



MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION

One Maryland One Centerline & the Sidewalk Data Collaboration



BRTB
BICYCLE AND PEDESTRIAN ADVISORY
GROUP
7-16-25

The Maryland Sidewalk Data Collaboration

Comprised of stakeholders representing agencies and jurisdictions across Maryland:

- Allegany County
- Anne Arundel County
- Baltimore City Department of Transportation
- Baltimore County
- Baltimore Metropolitan Council
- Charles County
- Easton
- Howard County
- Maryland Department of Transportation
- Metropolitan Washington Council of Governments
- Montgomery County
- Prince George's County
- State Highway Administration
- University of Washington
- Wicomico County

- Led by the Maryland Department of Transportation (MDOT) Environment and Sustainable Transportation Program
- Established in July 2023 to address lack of data on sidewalks



Purpose

Sidewalk
Data



Network
Analyses



Accessibility
Measures

- Promote populating the Maryland Sidewalk Data Initiative's schema as an investment in:
 - A full understanding of **existing pedestrian infrastructure**
 - A framework for analyses aimed at **identifying critical gaps in pedestrian networks**, based on the people and destinations they separate



Addressing inequities

- Robust data promotes the efficient use of limited funding for improvements
 - ADA compliance & Accessibility Analysis
 - Regional and Community Planning
 - Complete Streets Initiatives
 - Context Driven Design
 - Maryland Pedestrian Safety Action Plan (PSAP)
 - Public Transit Accessibility
 - Safe Routes to School (SRTS)
 - Transit Oriented Development (TOD)
 - Transportation Alternatives (TA)
 - Vision Zero Planning



one **MARY** **AND**
one **CENTER** **LINE**
collaborative. authoritative. seamless.

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION



One Maryland One Centerline (OMOC) Program Overview

- One Maryland One Centerline/OMOC is a collaborative effort between federal, state, and local entities to create an authoritative, seamless, statewide roadway dataset that meets the needs of all stakeholders.
- Benefits of OMOC:
 - **Authoritative Data:** Leverages trusted centerline data from state and local partners.
 - **Collaborative Maintenance:** Data is maintained collaboratively based on authoritative designations.
 - **Timely Updates:** Data maintenance occurs frequently (daily/weekly/monthly) rather than annually.
 - **Optimized Data:** Incorporates the best components from state and local datasets.
 - **Local LRS Support:** Provides a Linear Referencing System (LRS) for local governments to effectively manage centerline data event types.
 - **Asset Information Sharing:** Facilitates sharing of roadway asset information between state and local jurisdictions, as well as neighboring localities.
 - **Centralized Data Access:** Offers a single source for authoritative data-driven decision-making.
 - **Automated Notifications:** Receive alerts about potential data event changes triggered by centerline modifications.

One Maryland One Centerline (OMOC) Data Events

- 150+ Data Event Types
- Examples of Pedestrian and Bicycle Events
 - AADT
 - ADA
 - Bicycle Eligible
 - Bicycle Facility Type
 - Bicycle Level of Traffic Stress (LTS)
 - Bicycle Pocket Lanes
 - Bicycle Routes
 - Bicycle Side Path
 - Bicycle Traffic Flow
 - Bicycle Vertical Separation
 - Crash
 - Crosswalks
 - Curb
 - Dangerous Curves
 - Functional Class
 - Intersections
 - Lane Width
 - Line Striping
 - Maintenance Authority
 - MTA Bus Stops
 - MTA Bus Routes
 - Park n Rides
 - Pavement Type
 - Prohibited Routes
 - Railroad Crossings
 - Scenic Byways
 - Structures
 - MDOT SHA Roadway Projects
 - Shared Use Paths
 - Shoulder Present
 - Sidewalks
 - Signals
 - Speed Limits
 - Traffic Barriers

How can I use Sidewalk Event Editor data?

- Robust sidewalk data is important for analyses and part of why this tool exists!
- Solutions range from customizable analysis you can curate to templates that the OMOC team can give you
- Reach out to gis@mdot.maryland.gov to understand the various OMOC outputs you can use



But who can enter the sidewalk data?

- Any staff person, GIS is not required.
- Volunteer, High School or College Interns during the summer and academic school year.

But who will train and monitor their progress?

- SHA will schedule personalized training for any person entering sidewalk data.
- SHA will monitor the quality and progress of the data entry.



