

# Using Data to Inform SRTS: Insights and Tools from Metro & Eugene SRTS Programs

**Student Transportation  
Survey & District Policy  
Insights from Eugene Safe  
Routes to School**

**Sarah Mazze  
Cat Colson**

**Regional Safe Routes to  
School Walkshed 2.0**

**Noel Mickelberry  
Matt Hampton  
Julie Stringham**



# 4J Safe Routes to School

# SafeRoutes

Eugene-Springfield Safe Routes to School



**Sarah Mazze**

**Safe Routes to School  
Coordinator**

**Eugene School District 4J**

**Cat Colson**

**UO Undergraduate Student  
Safe Routes to School Intern**

**Eugene School District 4J**

# Agenda

- District-wide transportation surveys
- Use of Supplemental Busing Plan
- Questions at end of sessions



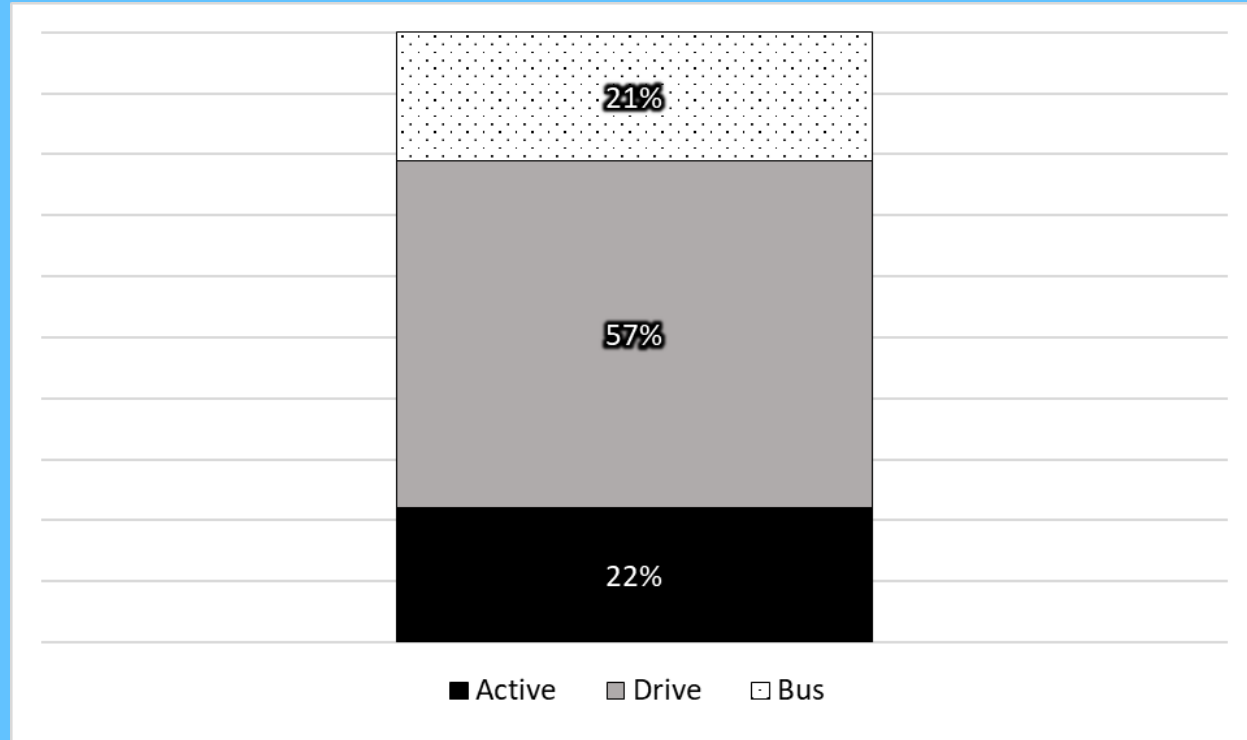
# Research Goals and Methods



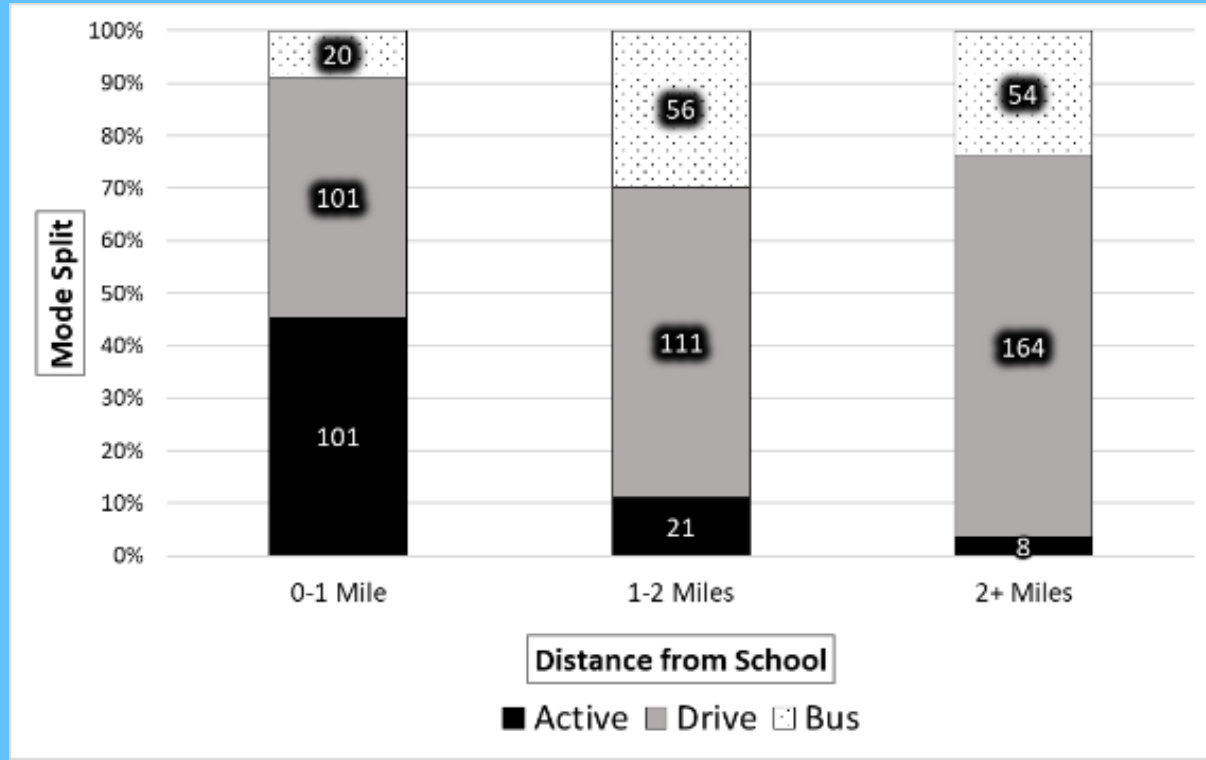
## Two Surveys:

- Caregiver survey on student travel
- Travel question on student survey

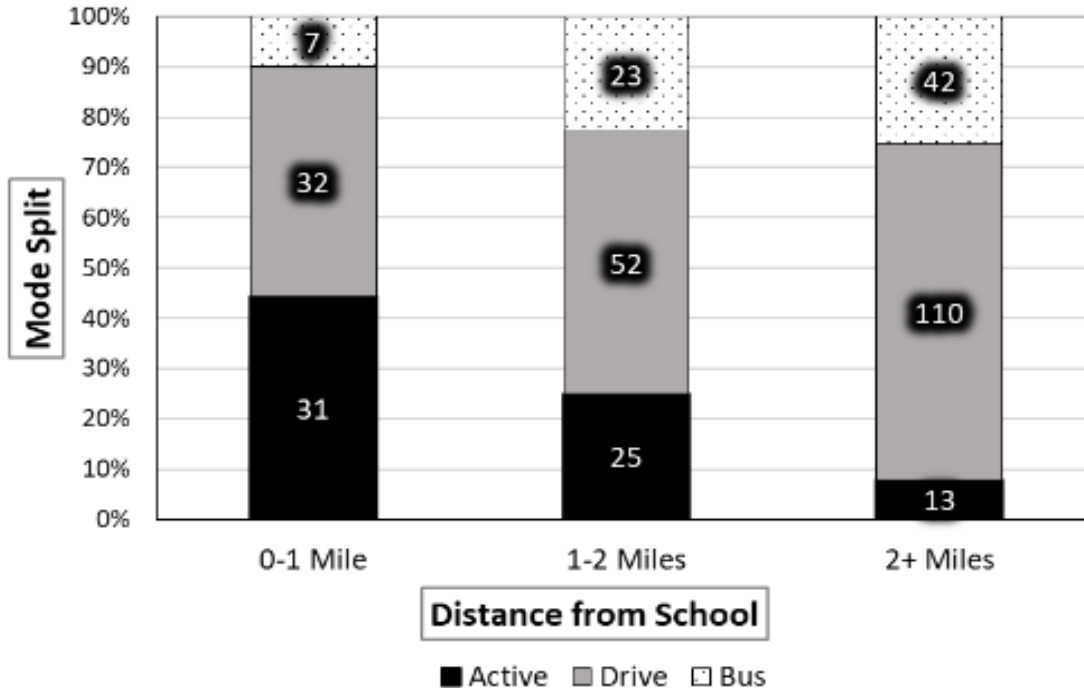
# Travel Mode: All Students, Caregiver Survey



