

Good morning

Washington Transportation Professionals Forum (WTPF) / Institute of Transportation Engineers Washington State Section (ITE WA)
Fall Eastside Meeting

September 17, 2015
 at WSDOT Eastern Region Headquarters

- Networking time: 8-8:30 a.m.
- Meeting and webinar: 8:30 a.m.-Noon
- Optional ITE WA meeting: 12:10-12:50p.m.



Pixabay.com



Blog500friends.com



Fall harvest in the Palouse Valley
 Photo by: Bruce Ikenberry
 Flickr.com/photos/bruceikenberryphoto
 graphy/20239020044/



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Hello and welcome:

Webinar attendees



Freephoto.com

and



WSDOT Eastern Region HQ
 Google.com

In person attendees



2

Instructions for webinar attendees

- Press the orange arrow toggle button to show and hide the GoToWebinar screen.
- You are in listen-only mode. Please ask questions and make comments by typing them in the "Questions" box. We will read your question to the presenter for a response.
- Please take breaks when needed.
- Have fun connecting across the state!



Photo courtesy of Pacific Technologies, Inc.

3

Instructions for in person attendees

- So the webinar and in-person attendees can hear better, please:
 - ✓ Turn wireless devices to silent mode.
 - ✓ Move side conversations out of the room.
 - ✓ Speak loudly and clearly. We will try to repeat questions.
- Take breaks when needed:
 - ✓ Can move around the back and sides of the room.
 - ✓ Restroom locations.
 - ✓ Food, vending machine.
- Fire exits.
- Have fun connecting across the state!

4



Introductions

Please tell us your:

- Name
- Agency/Business name
- Announcement? (10 seconds or less)




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5

Washington Transportation Professionals Forum

- Founded ~1978-1979 (36+ years ago) as the Urban Traffic Engineers Council (UTEC).
- Formed by city traffic engineers. Met to discuss common issues and develop traffic analysis and collision analysis software.
- Group grew over time to approx. 665 current members, including cities, counties, consultants, vendors, and other agencies.
- As of April 2015: 68% of members statewide had attended a meeting in person or by webinar in the past 5 years.
- Planning committee helping to define who we are, who we need to be, and how.

6



Institute of Transportation Engineers Washington State Section (ITE WA)



7

Overview/Agenda

- Online bicycle and pedestrian count data and the Permanent Statewide Bike Count project.
- Permanent Statewide Bike Count project: Future opportunities for local agencies.
- 10 minute break.
- The latest technology for bicycle and pedestrian counting.
- Crash data access portal for local agencies.
- Safe Routes to School and Pedestrian & Bicycle Programs.
- 10 minute break.
- Development and delivery of successful pedestrian and bicycle projects through grant funding: Case studies with cities of Spokane and Newport, Washington.
- Adjourne at noon.
- 10 minute break.
- Forming an Institute of Transportation Engineers chapter for Eastern Washington.



8

BICYCLE AND PEDESTRIAN COUNTING PROJECTS

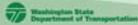


Dave Bushnell
Travel Data and Analysis Branch Manager

Mark Finch
Multimodal Planning Division Director (Acting)

Lynn Peterson
Secretary of Transportation

Washington Transportation Professionals Forum
September 17, 2015 – Spokane, WA



9

Travel Data & Analysis Branch

Electronics Crew

Travel Reporting & Analysis Processing Section (TRAPS)

Analysis Team

SR View & Culvert Crew

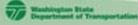
Short Count Field Crew



10

WSDOT's Bicycle and Pedestrian Documentation Project Pilot

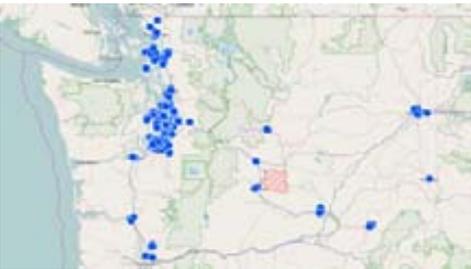
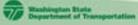
- Part A – Electronic Counter Pilot
 - Purchase and install up to 10 permanent bicycle/pedestrian counters at locations consistent with the Portland State Univ. Research Report [PSU Research Report](#)
- Part B – Extend existing Manual Count Program
 - Extend the existing contract with Cascade Bicycle Club for assistance with [WSDOT's Bicycle and Pedestrian Documentation Project](#) for the next 4 years in order to get 10 consecutive years of data at approximately 250+ sites in approximately 50 cities across the state.
- Part C – Web Based Data Base Development
 - WSDOT's Transportation Data and GIS Office will develop and maintain a production web map with custom map services
 - <http://www.wsdot.wa.gov/data/tools/bikepedcounts/>



11

Part B Extend Existing Manual Count Program with Cascade Bike Club

<http://www.wsdot.wa.gov/bike/Count.htm>

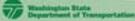



12

Part B

Count coordinators collect location information

- <http://www.wsdot.wa.gov/bike/Count.htm>
- Type of facility: 8 facility types
- Type of Setting: Urban, suburban, rural
- Scenic Quality: High, neutral, poor
- Surrounding Land Uses: Residential, rural, agricultural, retail, office, manufacturing
- Schools, parks, visitor destinations adjacent or close to the facility
- Quality of connecting facilities (paths, bike lanes, routes)
- Length of Facility
- Access
- Quality of overall network
- Traffic Volumes (ADT) of adjacent road
- Traffic speed limit of adjacent road
- Crossings and intersections
- Condition
- Topography



13

Part B

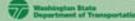
Extend Existing Manual Count Program

- <http://www.wsdot.wa.gov/bike/Count.htm>

Washington State Bicycle and Pedestrian Documentation Project:
2014 Short Report

Quick Stats	2008	2009	2010	2011	2012	2013	2014
Cities Involved	20	25	30	30	38	38	49
Count Locations	102	194	229	359	409	396	418
Volunteers	130	250+	300+	350+	375+	275+	320
Total Bicyclists & Pedestrians Counted	19,000	36,925	49,275	51,200	62,191	66,787	72,143

- ▮ These results are not comparable across years as this table reflects a different set of locations each year.
- ▮ Each AM and PM location is counted as a disparate location.
- ▮ Cascade staff has estimated this number.

