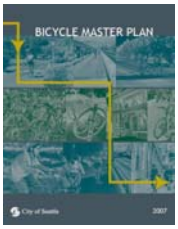
seattle bicycle master plan

Increasing Access to Bicycling
Seattle Bicycle Master Plan Update
State APA Conference
October 3, 2013

SDOT

What is the Bicycle Master Plan?



- A blueprint for making improvements to Seattle's bicycle network since adoption in 2007
- Two goals:
  - Triple the amount of bicycling between 2007-2017
  - Reduce the rate of bicycle collisions by one-third between 2007-2017
- Focused on completing the urban bicycle trail system and expanding on-street bicycle facilities

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Why update the BMP?

- The plan assumed an update after five years (timeline of the plan is 2007-2017)
- City Council wanted to incorporate best practices in safety and design
- ***Include new types of bicycle facilities***
  - ***Focus on a more dense, intra-neighborhood bike network (neighborhood greenways)***
  - ***On-street separated bicycle facilities (cycle tracks)***
  - ***Intent is to attract a broader segment of people to ride a bicycle***
- Interest in a more data-driven method to identify facility needs and priorities (similar to other modal master plans)

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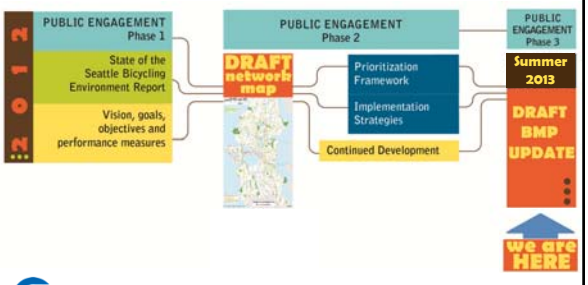
Biking: part of a growing Seattle

100,000 new residents and 100,000 new jobs in Seattle over the next 20 years

BMP Update Roadmap



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Early Public Engagement

Question:
Based on your experience, which Seattle streets are best to ride?

Early Public Engagement

Question:
Based on your experience, which Seattle streets are worst to ride?

Early Public Engagement

"I ride my bike fairly frequently. I wear lots of flashing lights. I consider myself pretty experienced on a bike and **I still worry constantly about my safety.**"

"Hands down, **the main reason I don't ride my bike year round and to more distant neighborhoods is safety.** It gets stressful dealing with traffic, loose gravel and potholes, one-way streets, and parked car doors opening into the bike lane."

"I used to ride my bicycle a lot but **now I am a parent and quite frankly, I don't feel comfortable putting my life at risk.**"

Phone Survey	Online Survey: Frequent cyclists	Online Survey: Interested but concerned	Online Survey: Do not ride
1. Weather 2. **Don't feel safe riding** 3. Not that interested in riding more often 4. Hilly terrain	1. Weather 2. Travel time/distance to my destination 3. I have too many things to carry 4. **Unlawful/unsafe motorist behavior**	1. **I do not feel safe riding a bike** 2. Weather 3. **Unlawful/unsafe motorist behavior** 4. Hills	1. Less convenient than other options 2. Weather 3. Hills (topography) 4. **I do not feel safe riding a bike**

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Public Engagement on Draft Plan

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Policy Framework: Vision and Goals

Vision:

Riding a bicycle is a comfortable and integral part of daily life in Seattle for people of all ages and abilities.

Plan Goals:

1. ***Ridership: Increase bicycle ridership and mode share for all trip purposes***
2. ***Safety: Improve safety***
3. ***Connectivity: Create a network that connects to places people want to go***
4. ***Equity: Provide equal cycling access for all***
5. ***Livability: Build vibrant and healthy communities***

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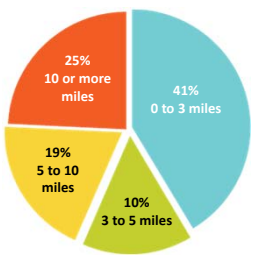
Policy Objectives

Encourage more total trips by bicycle



National Averages of Personal Trip Length

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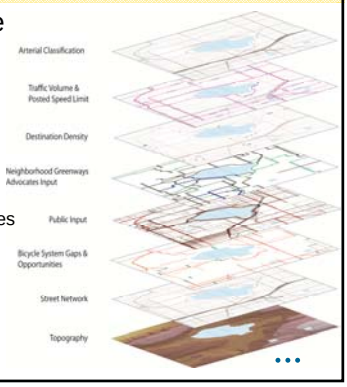
Draft Network Map Development

