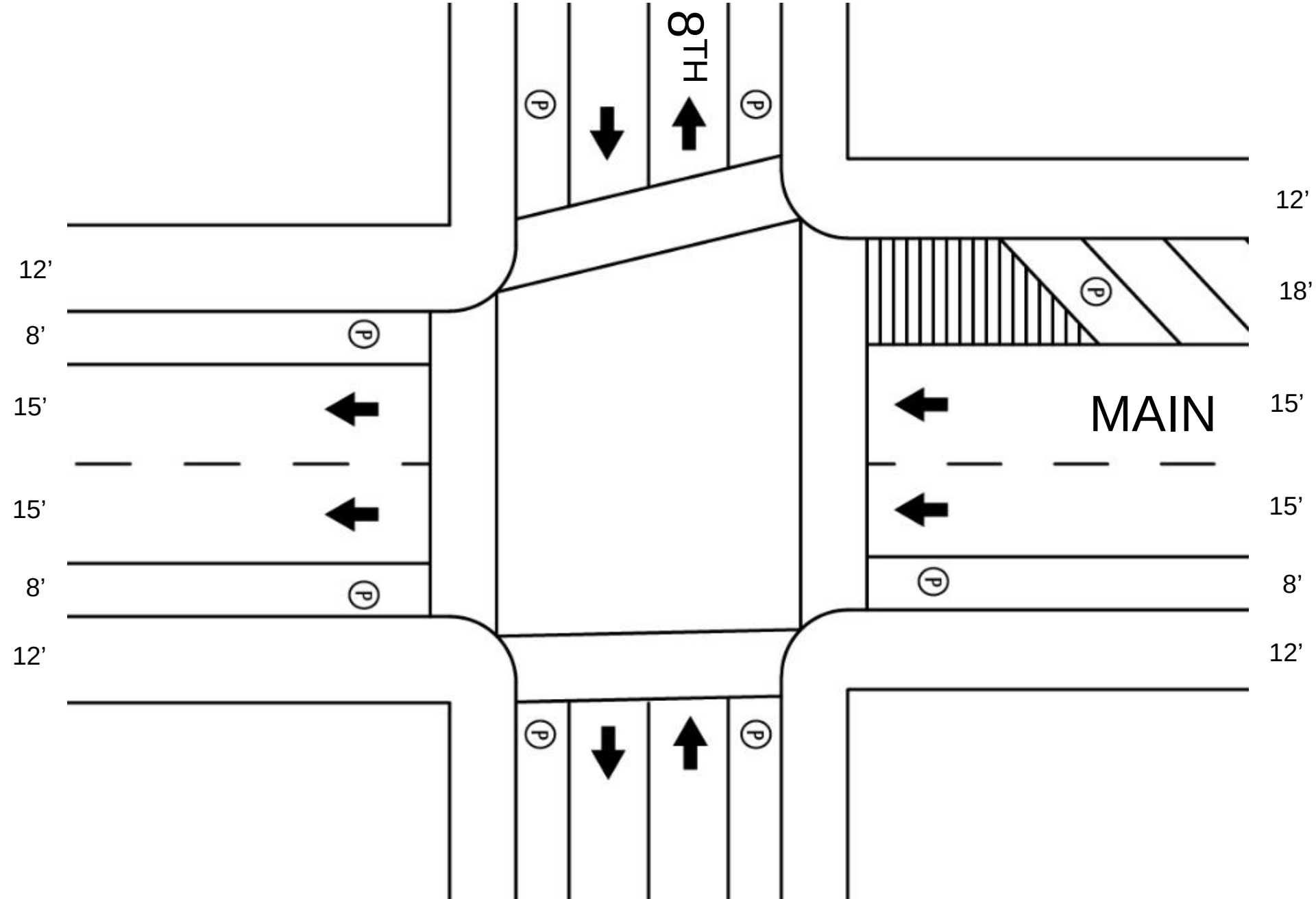
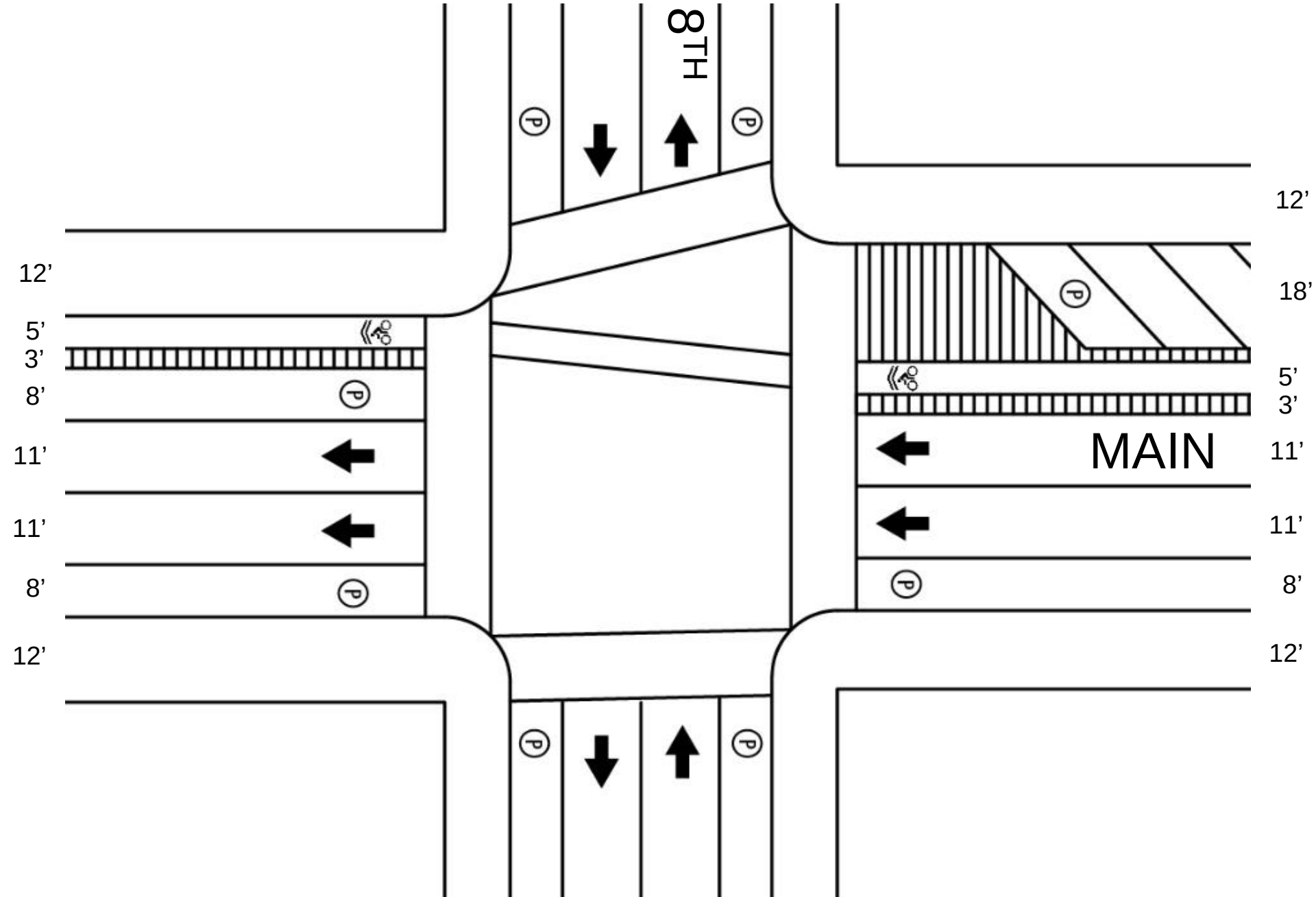
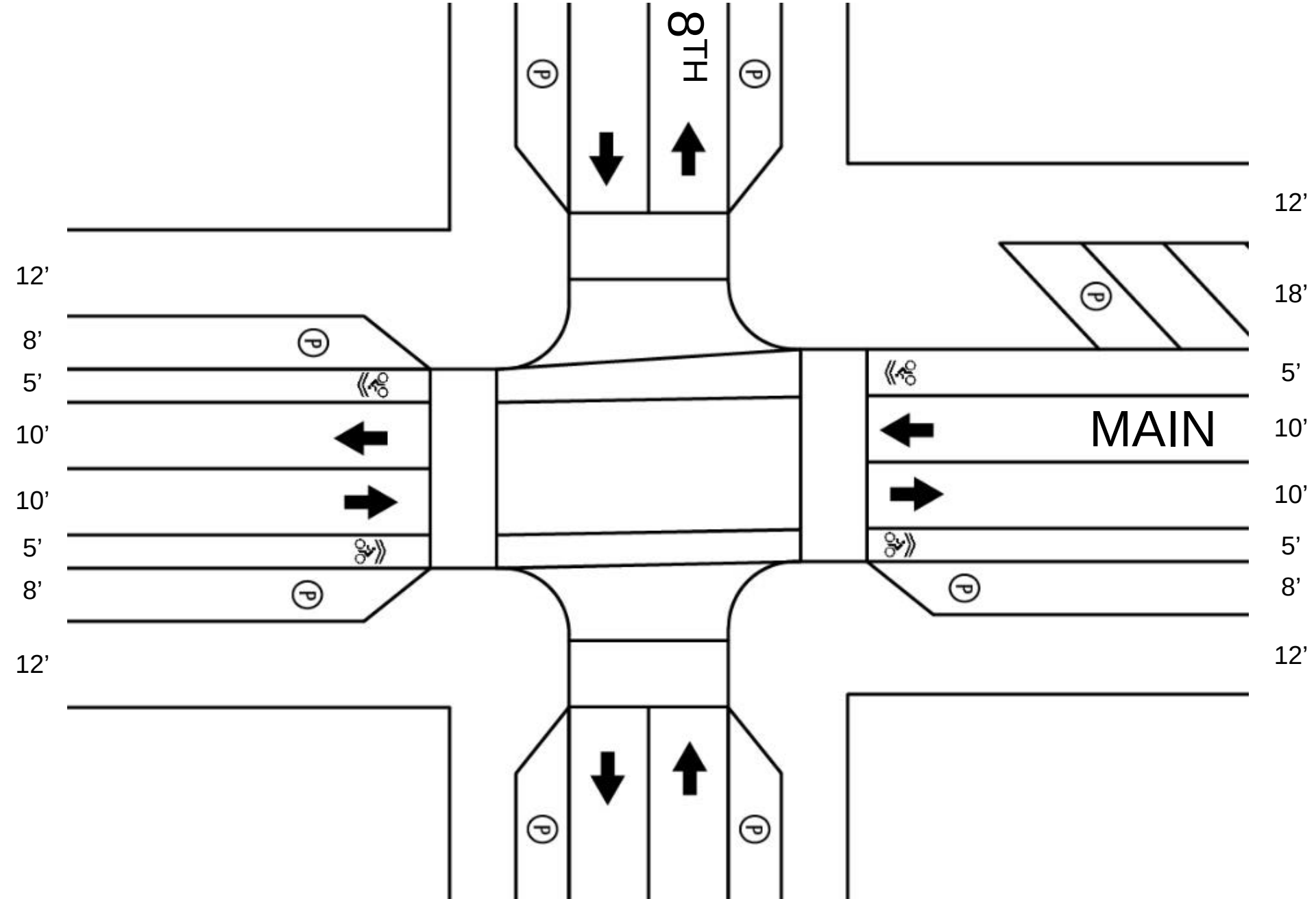


