

Task 2 Deliverables

Low Car District Best Practices and Code Concepts Presentation, and Business Impacts and Best Practices Memorandum



CITY OF BEND

Planning for People Streets

"Low-Car District" Best Practices Summary

August 7, 2024



People-First Spaces



CITY OF BEND

Missed Opportunities for People-First Spaces



CITY OF BEND

Why are we doing this study?

- To create vibrant, people-first streets and spaces in Bend
 - To support people safely walking, biking, rolling, using transit, and driving.
 - To create public places that are inviting and activated.
 - To support climate goals by reducing vehicle miles travelled.
- To meet state land use and transportation planning requirements in upcoming planning efforts:
 - Climate Friendly Areas
 - Transportation System Plan update



Why are we doing this study?

- State Climate Friendly & Equitable Communities rules require cities to allow for Low Car Districts.
 - Per OAR 660-012-0330: "Cities and counties with an urban area over 100,000 in population must have **reasonable land use regulations that allow for development of low-car districts**. These districts **must be developed with no-car or low-car streets**, where walking or using mobility devices are the primary methods of travel within the district. Cities and counties must **make provisions for emergency vehicle access and local freight delivery**. **Low-car districts must be allowed** in locations **where residential or mixed-use development is authorized**."
- Inform City's next update to the Transportation System Plan which will start in 2026.



Shared Streets

Pedestrian Malls

Healthy Streets

Yield Street

Living Streets

Woonerfs

Neighborhood Greenways

Open Streets

People Streets

Flush Street

Alleys

Low-Speed Streets

Healthy Businesses

Festival Streets

Plaza Streets

Neighborhood Bikeways

Queuing Street

Bicycle Boulevards

Pedestrian Promenades

Low-Car District

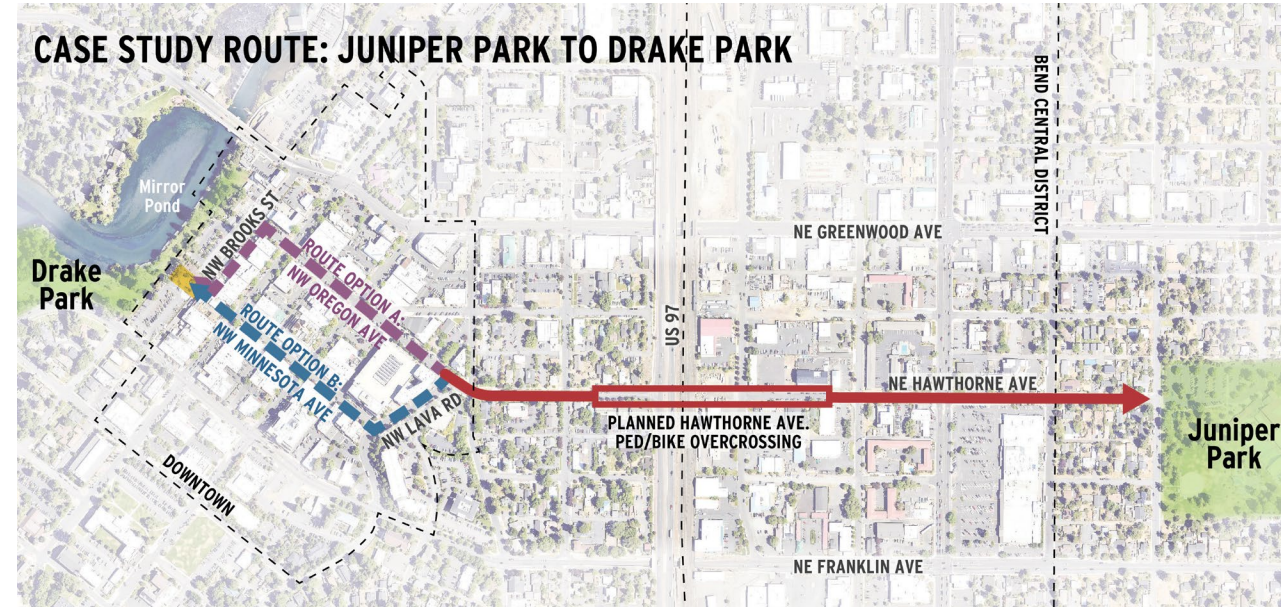


CITY OF BEND

People Streets Overview

Low-Car District Study Purpose

- **Define** what, how, and when Low-Car Districts will be allowed in Bend including **next steps, policies, and actions** (e.g., development code or street standard changes)
- Evaluate a **Low-Car/People Street Case Study** to understand how to implement people streets
 - People street route **between Juniper Park and Drake Park.**
- Low-Car District Implementation Plan



What are people streets and "low-car districts"?

Working definitions:

- "Low-car districts" are areas developed with people streets where walking, biking or rolling, including using mobility devices, are the primary methods of travel.
- "People streets" are publicly accessible rights-of-way where walking, biking, and rolling are prioritized, and motor vehicle volumes are limited, reduced and/or vehicle speeds lowered.



NW Brooks Street, Bend, OR
Source: Places for Everyone



CITY OF BEND

Proposed Jackstraw Development, Bend, OR
Source: Killian Pacific

Task 2-9

Where do people streets make sense in Bend?

- Urban/Mixed-Use Areas
 - Downtown, Old Mill, Timber Yards (KorPine), Bend Central District, Central Westside
- Campus areas (medical, school/education, etc)
- River & park access routes/areas
- Safe routes to school
- Residential areas
 - Low stress biking and walking routes
 - To limit cut through traffic

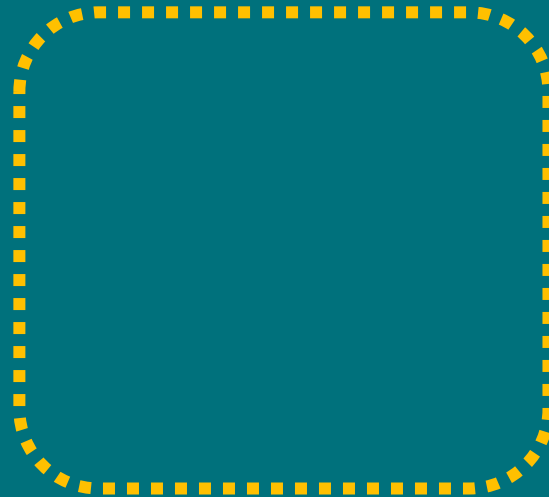
Guiding Principles, People Streets Steering Committee

Bend's People Streets will be...

- **Welcoming to All.** These vibrant people-first spaces will be welcoming to all ages, abilities, cultures, identities, and income levels. The design, messaging, and materials in these spaces will be thoughtfully inviting to all.
- **Safe & Comfortable.** The design of these spaces will prioritize safety and comfort for people walking, biking, and rolling with careful consideration of the interaction between modes.
- **Inclusive of Nature & Art.** These spaces will be living, vibrant and attractive by integrating trees and native, pollinator-friendly, and edible landscaping as well as vibrant, multi-cultural art.
- **Activated & Livable.** These spaces will support social activity in all seasons and at all times of the day and provide attractive space for businesses and residents to utilize the street for both commerce and gathering.
- **Connected & Accessible.** These spaces will be thoughtfully integrated into the community and existing street networks; they will be easily accessible including low-cost/free access nearby; and they will provide opportunities for both community gathering and through-movement while accommodating necessary emergency, service, and delivery access.
- **Resilient.** These spaces will utilize durable, maintainable, and resilient streetscape materials to ensure the vibrancy of these spaces now and in the future.



People Street Types



Draft People Street Types

Plaza Street



Shared Street



Low-Car Street



Neighborhood
Greenway



Walking and Rolling
are Primary Modes
Vehicular Access is limited

Land Use
Higher density,
commercial/mixed-use

Multimodal
Vehicular access remains
but walking and rolling are
prioritized

Land Use
Lower density, residential



CITY OF BEND

Bend has and is planning for more people streets



**Brooks Street
"Plaza Street"**



**Jackstraw
"Shared Street"**

- Concepts still in development:*
- 1) One way street with shared use path
 - 2) Two way "queuing street" with shared use path

**Riverfront Street Design
"Low-Car Street"**



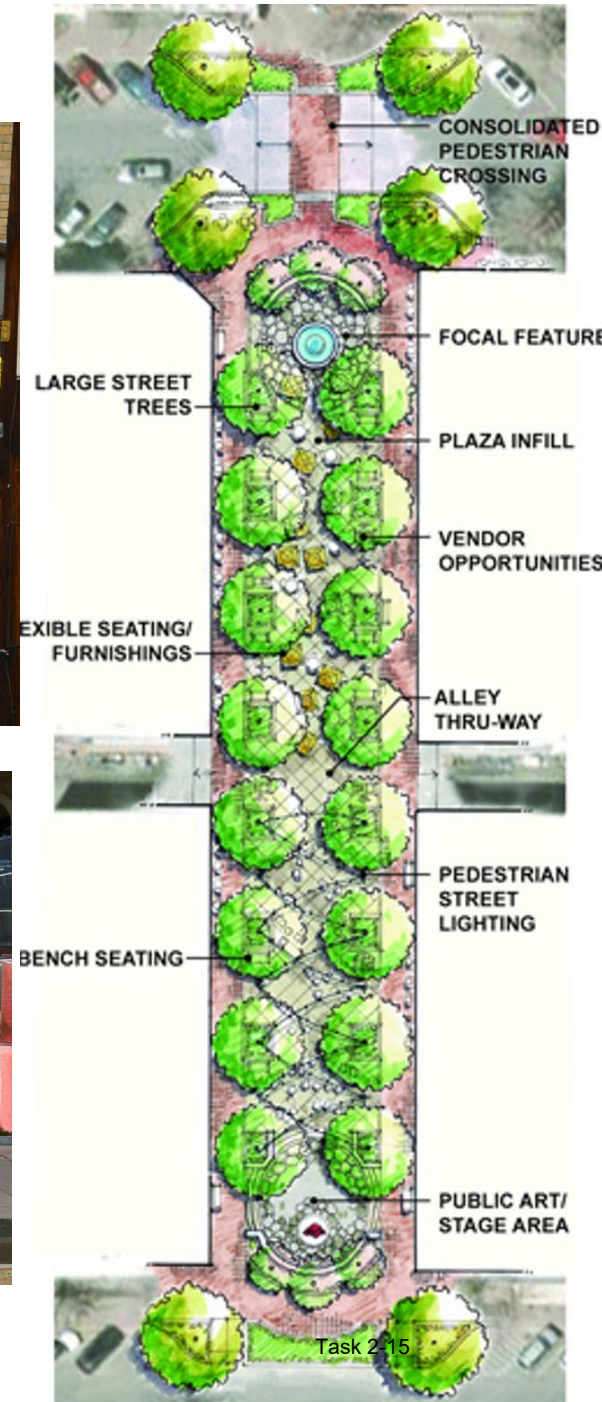
**6th Street
"Neighborhood Greenway"**



CITY OF BEND

Plaza Street

- Closed to motor vehicle traffic temporarily or permanently.
- Supportive programming, e.g., dining, markets, festivals, etc.
- Controlled access for servicing
- Example: Brooks Street
- Aka: "promenade", "pedestrian mall", "festival" street.



CITY OF BEND



Plaza Street

Pearl Street Pedestrian Mall, Boulder, CO

Task 2-16



Plaza Street

Larimer Square, Denver, CO

Shared Street

- Travel way is shared by all users at very low speeds:
 - Relies on the interaction of users.
 - Some modes could have designated spaces
- High level of urban design.
- Geometric features used to create obstruction.
- Can be a curb-less or flush street.
- Local Example: Platform Development, Jackstraw
- Aka: "Woonerf"







Residential Shared Street, Winnipeg, MB Canada



Bell Street, Seattle, WA



Low-Car Streets

- Uses turn restrictions or modal filters to reduce traffic volumes.
- Can be one-way or two-way traffic.
- Designated space for pedestrians and bicyclists (e.g., counterflow bike lane)
 - Sometimes this space is repurposed/reallocated space



Median Refuge Island Diverter, Vancouver, BC



Low-Car Street & Bikeway, Ann Arbor, MI



Low-Car Street Conversion, N Williams Avenue, Portland, OR





Low-Car Street Conversion, 3rd Avenue W, Seattle, WA

Neighborhood Greenway

- Uses traffic calming, street width, and physical obstructions, e.g., chicanes, parking, etc. to slow traffic.
- Aka: "yield street", "queueing street", "neighborhood greenway".
- Bend has design standards for these and uses them already.





