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Annual Metro Regional Trail Count and Why Local Extrapolation Factors Matter

Geoff Gibson

Metro

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Making Pedestrians and Bicyclists Count on Regional Trails

May 26th, 2017

Geoff Gibson, Metro

Mel Huie, Metro

Robert Spurlock, Metro

Mike Sellinger, Alta Planning + Design

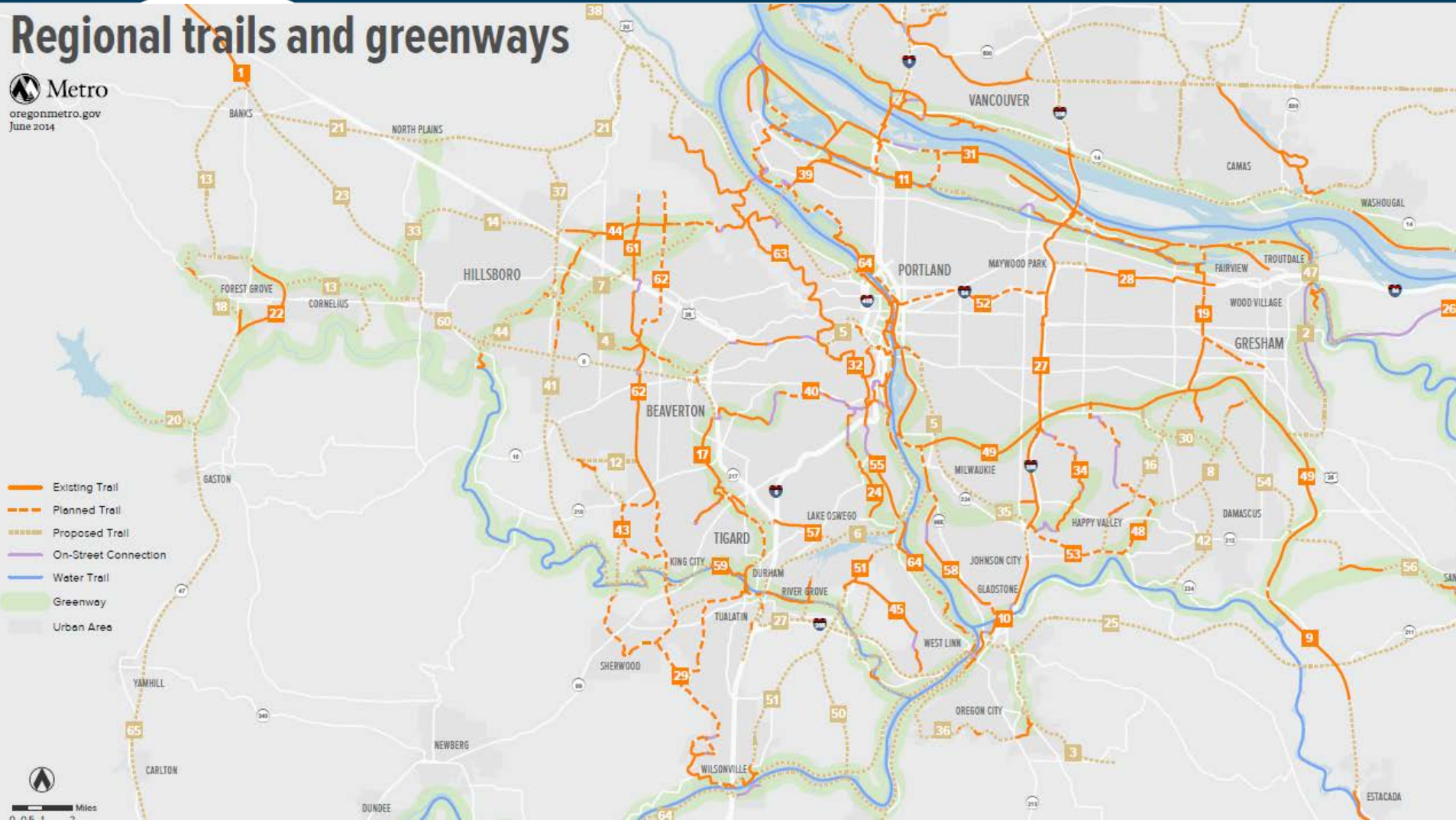
What is a regional trail?



350 miles of regional trails

Regional trails and greenways

 Metro
oregonmetro.gov
June 2014



Metro's involvement in trails

- Purchase land for new trails
- Partner with cities to plan new or expand current trails
- Write grants to fund new trails or expand old ones
- Organize and coordinate the annual trail count, including the housing and distribution of the data



How it started



**THE
INTER
TWINE**

National Bicycle and Pedestrian Documentation Project (NBPD)

www.bikepeddocumentation.org

STANDARDIZED TRAIL SURVEY

Site ID: _____ Trail Name: _____ Location: _____
 To be completed by Data Collector: Date: _____ Time Period: _____ Weather: _____
 Name of Data Collector: _____

1. What best describes why you are out here today?
☐ For pleasure/recreation (A)
☐ Going to/from work or school (B)
☐ Shopping, doing errands, visiting friends (C)
☐ Other: _____

2. What are you doing on the trail right now?
☐ Walking (A) ☐ Biking (B) ☐ Jogging (C)
☐ Other: _____

3. Please check any other transportation modes in your trip today, including how you got to the trail.
☐ Car (A) ☐ Carpool (B)
☐ Transit (C) ☐ Walk or bike (D)

4. Where did you start this trip? (nearest street intersection)
 _____ & _____

5. Where will you end this trip? (if you will end where you started, give the furthest point reached)
 _____ & _____

6. How do you rate the path on each of the following?

	Excellent	Good	Fair	Poor	Don't Know
Safe (A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean (B)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Condition of trail surface (C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Width of trail (D)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length of trail (E)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crowding on trail (F)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed on trail (G)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Condition of natural features/area (H)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access points - connectivity (I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access for persons with disabilities (J)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of information:					
• directional signage/maps (K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• concerning nature (L)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• concerning safety (M)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of facilities:					
• restrooms (N)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• drinking fountains (O)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• trash cans (P)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• parking (Q)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Why are you using this trail instead of walking/riding elsewhere? Check all that apply.
☐ Accessibility/close (A)
☐ Direct/good connections (B)
☐ Safer than using roads (C)
☐ Scenic qualities (D)
☐ Flat / level (E)

