Data, What's It Good For?

National, State, and Local Perspectives on Pedestrian and Bicycle Data Collection

Session Panel

Patrick Lynch, AICP - Transpo Group
Michael Hintze, AICP - Toole Design Group
Paula Reeves, AICP, CTP - WSDOT
Chris Comeau, AICP - City of Bellingham
Adam Parast, EIT - Transpo Group

Why Collect Ped/Bike Data?

Transportation is DATA driven

- **Articulate need**
- **Understand travel behavior**
- **Safety – crash exposure rate**
- **Evaluate operational and facility improvements**
- **Prioritize investments $$**
- **Legitimize active transportation!**

Data and Performance Measures

Data from Texas Transportation Institute (TTI) Urban Congestion Report 2011

Minneapolis/Saint Paul 2007 - 2010	Trend
Total lane miles of arterial and freeway system	UP 2.3%
Total population	UP 4.2%
Total peak period commuters	UP 5.7%
Total VMT on arterial and freeway system	DOWN 2.1%
Total Congested Travel	DOWN 14.8%

Data from Bike Walk Twin Cities Fall Bicycle and Pedestrian Count Report

Peak hour bicycling	UP 33.9%
Peak hour walking	UP 17.0%

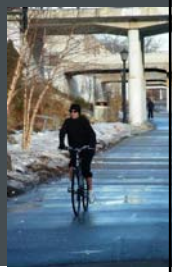
NCHRP 07 – 19

Objectives

- Research and assess technologies and methods
- Provide guidance on how to best collect data

NCHRP 7-19 Survey Findings

- **Pedestrian and bicycle counts are becoming routine for cities, MPOs, and State DOTs.**
- **No standard approach for initiating a count program**
- **Most programs are in early stages of development**
- **Manual counts are the most prevalent data collection method**
- **Most programs lack formal or dedicated funding source and rely heavily on volunteers**



Barriers to Collecting More Data

- Lack of time
- Lack of funding
- Lack of tools/technology
- Lack of organizational support
- Lack of expertise
- Lack of confidence in methods
- What if data tells us what we don't want to hear?

How Is Data Being Used?

- Talking points for supporting active transpo., complete streets
- To support additional data collection
- Justification for improved maintenance
- Grant applications
- Evaluation
- Calibrating travel demand models
- Prioritization
- Set mode share targets

Overview – Key Points

- Who we are – WSDOT Local Programs
- Why we measure biking and walking
- Manual counting – how we do it and what we have learned

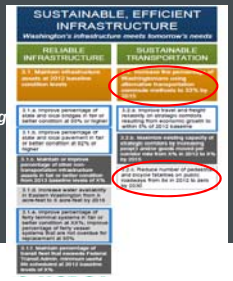
WSDOT's Local Programs Division

We provide educational, technical, and financial support with federal oversight to local customers to help them achieve their transportation goals…

- We are stewards of federal transportation funding
- We provide technical expertise and services related to federal and state requirements.
- We promote cooperative planning and partnerships.

Why does the state count bicyclists and pedestrians?

- Required by Governor's Performance Measurement Programs since 2008
- Necessary to track progress toward meeting the Washington's long range goal:
  "Reduce fatal and serious crashes involving bicyclists and pedestrians, while doubling biking and walking."
- Critical for the State Highway Safety Plan – Target Zero



Other reasons for counting bicyclists and pedestrians…

Beyond the main reason – ***They are important users of the transportation system…***

- Current national surveys are inadequate
- No statistically valid state survey data exists
- Regional household surveys vary greatly

American Community Survey Question:

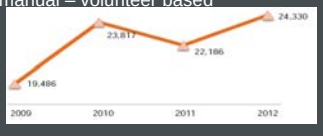
How did this person usually get to work LAST WEEK?

If this person usually used more than one method of transportation during the trip, mark the box of the one usually used.