OMOC/Roads & Highways

← → ↺ 🏠

omoc.tds.sha.maryland.gov/tds/apps/ra/#/mdot1/15000CO00929--1-----/0.000/0.380/75

☆ 📄 🗑️ 👤 ⋮

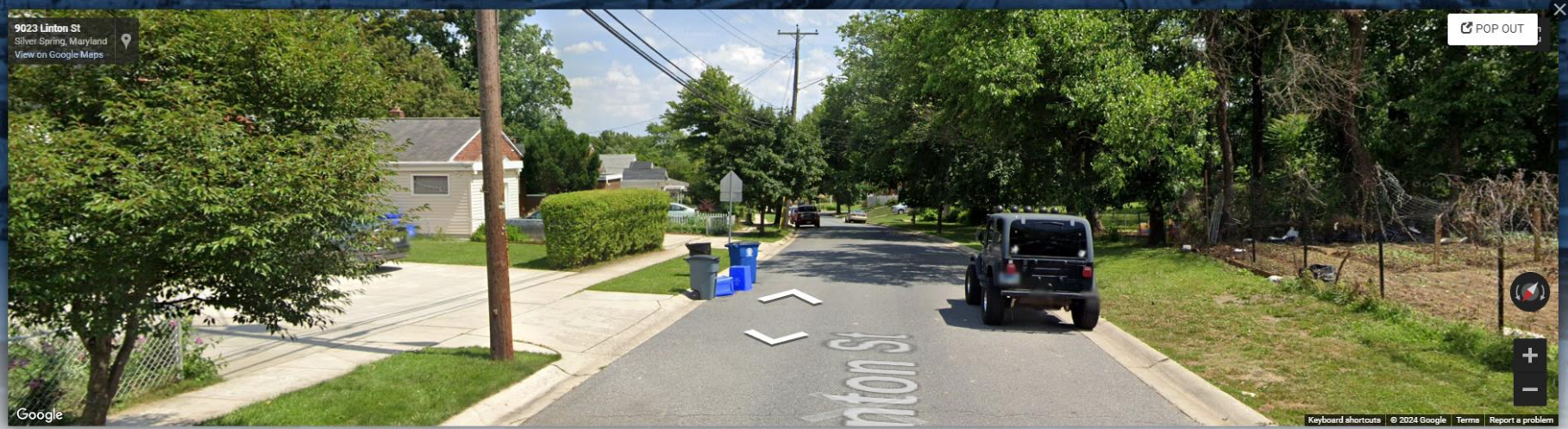
Welcome to Time-O... MDOT SHA Telewor... esri Roads and Highway... MDOT SHA - Field... OMOC/Roads and... Roads & Highways State & Local Syste... - HPMS Sample Coll... Data Services Divisi... RCEC Boards | Trello shagbwebp1/TMS2... >> 📁 All Bookmarks

Road Analyzer™

Route Integrations Styling Draw More Help

Welcome John! ACCOUNT

9023 Linton St
Silver Spring, Maryland
View on Google Maps



POP OUT

Google Keyboard shortcuts © 2024 Google Terms Report a problem

LRM: OMOC_NETWORK Route ID: 15000CO00929-1 Scale: 0.019 From: 0 To: 0.38 Guide: 0.174 « BACK NEXT »

×

×

ROAD_NAME 100% Coverage view data | view stick

LINTON ST

LINTON ST

LINTON

×

×

MAINTENANCE 100% Coverage view data | view stick

County Highway Agency

County Highway Agency

County

×

×

MDOT_SIDEWALK 100% Coverage view data | view stick

Both sides of road

Left of centerline

Left of cent

×

×

TOTAL THROUGH LANES 100% Coverage view data | view stick

2

2

2

×

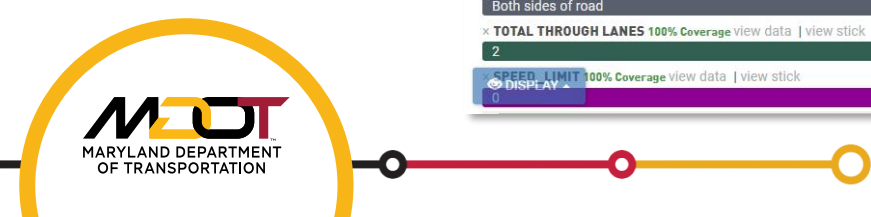
×

SPEED LIMIT 100% Coverage view data | view stick

0

0

0



Custom Outputs

- Segment Analyzer allows for the creation of reusable templates to create custom outputs.
- Web based program is accessible to all users.
- Outputs can be simple spreadsheets, database tables, or shapefiles.