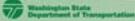


14

Part C

Web Based Data Base Development

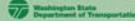
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15

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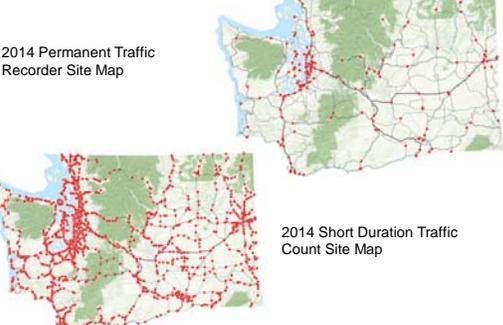
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16

WSDOT Traffic Counting Program

2014 Permanent Traffic Recorder Site Map



2014 Short Duration Traffic Count Site Map




17

Bicycle/Pedestrian Counting Program

2015 Permanent Bicycle/Pedestrian Counter Site Map



2015 Bicycle/Pedestrian Manual Count Site Map



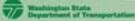

18

Resources Available



Bicycle and Pedestrian Automated Data Collection Data Requirements

The following requirements create a consistent environment for data access, retrieval, processing and reporting to make data available and useful to the widest audience.



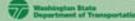
19

Resources Available



Installation of Loops for Bike and Pedestrian Counters on Paved Trails

While not a detailed instruction document, the following provides a sample of best practices for installing loops for bike and pedestrian counters on paved trails. The party attempting installation should have experience installing similar types of sensors for counting motorized or non-motorized traffic.



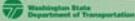
20

TYPES OF COUNTING EQUIPMENT





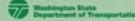


21

Eco Counters

- <https://www.eco-visio.net/ECovisio/>
- User Name: WSDOT1
- Password: BIKE2015



22

Eco Counter Validation

Eco-Manual Count Comparison

ECO-COUNTER Woodland Trail (W/O HUB)				4-Aug-15 Validation Count				Percent Error
Time	Pedestrians	Bicycles	Total	Time	Pedestrians	Bicycles	Total	
8:00-8:15	3	7	10	8:00-8:15	3	8	11	
8:15-8:30	3	6	9	8:15-8:30	2	7	9	
8:30-8:45	0	11	11	8:30-8:45	0	11	11	
8:45-9:00	2	4	6	8:45-9:00	1	5	6	
9:00-9:15	6	7	13	9:00-9:15	5	7	12	
9:15-9:30	3	11	14	9:15-9:30	3	11	14	
9:30-9:45	2	9	11	9:30-9:45	1	10	11	
9:45-10:00	1	4	5	9:45-10:00	1	5	6	
10:00-10:15	4	3	7	10:00-10:15	5	3	8	
10:15-10:30	6	12	18	10:15-10:30	6	12	18	
10:30-10:45	2	3	5	10:30-10:45	2	3	5	
10:45-11:00	1	5	6	10:45-11:00	3	3	6	
Total	33	82	115	Total	32	85	117	2%



23

MetroCount Counter Validation

MetroCount Manual Count Comparison

MetroCount Chehalis Trail (S/O HUB)			Manual Validation Count			Percent Error
Time	Bicycles		Time	Bicycles		
11:00-11:15	6		11:00-11:15	5		
11:15-11:30	9		11:15-11:30	6		
11:30-11:45	5		11:30-11:45	5		
11:45-12:00	8		11:45-12:00	8		
12:00-12:15	4		12:00-12:15	4		
12:15-12:30	13		12:15-12:30	9		
12:30-12:45	8		12:30-12:45	12		
12:45-13:00	3		12:45-13:00	3		
13:00-13:15	7		13:00-13:15	6		
13:15-13:30	13		13:15-13:30	15		
13:30-13:45	8		13:30-13:45	7		
13:45-14:00	10		13:45-14:00	11		
Total	94		Total	91		-3%



24

**Bainbridge Island/Winslow Way
Bicycle Only**

Average Daily Total: 160 Cyclists

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25

**Bainbridge Island/Winslow Way
Bicycle Only**

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26

Spokane Ben Burr Trail

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27

Spokane Centennial Trail

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28

Thurston County Chehalis Western Trail

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29

Thurston County Chehalis Western Trail

Labels in image: Metro Courier, 150' to station, Road Width 12ft Section, #2 7.0ft, Sensor Length 12ft, Sensor Spacing 18 inches, SB, NB

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30

Bellevue I-90 Trail



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31

Bellevue I-90 Trail



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32

Bellevue I-90 Trail



Washington State Department of Transportation

33

Thurston County Chehalis Western Trail



Washington State Department of Transportation

34

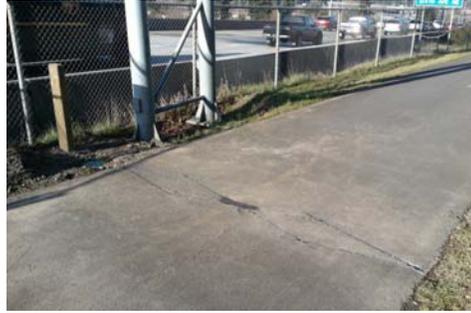
Thurston County Chehalis Western Trail



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35

Bellevue SR-520 Trail



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36

Washington "Bicycle Friendly State"

Washington announced as the most "Bicycle Friendly State" during Bike to Work Week

Posted 05 12 15

For the eighth year in a row, the League of American Bicyclists has named Washington the no. 1 "Bicycle Friendly State." The scores for each state are available on their website.

The announcement arrives just in time for you by switching up your commute. This week is Bike to Work Week, and May 15 is national Bike to Work Day.