8. In the past month, how often used this trail?
☐ First time ever (skip to Ques)
☐ 0-5 times (A) ☐ 6-10 (B)
☐ 11-20 times (C) ☐ Daily (D)

9. Please check the seasons in use the trail.
☐ Summer (A) ☐ Fall (B)
☐ Winter (C) ☐ Spring (D)

10. Home zip code: _____

11. Your age? _____

12. Your gender?
☐ Female ☐ Male

13. What is your race or ethnicity? (Optional: Check all that apply)
☐ Hispanic/Latino (A)
☐ African American (B)
☐ White (C)
☐ Asian (D)
☐ Native American or Alaskan (E)

14. Comments?

STANDARDIZED TRAIL COUNT FORM

Site ID: 010 Trail Name: Waterfront Park Trail Location: access path @ 5th Monson St.
 To be completed by Data Collector: Date: _____ Time Period: _____ Weather: _____
 Name of Data Collector: _____

	Bicycles		Pedestrians		Wheelchairs		Others	
	Female	Male	Female	Male	Female	Male	Female	Male
00:00-15								
15:15-30								
30:30-45								
45:45-1:00								
1:00:15-15								
1:15:15-30								
1:30:15-45								
1:45:2:00								
Total								

Data Input

STANDARDIZED SCREENLINE COUNT FORM

Name: _____ Location: _____ # _____
 Date: _____ Time Period: _____ Weather Conditions: _____
 Please fill in your name, count location, date, time period, and weather conditions (sunny, rainy, very cold). Count all bicyclists and pedestrians crossing your screen line under the appropriate categories.

- Count bicyclists who ride on the sidewalk.
- Count the number of people on the bicycle, not the number of bicycles.
- Pedestrians include people in wheelchairs or others using assistive devices, children in strollers, etc.
- People using equipment such as skateboards or roller skates should be included in the "Other" category.

	Bicycles		Pedestrians		Others
	Female	Male	Female	Male	
00-15					
15-30					
30-45					

- 15 minute intervals
- Count from each direction
- County by person
- Others include
 - Skateboarders
 - Rollerbladers

National Bicycle and Pedestrian Documentation Project



Purpose

- secure grant funding
- return on investment of new facilities
- decide where and when to build new trails
- gather trail user feedback
- agency budgeting
- traffic modeling
- understand trail user behavior



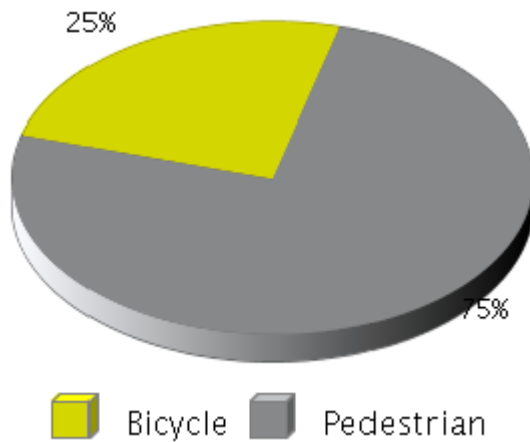
Purpose



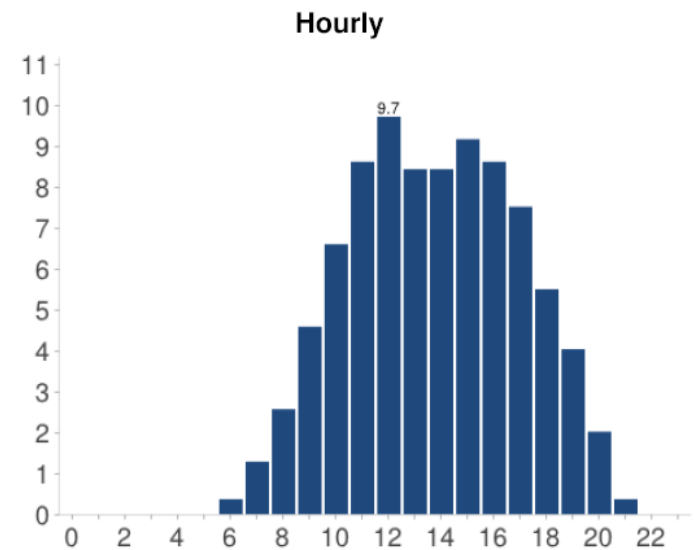
“The trail use data helped us secure nearly \$800K in grants in the past year, including mid-block crossings and trailhead development. Our three years of trail counts consistently show that 30 percent of trail users dash across an arterial street during rush hour, a clear demonstration of the need for safe crossing. The surveys have given trail users a voice. They love the trail, but have asked for support facilities. Funding agencies responded to this.”

—Mary Ordal
City of Hillsboro, Parks & Recreation

Infrared counters - EcoCounter



Infrared counters - TRAFx



Improvements since 2008

	Sites counted	Partner agencies	Volunteer hours
2008	40	6	123
2016	104	15	430



	Bicycles		Pedestrians		Wheelchairs		Others		
	Female	Male	Female	Male	Female	Male	Female	Male	
:00--:15 5-5:15	##### ##### (30)	##### ##### (39)	##### ##### (5) (X)	##### ##### (18)	0	0	X		
:15--:30 5:15-5:30	##### ##### (31)	##### ##### (19)	##### ##### (X) (19)	##### ##### (X) (17)	0	0	X	X	
:30--:45 5:30-5:45	##### ##### (36)	##### ##### (70)	##### ##### (X) (23)	##### ##### (X) (19)			X	X	
:45-1:00 5:45-6:00	##### ##### (22)	##### ##### (20)	##### ##### (10)	##### ##### (11)					
1:00-1:15 6:00-6:15	##### ##### (16)	##### ##### (34)	##### ##### (21)	##### ##### (32)			1	1	
1:15-1:30 6:15-6:30	##### ##### (33)	##### ##### (14)	##### ##### (5)	##### ##### (15)					
1:30-1:45 6:30-6:45	##### ##### (12)	##### ##### (37)	##### ##### (21)	##### ##### (18)					
1:45-2:00 6:45-7:00	##### ##### (9)	##### ##### (28)	##### ##### (11)	##### ##### (17)					
Total	845	189	388	115	149	0	0	1	3

Improvements since 2008

Login to Your Site!