8th/Main – One-Way; Protected Bike Lane

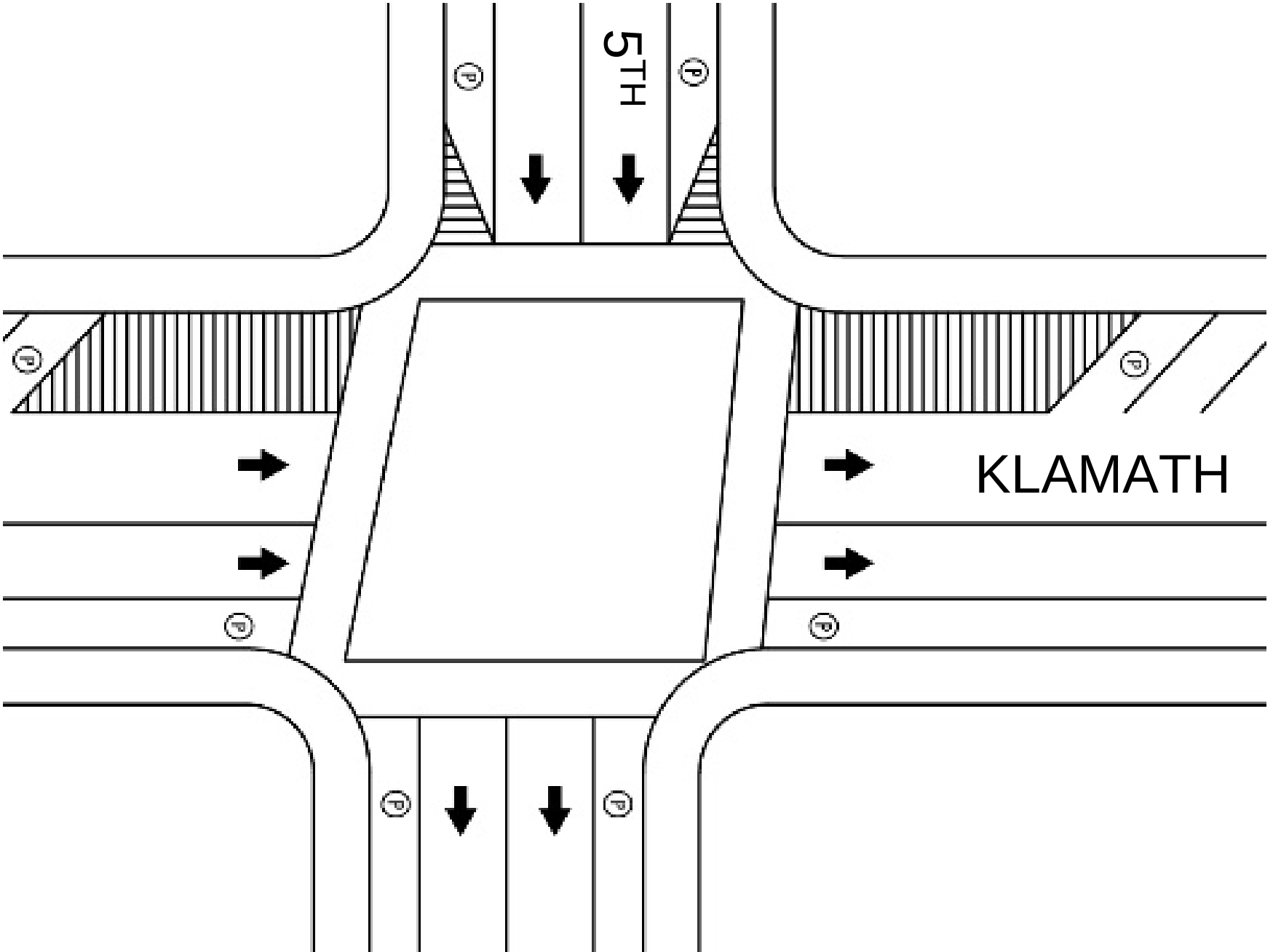


8th/Main – Two-Way; Bike Lanes

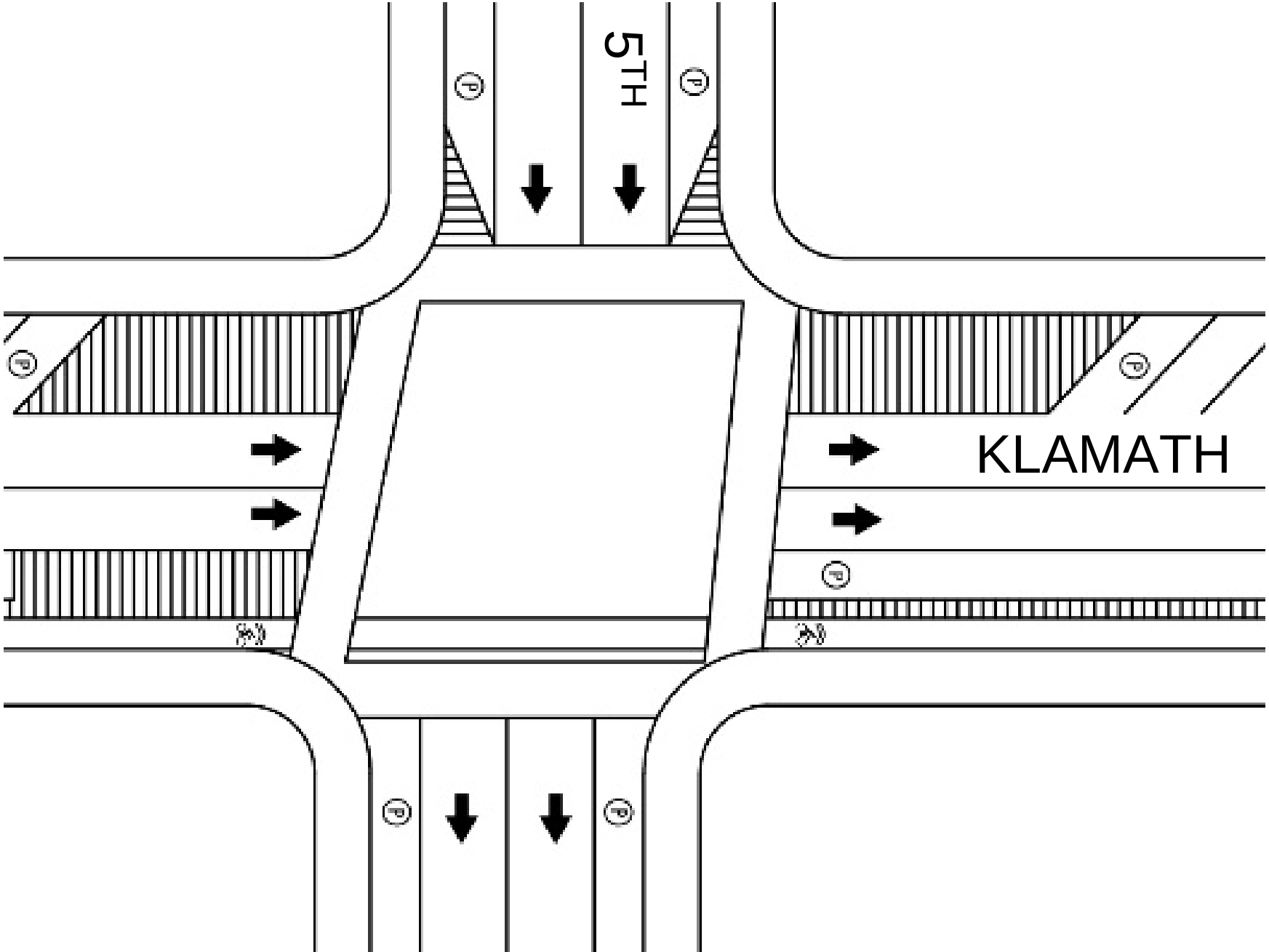


5th/Klamath – Existing; One-Way

