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Bike Planning Methods in Oregon Communities

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Oregon Department of Transportation

Bike Planning in Oregon Communities

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With support from…Peter Schuytema, P.E.
ODOT Transportation Planning Analysis Unit

PSU Friday Seminar
February 21, 2014

Oregon Department of Transportation

Intermodal Oregon

"State departments of transportation aren't known for being the most progressive public agencies. But, in response to economic and demographic changes, Oregon's DOT (ODOT) is breaking the mold by embracing a multimodal transformation." – *Bike Portland 5/24/13*

Context:

Economic/demographic trends -- changing needs and behaviors

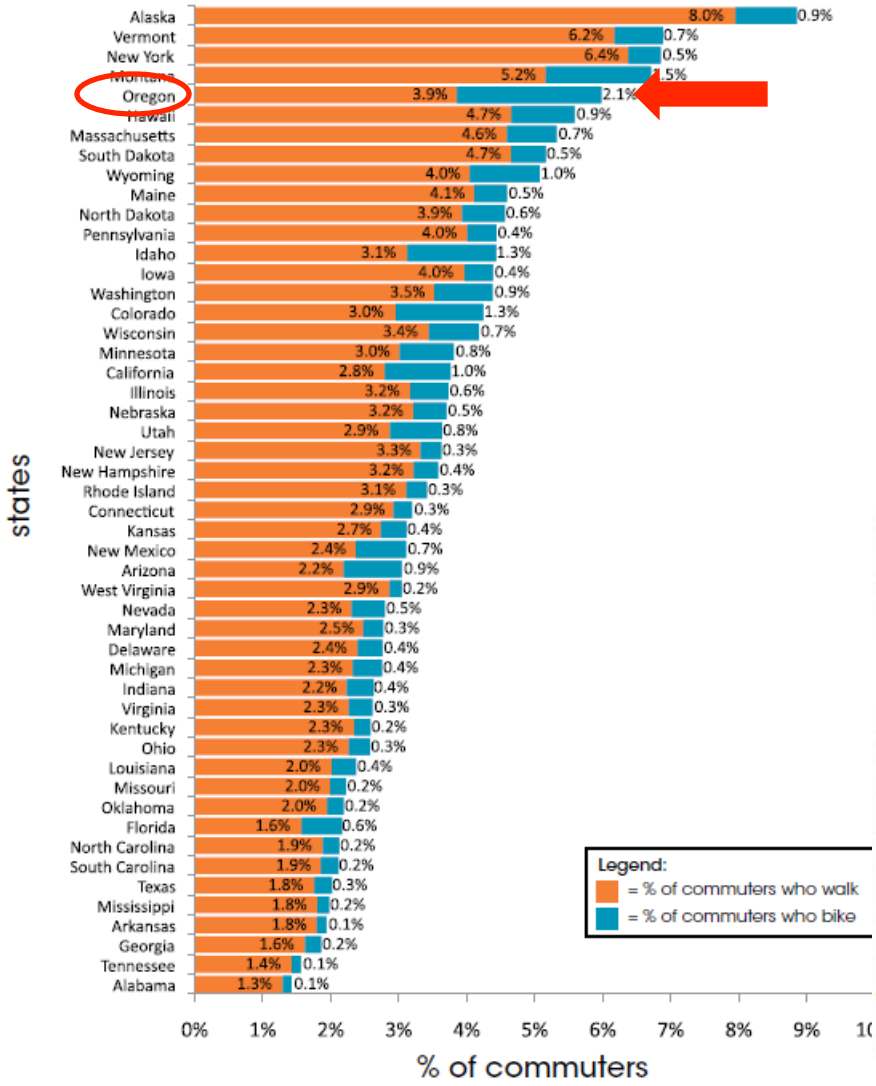
Funding -- constraints/decline

Change in Thinking:

Modal Silos Highway-Centric Built on mode-based funding	→	Multi-/Inter-modal (freight + person) Org structures, processes, policies Built on needs/functions

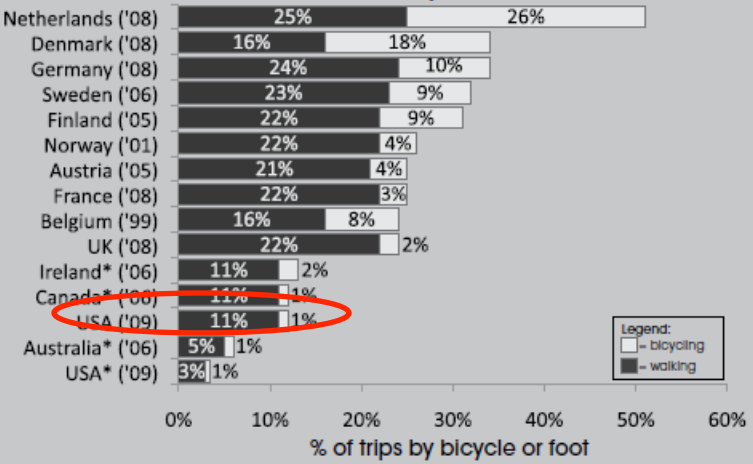
Coordinated decisions, research, change in thinking/functions across ODOT's modal divisions and within regional offices

Share of Commuters Who Walk and Bicycle in 50 States



Source: 2007-2009 ACS (3-year average) Note: For a discussion of the challenges with determining accurate levels of bicycling and walking, see Appendix 3.

Bike and Walk Share of Daily Trips in the USA, Canada, Australia, and 11 European Countries



Source: J. Pucher and R. Buehler, 2010. "Walking and Cycling for Healthy Cities," *Built Environment* 36(5), pp. 391–414. Note: * denotes for the worktrip only, while other country surveys are for all trip purposes.

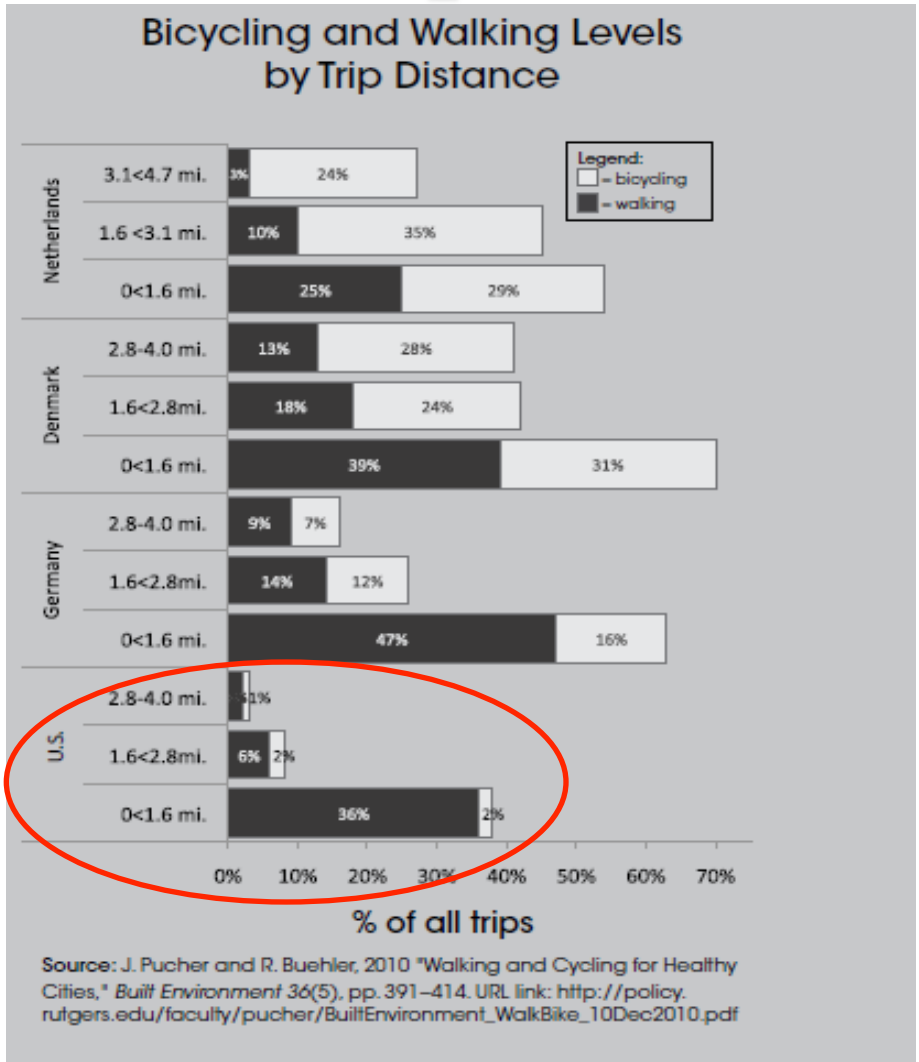
Top Ten Metro Areas for Commutes to Work by Bicycle:

(Numbers in thousands. For information on confidentiality protection, sampling nonsampling error, and definitions, see *www.census.gov/acs/www/*)

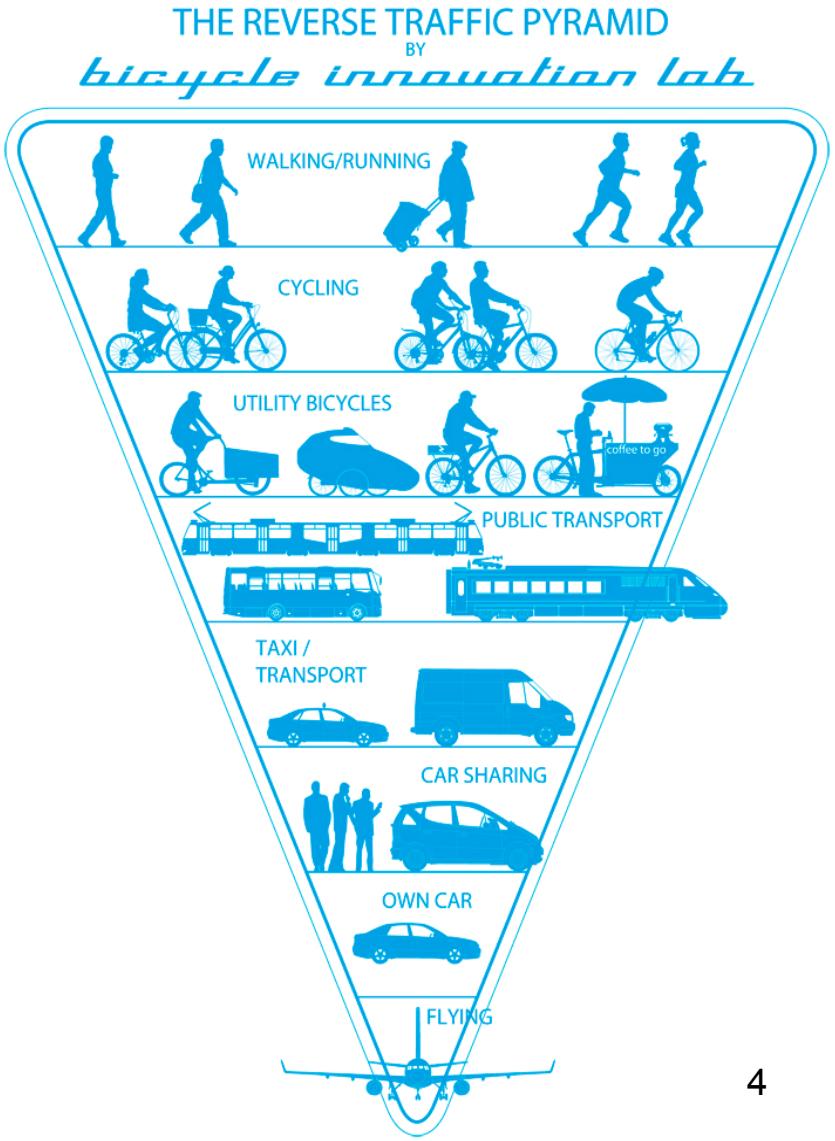
Metropolitan statistical area	Commuted by bicycle[1]	
	Percent	Margin of e
Corvallis, OR	9.3	
Eugene-Springfield, OR	6.0	
Fort Collins-Loveland, CO	5.6	
Boulder, CO	5.4	
Missoula, MT	5.0	
Santa Barbara-Santa Maria-Goleta, CA	4.0	
Gainesville, FL	3.3	
Logan, UT-ID	3.3	
Chico, CA	3.0	
Bellingham, WA	3.0	