The screenshot displays the Segment Analyzer web application interface. The top navigation bar includes the logo, a 'Results' tab, and dropdown menus for 'Templates', '+ More', and 'Help'.

Available Data Sources: This section shows a list of data sources, including 'Transactional data' and 'DEFAULT'.

Layers and Tables: This section lists various data layers and tables, each with a 'Linear' button and a right-pointing arrow. The layers include:

- ACCESS_PERMIT_LOC
- NUMBER_LANE_LEFT
- NUMBER_LANE_RIGHT
- NUMBER_THRU_LANES (checked)
- OOS_STRUCTURES
- ORE_PLAT
- ROUTE_MODIFIERS
- TEST_SEQUENCE
- OMOC_NETWORK
- OOS_BRNUM

At the bottom of this section, there are three icons: 'Analysis' (with a count of 5), 'Routes', and 'Options' (with a 'CSV' label).

Layer Analysis (5 layers): This panel shows the configuration for the selected layers. Each layer has an 'Add Field' button and a dropdown menu to select a field. The layers and their selected fields are:

- MD_SIDEWALK (Version: SDE.DEFAULT) - Selected field: SIDEWALK_TYPE
- SPEED_LIMIT (Version: SDE.DEFAULT) - Selected field: SPEED_LIMIT
- FACILITY_TYPE (Version: SDE.DEFAULT) - Selected field: FACILITY_TYPE
- TRAFFIC_STATION (Version: SDE.DEFAULT) - Selected field: DESCRIPT
- NUMBER_THRU_LANES (Version: SDE.DEFAULT) - Selected field: NUMBER_THRU_LANES

Each layer configuration has a 'Union' button to the right. At the bottom of the interface, there are two buttons: 'VALIDATE' and 'SUBMIT'.