Neighborhood Greenway, La Crosse, WI

Additional Low-Car Design Tools

Traffic Calming
Modal Filters
Flush Streets
Traffic Signal Adjustments

Traffic Calming

- Traffic calming can reduce speeds and make streets comfortable for all.
- Speed humps are a low-cost traffic calming measure:
 - Often used on Neighborhood Greenways
- Raised crosswalks and intersections (higher-cost) slow vehicles at an intersection



Modal Filters

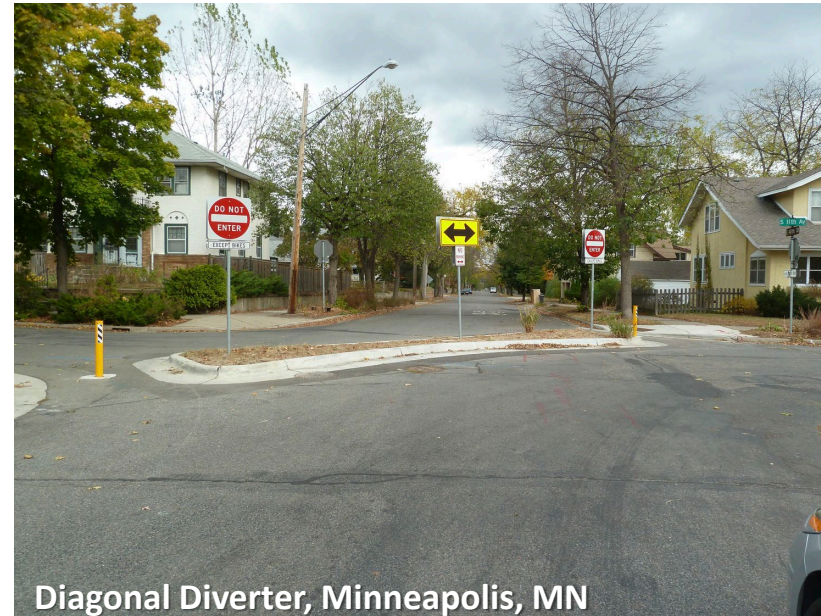
- Use physical barriers, pavement markings, and/or signage to restrict certain vehicle movements to create low-car streets and more comfortable conditions for people walking, biking, and rolling.



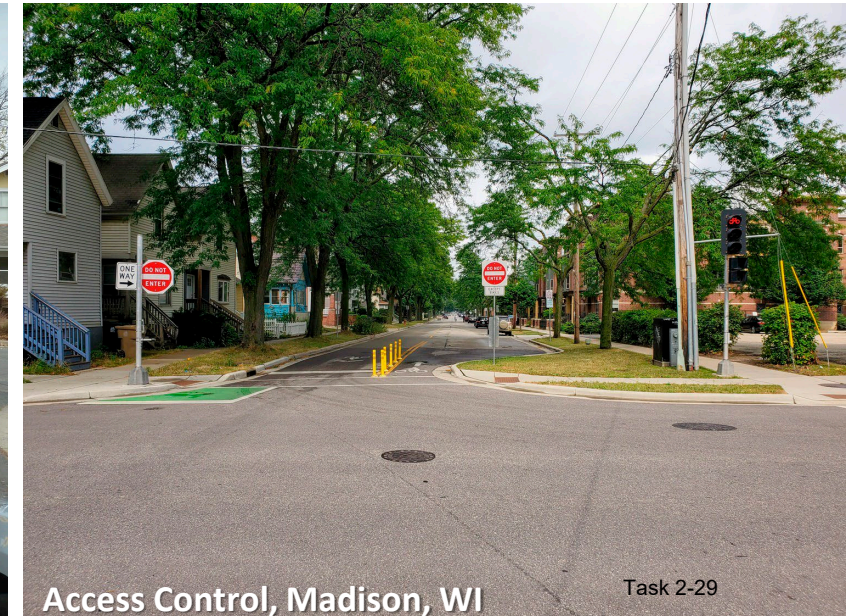
Median Diverter, Denver, CO



Landscaped Diagonal Diverter, Portland, OR



Diagonal Diverter, Minneapolis, MN



Access Control, Madison, WI



Modal Filter Examples

- Limit vehicle traffic volumes to create low-car streets.
 - Vancouver, BC: Set policy to reduce traffic volumes below 500 vehicles per day, and no more than 50 vehicles in the highest traffic volume hour (Vancouver, BC)



**Target motor vehicle
volume below 500/day
(below 50/peak hour)**

Reducing the number of interactions between motor vehicles and people cycling can improve safety and comfort. At a volume below 500 vehicles per day, most people cycling will encounter less than one motor vehicle per block in the peak hour.



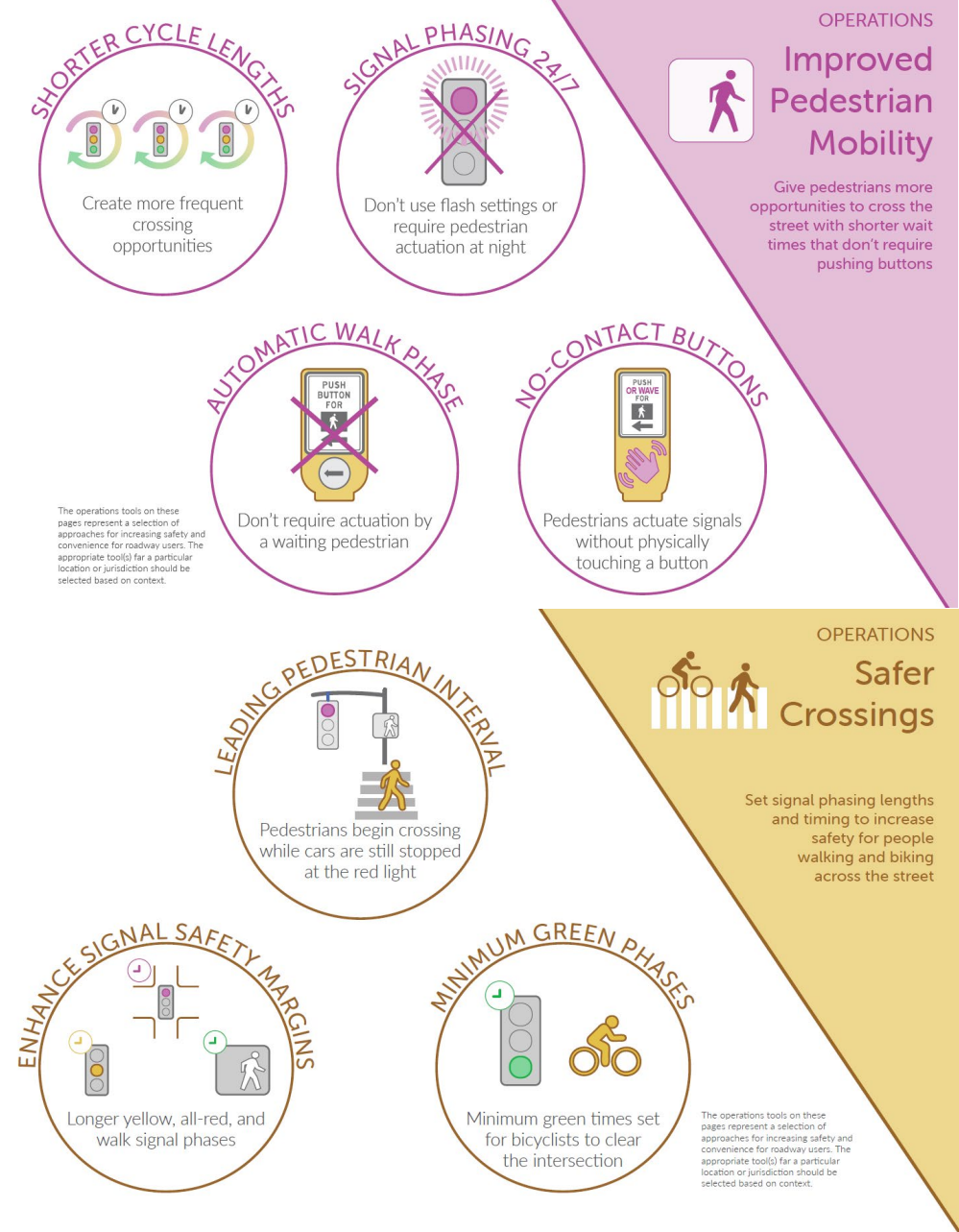
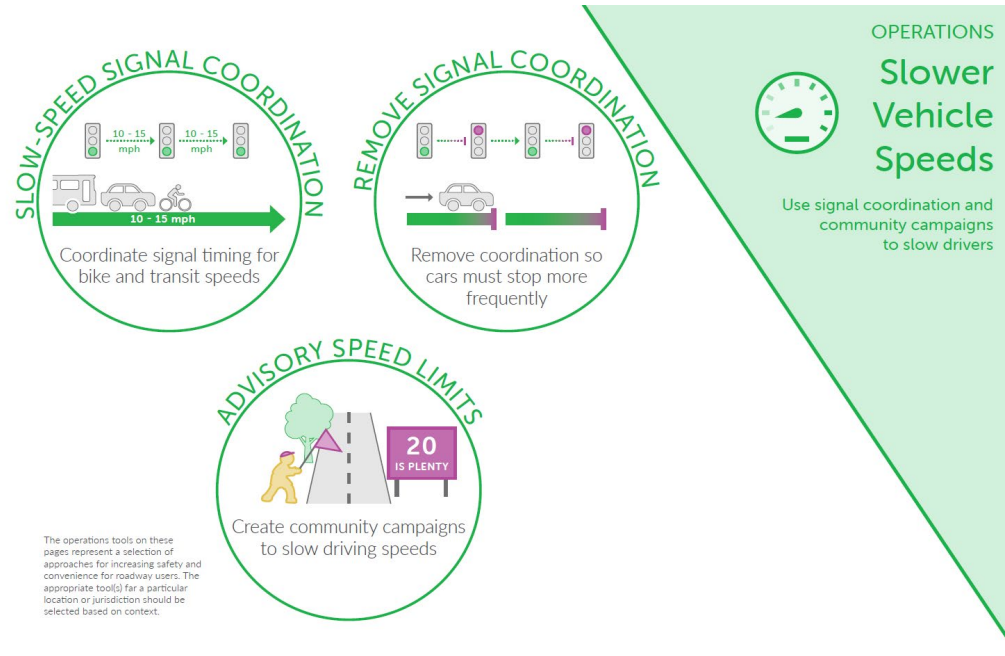
Flush Streets

- Can be applied to any people street type
- Allow for free movement for non-motorized users and encourage vehicle yielding
- Can still provide dedicated space for different user types using urban design elements (i.e., different paving materials, light fixtures, street trees, street furniture, etc.)

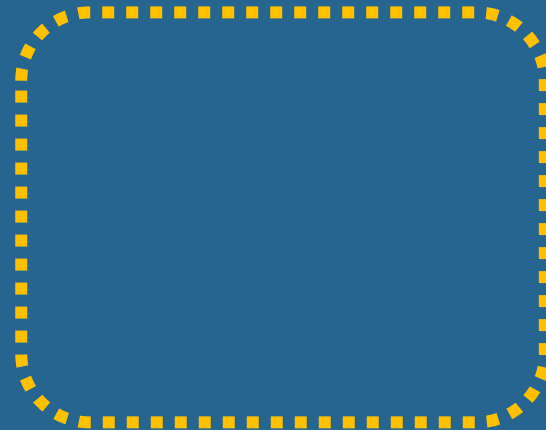


Traffic Signal Adjustments

- Signal timing adjustments that support safety.
- City typically follows MUTCD and ODOT policy, however, City can sometimes allow exceptions to those policies.