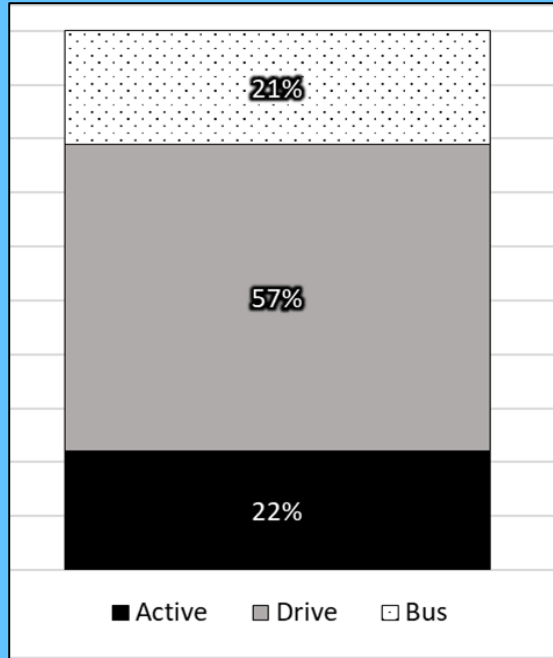
# Travel Mode By Distance - Elementary



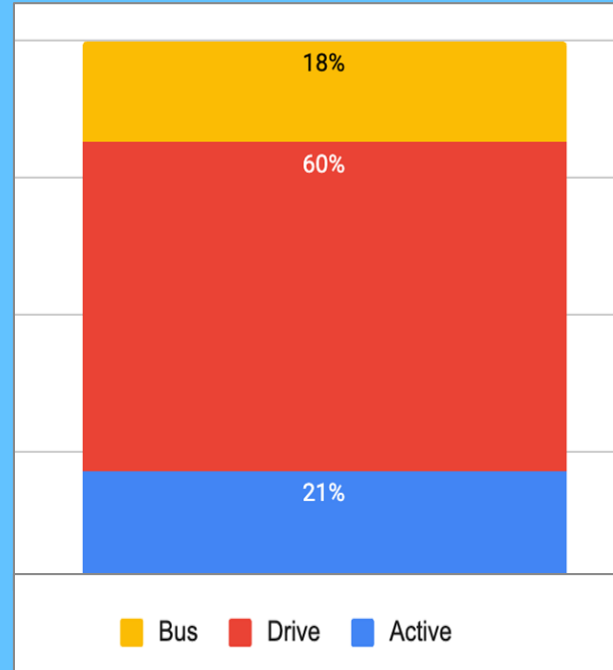
# Travel Mode By Distance - High



# Comparison Data on School Travel



Caregiver Survey



Student Survey

# Barriers to Using Active Travel – All Grades, All Distances



Student's ability to walk/bike safely

**Caregiver enjoys driving**

Bike theft

Too much to carry

**Poor walking or biking facilities**

Student or caregiver does not enjoy it

**Caregiver work schedule(s)**

Too far too walk/bike/skate

**Traffic safety**

Weather

Household schedules

Neighborhood safety/crime

No one to walk/bike with

**Terrain**

# Barriers to Using Active Travel – High School, All Distances



Student's ability to walk/bike safely

Bike theft

## **Terrain**

Too much to carry

Neighborhood safety/crime

Caregiver work schedule(s)

## Traffic safety

## **Weather**

Too far too walk/bike/skate

Household schedules

**Poor walking or biking facilities**

No one to walk/bike with

Student or caregiver does not enjoy it

**Caregiver enjoys driving**

# Benefits of Using Active Travel – All Grades, All



Route feels safe: traffic safety perspective

It's enjoyable

**Environmental benefit**

**Convenience**

Building independence

**Exercise**

Social time with other students

**Route feels safe: traffic safety perspective**

Cost savings from not driving

# Barriers to Riding the School Bus – Middle & Elementary



Unsafe or difficult to get to the bus stop

Student need related

My student doesn't like it

**Weather**

Bus is too early in AM

**Student behavior**

**Takes too long**

Waiting at the bus stop is unsafe/uncomfortable

**Schedule conflicts**

# Benefits of Riding the School Bus – Middle & Elementary



Social time with other students

**It builds independence**

**It's convenient**

**It's free**

**Safe from traffic**

My student likes it

# Barriers to Riding Transit – High School



It's difficult to get to the bus stop

Prefer to drive

Bus feels unsafe/uncomfortable

Student doesn't enjoy it

Downtown station

Bus schedule

Weather

Bus is too crowded

Takes too long

Bus stop feels unsafe/uncomfortable

Too much to carry

Friends don't ride

Bus service not available

# Benefits of Riding Transit – High School



## **Bus schedule**

Social time with other students

## **Safe from traffic dangers**

The bus stop is easy to get to

## **It's free Independence**

Free time on the bus

Less time transporting my student

# Innovations in Supplemental Busing

## Equity Zones for:

- Low-income housing *and*
- Chronic absenteeism



# Using the “Bike Bus Bill” to Fund Crossing Guards



## Challenges:

- Replaces busing
- <5% of budget
- ≤ cost of busing
- In Supplemental Plan

# Contact Us!

**Sarah Mazze**

**4J Safe Routes to  
School Coordinator**

**541-516-0887**

**mazze\_s@4j.lane.edu**

**Cat Colson**

**4J Safe Routes to School  
Intern**



**catgcolson@gmail.com**



# Regional School Walkshed Analysis

Interactive Map Tool, Methodology, Use Cases

# 2016 Regional SRTS School Site Analysis






Oregon Metro

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**Regional Safe Routes to School Framework**