(most of the distance or most of the time)

WSDOT's Bicycle and Pedestrian Documentation Project

- Modeled after the National Bicycle and Pedestrian Documentation Project and FHWA Non-Motorized Pilot Program
- Annual – statewide – mostly manual – volunteer based
- **Started in 2008 (6 years)**
- **AM/PM peak periods (7-9 am, 4-6 pm)**
- **80+ locations counted in 23 cities consistently**

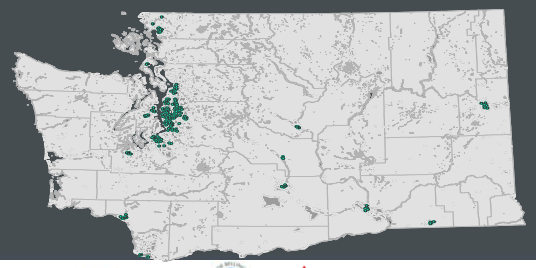


10% increase since 2008 – tracks with ACS and NHTS

#1 - City Selection

19 cities in 2008 to **42** cities in 2013

#2 - Site Selection



250 count sites in 2013

#3 – Site Background Data Collection

Background Data Sheet

Count Location:	
City:	
Type of Facility:	1 2 3 4 5
Type of Setting:	1 2 3
Scenic Quality:	1 2 3
Surrounding land uses (within 1 to 2 miles):	1 2 3 4 5
Schools, parks, visitor destinations adjacent or close to facility:	1 2 3 4
Quality of connecting facilities (paths, bike lanes, routes):	1 2 3 4
Length of facility:	1 2 3 4 5 6
Access:	1 2 3 4
Quality of overall network:	1 2 3
Traffic volumes (ADT) of adjacent road:	1 2 3 4
Traffic speeds (posted) of adjacent roads:	1 2 3 4 5
Crossings and intersections (average number per linear feet):	1 2 3 4 5
Crossing and intersection traffic:	1 2 3 4
Crossing and intersection protection:	1 2 3
Condition:	1 2
Topography:	1 2 3

Type of facility:
1 = paved multi use path at least 8 feet wide
2 = unpaved trail
3 = bike lane with standard signing and striping
4 = signed bike route
5 = street or road with marked shoulders (min. 2 feet wide)
6 = street or road with no shoulders or less than 2 feet wide
7 = sidewalk (at least 4 feet wide)
8 = unimproved (dirt, gravel) shoulder

#4 – Identify and Train Observers

Washington State Department of Transportation - NEWS
Olympia Headquarters – PO Box 47322 – Olympia, WA 98504-7322 – 360-705-7075

FOR IMMEDIATE RELEASE
Aug. 21, 2012

Contact: Ian Macek, WSDOT bicycle and pedestrian coordinator, 360-705-7596

Volunteers needed for annual state bicycle and pedestrian count

WSDOT hopes to enlist more than 300 volunteers

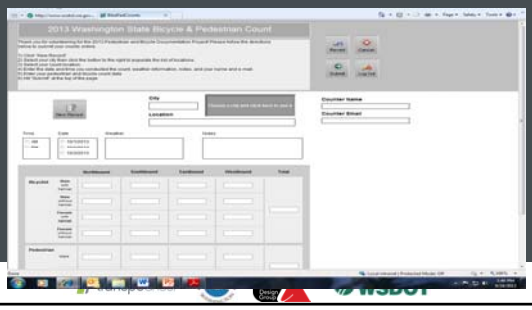
OLYMPIA – Every autumn for the past four years, a troop of volunteers armed with clipboards and tally sheets have taken to the streets to count the number of people who walk or ride bicycles to their destinations. Volunteers are needed again this September to capture a snapshot of walking and bicycling in communities across Washington state.

The Washington State Department of Transportation and the Cascade Bicycle Club are seeking more than 300 volunteers to help conduct the fifth annual bicycle and pedestrian survey. Organizations like FuelFirst and the Bicycle Alliance of Washington will also participate to help bike lanes, sidewalks, and other

The Seattle Times | Local News
VALLEY RECORD
INLANDER
Courier-Herald
spokane

Observer Instructions…
http://www.wsdot.wa.gov/bikecount.htm

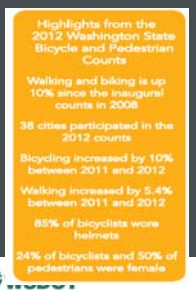
#5 - Data Collection



What have we learned so far?

