



# Bus Stop Amenities Study

## Equity and Accessibility

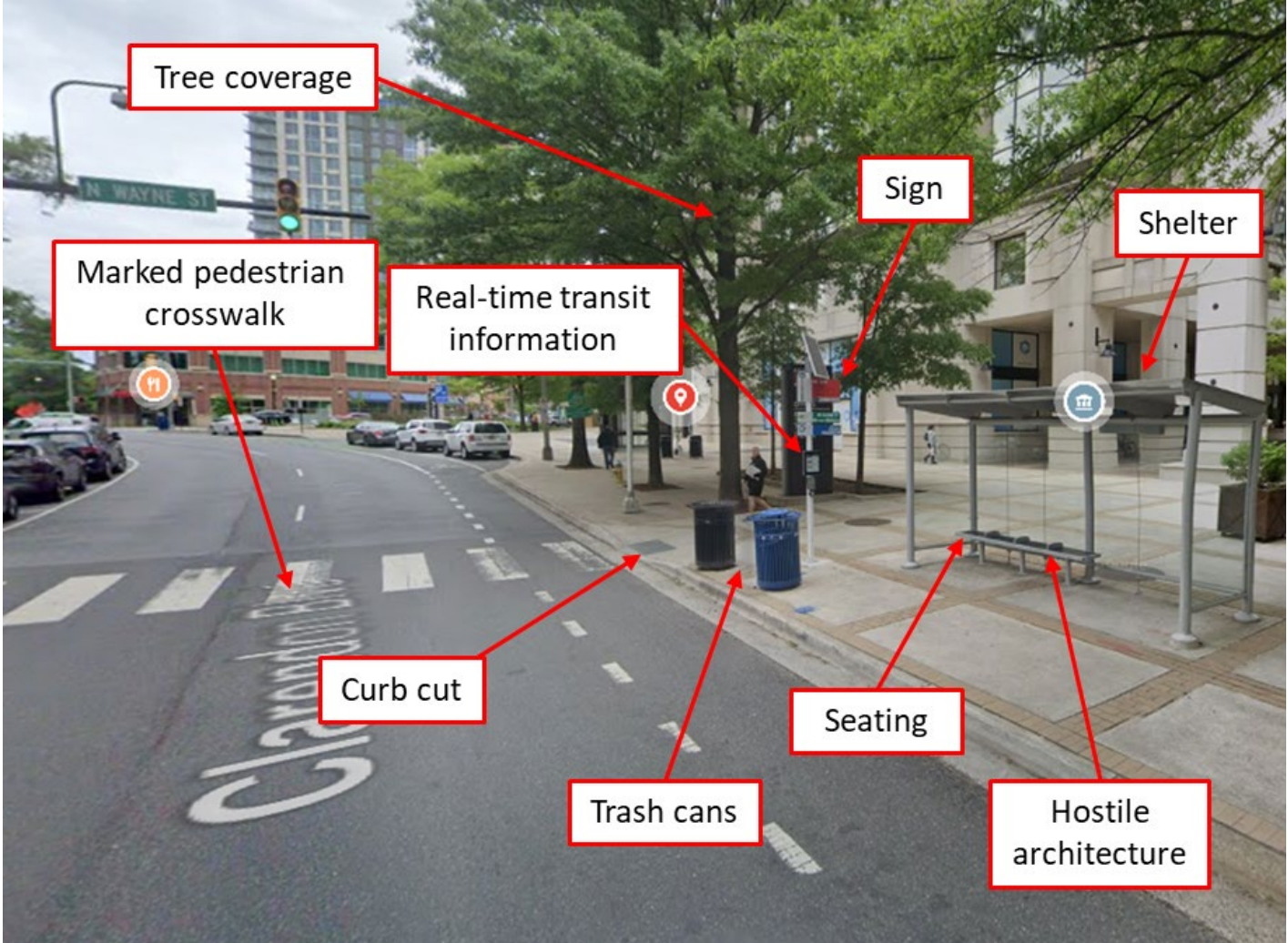
Rachel Inman

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# Bus Stop Amenities



# Northern Virginia

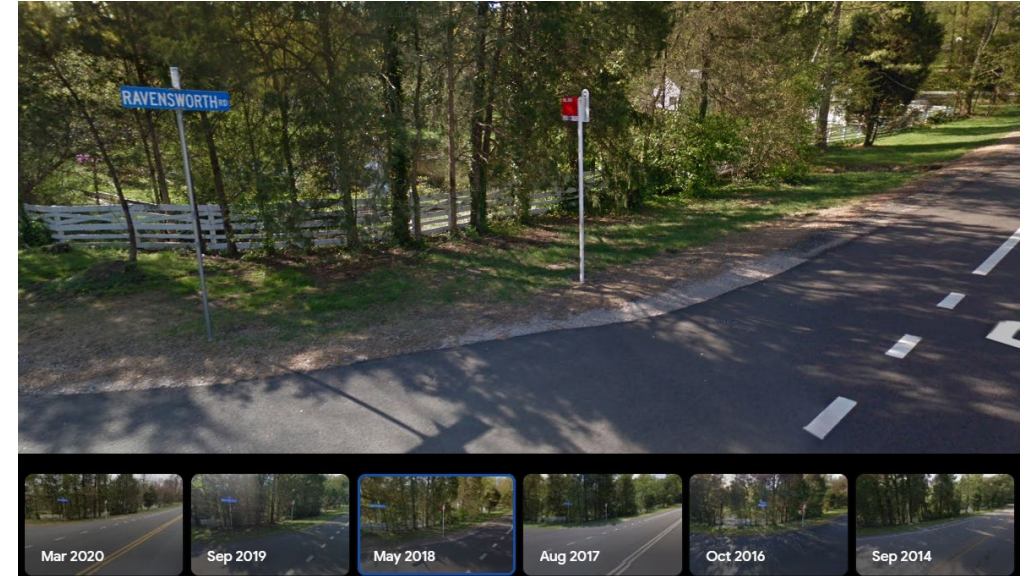
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- 7,500+ bus stops
- 251 bus routes
- Over 80% of transit services in the region
- Over 25 million riders (2022)
  - 40% of NoVa transit ridership
- Unique regional challenges
- Recent bus amenity initiatives



# Data Collection & Analysis

- Bus stop sample of 401
- General Transit Feed Specification (GTFS)
- Google Street View
  - Google Forms
- Ridership Data