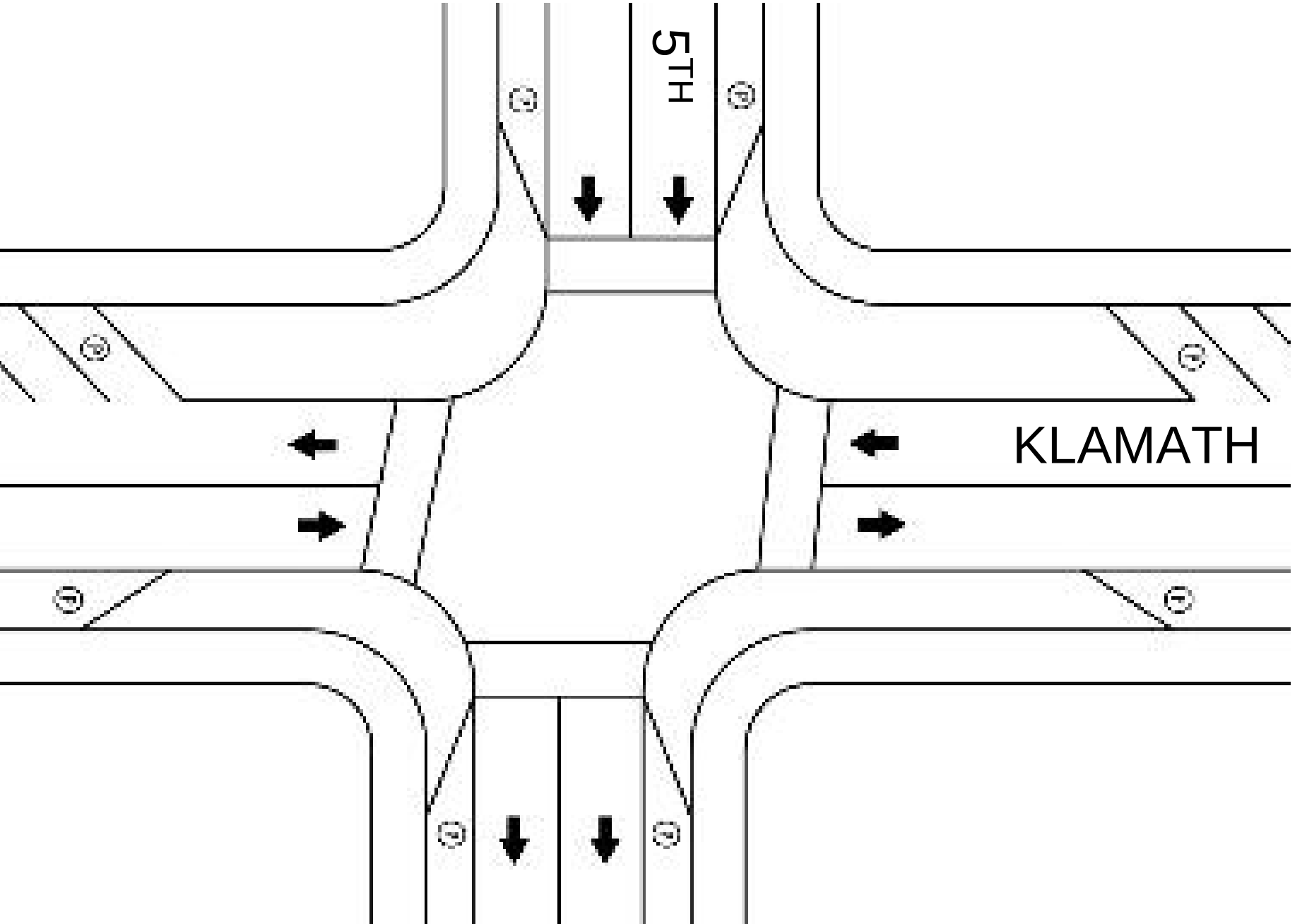
5th/Klamath – Existing; One-Way



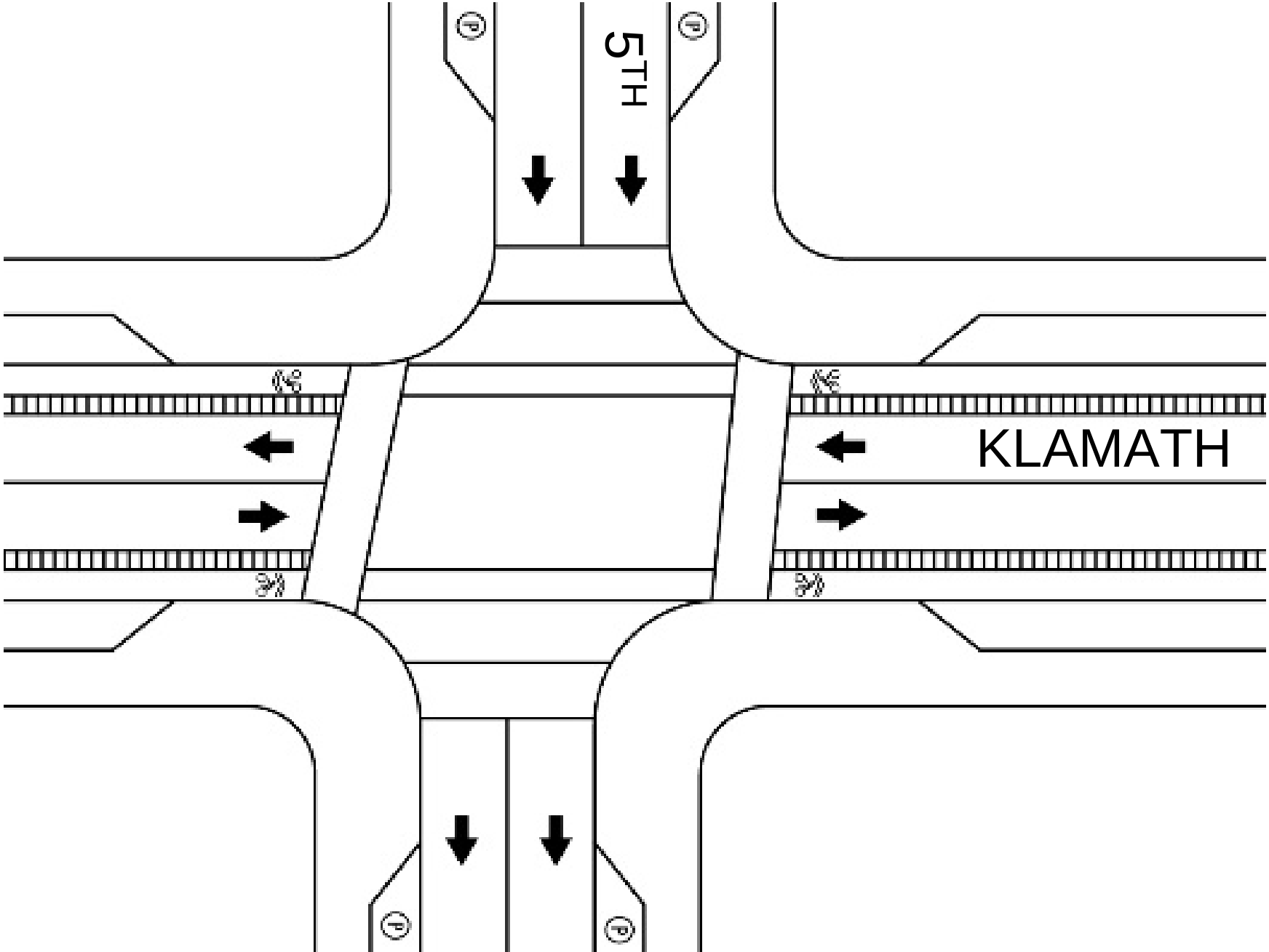
5th/Klamath – One-Way; Protected Bike Lane