Network map update approach

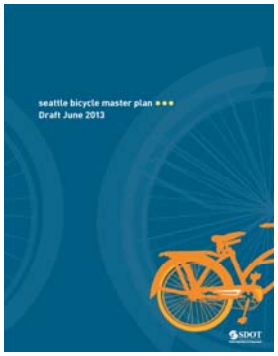
Data and inputs:

- 2007 BMP recommendations
- Gap analysis
- Identified opportunities
- Demand/land use destinations
- Topography
- Public input
- Policy framework



Public Review Draft

- Draft Plan released for public review on June 5
- First publication of a complete integrated product
- Plan still in draft form
  - SDOT reviewing draft comments
  - Considering revisions to the plan, including the network map



Bicycle Network Map

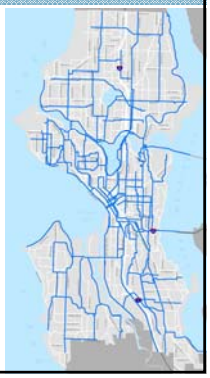
Destination Clusters Map

- Key Element of Plan Network Map; based on key land use categories:
  - Major employment sites
  - Universities and schools
  - Transit hubs
  - Neighborhood business districts
  - Parks, community facilities
  - Other

Bicycle Network Map (cont.)

Citywide Network:
- ***"All ages and abilities" bicycle facilities that connect key destination clusters***
- ***Cycle tracks, multi-use trails and neighborhood greenways***

Local Connections:
- Bicycle facilities that connect to the citywide network or serve local destinations
- Neighborhood greenways, bike lanes, buffered bike lanes, shared lanes



What is a cycle track?

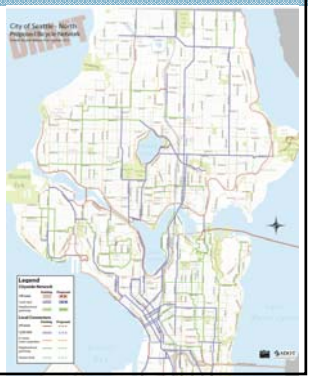
Cycle tracks provide separation between people riding bicycles and other vehicle traffic and can be designed in a variety of ways

Neighborhood Greenways

Residential streets that are optimized for pedestrians and bicycles—a major component of the plan

Bicycle Network Map

Seattle Bicycle Network Map (north)



Bicycle Facility Visual Glossary

- Simple, clear illustrations
- Brief description and purpose of facility
- Bicycle facilities, signage, bicycle parking
- Not intended to be detailed design standards
- May be used for educational purposes


Neighborhood greenway


Cycle track

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Bicycle Facility Visual Glossary (cont.)

- Glossary includes intersection designs and treatments
- Provides options for intersection treatments
- Consistent use of intersection design increases predictability and visibility of all modes


Bicycle forward stop bar


Two-stage left turn box

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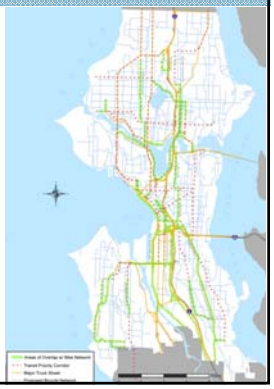
Multimodal Corridors

- Multimodal corridors are where a proposed bicycle facility is on the same street as:
  - Priority transit corridors
  - Major Truck Streets
  - Other plan priority corridors
- Draft plan includes a multimodal corridor decision-making process



End of Trip Facilities

- Parking in the public right of way and Bicycle Spot Improvement Program
  - Parking demand in public ROW
  - Bicycle racks
  - On-street bicycle corrals
- Seattle Municipal Code changes
- Bicycle parking at transit stations
- Temporary (event) parking
- Abandoned bicycles


On-street bicycle corral


Secure Bicycle Parking


Bike Racks and Lockers

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Programs: A necessary component to increase access to bicycling

Plan lays out strategies and actions to support bicycling:

- Safety, education, encouragement

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Prioritization Framework

Theme	Criteria Definition
Improve SAFETY	Addresses location with bicycle collision history.
	Enhances bicyclist safety by promoting travel on streets with lower speeds and volumes.
	Addresses locations or streets that are associated with more severe collision potential.
Increase RIDERSHIP	Provides a connection to destination clusters.
	Provides a connection to areas with high population density.
Address EQUITY	Serves populations that are historically underserved
Enhance LIVABILITY	Provides a health benefit for people in areas with the greatest reported health needs
	Reaches the greatest number of riders
Enhance CONNECTIVITY	Removes a barrier or closes a system gap in the bicycling network.
	Makes a connection that will immediately extend the bicycle network.

