THE MARYLAND SIDEWALK DATA COLLABORATION

National Collaboration on Bicycle, Pedestrian, and Accessibility Infrastructure Data (NC-BPAID)

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INTRODUCTION

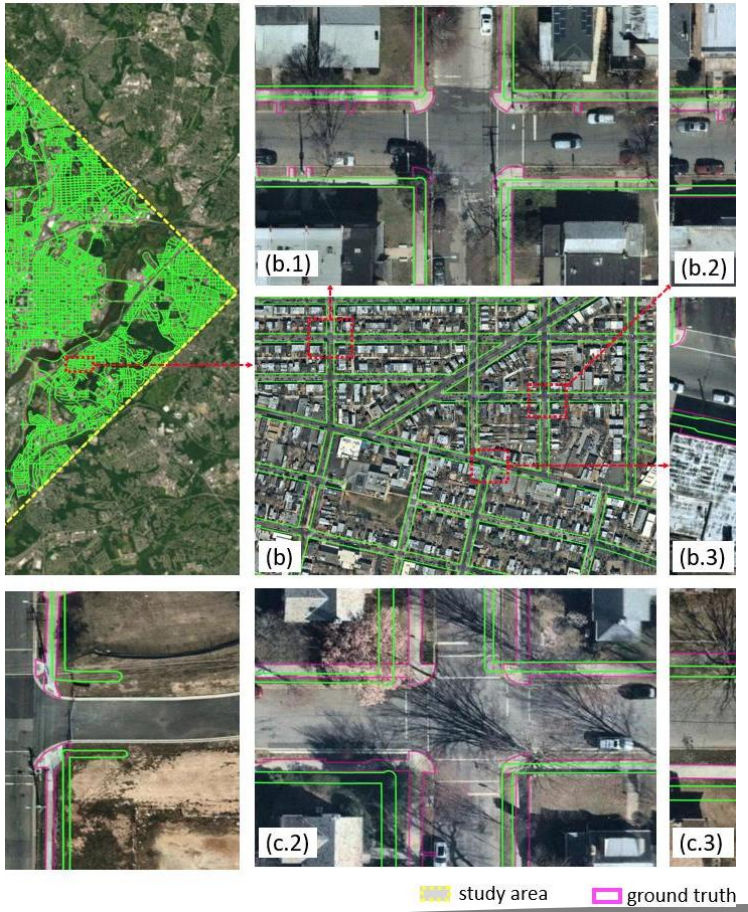
Everyone is a Pedestrian

PROJECT OVERVIEW

- The Maryland Department of Transportation's (MDOT) Environment and Sustainable Transportation Program **evaluated the feasibility of establishing a statewide sidewalk dataset** that would be conflated to One Maryland One Centerline (OMOC) data and maintained statewide.
- The purpose of this effort was to **review current data** collection practices to understand how various entities across the country are mapping sidewalks, and to **identify best practices** (locally and nationally).
- The project team developed a methodology and other recommendations for stakeholders to build/maintain sidewalk data.

PROJECT GOALS

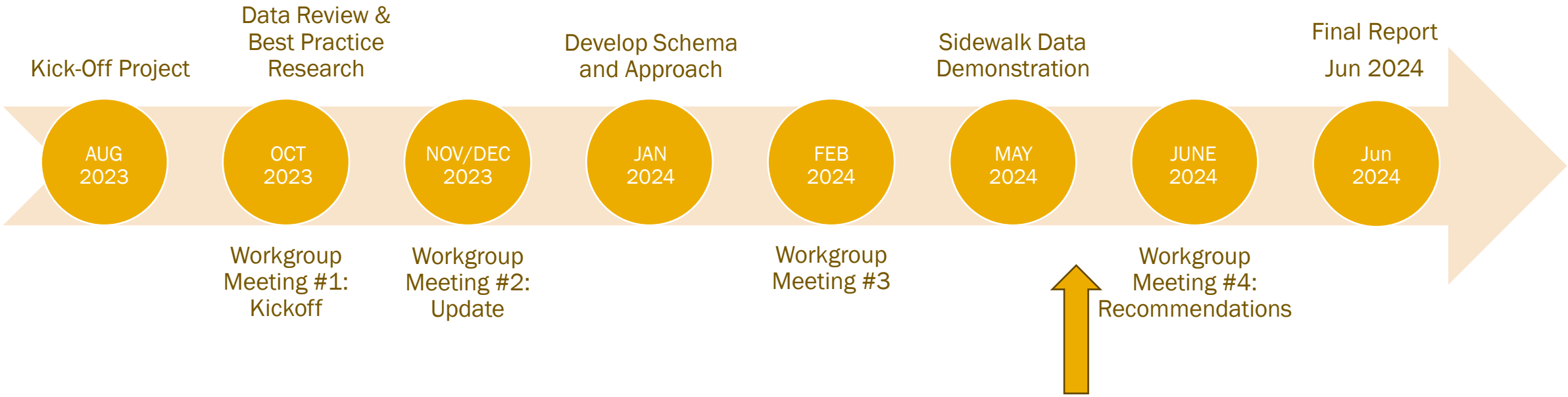
- Evaluate feasibility of a unified statewide sidewalk dataset
- Develop a schema for a practical statewide sidewalk dataset
- Demonstrate sidewalk data utility with case studies