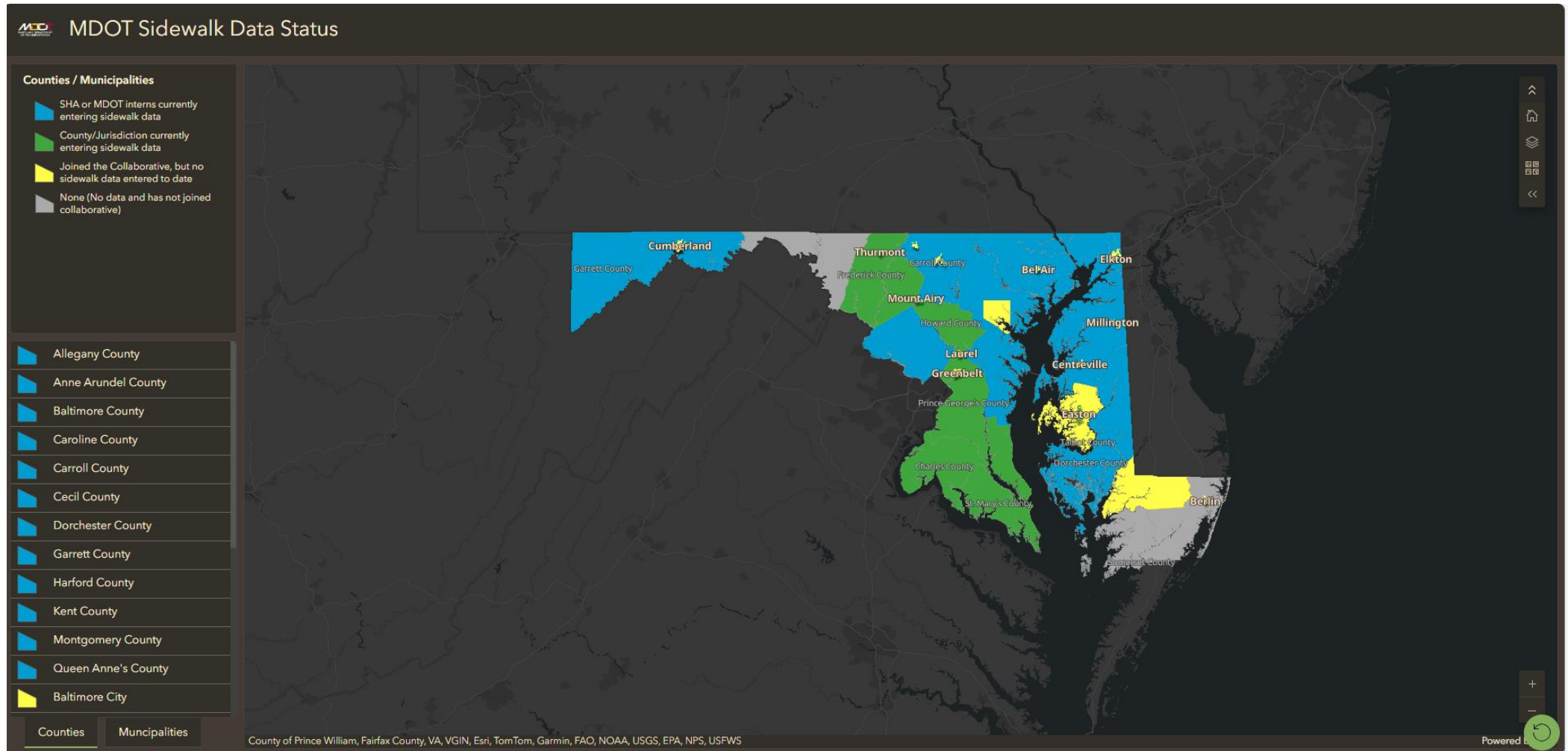
Data Updates

MDOT SHA	13200
Prince Georges County	6600
Charles County	2200
Frederick County	1100
Easton	300
TCCSMD (Southern Maryland)	900
TSO Interns	2000

TOTAL 26,300 Sidewalks



Areas with Sidewalk Coverage



Case Studies

Illustrating the value of schema data



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What Does this Look Like?

Metrorail Station Accessibility

- Are there missing commuter connections within **one mile** of the North Bethesda Metrorail station?
- Who would new infrastructure connect to high-capacity transit?



School Accessibility

- Are there gaps in the sidewalk network within a **half mile** of Rolling Terrace Elementary School?
- Who gains access if we close that gap?



Methodology

1. Aggregate sidewalk data:
 - Montgomery County
 - Prince George's County
 - OpenStreetMap
2. Add sidewalks to the OMOC network
3. Enrich authoritative data
4. Extract sidewalks from OMOC
5. Develop a routable network and analyze
6. Assign demographic data to network
 - American Community Survey 5-year Estimates (2022) were interpolated to hexagons



Metrorail Station accessibility

- Estimated access (existing):
 - Total population: 10,654
 - Commuting population: 4,111
 - Non-white population: 5,349



Metrorail Station accessibility

- Estimated access (with **potential** connection between Nebel Street and Parklawn Drive):
 - Total population: 11,345 (+6%)
 - Commuting population: 4,389 (+7%)
 - Non-white population: 5,760 (+8%)



School accessibility

- Estimated access (existing):
 - Total population: 4,289
 - Youth population: 1,293
 - Non-white population: 3,697



School accessibility

- Estimated access (with **potential** sidewalk connecting to park trail):
 - Total population: 6,563 (+53%)
 - Youth population: 1,768 (+37%)
 - Non-white population: 5,194 (+40%)



Implications

- This analysis exclusively considers **Tier 1** attributes:
 - No consideration for the adequacy of intersection crossing infrastructure
 - No consideration of obstructions
 - Sidewalks were requisite for access; no routing on roadways, regardless of their traffic levels/expected pedestrian comfort



Future Directions

- Pedestrian accessibility scoring to understand access to destinations
 - Index the degree to which residents can walk to transit, schools, grocery stores, etc. to facilitate comparisons across geographies
 - Facilitates the prioritization of improvements within areas based on equity and accessibility measures
- Pedestrian level of comfort analyses to understand the pedestrian experience
 - Allows for a holistic consideration of factors including vehicular speeds and volumes, adequacy of sidewalk infrastructure, land use, etc.

Thank you

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Thanks to YOU!



American Planning Association
Maryland Chapter

The Maryland Sidewalk Data Collaboration has won APA MD/MPCA's ***Interjurisdictional Coordination Award***. This is a testament to your hard work, feedback, and continuing commitment to improve sidewalk data in Maryland.