Supporting Policies & Programs



Supporting Policy/Program Topic Areas

Bend is looking to build on these policies and program topic areas:

- Network Considerations
- **Financial Sustainability (Capital & maintenance, EIDs, etc.)**
- Urban Design Policies
- Street Activation (e.g., parklets, special events, sidewalk cafes, etc.)
- Business Considerations (e.g., loading, servicing, etc.)
- Equity & Accessibility
- Affordability (Equity)
- Travel Demand Management
- Parking/Curb Management
- Transit
- Mobility Programs (Mobility Hubs/Points & Bike Parking)
- Maintenance

Network Considerations

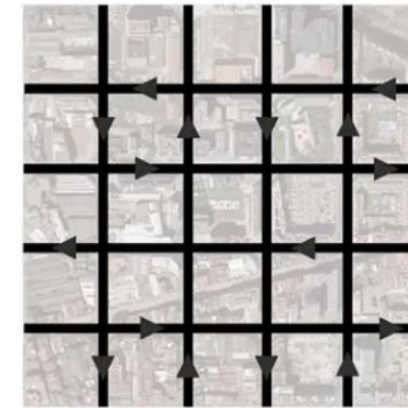
- Identifying direct & preferred routes for various modes
- System impacts & considerations
 - Emergency response times
 - Maintenance/access

Superblock model for a neighborhood street grid

Barcelona, Spain: In the superblock, the outer (black) streets are multimodal, including transit vehicles, and have a higher speed limit. The inner (green) streets are low-speed and vehicles that slowly enter the interior may not cut through/are diverted back to the outer streets.

Road hierarchy in a Superblock model

CURRENT SITUATION

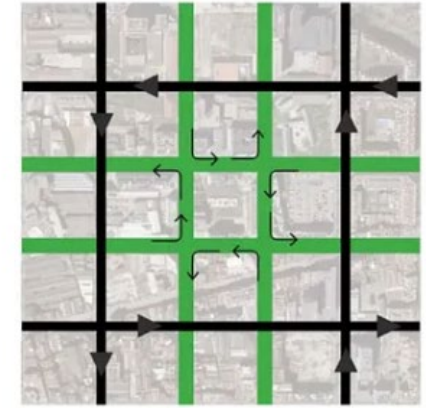


Basic network: 50 km/h



SOLE RIGHT: DISPLACEMENT.
HIGHEST AIM: PEDESTRIAN.

SUPERBLOCK



Local network: 10 km/h



EXERCISE OF ALL THE RIGHTS THAT THE CITY
OFFERS. HIGHEST AIM: CITIZEN.

PASSING
VEHICLES
DO NOT GO
THROUGH

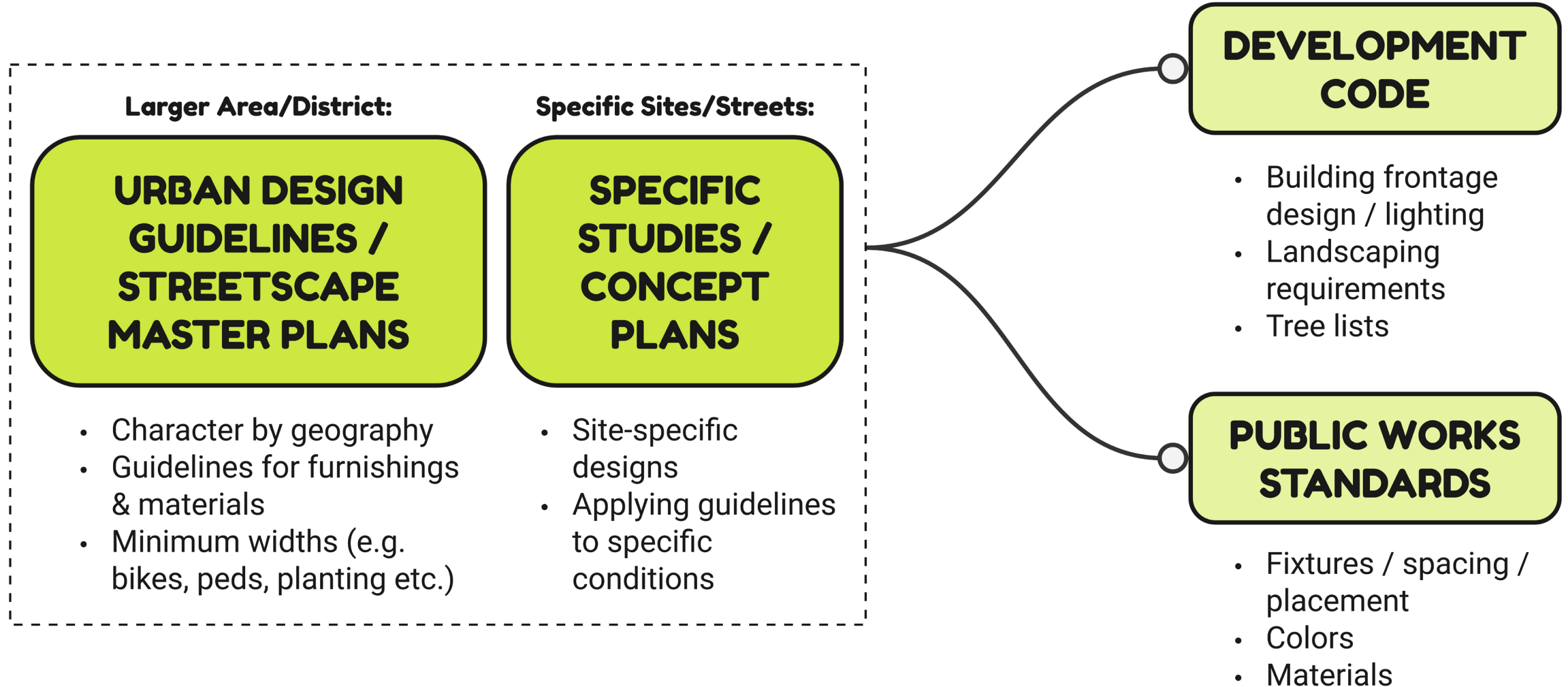


CITY OF BEND

Flow of traffic on the Superblock

Task 2-35

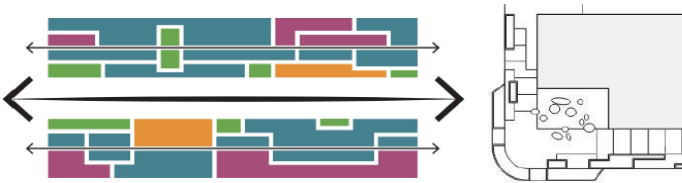
Urban Design Policies & Process



Urban Design – Guidelines & Master Plans



Concept 1. Agricultural Legacy: rectilinear arrangement of walking, landscape, and gathering areas; rustic stone, wood, and metal elements



Concept 2. Technological Innovation: linear pattern forms help organize spaces for walking, plantings, and gathering; clean, smooth, simple materials

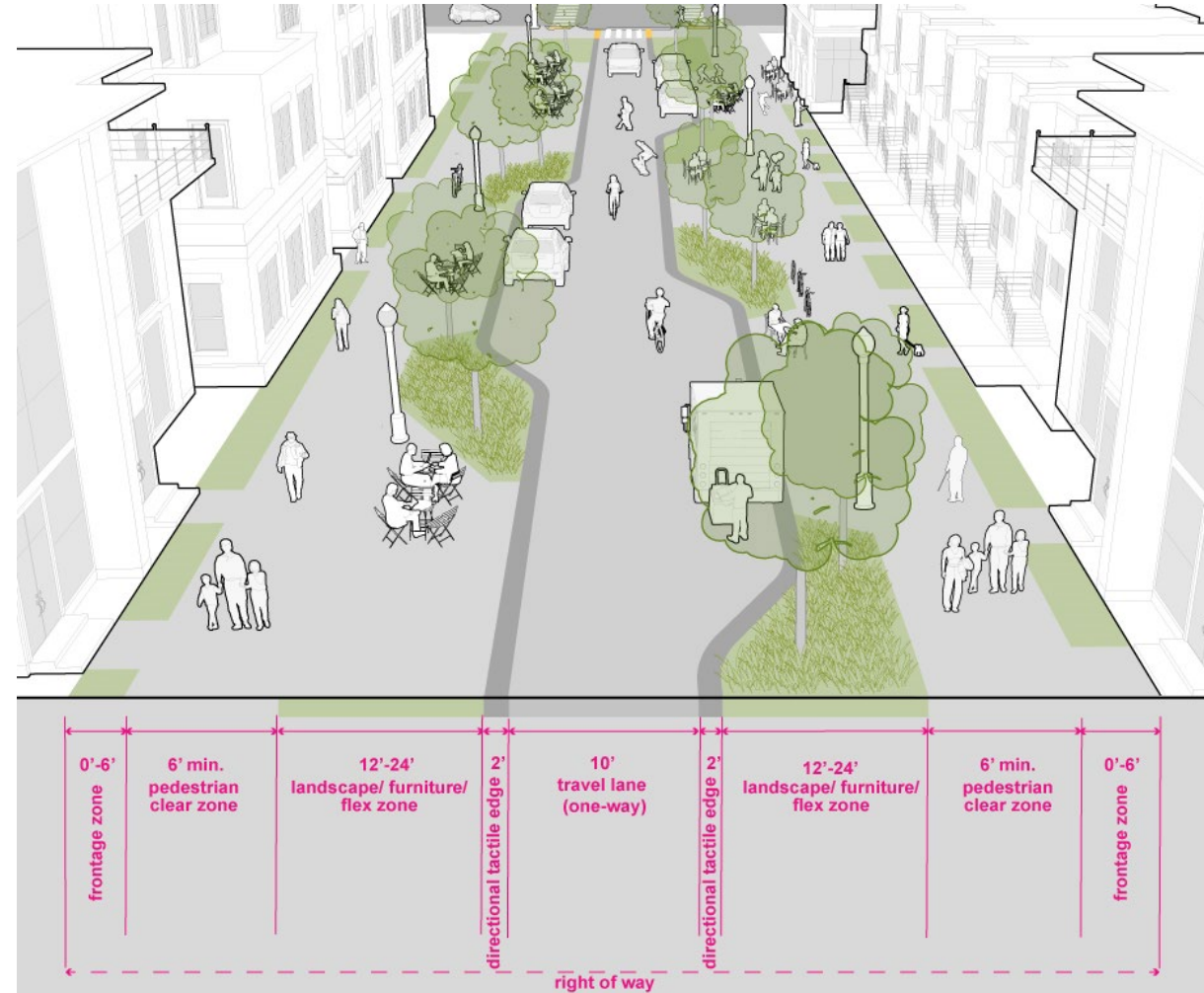


Concept 3. River Environment: curvilinear arrangement of spaces, use of "river eddies" to define gathering and landscape area; landscaped areas punctuate the sidewalk along the curb and building faces

Wilsonville Town Center Streetscape Plan character studies (Wilsonville, OR)