October 2016



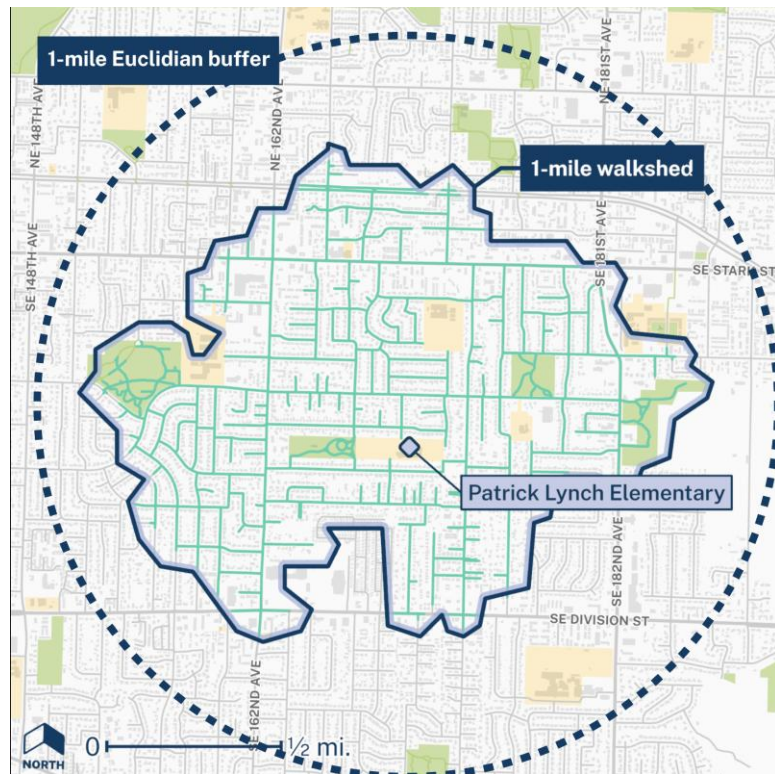
# Developing a School Walkshed Tool: Making data more accessible

- Collecting school and safety data
- Building the school walksheds
- Analyzing the data into quintiles
- Visualizing the data with radar charts
- Developing an accessible interactive map
- Sharing school specific data

# Eight Vulnerability Indicators

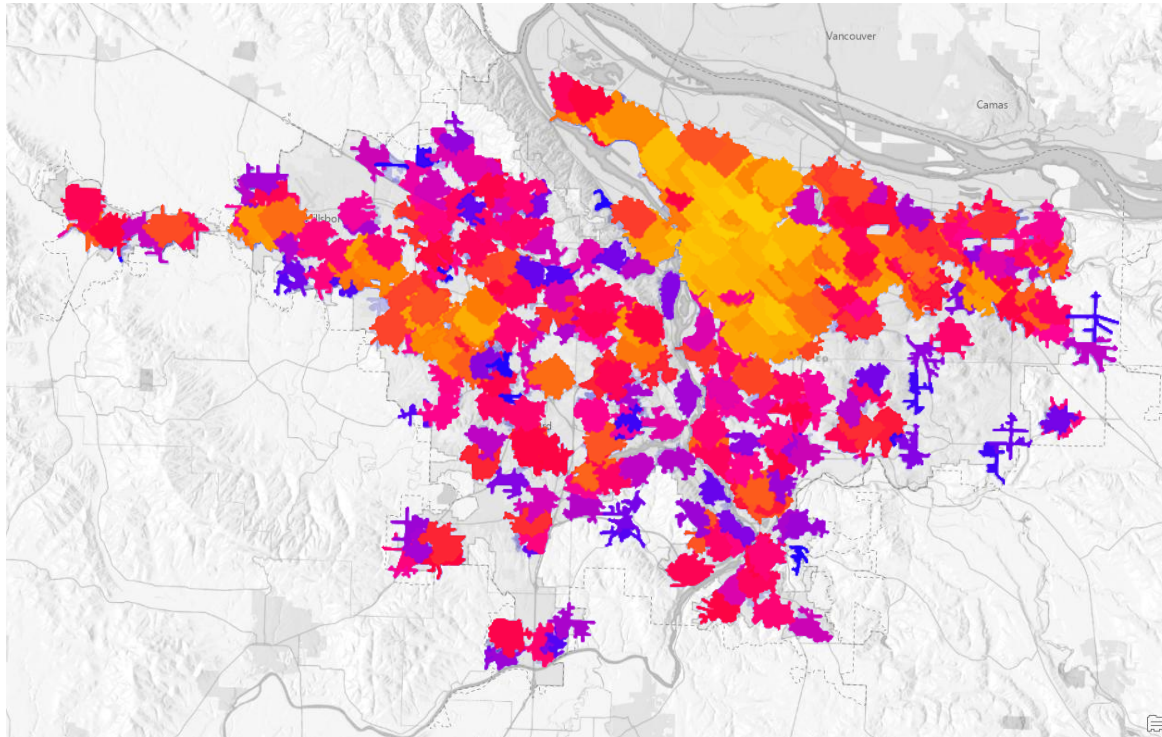
| Type of Indicator                    | Indicator         | Description   |
|--------------------------------------|-------------------|---|
| Equity Variables<br>(School-based)   | Absenteeism       | Percent of students chronically absent (students missing 10% or more school days)   |
|                                      | Students of color | Percent students of color   |
|                                      | Disability        | Percent of students with a disability   |
|                                      | English Learners  | Percent of students speaking English as a second language   |
|                                      | Poverty           | Percent of low-income students  |
| Safety Variables<br>(Walkshed-based) | Barrier Streets   | Miles of streets within school walkshed considered a barrier<br>(>2 lanes OR > 35 mph, OR >2,500 peak PM traffic volume)  |
|                                      | Crashes           | Crashes calculated using Metro High Crash Corridor methodology: (All fatal and serious injuries within school walkshed x 10) + (all bike/ped collisions x 3) + (all crashes resulting in an injury x 1) |
|                                      | Sidewalks         | Percent of non-freeway streets with sidewalks (one or both sides) within school walkshed*   |