Better yet, take part in the SmartHealth Bike Month challenge to earn extra points towards your insurance incentive.



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37

Questions/Comments





Spokane Centennial Trail

The End

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38

Biking Counts!

Implementing a statewide network of permanent bike counters

Blake Trask
Washington Bikes

September 2015





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39

Overview

- Problem – lack of data
- Better data for better understanding of mode
- WA Bikes, Cascade, WSDOT joint project
- Status to-date
- Now – WSDOT & Project
- Next steps

40

Lack of comparable denominator data

Permanent Bike Counters in early 2015

Permanent Motor Vehicle Counters in early 2015




2012 Permanent Traffic Recorder Data Collection Sites

Result = serious injury/deaths measured per million miles travelled for motor vehicles; measured per 100,000 of population for bike serious injury/death

41

More on Why Better Data

- Data for biking sparse; heavily focused on commutes.
- ACS data is thin and doesn't provide much for trip chaining, etc.
- Increasingly, trips are not commute trips – for biking <2 miles, this data could be critical to informing future investment choices.
- U.S. has a cyclist injury rate twenty times that of Denmark and The Netherlands and seven times Germany's.

42

Permanent Bike Counter Project

State Bike/Ped Grant: Funded for 2015-17 biennium via WSDOT competitive grant (#1 ranked project).

Partnership: Led by WaBikes, in close partnership with WSDOT and support from Cascade Bicycle Club.

Scope: Install up to 50 permanent counters statewide to develop a Bicycle Miles Travelled Metric.



43

Portland State Univ. Study & Methodology

Grant Project Follows Strict Methods: 2014 Portland State University Study outlines process to develop bicycle miles travelled metric



Project counters: 4 EcoRegions x 2 development patterns (urban/rural) x 2 road types = need for counters in 16 different groupings

44

WSDOT Permanent Counter Installation

- Effort at end of 2014 biennium to install ~13 permanent counters
- Locations: heavy in PSRC, but also Olympia, Wenatchee, and Spokane
- Also, includes support for annual volunteer counts + data visualization work by WSDOT Transportation Data Office



45

Next Steps



- Partner/advertise for additional locations
- Assessment of potential locations
- Installation
- Share Data
- Leverage partnerships to expand count network!

46

Contact Information

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Kathleen Davis
Local Programs
WSDOT
DavisK@wsdot.wa.gov
360-705-7871



47



thebackwardsbride.blogspot.com

10 minutes

48

Tools for Pedestrian and Bicycle Volume Data Collection

Kelly Laustsen, Kittelson & Associates, Inc.
September 17, 2015

Presentation Overview

- > Introduction
- > Project and guidebook overview
- > Non-motorized count applications
- > Setting up a non-motorized counting program
- > Automated counting technologies
- > Final thoughts
- > Questions and answers

Project and Guidebook Overview

NCHRP 07-19 Research Team

- > Kittelson & Associates, Inc.
- > University of Wisconsin—Milwaukee
- > UC Berkeley, SafeTREC
- > Toole Design Group
- > McGill University
- > Quality Counts, LLC

Project Purpose

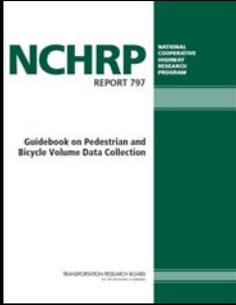
- > Address lack of pedestrian and bicycle volume data
- > Assess data collection technologies and methods
- > Develop guidance for practitioners

Research Approach

- > Conduct literature review
- > Develop work plan
- > Survey and outreach
- > Field test counting technologies
- > Produce guidance document for practitioners

Research Products

- NCHRP Report 797
 - Guidance for practitioners
- NCHRP Web-only Document 205
 - Documentation of the research effort



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Guidebook (NCHRP Report 797) Contents

Quick Start Guide

1. Introduction
2. Non-Motorized Count Data Applications
3. Data Collection Planning and Implementation
4. Adjusting Count Data
5. Sensor Technology Toolbox

Case Studies

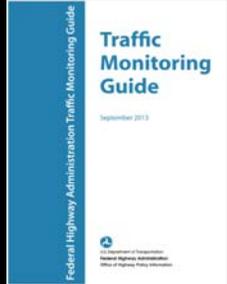
- Manual Pedestrian and Bicyclist Counts: Example Data Collector Instructions
- Count Protocol Used for NCHRP Project 07-19
- Day-of-Year Factoring Approach

Appendices

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Related Work

- FHWA Traffic Monitoring Guide (TMG)
 - 2013 edition includes chapter on non-motorized traffic
 - Guidance on data reporting formats
 - NCHRP research complements FHWA guide



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Related Work

- National Bicycle and Pedestrian Documentation Project
 - First large-scale repository for data
 - Provides resources on conducting counts
 - Cited by many practitioners as an influence in count program development

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Non-motorized Count Applications

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Pedestrian & Bicycle Counting Purposes

- General purposes
 - Measure facility usage
 - Evaluate before & after
 - Analyze safety
 - Identify user characteristics
 - Estimate network volumes
 - Prioritize projects
- Technical applications
 - Identify activity patterns



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Evaluate Before-and-After Volumes

- Measure volumes before and after facility is opened
- Forecast usage of planned facilities

Before-and-after bicycle facility usage: buffered bicycle lanes on Pennsylvania Ave., Washington, DC

Source: Kittelson & Associates, Portland State University, and Toole Design Group (2012)

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Prioritize Projects

- Identify high-priority locations for improvements
 - Counts & estimated network volume can be used as a demand factor for ranking locations

Step 2: Select Factors		
Factor	Select?	
Subsidized Input	Yes	
Constraints (Cost and Legal)	No	
Opportunities (Upcoming Projects)	Yes	
Safety	Yes	
Existing Conditions	No	
Demand	Yes	
Connectivity	No	
Equity	Yes	
Compliance	No	