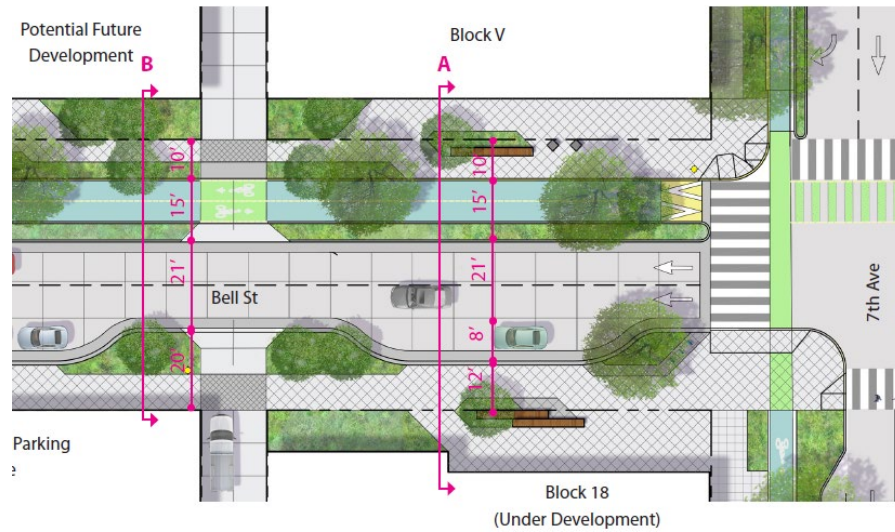


CITY OF BEND

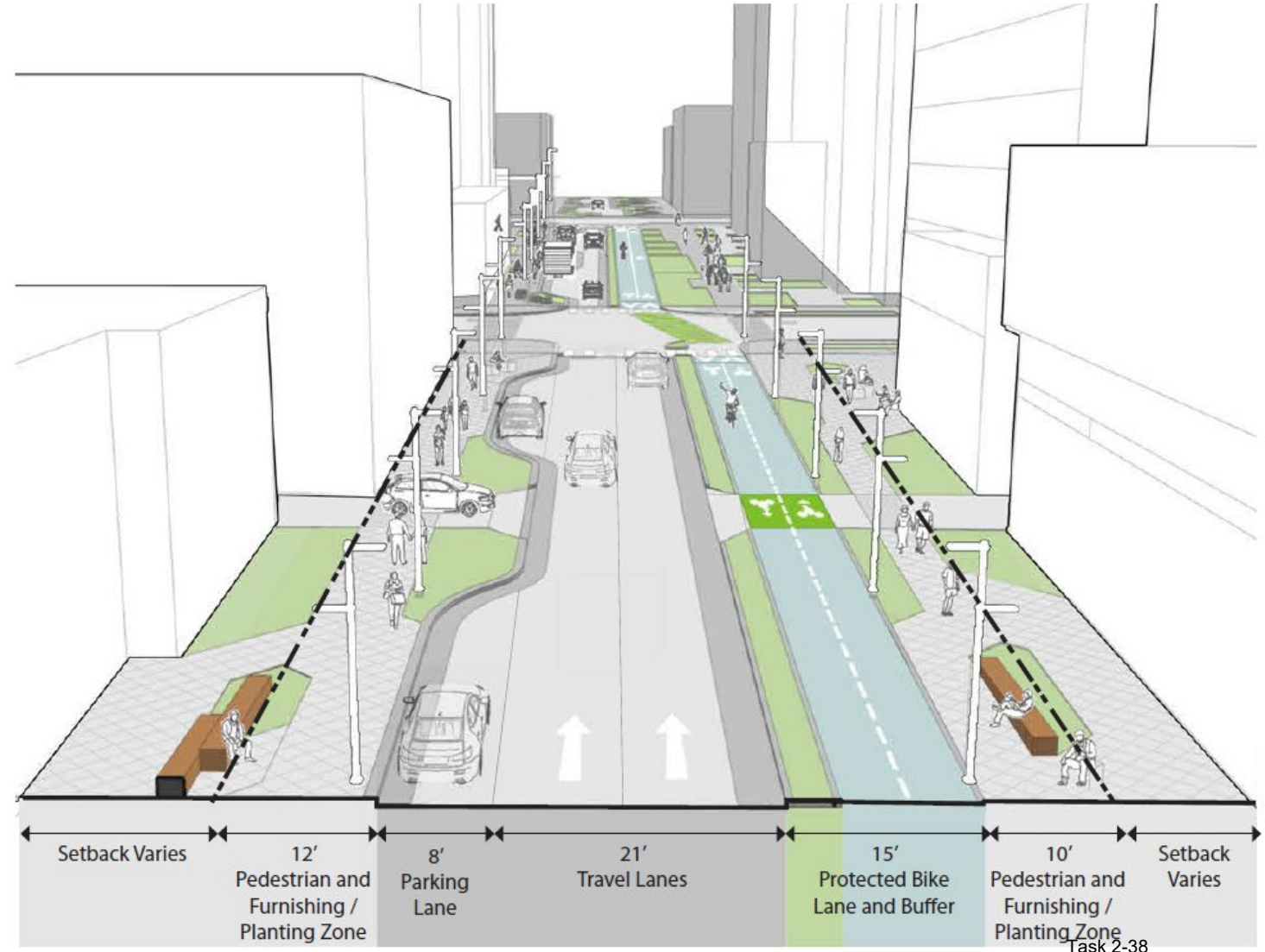


Seattle Streets Illustrated / Right of Way Improvements Manual – Urban Curbless Street (Seattle, WA)

Urban Design – Specific Studies



Bell Street Concept Plan – Site Plan & Section Example
(Seattle, WA)



CITY OF BEND

Urban Design – Standards

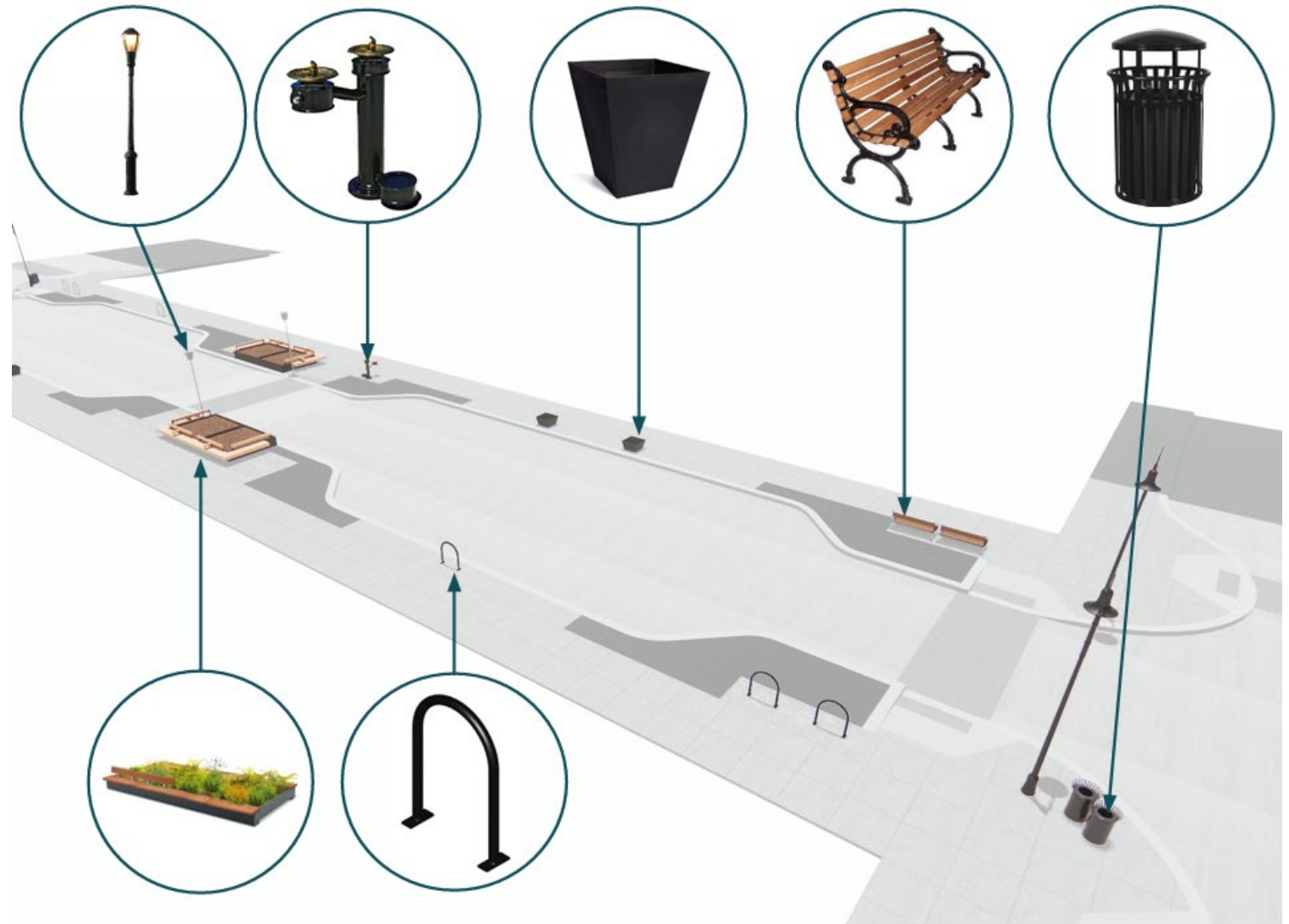
- **Development Code**
 - Lighting standards, architectural design.
 - Landscaping, tree placement.
- **Public Works Standards**
 - Specific standards for color, materials, fixtures, spacings.
- **Tree Lists**



Urban Design – Specific Elements

Examples:

- Pedestrian scale lighting (poles/banners)
- Street seating
- Bike racks
- Bollards
- Street tree grates
- Sidewalk/crosswalk materials



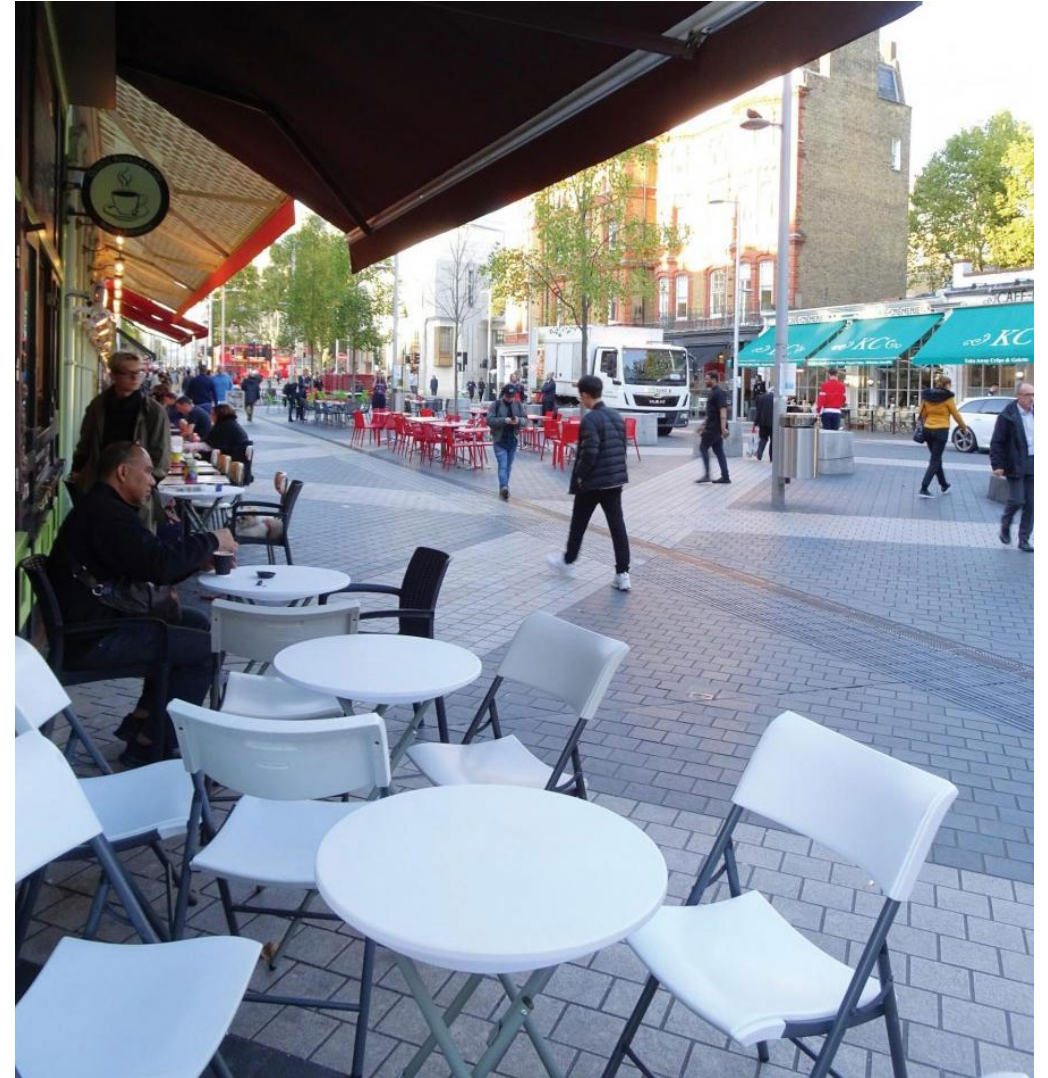
Street Activation

- Parklet Programs
- Sidewalk Café licenses
- Special Events
- Banners
- Partnerships with Business Associations
 - Program events to activate space
 - Maintain street amenities (flower baskets, trash, etc)



Business Considerations

- Pick-up/Delivery
- Trash/Grease pick-up
- Customer access
- Parking turnover
- Ease of interaction with City (application process) for any permits (e.g., parklets)
- Street event guidelines:
 - Size, time, etc.
- Safety and security
- Emergency and maintenance access