ADDRESSING INEQUITIES

- Robust data promotes the efficient use of limited funding for improvements
  - Accessibility Analyses
  - ADA Compliance
  - Complete Streets
  - Context Driven Design
  - Maryland Pedestrian Safety Action Plan (PSAP)
  - Safe Routes to School (SRTS)
  - Transportation Alternatives (TA)
  - Vision Zero

PROJECT TIMELINE



STATE OF THE PRACTICE

Existing Data, Best Practices, Data Schema

EXISTING JURISDICTIONAL DATA

- Data sources
  - Maryland Bicycle and Pedestrian Master Plan
  - Local counties and jurisdictions
- Data attributes
  - Varied between jurisdictions
  - Shape based or linear
- Data collection
  - Methodology varies greatly
  - Coverage of service area varies – denser in urban areas
  - Accuracy unknown; is it up to date? Has it been verified?

Why is this work important?

Pedestrian accessibility is critical in creating an equitable, accessible region.

Understanding the current sidewalk conditions at any given location in the State carries enormous implications for realizing and addressing ADA compliance, access gaps, and pedestrian safety.

STATE OF THE PRACTICE

- Methods currently being used to map sidewalks:

Open Sidewalks

University of Washington Schema

Sidewalk Tags

Artificial Intelligence

Crowd Sourced Data

SIDEWALK SCHEMA

Existing Data, Best Practices, Data Schema

GUIDING PRINCIPLES

1. The sidewalk data schema will be used to model accessibility but should not focus on complete precision.
2. The sidewalk data schema will provide a flexible framework to make it easy for jurisdictions to participate at varying levels, adding attributes and enriching data as additional resources are available.
3. The data collected through this schema will be conflated to OMOC and the outputs should be open-sourced and shareable to facilitate planning analyses.
4. The sidewalk data schema should not be exclusively street-centric but should allow for sidewalk facilities to be added where they are not directly adjacent or related to a street.*
5. The sidewalk data schema should be designed in a way to facilitate multi-modal network analyses.
6. The sidewalk data schema should facilitate various accessibility analyses. For example, attributes allowable in the schema should support future development of a Pedestrian Accessibility Score (PAS), Pedestrian Level of Comfort (PLOC), and ADA assessments.

*Note that shared-use paths are accommodated elsewhere in the OMOC system.

DEFINING SIDEWALKS

- For purposes of this data schema, a **sidewalk is a right-of-way paved for use by pedestrians**. To qualify for inclusion in this dataset, infrastructure must:
  - Consist of an impervious surface or pervious asphalt.
    - For example, a gravel path does not qualify, but a path paved with cement, asphalt, or bricks does.
  - Add value to the transportation network and not serve a solely recreational purpose.
    - For example, a sidewalk through a park qualifies if it provides a faster or more direct pedestrian connection between streets on either side of the park; however, a sidewalks that loops through a park providing no additional pedestrian connectivity does not qualify.

SCHEMA OVERVIEW

Tier 1: Core attributes (i.e., sidewalk presence)

Tier 2: Advanced routing attributes (e.g., crossing infrastructure)

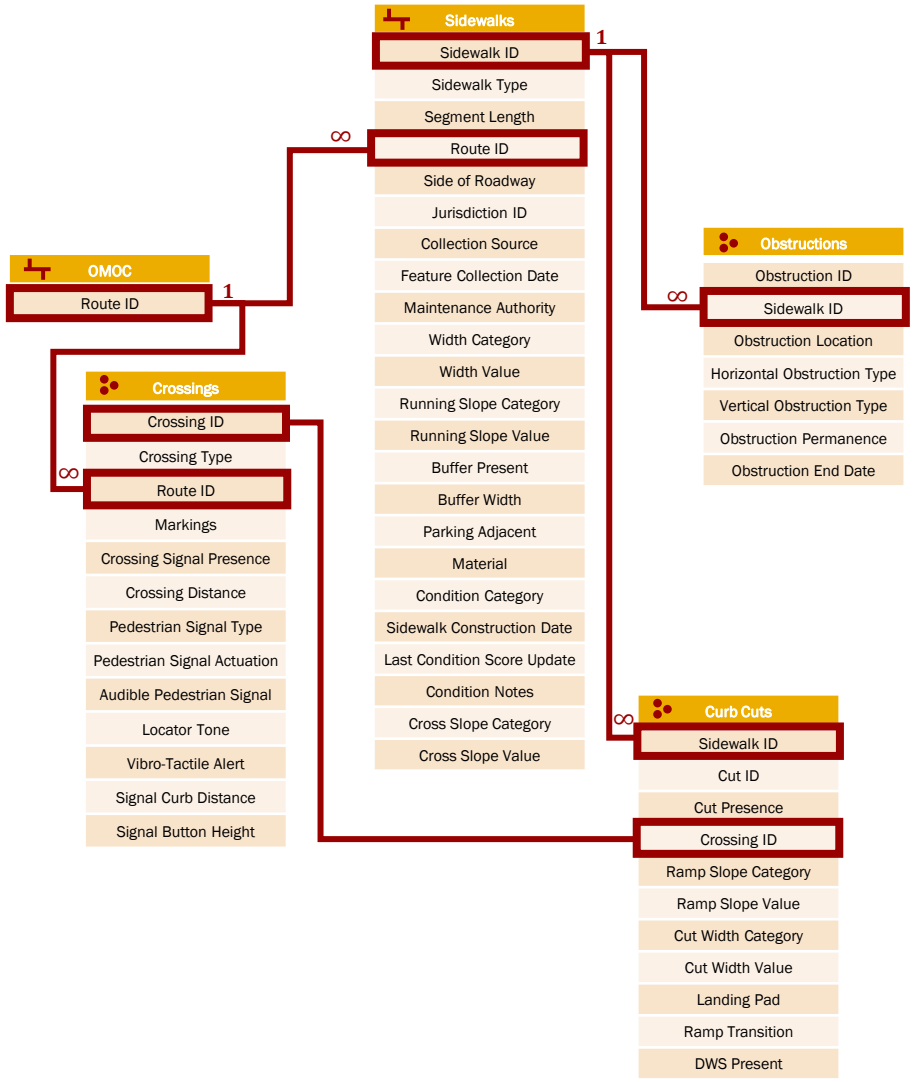
Tier 3: Accessibility attributes (e.g., curb cuts, obstructions, etc.)

