ESRI PRODUCTS TO DEVELOP STATEWIDE BICYCLE & PEDESTRIAN NETWORKS

MARYLAND DEPARTMENT OF TRANSPORTATION

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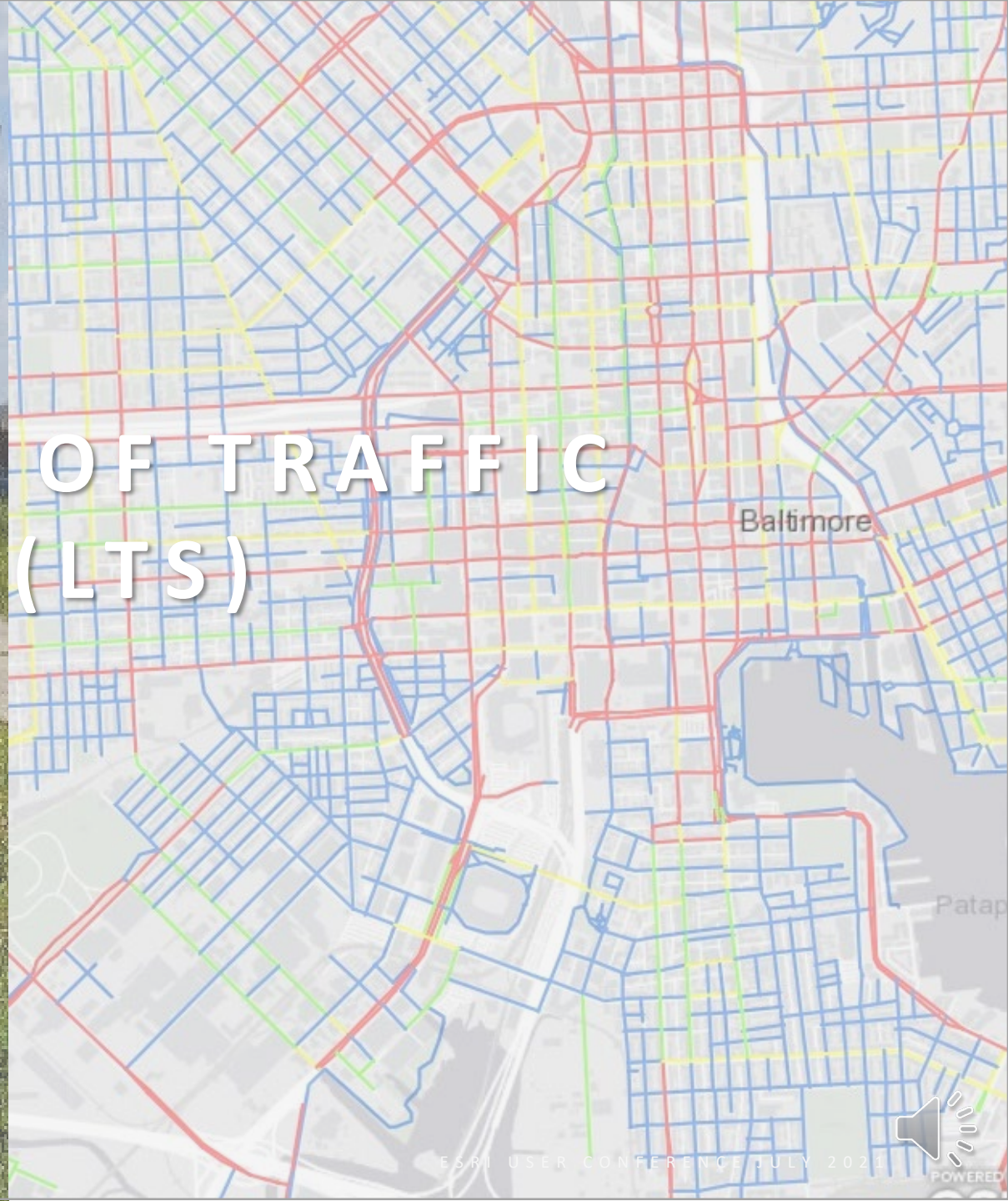
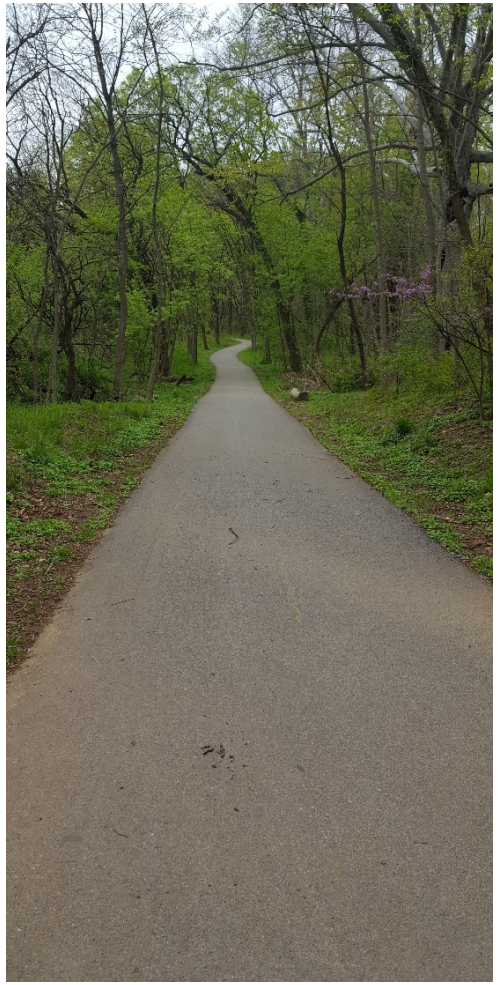
MARYLAND DEPARTMENT OF TRANSPORTATION

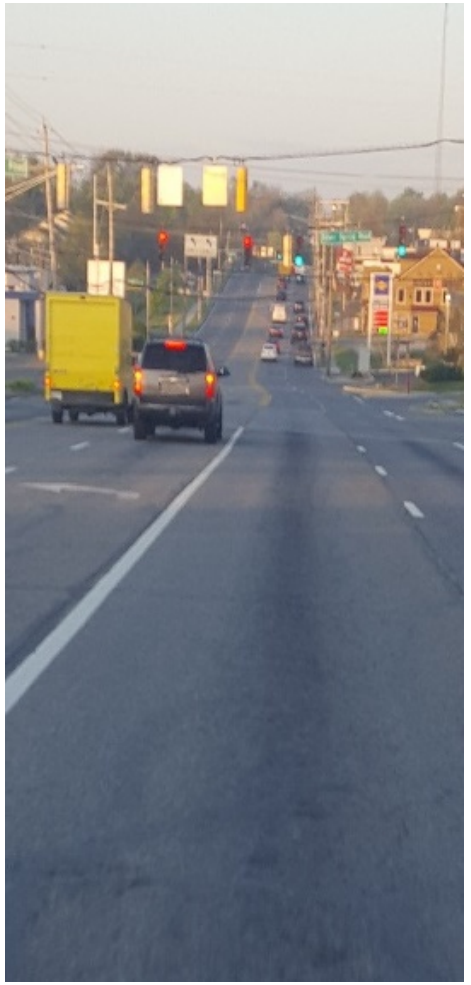
OFFICE OF PLANNING & CAPITAL PROGRAMMING

BICYCLE LEVEL OF TRAFFIC STRESS (LTS)

