# Multimodal System Inventory for Metropolitan Areas

Multimodal Inventory Virtual Briefing #2

July 24, 2025

1:00 pm – 2:00 pm


Oregon Department of Transportation

# ODOT Multimodal Inventory Project

## AGENDA

| Time | Topic |
|---|---|
| 5 mins | Meeting Overview |
| 5 mins | Project Overview and Update |
| 25 mins | Pilot Data: What have we learned so far |
| 5 mins | QA/QC Considerations (aka making sure we're getting it right) |
| 15 mins | Q&A |
| 5 mins | Next Steps |

# Project Overview

# Project Purpose

Assist local jurisdictions in defining and collecting data needed to comply with the new Transportation Planning Rule (TPR) adopted through the 2022 *Climate Friendly and Equitable Communities rulemaking*

# Project Objectives

- Do expensive work efficiently and support cities & counties
- Establish datasets for CFEC-compliant Transportation System Plans
- Establish long-term data management and maintenance protocols
- Ensure ongoing access to the data for planning, analysis, and performance monitoring purposes

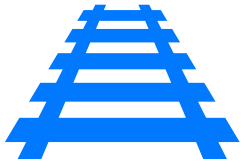
# What is the Multimodal Inventory Project?

A collaborative effort to produce a multimodal dataset that supports local planning needs, aligns with the updated TPR and can be maintained over the long-term.

## Project Outcomes

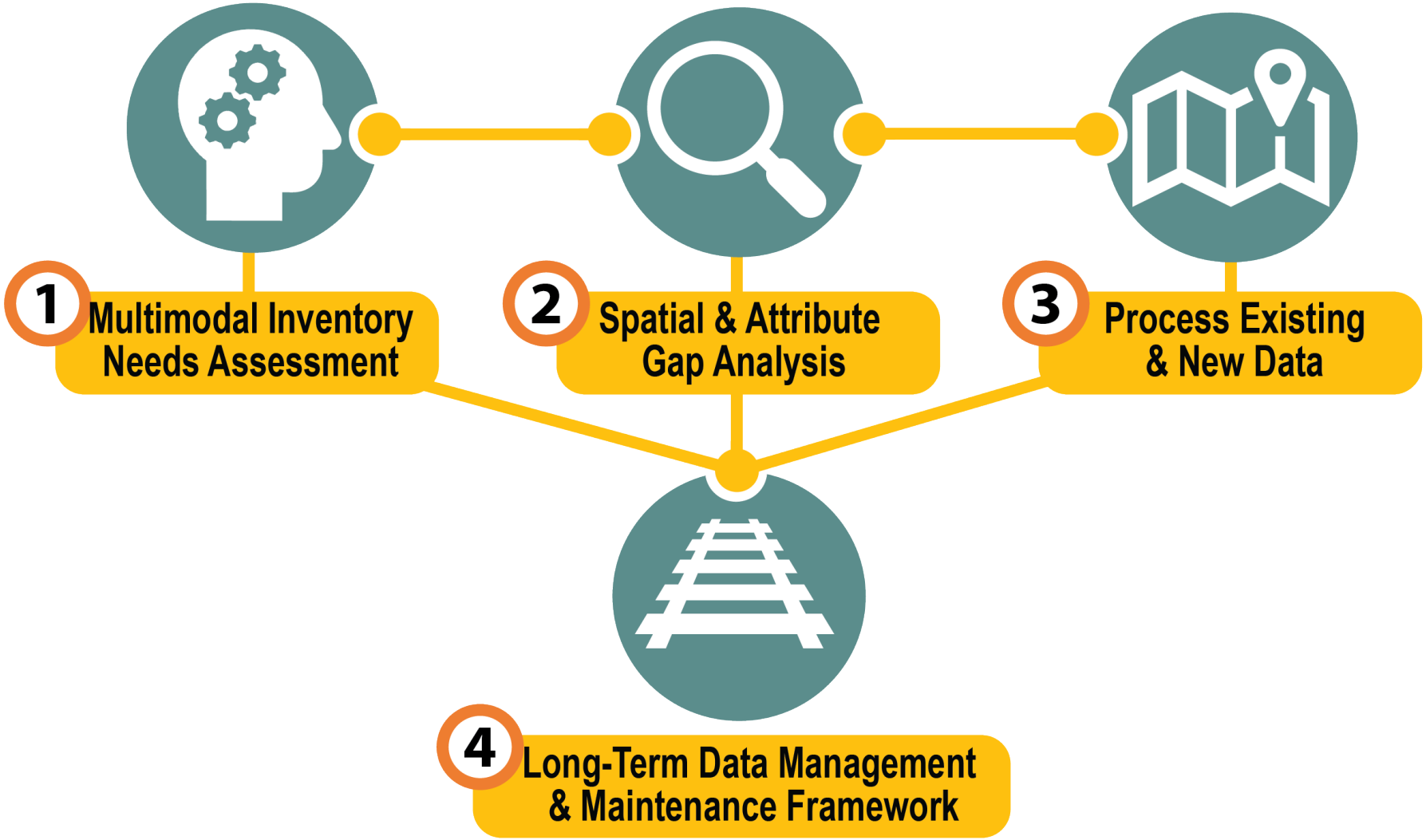
Standarized, multimodal datasets to comply with the updated TPR *(Geometry & Attributes)*