Name

Big Foot

115: Wildwood Trail @ Firelane 5
116: Saltman Road above Leif Eriksen Dr
121: Leif Eriksen Dr @ above Thurman trailhead
123: Wildwood Trail @ Cornell Road
125: Wildwood Trail @ W Burnside Rd
131: Highway 26 Trail @ SW Skyline Blvd
135: Marquon Trail @ SW Taibot Terrace
136: SW Fairmount Blvd @ SW Taibot Terrace
144: SW Terwilliger Blvd @ SW Campus Dr
146: SW Terwilliger Blvd @ SW Capitol Hwy
148: Tryon Creek Trail @ SW Boones Ferry Rd
155: Red Electric Trail @ SW Bertha Blvd & SW Vermont St
170: Irving Park Path @ path intersection
171: NE Cully Blvd @ NE Prescott St
172: NE 82nd Ave @ NE Wygant St
173: NE Glean St @ NE 134th Ave
180: SE 82nd Ave @ SE Cooper St
181: SE 122nd Ave @ SE Harold St
182: SE Powell Blvd @ SE 130th Ave
183: SE Powell Blvd @ SE 116th Ave
184: SE Powell Blvd @ SE 145th Ave
185: SE Powell Blvd @ SE 157th Ave
186: SE Powell Blvd @ SE 165th Ave
190: SW Barbur Blvd @ Path intersection south of SW Penneyer
191: SW Capitol Hwy @ SW 30th Ave & SW Vermont St
192: SW Barbur Blvd @ SW Luradel St
193: Gibbs Street Pedestrian Bridge @ I-5
194: SW Condon @ Terwilliger
195: Tilikum Crossing North Side
196: Tilikum Crossing South Side



Improvements since 2008

nbpd110816.xls [Compatibility Mode] - Micro

Security Warning: Macros have been disabled.