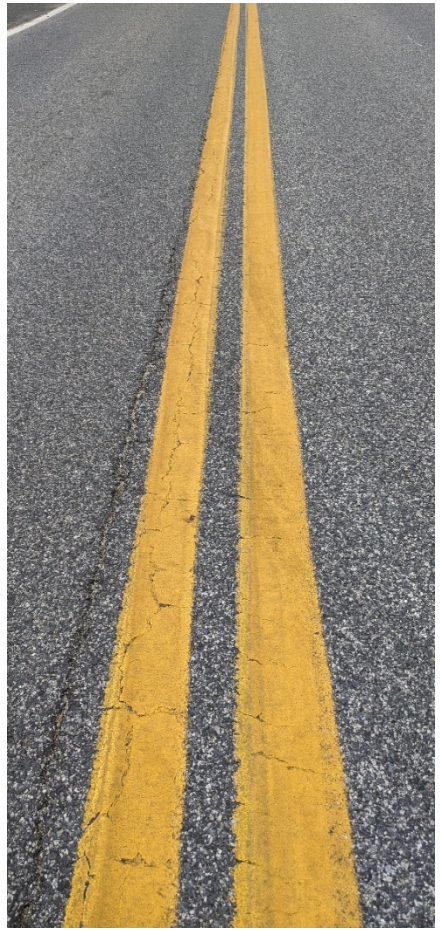


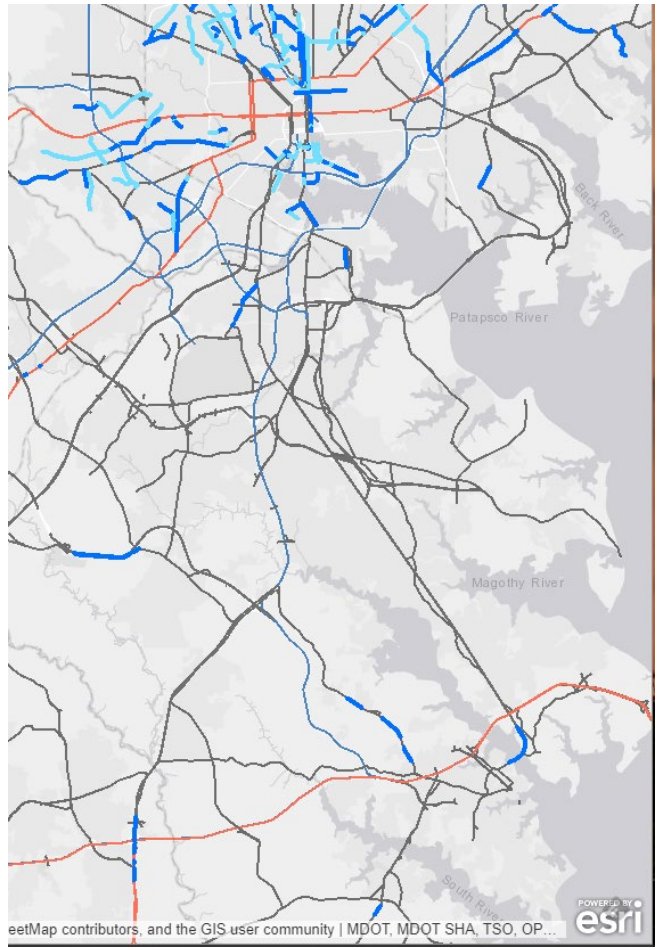
LTS 1 - 4



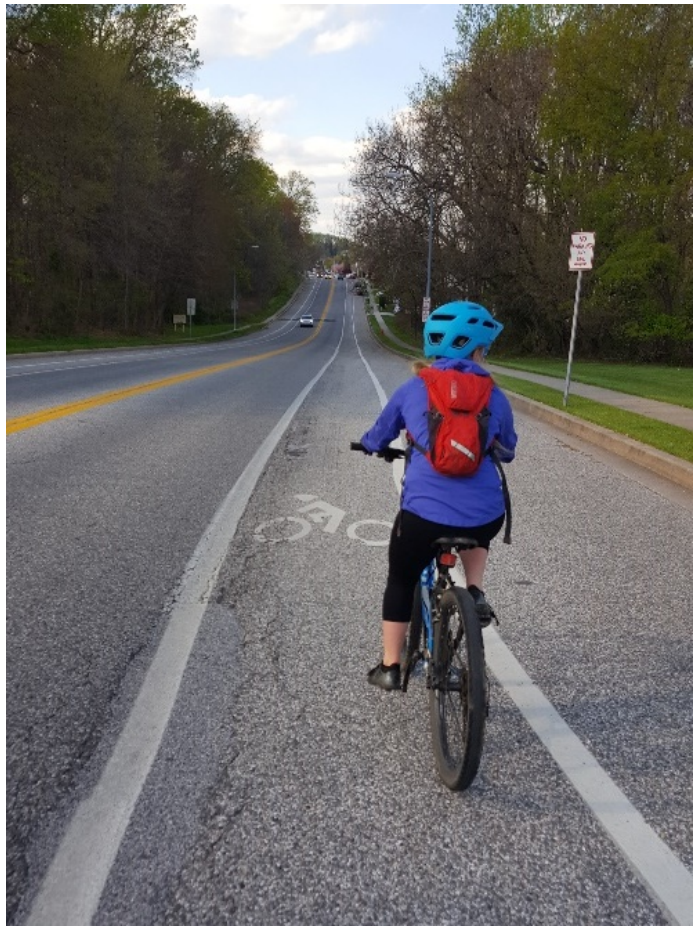


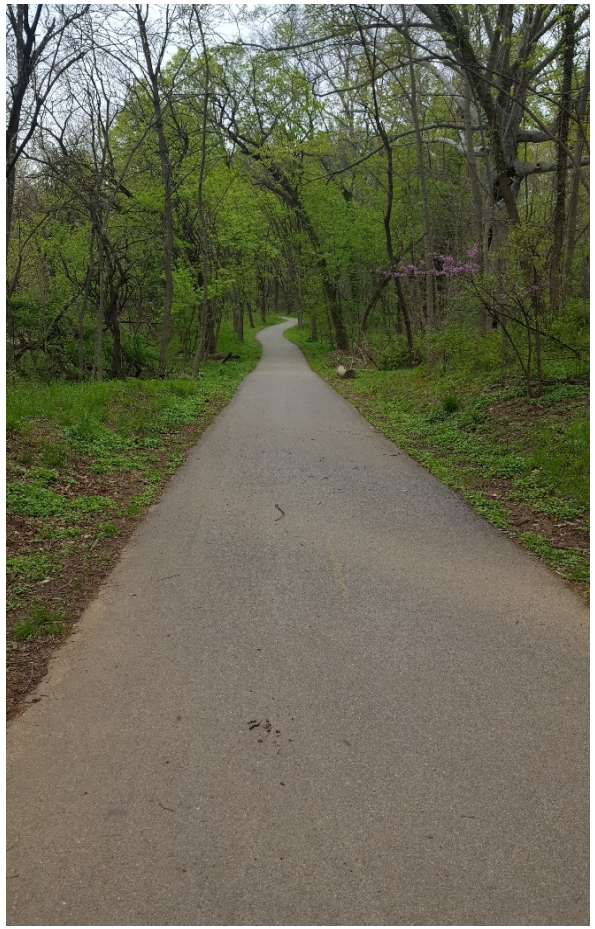
ONE MARYLAND ONE CENTERLINE (OMOC)





ON & OFF-ROAD BICYCLE NETWORK





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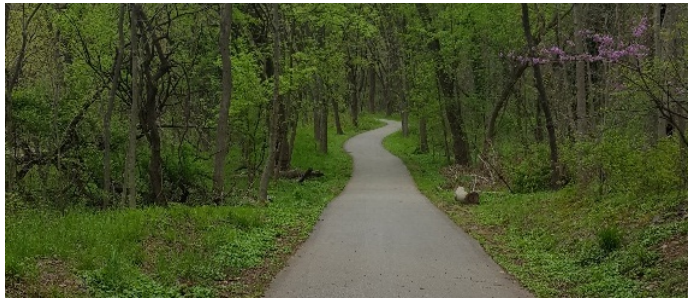