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Draft Bicycle Master Plan: Next Steps

- SDOT working on final plan to recommend to City Council; revising based on public comments
- Release of final recommended plan, review, Council approval likely in late 2013
- Draft plan is already being used to help drive implementation
  - Neighborhood greenways under development
  - Project development and design of downtown cycle tracks will begin later this year

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Bicycle Master Plan: Key Takeaways

- State of the art on bicycle planning and design is changing very fast—expectations for what makes for an adequate facility is have changed
- Public engagement is hugely important but challenging:
  - Very divergent opinions on the importance of providing bicycling facilities
  - Need to talk to broad groups of stakeholders, not just cycling advocates
  - Need to frame the issues around safety, improved quality of life (plan for all, not just avid cyclists)
  - Need to be clear about difference between planning and project development/implementation

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Questions/Discussion

Review the Draft Plan:

www.seattle.gov/transportation/bikemaster.htm

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Bringing Bike Sharing to King County in 2014

What is Bike Sharing?

Bike sharing is public transportation by bike.

- Densely located network of stations
- Meant for short trips
- Easy to use
- Easily accessible

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How does it work?

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What does it look like?

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What does it look like?

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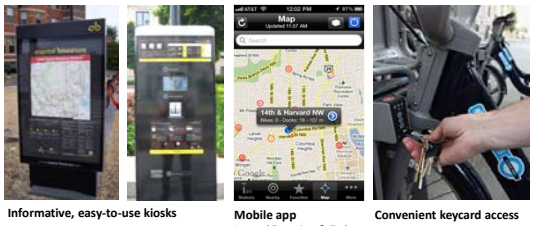
What does it look like?



Informative, easy-to-use kiosks

Mobile app
Locates bike stations & displays bike & bike dock availability.

Convenient keycard access

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Bike Share in King County

Phase	Stations*	Bikes	Location	Launch
1a	50	500	Downtown, South Lake Union, U-District, Capitol Hill	2014
1b	60	600	Increased density in initial area and expansion into high demand areas (Fremont, Wallingford, etc.)	2015
2	50	500	Further expansion of Phase I in Seattle	2016
3	60	600	Kirkland, Bellevue, Redmond	2017
TBD	TBD	TBD	Microsoft Campus, other areas of the County	TBD
TOTAL	**220**	**2,200**		

***Density = 1 station every 1,000 to 1,300 feet**

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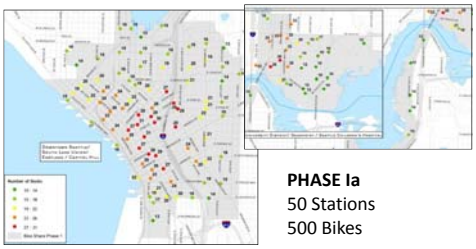
Phase Ia Station Locations

Downtown - South Lake Union - Capitol Hill - U-District



PHASE Ia
50 Stations
500 Bikes

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Bike Sharing is everywhere

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Why the popularity?

- Healthy
- Sustainable
- Extends the reach of public transit
- Makes biking easily accessible, THEREFORE…

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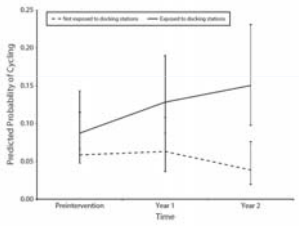
…people are more likely to try biking.



Bixi, Montreal. January 2012

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In fact…

Bike store owners say bike sharing is actually helping their businesses by fueling an explosion in bicycling enthusiasm.

"From A to B: Bike Shop Owners See Big Returns from Capital Bikeshare." *Metro Connections, WAMU 88.5* June 29, 2012

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MORE BIKES ON THE ROAD

=

SAFER CONDITIONS FOR ALL!

* Overall, cities with a high bicycling rate among the population generally show a much lower risk of fatal crashes for all road users when compared to the other cities in our database.