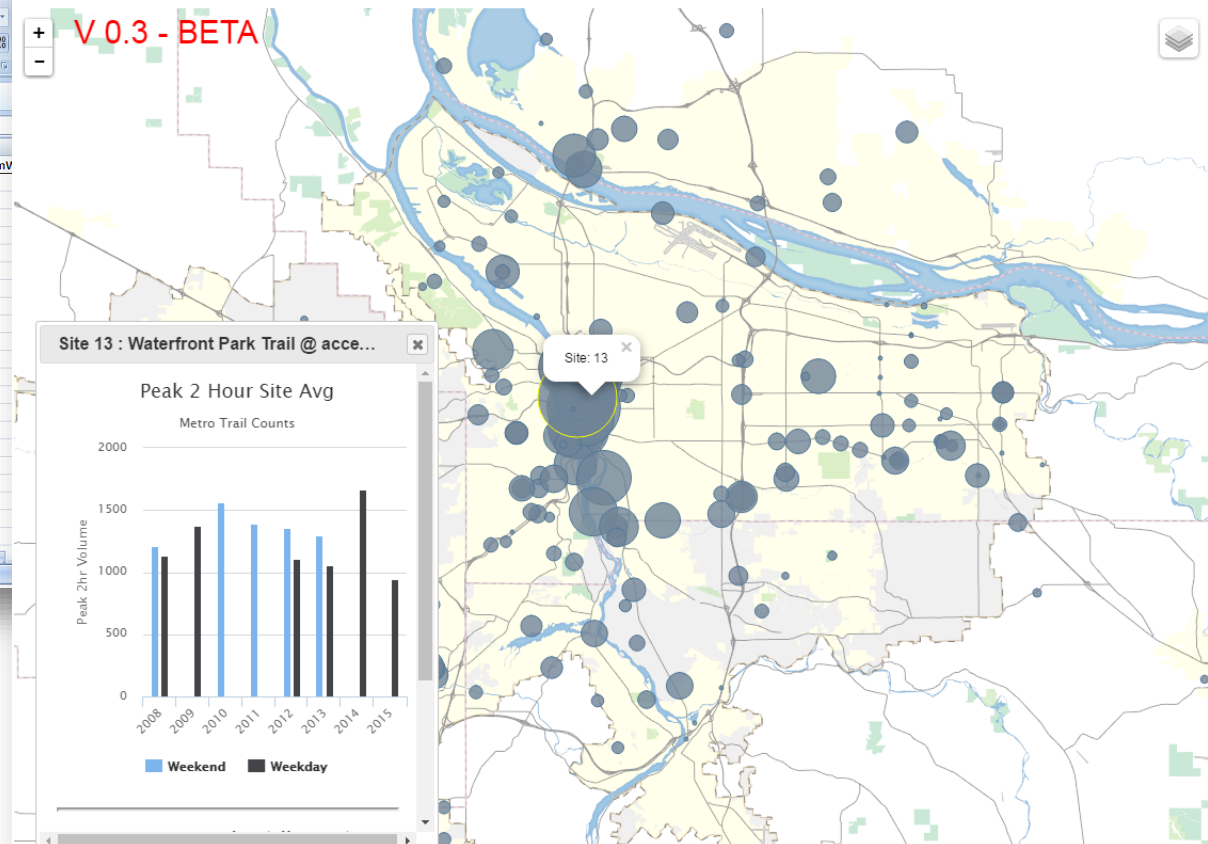
Y28

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	siteID	shift	day	date	qtrHrBeg	fBik	mBik	totBik	fPed	mPed	totPed	fWhlchr	mV	
2	503	a	3	5/18/11	7:00 AM	2	4	6	5	4	9	0	0	
3	503	a	3	5/18/11	7:15 AM	1	5	6	5	8	13	0	0	
4	503	a	3	5/18/11	7:30 AM	1	3	4	7	5	12	0	0	
5	503	a	3	5/18/11	7:45 AM	1	3	4	2	3	5	0	0	
6	503	a	3	5/18/11	8:00 AM	1	3	4	1	1	2	0	0	
7	503	a	3	5/18/11	8:15 AM	0	2	2	2	0	2	0	0	
8	503	a	3	5/18/11	8:30 AM	0	1	1	2	7	9	0	0	
9	503	a	3	5/18/11	8:45 AM	0	7	7	3	2	5	0	0	
10	503	c	6	5/21/11	9:00 AM	1	3	4	1	2	3	0	0	
11	503	c	6	5/21/11	9:15 AM	0	8	8	2	2	4	0	0	
12	503	c	6	5/21/11	9:30 AM	2	4	6	6	0	6	0	0	
13	503	c	6	5/21/11	9:45 AM	5	5	10	2	1	3	0	0	
14	503	c	6	5/21/11	10:00 AM	4	6	10	2	1	3	0	0	
15	503	c	6	5/21/11	10:15 AM	4	10	14	2	1	3	0	0	
16	503	c	6	5/21/11	10:30 AM	4	10	14	9	3	12	0	0	
17	503	c	6	5/21/11	10:45 AM	6	15	21	8	2	10	0	0	
18	503	c	7	5/22/11	9:00 AM	4	8	12	1	2	3	0	0	
19	503	c	7	5/22/11	9:15 AM	1	2	3	2	2	4	0	0	
20	503	c	7	5/22/11	9:30 AM	4	3	7	6	0	6	0	0	
21	503	c	7	5/22/11	9:45 AM	2	5	7	2	1	3	0	0	
22	503	c	7	5/22/11	10:00 AM	3	5	8	2	1	3	0	0	

Ready | Scroll Lock

Metro Area Trail Counts

The map below allows you to explore the metro area and review the trail count data at each station. The larger the circle, the more people who used the trail at that location during the counting cycle. Zoom into an area and click any circle to get a detailed count and breakdown of the usage over the years.



For more information



2008 - 2015

Intertwine Trail Snapshot

Published January, 2017

oregonmetro.gov/parks

Estimating Annual Trail Use

- Metro has 70+ TRAFx infrared counters located on the Intertwine. These counters collect data 24 hours a day, 7 days a week.
- The data from the manual counts are extrapolated to annual volumes using the data from the automatic counters.