Source: 2010 Oregon Household Activity Survey

Bicycling's Niche..... Short trips



Source: J. Pucher and R. Buehler, 2010 "Walking and Cycling for Healthy Cities," *Built Environment 36*(5), pp. 391–414. URL link: http://policy.rutgers.edu/faculty/pucher/BuiltEnvironment_WalkBike_10Dec2010.pdf



Need for Bike Planning/Analysis

1913 *ODOT Slogan*:

"*Get Oregon Out of the Mud"*

Goal:

Safe for all users

Connects you to where you want to go

How does ODOT Headquarters help

- Active Transportation Group (2011)
- Transportation Planning Group
- Transportation Planning Analysis Unit
  - Develops urban, regional and statewid[illegible]
  - Applies models to support:
    - ODOT policy analysis
    - Project development
    - Urban area transportation-land use planning
  - Performs complex planning analysis /projects
  - Review analysis work by consultants
  - A resource for State, Region Staff, and Consultants

ODOT Transportation Planning Analysis Unit (TPAU)

Using data
to support
decisions

ODOT's Analysis Procedure Manual (APM)

What: Methodologies and Best Practices for analysis of Oregon Transportation Projects

Why: Improve and standardize analysis

Who: Used by consultants on ODOT projects; Used by ODOT in analysis and project review.

- Continually updated to state of the practice
- Unique and praised nationally
- V1 (2006) Available On-Line; V2 underway

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Analysis Procedures Manual (APM)

About the APM

The Analysis Procedures Manual (APM) provides the current methodologies, practices and procedures for conducting long term analysis of Oregon Department of Transportation (ODOT) plans and projects.

A major update of the manual is currently in progress. APM version 2 will incorporate methodologies from sources such as the 2010 Highway Capacity Manual (HCM) and the Highway Safety Manual (HSM). As new chapters or sections of APM version 2 are completed, they will be published on this webpage, and APM version 1 will be modified to refer to the version 2 procedures.

The APM does not establish any accepted or preferred software. Any analysis software is acceptable as long as it is consistent with the current APM and HCM.

Announcements

The APM has been updated. Please see the August 2013 Change Sheet and December 2013 Change Sheet for what has changed.

APM User Group

The Analysis Procedures Manual User Group (APMUG) is open to all interested parties either internal or external to ODOT. For information on APMUG, see the Analysis Procedures Manual User Group (APMUG) Guidelines. If you are interested in joining the group, contact Doug Norval.

http://www.oregon.gov/ODOT/TD/TP/Pages/Tools.aspx

APM Documents

APM Version 1

APM Version 1 - All chapters - 6.3MB

Appendices

Appendix A - Resources

Appendix B - Glossary

Appendix C - ODOT Traffic Engineering Authority

Appendix D - Sample Count Request and Sample ODOT Counts

Appendix E - Procedure for Analysis and Design of Weaving Sections, A User's Guide

Appendix F - Example Narratives

- F.1 US 97 Bend North Corridor Solutions Project (Example of a System Project) (Report) (Report Appendices)
- F.2 Constitution Area Refinement Study (Example of a Point Project)
- F.3 US 199 Expressway Upgrade Project (Example of a Linear Project)

Appendix G - Example Tech Memos

- G.1 Fern Valley Interchange Existing Conditions Tech Memo (Report) (Figures)
- G.2 Constitution Area Refinement Study Future No-Build Tech Memo (Report) (Figures)
- G.3 Grandview - Nels Anderson Traffic Analysis Technical Memo (Report) (Figures)

Appendix H - Forms

- H.1 Field Inventory Worksheet
- H.2 Saturation Flow Rate Data Collection Form
- H.3 Preliminary Traffic Signal Warrant Analysis Form
- H.4 Noise, Air and Energy Traffic Requirements Checklist

APM Version 2 (In Progress)

New chapters of APM V2 are posted here as they are completed.

APM Version 2 - All Chapters - 3.8MB

Individual Chapters

Preface

Chapter 1 - ODOT Information

Chapter 2 - Scoping Projects

Chapter 3 - Transportation System Inventory

Chapter 4 - Safety

Chapter 5 - Developing Existing Year Volumes

Chapter 6 - Future Year Forecasting

Chapter 7- System Planning Analysis

Chapter 8 - Mesoscopic Analysis

Chapter 9 - Performance Measures

Chapter 10 - Analyzing Alternatives

Chapter 11 - Segment Analysis

Chapter 12 - Unsignalized Intersection Analysis

Chapter 13 - Signalized Intersection Analysis

Chapter 14 - Multimodal Analysis

Chapter 15 - Traffic Simulation Models

Chapter 16 - Environmental Traffic Data

Chapter 17 - Travel Demand Modeling

Chapter 18 - Operational Analysis

Chapter 19 - Traffic Analysis Documentation

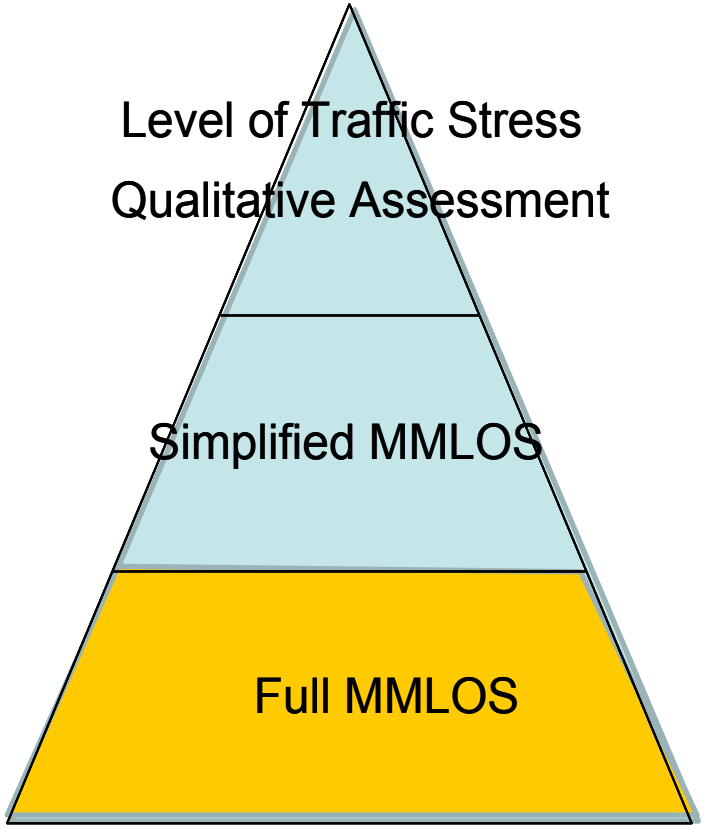
APM Multimodal chapter (draft)
Tiered Analysis Methods

Increasing Detail

"Planning"

"Operations"

"Design"



RTP
TSP/Corridor Plan

TSP/Corridor Plan
Refinement Plan
Project Screening

Refinement Plan
Project Development

Full MMLOS: HCM 2010 Bike LOS Equations

Link LOS

$$I_{b,link} = 0.760 + F_v + F_S + F_p + F_w$$

Bike Link LOS Score | Constant | Volume Factor | Speed Factor | Pavement Condition Factor | Cross-Section Factor

$$F_p = \frac{7.066}{P_c^2}$$

Pavement condition rating (1–5)

$$F_v = 0.507 \ln\left(\frac{v_{ma}}{4\ N_{th}}\right)$$

Adjusted midblock vehicle flow rate (veh/h)

Number of through lanes in travel direction

$$F_S = 0.199\left[1.1199 \ln(S_{Ra} - 20) + 0.8103\right](1 + 0.1038\ P_{HVa})^2$$

Vehicle running speed (>= 21 mi/h)

Adjusted percent heavy vehicles

HCM 2010 Overview & Multimodal Level of Service

Segment LOS (link+downstream intersection)

$$I_{b,seg} = 0.160\ I_{b,link} + 0.011\ F_{bi}\ e^{I_{b,int}} + 0.035\frac{N_{ap,s}}{(L/5280)} + 2.85$$

Bike Segment LOS Score | Bike Link LOS Score | Indicator Variable | Bike Intersection LOS Score | Number of access points on right side | Segment length (mi) | Constant