5th/Klamath – Two-Way; Short-Term Conversion

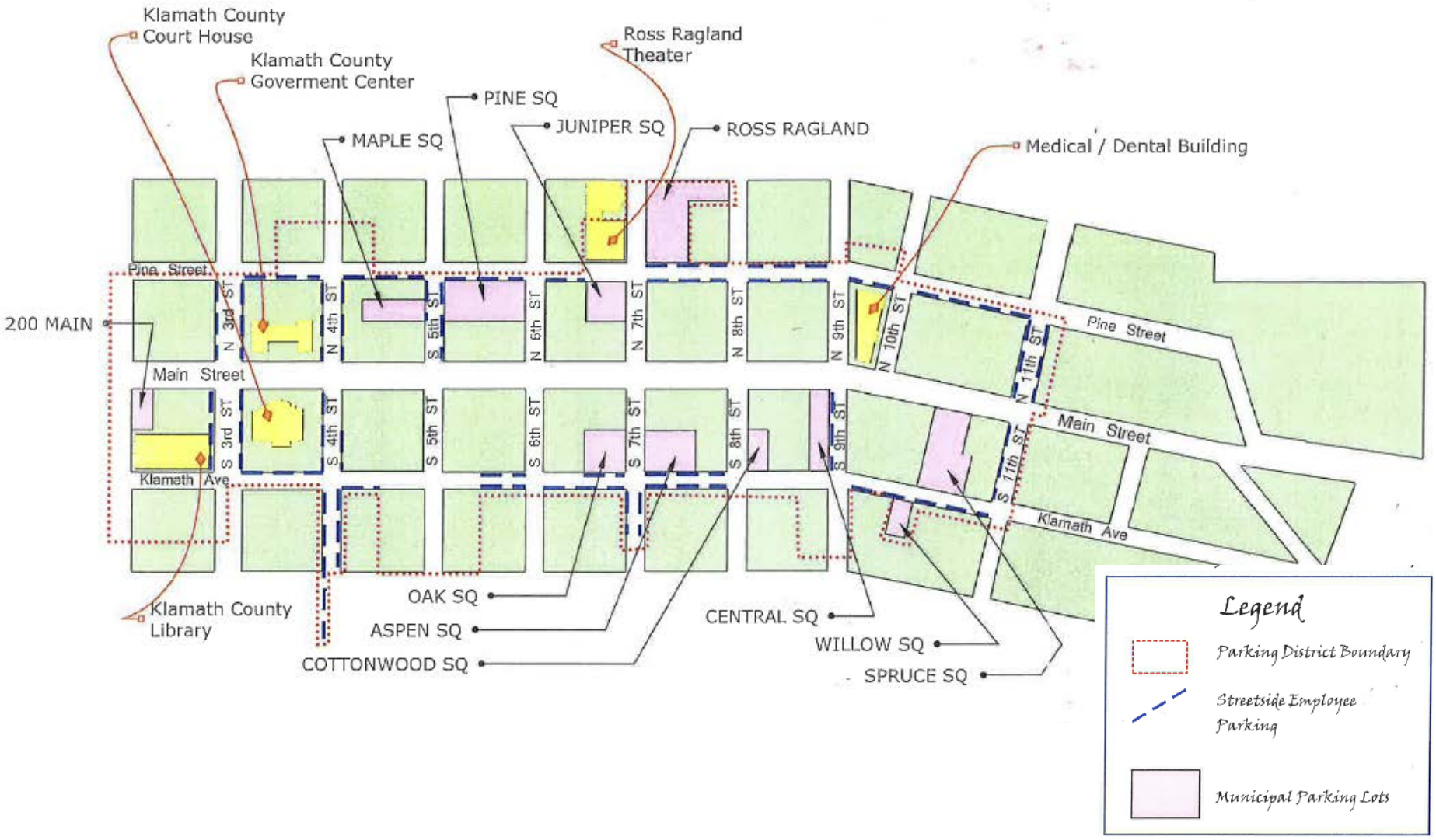


5th/Klamath – Two-Way; Buffered Bike Lanes



DOWNTOWN PARKING STRATEGY

Downtown Parking District



Downtown Parking District Comparison

LOCATION	ON-STREET	OFF-STREET
Klamath Falls	• "E" parking (on Klamath, Pine, and side streets) • Most P unrestricted on Main	• $60/year Employee "E" Parking
Bend, OR	• Free, 2-hour limit	• $15/month lots • $5/day garage parking
Vancouver, WA	• $0.50/hour, mostly 2- or 3-hour limit • 10-hour on-street limits outside "main street" area	• Garages - $67-82/month
Spokane, WA	• 2-4 hour limits; $0.80-$1.20/hour	• Free customer lots • Paid lots $60-150/month ($3-$10/day)
Hood River, OR	• $1/hour; mostly 4-hour limits • $5/month Delivery Permit (unlimited 30 minutes in metered spaces)	• Lots $20-35/month (City-owned)

- Basic surface lot space can be $4000.

Downtown Parking District

Parking Pricing Benefits:

- Generates revenue – motorists pay for enforcement, road maintenance, land costs, support walk/bike/transit
- Reduces reliance on General Funds to provide parking
- Properly priced – reduces incentive to drive
- Helps ensure availability of spots and turnover, especially in high-demand locations

Downtown Parking District

Best Practices

- Reserve ALL on-street spaces for visitors/customers (reduce supply of “E” parking on-street
- Avoid daily, monthly, and annual discounts – make users experience cost of each parking trip
- Adjust pricing based on demand and locations
- Parking Benefit Districts – spread the wealth
- Revenue should: (1) Cover operations and maintenance costs; (2) Fund alternative transportation
- If parking must be subsidized, make sure to equally fund benefits for other modes (Parking Cash Outs)

Current Parking Supply – A Lot

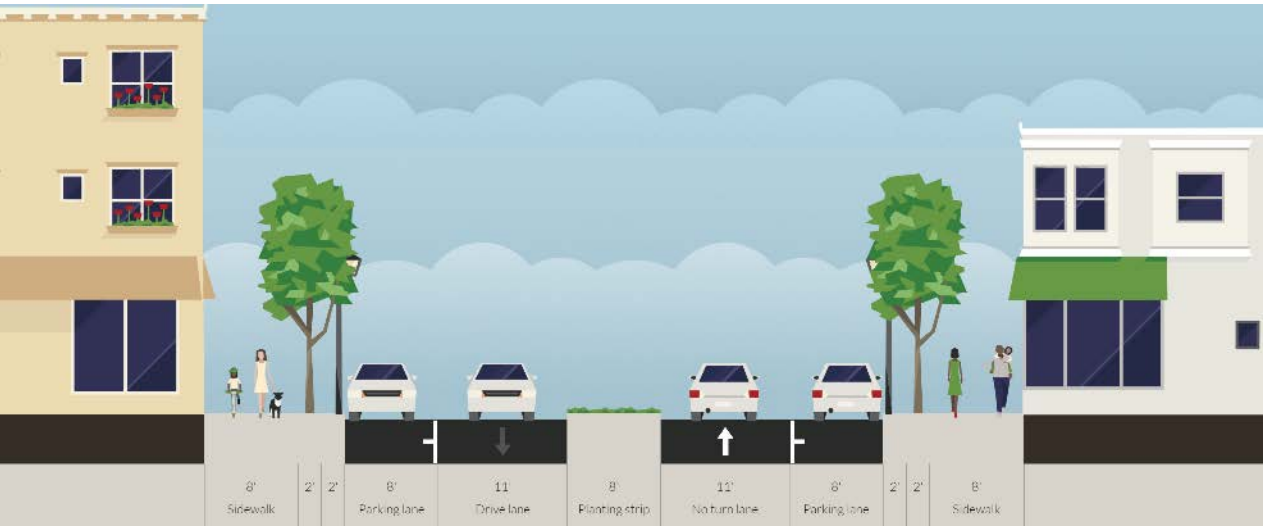
Additional On-Street Parking Opportunities:

Might be possible on more parts of Main Street:
Angle and parallel; 50’ curb-curb; 9th St in Klamath Falls

Two-way angle; Whitefish, MT; 58’ curb-curb

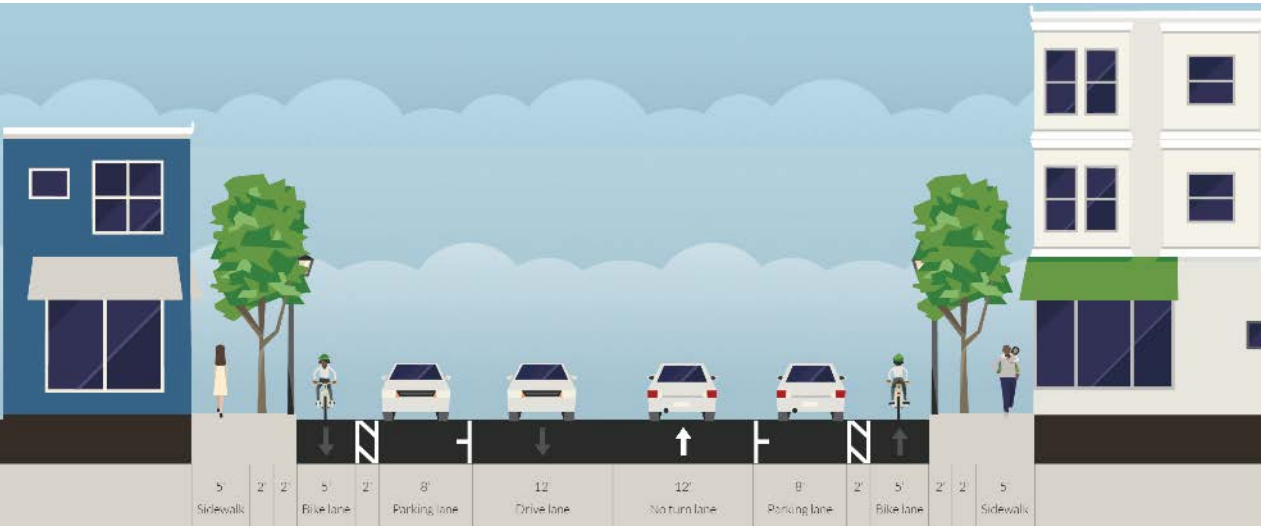
APPENDIX: CROSS SECTION CONCEPTS

Concept Street: **Main Median; Klamath Bikes**



MAIN STREET

- Improved intersection crossings
- No bike lanes
- Two-way flow; one lane each
- Predominately parallel parking
- Center median slows traffic and provide crossing safety
- Curb extensions at intersections



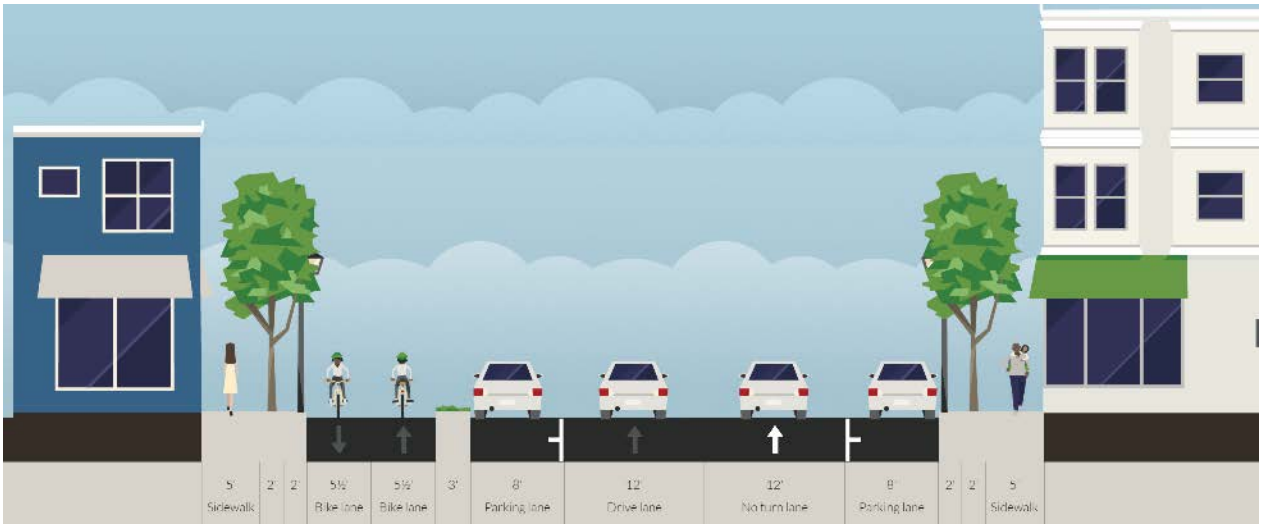
KLAMATH AVENUE

- Improved intersection crossings
- Parking-protected bicycle lane
- Two-way flow; one lane each
- All parking becomes parallel
- Physical road narrowing slows speeding traffic
- No curb extensions

Concept Street: **One-Ways; Klamath Cycletrack**

MAIN STREET

- Improved intersection crossings
- Parking-protected bicycle lane
- Two narrowed vehicle lanes
- Predominately parallel parking
- Physical road narrowing slows speeding traffic
- No curb extensions



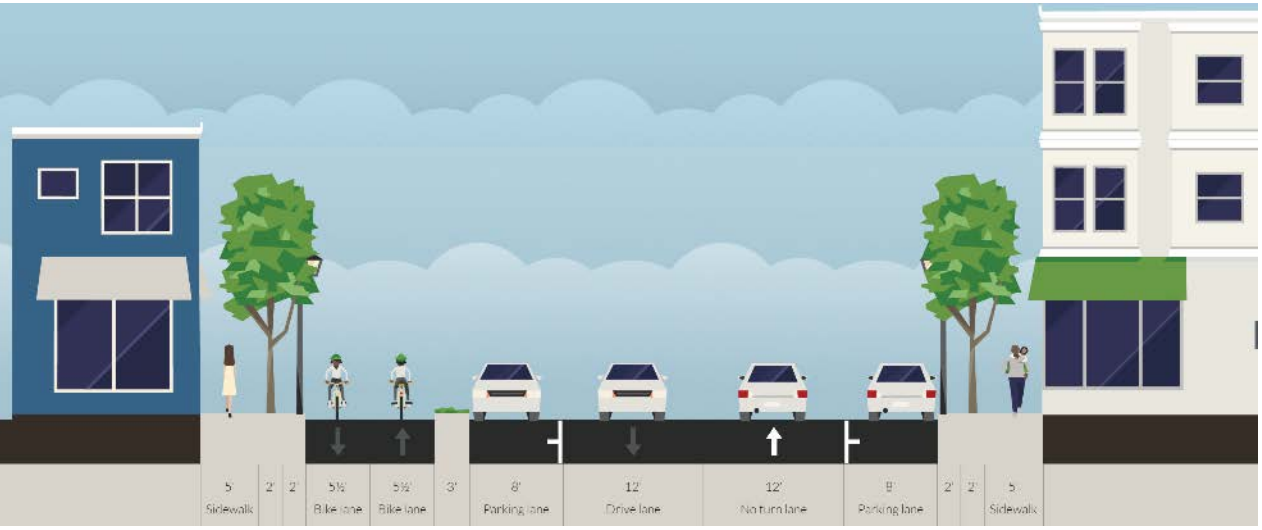
KLAMATH AVENUE

- Improved intersection crossings
- Median-protected two-way cycletrack on west side
- One-way flow; narrowed lanes
- All parking becomes parallel
- Physical road narrowing slows speeding traffic
- No curb extensions