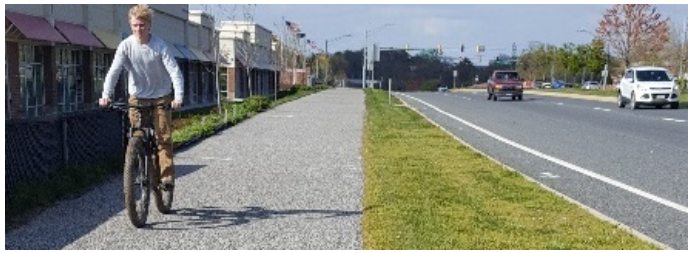

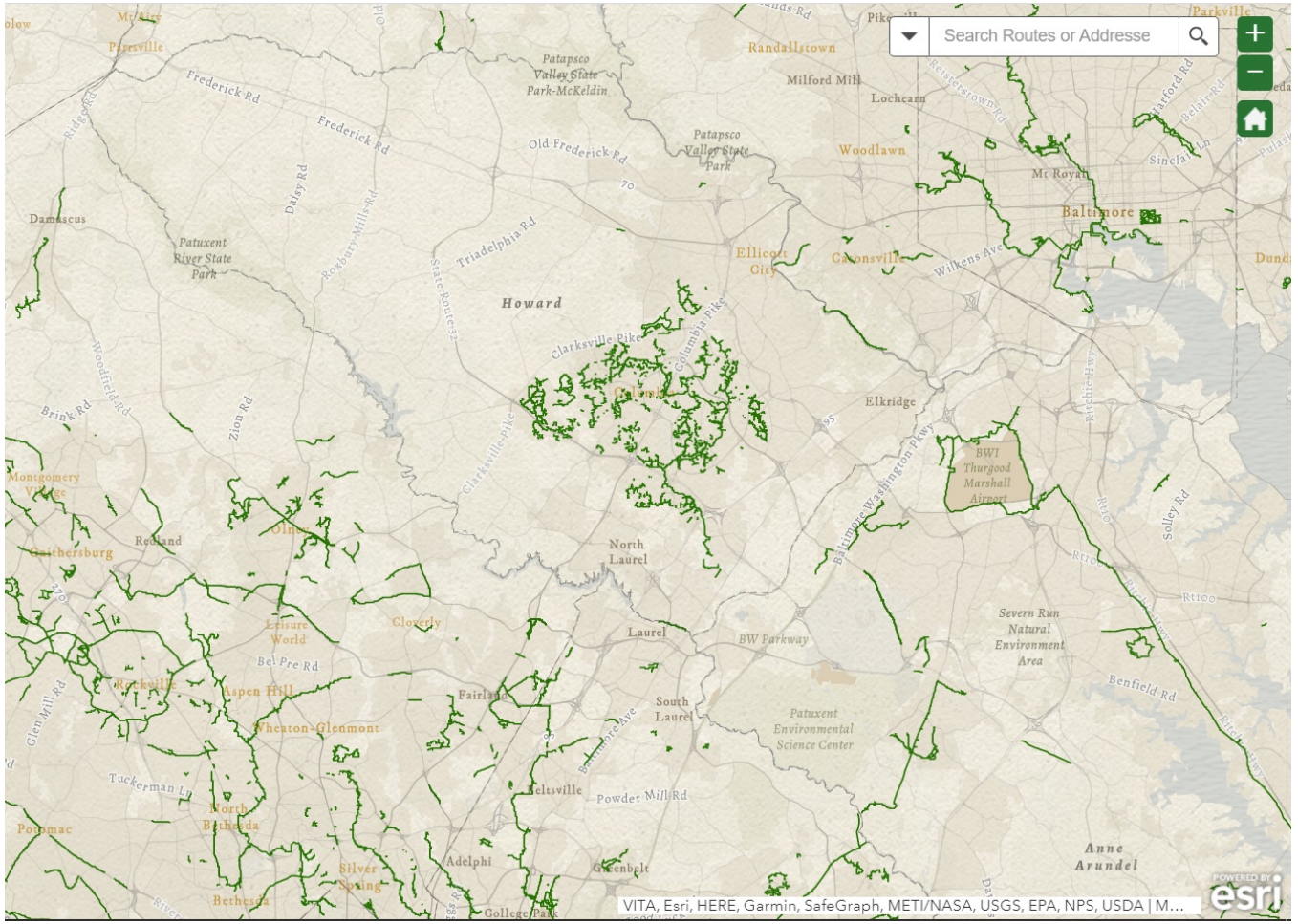

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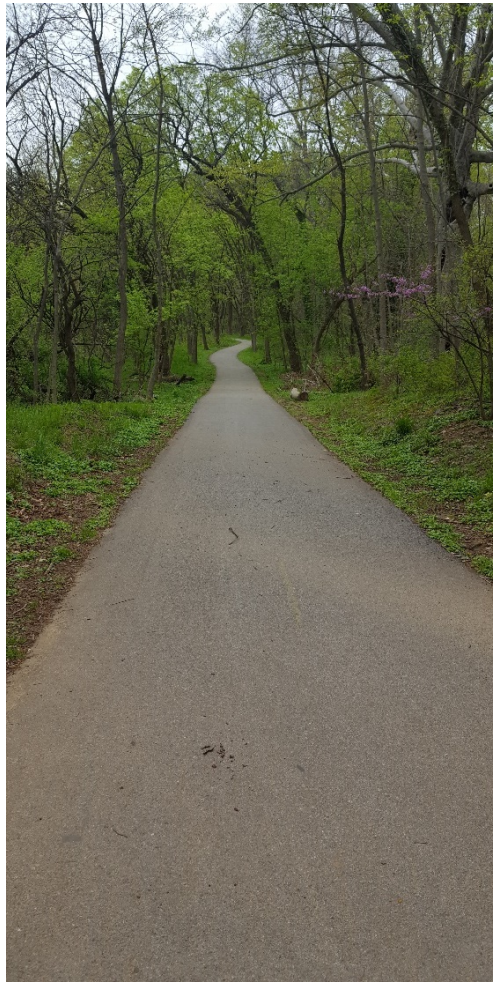