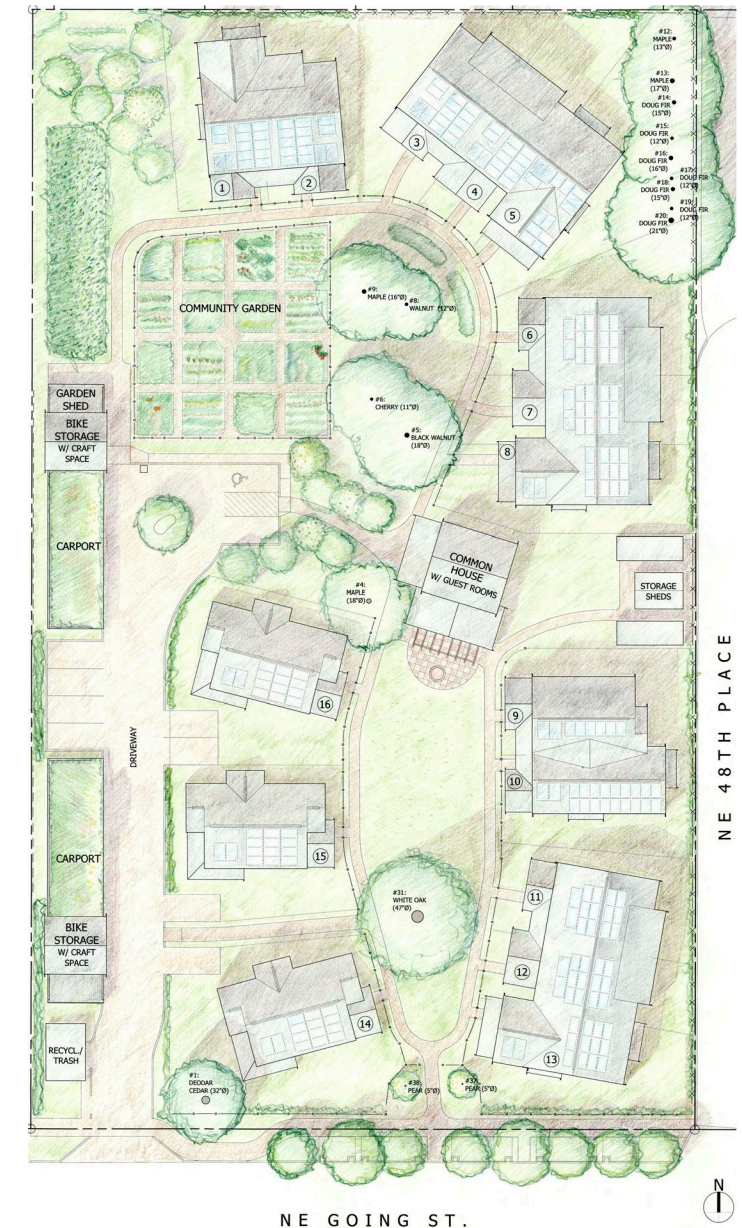
Equity & Accessibility

- Safe & Welcoming Environments
 - Pedestrian scaled lighting
- Designated ADA Parking
- Pick-up/drop-off & loading zones

Affordability (Equity)

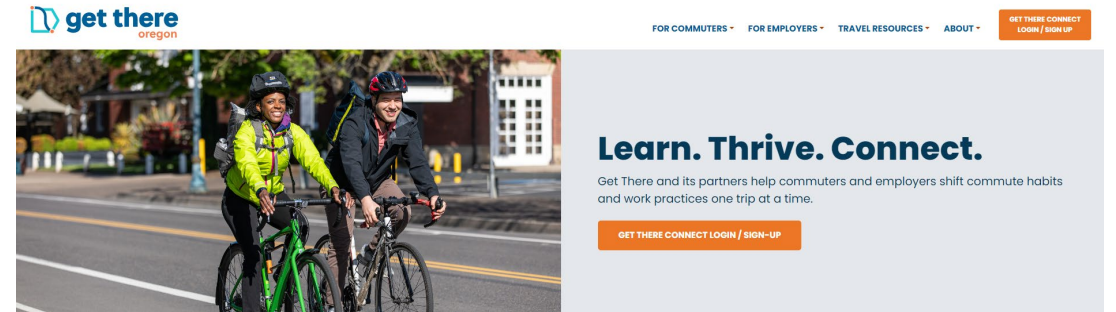
If policy intent of low-car districts is to reduce greenhouse gas emissions, then implementation should be coupled with affordability strategies to:

- Ensure people can afford to live in or near low-car districts.
- Businesses can afford to operate in low-car districts.
- Jobs and services are located in or near low-car districts.
- Low car-districts include a mix of building types and densities



Travel Demand Management/Travel Options Program

- Tools, programs and policies to reduce single-occupancy vehicle trips.
- Examples:
 - Get There Oregon with Get There Connect dashboard and CommuteTracker app to earn rewards.
 - Commute Options Vanpool (Deschutes, Crook, or Jefferson Counties).
 - Aspen, CO TDM plan (school travel demand partnerships).



Get There Oregon

G. TDM RELATED							
Grow the TOP program	NO CHANGE	NO CHANGE					-\$
Add TDM strategies: Provide a trip reduction ordinance							\$
Add TDM strategies: Expand the Emergency Ride Home program							\$
Restructure school travel demand program: Implement peak demand parking pricing						\$\$	\$
Work closely with schools to reduce SOV Trips							-\$

Aspen, CO Transportation Demand Management

TDM Tools:

- Mixed-use development with on-site services.
- Shared shuttle service.
- Non-motorized zones in major developments.
- Partnering with the city on transit improvements.
- Improvements in pedestrian access for transit stops.
- Participation in the Transportation Options Program.
- Transit fare subsidy.
- Employee Parking Cash-Out.
- Carpool Matching.
- Carshare / Bikeshare programs.

Multimodal Level of Service (MMLoS) Tools:

- Sidewalk improvements to minimum LOS.
- Pedestrian routes.
- Design/placement of driveways.
- Traffic calming measures.
- Enhanced street crossings.
- Bicycle parking.
- Transit stop amenities.



Austin, TX TDM Plan

- Austin identified TDM as a key part of its goals within several plans, including Imagine Austin, the Austin Strategic Mobility Plan, the Community Climate Plan, and the Community Health Improvement Plan.
- Key TDM Initiative Categories (shown below) each include strategies identified in the 2018 Successes & Progress report, some of which are highlighted below.



MARKETING/
EDUCATION



PARKING
MANAGEMENT



IMPROVING OPTIONS



REGIONAL



LAND USE



PLANS & POLICIES

Marketing

- Mayor's Mobility Challenge
- Smart Trips Austin
- Smart Commute Rewards

Regional

- Commute Solutions resource
- Regional Coordinating Committee

Improving Options

- Bike Share
- Bicycle & Pedestrian Improvements
- Dockless Mobility

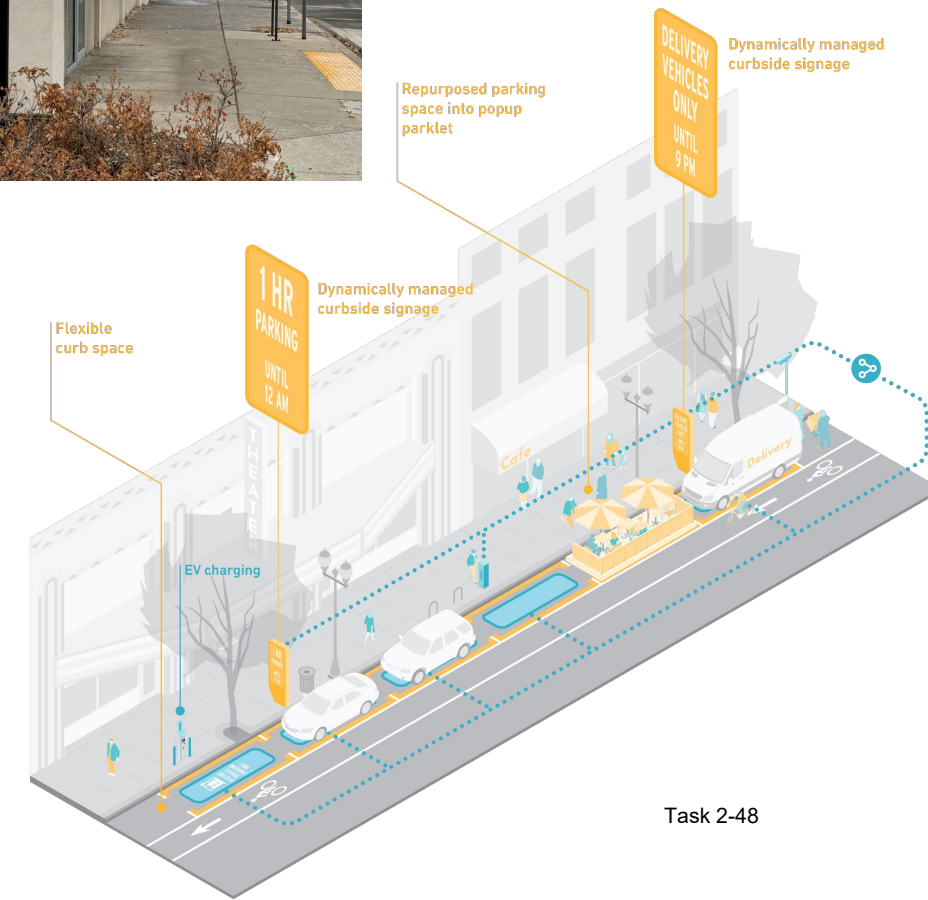
Land Use

- Integrating TDM into large development projects



Parking/Curb Management

- Parking & curbside management
 - Parking pricing
 - Limited time parking spaces (15 or 30 min)
 - ADA Parking
 - Pick-up/drop-off & loading zones
 - Parking maximums and reduced/removed parking minimums
 - Encourage unbundled parking (parking space charged separately from unit cost) and shared parking arrangements.
 - Aspen Smart Zones Pilot.
 - Demand-based parking rates



Transit

Ensure people can get to/from low-car districts.

- Enhanced transit service (increased frequency, high-capacity such as BRT)
- Transit stops (urban design relationship)
- Transit priority treatments (e.g., queue jumps, dedicated bus lanes, etc.)



Bus platform next to two-way bikeway,
Providence, RI



Dedicated bus lane, Cambridge, MA

Task 2-49



CITY OF BEND

Mobility Hubs & Mobility Points

- Mobility Hubs and Points to support greater transit and multimodal transportation use:
 - BMPO Mobility Hub Feasibility Study (2022).
 - Downtown Bend Mobility Hub Pilot with BIRD bikes
- Programs to support businesses and neighborhoods to increase bike ridership:
 - Partnership to install bikeshare stations (Bend Bird).
 - City of Portland Northwest Zone M Bike Parking Fund:
 - Paid for by parking revenues.
 - Developer creates long-term bike parking as part of building, PBOT provides bike-parking equipment, including racks.
 - City of Portland Bike Corrals:
 - Program to allow bike racks to be installed on-street with proof of demand.
 - Seattle Bicycle Spot Improvement Program.
 - Businesses can apply to Seattle DOT for bike racks to be installed on sidewalk.



Top: Illustrative Mobility Hub from Bend Feasibility Study.



Bottom: Bike racks installed as part of the Newport Avenue Corridor Improvement Project (Bend)



Maintenance & Fire Access

- Maintenance funding restrictions for various treatments (pavers, special street treatments)
- Utility maintenance & replacement
- Snow storage and removal
- Fire access clearances
- Private maintenance agreements
- Other



Next Steps

- Start Case Study to "test" some of these street types on a specific route between Juniper Park and Drake Park.
- Public Engagement:
 - Get community input on case study, street types, and supportive policies and programs to inform implementation plan.
- Implementation Plan
 - Roadmap for people street & low-car district implementation.
 - What should the City consider when allowing for people streets, what policies and programs are needed to support people street implementation?
 - Where are appropriate land use contexts for the various street types?