Methodologies for Data Collection, Processing, and QA/QC



Long-Term Data Management and Maintenance Framework

# Project Phases



# Data Inventory Needs: Data Sources

## JURISDICTIONS / AGENCIES

- Use existing GIS datasets and attributes provided by jurisdictions or agencies.
- Jurisdictions / Agencies will be required to populate some attributes during the TSP processs.

## ARTIFICIAL INTELLIGENCE (AI)

- Pedestrian Routes, Bicycle Routes, and Intersection Points will be developed using machine learning and 2024 high-resolution aerial photos (7.5 cm)
- AI will populate attributes for widths and several BLTS / PLTS attribute inputs.

## PROJECT TEAM

- Builds missing datasets from available Jurisdication / Agency sources.
- Populate attributes using exsiting Jurisdiction / Agency sources and GIS analysis.

# Project Updates

# Project Updates

- **2024 Pilot group updates:**
  - Ashland, Albany, Beaverton, Millersburg, Salem, Keizer
  - Draft data setup complete (without intersection data)
  - QA / QC underway

# Project Updates

## 2025 Cohort:

- Scheduling kick off calls
- Jurisdiction gap analysis
- Processing data

Bend
Clackamas County (Metro)
Coburg
Deschutes County (Bend)
Eagle Point
Forest Grove
Gold Hill
Hillsboro
Jackson County
Jacksonville
Medford
Multnomah County (Metro)
Phoenix
Portland
Sherwood
Springfield
Tualatin
Washington County (Metro)
Wilsonville

# Project Updates

- **Vendor Data**
  - Completing Pilot datasets now
  - Batch 2 (2025 – 2026 cohorts) data coming mid-July

- **Technical Solutions**
  - We're working through issues have been identified with the data so far
  - Includes: Sidewalk segmentation, AADT Source and Crossing Distances

- **QA / QC**
  - Determining what the long-term data management process may look like

# Project Updates

Have **received feedback** from several groups on the process so far:

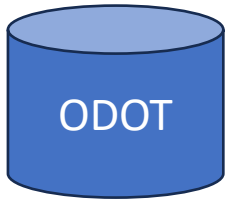
- Multimodal Inventory Steering Committee (ODOT staff)
- Statewide Technical Advisory Committee (Jurisdiction representatives)
- Pilot Cohort

**We are hearing:**

- Eagerness for data – questions about timeframes and data needs
- Pilots jurisdictions helped identify and resolve AI data issues
- Concern about capacity for QA/QC
- Support for collaborative approach for long-term data management

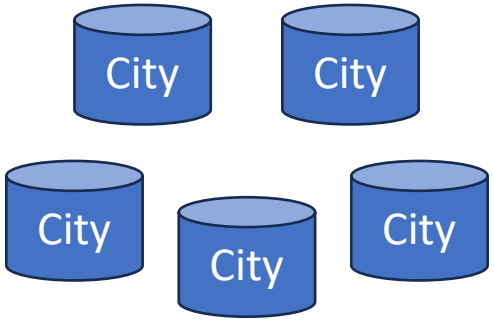
# Project Updates

## Beginning to discuss long term management



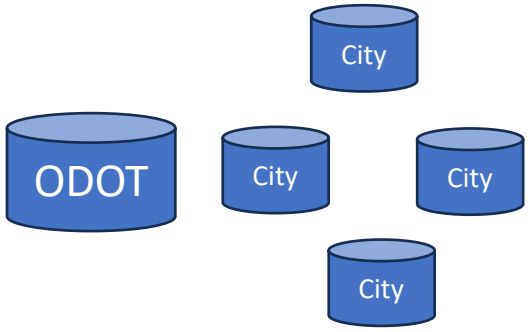

**Centralized**

Data is owned and maintained by ODOT.