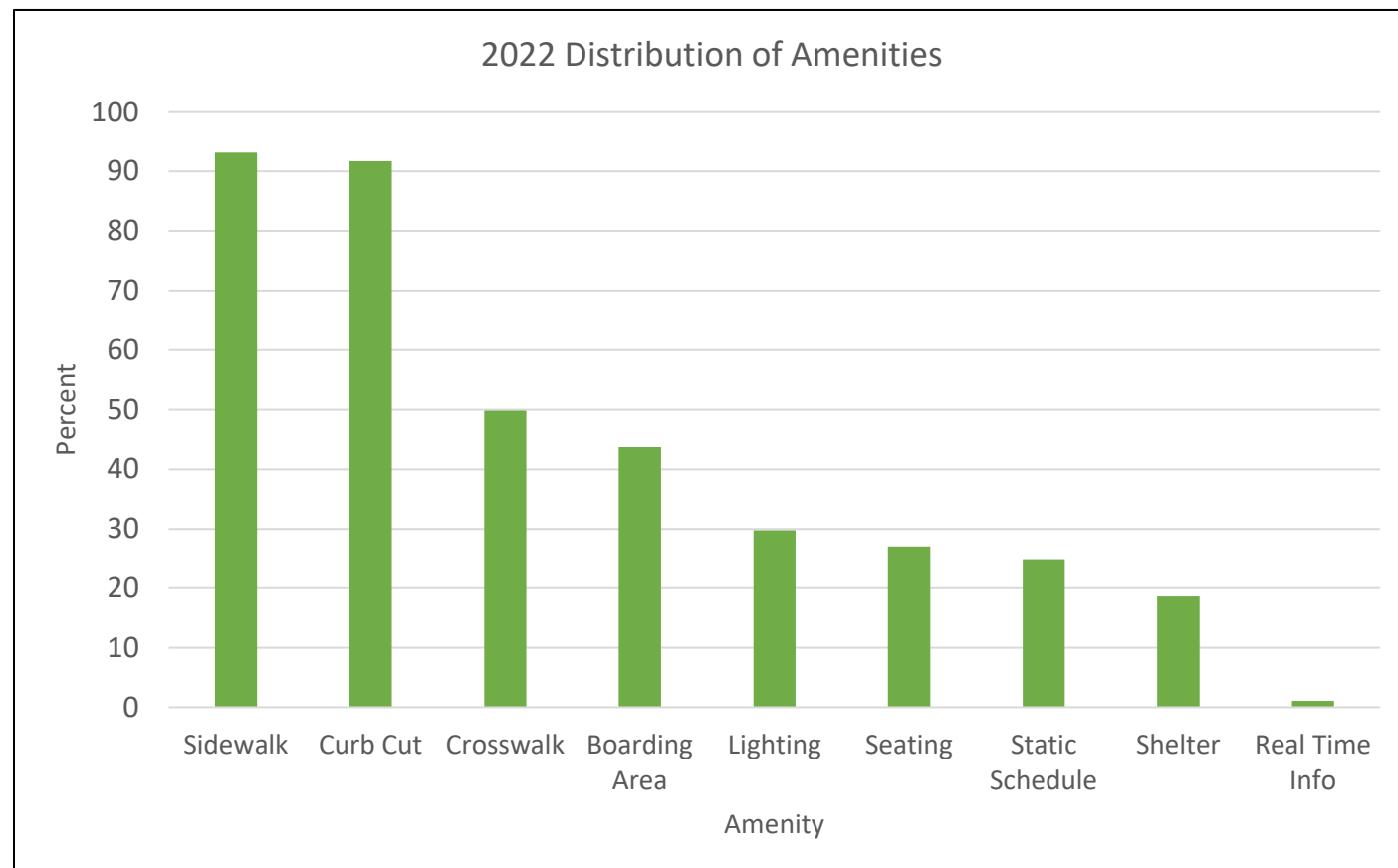
# Data Collection & Analysis



## Most Amenities & Weekly Trips

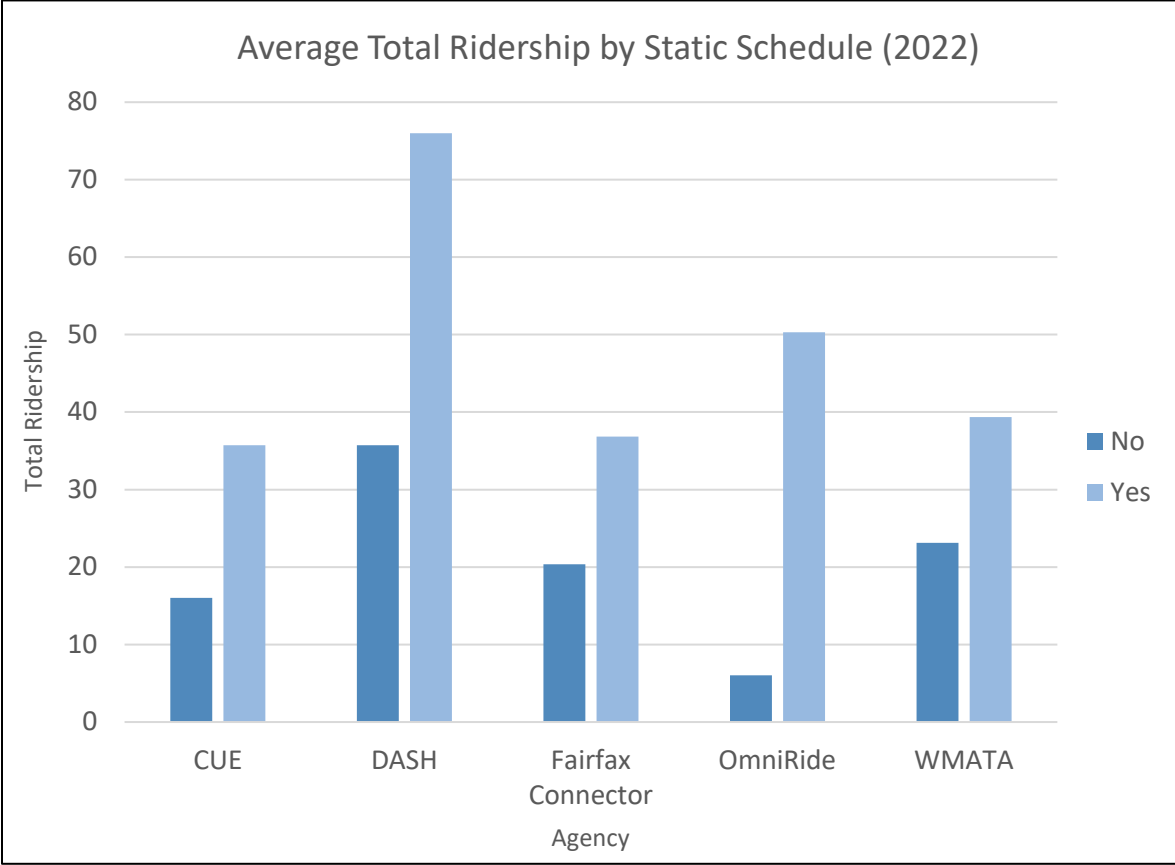
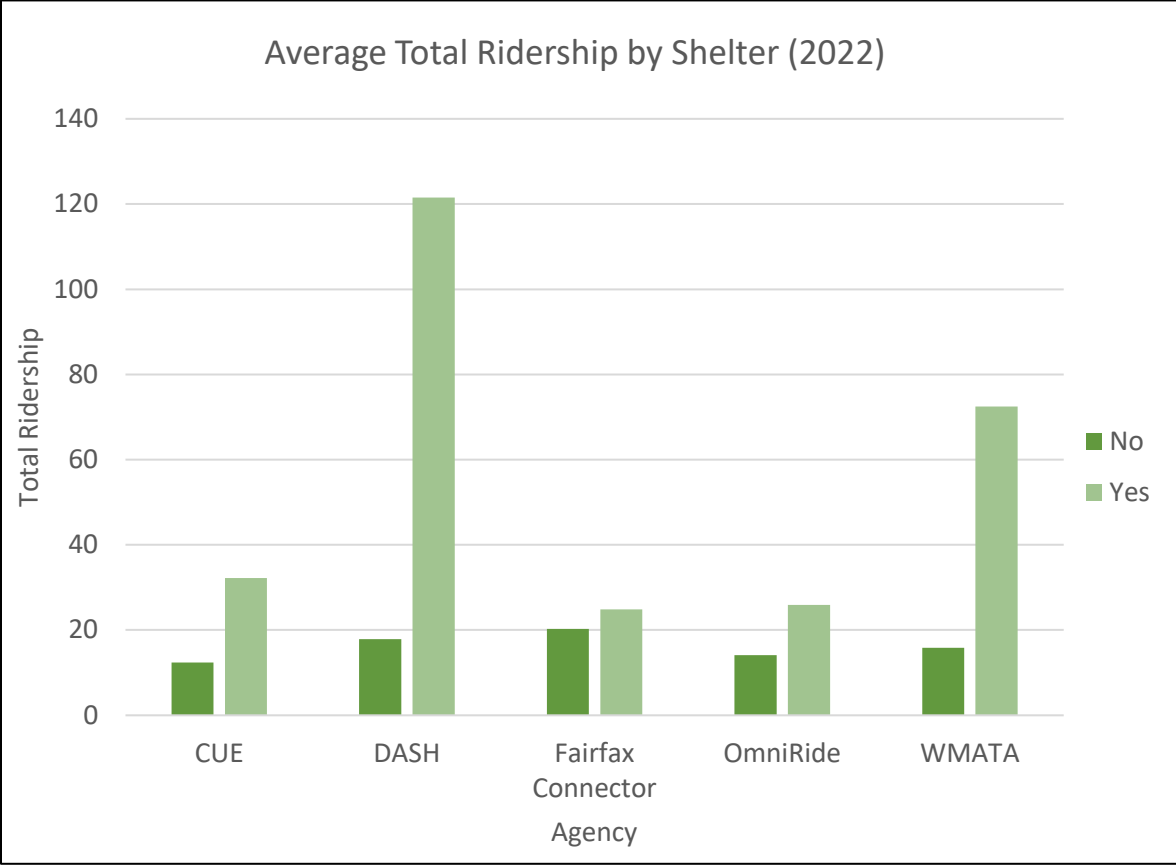