"Evidence on Why Bike-Friendly Cities are Safer for All Road Users." *Environmental Practice* April 2011

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SAFER CONDITIONS

=

MORE RIDERS! MORE DIVERSITY!
THE MAINSTREAMING OF BIKE CULTURE

Cascade Bicycle Club Poll, January 2013

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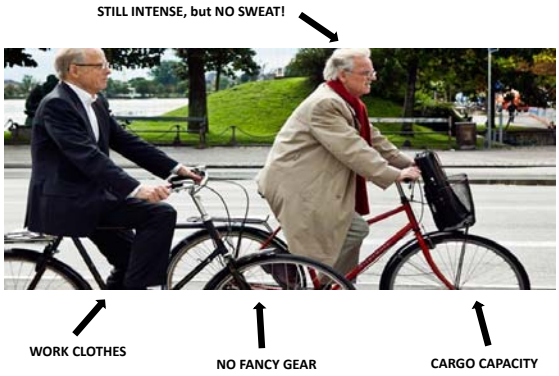

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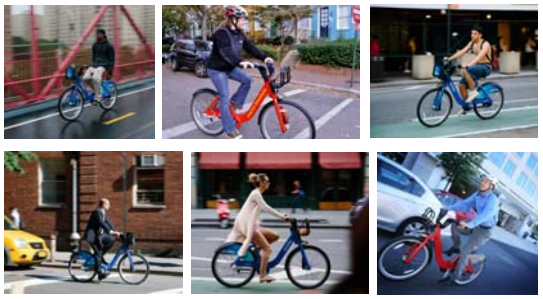

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Can Bike Share be Successful in Small Cities?

YES! With community support, good leadership, effective partnerships and a focus on the following areas:

TRANSIT HUBS

MAJOR CORRIDORS: This necessitates infrastructure improvements, but the payoff could come in the form of decreased traffic along these routes.

BUSINESS & RETAIL DISTRICTS: Main streets and shopping areas exist in the suburbs too, but are often just a bit too far from transit centers for the causal walker. Bike sharing fills in the gaps of local bus networks and encourage a safer environment in those areas.

CAMPUSES

JOB CENTERS: The "last mile" commuter issue is most poignant at a suburban office park. Generally secluded from transit stops, office parks could benefit from bike sharing, encouraging commuters to explore car-free methods combining mass transit and biking.

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What are the benefits?

- A low-cost solution to attract young talent and enhance the existing transportation network.
- Re-orients the community into one that's more environmentally friendly, sustainable, and attractive to both residents and future businesses.

"Bike-friendly cities are the ones that are going to advance in this new economy. If we want to attract and retain the right kind of jobs and entrepreneurs to our city, becoming more bikeable is critical." – Mayor Stanton, Phoenix, AZ

Chattanooga, TN
32 Stations/300 Bikes
171,279 Population

Boulder, CO
22 Stations/150 Bikes
97,385 Population

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Sample Start-Up Costs - Kirkland

Cost per Station (including installation) = $65,000*
Annual Operating Cost per Station = $20,000

* Includes helmet vending machines

System Start-Up Costs (approx.) = **$1.2 million**
$975,000 (stations) + $180,000 (bikes) + $45,000 (admin, marketing, insurance, etc.)

Annual Operating Costs (approx.) = **$300,000**

- Spacing = 1,300 ft.
- Stations = 15
- Bikes = 150
- Area Covered = 1.4 sq. mi.

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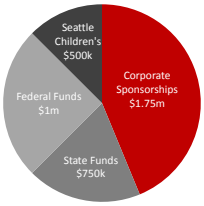
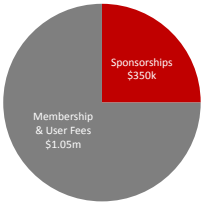
Phase Ia Funding Sources

Phase I System Launch
Total = $4 million



YR 1 Operating Costs
Total = $1.4 million



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Partner Organizations

SDOT · King County METRO "We'll Get You There" · University of Washington · Seattle Children's · REI · Microsoft · Washington State Department of Transportation · City of Kirkland · SoundTransit · Puget Sound Regional Council PSRC · Cascade bicycle club · City of Redmond · Graham & Dunn PC · Waggener Edstrom Worldwide

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Next Steps for PSBS

- Identify corporate sponsors
- Determine station locations
- Finalize City permitting process & siting guidelines
- Develop system branding
- Phase I launch in spring 2014

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Bicycling in the Burbs

American Planning Association
Washington Chapter Conference
Bellevue, Washington
October 3, 2013