Key Ingredients for Success

Alpine Avenue, McMinnville, OR



Activation

Targeted Improvements

Staged Implementation

Placemaking

- **Parking, Access & Wayfinding**
- **Lighting**
- **Places to Linger**
- **Business Mix**

Destination



CITY OF BEND

Activation

- Programming: regular festivals / events
- Pop-ups in vacant spaces
- Cross-promotion / business collaboration

Ithaca Commons, Ithaca, NY



Larimer Square, Denver, CO



Mimosa Showdown, Great Falls, MT



Downtown Iowa City, IA Pop-Ups



Downtown Raleigh, NC Pop-Up Shop



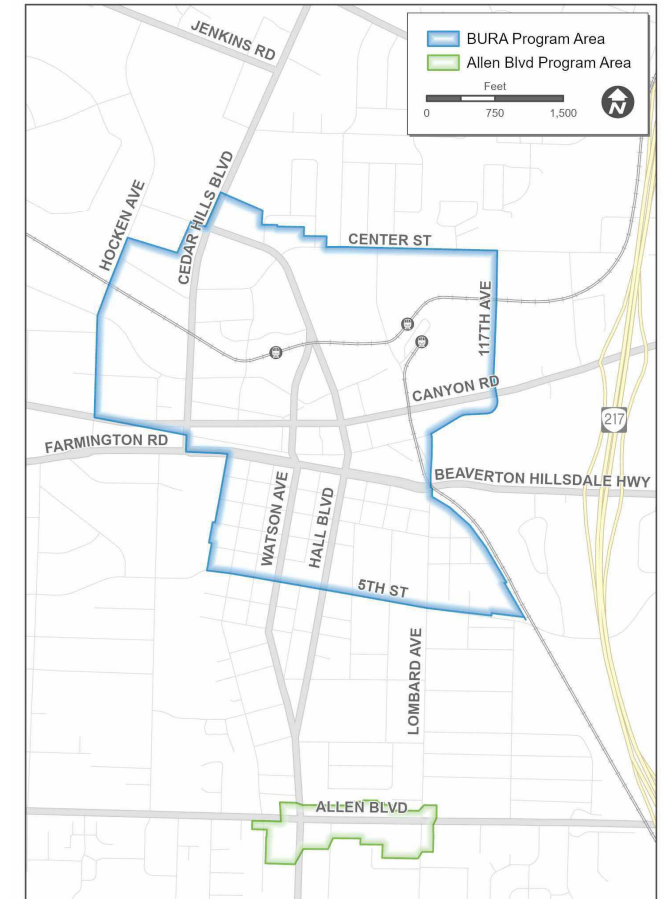
Targeted Improvements

- Façade / building improvement grants or loans targeted in urban renewal areas

Loyal Legion, Beaverton, OR



Beaverton Building Improvement Program Area Map



Staged Implementation

- Start by blocking off on the weekends and during festivals / regular events, make permanent if success is demonstrated

Better Naito, Portland, OR



JFK Drive, San Francisco, CA



Front Street, Leavenworth, WA



Placemaking: Access & Wayfinding

- Signage to the pedestrian street & other key locations
- Route should already be where people are walking
- Maintaining lines of sight
- "Anchors" at either end
- Connection with other routes / modes
- Infrastructure for non-car modes (i.e., bicycles)
- Design considerations: deliveries, parking

Pearl Street, Boulder, CO



Ithaca Commons, Ithaca, NY



Placemaking: Lighting

- Bistro lighting draws visitors
- Well-designed lighting can help improve sense of safety

Walawala Plaza, Walla Walla, WA



High Street, Columbus, OH



Newark Ave Pedestrian Mall, Jersey City, NJ



Placemaking: Places to Linger

- Interactive elements for all ages / seasons
- Street seating – benches and dining

Alpine Avenue, McMinnville, OR



Pearl Street, Boulder, CO



Sagan Planet Walk, Ithaca, NY



Waterfront Trail, Vancouver, WA

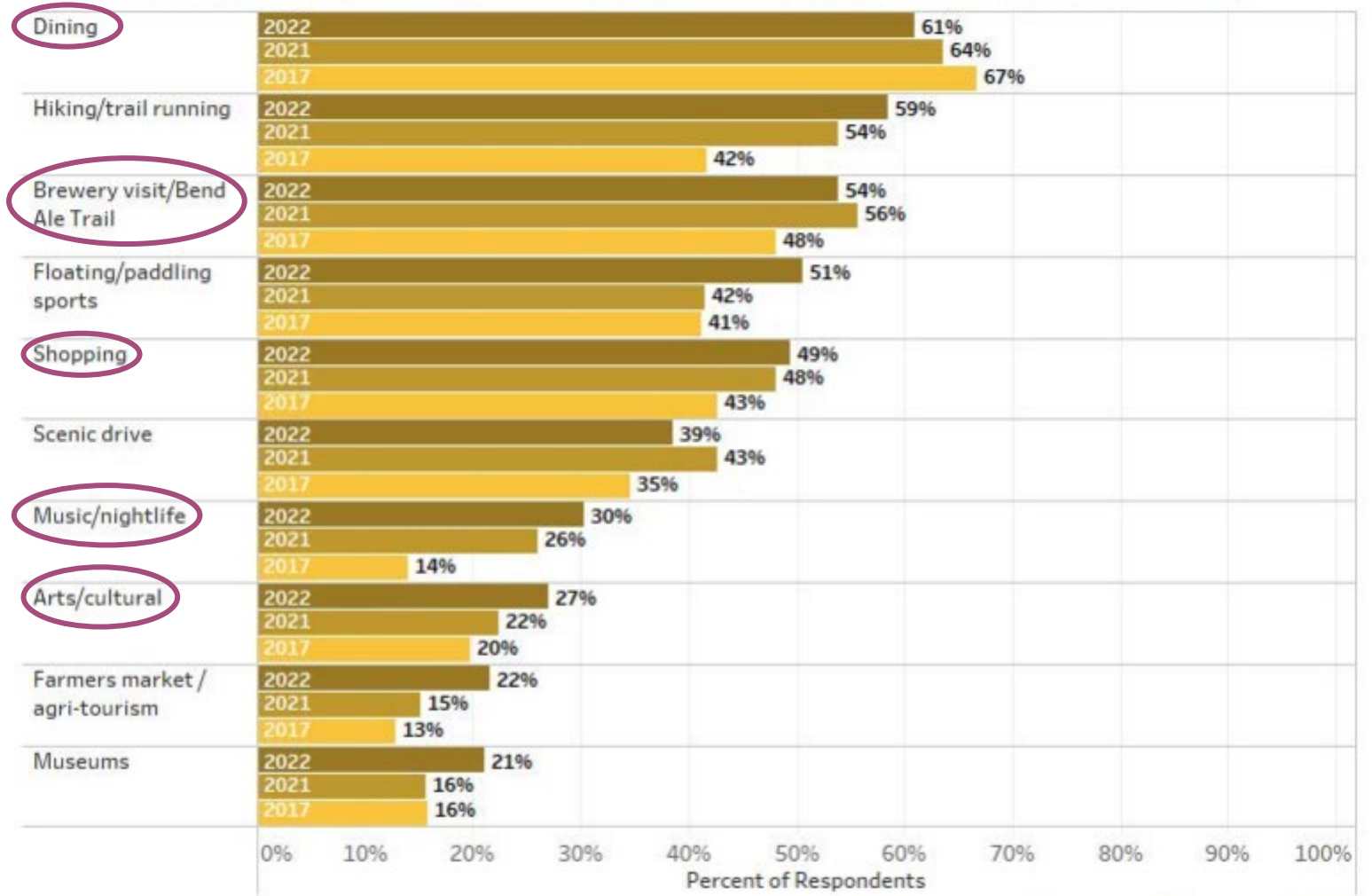


Destination

- Bend is more like Boulder than Eugene - the kind of "top tier" place where a pedestrian street could be successful
- Bend draws year-round visitors, has a distinct and recognizable brand
- Travelers to Central Oregon spend an avg of \$414 per party night vs \$288 in Willamette Valley tourism region
- Nearly 70% of visitors to Central Oregon go to Bend, just 30% of visitors to the Willamette Valley go to Eugene

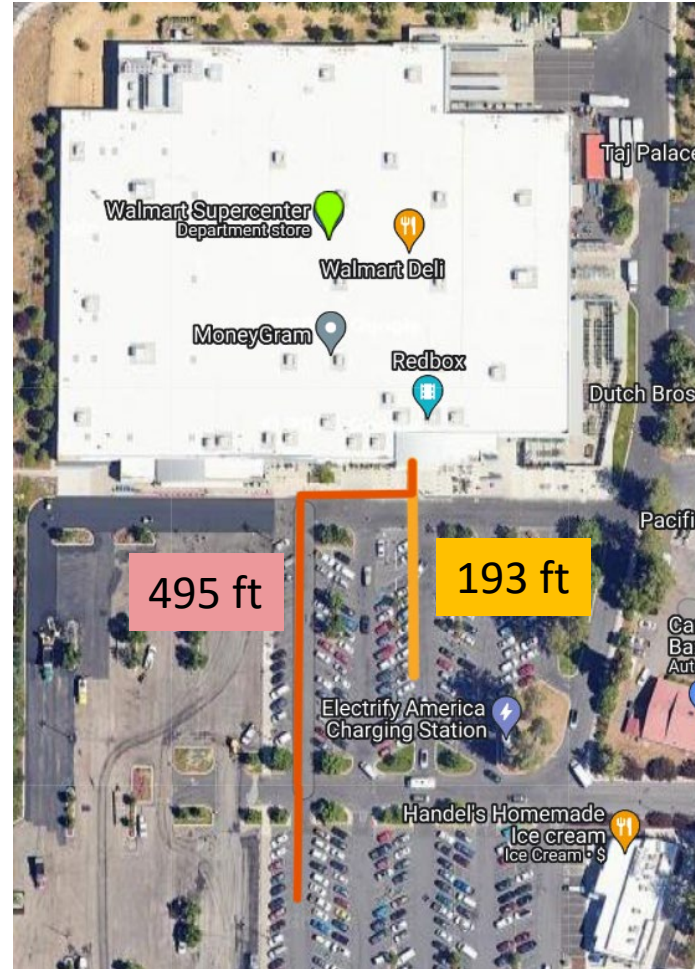
Bend Summer Survey, 2022

Top 10: What kind of activities did you or will you do while on this trip? (Mark all that apply)



Parking Perception

- Not finding street parking in front of a shop downtown creates perception of “no parking”
- People will walk 500+ feet from parking space to Walmart – much less pleasant than a walk Downtown
- **Can creating a better downtown experience for pedestrians help shift perceptions?**



Case Studies



Third Street, McMinnville, OR

Ithaca Commons, Ithaca, NY

8th Street Promenade, Boise, ID

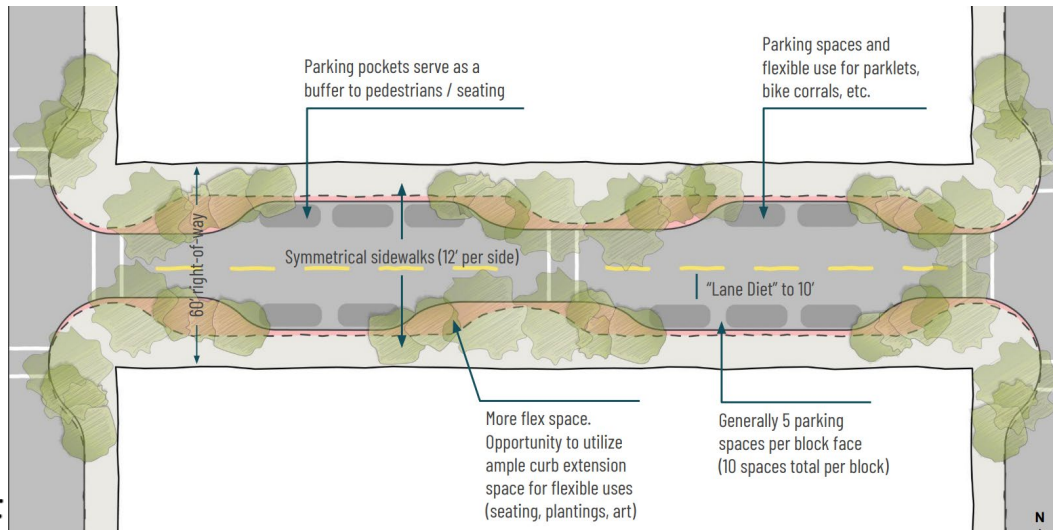
300 South, Salt Lake City, UT

Eugene Mall, OR – Lessons Learned



Third Street, McMinnville: Festival Street

- Award-winning main street in Downtown McMinnville
- Regular conversion to car-free street every weekend during the summer – “Mac Fresco”
- Started as a weekly event called Dine Outside, has since expanded to incorporate more Downtown retailers
- 3rd Street is now undergoing an improvement process – final design includes narrower car lanes, wider sidewalks, additional bike parking



CITY OF

Ithaca Commons: Pedestrian Street Activation

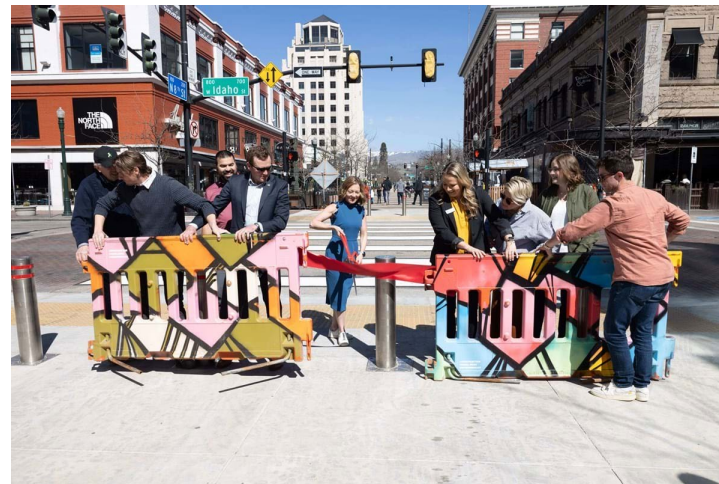
- Pedestrian shopping area in downtown Ithaca, NY with over 100 independently owned shops & boutiques
- Outdoor sports destination with cold, snowy winters; similar population to Bend (103,000 residents)
- Downtown Ithaca has ~13k people per square mile; Downtown Bend has ~5k- Ithaca much higher density
- Annual events – Apple Harvest Festival, Ice & Lights Festival, CFCU Summer Concert Series, Sidewalk Sales
- Unique features – History Center, Sagan Planet Walk
- Parking: 3,325 off-street (1,517 public) and 1,062 on-street spaces downtown (\$1/hr garage, \$1.50/hr street)
- Council voted to remove parking requirements for businesses in downtown area in 2023



Source: Sasaki.