ID	Location	Prioritization Score	Prioritization Rank
3	3RD ST	275.3	1
1	CENTRAL AVE	160.0	2
7	OSBORNE RD	158.2	3
19	JACK ST	142.2	4
30	BROOKHILL	142.2	5
4	17TH ST	141.2	6
9	20TH ST	132.0	7
5	15TH AVE	120.3	8
2	BIRMINGHAM/JEFFERSON	117.8	9
8	OAK ST	111.0	10
17	MARYLAND AVE	96.2	11
16	MISSOURI AVE	95.5	12
35	GRAND CANAL	91.1	13
26	RAY RD	88.0	14
25	HELI ST	85.9	15
16	7TH AVE	78.3	16
19	HANSON BEND WALK	70.6	17

Source: Toole Design Group, NCHRP 07-17 Report, ActiveTrans Prioritization Tool (APT)

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Setting Up a Non-motorized Counting Program

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State of the Practice

- There is no standard approach for initiating a count program
- Limited established count programs in the U.S., but lots of interest
- Need and desire for guidance
- Manual counts most common in current practice

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Challenge: No Standard Approach

- Where to start:
- When and where to count?
- How long to count?
- How frequently to count?
- What to count?
- Site/mode challenges
- Who should be counting?

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Pedestrian & Bicycle Count Program Overview

- Chapter 3 of NCHRP Report 797
 - Plan the count program
 - Implement the count program
- Complements Chapter 4 of the TMG

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Plan the Count Program

- > Specify the data collection purpose
- > Identify data collection resources
- > Select count locations & determine timeframe
- > Consider available counting methods

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Implement the Count Program

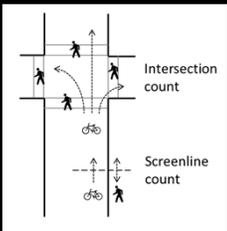
- > Obtain necessary permissions
- > Procure counting devices
- > Inventory and prepare devices
- > Train staff
- > Install and validate devices
- > Calibrate devices
- > Maintain devices
- > Manage count data
- > Clean and correct count data

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Types of Counts

- > Intersection count
 - Operational characteristics
 - Complex to conduct
- > Screenline count
 - Volume data
 - Less complex



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Passive Infrared (IR)

- > Detect pedestrians and cyclists by the infrared radiation (heat) patterns they emit
- > Passive infrared sensor placed on one side of facility
- > Widely used and tested



Source: Toole Design Group

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Active Infrared (IR)

- > Transmitter and receiver with IR beam
- > Counts caused by "breaking the beam"



Source: Steve Hankey, University of Minnesota

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Pneumatic Tubes

- > One or more tubes are stretched across roadway or path
- > When a bicycle rides over tube, pulse of air passes through tube to detector



Source: Karla Kingsley

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Manual Counts

- Most common type of counting, to date
- Capture many different locations
- Record pedestrian & bicyclist characteristics
- Can count roadway crossings
- Expensive
- Short counts may not expand accurately



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Tests of Automated Counting Technologies

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NCHRP 07-19 Technology Testing Approach

- Focus on testing and evaluating commercially available automated counting technologies
- Assess types of sensor technologies as opposed to specific products
- Cover a range of facility types, traffic mix, and geographic locations
- Evaluate accuracy through the use of manual count video data reduction

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Technologies and Site Locations

<ul style="list-style-type: none"> ➤ Technologies <ul style="list-style-type: none"> ▪ Passive infrared ▪ Active infrared ▪ Pneumatic tubes ▪ Inductive loops ▪ Piezoelectric ▪ Radio beam ▪ Combination of technologies 	<ul style="list-style-type: none"> ▪ Site Locations <ul style="list-style-type: none"> – Portland, OR – San Francisco, CA – Davis, CA – Berkeley, CA – Minneapolis, MN – Washington, D.C. – Arlington, VA – Montreal, Canada
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Video Data Collection

- Camera installed with counters for ~5 days
- Second deployment targeting desired conditions
- 3,000 hours of video collected



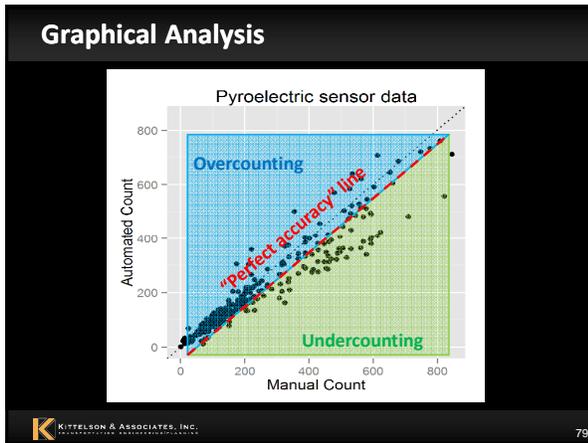
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Portland, OR

- 5th Avenue (downtown) sidewalk
 - Passive infrared
 - Radio beam



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- ### Research Conclusions
- > Factors influencing accuracy
 - Proper calibration and installation
 - Occlusion
 - Vendor differences
 - > Factors not found to influence accuracy
 - Age of inductive loops or pneumatic tubes
 - Temperature (except possibly active IR)
 - Snow/rain (limited data)
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Research Conclusions

- Automated counter accuracy:

Device	Undercounting Rate	Total Deviation
Passive Infrared (2 products)	8.75%	20.11%
Active Infrared	9.11%	11.61%
Pneumatic Tubes	17.89%	18.50%
Radio Beam	18.18%	48.15%
Inductive Loops	0.55%	8.87%
Piezoelectric Strips	11.36%	26.60%

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Final Thoughts

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- ### Non-motorized Count Applications
- > Non-motorized counts document the usage of pedestrian and bicycle facilities and can support many other types of analyses
 - > Need for non-motorized count data likely to grow as regions and states expand their use of non-motorized performance measures
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- ### Planning and Developing a Count Program
- > Specify the data collection purpose(s)
 - Consider existing and future needs
 - > Identify available resources
 - Many programs started small and grew over time
 - > Consider a mix of short- and long-term counts
 - A small number of permanent count stations can support a large number of short-term counts
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Performing Counts