**Distributed (Decentralized)**

Data is owned and maintained by jurisdictions / counties / MPOs / COGs



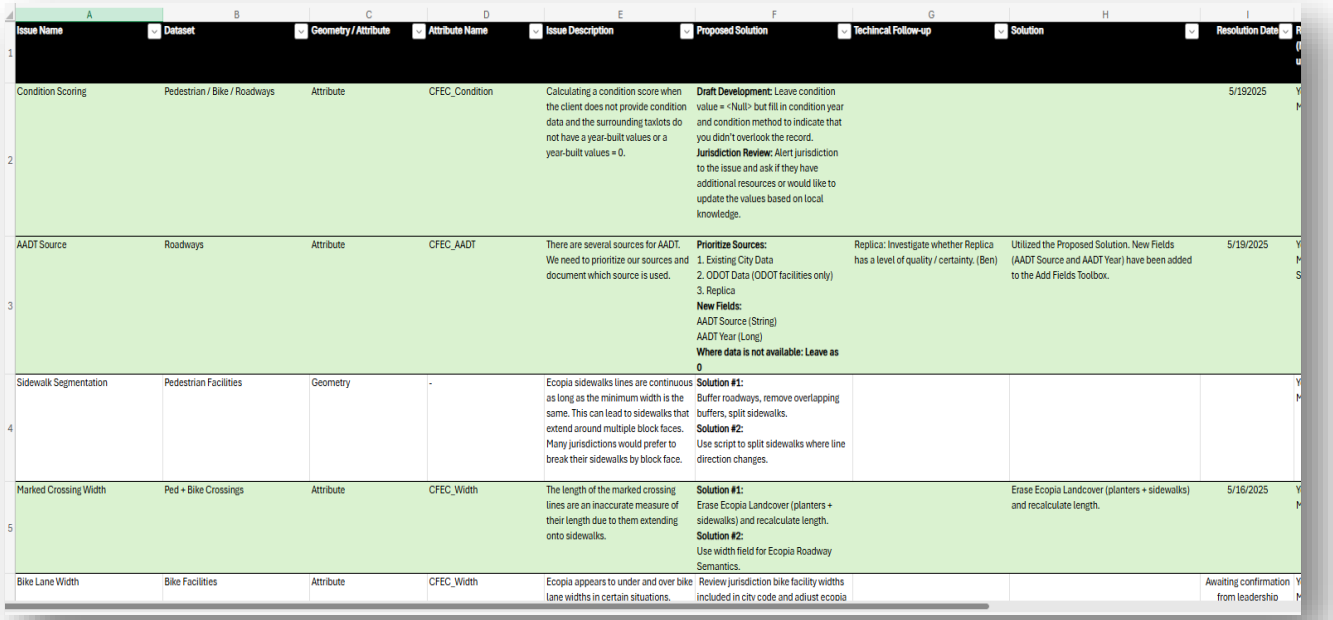

**Hybrid**

Ownership and maintenance are split between ODOT and jurisdictions based on update frequency and local usage.