In addition to capturing large amounts of data from across WA in a short period of time at very low cost…

- Improving local, regional and state planning
- Strengthening partnerships
- Raising awareness about the need for more and better bicycle



Next Steps

- Starting another 5 year cycle of manual data collection
- In collaboration with Portland State University, reviewing and proposing improvements to the process
- Initiating research to develop risk exposure rates for bicyclists and pedestrians – using counts and safety data

Counting On Non-motorized Transportation in Bellingham, WA

Local Data = Better Local Planning

Chris Comeau, AICP, Bellingham
APA Washington Conference
October 3, 2013 Bellevue, WA

Annual Bicycle & Pedestrian Counts

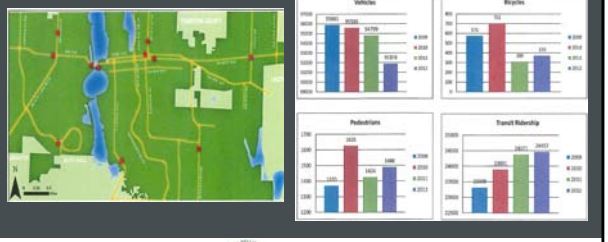
- WSDOT, Cascade Bicycle Club, Bicycle Alliance of WA, & 42 Cities
  http://www.wsdot.wa.gov/bike/Count.htm
- Each Autumn Since 2008
  - Late September – Early October
- Prominent Corridors
- 18 Count Locations in Bellingham
- AM & PM Count Times
- Significant Volunteer Effort

Why Collect Bike & Pedestrian Data?

- Understanding Regional Mobility
- Long-term Mode Share Goals
- Multimodal Transportation Concurrency
- Pedestrian & Bicycle Master Plans
- Ped-Oriented Urban Village Plans
- Providing Adequate Bike Parking

Understanding Regional Mobility

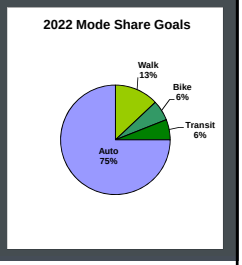
Mobility Indicators (Olympia)



Measures of Mode Share

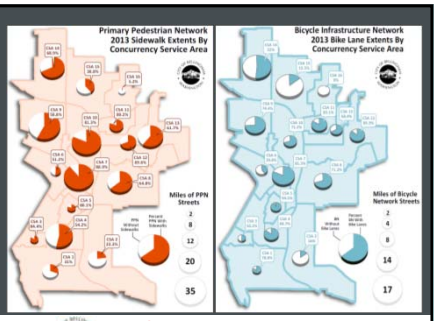
TG-28: Set target goals to increase the mode share of pedestrian, bicycle, and transit trips and reduce automobile trips as a percentage of total trips, as listed below.

Mode	2004	2010	2015	2022
Automobile	87%	84%	80%	75%
Transit	2%	3%	4%	6%
Bicycle	3%	4%	5%	6%
Pedestrian	8%	9%	11%	13%



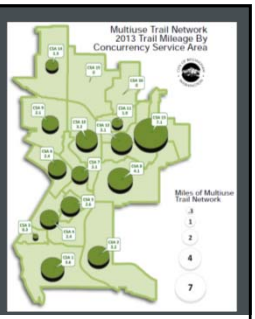
Bellingham's Multimodal Transportation Concurrency Program

Includes:
- Pedestrian Network
- Bicycle Network
- Multiuse Trail Network *(Selected Segments)*