# Walksheds and network datasets



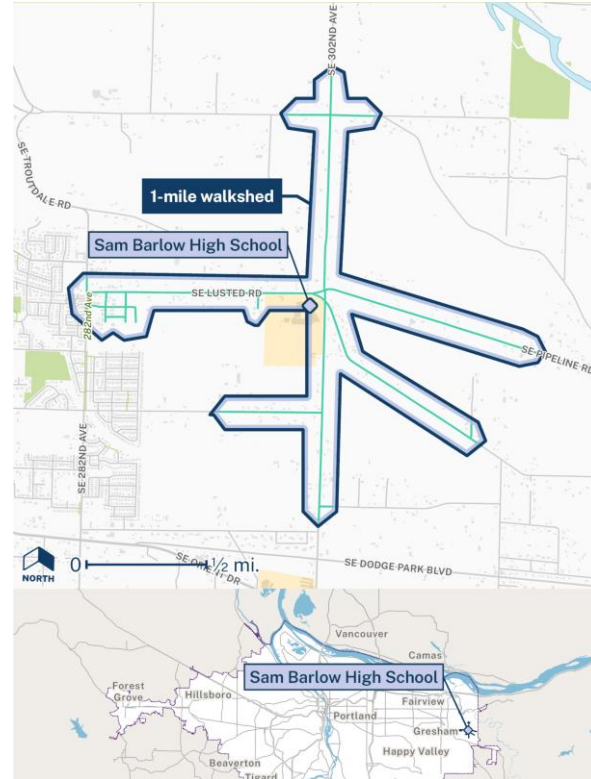
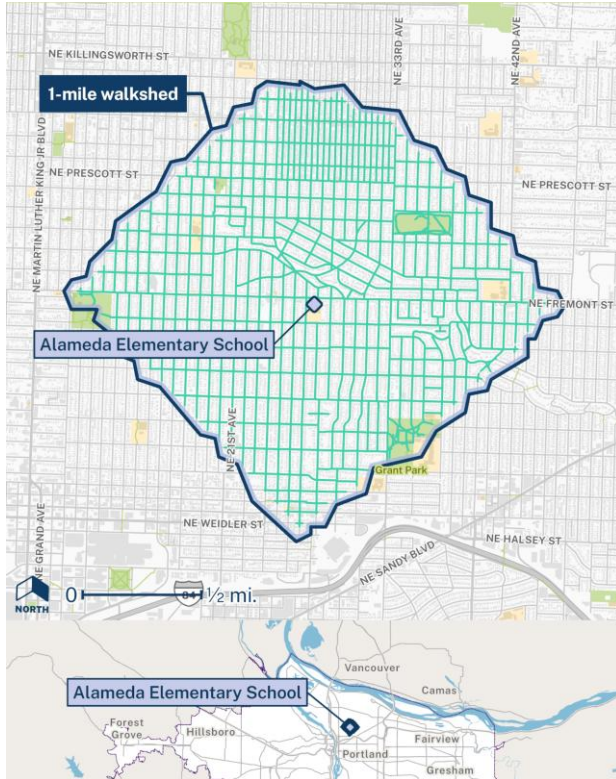
- 1 mile travel distance on sidewalks, trails and roads.
- Considers connectivity across multimodal systems.
- More detailed and refined than Euclidian buffer.
- The network helps to define itself.

# Walksheds are built using a Network Dataset



- Euclidian buffers are not optimal for transportation planning
- Each school's walkshed is unique based on the actual network

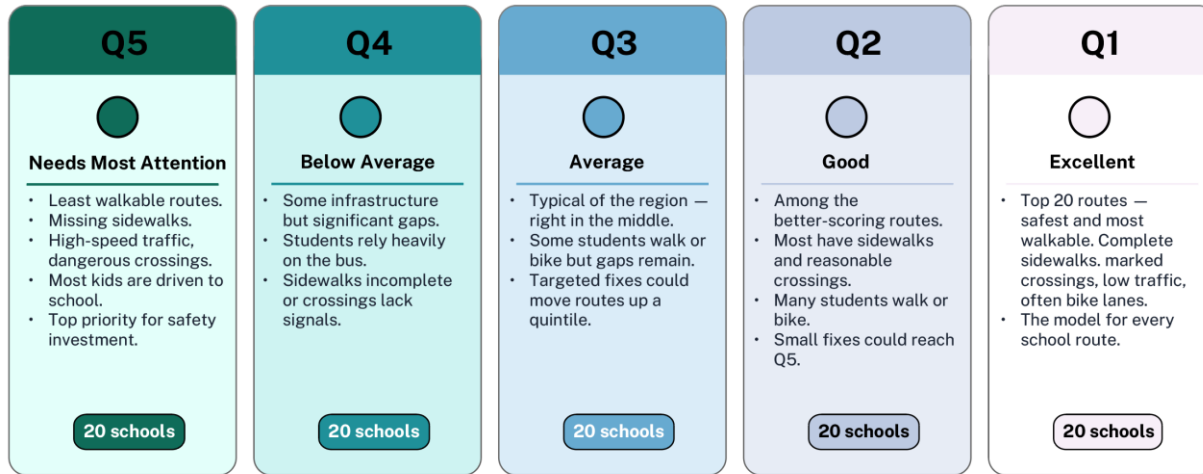
# Walksheds reflect the built environment



# Quintile Calculation Example

A 'quintile' splits school into 5 equal groups by percentile.