# Pilot Data Demo & Lessons Learned

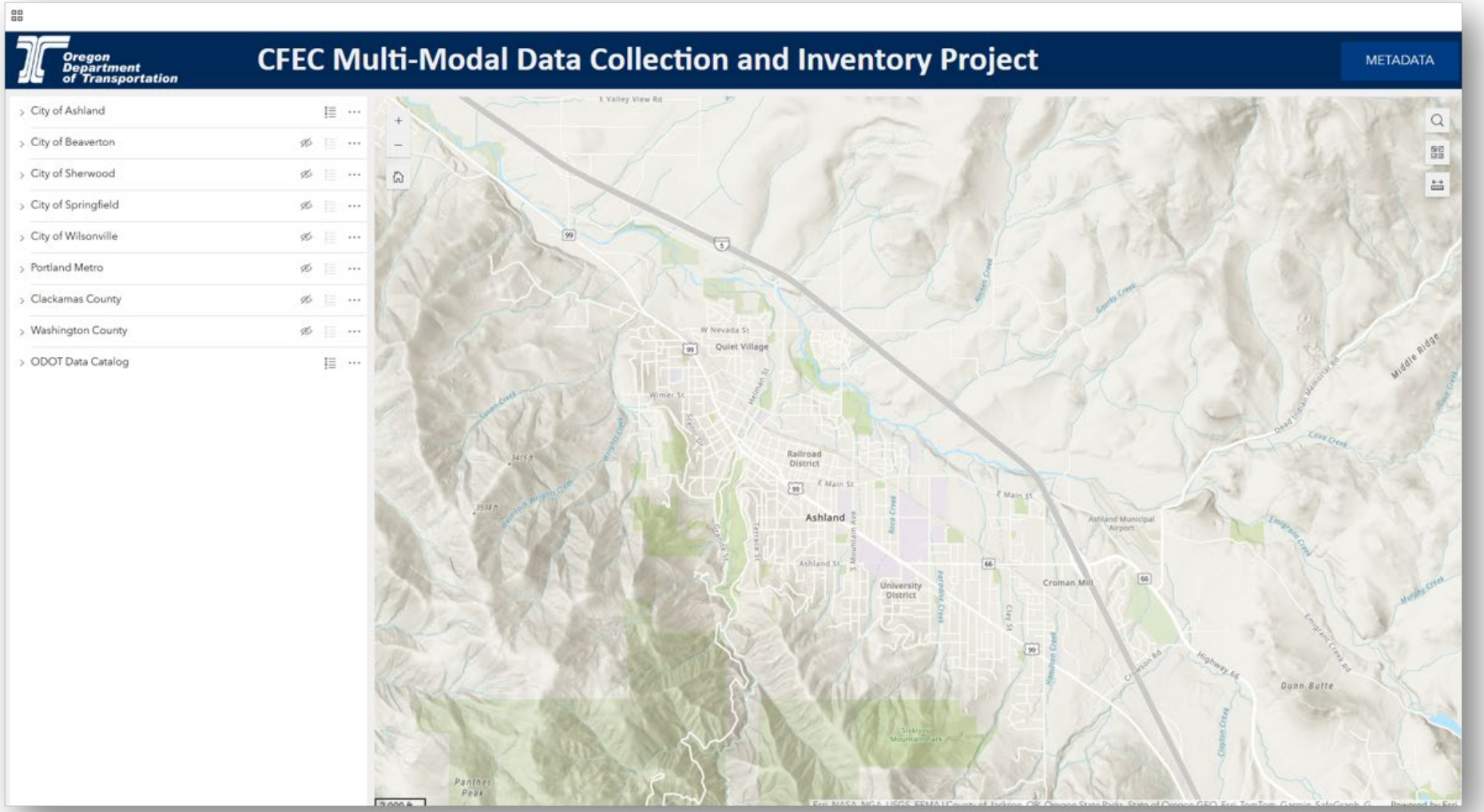
# Resolving Issues

- Crossing Distances
- Sidewalk Segmentation
- Condition Scoring
- AADT Source
- # of Lanes
- Splitting Metro Jurisdictions
- ….