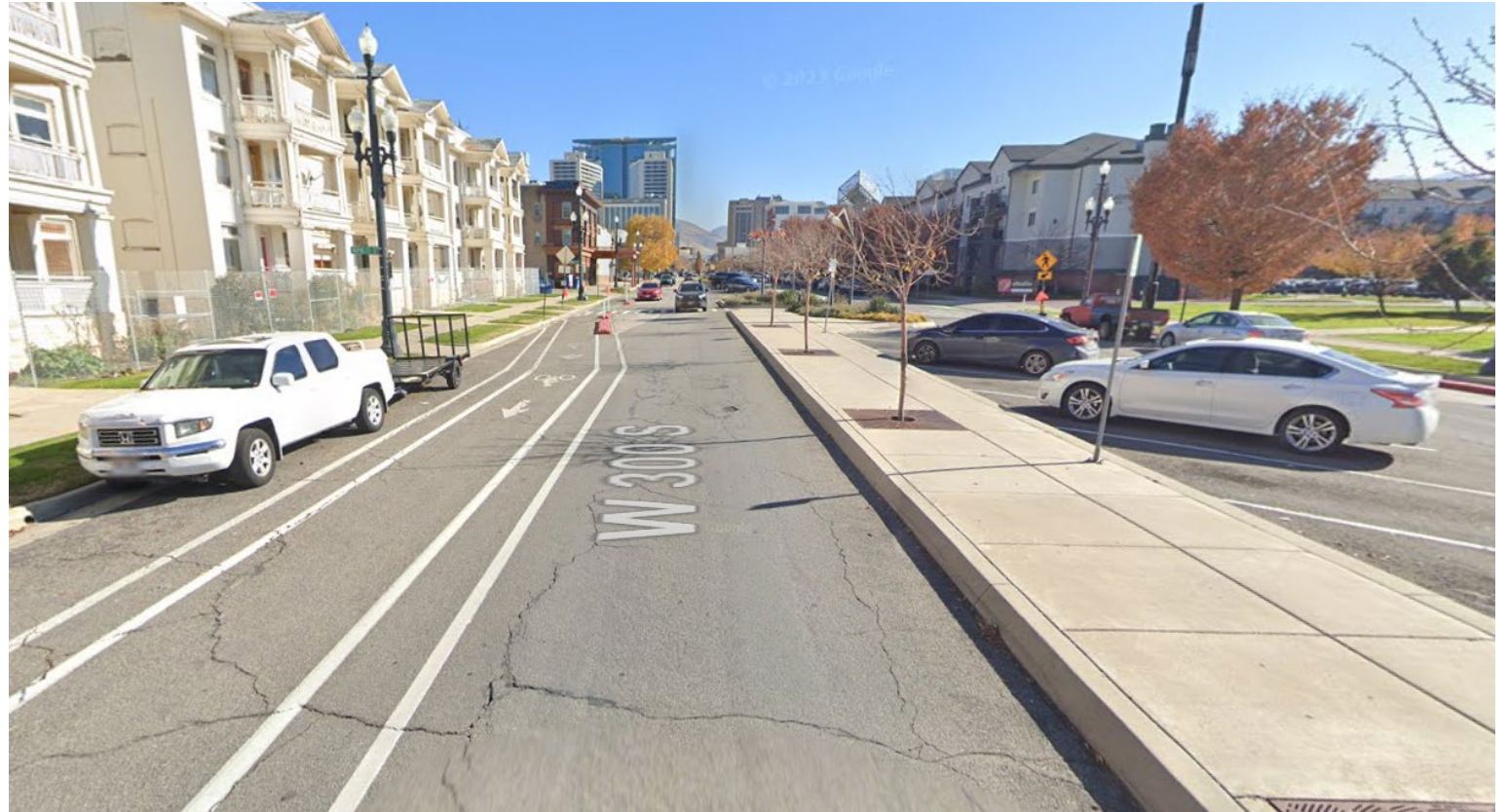
Boise 8th Street Promenade - Wayfinding

- Two block pedestrian street between Grove Plaza and US Post Office & Hoff Buildings
- 8th Street is the Downtown anchor in Boise
- Access to “Freak Alley” mural gallery
- Originally closed off in 2020, Phase 2 kicked off in 2024 – soliciting public feedback on design options
- The 340-acre commercial district that includes the Promenade has 6,258 off-street and 714 on-street parking spaces. In April 2018, parking occupancy in this area was measured at 62.5%
- Parking garages adjacent to the Promenade offer hourly & monthly rates; on-street parking is \$2 for first hour, \$3 for second hour



300 South: Economics of People Streets

- In 2014, the Salt Lake City Transportation Department added protected bike lanes, median islands, pedestrian crossings, planters, and artwork to 9 blocks of 300 South
- **Removed 30% of parking along this stretch of road**
- Over the first year, **sales increased by nearly 9%** at businesses along the project, compared with 7% citywide
- Bicycle traffic increased by 30%
- 59% of businesses supported the change one year after implementation – just 18% did not support



Eugene Mall: Lessons Learned

Activation

- High vacancy
- Assumption that big department stores would be “draw”

Targeted Improvements

- Opened during urban renewal demolitions
- Facades are not human-scale

Wayfinding

- Storefronts not visible from nearby streets
- Designed to look more like a park
- H-Shaped design & one-way streets impeded access

Interactive Features

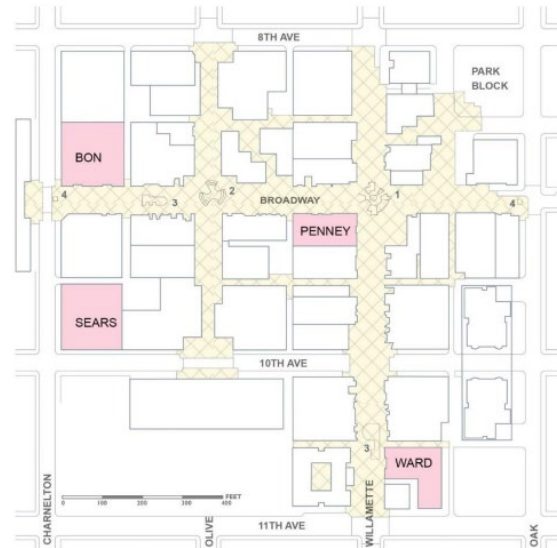
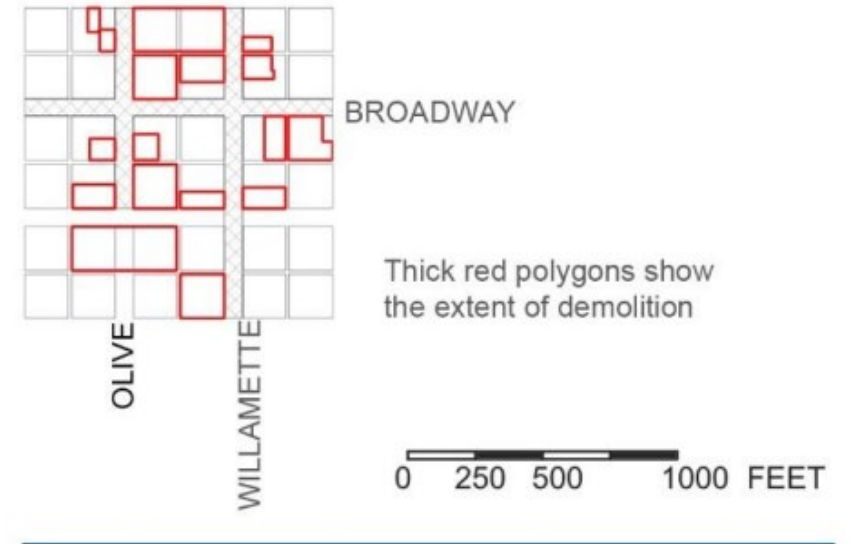
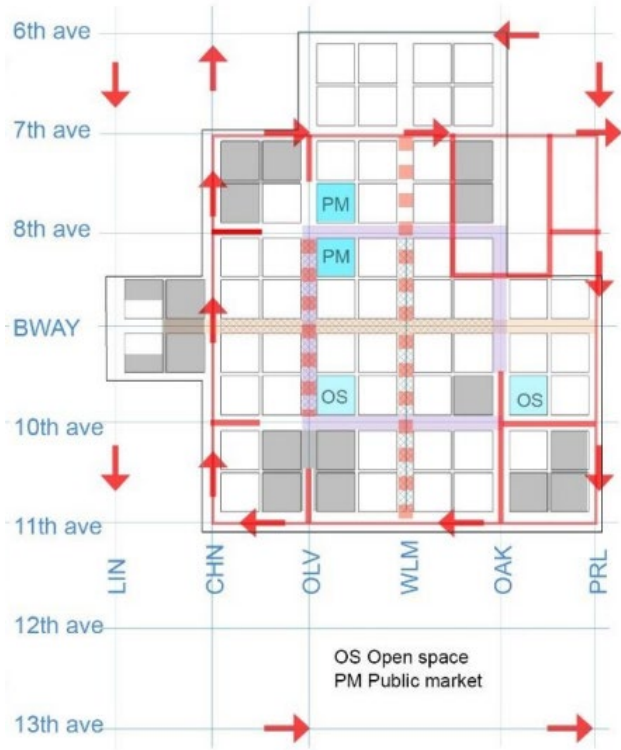
- Fountain as centerpiece of main intersection, but lacked relationship to retail

Destination

- Eugene is not a “top tier” tourism destination like Bend
- Competition with new enclosed mall for local shoppers



Eugene Mall: Lessons Learned



CITY OF BEND

Accommodation Information for People with Disabilities



To obtain this information in an alternate format such as Braille, large print, electronic formats, etc. please contact Allison Platt at aplatt@bendoregon.gov or 541-213-7387; Relay Users Dial 7-1-1.



Bend Climate Friendly Areas Low Car District Study

Resources: Business Impacts of People Streets

Date December 4, 2024
To Allison Platt, City of Bend
From Jennifer Shuch, Leland Consulting Group
CC Kayla Fleskes-Lane, DSK Associates

Overview

As the City explores options for low- and no-car streets (people streets), it is essential to ensure that business and shopping districts continue to thrive, if these streets are implemented. Bend is a unique destination that draws residents and visitors attracted to its natural beauty, opportunities for recreation, and quality of life. Currently, local retail-focused districts like Downtown Bend are faring better than office-dominated downtowns nationwide that are still struggling with the impacts of the COVID-19 pandemic. However, challenges like the shift to e-commerce and inflation remain, and Bend businesses are facing these challenges as the City evaluates potential changes to the future of the Bend transportation system. Because of this, it is important to consider research from other cities that have implemented similar low- and no-car streets and impacts to business success in particular.