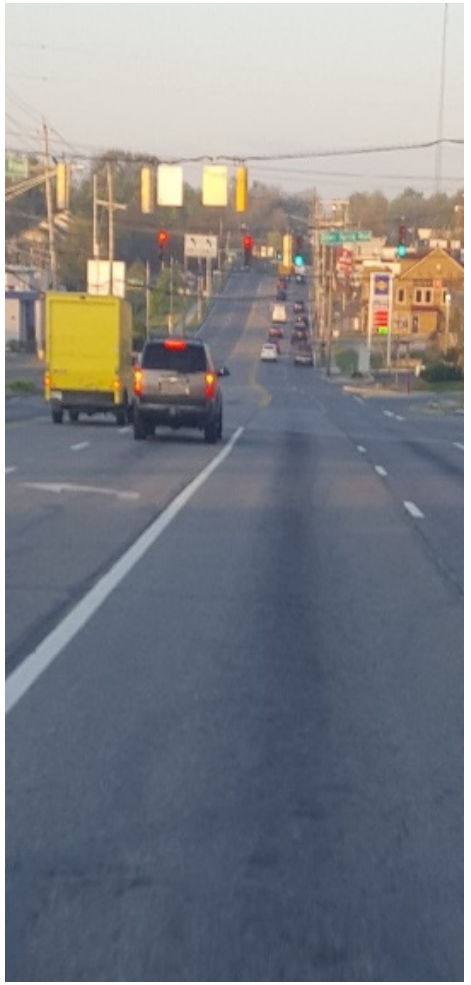

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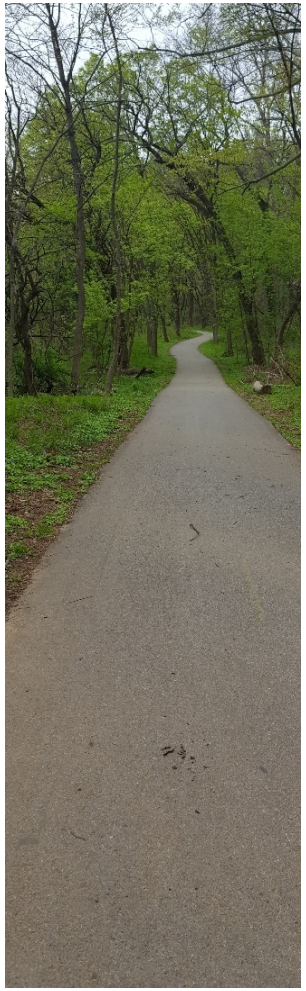
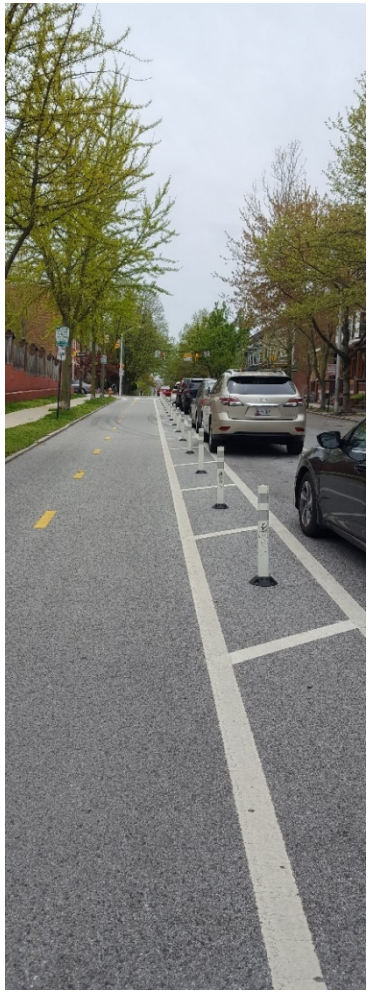
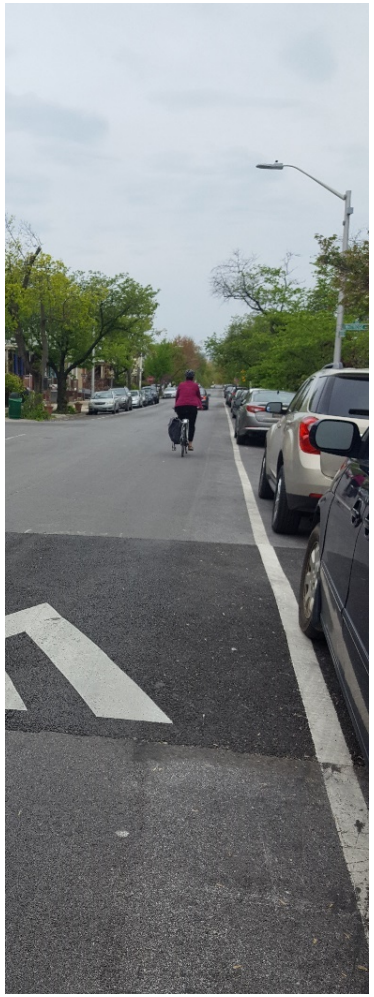
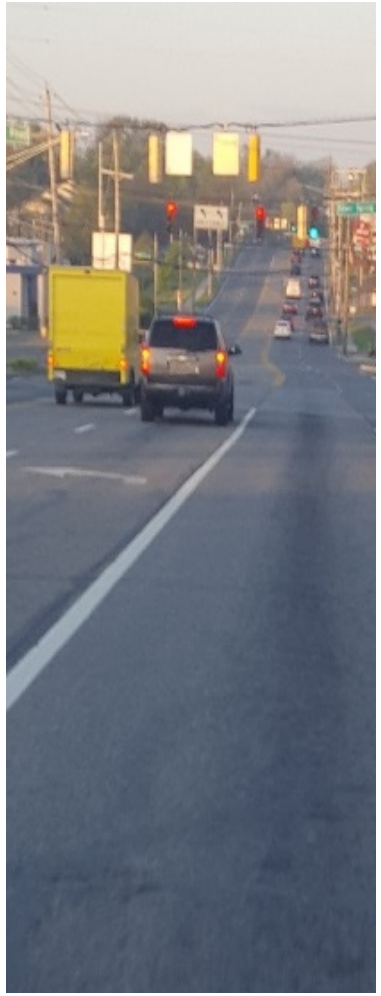
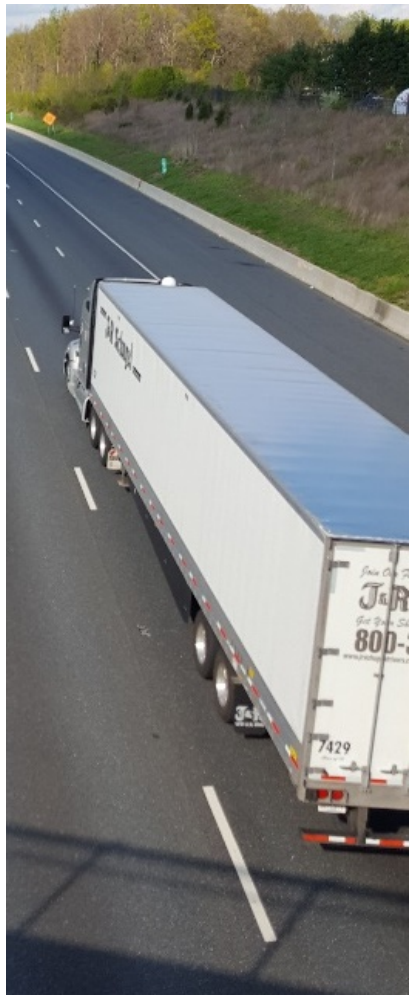
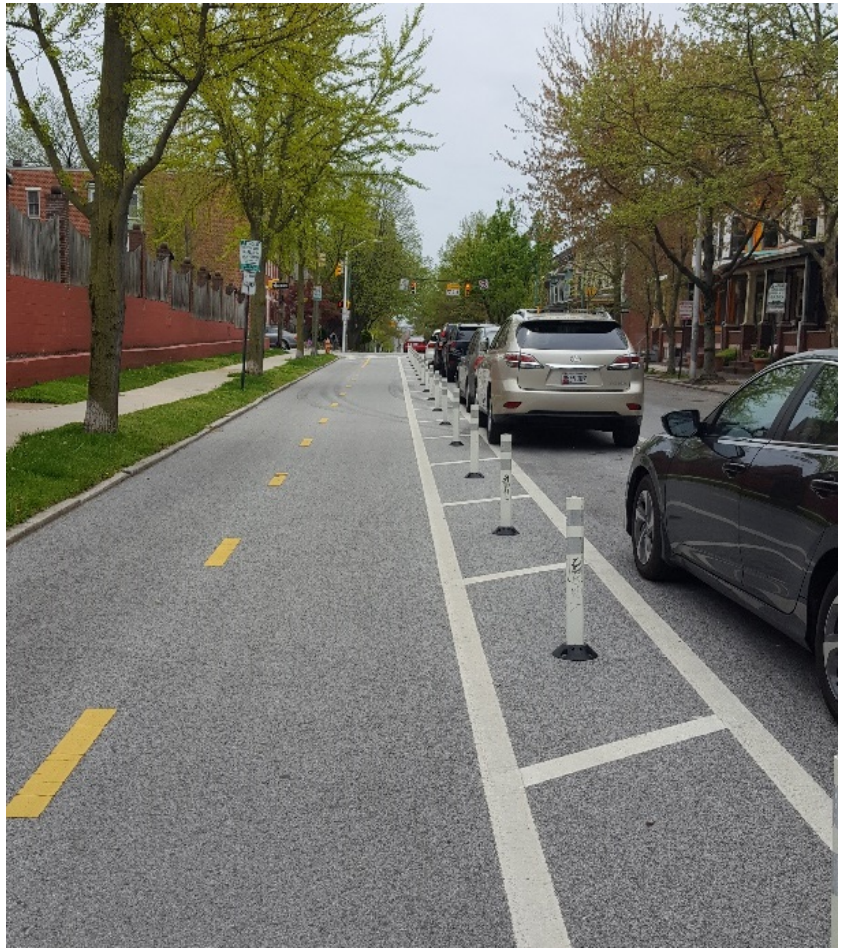
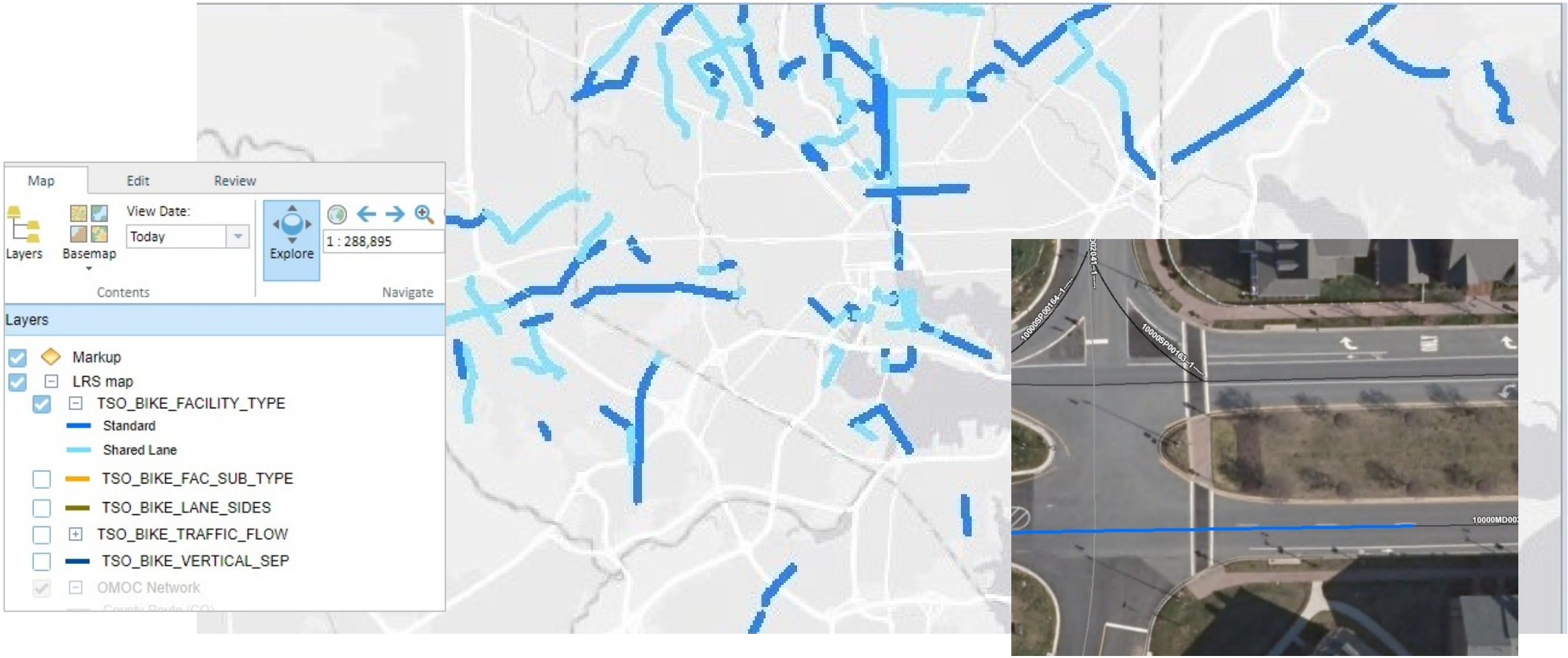