Example: 100 schools evaluated for safety



Quintile 5 needs the most work while Quintile 1 is way above average

# Analysis of vulnerability indicator data

- For each of the 320 walksheds: calculate the % Barrier Streets, weighted crash values and % missing sidewalks.
- Compute the % student populations for the 5 demographic and accessibility indicators.
- Rank and group into quintiles at regional level and for each School District (n=18).
- Summarize all vulnerability indicators and create Overall Quintile.

# Understanding the data

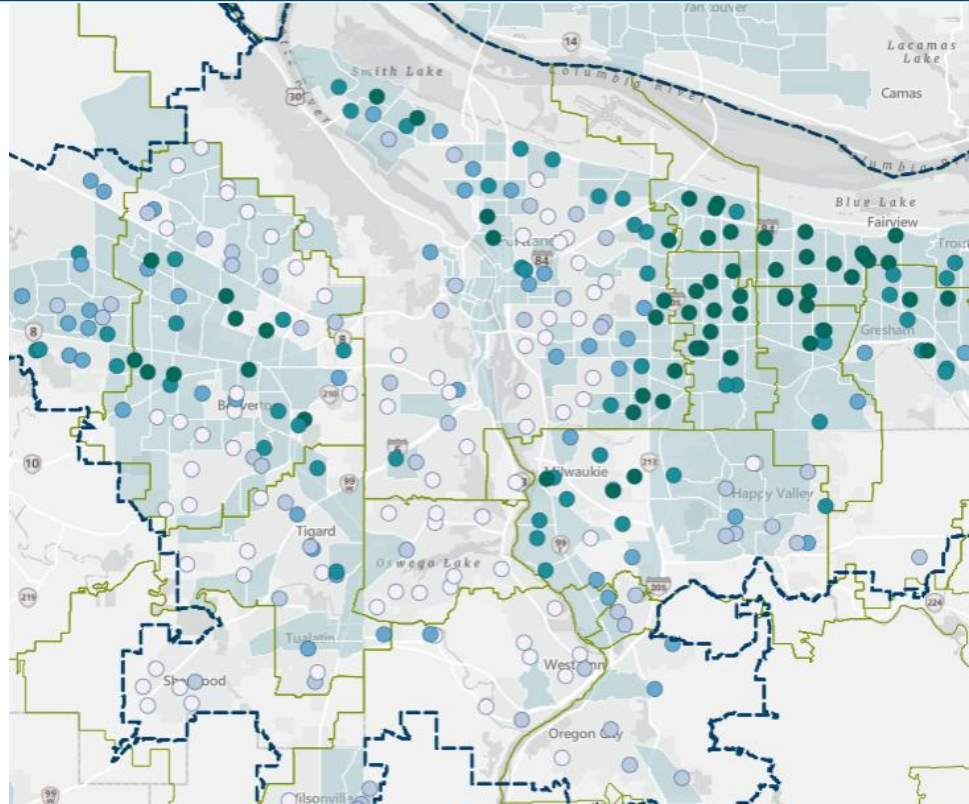
## *The challenge*

Ensure a wide variety of audiences can access, understand, and explore the data.

# Understanding the data

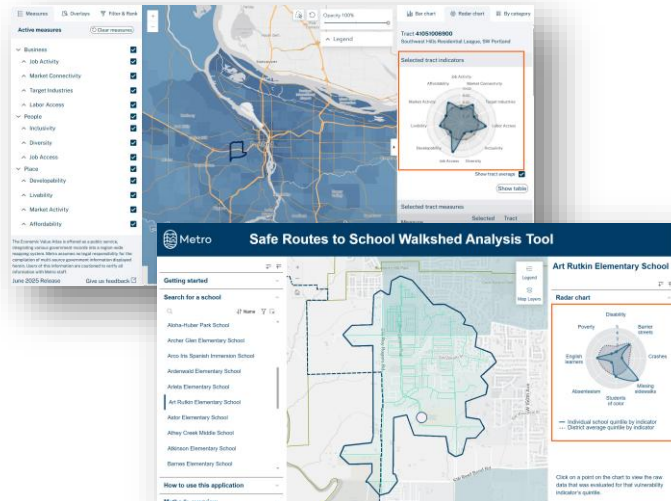
Solution:

Interactive  
mapping tools  
can balance  
**complexity** with  
**usability**.