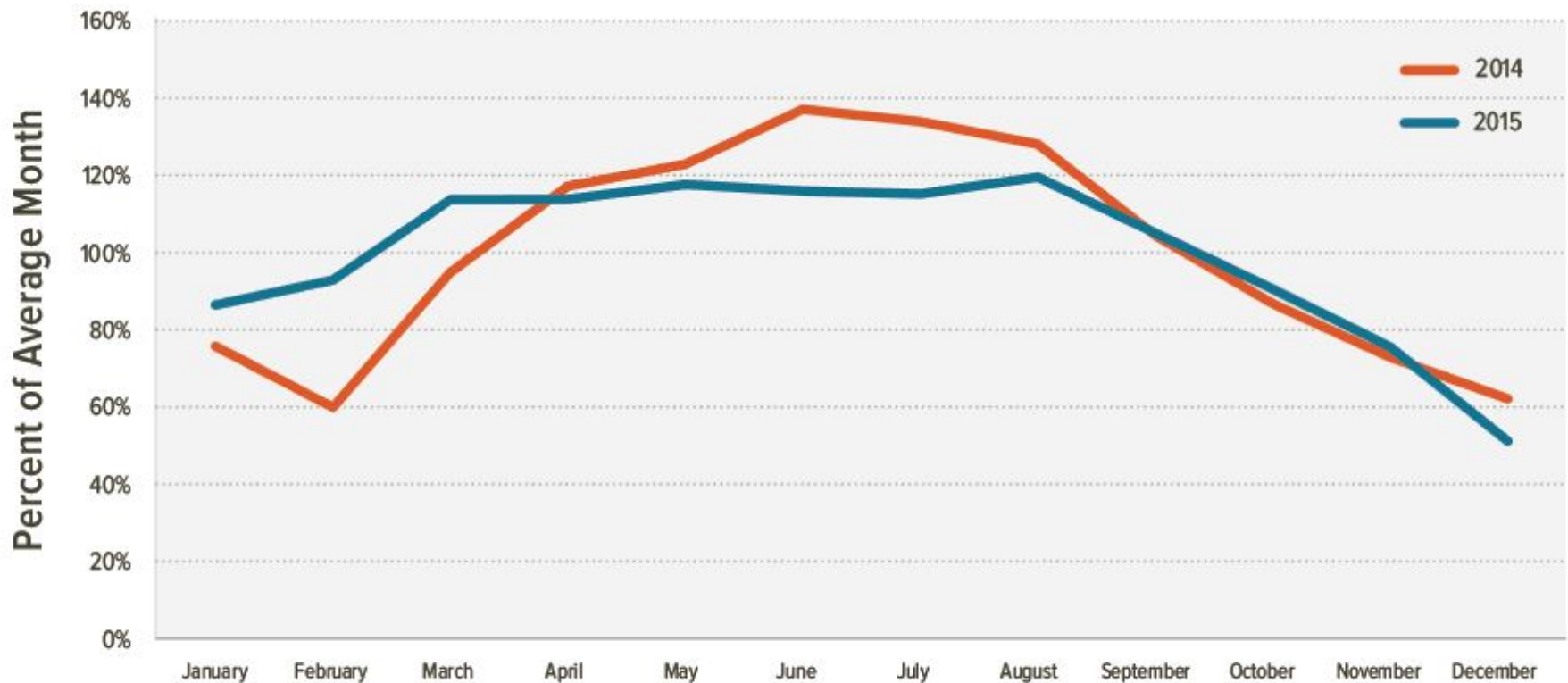


Methodology

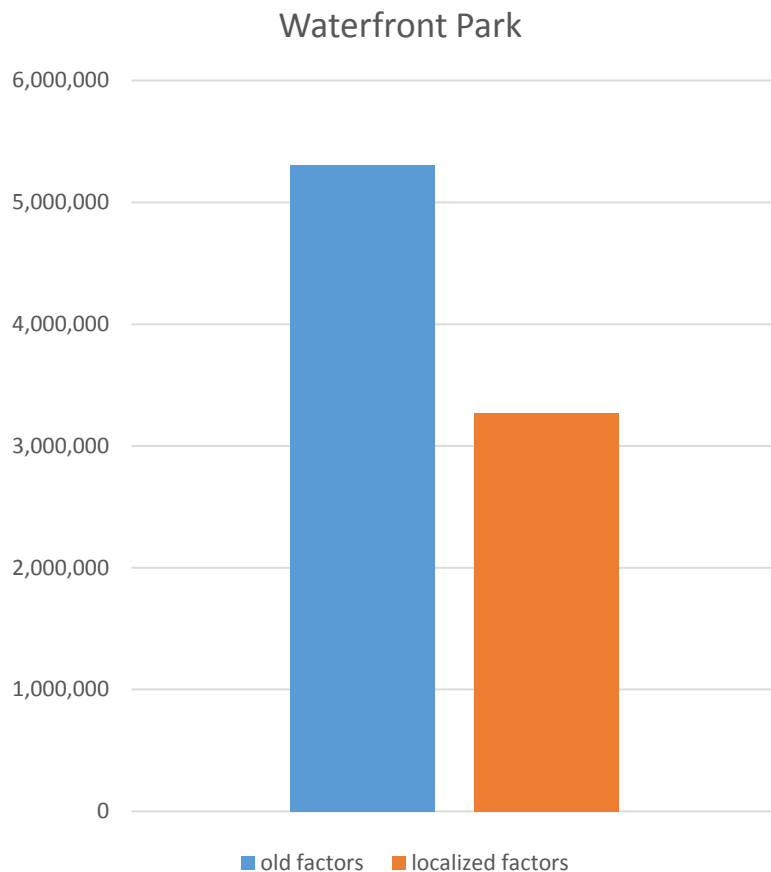
- The manual counts were conducted using the methodology from the National Bicycle and Pedestrian Documentation Project.
- The extrapolation factors used data from 14 TRAFx infrared counters.
- The extrapolation of short term count data to daily and annual estimates was calculated using the AASHTO method.