| Issue Name | Dataset | Geometry / Attribute | Attribute Name | Issue Description | Proposed Solution | Techincal Follow-up | Solution | Resolution Date |
|---|---|---|---|---|---|---|---|---|
| Condition Scoring | Pedestrian / Bike / Roadways | Attribute | CFEC_Condition | Calculating a condition score when the client does not provide condition data and the surrounding taxlots do not have a year-built values or a year-built values = 0. | **Draft Development:** Leave condition value = <Null> but fill in condition year and condition method to indicate that you didn't overlook the record. **Jurisdiction Review:** Alert jurisdiction to the issue and ask if they have additional resources or would like to update the values based on local knowledge. | | | 5/192025 |
| AADT Source | Roadways | Attribute | CFEC_AADT | There are several sources for AADT. We need to prioritize our sources and document which source is used. | **Prioritize Sources:** 1. Existing City Data 2. ODOT Data (ODOT facilities only) 3. Replica **New Fields:** AADT Source (String) AADT Year (Long) **Where data is not available: Leave as 0** | Replica: Investigate whether Replica has a level of quality / certainty. (Ben) | Utilized the Proposed Solution. New Fields (AADT Source and AADT Year) have been added to the Add Fields Toolbox. | 5/19/2025 |
| Sidewalk Segmentation | Pedestrian Facilities | Geometry | - | Ecopia sidewalks lines are continuous as long as the minimum width is the same. This can lead to sidewalks that extend around multiple block faces. Many jurisdictions would prefer to break their sidewalks by block face. | **Solution #1:** Buffer roadways, remove overlapping buffers, split sidewalks. **Solution #2:** Use script to split sidewalks where line direction changes. | | | |
| Marked Crossing Width | Ped + Bike Crossings | Attribute | CFEC_Width | The length of the marked crossing lines are an inaccurate measure of their length due to them extending onto sidewalks. | **Solution #1:** Erase Ecopia Landcover (planters + sidewalks) and recalculate length. **Solution #2:** Use width field for Ecopia Roadway Semantics. | | Erase Ecopia Landcover (planters + sidewalks) and recalculate length. | 5/16/2025 |
| Bike Lane Width | Bike Facilities | Attribute | CFEC_Width | Ecopia appears to under and over bike lane widths in certain situations. | Review jurisdiction bike facility widths included in city code and adjust ecopia | | | Awaiting confirmation from leadership |

# Live Demo


Oregon Department of Transportation
CFEC Multi-Modal Data Collection and Inventory Project
METADATA
City of Ashland
City of Beaverton
City of Sherwood
City of Springfield
City of Wilsonville
Portland Metro
Clackamas County
Washington County
ODOT Data Catalog
Ashland
Quiet Village
Railroad District
University District
Croman Mill
Dunn Butte
Middle Ridge
Panther Peak

# QA / QC Procedures

# Project Dataset Accuracy

## Intended Purposes

- **Support Transportation System Planning**
- Support other planning practices

## Spatial Accuracy

- Spatially complete to the best of our knowledge / resources
- Resource grade accuracy (not survey grade)

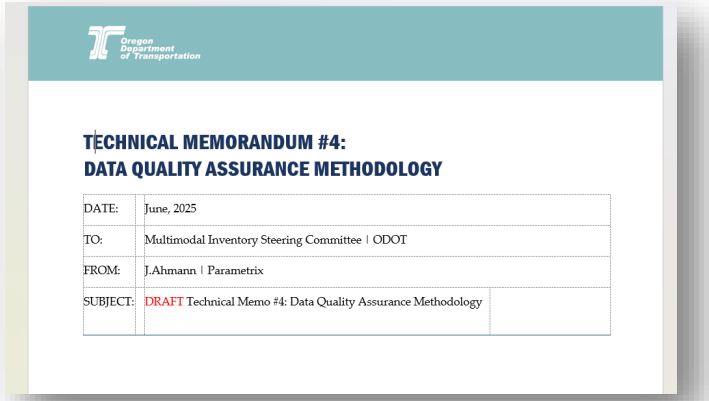
## Attribute Accuracy

- Attribute accuracy varies by source
- Documentation will identify attributes with lower levels of accuracy

# QA / QC Overview & Requirements

Develop QA / QC Measures for Geometry, Attributes, and Metadata

Complete jurisdiction review meetings


Oregon Department of Transportation

TECHNICAL MEMORANDUM #4:
DATA QUALITY ASSURANCE METHODOLOGY

| | |
|---|---|
| DATE: | June, 2025 |
| TO: | Multimodal Inventory Steering Committee \| ODOT |
| FROM: | J.Ahmann \| Parametrix |
| SUBJECT: | DRAFT Technical Memo #4: Data Quality Assurance Methodology |