Why use tiers?

- **Scalability:** Jurisdictions can start with core features and build upon them as resources allow
- **Customization:** Jurisdictions can get what they want out of the schema

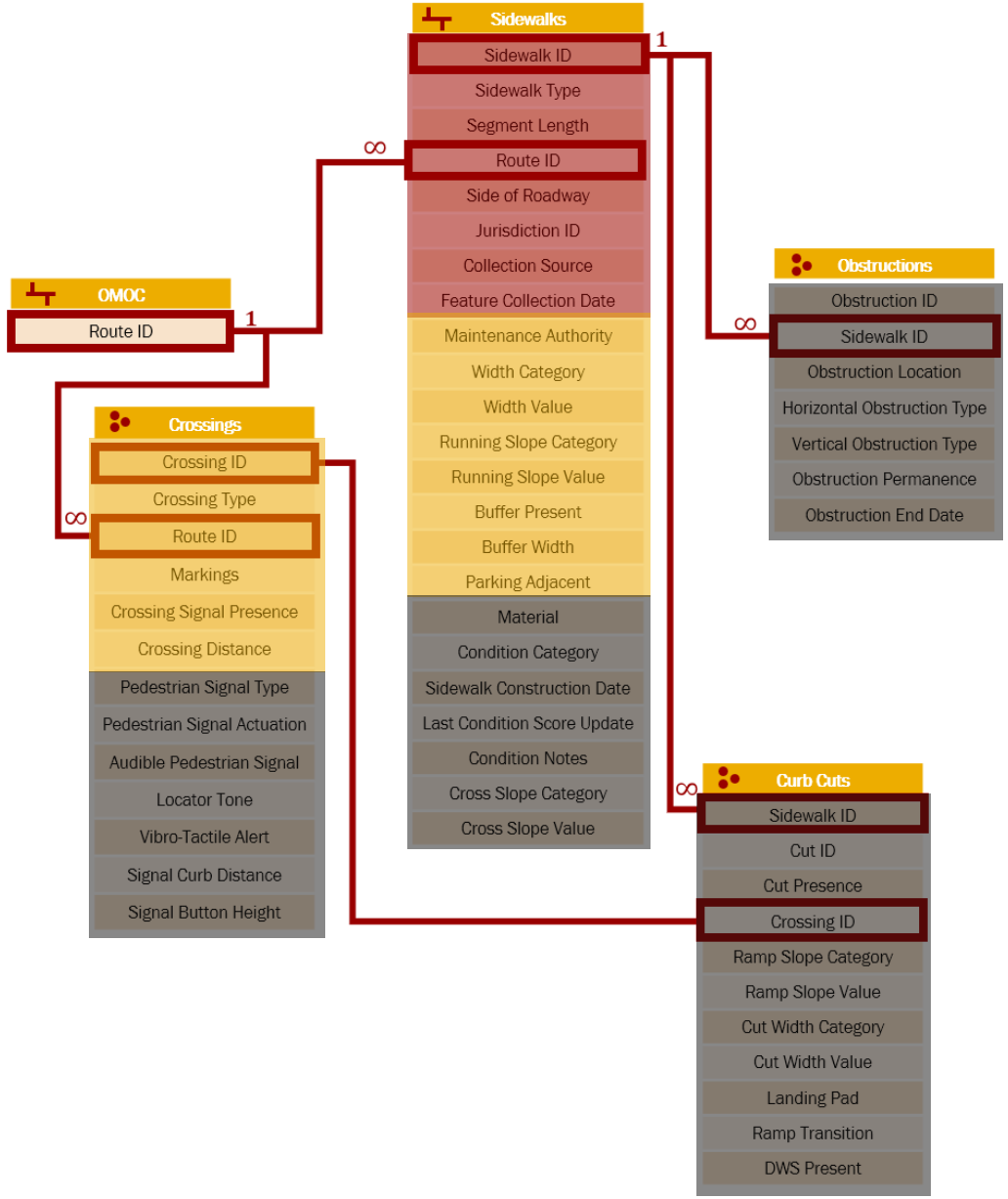
SCHEMA FEATURES

- Models the pedestrian environment as events within One Maryland One Centerline
  - Sidewalks
  - Crossings
  - Curb cuts
  - Obstructions



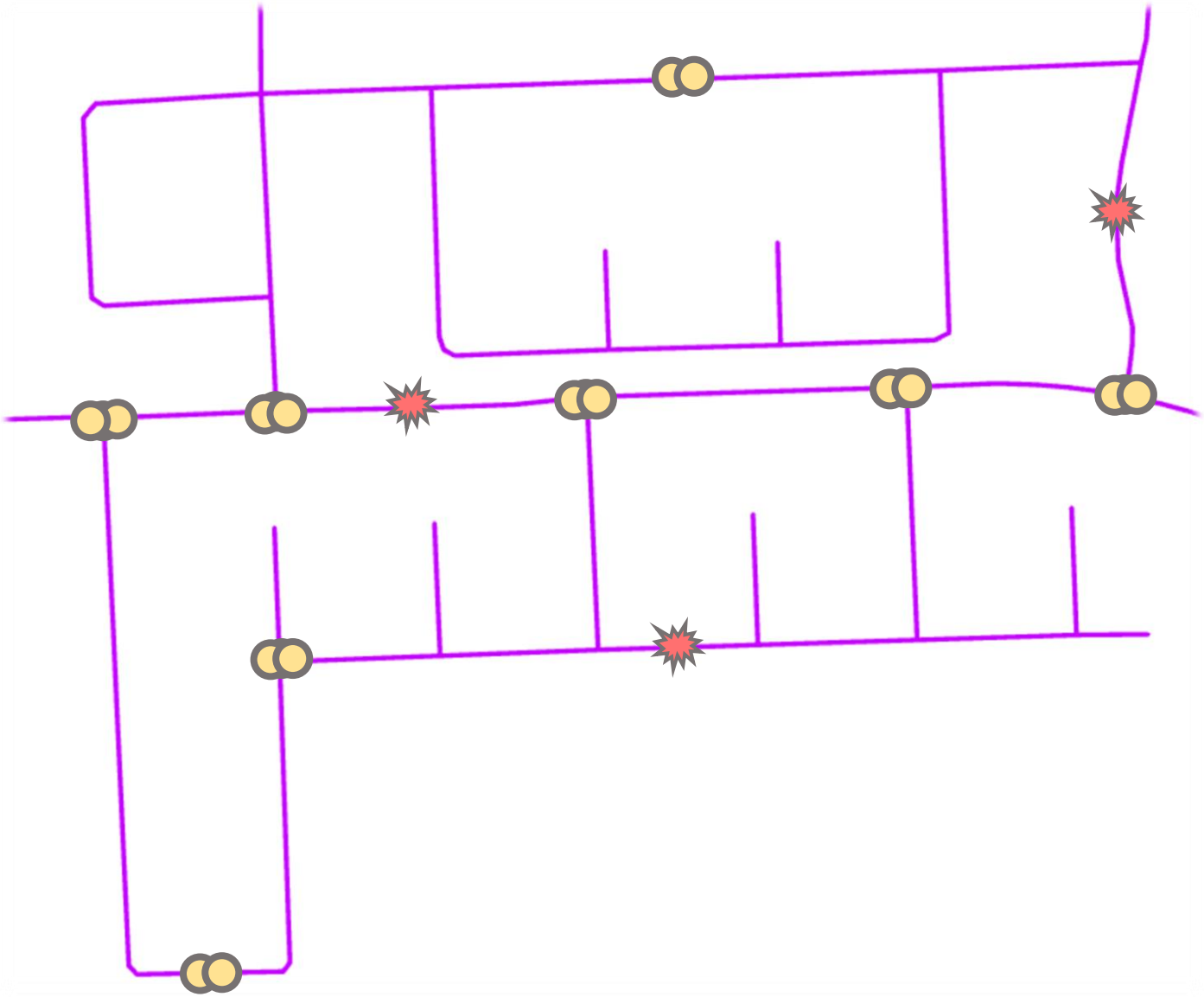
SCHEMA TIERS

- **Tier 1**
  - **Sidewalks:** presence and description of collection process
- **Tier 2**
  - **Sidewalks:** width, slope, and buffers
  - **Crossings:** presence of infrastructure and visual markings
- **Tier 3**
  - **Sidewalks:** material, condition, and cross slope
  - **Crossings:** signal presence and function
  - **Curb cuts:** presence and form, including data/information on ramp slope, landing pad, and transition
  - **Obstructions:** presence and nature of horizontal and vertical obstructions