Extrapolation Factors

Trail Volumes by Month



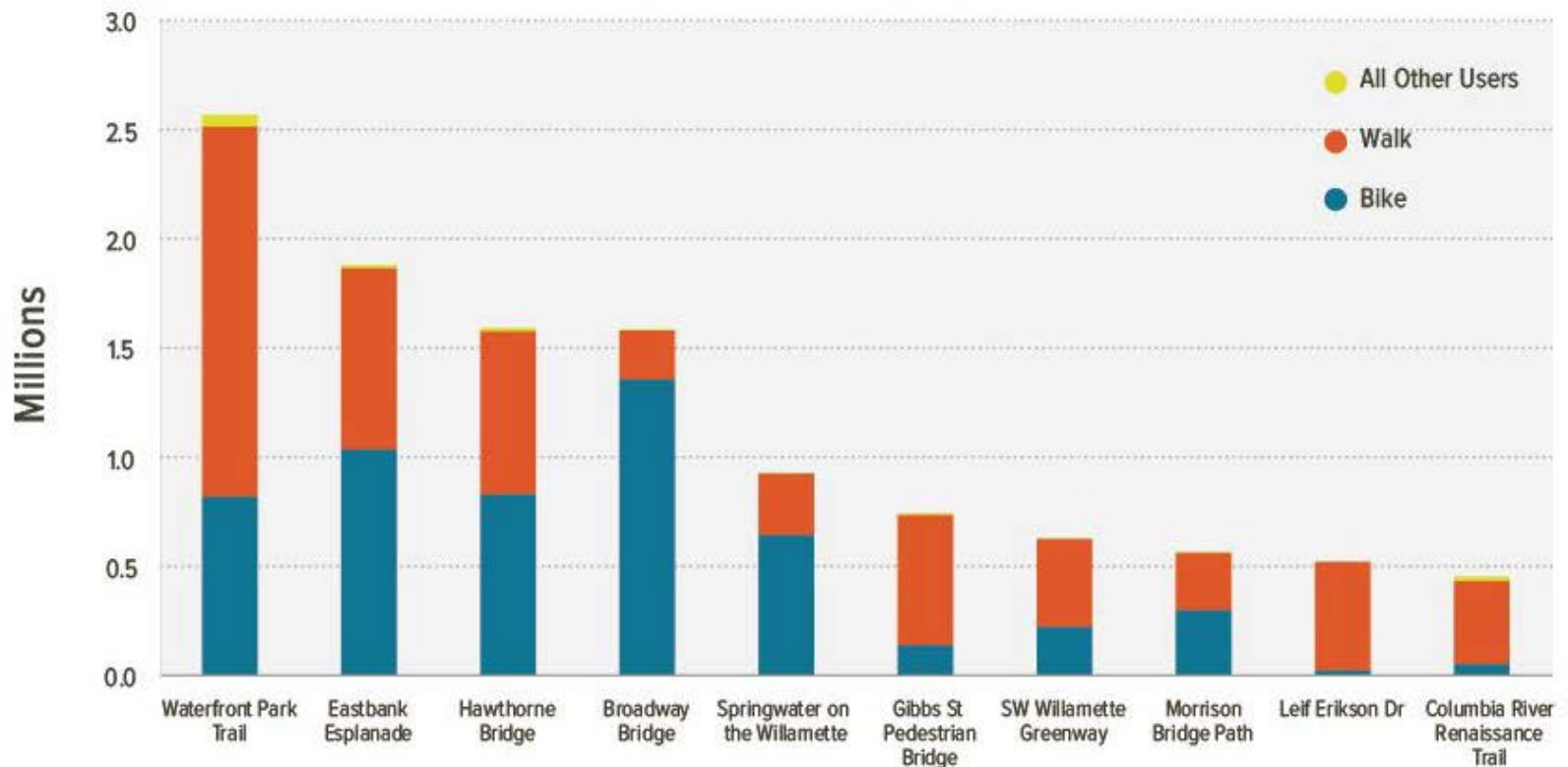
Results



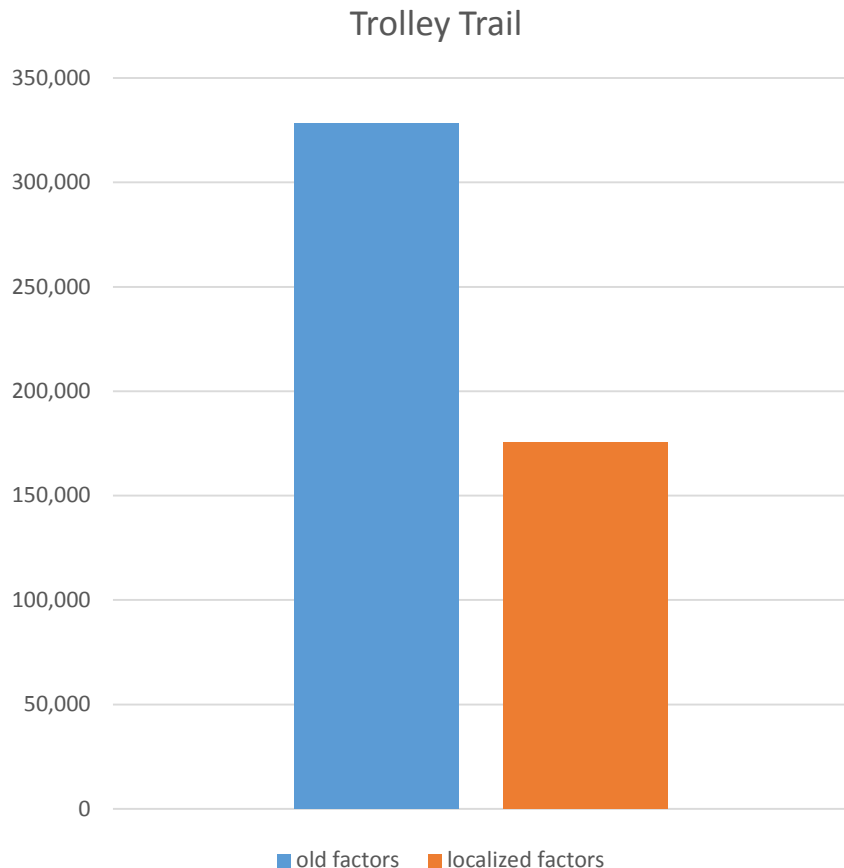
- The extrapolation factors were applied to the 124 sites that were manually counted in 2014 or 2015.
- The annual estimated number of trail users at these sites was 37.9 million people, and the average site was 306,000 people.
- The estimate for the top site, the Waterfront Park Trail, was over 2.5 million people.

Estimated Annual Trail Volumes

Annual Volumes Along the Top Ten Corridors



Why local factors?



- Localized extrapolation factors provide a more accurate estimates than state or national factors.
- The data gathered is used by jurisdictions across the region to support funding requests, grant applications, and planning and development.
- Trail count data leads to more funding for trails!