F_{bi} = 1 if signalized
F_{bi} = 0 if unsignalize

HCM 2010 Overview & Multimodal Level of Service

Intersection LOS

$$I_{b,int} = 4.1324 + F_w + F_v$$

Bike Intersection LOS Score | Constant | Cross-Section Factor | Vehicle Volume Factor

$$F_w = 0.0153\ W_{cd} - 0.2144\ W_t$$

Curb-to-curb cross-street width

Total width of outside lane, bike lane, paved shoulder

$$F_v = 0.0066\frac{v_{lt} + v_{th} + v_{rt}}{4\ N_{th}}$$

Motorized traffic volume in travel direction

Number of through lanes in travel direction

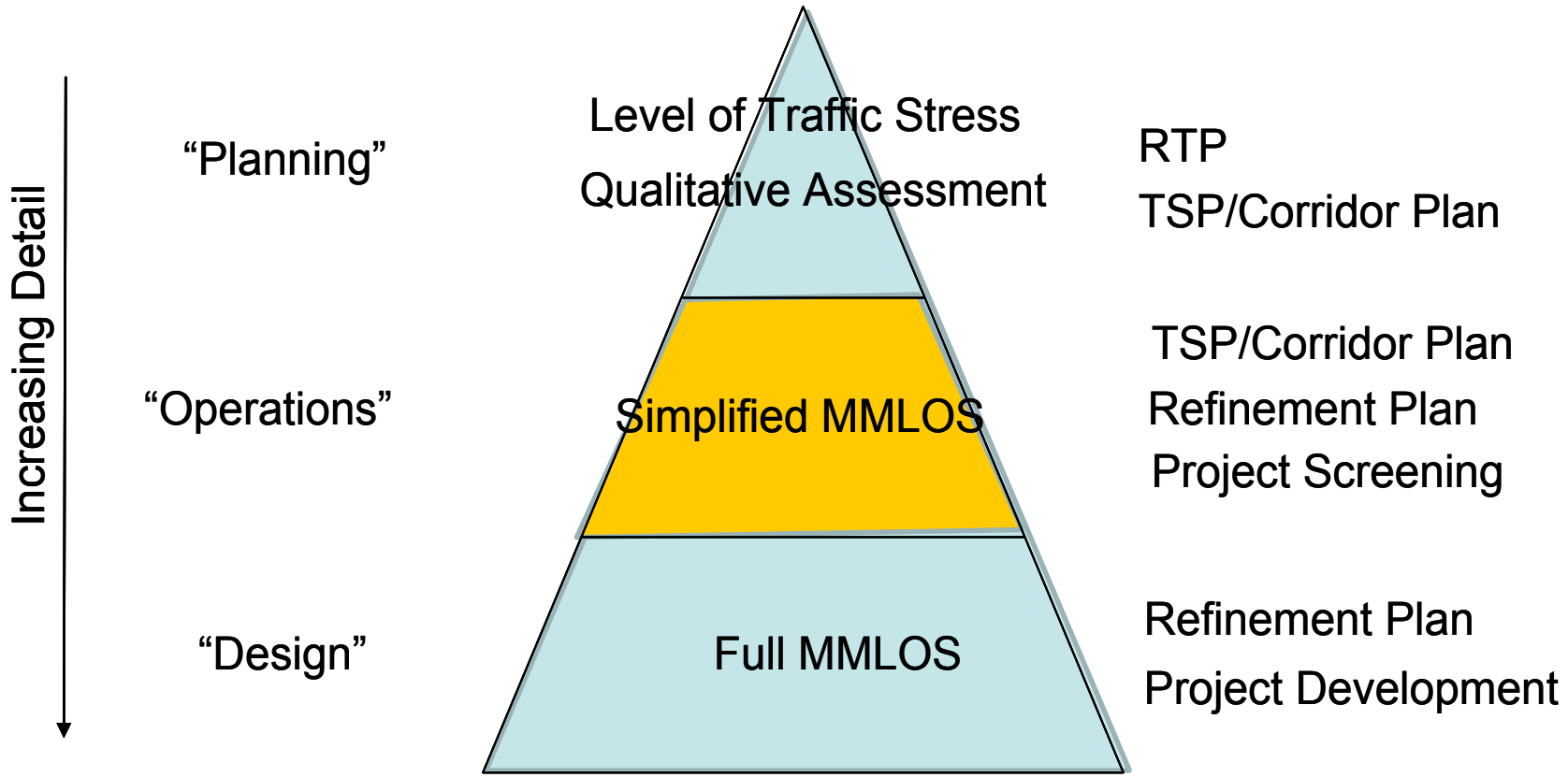
HCM 2010 Overview & Multimodal Level of Service

Results in LOS A-F for each element of the road/bike network

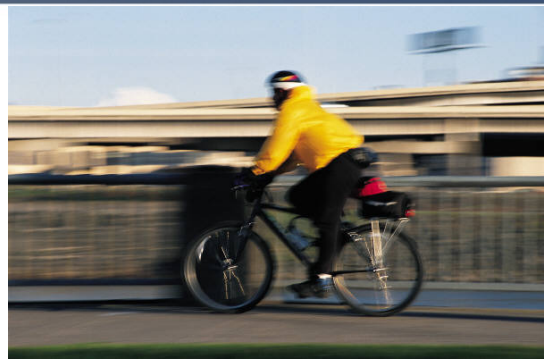
Full MMLOS : HCM 2010 MMLOS Data

Pedestrian	Bike	Transit
	Links/Segments	
▪Auto lane width ▪Bike lane/shoulder width ▪Buffers ▪Sidewalks ▪Auto volume/speed ▪Street crossing difficulty	▪Auto volume/speed ▪% Heavy Vehicles ▪Pavement condition ▪Bike Lane ▪Lane/shoulder width ▪On-street parking ▪Driveway density	▪Access (ped LOS) ▪Frequency/wait ▪Perceived travel time ▪Bus travel speed ▪Stop amenities ▪Late arrivals ▪Crowding/ld factor
	Intersections	
▪Permitted turns on red ▪Cross-street auto volume & speed ▪Crossing length ▪Ave Pedestrian delay ▪Channelization	▪ Through lane widths ▪Bike lane width ▪Cross-street width ▪Auto volume	Detailed Data Needed (including intersection distances)

APM Multimodal chapter (draft)
Tiered Analysis Methods



Simplified MMLOS



- 2010HCM/NCHRP3-70 Principal Investigators
- Most influential factors on Bike (& Ped) LOS
- Limited Data requirements:
  - Number of Traffic Lanes (1 or more)
  - Bike Lane Present
  - Speed Limit (30mph or higher)
  - Unsigned Intersection Conflicts per mile (0 or more)
- Calculates Bike **LOS A-F** score for network link

"Using Cumulative Logistic Regression Model for Evaluating Bicycle Facilities on Urban Arterials," Asma T. Ali, Cerasela M. Cristei, Aimee Flannery

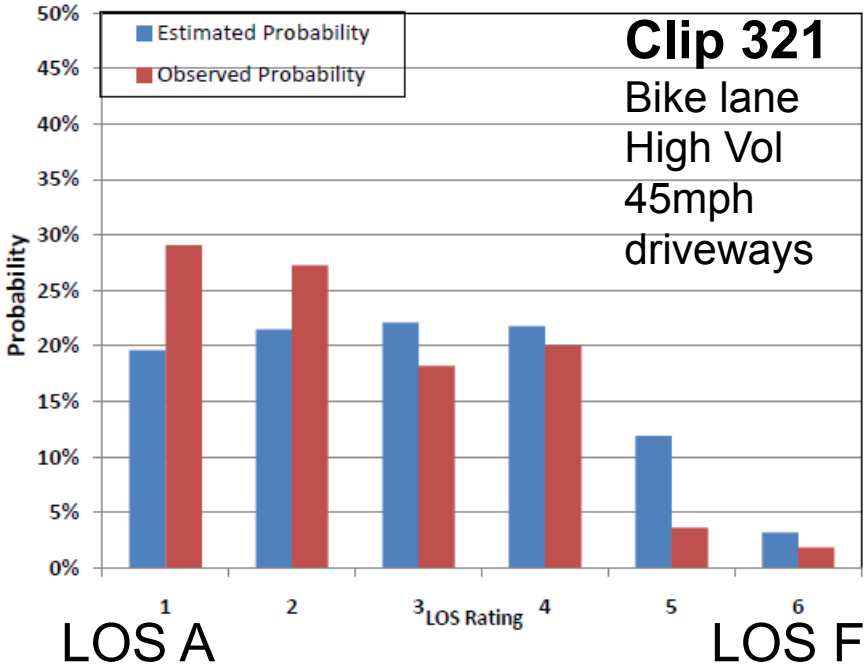
ODOT spreadsheet – simplified MMLOS

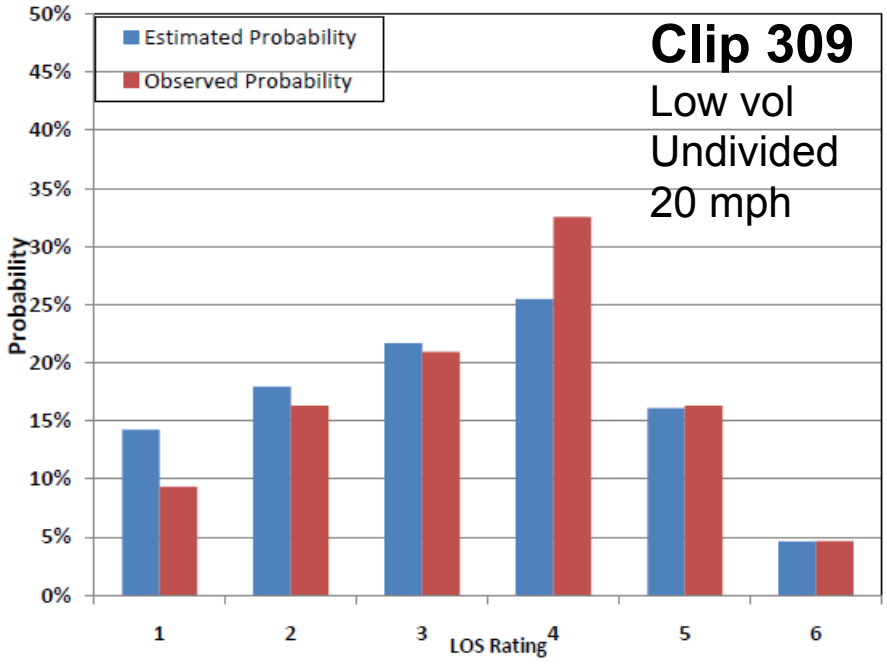
Step 1: Model		DF	Estimate	Standard Error	Pr > ChiSq
Intercept – LOS F	1	1	-4.69	0.41	0
Intercept – LOS E	2	1	-3.64	0.4	0
Intercept – LOS D	3	1	-2.74	0.4	0
Intercept – LOS C	4	1	-1.55	0.39	0
Intercept – LOS B	5	1	0.141	0.39	0.72
Number of Traffic Lanes		1	-0.644	0.15	0.004
Bike Lane Present		1	1.22	0.13	0
Speed Limit		1	-1.606	0.22	0
Unsign Intersection Conflict/mile		1	-0.421	0.13	0.001