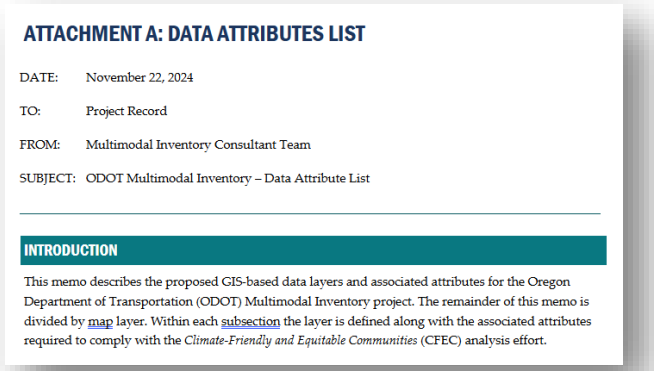
QA / QC Memo #4

Verify 1-5% of AI-developed records for spatial and attribute accuracy *(only applies to data added to project datasets)*

Develop and populate QA / QC forms

# Quality Assurance Measures

## IDENTIFY REQUIREMENTS



**ATTACHMENT A: DATA ATTRIBUTES LIST**

DATE: November 22, 2024

TO: Project Record

FROM: Multimodal Inventory Consultant Team

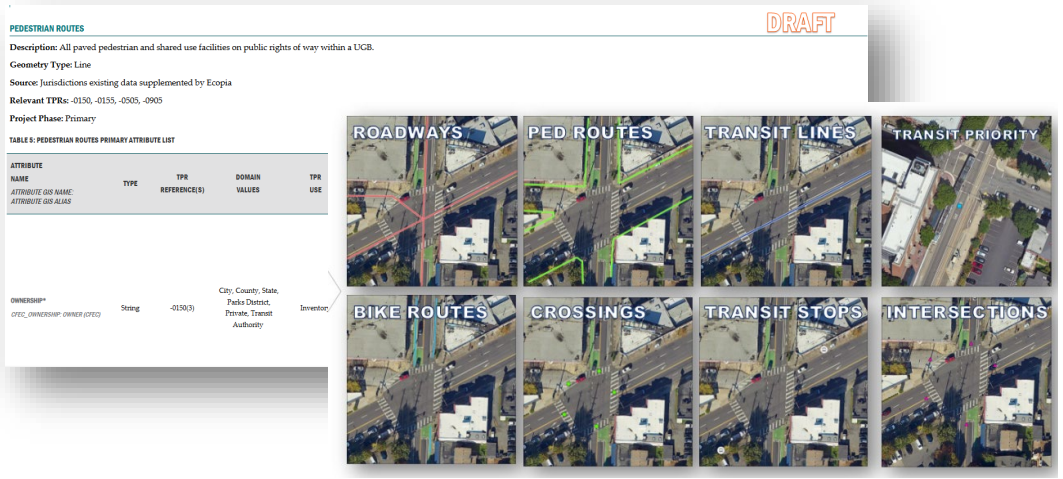
SUBJECT: ODOT Multimodal Inventory – Data Attribute List

**INTRODUCTION**

This memo describes the proposed GIS-based data layers and associated attributes for the Oregon Department of Transportation (ODOT) Multimodal Inventory project. The remainder of this memo is divided by map layer. Within each subsection the layer is defined along with the associated attributes required to comply with the *Climate-Friendly and Equitable Communities* (CFEC) analysis effort.