# Understanding the data

## Metro's Economic Value Atlas

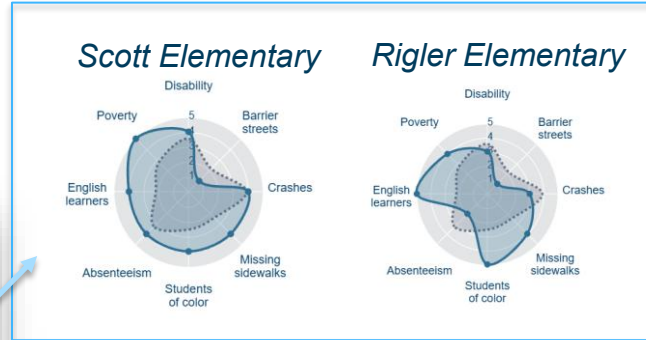
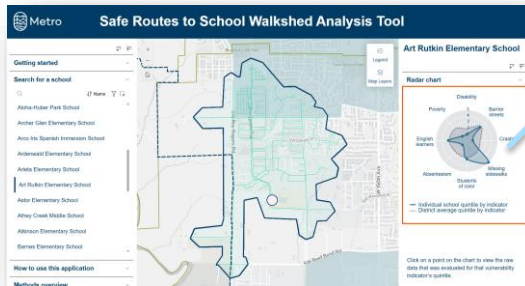


*SRTS Walkshed Analysis Tool*

We used code from another Metro app to create an **interactive mapping app.**

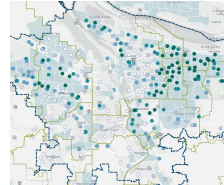
# Understanding the data

Radar charts provide a quick, comparable visual allowing users to see the quintile breakdown.



# Creating a useful web tool

**Overall  
vulnerability –  
high level patterns**



**Index breakdown  
– low level details**

*Scott Elementary*



**Supporting  
information and  
data**

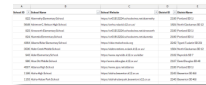
#### Safe Routes to School contact information

The SRTS coordinator for Scott Elementary School is Maddy Clineo.

They can be reached at (202) 916-6901 or [mclineo@ypa.net](mailto:mclineo@ypa.net)

Information is available in English.

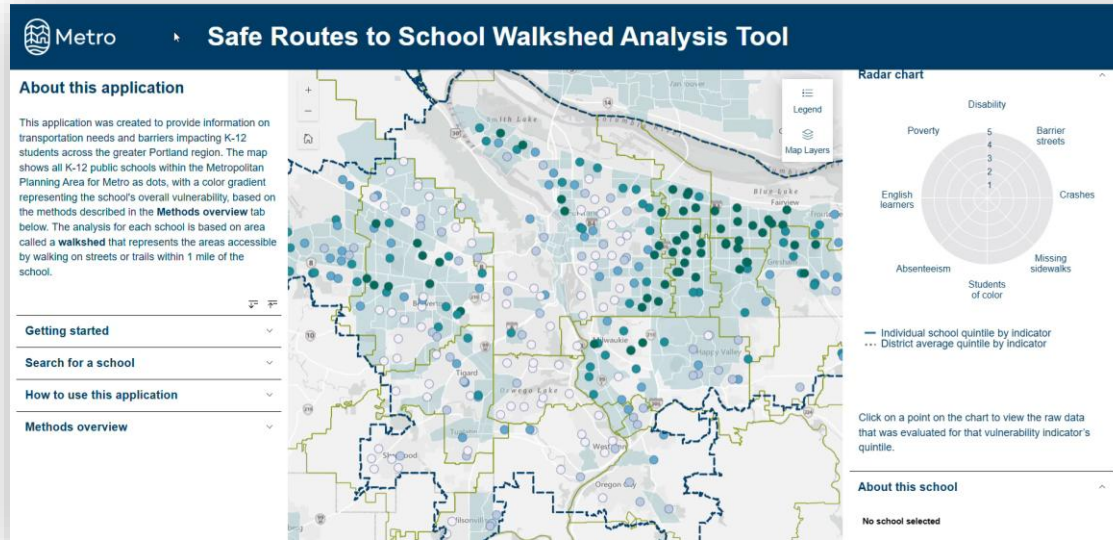
[Visit the SRTS webpage →](#)



| Date       | Description | Location |
|------------|-------------|----------|
| 01/01/2018 | ...         | ...      |
| 01/02/2018 | ...         | ...      |
| 01/03/2018 | ...         | ...      |
| 01/04/2018 | ...         | ...      |
| 01/05/2018 | ...         | ...      |
| 01/06/2018 | ...         | ...      |
| 01/07/2018 | ...         | ...      |
| 01/08/2018 | ...         | ...      |
| 01/09/2018 | ...         | ...      |
| 01/10/2018 | ...         | ...      |
| 01/11/2018 | ...         | ...      |
| 01/12/2018 | ...         | ...      |
| 01/13/2018 | ...         | ...      |
| 01/14/2018 | ...         | ...      |
| 01/15/2018 | ...         | ...      |
| 01/16/2018 | ...         | ...      |
| 01/17/2018 | ...         | ...      |
| 01/18/2018 | ...         | ...      |
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| 01/21/2018 | ...         | ...      |
| 01/22/2018 | ...         | ...      |
| 01/23/2018 | ...         | ...      |
| 01/24/2018 | ...         | ...      |
| 01/25/2018 | ...         | ...      |
| 01/26/2018 | ...         | ...      |
| 01/27/2018 | ...         | ...      |
| 01/28/2018 | ...         | ...      |
| 01/29/2018 | ...         | ...      |
| 01/30/2018 | ...         | ...      |
| 01/31/2018 | ...         | ...      |