The table beginning on page 2 includes research from the last 15 years that analyzes the impacts of pedestrian- and bicycle-friendly streets on local businesses. It should be noted that several of the studies reviewed were written ten years ago or more. While no place will be exactly comparable to Bend, this research will help the City better understand the types of low-car streets that may be appropriate, where they should be located, and what policies should be in place to support local businesses and ensure continued economic vibrancy.

Existing Studies

Major Takeaways

Most of the existing studies on people streets focus on complete street improvements in larger cities. These differ from no-car streets, as they typically allow for a variety of modes including cars. However, complete street improvements generally replace some space previously dedicated to cars, such as lanes or parking, with pedestrian or bike infrastructure. The impacts of investments aimed at shifting mode dominance from cars to walking and rolling vary depending on location, context, and how these changes are implemented. However, there are some common themes within the existing literature on the business impacts of people streets:

- Increasing the number of bikes and pedestrians typically has a positive impact on retail sales even if there is a decrease in car traffic.
- Infrastructure that prioritizes bikes and pedestrians typically has a neutral to positive effect on existing businesses in established retail centers. Food and beverage businesses typically see the biggest positive impact.

- Replacing some parking with bike infrastructure does not typically have a negative impact on retail sales, but the impacts can differ for different types of businesses.
- Retail properties in walkable areas typically have higher values and lower vacancy rates than those in less walkable areas.
- People who walk, bike, and take transit to retail areas typically spend less per trip but make more frequent trips, leading to higher spending over time.
- Demographic shifts in urban areas are creating higher demand for walkable streets and active transportation networks.
- Housing within walking distance is an important component for the success of people streets.
- Pedestrian and bike infrastructure generates more jobs per dollar spent than auto infrastructure both during construction and afterward, as they are more financially productive per acre.

Literature Review

Resource	Category	Key Takeaways	Applicability	Limitations
<u>"A Historical Inquiry into the Failure of Eugene's Pedestrian Mall Strategy to Revitalize the Retail Core, 1971-2002"</u> – University of Oregon, 2021	Pedestrian infrastructure	<ul style="list-style-type: none"> • The Eugene pedestrian mall's failure was due to a combination of high vacancy rates, low visibility, poor design, market timing, and wayfinding challenges as well as competition from a new indoor shopping center nearby 	The conditions of Eugene in the 1970s were very different from Bend today, but the lessons learned can help guide Bend's policy decisions.	The pedestrian mall was built in Eugene at a time of urban renewal demolitions, which is a much different context from the strong growth Bend is seeing today.
<u>"Why Walkable Streets Are More Economically Productive"</u> – Strong Towns, 2018	Pedestrian Infrastructure	<ul style="list-style-type: none"> • Walkable places attract more business activity and raise property values • Transit users and walkers spend more money per month than drivers because they make more visits • People-oriented streets are more financially productive per acre 	This article includes a review of multiple studies on the impacts of walkability on a variety of business metrics.	While some of the examples are from smaller cities, such as Des Moines, IA and Redlands, CA, others are from larger, more transit-oriented cities like San Francisco.
<u>"Cities Alive: Towards a Walking World"</u> – ARUP, 2016	Pedestrian Infrastructure	<ul style="list-style-type: none"> • This report identifies 16 benefit categories of walkable streets, including benefits to the local economy, social cohesion, safety, and livability • Data from Transport for London finds that pedestrians spend 65% 	This study identifies a wide variety of benefits of pedestrian-friendly streets, including economic benefits.	Most of the studies cited within the report are from Europe or large North American cities, which are typically less car-dependent and built at higher residential densities than in Central Oregon.

Resource	Category	Key Takeaways	Applicability	Limitations
		<p>more at retail shops than drivers</p> <ul style="list-style-type: none"> Barcelona's public space policy led to a 335% increase in annual visitors 		
<p><u>"Business Performance in Walkable Shopping Areas"</u> – Active Living Research, 2013</p>	Pedestrian Infrastructure	<ul style="list-style-type: none"> Retail properties with higher walk scores are valued at a significant premium over those in less walkable areas The positive impacts of walkability on retail are predominantly seen where there is housing withing walking distance Pedestrian-oriented areas (defined by their accessibility, friendliness to pedestrians, and mix of uses) "import" shopping trips – retail in these areas supports demand three to four times that of the resident base Bicycle infrastructure can reduce auto trips to an area, but this reduction does not lead to a decrease in retail sales Demographic shifts are leading to a higher demand for walkability 	<p>This report includes a review of existing research from academic sources as well as retail and business experts. It primarily focuses on low-car streets rather than no-car streets.</p>	<p>The report does not discuss the impacts of harsh weather or seasonality on walkable retail.</p>
<p><u>"The Business Case for Active Transportation"</u> – Go for Green, 2004</p>	Pedestrian Infrastructure	<ul style="list-style-type: none"> In cities throughout the US and Europe, pedestrian areas resulted in an increase in retail sales. Cities surveyed include smaller places like Atchison, KS and Kalamazoo, MI as well as much larger cities like London, UK Durham, NC saw a decrease in retail sales and asked the city to re-introduce bus traffic 	<p>The large number of cities surveyed show mixed results, though very few saw negative impacts of pedestrianization. The survey includes some cities close to Bend's size, with similar attributes.</p>	<p>This study is 20 years old, it is not clear whether these positive trends have continued.</p>
<p><u>"Economic Impact Study of Bike Lanes"</u></p>	Bike Lanes	<ul style="list-style-type: none"> Bike lane implementation led to increased customer 	<p>Both of these bike lanes were added in</p>	<p>Toronto is a much larger, more</p>

Resource	Category	Key Takeaways	Applicability	Limitations
<u>in Toronto's Bloor Annex and Korea Town Neighborhoods</u> – Toronto Centre for Active Transportation, 2019		<p>counts on the streets with bike infrastructure</p> <ul style="list-style-type: none"> • Visitor spending at retail stores along bike lane increased • Vacancy rates did not increase • Parking difficulty increased but visitors could still find parking easily 	existing commercial areas, rather than within new commercial developments.	pedestrian- and bike-oriented city than Bend. These streets were not plaza or no-car streets, on-street parking remained on one side of the street.
<u>"300 South Progress Report"</u> – Salt Lake City DOT, 2015	Bike Lanes	<ul style="list-style-type: none"> • Street redesign in Downtown Salt Lake City to include a protected bike lane, median islands, crossings, planters, art and colored pavements led to retail sales increases of nearly nine percent along the project area compared with seven percent citywide • Just five percent of businesses saw a reduction in sales • One year post-implementation, nearly 60 percent of businesses were supportive of the changes 	The bike lane required the removal of 30 percent of parking along the corridor, with just a handful of businesses negatively impacted (the study did not specify which types of businesses were impacted negatively).	Not all parking was removed, this is still a primarily car-centric street, though space for cars has been significantly reduced.
<u>"Protected Bike Lanes Mean Business"</u> – PeopleForBikes, 2014	Bike Lanes	<ul style="list-style-type: none"> • The addition of bike lanes helps fuel redevelopment and boost real estate values, helps attract talented workers, and increases retail visibility and sales volume 	The study was based on businesses in a variety of sectors and in major cities throughout the country, including smaller retail businesses.	The retailers interviewed operate in larger cities, including Portland, San Francisco, Chicago, and Austin.
<u>"Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts"</u> – Political Economy Research Institute, 2011	Pedestrian & Bike Infrastructure	<ul style="list-style-type: none"> • Bike and pedestrian infrastructure generate more jobs (direct and indirect) per million dollars spent than road projects • This pattern holds true across the 11 US cities evaluated in the study 	This report shows that across cities nationwide, pedestrian and bike infrastructure is more cost effective than road building that prioritizes cars.	This study was conducted in 2011, when the US economy was in a recession. The impacts may be different under

Resource	Category	Key Takeaways	Applicability	Limitations
				current economic circumstances.
<u>"How Making Cities More Pedestrian-Friendly Can Revitalize Local Economies"</u> – Emory Economics Review, 2023	Complete Streets	<ul style="list-style-type: none"> In Lancaster, CA, a major street redesign downtown led to a doubling of pedestrian activity and associated doubling of retail revenue. It also spurred investment in 57 new businesses. 	Lancaster, CA is a historically auto-dependent suburb in the Los Angeles metro area. Its street redesign included parking in the middle of the street to narrow travel lanes and slow traffic.	Lancaster does not have the same winter weather challenges as Bend, parking was not reduced significantly.
<u>"An Economic Summary on the Benefits of Complete Streets"</u> – University of Nevada Las Vegas, 2021	Complete Streets	<ul style="list-style-type: none"> Complete streets increase active transportation, improve safety, and have a positive economic impact on communities Complete streets help attract new investment Walkability is associated with market value increases for office, retail, and residential properties 	The study cites outcomes in a variety of cities to understand the holistic impacts of complete street implementation.	The goal of the study is to determine whether complete streets would be a good fit for Clark County, NV – home to Las Vegas – which has a different weather and tourism context to Bend.
<u>"Understanding Economic and Business Impacts of Street Improvements for Bicycle and Pedestrian Mobility"</u> – Portland State University, 2020	Complete Streets	<ul style="list-style-type: none"> Case studies show that complete streets can have a positive or neutral impact on retail sales Positive impacts on job growth are stronger for food service than other retail 	The study uses case studies in Portland, San Francisco, Minneapolis, and Memphis to analyze the economic impacts of complete street implementation on local retail businesses.	In some cases, it is not entirely clear whether the complete street implementation is primarily responsible for the increase in retail sales
<u>"Economic Benefits: Activity-Friendly Routes to Everyday Destinations"</u> – Smart Growth America, 2020	Complete Streets	<ul style="list-style-type: none"> Streets designed for increased pedestrian and bike activity led to a significant increase in property and sales tax revenue These street improvements also led to increased retail and food sales even with motor 	The information in this brief is based on recent sources and is specifically focused on the impacts of complete streets on local retail businesses.	This information sheet includes a per cost analysis of jobs gained per million dollars spent on infrastructure, finding that lower cost bike and pedestrian

Resource	Category	Key Takeaways	Applicability	Limitations
		vehicle lane or parking reductions <ul style="list-style-type: none"> Additional economic benefits include new jobs, businesses, investment, and tourism revenue 		infrastructure packs a greater economic punch.
<u>"Safer Streets, Stronger Economies"</u> – Smart Growth America, 2015	Complete Streets	<ul style="list-style-type: none"> Implementation of complete streets increased employment levels within one to two blocks as well as increases in the number of businesses and retail revenues. 	The study includes data from 22 communities including small to large cities where complete streets were implemented rather than just one city.	Not all of the cities studied reported data, though reported data was supplemented with Census data in these cases. Complete streets may not be directly applicable to no-car or low-car streets.
<u>"Measuring the Street: New Metrics for 21st Century Streets"</u> – New York City DOT, 2012	Complete Streets	<ul style="list-style-type: none"> The 8th & 9th Avenue bike lanes in NYC generated a 49% increase in retail sales among 9th Avenue businesses The Union Square North pedestrian plaza resulted in 49% fewer commercial vacancies, even as citywide vacancy increased by 5% Pearl Street in Brooklyn generated 172% increase in retail sales 	This report evaluates a variety of recently implemented street improvements, including bike lanes, bus lanes, and pedestrian plazas, and finds significant benefits to local retail establishments.	New York is a much larger, more pedestrian-oriented city than Bend
<u>"The Inclusive Economic Impacts of Downtown Public Space Investments"</u> – Brookings, 2021	Placemaking	<ul style="list-style-type: none"> Public spaces can help with economic revitalization Public space investments can attract other public and private investment Investments in place can help attract more visitors 	The article is based on a body of existing research showing the benefits of placemaking improvements.	The cities included in this analysis (Albuquerque, Buffalo, and Flint) have different challenges than Bend, where the downtown area is already successful.
<u>"Shared Micromobility Policy Toolkit: Docked and Dockless Bike and"</u>	Bikesharing	<ul style="list-style-type: none"> Nice Ride Minnesota bikeshare users generated \$29,000 in new economic activity at local businesses per season 	This includes an analysis of existing literature on the impacts of bike-sharing, which	This study is specifically about bike- and scooter-share, not bike

Resource	Category	Key Takeaways	Applicability	Limitations
<u>Scooter Sharing</u> – UC Berkeley, 2019		<ul style="list-style-type: none"> Increased spending was primarily at food-related businesses 	indicates that bike accessibility encourages more trips and more spending at local retail.	infrastructure like lanes and plazas.