- Creating a local correction factor for a counter/count site is a worthwhile investment
 - Site-specific differences
 - Differences in vendor implementations of a particular counting technology
- Count data from most counters tested could be readily corrected to produce good volume estimates

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How NCHRP Report 797 Can Help

- Quick start guide covers the essentials
- Step-by-step guidance on planning and developing a program
 - Includes helpful checklists
- Case studies of successful non-motorized count programs and applications
- How to adjust raw count data
- Descriptions of 14 counting methods and technologies

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For More Information

- NCHRP Report 797
 - http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_797.pdf
 - TRB Bookstore
- NCHRP Web-only Document 205:
 - http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w205.pdf

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Questions and Answers

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WSDOT's Crash Data Update

"Building a Quality Crash Record through Data Collaboration, Coordination and Integration"



Presented by:
Warren Stanley
 Crash Data and Reporting Branch
 Systems Project Manager
and
Mike Bernard
 Crash Data and Reporting Branch
 Data Steward

Nadine Jobe
 Crash Data and Reporting Branch
 Manager

Lynn Peterson
 Secretary of Transportation

Washington Transportation Professionals Forum
 September 17, 2015 – Spokane, WA

Washington State Department of Transportation 89

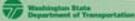
"A Quick Look Back.."

- 2002 - 5 year back log of crash data.
 - Legislature mandated WSDOT establish a statewide database.
- 2003 - WSDOT established a 13 file city and county data feed.
- 2006 - Officers provided ability to submit their citations and Police Traffic Collision Reports (PTCR) electronically.
- 2008 - WSDOT provided ability for counties to submit their Collision Location Coding Form (CLCF) information via the web.
- 2012 - WSDOT Crash Data Branch participates in a Lean project to decrease a 8 1/2 month processing backlog.
 - WSDOT implements their Incident Location Tool.

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“ Where We Are Today..”

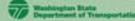
- Distinguishing between a law enforcement “collision” record from an engineering “crash” record.
- Providing the most accurate crash data to our safety partners in a timely manner – Crash Data Portal.
- Collecting additional ancillary location information of a crash – Incident Location Tool.
- Stopping the practice of “snapping” a crash to the middle of an intersection – Incident Location Tool.



91

The Evolution from a Law Enforcement Collision Record to a Safety Crash Record

- The content of the crash record is driven by different initiatives, such as: customer data needs, funding requirements, performance measures, legislative actions, etc.
- The records stored in the WSDOT data stores are initiated by WSDOT’s receipt of a law enforcement-submitted Police Traffic Collision Report (PTCR) and, through the analysis done by our Crash Data Analysts, includes additional data elements defined or required by:
 - The Minimum Model Uniform Collision Criteria (MMUCC)
 - MAP-21’s data-driven performance measures
 - Target Zero (Washington’s Strategic Highway Safety Plan)



92

Other information added to Crash Record by WSDOT

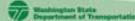
- Collision Type (e.g., rear-end one vehicle moving and one not, head-on, strikes fixed object)
- Object Struck (e.g., guardrail, cable median barrier, utility pole, utility box)
- Sequence of Events (e.g., collision involving pedestrian, collision involving animal, down-hill runaway)
- Driver Miscellaneous Actions (e.g., avoiding other object in roadway, slowing prior to making a turn, avoiding another vehicle)
- Vehicle Type (e.g., passenger car, truck and trailer, farm equipment)



93

Location Information added to Crash Record by WSDOT

- Location references based on the linear referencing methodology used by the jurisdiction the collision occurred in (e.g., state route milepost, county road log number and milepost, and city addressing)
- Mapped-based tribal jurisdiction, city and county boundaries and geospatial coordinates (x,y)
- Lane placement (e.g., lane 1 being most right lane)
- Impact locations (e.g., off the roadway vs. off the travel way)
- Relationship to intersections (e.g., at intersection but not related)
- Type of intersection (e.g., 2-leg, 4-leg, Y-conn)



94

Collision vs. Crash Data

Collision Data is data submitted by Law Enforcement Officers on the Police Traffic Collision Report (PTCR). Collision data and copies of PTCRs are available through law enforcement’s public disclosure process.

Crash Data contains collision data submitted by law enforcement on the PTCR and data linked from other systems or derived from analysis of the record by the WSDOT Crash Analyst.

The crash record added or derived data provides valuable information used in research and to determine highway safety improvement projects. This data is protected by Federal law 23 USC § 409. Crash data is available through WSDOT’s public disclosure process.

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of “reports, surveys, schedules, lists or data” compiled or collected for the purpose of highway safety improvement and projects that might qualify for federal safety improvement funding.



95



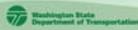
The Crash Data Portal contains standard sets of reports built by data experts who have working knowledge of the crash data fields, data relationships, database structure and the query tools. The Crash Data Portal provides access to crash data as defined by the 2014 NHTSA Traffic Records Assessment and MAP-21 as well as building in standardization and data access efficiency for the staff providing the data.