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- Context
- Past
- Present
- Future
- Case Studies

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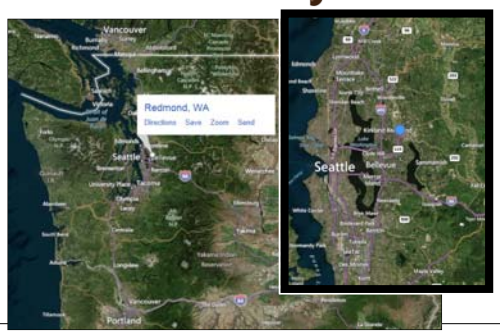
Context: Suburban City



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Context: Suburban City

- Built Environment
  - Redmond built out between 1960 and 2000
  - Typical suburban land use and transportation patterns
- Bicycle Culture
  - Strong racing and recreational bicycling culture push desire to be a bicycle city
  - No major bicycle oriented uses like a university

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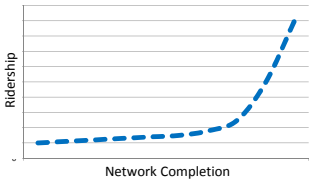
Past: Experience

- City built bicycle lanes on high speed, volume arterials and recreationally oriented shared-use paths
- Limited ridership results until significant network completion



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Past: lessons learned

- Need low stress network to provide safety and generate ridership
- Network needs to :
  - Connect to destinations (often most expensive connections)
  - Be complete – Any gaps represent significant barriers
- Tip Build the bicycle network opportunistically as system expansion and preservation occur AND complete bicycle challenging connections to destinations

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Past: Success

- Regional shared-use path network links to Downtown and Overlake
  - Seeing modest numbers of regional bicycle trips
  - Missing last mile connections to destinations

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Present

- Recently completed improvements through extremely challenging areas of Downtown
- Increased emphasis on standard bicycle related design on all projects
- Now becoming commonplace to see bicycles in Downtown

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Future: TMP Update

- Adopted 2013 Transportation Master Plan update
- Implement Community Vision
  - Focus on tying land use and transportation together

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Future: TMP Update

- Bicycle Approach
  - Complete, connected spine network of safe, high comfort cycling facilities that ties to most important land uses
  - Dense, connected citywide bicycle lane network
  - Supporting programs and facilities

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Case Studies of Transformation Spine Network

- Spine network
  - Shared-use paths, cycle tracks, bicycle boulevards/greenways
- Example 1 – Redmond Central Connector

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Case Studies of Transformation Spine Network

- Example 2 – Upgrade bicycle lanes on high speed, high volume roadways that have no alternative routes

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Case Studies of Transformation
Spine Network

- Example 3 – Bicycle Boulevard
  - Proposed 171st/172nd Ave bike boulevard

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Case Studies of Transformation
Spine Network

- Example 4 – Improve intersections

Before | After

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Case Studies of Transformation
Dense Network

- Bicycle lanes throughout City to form network that
  - Provides faster route option for more aggressive cyclists
  - Provides numerous alternatives to issue points (in Redmond this = hills)
- Example 1 – Providing alternative routes to tackle challenging areas

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Case Studies of Transformation
Dense Network

- Example 2 – Downtown over time
- Pre-1999
- 1999 through 2010
- 2011 through 2012
- 2013 through 2014

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Case Studies of Transformation
Supporting Programs and Facilities

- Bike Share
- Transportation Demand Management
- Bicycle Parking
  - Design Guidelines based on Association of Pedestiran and Bicycle Professionals, Bicycle Parking Guidelines, Vol. 2
  - Standard Engineering Details
  - Bicycle Parking Requirements in Zoning Regulations

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Overlake Village

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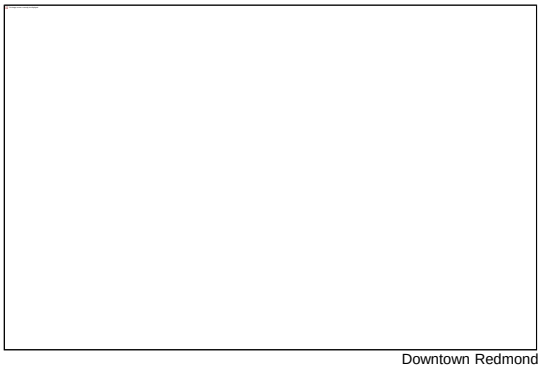

Downtown Redmond

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