VERTICAL SEPARATION & TWO-WAY FACILITIES



ON-ROAD BICYCLE NETWORK



FURTHER ANALYSIS

RAIL STATION WALKSHEDS

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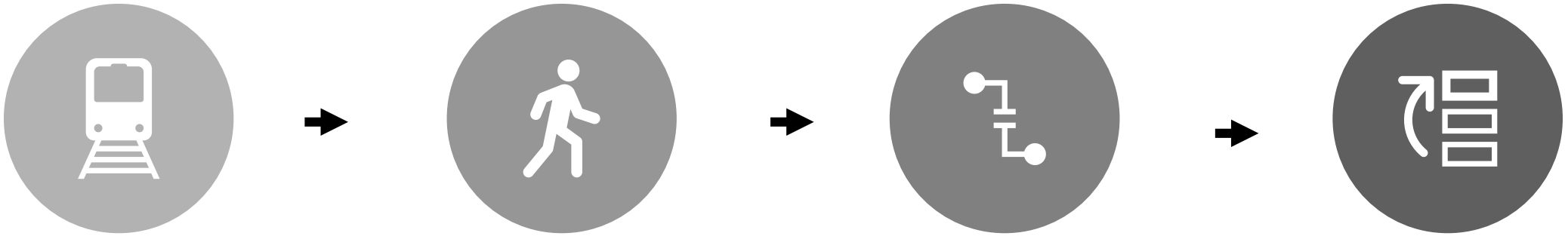