	Test 1	Test 2	Test 3	Test 4	Test 5
Step 2: Variable Values	Input variable values	Input variable values	Input variable values	Input variable values	Input variable values
Number of Traffic Lanes (= 1 if # lanes is 1; if # of lanes > 1 coded as 2)	1	2	1	2	2
Bike Lane Present (=1 if present; else =0)	1	0	1	1	0
Speed Limit (=1 if limit <= 30mph; otherwise = 2)	1	2	2	2	1
Unsign Intersection Conflict/mile (=1 if > 0; else =0)	0	1	1	0	1
Step 3: Model results (Cumulative probability)	Test 1	Test 2	Test 2	Test 2	Test 2
U(LOS<=F)=	0.02508696	0.557495	0.16341981	0.19623406	0.2018132
U(LOS<=E)=	0.0684976	0.78262	0.35824259	0.41095957	0.4194577
U(LOS<=D)=	0.15316372	0.89853	0.57859296	0.63181242	0.6399161
U(LOS<=C)=	0.37285223	0.966786	0.81861618	0.84941242	0.8538348
U(LOS<=B)=	0.76332572	0.993707	0.96075894	0.96835443	0.9694096
Step 4: Final result (LOS probability)	Test 1	Test 2	Test 2	Test 2	Test 2
Prob(LOS=F)=	0.02508696	**0.55749**	0.16341981	0.19623406	0.2018132
Prob(LOS=E)=	0.04341064	0.225125	0.19482278	0.21472551	0.2176445
Prob(LOS=D)=	0.08466611	0.11591	0.22035037	**0.2208529**	**0.220458**
Prob(LOS=C)=	0.21968852	0.068256	**0.240023**	0.2176	0.2139187
Prob(LOS=B)=	**0.390473**	0.026921	0.14214276	0.11894201	0.1155748
Prob(LOS=A)=	0.23667428	0.006293	0.03924106	0.03164557	0.0305904
	✓	✓	✓	✓	✓
	LOS B or less	LOS F	LOS C or less	LOS C or less	LOS C or less

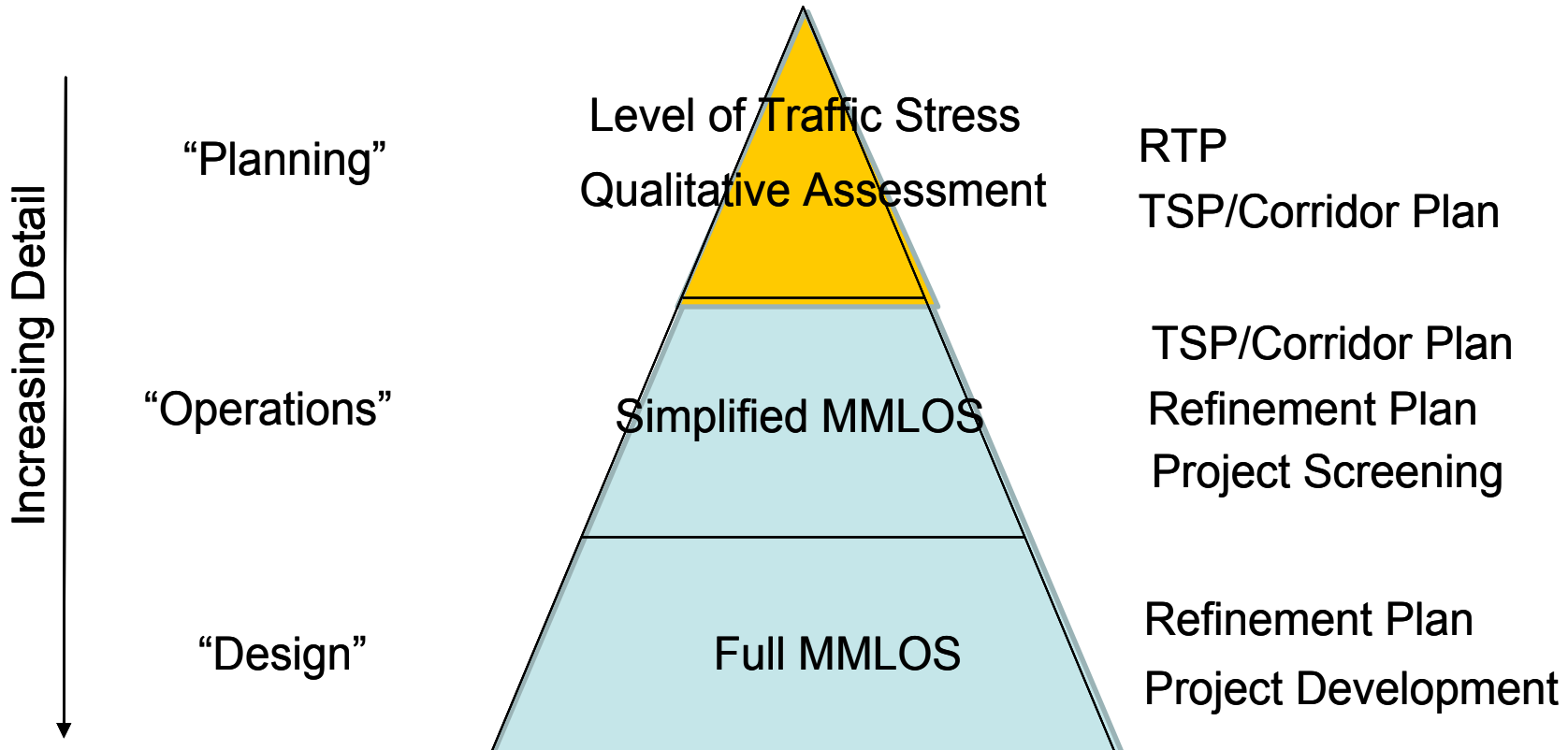
Simplified MMLOS Validation

Clip #	Outside Lane width (ft)	Bike Lane/ Shoulder width (ft)	Number of Through Lanes	Divided/Undivided roadways (D/UD)	Peak Hour Vol (vph)	Heavy Vehicle (%)	Posted Speed Limit (mph)	Pavement Rating (1-5)	% On Street Parking (OSP)	Sig. Int Dist (ft)	Unsignalized Conflict Per Mile
321	12	5	2	D	2146	0	45	4	0	0	15.2
309	10	0	2	U	134	0	20	4	0	52	0





APM Multimodal chapter (draft)
Tiered Analysis Methods



Planning – Qualitative Assessment

Pedestrian	Bike	Transit
	Segments	
▪ Auto lane width ▪ Bike lane/shoulder ▪ Buffers ▪ Sidewalk/paths ▪ Lighting ▪ Auto volume/speed	▪ Functional Class optimum type ▪ Shoulder/width ▪ Auto lane width ▪ Grade ▪ Pavement condition ▪ Obstructions ▪ On-street parking ▪ Auto volume/speed	▪ Frequency, on-time ▪ Transit speed/times ▪ Stop amenities ▪ Ped/Bike Network connections
	Intersections	
▪ Traffic control ▪ Crossing width ▪ Median islands	▪ Traffic control ▪ Crossing width	

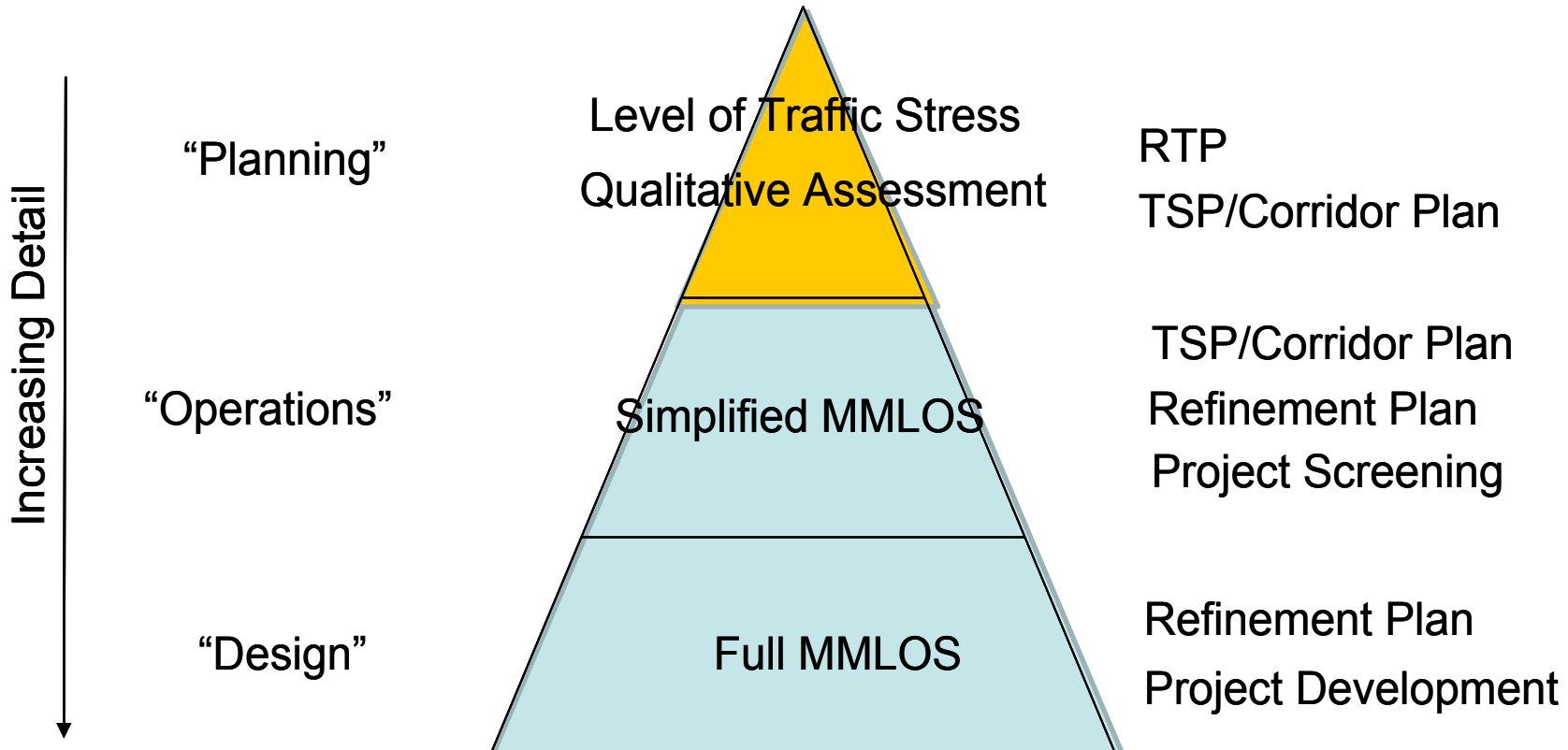
Data available from aerial photos; good-fair-poor ratings

Qualitative Assessment Example
OR99 Corridor Plan (Talent, OR)

Segment/ *Intersection*	Mode			
	Pedestrian	Bicycle	Transit	Auto
Existing Conditions – (Four Lanes)				
Rapp Rd to Amos Rd	Poor	Poor	Fair	Good
OR99 at Arnos Rd	Poor	Poor	Fair	Good
Amos Rd to Creel Rd	Poor	Poor	Fair	Good
OR 99 at Creel Rd	Poor	Poor	Fair	Good
Scenario 1 - Five lanes				
Rapp Rd to Amos Rd	Good	Good	Fair	Good
OR99 at Arnos Rd	Fair	Fair	Fair	Good
Amos Rd to Creel Rd	Good	Good	Fair	Good
OR 99 at Creel Rd	Fair	Fair	Fair	Good
Scenario 2 – Three lanes				
Rapp Rd to Amos Rd	Good	Fair	Fair	Good
OR99 at Arnos Rd	Good	Good	Fair	Good
Amos Rd to Creel Rd	Good	Fair	Fair	Good
OR 99 at Creel Rd	Good	Good	Fair	Good

Source: simplification of DEA OR99 Corridor Plan (date?)