96

Types of Reports Available

- Summary Reports
 - Total Crashes by Year
 - 10 Year Crash Summary
 - Fatal and Serious Injury
- Distracted Drivers
 - All Distractions
 - Cell Phone Usage
 - Teen Drivers
- Pedestrians and Bicyclists
 - Injury Type
 - Age Groups
- Alcohol Involved Crashes
 - All Crashes by Year
 - Motor Vehicle Drivers
 - Teen Drivers
 - Older Drivers
 - Pedestrians and Bicyclists
- Crashes Involving
 - Teen Drivers
 - Buses
 - Motorcycles
 - Large Trucks
 - Wildlife



97

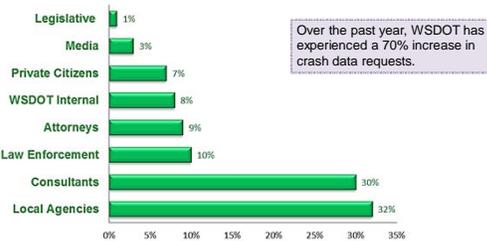
WSDOT's Crash Data Portal Demonstration

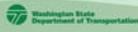
<https://remoteappsqa.wsdot.wa.gov/crashdataportal>



98

WSDOT Data Customers





99

WSDOT Crash Data Partners

DAILY DATA FEEDS	WEEKLY DATA FEEDS	MONTHLY DATA FEEDS	ANNUAL DATA FEEDS
Department of Licensing	Department of Licensing	County Road Admin. Board	Department of Health
WSP Commercial Vehicle Division	Department of Social and Health	Counties	Highway Safety Information System
WSP Public Disclosure System	Crash Data Mart	Cities	Safety Analyst
Law Enforcement Database	Superintendent of Public Instruction	Experian Automotive	WSDOT GIS Work Bench
	National Automobile Sampling System	Carfax	



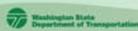
100

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 Crash Data and Reporting Branch
 Washington State Department of Transportation
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StanleW@wsdot.wa.gov
 360-570-2497





101

WSDOT Active Transportation Programs

Kathleen Davis
Director, Local Programs



Charlotte Claybrooke
Active Transportation Programs Manager

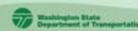


Lynn Peterson
Secretary



Washington Transportation Professionals Forum/Institute of Transportation Engineers
 Washington State Section Joint Meeting

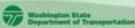
September 17, 2015



102

Active Transportation Programs

- Overview
- Pedestrian and Bicycle Program
- Safe Routes to School Program
- Next call for projects
- Resources
- Other considerations
- Deliverability

103

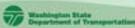
Local Programs Division



Provides educational, technical and financial support to public agencies.

Serves as the steward of Federal Highway Administration funding:

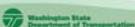
- Administering and managing state and federal funds
- Ensuring reasonable compliance with state and federal regulations
- Promoting livable communities



104

Active Transportation Programs

Pedestrian and Bicycle Program
Safe Routes to School Program
Active Community Environments

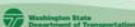



105

Active Transportation Programs

Technical services and funding assistance in support of active transportation.

- Active transportation presentations
- Facilitation of community engagement efforts
- Walk/bike assessments
- Mapping network analysis
- Best practice recommendations
- Collision data review and analysis



106

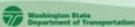
Pedestrian and Bicycle Program

The goal is to improve the transportation system to enhance safety and mobility for people who choose to walk or bike.

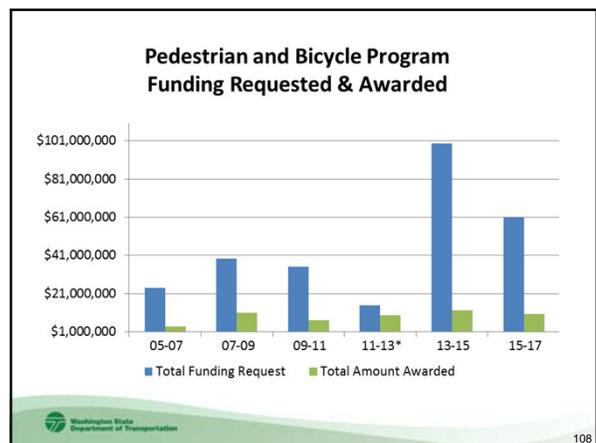


Two types of projects are eligible:

- 1) Project development/planning only projects and
- 2) Construction projects



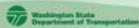
107



Pedestrian and Bicycle Program 2015/2017

WSDOT will award \$10,430,000 to 29 Pedestrian & Bicycle Safety Program projects.

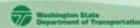
- \$60 Million in total requests
- 17% of projects awarded
- \$10,600 to \$1,586,821 range of funded requests



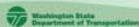
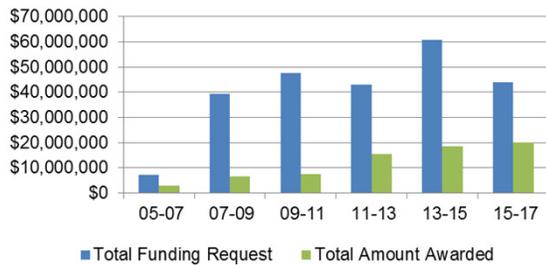
Safe Routes to School Program

The goal is to increase the number of children walking and biking to school safely.

The program funds education, enforcement, encouragement and construction projects within two miles of primary, middle or high school (K-12) to provide children a safe, healthy alternative to riding the bus or being driven to school.



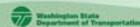
Safe Routes to School Funding Requested & Awarded



Safe Routes to School 2015/2017

WSDOT will award \$20 Million for up to 44 Safe Routes to School projects.

- \$44 Million in total requests
- 46% of applications awarded
- \$90,000 to \$1,200,000 range of funded requests



Both Programs 2017/2019

- Call for projects – Early 2016
- Consolidated application
- Current funding expectations:
 - Pedestrian and Bicycle Program
\$10,380,000 state funds
 - Safe Routes to School
\$11,400,000 federal funds
\$7,750,000 state funds



LEAP Transportation Document 2015 NL-1 as developed June 28, 2015
Connecting Washington Projects
Local Programs Program (Z)
(Dollars in Thousands)