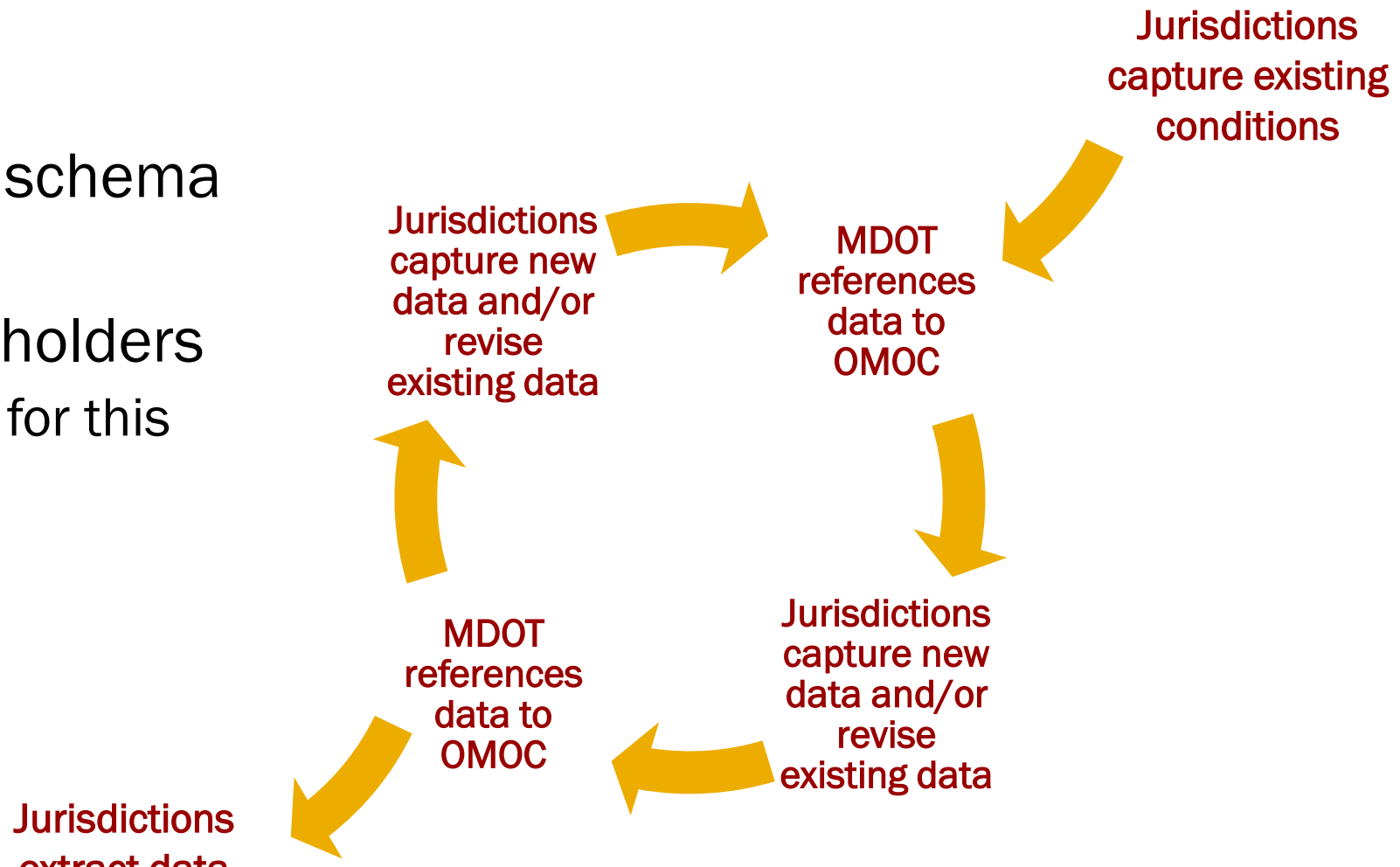
SCHEMA ILLUSTRATION

- Sidewalks
  - Line events
- Crossings
  - Point events
- Curb cuts
  - Point events
- Obstructions
  - Point events



LOOKING AHEAD

- Finish building sidewalk schema within OMOC
- Provide training to stakeholders
  - Virtual training planned for this summer – stay tuned!
- Ongoing maintenance