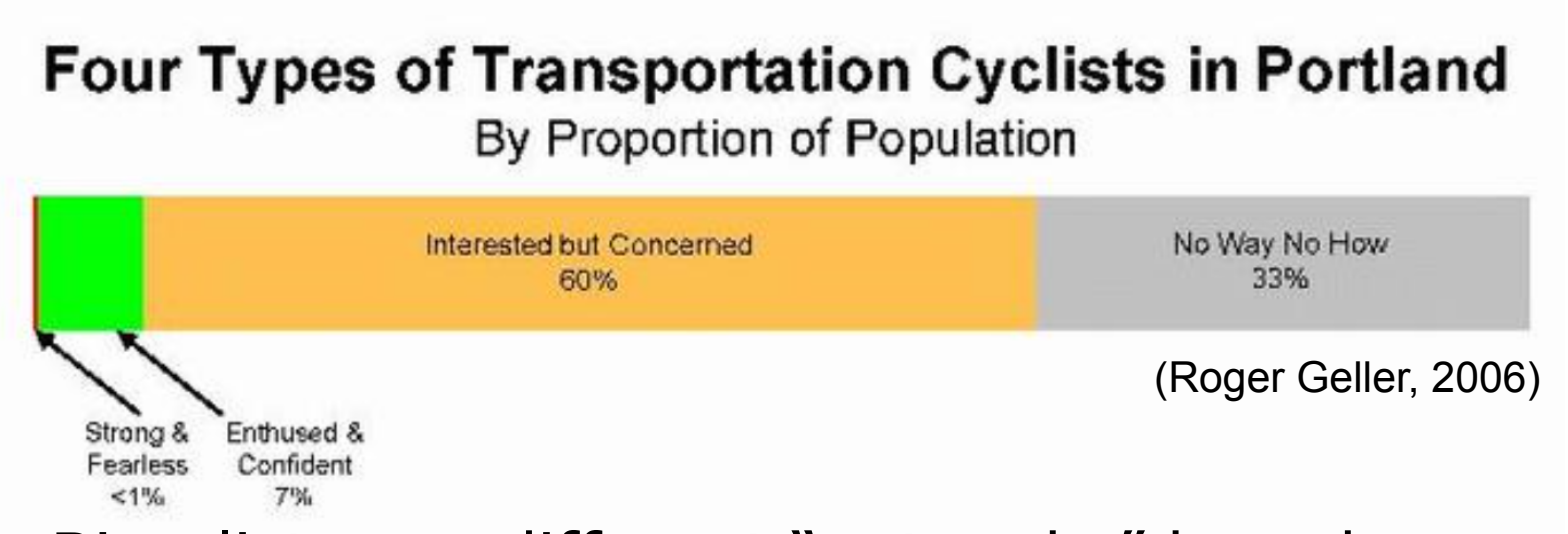
APM Multimodal chapter (draft)
Tiered Analysis Methods



Planning (connectivity) – Bike Level of Traffic Stress (BLTS)

- Classifies road segments based on perceived safety issues with close proximity to traffic.
- Allows for quick assessment of system connectivity without burden of more intensive (MMLOS) methods.
- Ability to prioritize improvements, to maximize connectivity for different user groups
- Most data should be part of TSP (Transportation System Plan) inventories or easily obtainable.
- Visual-based results for easy communication between staff, stakeholders, and the public.

Base on Bicycle User Groups



(Roger Geller, 2006)

Bicyclists see different "networks" based on perceived "level of traffic stress (LTS)"

- Strong And Fearless (<1%)
- Enthused and Confident (7%)
- Interested but Concerned (60%) <– biggest market
- No Way No How (33%)

LTS = combines link & downstream intersection

BLTS Method– Example LookUp tables

LTS 1: Bikeable by anyone, including younger children

LTS 2: For your basic adult cyclist (younger children accompanied by adult)

LTS 3 or 4: For Advanced Cyclists

Table 4. Criteria for Level of Traffic Stress in Mixed Traffic

	Street Width		
Speed Limit	2-3 lanes	4-5 lanes	6+ lanes
Up to 25 mph	LTS 1[a] or 2[a]	LTS 3	LTS 4
30 mph	LTS 2[a] or 3[a]	LTS 4	LTS 4
35+ mph	LTS 4	LTS 4	LTS 4

(Mekuria, Furth and Nixon 2012) pp. 21

Low-Stress Bicycling & Network Connectivity, MTI Report 11-19, Mineta Transportation Institute. (May 2012)
http://transweb.sjsu.edu/PDFs/research/1005-low-stress-bicycling-network-connectivity.pdf

Other BLTS criteria:

- **Segments**
  - Separated bike facilities (paths, cycle tracks, and bicycle-permitted walkways) are always LTS 1.
  - Bike lane LTS dependent on adjacent parking
- **Intersection Approaches** (through cyclists)
  - Based on presence and length of right turn lanes
  - Dependent on if right turn lane is to right of bike lane (Oregon Standard)
  - Right turn lanes without bike lanes always creates a high-stress location (LTS 3 or 4) unless turn lane is short.
- **Intersection Crossings**
  - Signalized crossings are protected, LTS 1 assumed.
  - Dependent on presence of median (6 ft+) refuges
  - Crossing LTS based on total number of lanes and speed limit.

Bike Level of Traffic Stress Classifications

LTS 1	LST 2	LTS 3	LTS 4
▪Low speeds, volumes ▪1-2 lanes total	▪Slightly higher speeds ▪1-3 lanes total	▪Moderate speeds ▪1-5 lanes total	▪Moderate to high speeds ▪2-5^{+} lanes total
Intersection Approaches & Crossings			
Easy crossing	Not difficult	Perceived safe	Unsafe/difficult
Stress Level			
Low Stress Suitable for all cyclists & kids	Little stress but requires more attention	Moderate stress, tolerable for many cyclists	High stress for experienced or skilled cyclists
Typical Functional Class			
Residential local streets and separated paths	Collector-level streets with bike lanes and CBD	Low speed arterials with bike lanes –or- moderate speed 2-3-lane roads	High-speed/ multi-lane roads with narrow or no bike lanes

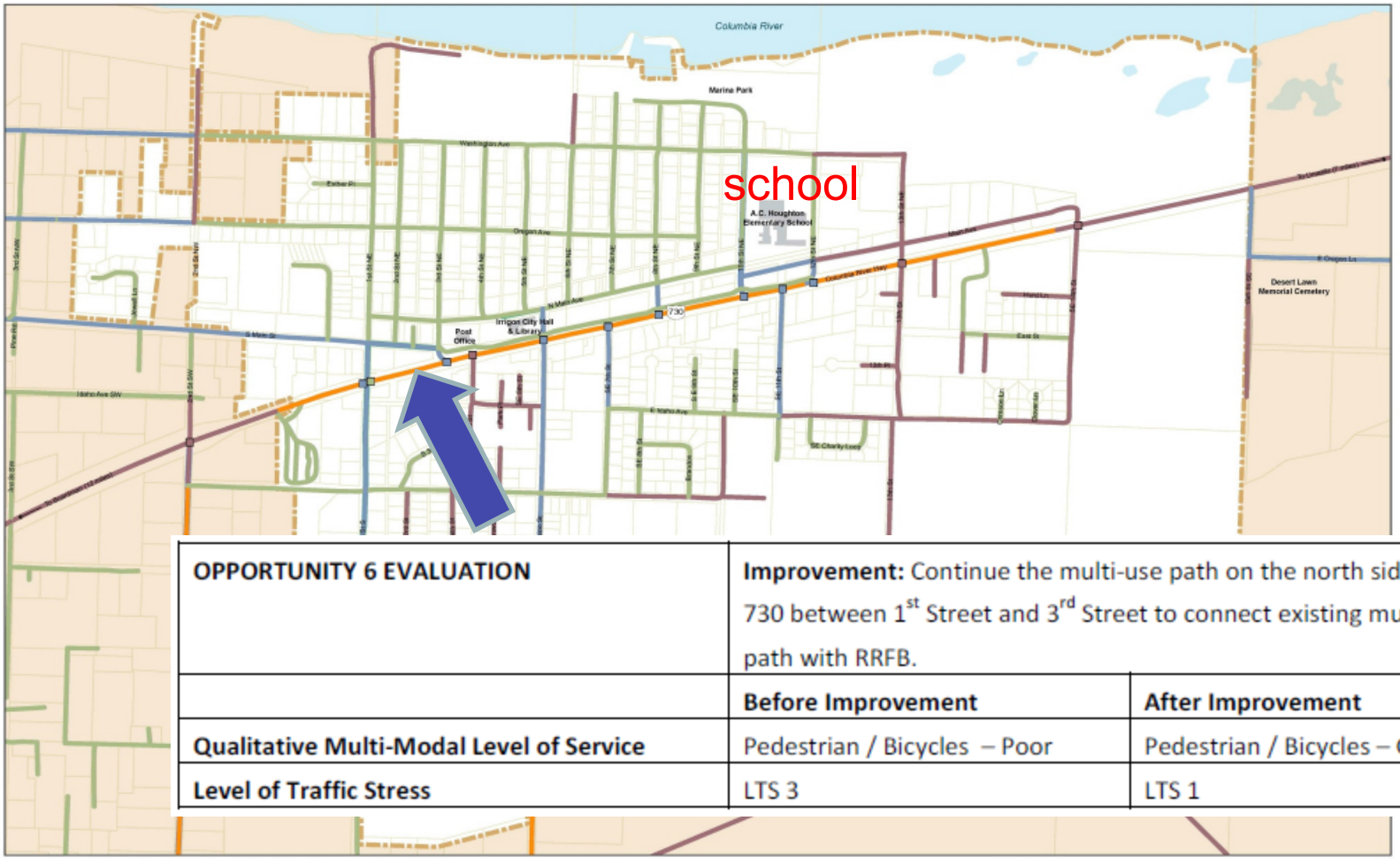
Elem School

Target level

ODOT BLTS Method Modifications

- Reformatted tables to remove inconsistencies
- Impact of left turn lanes on bicycle routing
- Added considerations for buffered bike lanes and shared-lane markings
- More flexibility on outside rider factors – hills, pavement condition, driveway density, etc.
- Rural application using volumes and shoulder width
- Considering extension to Ped LTS, and use with travel model