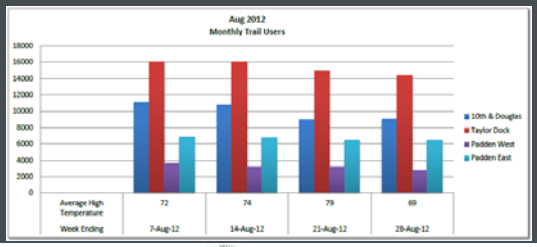


Multiuse Trail Network

- 65 miles of multiuse trail citywide
- Primarily crushed limestone gravel
- 38.5 miles of "Bicycle Friendly Trails" are incorporated into Multimodal Transportation Concurrency Program
- Primary Function = Recreation
- Secondary Function = Transportation "Off-street bike & ped connections"



Automated Trail Counters



Pedestrian & Bicycle Master Plans

PEDESTRIAN NETWORK

- Existing Pedestrian Facilities:
  - 169 lane miles sidewalk
- Planned Pedestrian Facilities:
  - 267 lane miles sidewalk

BICYCLE NETWORK

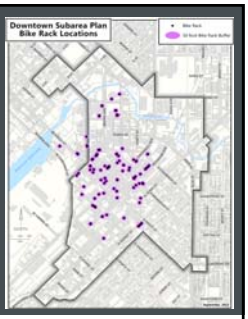
- Existing Bike Facilities: 87 lane miles
  - 65 miles bike lane
  - 20 miles paved shoulder
  - 1 mile climbing bike lane
  - 1 mile shared lane (sharrow)
- Planned Bike Facilities: 298 lane miles
  - 151 miles bike lane
  - 103 miles bike blvd
  - 33 miles paved shoulder
  - 29 miles shared lane (sharrow)
  - 12 miles climbing bike lane
  - 4.3 miles buffered bike lane
  - 1.7 miles cycle track
  - 15 miles "needs further study"

Pedestrian-Oriented Urban Village Plans

Residents Living Within 1/4-mile (5-minute) Walk of Urban Villages

Bicycle Parking Needs

- Downtown Bike Parking
- Primary demand locations
  - Civic destinations (Farmer's Market)
  - Popular businesses (Local Brewpubs)
- Inventory of Bike Rack Capacity
- Estimate existing and unmet demand for bike parking
- Targeted addition of bike racks



More Local Examples

"If you don't use the data you collect, you won't collect it for long."

Mark Hallenbeck
UW TRAC Director

Context and Examples

Ongoing (Policy)

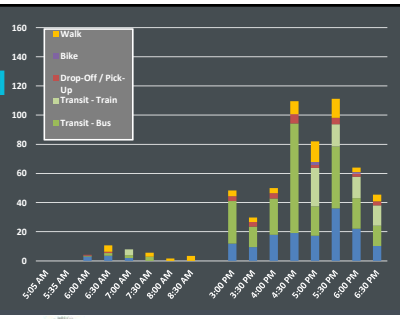
Once (Analysis)

- Mode share goals
- Urban village and TOD
- Inform decision making
- Safety analysis
- Multi-modal access
- Site design & operations

WSF and ST Transit Stations

- Why – Station access, increase ridership, manage parking, project prioritization and safety
- Who/How – Consultant staff, manual
- Impact – Facts and trends, parking management, policy implications

Mukilteo Multimodal Terminal



transpoGROUP WSDOT

Mukilteo Multimodal Terminal

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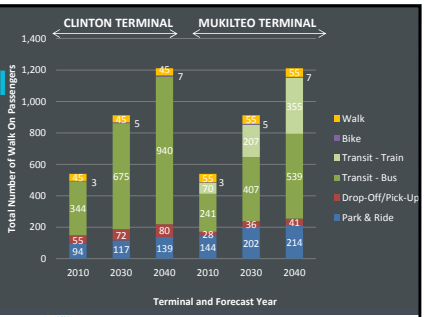
Mukilteo Multimodal Terminal



transpoGROUP WSDOT

Sounder Access Study

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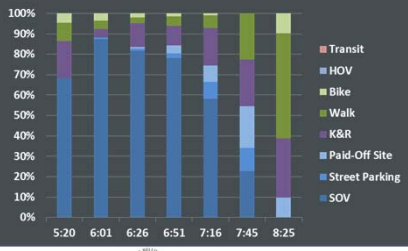


transpoGROUP WSDOT

Sounder Access Study

transpoGROUP WSDOT

Site Logistics

Site Logistics

- Why – Safety, efficiency, expansion
- How/Who – Consultant staff, manual
- Impact – Issue identification, communication & consensus building, design solutions