OMOC/ROADS & HIGHWAYS

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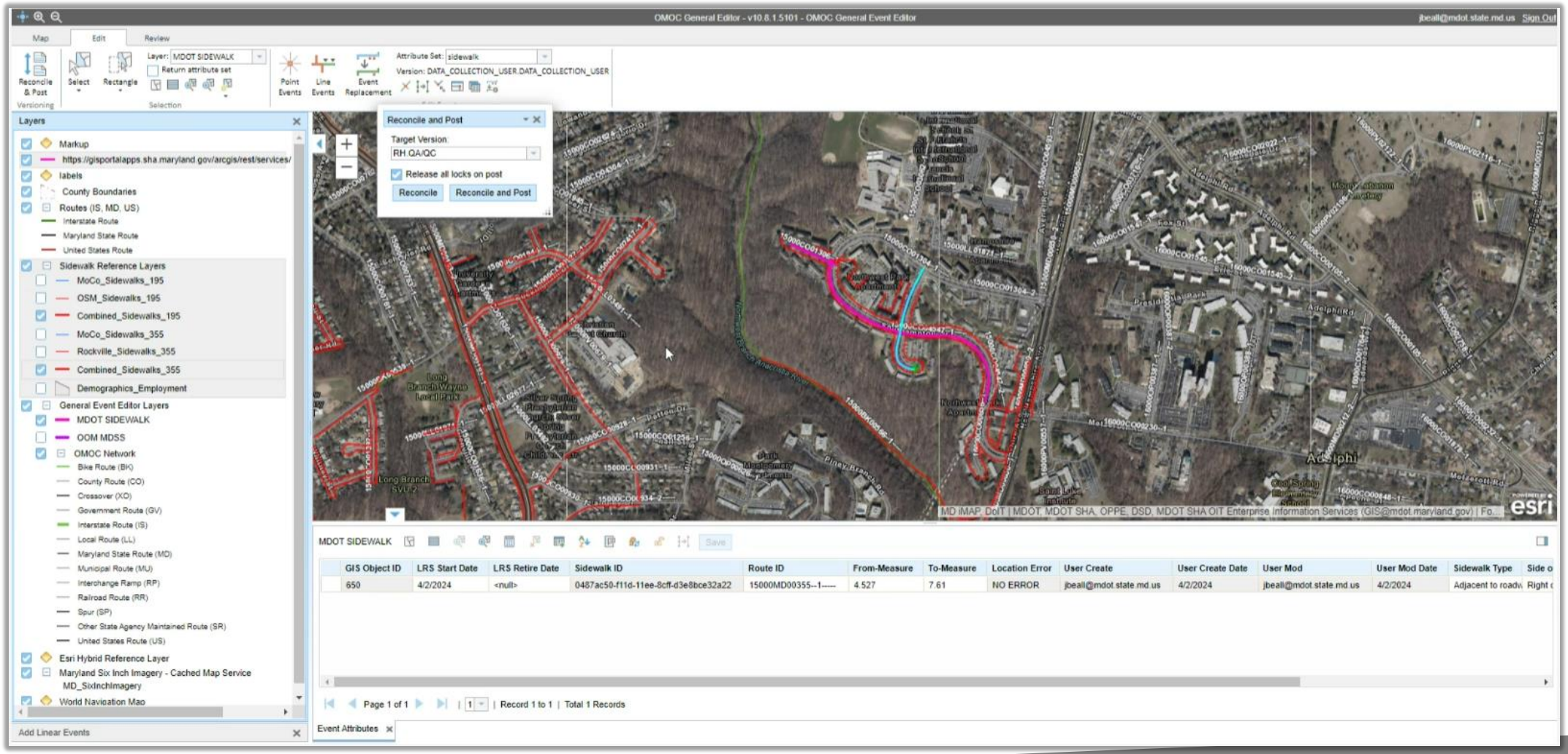
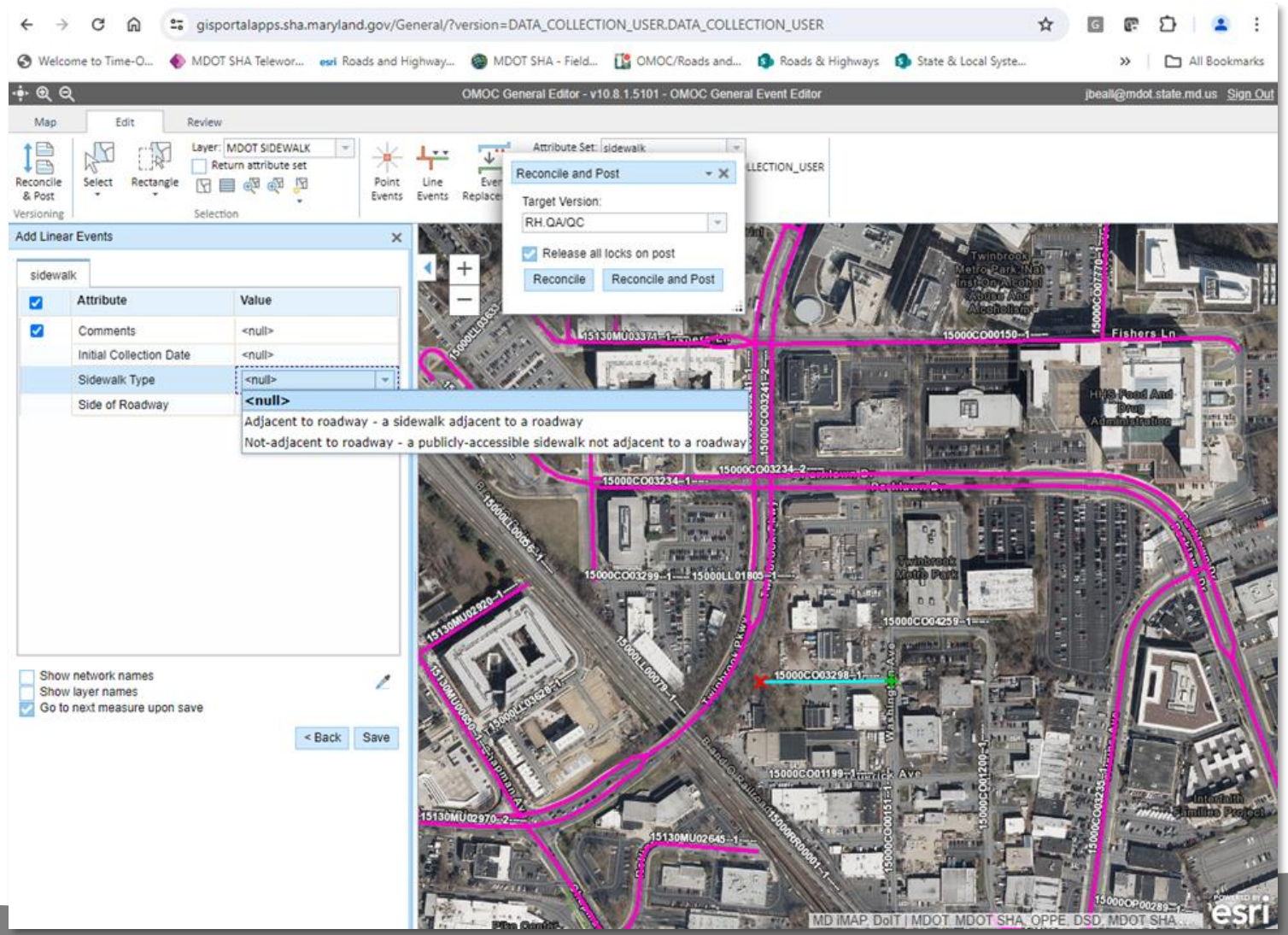