Site	Project	Project Title	Leg Dist	2015-17	2017-19	2019-21	2021-23	2023-25	2025-27	2027-29	2029-31	Total
		Connecting Washington Account - State		2,000	0	0	0	0	0	0	0	2,000
000	L2000218	Avia Systems W&E	11	1,000	0	0	0	0	0	0	0	1,000
		Connecting Washington Account - State		1,000	0	0	0	0	0	0	0	1,000
Local Programs - Other Grants				18,794	40,903	40,903	40,902	40,902	40,902	40,902	40,902	305,118
000	L3000152	Bicycle and Pedestrian Project List	98	8,400	11,373	11,373	11,372	11,372	11,372	11,372	11,372	89,006
		Multimodal Transportation Account - State		8,400	11,373	11,373	11,372	11,372	11,372	11,372	11,372	89,006
000	L2000188	Pedestrian and Bicycle Safety Grant Program	98	2,344	10,380	10,380	10,380	10,380	10,380	10,380	10,380	75,004
		Multimodal Transportation Account - State		2,344	10,380	10,380	10,380	10,380	10,380	10,380	10,380	75,004
000	L2000189	Safe Routes to Schools Grant Program	98	7,950	19,150	19,150	19,150	19,150	19,150	19,150	19,150	141,100
		Motor Vehicle Account - Federal		5,300	11,400	11,400	11,400	11,400	11,400	11,400	11,400	85,100
		Multimodal Transportation Account - State		2,750	7,750	7,750	7,750	7,750	7,750	7,750	7,750	56,000
Local Programs - Pedestrian Safety				5,000	0	5,000						
000	L3000002	Community Facilities District Improvements (Bikeway)	48	5,000	0	0	0	0	0	0	0	5,000
		Connecting Washington Account - State		5,000	0	0	0	0	0	0	0	5,000
Total All Projects				440,582	1,994,542	2,022,995	2,138,259	2,007,141	1,982,576	1,813,388	1,711,291	11,886,704

Resources for Project Guidelines and Standards

Washington State Department of Transportation

115

Resources

- Bike/Pedestrian Count Data
 - Manual and permanent count data on line
 - Washington State Student Travel Survey
 - Student travel tally
- Collision Data
 - On line
 - Geo-coded
- Other
 - School walk route maps
 - OSPI state report card

Washington State Department of Transportation

116

Other Considerations

- Match
- Consistency with existing plans
- ADA Transition Plans
- Deliverability

Washington State Department of Transportation

117

Deliverability Challenges

- Citizen concerns
- Right of way
- Environmental issues
- Construction and funding

Washington State Department of Transportation

118

Citizen Concerns

- Plan consistency
- Community engagement and consent
 - Define the problem
 - Use different perspectives to build a common understanding

<http://www.wsdot.wa.gov/LocalPrograms/ATP/default.htm>

Washington State Department of Transportation

119

Community Engagement and Consent

- Discuss competing performance needs and tradeoffs;
- Propose best practice data-driven design options that start with the minimum necessary:
 - Concept Cross Section
 - Concept Plan Sheets

Washington State Department of Transportation

120

Right of Way

- Is Right of Way Needed?
- Consider Requirements for:
 - Acquiring property or property rights
 - Temporary construction easements
 - Uniform Act (aka URA) process
- Schedule extra time



Right of Way Local Agency Coordinators
<http://www.wsdot.wa.gov/LocalPrograms/ROWServices/default.htm>

121

Environmental Considerations

- Crossing water/culvert issues
- Endangered species/biological assessments
- Section 4-F (parks, historic properties and school grounds)
- Cultural resources

Local Programs Environmental Team
<http://www.wsdot.wa.gov/LocalPrograms/Environment/>

122

Construction and Funding

- Scoping that doesn't include the entire project
- Alternate (additive) bids
 - Disadvantaged business enterprise goals
 - Risk to the contractor
 - Bids are too high
- Match



123

Agency Coordination

Who Completes the Application and Who Provides Input?

- Transportation Planner
- Transportation Engineer/Public Works
- City Managers, Clerks etc.
- School District and Schools

Engage internal multi-disciplinary subject matter experts in decision making.

124

Contact Information

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125

Please...



10 minutes

canada.goplayment.com

126

Safe Routes to School Project Development

Brandon Blankenagel, PE
City of Spokane



127

Project Development Process

Brainstorming

- Meet with the **School District** to discover their greatest concerns
 - Include **Traffic Engineer**
 - Brainstorm project candidates
- Meet with the **School District** AND **Health District**
 - Match up possible education and outreach programs
- Check in with **City Council**
 - Safe Routes is a well known grant opportunity
 - Project ideas come from across the city
- Prior Planning
 - Comprehensive plan, Pedestrian Plan, and Bicycle Plan
 - General goals to improve safety

128

Project Development Process

Selection

- Technical “windshield” look at project possibilities
 - Mapping, inventory of infrastructure, curb ramps, crossings, intersections, real estate, collision history, etc.
- List Pros and Cons of each project potential
- Meet up with **School District**, **Health District**, and **Traffic Engineer**
 - Discuss technical outlook, and select top candidates
 - Lay out responsibilities and deadlines moving forward
 - School attendance tallies
 - Education plan
 - Application review deadlines
- Check back with **City Council**

129

Project Development Process

Application

- Project estimate, preliminary drawings, and scope refinement
- Meet with **Police Department** to discuss enforcement and education opportunities/commitments
- Provide plenty of time for review by various stakeholders
- Communicate with **Grant Coordinator** on what is being proposed
- Assure time for **official signatures!**