Irrigon Bicycle, Pedestrian and Transit TSP Update

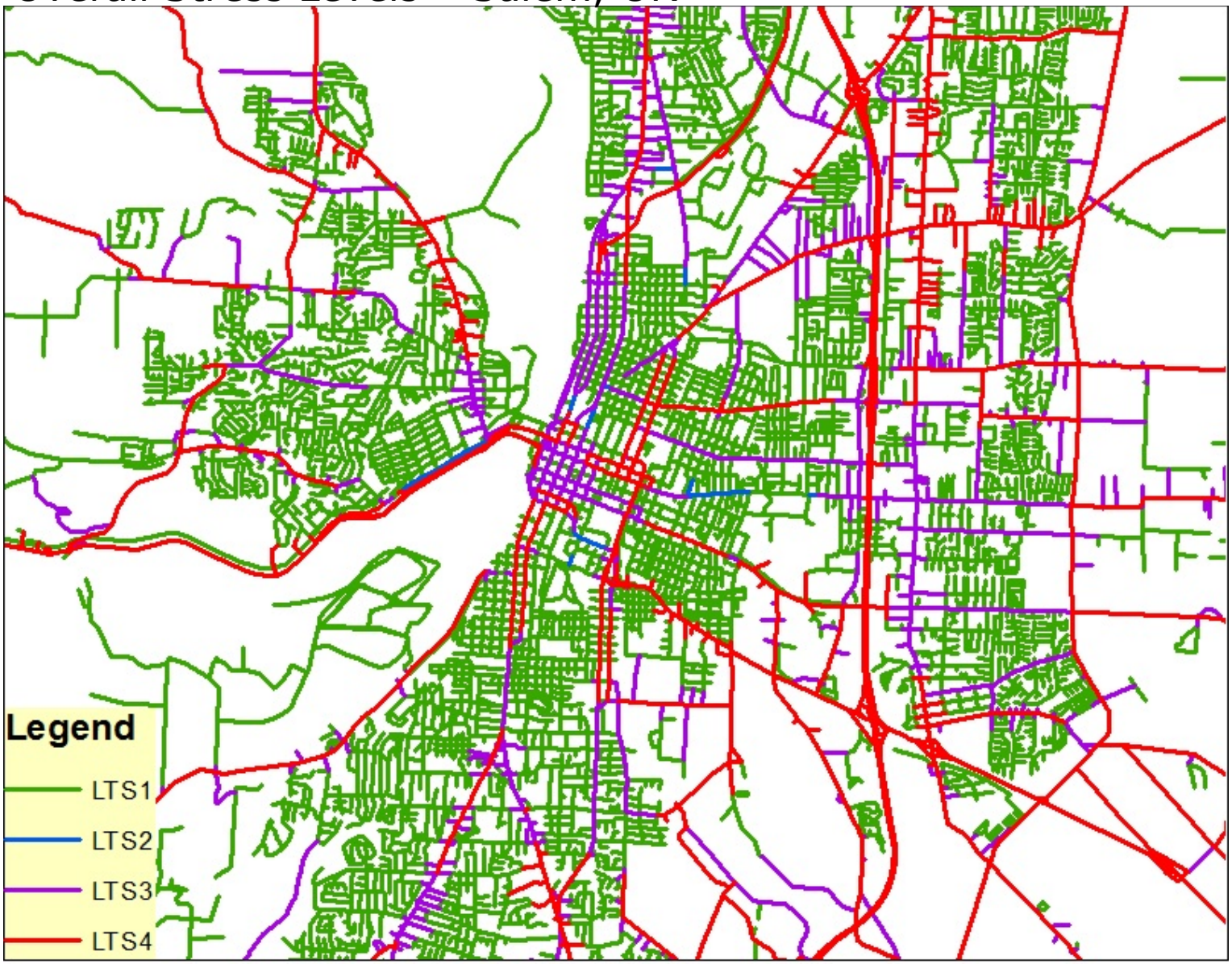


OPPORTUNITY 6 EVALUATION	**Improvement:** Continue the multi-use path on the north side of US 730 between 1st Street and 3rd Street to connect existing multi-use path with RRFB.	
	Before Improvement	**After Improvement**
Qualitative Multi-Modal Level of Service	Pedestrian / Bicycles – Poor	Pedestrian / Bicycles – Good
Level of Traffic Stress	LTS 3	LTS 1

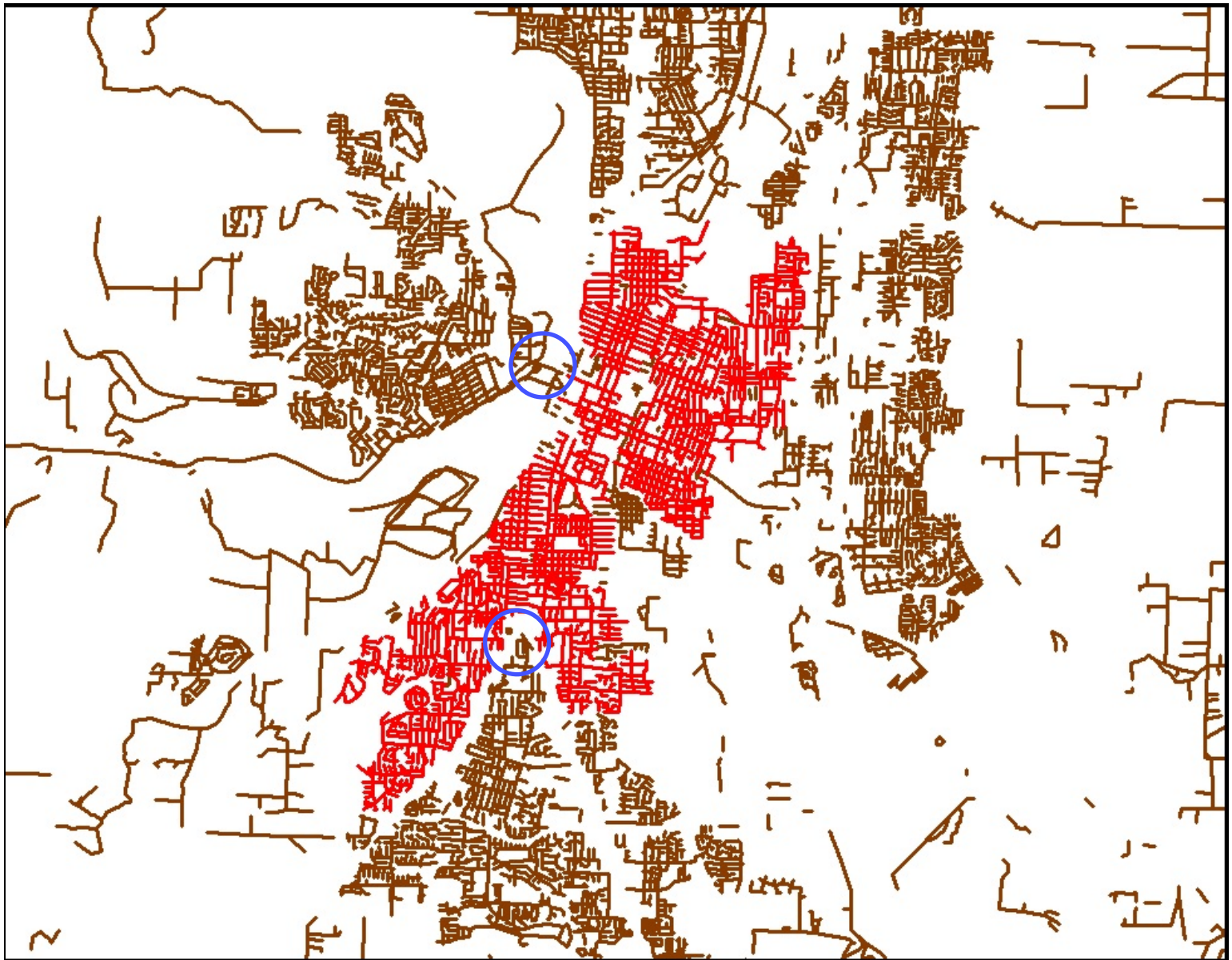
Bicycle Level of Traffic Stress Analysis : Salem, Oregon

Haizhong Wang (Civil Engineering, OSU)
Matthew Palm (Public Policy, OSU)
Jonathon Mueller (Civil Engineering, OSU)