OMOC/ROADS & HIGHWAYS



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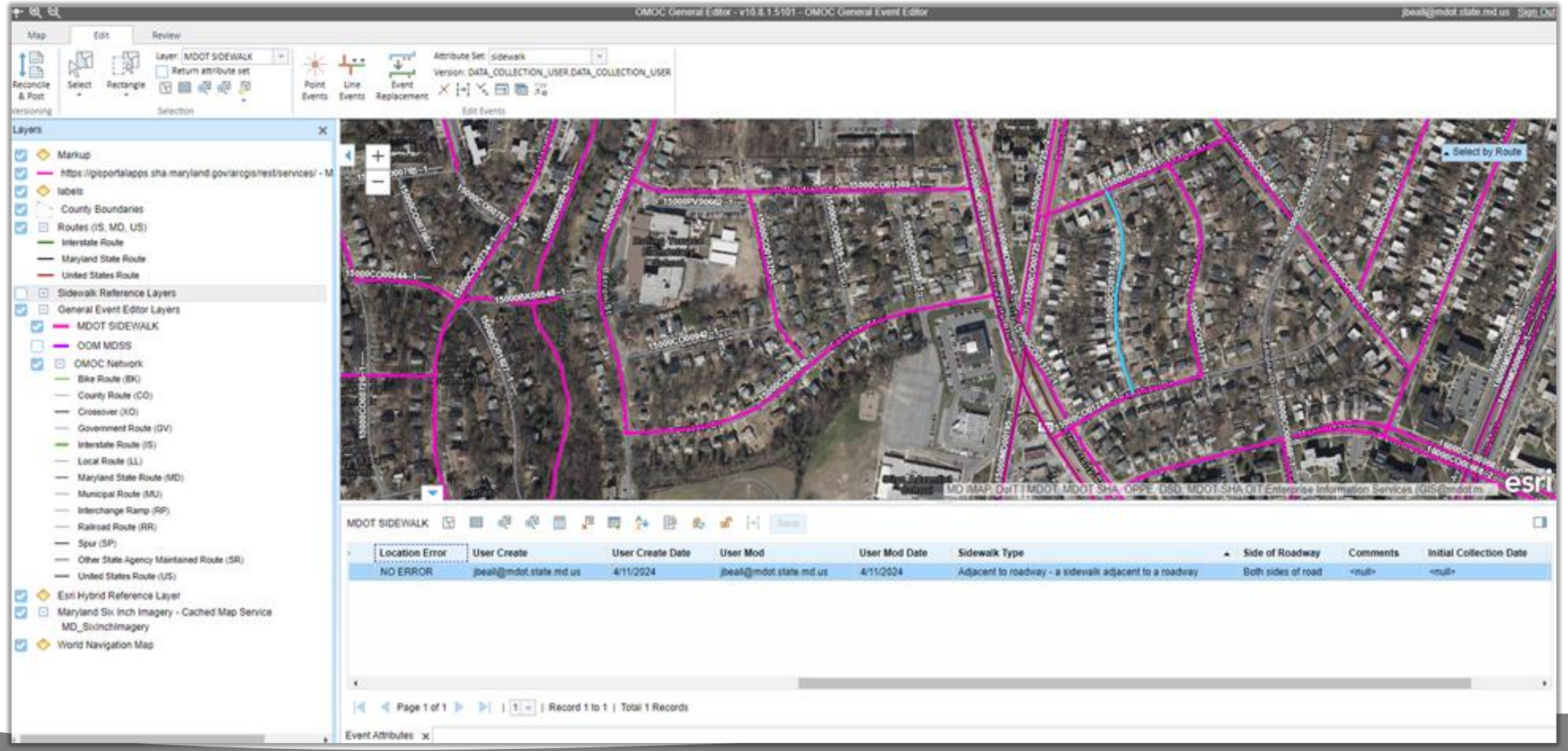
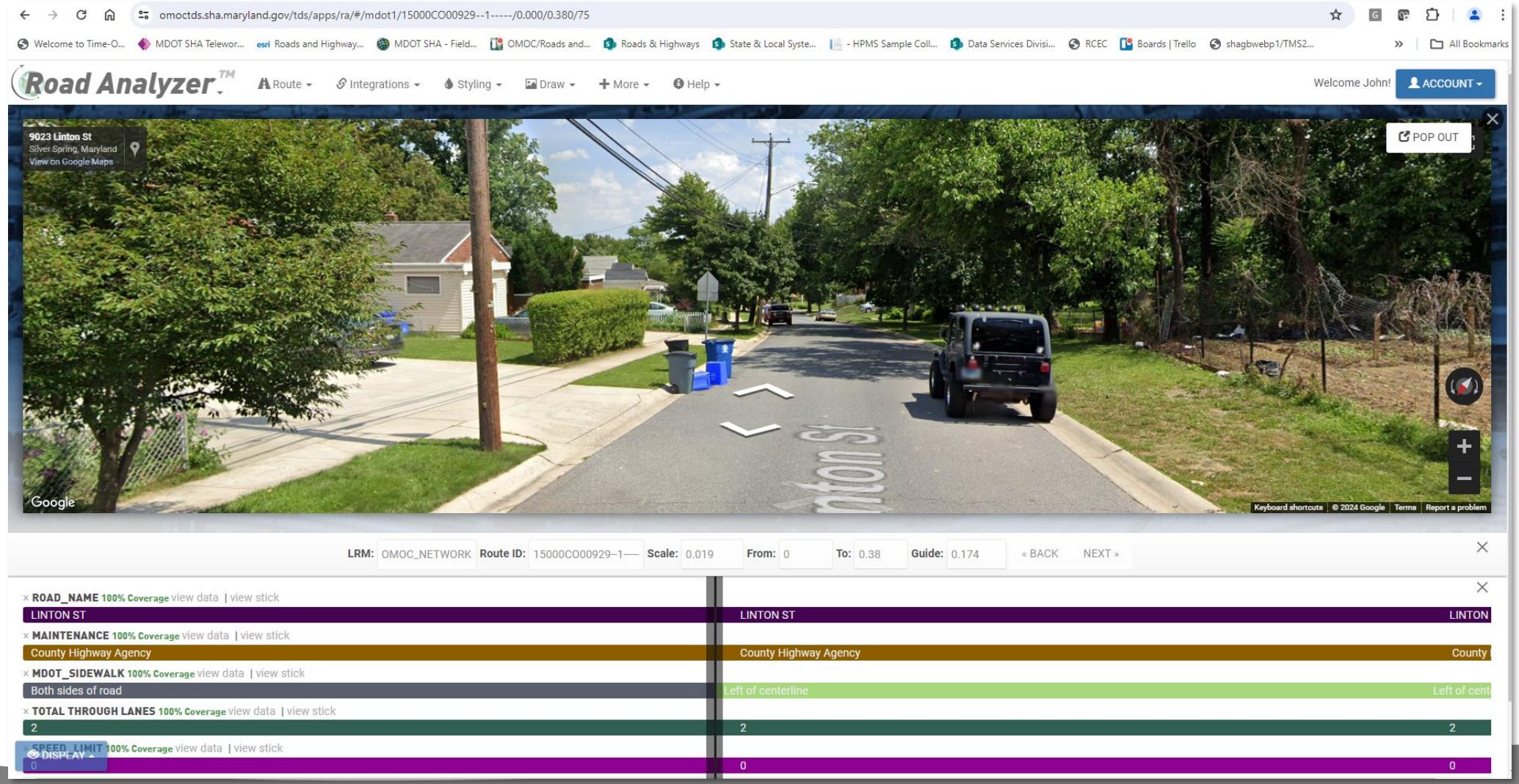


OMOC/ROADS & HIGHWAYS



NEXT STEPS

- Complete sidewalk data demonstration
- Host final working group meeting
- Develop final report, highlighting:
  - Criticality of inventorying sidewalks throughout the State
  - Recommended schema
  - Future directions for this work

THANK YOU

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