2016 Trail Count Snapshot

104 sites were counted

143 volunteers

30,346 total trail users

12,257 women

18,089 men

12,810 bicyclists

16,920 pedestrians

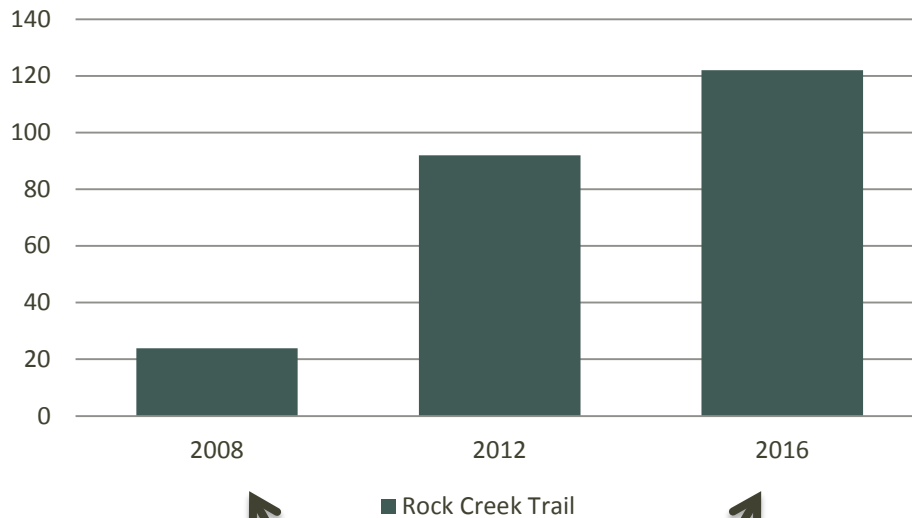
42 wheelchair users

535 other



Rock Creek Trail, Hillsboro

Rock Creek Trail

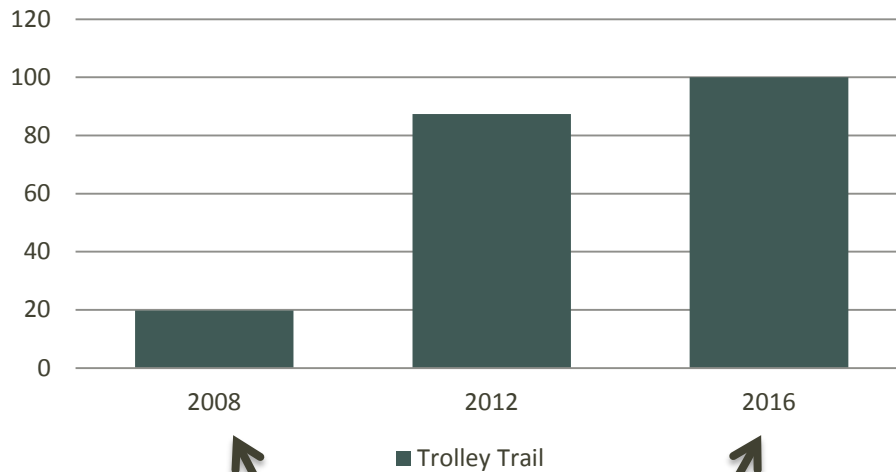


510%



Trolley Trail, North Clackamas

Trolley Trail

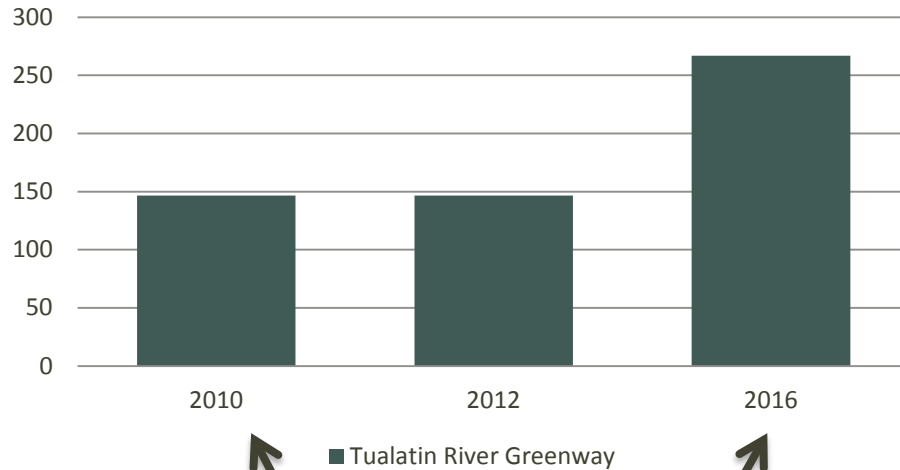


507%

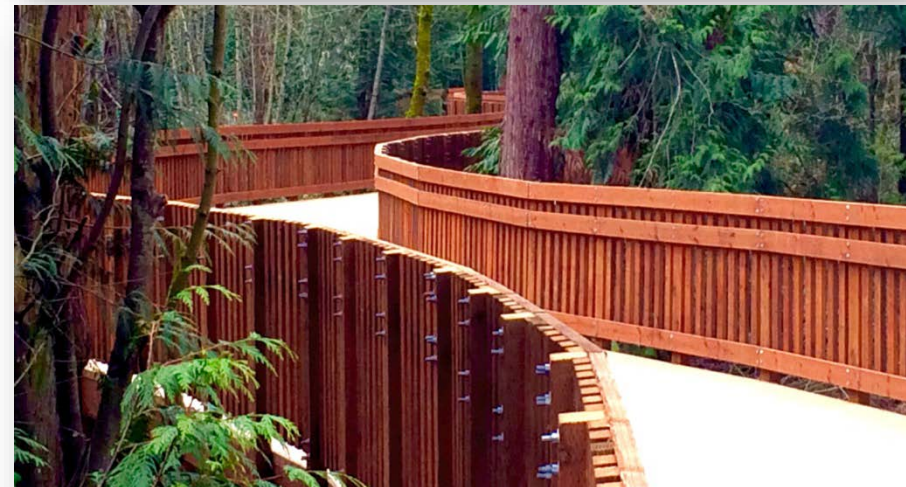


Tualatin River Greenway

Tualatin River Greenway