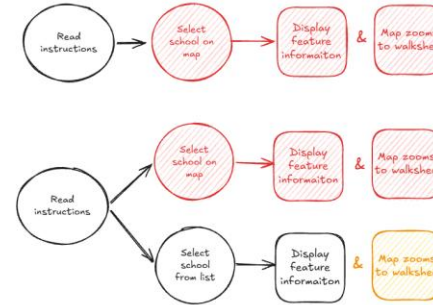
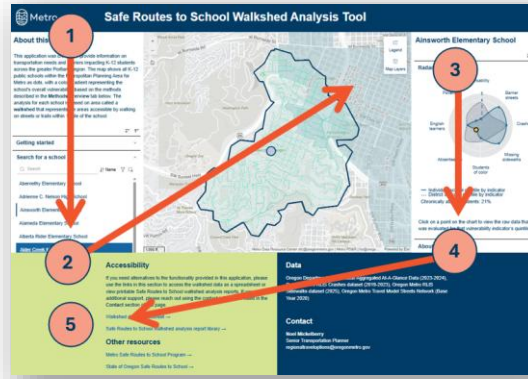
# Exploring data in a web tool



1. View the distribution of **overall quintiles** for schools in the region.
2. See individual **school walksheds and scores** across dimensions.
3. Locate school and SRTS **program info**.
4. Access our **data**.

# Improving accessibility

We try to create accessible workflows within the tool for users who rely on assistive technology.





# I want to work on Safe Routes to School – who do I contact?

## Harrison Park School

### School Overview

**Address**  
2225 SE 87th Ave,  
Portland, OR 97216

**Website**  
<https://www.pps.net/harrisonpark>

**District**  
Portland SD 1J

**School type**  
Middle

**Grades**  
6-8

**2023-2024 Enrollment**  
217

### Safe Routes to School Program Details

**SRTS Coordinator**  
Maddy Cirineo

**Contact information**  
(503) 916-6901  
[mcirineo@pps.net](mailto:mcirineo@pps.net)

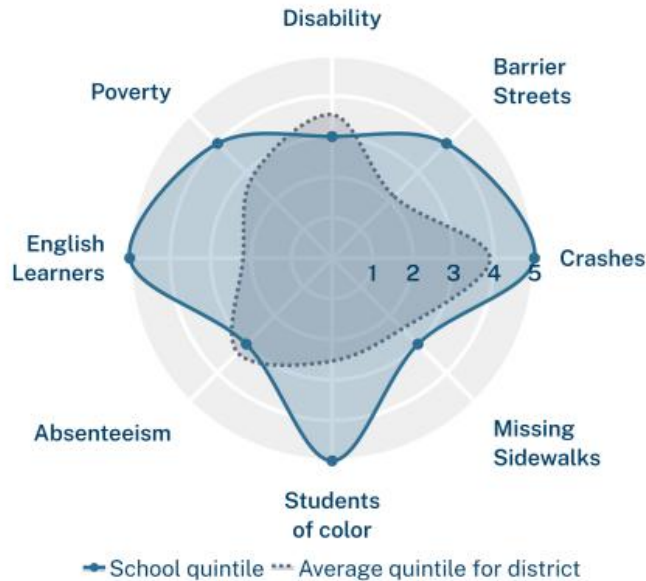
**SRTS website**  
<https://www.pps.net/departments/safe-routes-to-schools/home>

**Languages available**  
English



**Metro Safe Routes to School Program contact**  
Noel Mickelberry  
[noel.mickelberry@oregonmetro.gov](mailto:noel.mickelberry@oregonmetro.gov)  
**Program website**  
[www.oregonmetro.gov/saferoutes](http://www.oregonmetro.gov/saferoutes)

# I want more information on the data behind the quintiles



## **Overall vulnerability quintile: 5**

This quintile is an aggregation of all eight vulnerability indicators.

**Disability:** 15% of students are on an Individualized Education Program (IEP), required annually for all students with a disability.

**Barrier streets:** 22% of the streets in the 1-mile walkshed are barrier streets (at least 2 lanes, over 2,500 average peak evening traffic, or over 35 mph posted speed).

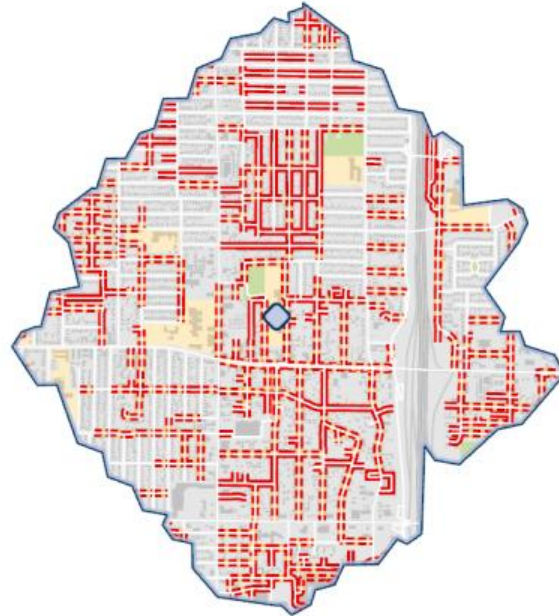
**Crashes:** Between 2019 and 2023, there were 750 total crashes that resulted in an injury in the 1-mile walkshed. For the quintile analysis, crashes were weighted towards fatal and serious injury crashes and crashes involving bicycles and pedestrians.

# I want to know where the safety concerns are located

Crashes (2019-2023) and barrier streets



Missing sidewalks



[oregonmetro.gov](http://oregonmetro.gov)



# Questions?