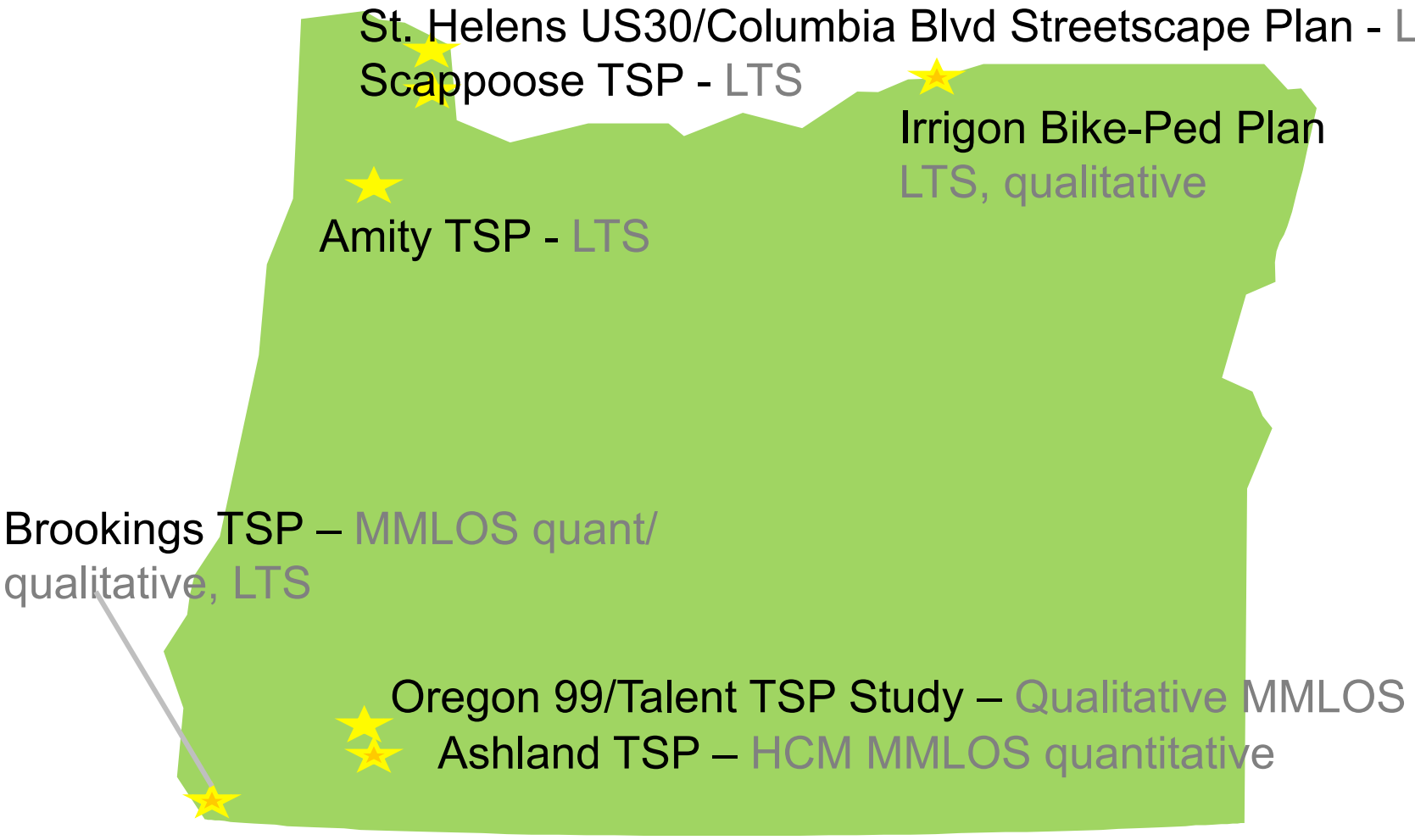
Overall Stress Levels – Salem, OR



Salem Application: LOS 1 & 2 Islands With Downtown Highlighted



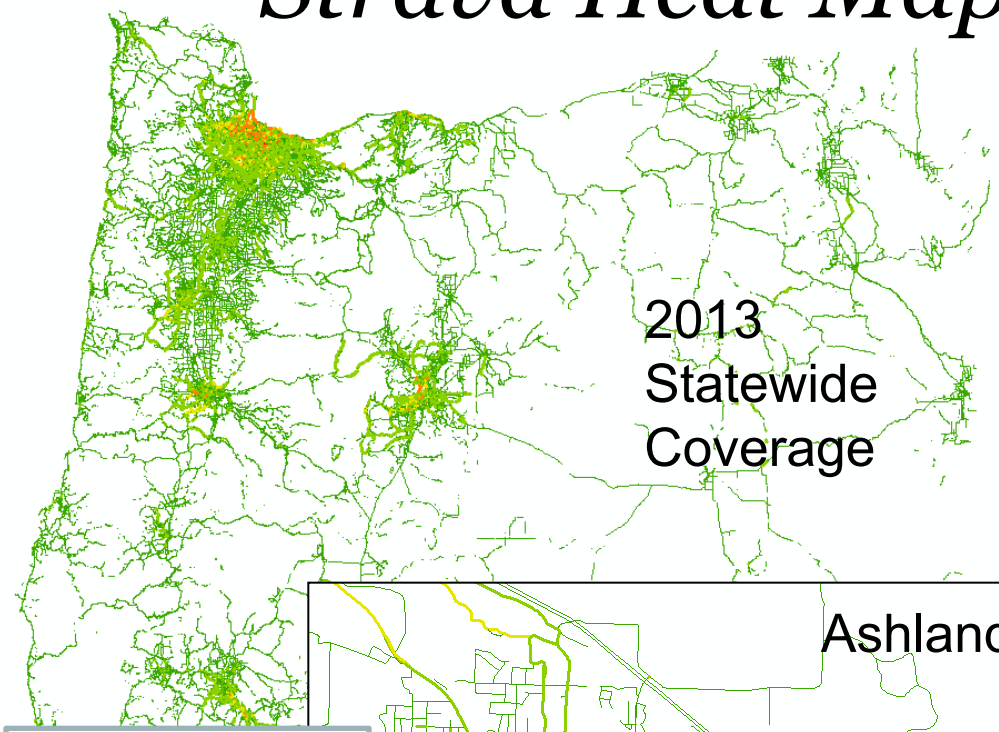
Innovative Bike Analysis Projects using ODOT methods

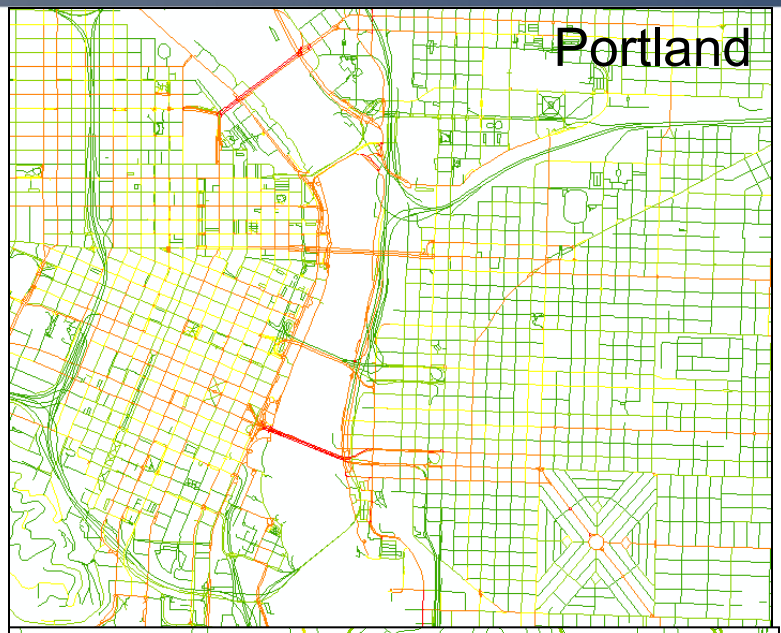


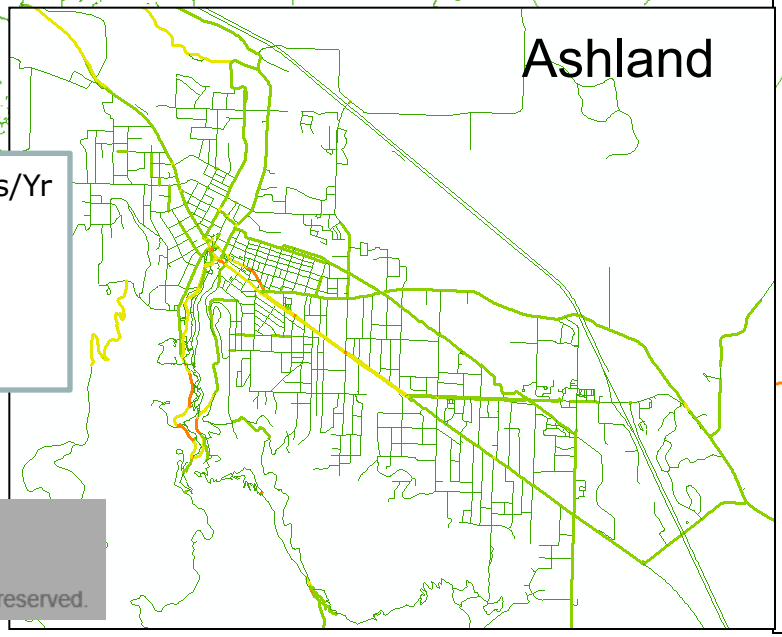
Other ODOT Bike-Related Research

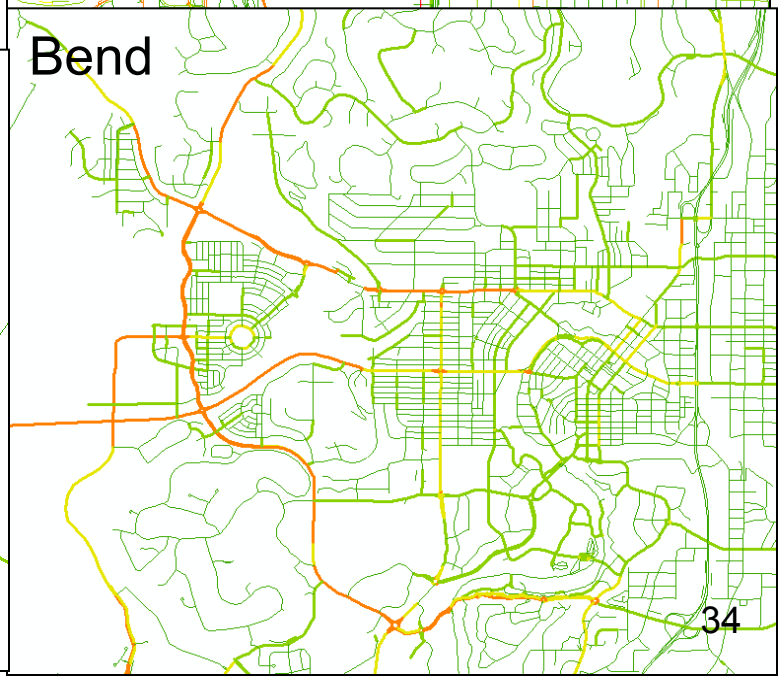
- Bike Count storage/standards (PSU Portal)
- Bike App – PSU research (Miguel Figliozzi, PSU)
- Travel Cost Index (economic multi-modal connectivity tool) (Liming Wang, PSU)
- Future Changes Cognitive Map (Haizhong Wang, PSU)
- Pilot DOT for "Strava" Bike Data

Strava Heat Map









10K-30K Trips/Yr
5K-10K
1K-5K
100-1K
<100

Other ODOT Bike-Related Efforts

- *Bicycle and Pedestrian Travel Assessment Report* (June 2011) (Alta Planning & Design)
- 3 upcoming ODOT Statewide Policy Plans:
  - Transportation Options Plan (ongoing, 2015)
  - Bike-Ped Plan (ongoing, 2015)
  - Transit Plan
- Oregon Bike Tourism

  (http://rideoregonride.com/)

Questions?