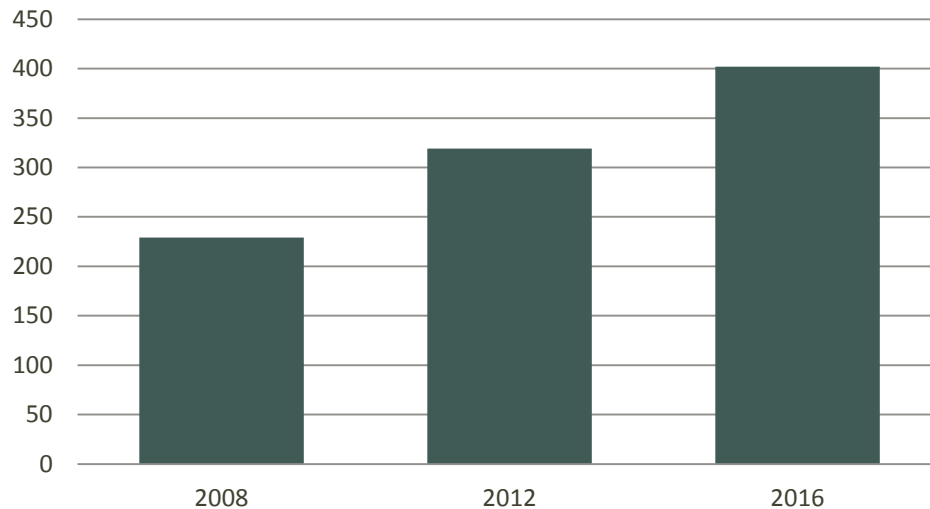


182%

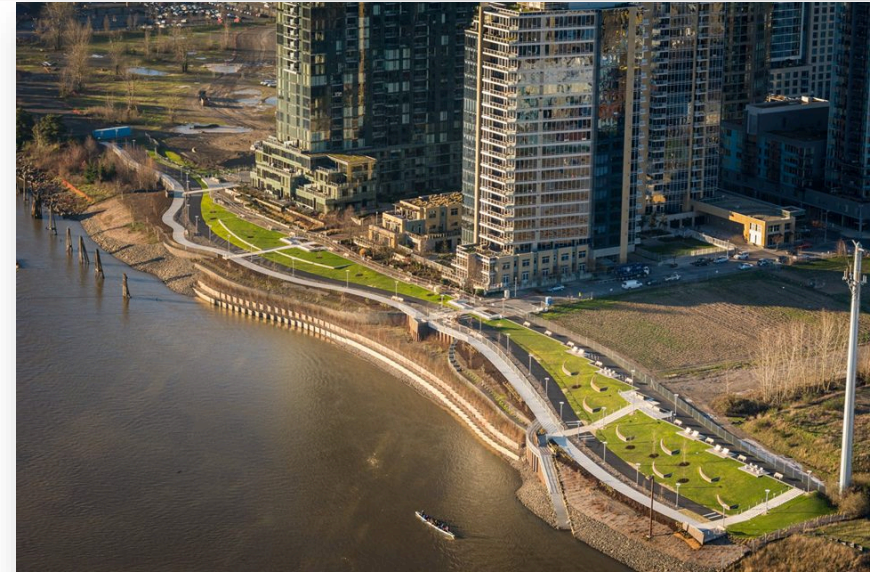


Southwest Portland Willamette Greenway

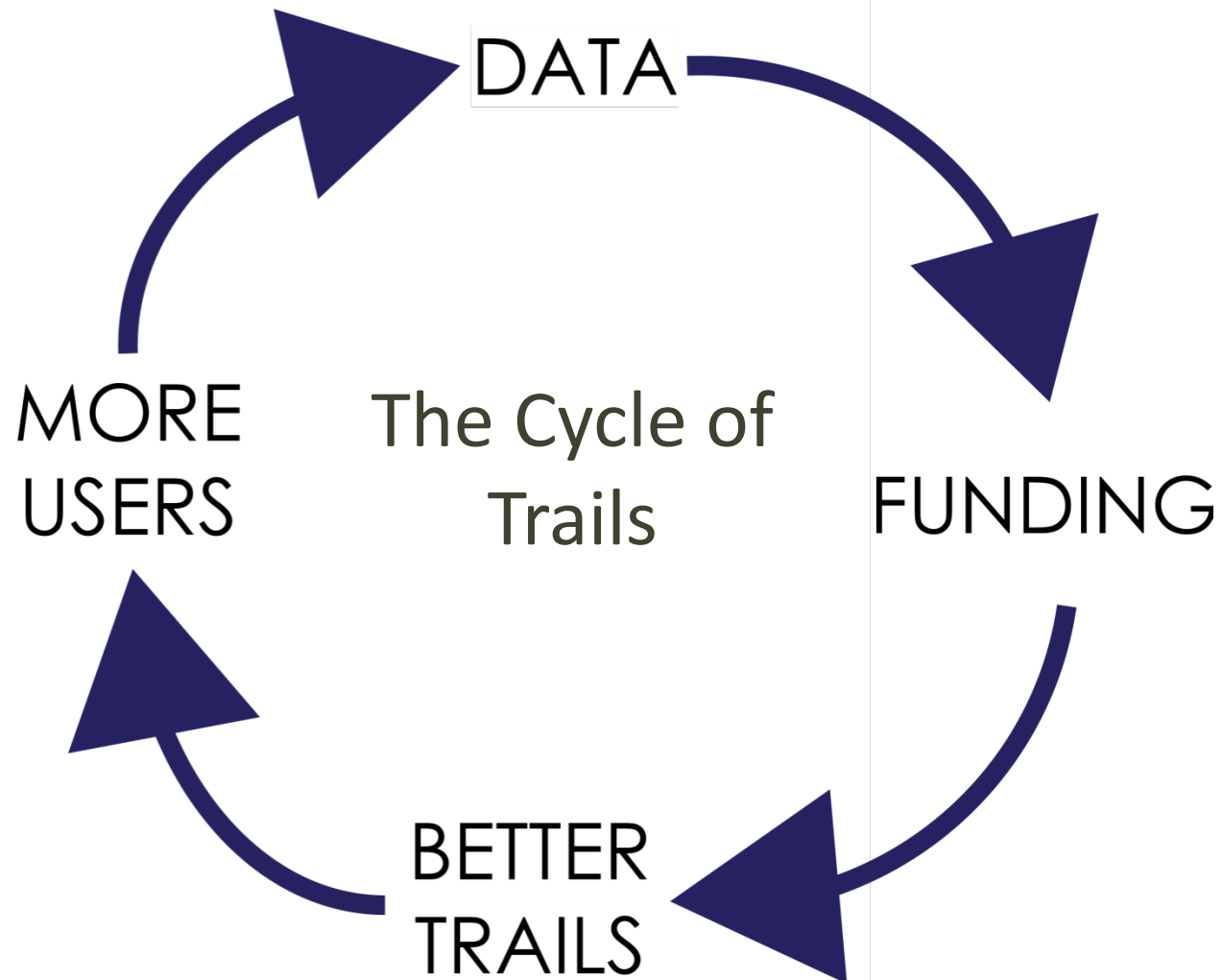
SW Portland Willamette Greenway



176%



In conclusion



2017 Trail Count

Tue Sept. 12th 5 to 7 p.m.

Wed Sept. 13th 5 to 7 p.m.

Thu Sept. 14th 5 to 7 p.m.

Sat Sept. 16th 9 to 11 a.m.

Sun Sept. 17th 9 to 11 a.m.

**If you're interested in counting,
please contact me:**

geoff.gibson@oregonmetro.gov



Questions?

oregonmetro.gov