BUILD ½ MILE WALKSHEDS AROUND RAIL STATIONS

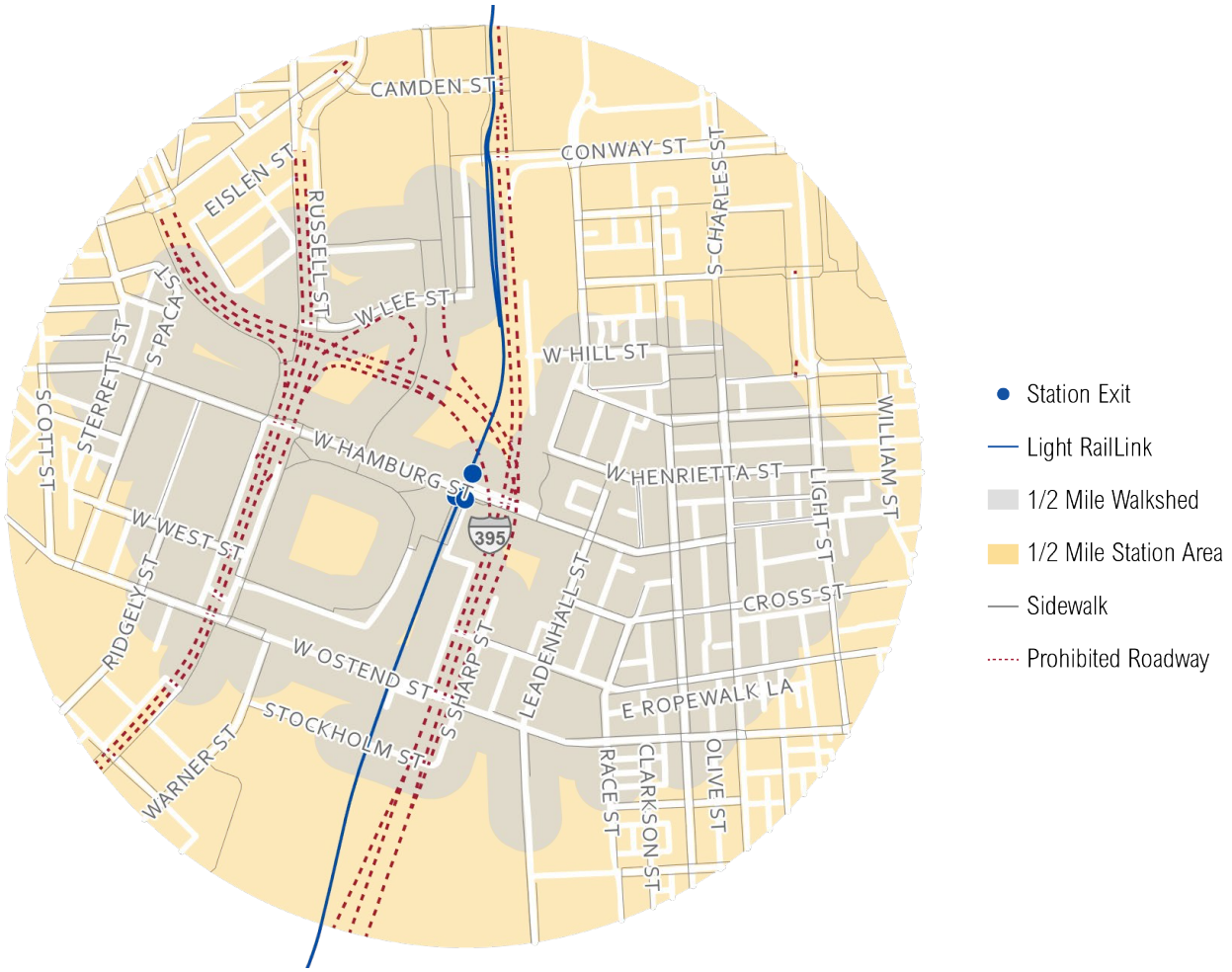
ANALYZE PEDESTRIAN ACCESS AROUND FIXED-RAIL TRANSIT STATIONS

IDENTIFY CRITICAL GAPS IN THE PEDESTRIAN NETWORK

PRIORITIZE PEDESTRIAN IMPROVEMENTS AND INVESTMENTS

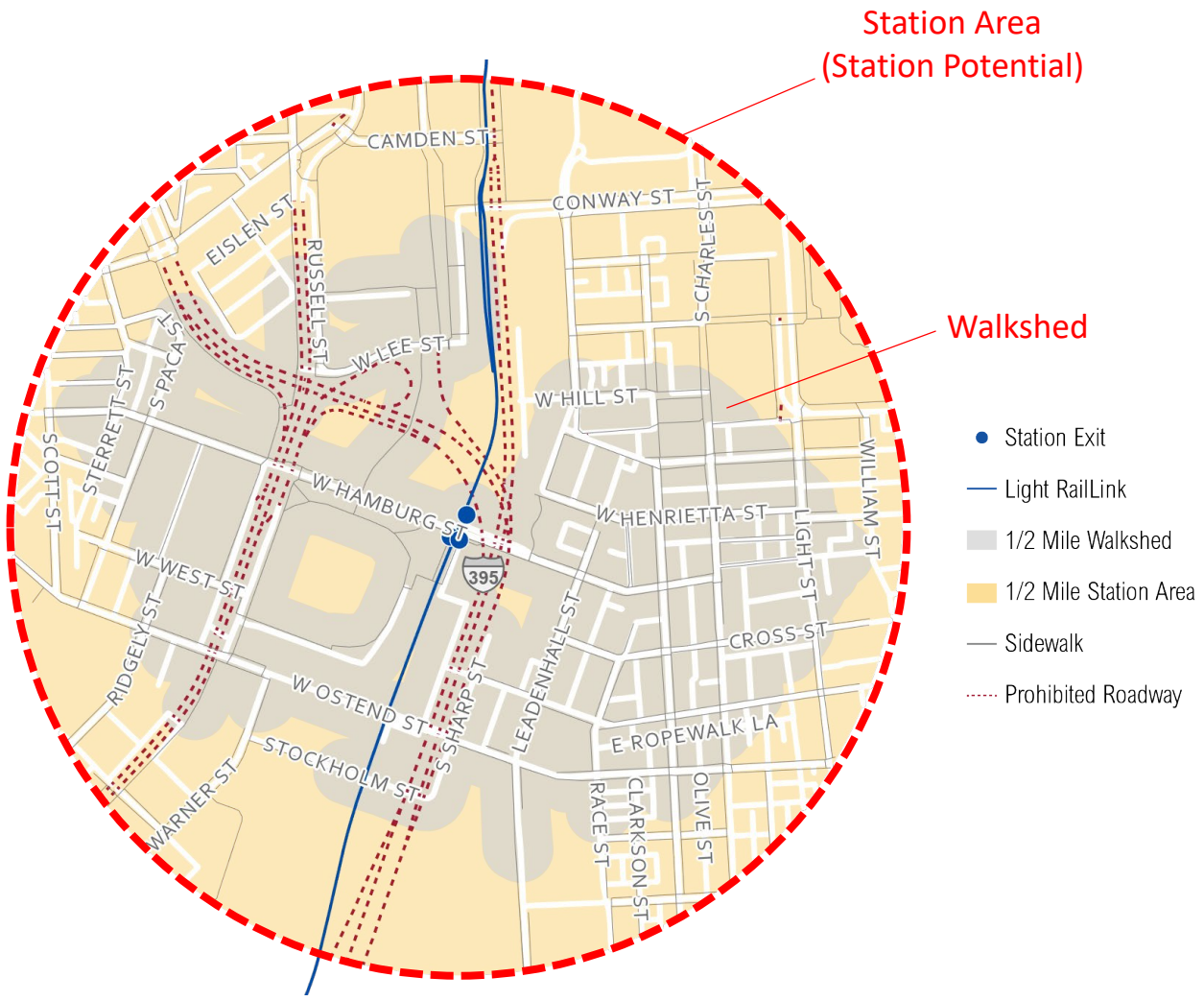
METHODOLOGY

- Network Analyst
  - State Centerline data
  - Jurisdictional sidewalk & trail data
  - Station entrances/exits
  - Pedestrian suitability restrictions



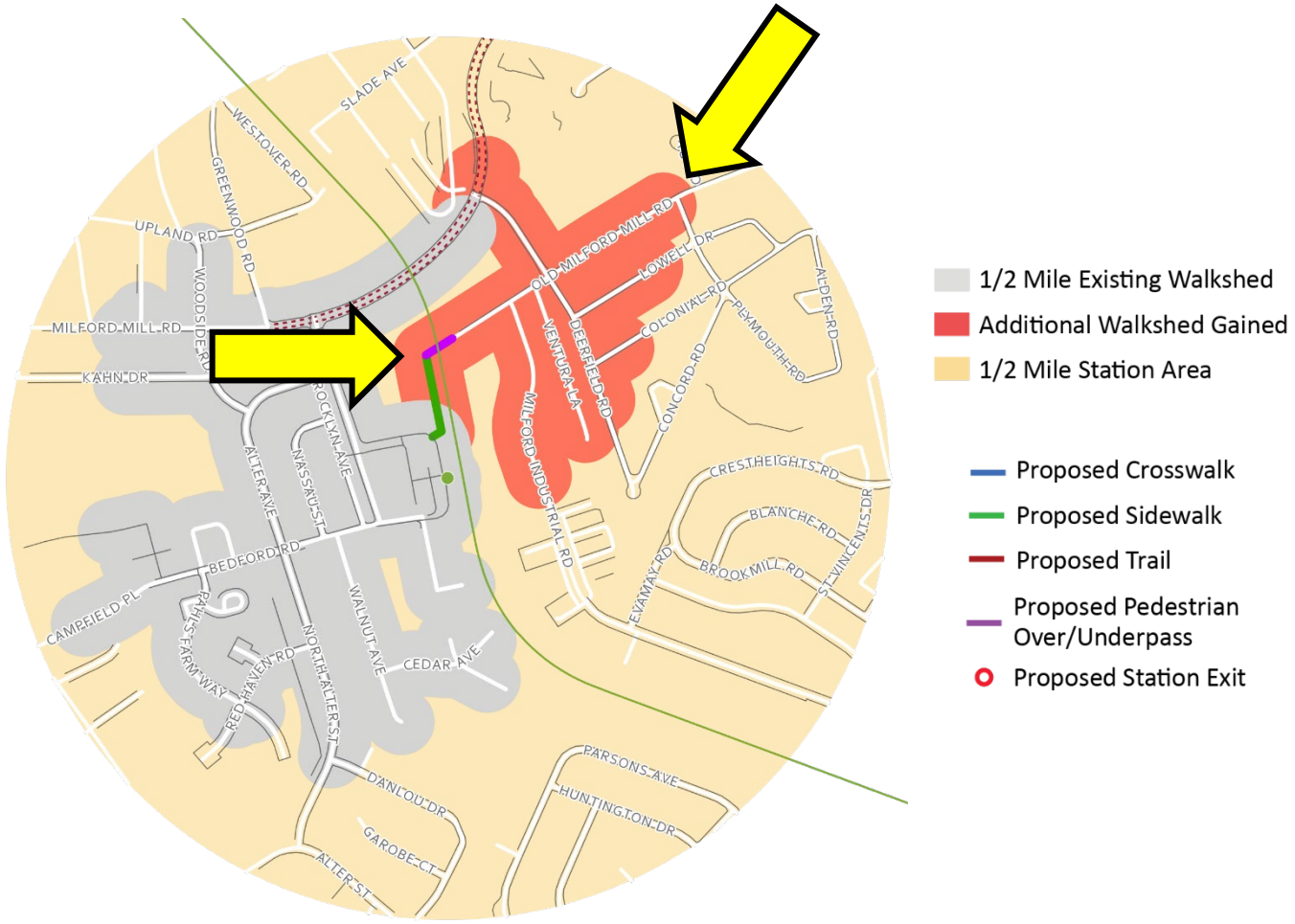
ANALYZING ACCESS

- **Station Area** vs. **Walkshed** coverage of key metrics:
  - Total population
  - Minority populations
  - Low-Income Households
  - 0/1 – car households
  - Seniors
  - Disabled Populations