Seattle Arena

Seattle Arena

- Why – Pedestrian inundation, congestion management, operations
- Who/How – Consultant staff, manual
- Impact – Sidewalk sizing, lighting

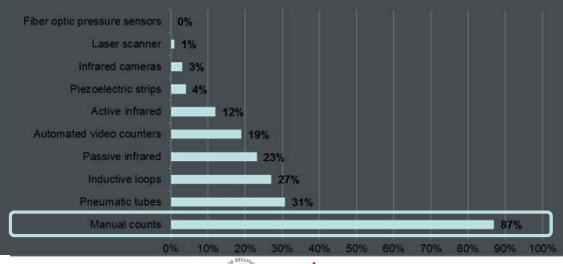
How Are Agencies Paying For It?

- Limited staff time/volunteer-based
- Vehicle registration fees
- Partnerships
- Incorporated into general traffic data collection efforts
- Gifts

Seattle Times

How is Data Being Collected?

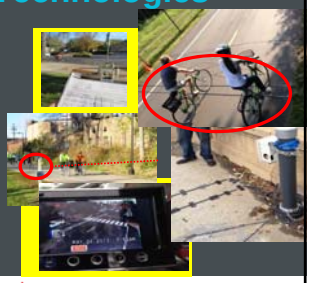
Current Methods of Bicycle Counting



STATE OF PRACTICE

Methods and Technologies

- Manual Counts
  - BIKE & PED with attributes
- Tubes and Loop Detectors
  - BIKE ONLY
- Radio beam and Passive IR
  - BIKE & PED (not separately)
- Combined Technologies
  - BIKE & PED
- Video Data Collection
  - BIKE & PED with attributes in some cases



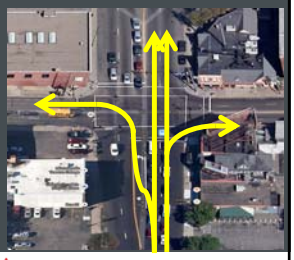
Data Collection Challenges

Motor vehicle data collection
- Widely collected
- Easy to track vehicle movements
- Predictable patterns and routes
- Years of trend data to analyze

Bicycle and pedestrian data collection
- Sparsely collected
- Difficult to track and tabulate movements
- Unpredictable paths of travel
- Weather and seasonal impacts
- Lack of historical data

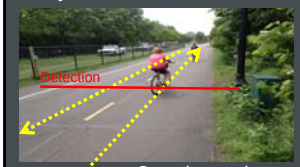
Motor Vehicle Data Collection

Constrained; somewhat predictable

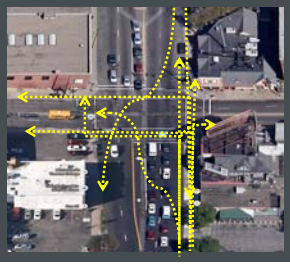


Bicycle Data Collection

Constrained environments easy to monitor



Complex environments harder to define



Pedestrian Data Collection

Constrained environments easy to monitor

People tend to make their own path

Practice continues to advance

- National Bicycle and Pedestrian Documentation Project 2003
- Pedestrian and Bicycle Data Collection Guide 2005
- TRB Bicycle and Pedestrian Data Subcommittee 2011
- Traffic Monitoring Guide update 2013
- NCHRP 7-19 Spring 2014

Resources

National Bicycle Pedestrian Documentation Project
http://bikepeddocumentation.org/

Traffic Monitoring Guide
http://www.fhwa.dot.gov/policyinformation/tmguide/

Transportation Research Board Bicycle and Pedestrian Data Subcommittee
https://sites.google.com/site/bikepeddata/

Resources…

WSDOT's Websites

http://www.wsdot.wa.gov/Bike/count.htm
http://www.wsdot.wa.gov/Walk
http://www.wsdot.wa.gov/LocalPrograms/Planning

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