Concept Street: **Main Median; Klamath Cycletrack**

MAIN STREET

- Improved intersection crossings
- No bike lanes
- Two-way flow; one lane each
- Predominately parallel parking
- Center median slows traffic and provide crossing safety
- Curb extensions at intersections

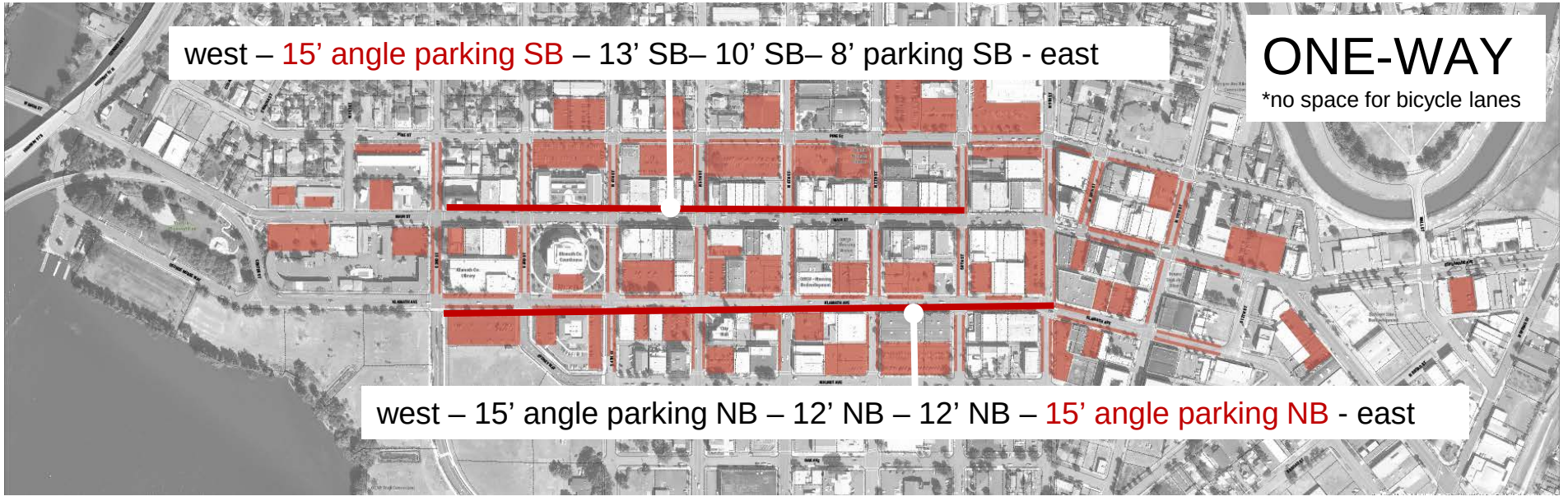


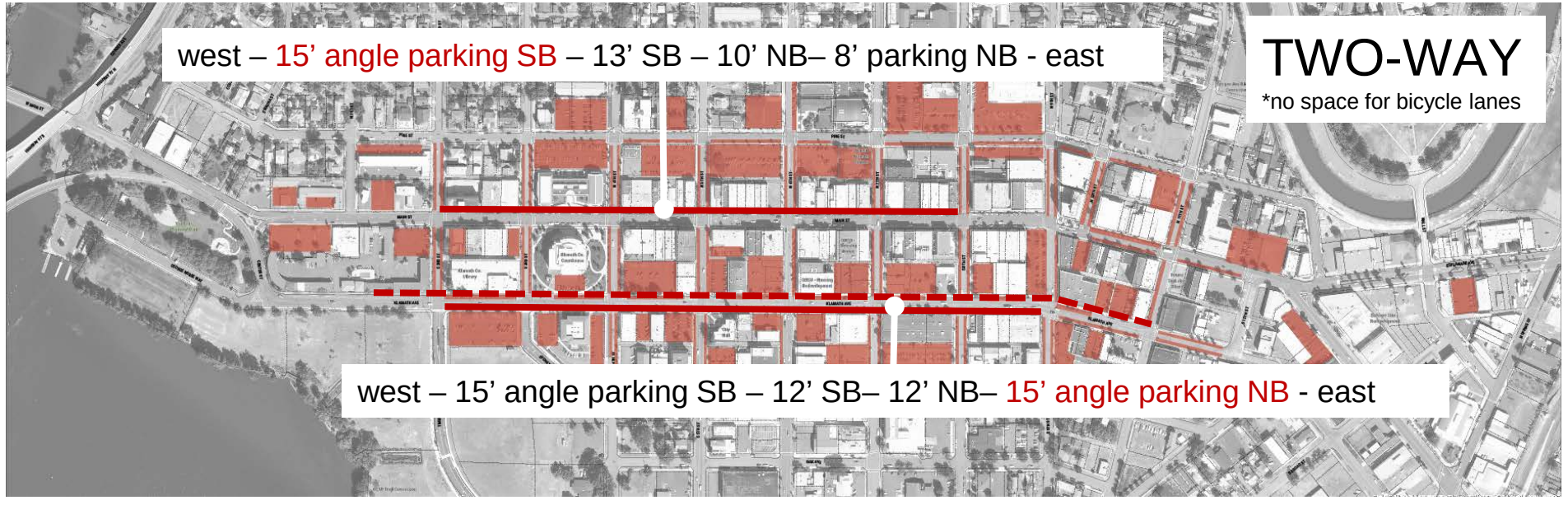
KLAMATH AVENUE

- Improved intersection crossings
- Median-protected two-way cycletrack on west side
- One-way flow; narrowed lanes
- All parking becomes parallel
- Physical road narrowing slows speeding traffic
- No curb extensions

APPENDIX: PARKING

Additional On-Street Parking Opportunities (it's tight):





APPENDIX: ADDITIONAL DECOUPLETING EXAMPLES

Any Benefits to 1-Way Streets?

- Faster raw vehicle thru-put
- Reduces head-on collisions
- Possibly more room for sidewalks and bike facilities
- Simpler signal progression
- No need for turn pocket lanes (usually)

Analysis and Evaluation Elements

- Traffic volumes and delay, speeds, LOS
- Gain/loss of parking
- Directness of access
- Impacts to thru-put capacity
- Intensity and quality of pedestrian environment/crossings
- Bicycle circulation and safety
- Freight and loading access
- Streetscape (curb-to-curb and ROW) space allocation
- Opportunities for human-use public spaces
- Others…

Case Study: Louisville, KY

Decoupled a street section that provided access to interstate, the central business district, the University of Louisville, and businesses and residences

Strategies

- Traffic simulation software found that travelers would experience minor impact on travel time and speeds with the new traffic pattern
- Installation of new turning lanes inhibited dedicated bike lanes in some areas, so they installed “Share the Road” signs to accommodate bike travel