IDENTIFY CRITICAL NETWORK GAPS

- Identify critical gaps using underlying metrics
- Develop recommendations
  - Sidewalk
  - Trail
  - Pedestrian Under/Overpass
  - New Station Exit

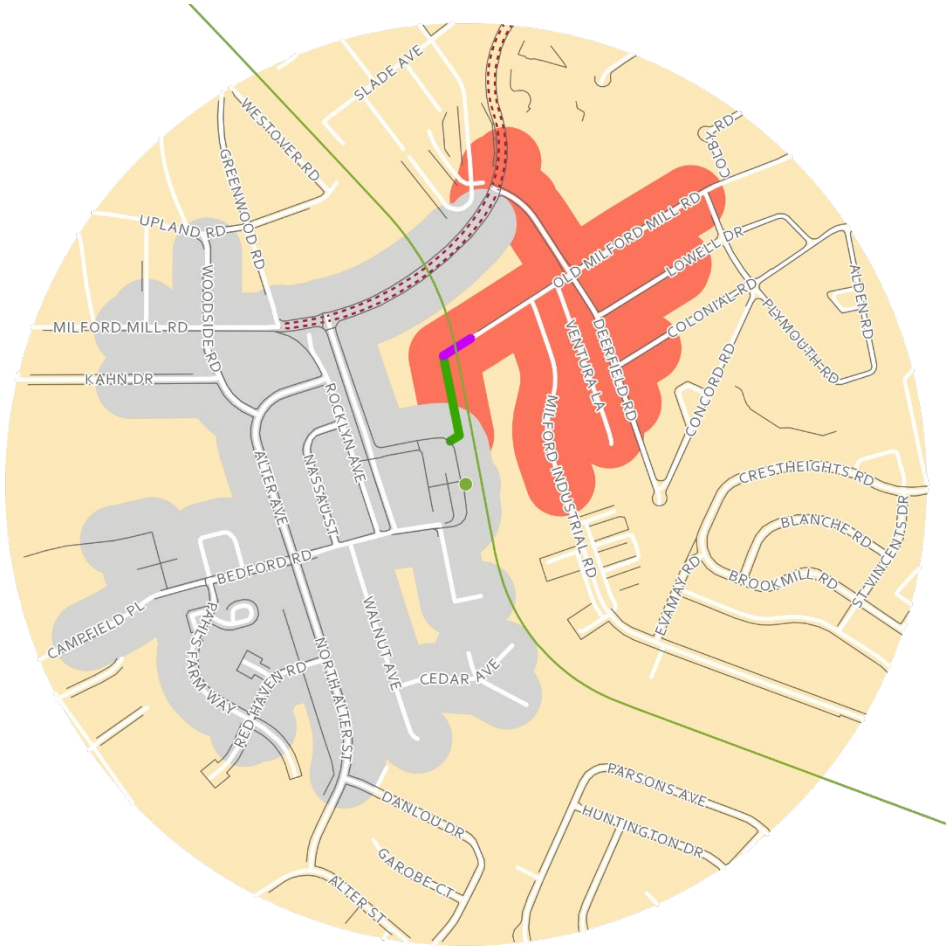


ANALYZING POTENTIAL ACCESS

Comparison of

Station Area vs.
Existing Walkshed vs.
Proposed Walkshed

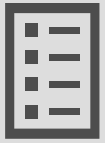
coverage of key metrics



PRIORITIZATION

- In order to prioritize recommended station improvements, weighted scores were assigned to stations based on how well the recommended improvement captures key metrics.

EXISTING CONDITIONS


Prioritized in Existing Plan

Pedestrian Crashes

Transit-Oriented Development

Primary Context Zone

Parking Utilization

PRIORITIZATION

- In order to prioritize recommended station improvements, weighted scores were assigned to stations based on how well the recommended improvement captures key metrics.

ACCESS IMPROVEMENTS

Improvement Cost per Existing Rider

Improvement Also Benefits Adjacent Station

Access for **Minority Populations** is Improved

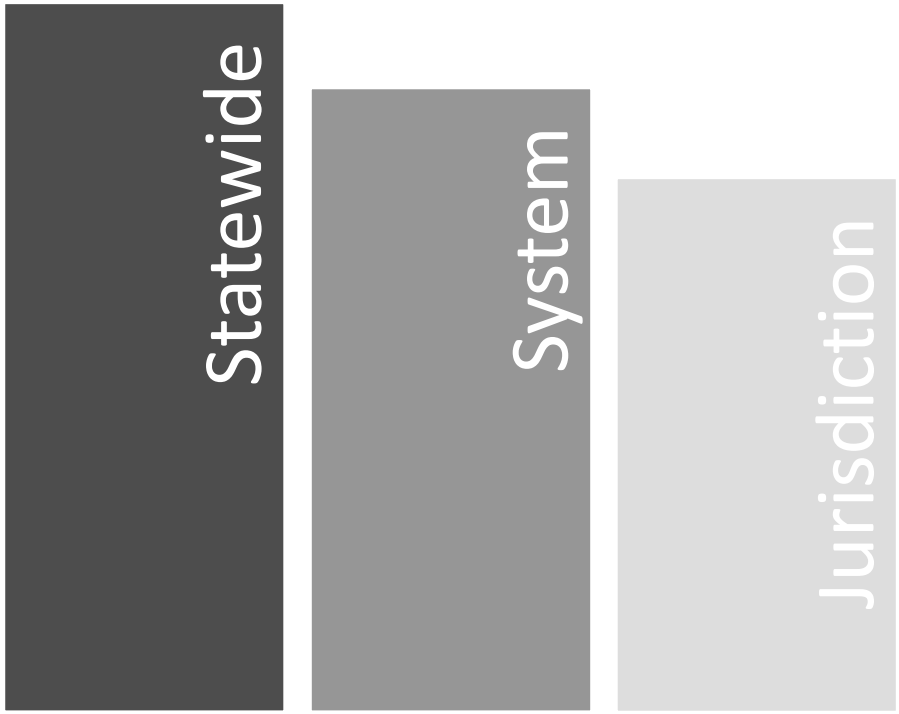
Access for **Low-Income Households** is Improved