# Results



- 93% of stops feature a sidewalk
  - Only 44% of stops feature a boarding area
  - 43% connected to a boarding area
- Infrastructure amenities all 30%>=
  - Shelters offered at 19% of stops
- All stop feature an identifying marker
  - 25% provide a static schedule
  - Only 1% (3 stops) provide real-time information

# Results

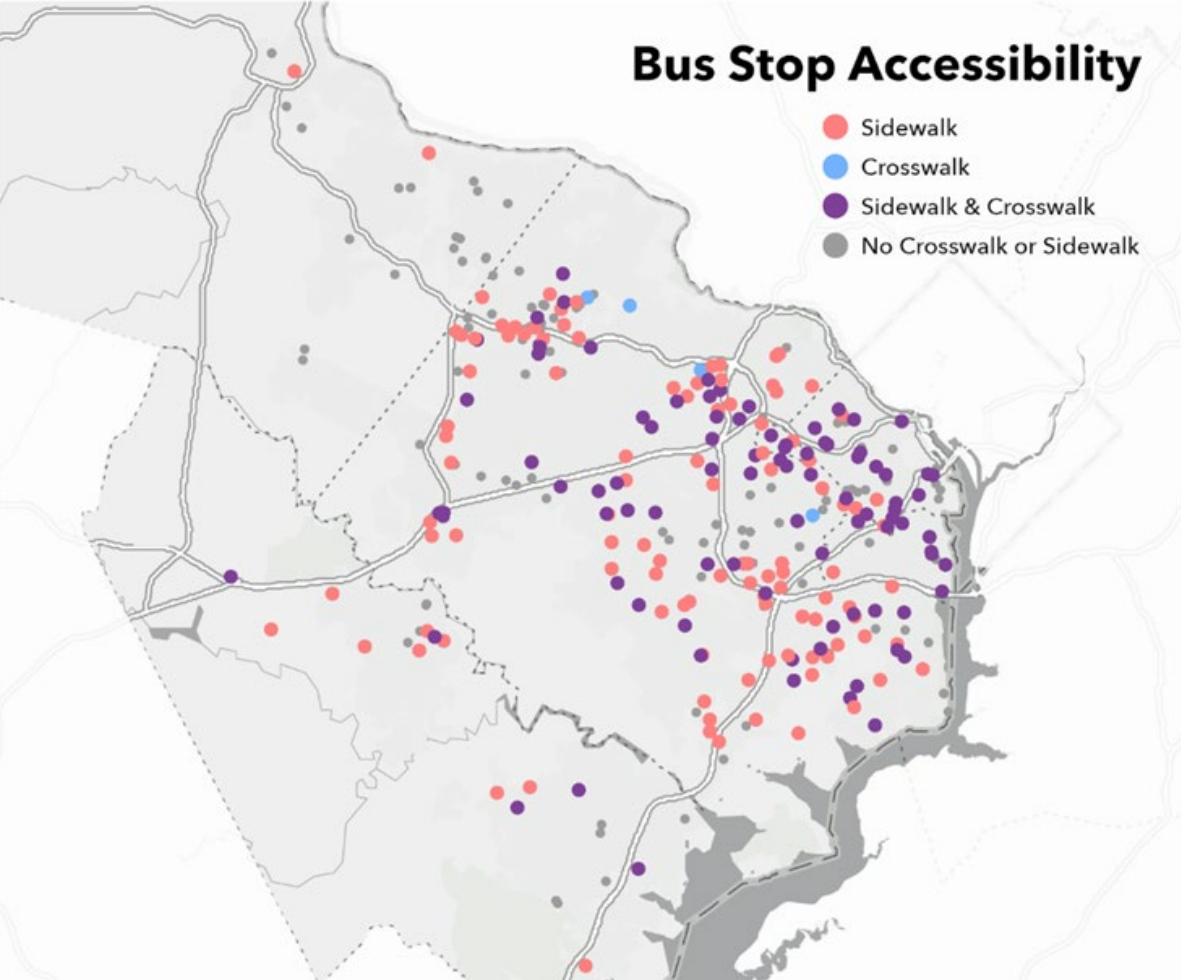




# Results

## Bus Stop Accessibility

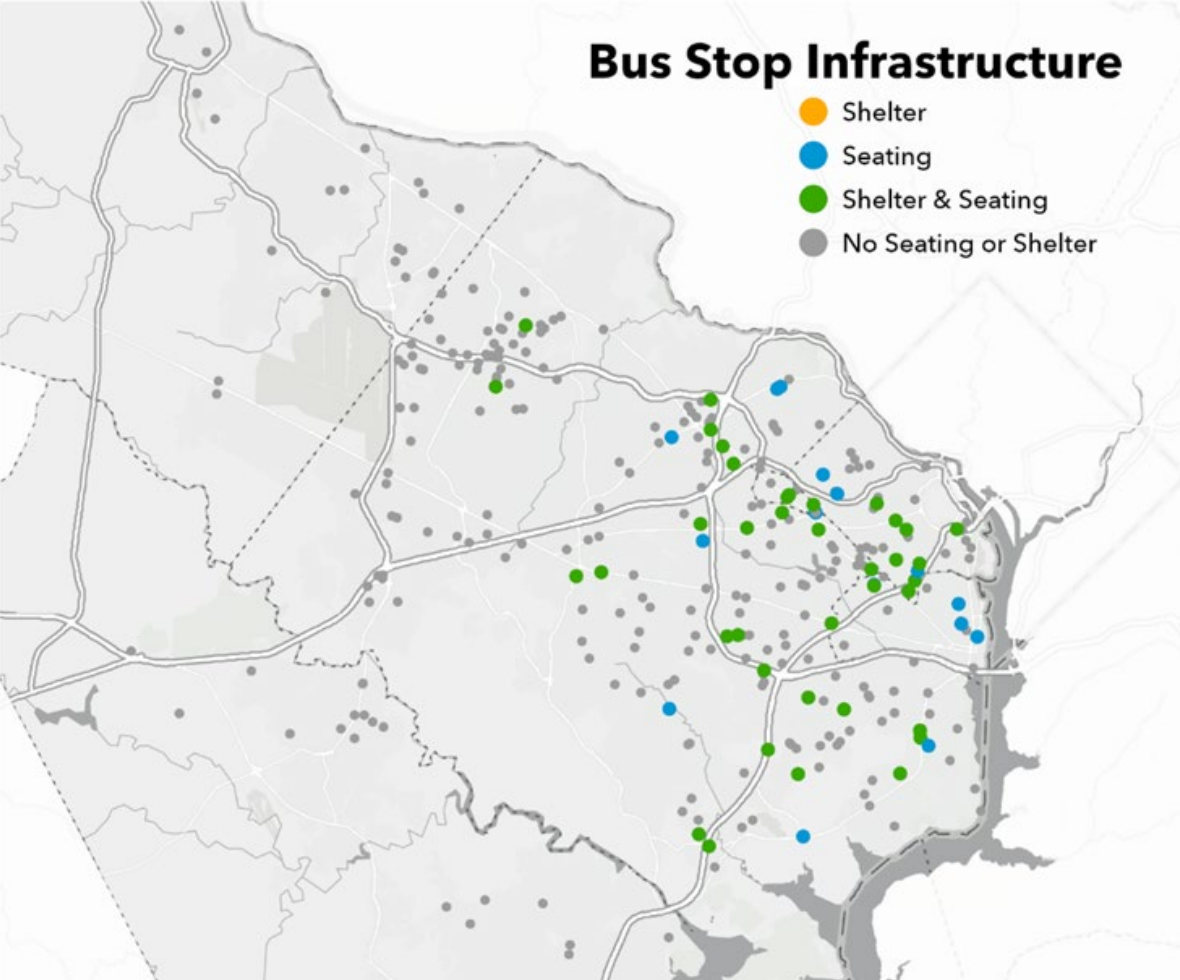
- Sidewalk
- Crosswalk
- Sidewalk & Crosswalk
- No Crosswalk or Sidewalk