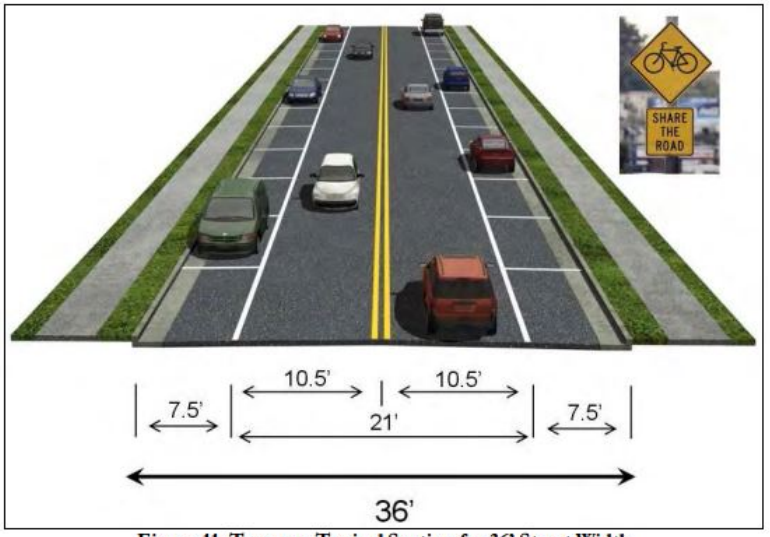


Figure 11. Two-way Typical Section for 36’ Street Width

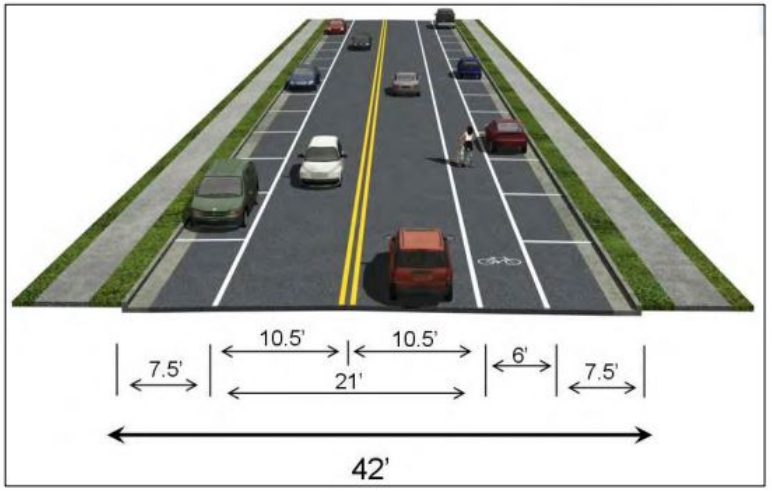


Figure 12. Two-way Typical Section for 42’ Street Width

Case Study: Louisville, KY

Outcomes

- Reduced crime (down **23%** over three yrs)
- Reduced collisions (down **60**% over three yrs)
- Increased property values (up **39**%)
- Increased business revenue/taxes
  (twice as much as similar-sized one-way streets)
- Increased bike traffic
- Increased pedestian traffic
- Reduced speeding traffic
- Increased vehicle circulation

Before

After

Case Study: South Bend, IN

Restored one-way State and City streets in downtown to two-way travel patterns to encourage economic growth

Strategies

- Top priority for the community was line-of-sight for motorists
- Two-way complete streets, with one travel lane in each direction (some had an additional left turn lane)

Case Study: South Bend, IN

Outcomes

- Two-way streets with left turn lanes, wide sidewalks, separated bike facilities, street trees, rain gardens, and on-street parking

- Over $100 million in private investments during implementation

Case Study: Oregon City, OR

Converted its Main St back to a two-way street to simplify the circulation system downtown, provide more efficient access to on-street parking and side streets in the downtown core.

Outcomes

"A two-way Main Street works in downtown Oregon City because we're welcoming visitors off of 99E and making driving downtown a simpler and more intuitive process…A two-way Main Street becomes a unifying characteristic of our downtown marketplace. It's a physical connection that benefits all downtown." - Director of Main St Oregon City

Before

After

Case Study: Redmond, WA

Two–way Street Conversion

City of Redmond

This project will upgrade utilities and convert both Redmond Way and Cleveland Street to two-way traffic, creating better access for residents and businesses.

- **Location:** Redmond Way and Cleveland St from 160th Ave NE to Avondale Way
- **Project Phase:** Under construction
- **Estimated Timeline:** Design 2013-2015, Construction June 2016 through end of 2017
- **Contact:** Jill Smith, Downtown Outreach, 425-556-2448 • Lisa Singer, Project Manager, 425-556-2723

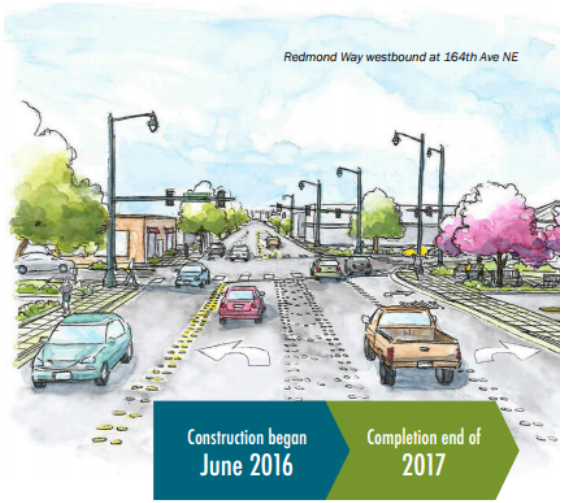
The conversion will make Downtown easier to navigate and more connected, whether you are driving, walking, biking, or taking transit. Cleveland Street is designated as Redmond's signature "main street" while Redmond Way will carry the majority of traffic as the main arterial through Downtown. This project is the completion of the planned transportation grid in Downtown, which included the sequencing of six major roadway and utility infrastructure projects over the past six years.

The following work will occur at the eleven intersections:

- Replacing old utilities (water, storm)
- New traffic signals, lighting, and sidewalks
- Undergrounding of overhead power and communications
- Paving and landscaping
- New plazas near Anderson Park

Work between the intersections includes:

- Reconfiguring lanes
- Updating street signs
- Remaining sidewalk and parking improvements between intersections will be constructed later as private development occurs



Maintaining access to businesses and adjacent properties will be a priority during the project.

More details at **redmond.gov/TwoWayConversion**

Other Case-Study Outcomes

West Palm Beach, FL

- $300 million in private investment after city hall invested $10 million in converting to two-way streets and improving the streetscape

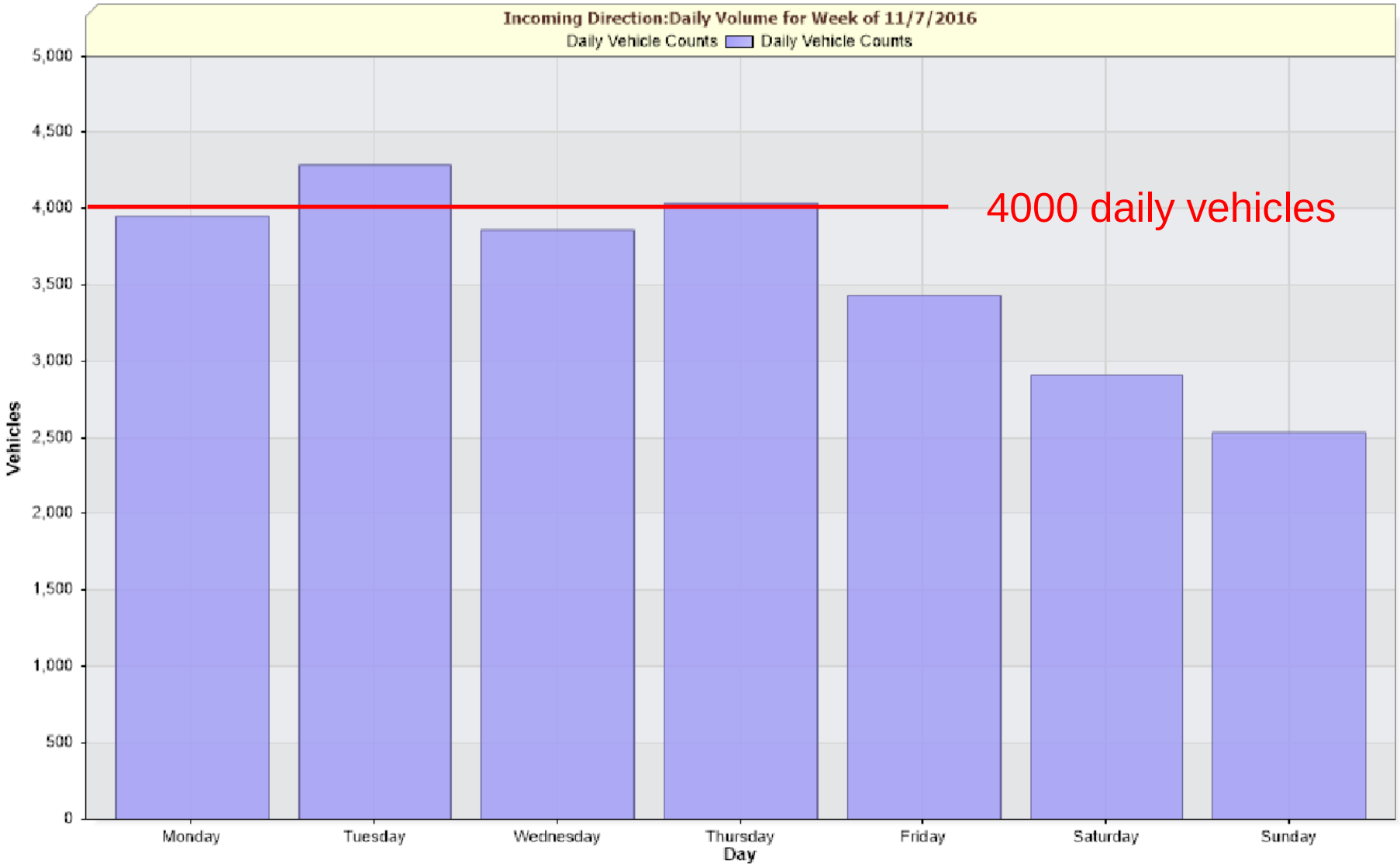
Lafayette, IN

- There was concern regarding lost parking spaces and the cost of installing new traffic signal lights and signs. However, a traffic count found that the downtown didn't need so many traffic lights or stacking lanes.
- “Because it is our historic downtown and we are trying to build our tourism market, it is easier for out-of-towners to find their way around.”
  - Director of Development