Access for **Total Population** is Improved

Access to **Jobs** is Improved

PRIORITIZATION

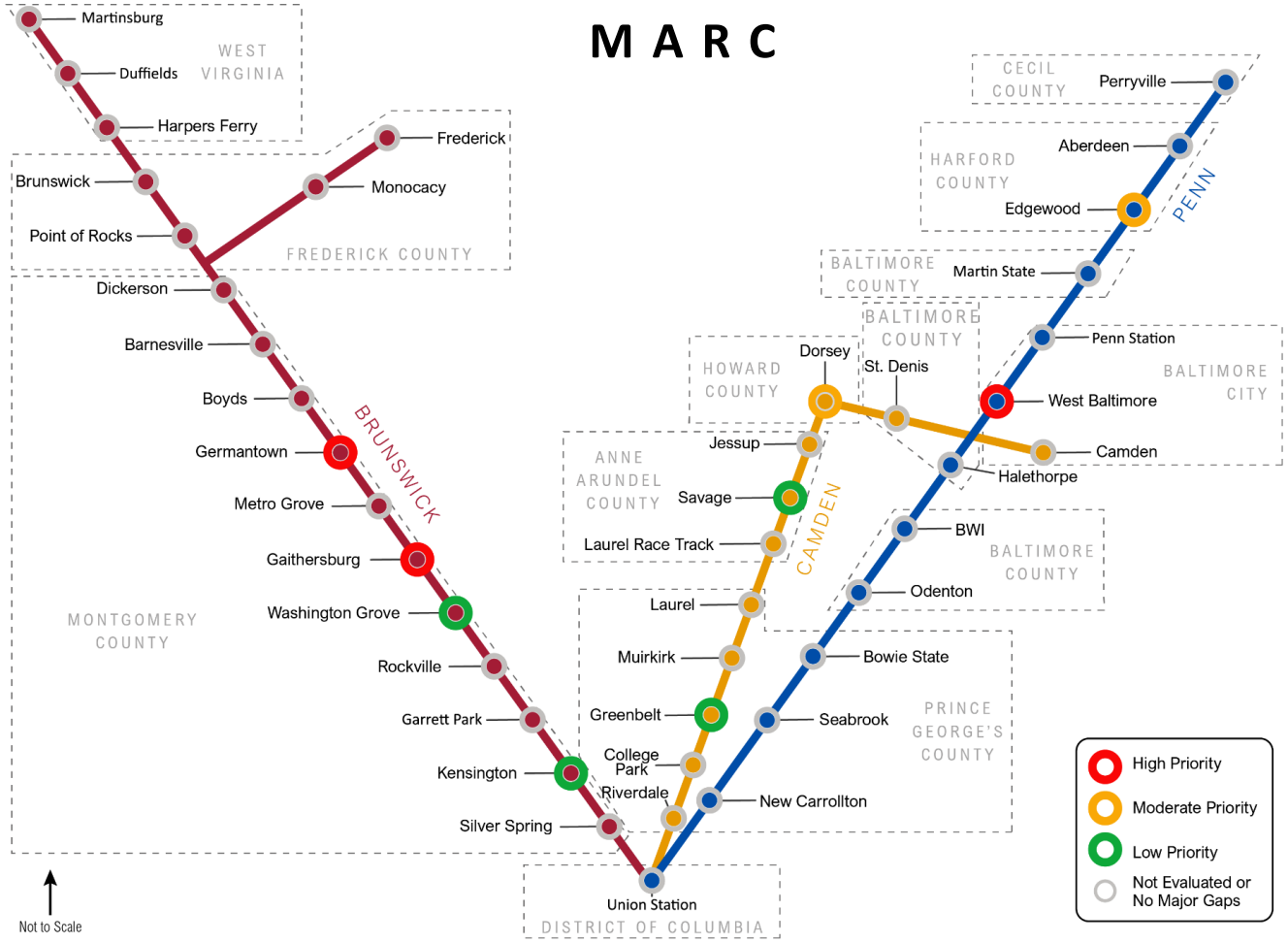
- Scores assigned to each station were summed to categorize their prioritization as low, medium, or high.
- Using this approach, prioritization was determined for different cross-sections including statewide, system, and jurisdiction.
- Each prioritization cross section can be used for different purposes and different audiences.



PRIORITIZATION

By System

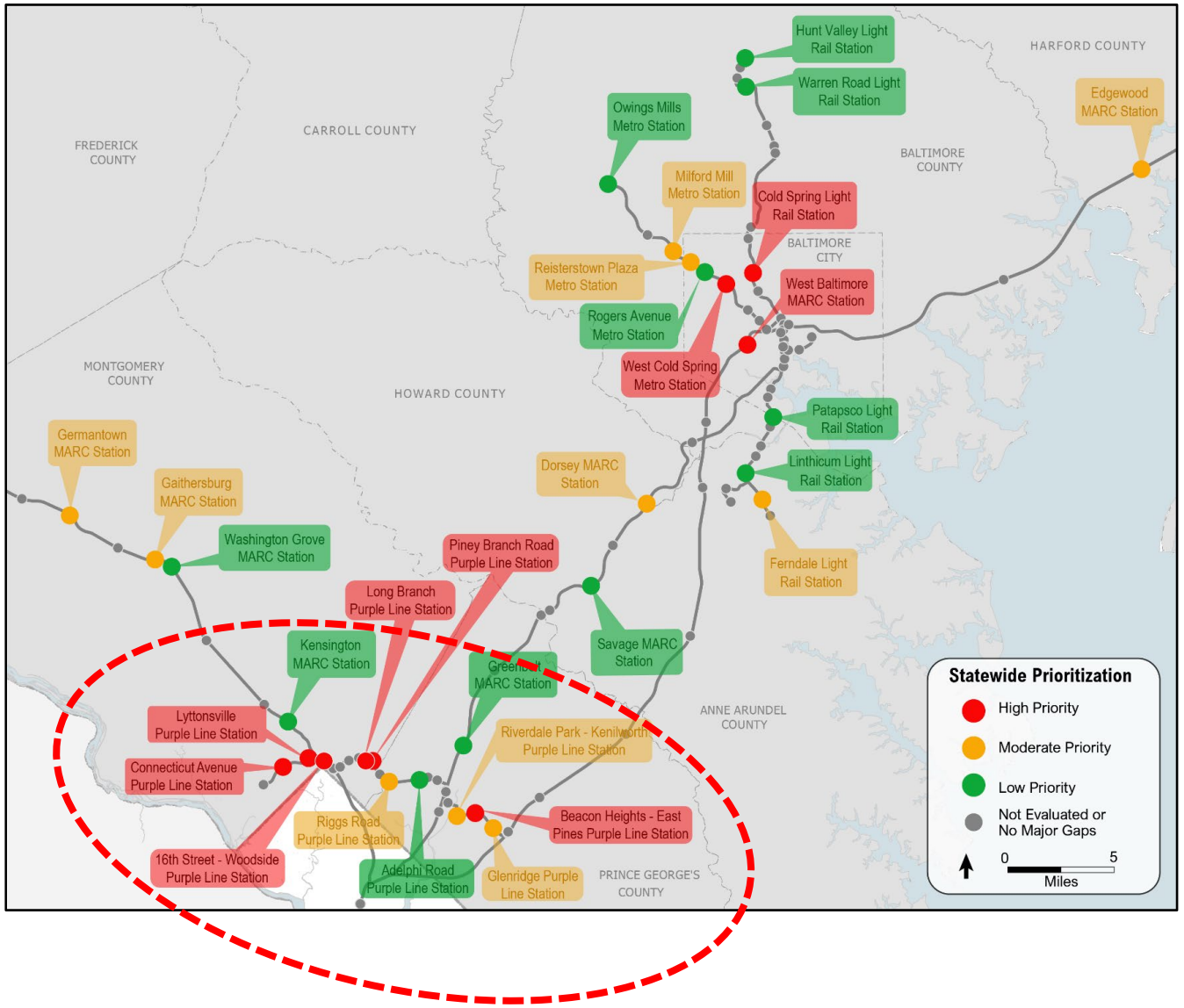
- Light RailLink
- MARC
- Metro SubwayLink
- Purple Line



PRIORITIZATION

Statewide

- Prioritized stations are clustered along the Purple Line corridor and in the northern-half of Baltimore City
- Purple Line has highest number of high priority stations
- MARC has highest number of moderate priority stations



CLOSING THOUGHTS

- MDOT has a need for reliable universal datasets that follow data management best practices to support statewide bicycle and pedestrian planning
- MDOT plans to continue maintaining and building out existing datasets, while collecting and developing new datasets for future incorporation

QUESTIONS? CONTACT US!

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THANK YOU