County of Prince William, Fairfax County, VA, VGIN, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

## Bus Stop Infrastructure

- Shelter
- Seating
- Shelter & Seating
- No Seating or Shelter



County of Prince William, Fairfax County, VA, VGIN, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

# Priority Matrix

- Emphasis on accessibility
- Higher score = Higher priority for upgrades
- Score interpretations:
  - 20.5+ points: High priority
  - 10.5 - 20 points: Considered
  - 10=> points: Low priority

Accessibility	
3.5 points	Curb cut does not exist at nearest sidewalk ending
3 points	Marked crosswalk does not exist within 200 ft
2.5 points	Sidewalk does not exist
2 points	Connection to sidewalk does not exist
1.5 points	Designated boarding area does not exist
Infrastructure	
2 points	Lighting does not exist within 20 ft
1.5 points	Designated shelter does not exist
1 point	Designated seating does not exist
Information	
1.5 points	Static schedule does not exist
1 point	Static map does not exist
0.5 points	Real-time information does not exist
Average Total Daily Ridership	
0.5 points	1 - 10 Total ridership
1 point	11 - 20 Total ridership
1.5 points	21 - 100 Total ridership
2 points	100+ Total ridership
Average Weekly Trips	
0.5 points	200 >= Weekly trips
1 point	201 - 500 Weekly trips
1.5 points	501 - 700 Weekly trips
2 points	700+ Weekly trips
Routes Served	
0.5 points	2 - 3 Routes
1 point	4 - 6 Routes
1.5 points	7+ Routes

# Priority Matrix

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# Recommendations

- Focus on updating and adding new amenities to existing stops
  - Using a priority matrix or similar tool to standardize requirements
- Updated inventory of bus stops
- Simplify the approval/installation processes





# Moving Forward

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## Takeaways

- No equity issues regarding the distribution of or access to bus stop amenities for minority populations
- Can expect to see upgrades to currently existing bus stops
- Variety of guidelines and requirements can complicate the process

## What could be improved?

- Quality and quantity of data used for analysis
  - Collect data for all 7,500+ stops
- Talk to actual riders
- Survey different geographic regions (in and out of the US)

# Thank You.



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