APPENDIX: SPEED AND TRAFFIC VOLUME ANALYSIS

Analysis: **Main/2nd Southbound**

Daily Volume: **Counts at Main/2nd Southbound**



Main/2nd – Nov 7-14, 2016

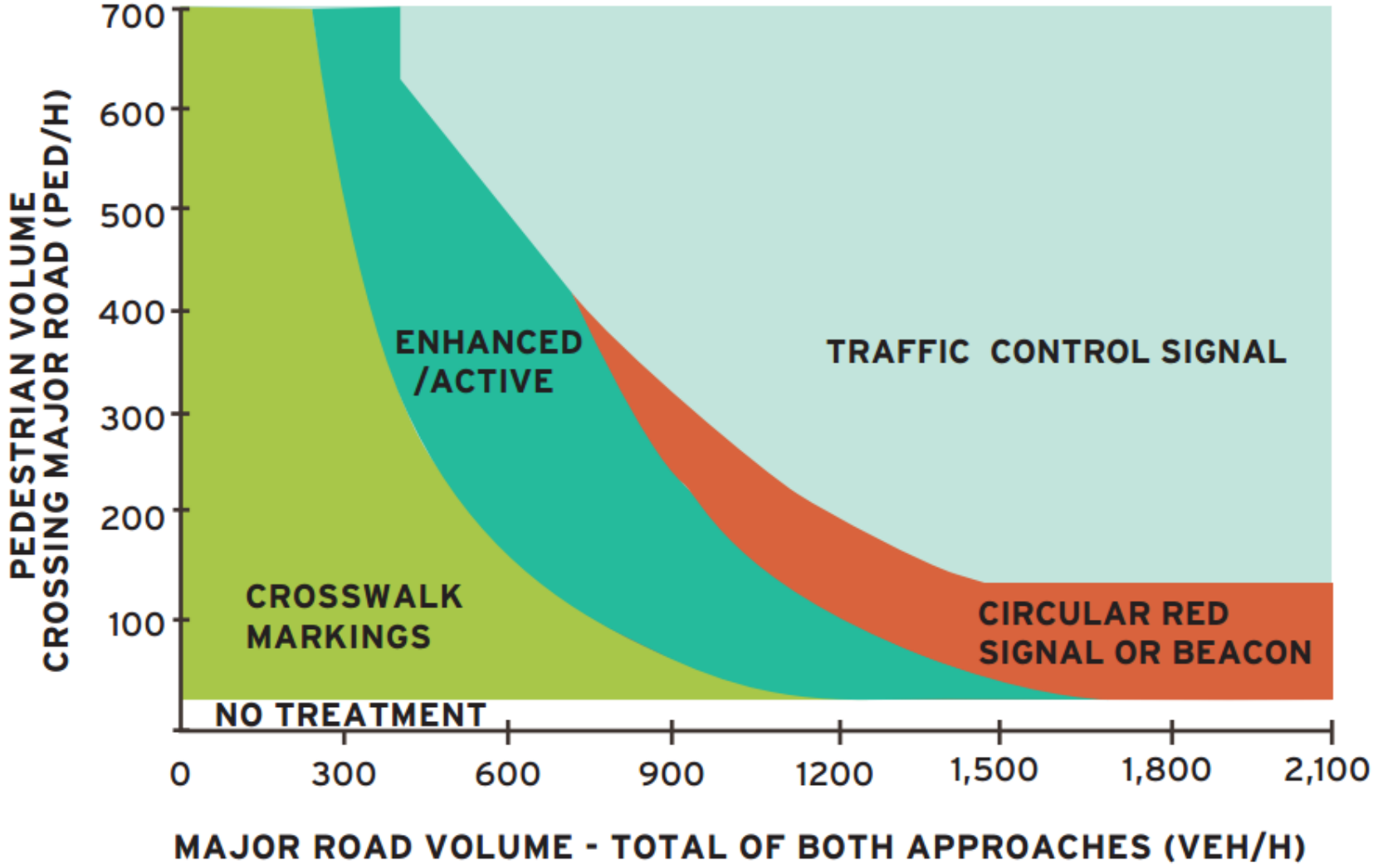


Figure 2-7. *Example Guidelines for Pedestrian Crossing Treatments adapted from NCHRP 562 (Fig. A-5). Calculations assume 34 ft (10.4 m) Pavement,35 mi/h (55 km/h), 3.5 ft/s (1.1 m/s) Walking Speed.*

For Comparison: **NW 14th / Couch (Portland)**

For Comparison: **N. Denver Ave (Portland)**

For Comparison: **NW Wall St. (Bend)**

APPENDIX: ADDITIONAL BEST PRACTICE

Example: **Shared Main Street**

Winslow, WA (20 mph)

Sidewalk and Connection Improvements

Covered bicycle parking

Special intersection treatments

ADA ramps; character elements

Crosswalk treatments and materials

Water-side path

Universal Access

Sidewalk and Connection Improvements

Median crossing refuge

Landscape and parking as buffer

Sidewalks on bridge

Urban pathway to downtown

Curb extensions

“Main street”-scape

Safe Crossings

Safe Crossings

Safe Crossings

Bike Facilities

Off-street paths

Local, neighborhood routes

Bicycle parking

Bicycle Facilities

Protected left-turn pocket

Cycletrack at difficult intersection crossing

Crossing refuge

Permanent street closure - walk/bike only

Bicycle Facilities

Two-way with contra-flow and bike box

Contra-flow bike lane

Protected bike lane at intersection

Bike box with car access prohibition

Bicycle Facilities

Bike lane, landscape/stormwater, permeable sidewalk

Temporary, seasonal bike parking

Shared streets, crosswalks, intersection materials

“Sunday Parkways” temporary street closure

Bicycle Parking

Temporary/seasonal bike parking

Permanent bike corral

Bicycle Facilities

Shared streets suitable for all ages

Marked, median crossings

Landscaping

- Buffers sidewalks and paths from traffic
- Helps wayfinding
- Beauty and stormwater treatment
- Calms speeding traffic

Landscaping

Landscaped Public Streets

Pedestrian Environment

- Inviting, continuous streetscape and buildings
- Safe walking and biking environment; calms traffic

Build to the Street - Improve Accessibility of Destinations, Calm Traffic

Collaborative Improvements Between Public and Private Entities

Identity Through Design

School Routes: **Safe Routes to Schools (Principles)**

The SRTS Online Guide recommends to:*

- Create school walking and bicycling route maps using a variety of assessment tools and exercises
- Identify and regulate the school zone
- Provide & maintain bicycle and pedestrian facilities along the school route including sidewalks, on-street bicycle facilities, paths, curb ramps, and accessible pedestrian signals
- Provide safe street crossings for bicyclists and pedestrians
- Slow down traffic

* http://guide.saferoutesinfo.org/

School Routes: **Design + Enforcement Options**

- Sidewalk and crossing construction
- Awareness and visibility
- Periodic enforcement actions + education campaigns

School Routes: **Design and Mode Sharing**

- Speed humps and other traffic calming slows speeding vehicle traffic
- Low-volume streets (such as Park St) can be marked for shared use by cars + bikes
- Some streets may be suitable for shared walking in the roadway - where sidewalk construction is impractical

Principles: **Paths + Trails**

Off-street trails and paths should:

- Provide safe, uninterrupted travel for a range of users (walkers, cyclists, skateboarders, etc.)
- Provide safe crossings where they intersect roadways or developed areas
- Provide buffers to protect sensitive ecological and hydrologic systems
- Limit tread erosion (when built with natural surfacing)

Principles: **Site Layout / Parking**

When laying out or improving sites:

- Orient building entrances to the street and/or intersection
- Locate parking to the rear and/or side of building
- Combine accesses where possible
- Maximize display windows
- Incorporate landscaping along street frontages