For more information…

BLTS methodology:

http://transweb.sjsu.edu/project/1005.html

ODOT Analysis Procedures Manual

http://www.oregon.gov/ODOT/TD/TP/Pages/APM.aspx

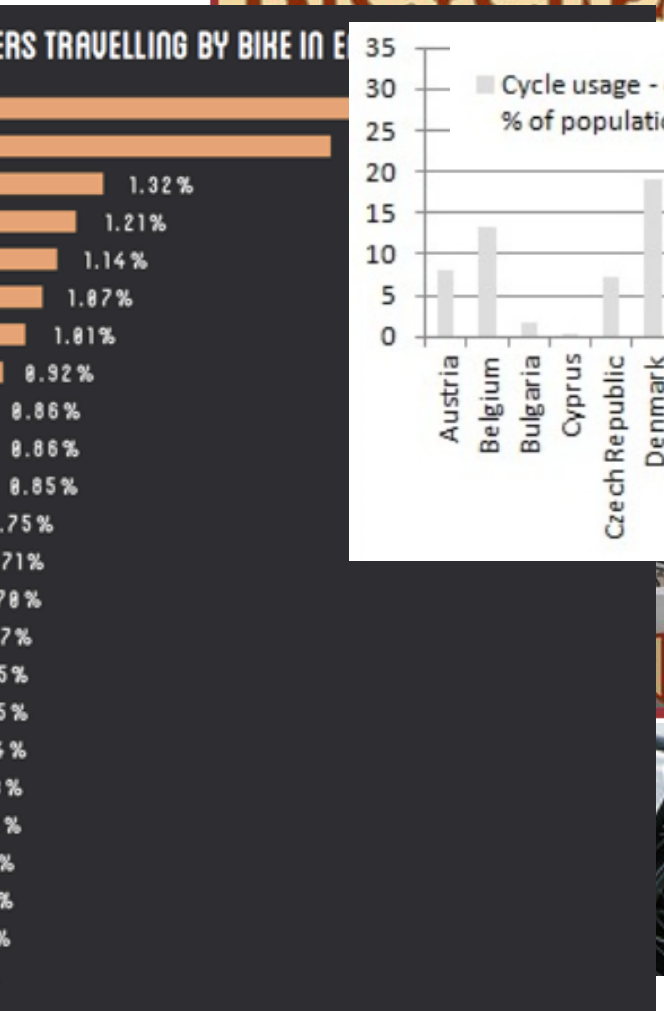
ODOT Active Transportation

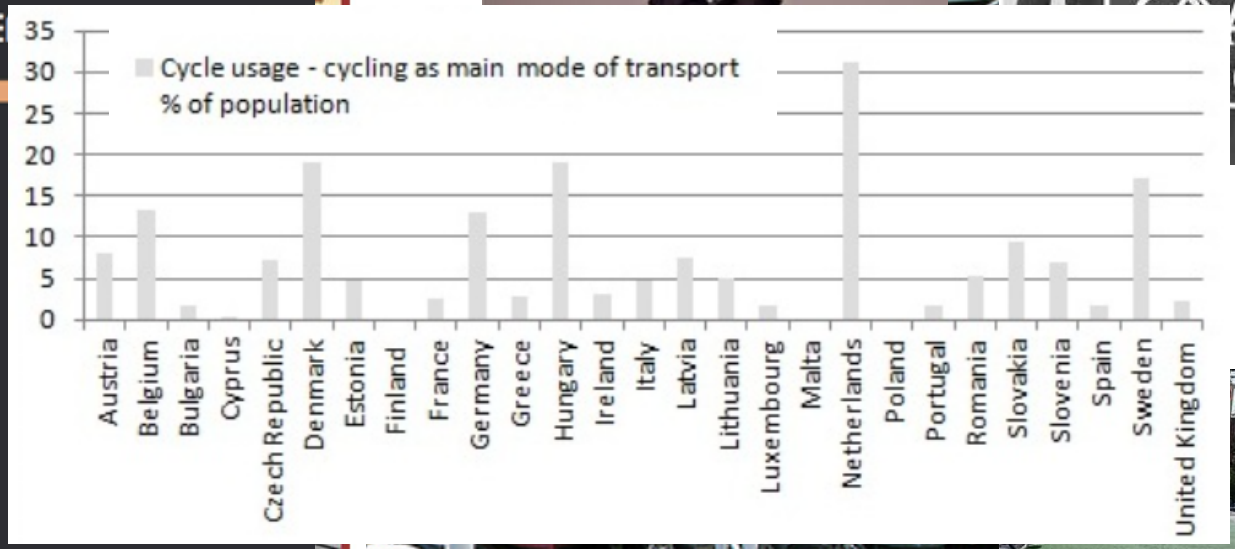
http://www.oregon.gov/ODOT/TD/AT/Pages/index.aspx

ODOT Transportation Planning Analysis Unit

http://www.oregon.gov/ODOT/TD/TP/Pages/Tools.aspx


BICYCLING IS POPULAR
OUTE


ERS TRAVELLING BY BIKE IN E
1.32%
1.21%
1.14%
1.07%
1.01%
0.92%
0.86%
0.86%
0.85%
.75%
71%
70%
7%
5%
5%
%
%
%
%
%
%
%


Cycle usage - cycling as main mode of transport
% of population
35
30
25
20
15
10
5
0
Austria
Belgium
Bulgaria
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Netherlands
Poland
Portugal
Romania
Slovakia
Slovenia
Spain
Sweden
United Kingdom

Active Transportation Section

Oregon Department of Transportation

Department
About Us
Contact Us
Economic & Financial Analysis Unit
Program & Funding Services Unit
Statewide Programs Unit
Local Program Contacts
Project Funding
Forms & Applications

Active Transportation: ODOT's Response to Community and User Needs

The phrase "active transportation" refers to sustainable, multimodal transportation solutions that connect people to where they need to go - such as work, school and to access essential services using "active" modes such as walking, bicycling, and taking public transit. At the Oregon Department of Transportation, it means that and more: active transportation includes strategically investing in infrastructure in response to community and user needs.

ODOT created the Active Transportation Section as a part of its continuing transformation to an agency that manages a multimodal, community-focused, statewide transportation system. The Active Transportation Section brings many related programs together in order to deliver more broad-based, solution-oriented projects.

On July 12, 2011, ODOT Director Matt Garrett had this to say:

"Our funding structure is overwhelmingly dedicated to highway programs, so we have to be imaginative in how we use discretionary funds and other funding that is directed to non-highway programs...

I think by bringing more discipline to the process and developing a new frame of reference through which we see proposals, we can be more strategic and we can leverage the funds to get a bigger system impact..." (See full article below.)

Active Transportation Spotlight

Want to know more about the Active Transportation Section?

Active Transportation Fact Sheet

ODOT Director's Message

Popular Topics

Bicycle and Pedestrian Maps
Scenic Byways Driving Guide
Oregon Bicycle Manual
Bicycle and Pedestrian Design Guide
Bicycle and Pedestrian Plan
Local Agency Guidelines (LAG Manual)
Online Forms
Project Funding
Statewide Transportation Improvement Program (STIP)
Enhance and Fix-It STIP F...
*Connect*Oregon
Multi-Modal Transportatio
Sustainable Transportation System

Current Topics

2013 Active Transportation Conference

At the January 7, 2013, Active Transportation Section Conference, the role, vision and goals of the section were presented.

Powerpoint Presentation

Enhance Project Funding

Changes in how the State Transportation Improvement Program (STIP) is funding projects. Read more...

Project Funding Webpage

STIP Enhance Webpage

Metro's Active Transportation Program

Find out how Metro and partners across the region are working to complete the regional active transportation network.

Metro Webpage

increased federal investment in bicycling and walking.

Rails To Trails Website

Business
Education
Human Services
Natural Resources
Public Safety
Recreation
Transportation

Popular Picks

Archives (State of Oregon)
DMV
How Do I... (employees)
How Do I... (public)
Licenses, Permits and Registration
Live Chat with a Librarian
Images for State Agencies' Use
State Organizational Chart (pdf)

http://www.oregon.gov/ODOT/TD/AT/Pages/index.aspx

http://www.oregon.gov/ODOT/TD/AT/Pages/contact_us.aspx

CLOSER LOOK

Oregon's Rising Levels of Bicycling

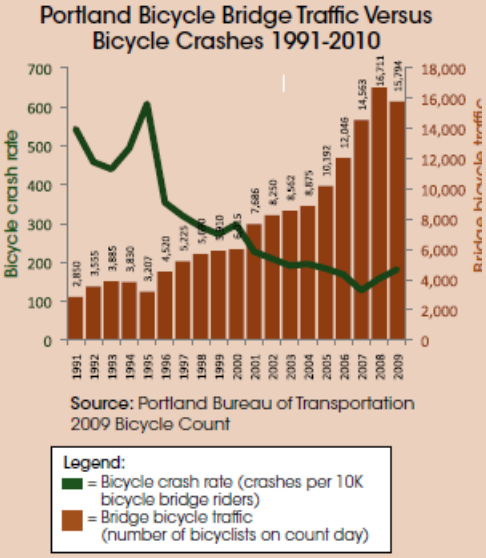
by Susan Peithman, Bicycle Transportation Alliance

Oregon is a safe and wonderful place to ride a bicycle. In terms of culture, infrastructure, and politics, Oregon is welcoming and encouraging to bicyclists. It is no wonder that bicycling's popularity has grown faster here than anywhere in the United States. Between 2000 and 2009, the share of commuters who bicycle to work increased from 1.07% to 2.34%, a larger jump than in any other state. Oregon also saw a 193% increase in bicycle commuters between 1990 and 2009—the greatest increase among states.

Of all 50 states, Oregon has the greatest percentage of commuters who bike to work (2.1%). Of these bicycle commuters, 33% are women, significantly higher than the national average of 26% and second only to Montana where 34% of bicycle commuters are women.

The visibility of bicycling encourages even more people to ride and makes roads safer, as drivers and all road users are aware of bicyclists. In Portland, where the amount of cyclists has doubled over the past decade, the number of crashes involving a person on a bike has remained relatively constant. This trend indicates the roads are becoming safer as more people ride bikes (see chart below).

Oregon's rapidly increasing bicycle use is largely a product of the state's already prominent bicycle culture, which encompasses everything from casual riders to racing teams and "ZooBombers." Throughout the state, and especially in the city of Portland, bicycles intermingling with cars and pedestrians are commonplace.




Corvallis, OR Bike Path Ride. Photo by Dan Crouch

Oregon has been inviting to bicyclists as early as the 1970s. Because of a 1973 law establishing urban growth boundaries on cities, destinations in Oregon's urban areas are built close to each other in a well-organized grid layout. This planning encourages the 2- to 3-mile trips convenient for bicycle travel. Additionally, Oregon's "Bicycle Bill" of 1971 mandates bicycle accommodations in all transportation facilities and ensures that at least 1% of transportation funding is devoted to bicycling infrastructure.

Oregonians find it easier to pick up bicycling than people in most other states because of the relative abundance of bicycle friendly infrastructure and government policy. Portland alone has over 325 miles of bike paths, and bike racks are available at any major destination. Even Portland's stoplight timings are set to slow cars making streets safer for bicyclists. This dedication to promoting bicycling was recently further bolstered by the Jobs and Transportation Act of 2009, which supports green and active transportation. Consequently, people considering making the switch from cars to bicycles find it convenient, safe, and enjoyable.

Progressive bicycle legislation is possible in Oregon because bicyclists are represented by well-staffed and well-funded advocacy groups. The statewide advocacy organization, the Bicycle Transportation Alliance (BTA), has the highest number of staff per capita served (4.2 per 1 million people) and has 6,000 members, ranking third among statewide organizations for membership. The BTA is influential in urban politics and is responsible for many of Oregon's bicycling improvements. Its Safe Routes to Schools program, for example, operates at over 70 schools.

Though Oregon is already America's leader in bicycle culture, the future of the state's bicycle policy is ever progressive and ambitious. Portland, working closely with the BTA, finalized a 20-year, $613 million plan for improvements to its bicycling infrastructure. The plan, the nation's most ambitious, calls for 368 miles of on-road bikeways, 78 miles of bike trails, and 256 miles of bicycle boulevards. Oregon is committed to growing its population of bicyclists in the years to come.

Bike LTS Example – Burns, OR