## GEODATABASE & TOOL DEVELOPMENT

## DEVELOP STANDARDS



**PEDESTRIAN ROUTES** DRAFT

**Description:** All paved pedestrian and shared use facilities on public rights of way within a UGB.

**Geometry Type:** Line

**Source:** Jurisdictions existing data supplemented by Ecopia

**Relevant TPRs:** -0150, -0155, -0505, -0905

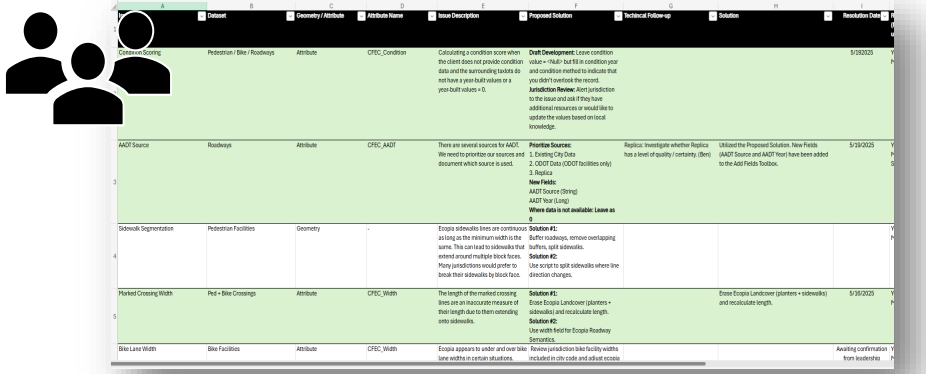
**Project Phase:** Primary

**TABLE 5: PEDESTRIAN ROUTES PRIMARY ATTRIBUTE LIST**

| ATTRIBUTE NAME *ATTRIBUTE GIS NAME: ATTRIBUTE GIS ALIAS* | TYPE | TPR REFERENCE(S) | DOMAIN VALUES | TPR USE |
|---|---|---|---|---|
| OWNERSHIP* *CFEC_OWNERSHIP: OWNER (CFEC)* | String | -0150(3) | City, County, State, Parks District, Private, Transit Authority | Inventory |




## TRAINING & COLLABORATION



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# Quality Control Process

REVIEW PLATFORM

Desktop

Web Map

| STEP | QA #1 | QA #2 | QA #3 |
|---|---|---|---|
| | | | Jurisdiction Review Call |
| PLATFORM | | | |
| RESPONSIBLE PARTY | *Consultant Team / ODOT* | *Jurisdiction* | *Consultant Team / Jurisdiction* |

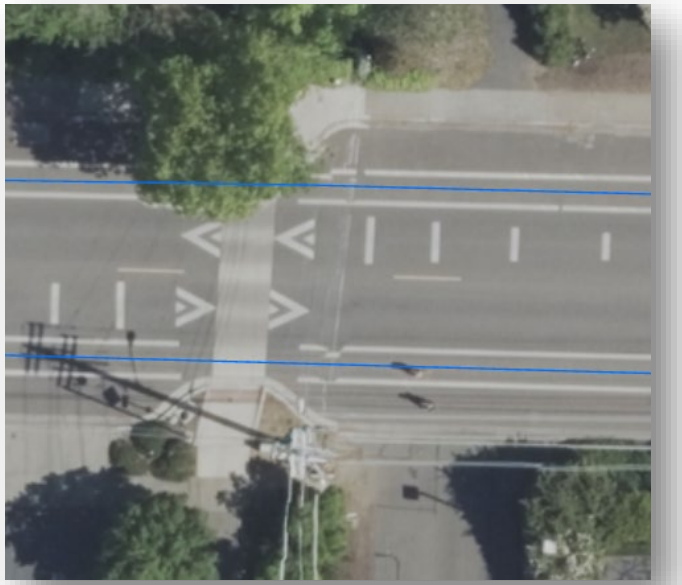
# Project Team
# QA / QC Geometry

## Omissions

due to canopy or obstructions

## Location

Relative to the facility



## Coverage

Relative to the City Limits / UGB

# Project Team
# QA / QC Attributes

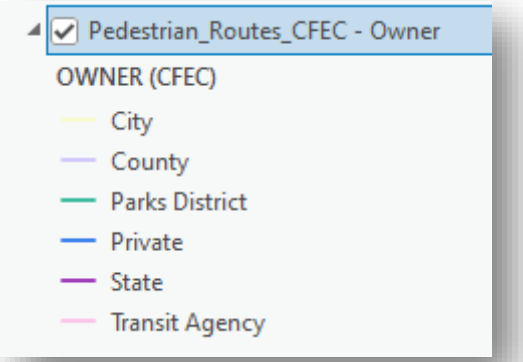
## Values

Do the values comply with standards?

| | | | |
|---|---|---|---|
| **OWNERSHIP*** *CFEC_OWNERSHIP: OWNER (CFEC)* | String | -0150(3) | City, County, State, Parks District, Private, Transit Authority |

## Accuracy

Are the values accurate?




## Completeness

Null values

| OWNER (CFEC) | MAINTAINER (CFEC) | PRIMARY USE (CFEC) |
|---|---|---|
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |
| City | City | Local |

# Questions?

# NEXT STEPS

- 2024 (Pilot) Cohort Data Delivery: Mid-summer
- 2025 Cohort: Currently processing data, expect data delivery late 2025
- Ongoing discussions with internal & external advisory committees:
  - Quality assurance & quality control protocols
  - Long term data management