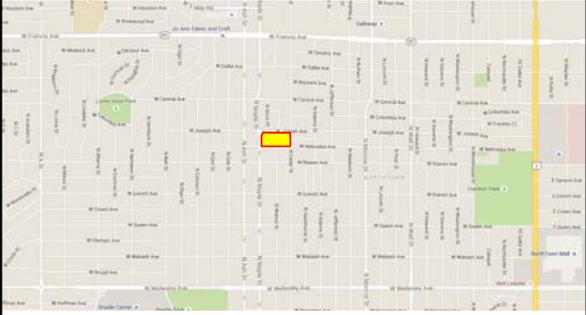
130

Ridgeview Elementary – Project Development

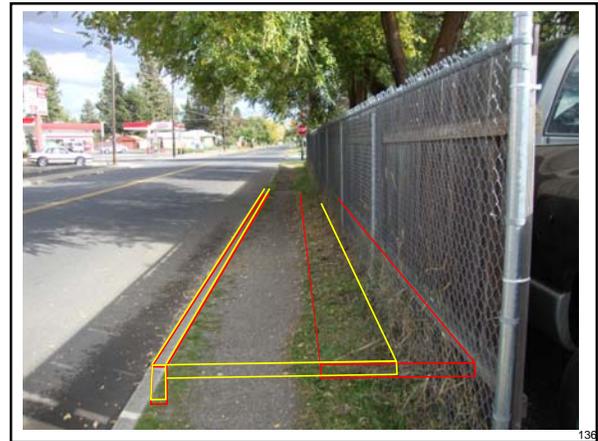
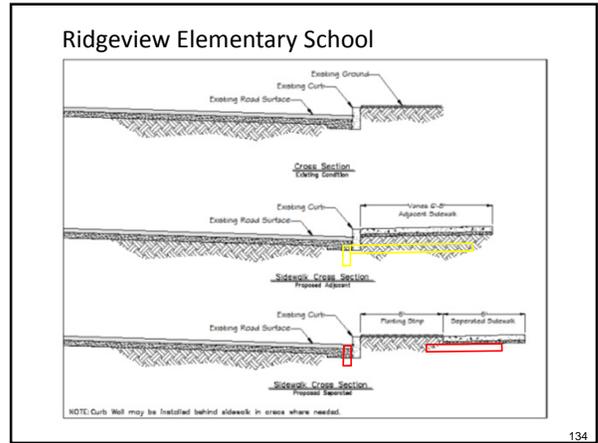
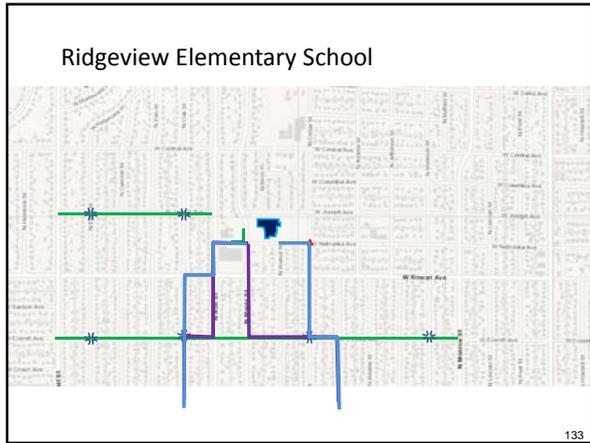
- Began with sidewalk infill with an educational component
- Explored sidewalk widening as a separation technique
- Explored narrowing the roadway to widen the sidewalk
- Chose to re-route the actual “safe route”
- Explored using a series of curb extensions (bumpouts) at intersections in order to provide vehicle separation
- Abandoned the 2012 application for a new 2014 application
 - Included full original project limits
 - Used a series of curb extensions
 - Included re-routing of “safe route”
 - Included establishment of new crossing guard at new crossing location

131

Ridgeview Elementary School



132



Ridgeview Elementary - Elements for Success

- Sidewalk Infill...
 - With separation from vehicle traffic (curb extensions)
- Realignment of the route OFF major arterial
 - Improved arterial crossing location
 - Establishment of a new Crossing Guard
- Education Program
- Coordination with stakeholders:
 - School District
 - Health District
 - Traffic Engineer
 - City Council
 - Mayor

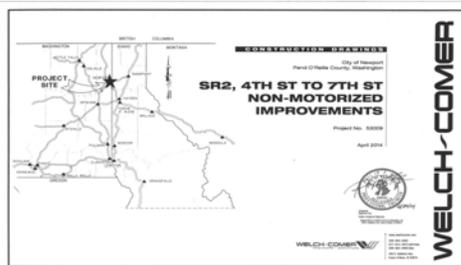
139



WSDOT SR 2, 4th Street to 7th Street Non-Motorized Improvements Project

City of Newport, Washington
 Presentation to:
 Washington Transportation Professionals Forum (WTPF)/
 Institute of Transportation Engineers Washington State Section (ITE WA)
 Thursday September 17, 2015

140



141

WSDOT SR 2, 4th Street to 7th Street Non-Motorized Improvements Project Pre-Construction



142

WSDOT SR 2, 4th Street to 7th Street Non-Motorized Improvements Project Pre-Construction



143

WSDOT SR 2, 4th Street to 7th Street Non-Motorized Improvements Project Pre-Construction



144



WSDOT
SR2, 4th Street to 7th Street
Non-Motorized Improvements Project
Post-Construction



151

Thank you and Goodbye



Spring 2016 in Western WA

152

Institute of Transportation Engineers
 Washington State Section (ITE WA)



A chapter for Eastern Washington members?

153

Instructions for webinar attendees

- Press the orange arrow toggle button to show and hide the GoToWebinar screen.
- You are in listen-only mode. Please ask questions and make comments by typing them in the "Questions" box. We will read your question to the facilitator for response.
- Please take breaks when needed.



Photo courtesy of Pacific Technologies, Inc.

154

Instructions for in person attendees

- So the webinar attendees and in-person attendees can hear better please:
 - ✓ Turn wireless devices to silent mode.
 - ✓ Move side conversations out of the room.
 - ✓ Speak loudly and clearly. We will try to repeat all questions.
- Take breaks when needed:
 - ✓ Can move around the back and sides of the room.
 - ✓ Restroom locations.
 - ✓ Food, vending machine.
- Fire exits



155

Introductions

Please tell us your:

- Name
- Agency/Business name
- Knowledge of and/or interest in an ITE WA chapter for Eastern Washington




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156

Institute of Transportation Engineers
Washington State Section (ITE WA)



ITE WA: <http://www.westernite.org/Sections/washington/>

Western District: <http://westernite.org/>

ITE International: <http://www.ite.org/>