OVERVIEW OF RECENT COG/TPB DOCKLESS SHARED MOBILITY DEVICE (SMD) ACTIVITIES

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Commuter Connections Subcommittee
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**National Capital Region
Transportation Planning Board**

Shared Micromobility in the DC Region

Station-based Bikeshare
(Capital Bikeshare)
- Regional
- Publicly provided
- Mostly long-term memberships

Dockless Shared Mobility
- e-scooter
- e-bike
- pedal-bike (2017-2018)
- smartphone-based
- Private providers
- Per-minute charge

Content Credit: DDOT

E-scooter Boom

- E-scooters have largely replaced dockless bike share
  - A national trend, driven by the operators
  - E-scooters have higher demand, generate more revenue
  - Jump offers e-bikes and e-scooters
  - No shared pedal bikes still in operation

- E-scooters are driving rapid growth in SMD trips
  - Ex: In DC dockless vehicle monthly trips increased from 140,000 (May 2018) → 590,000 (May 2019)
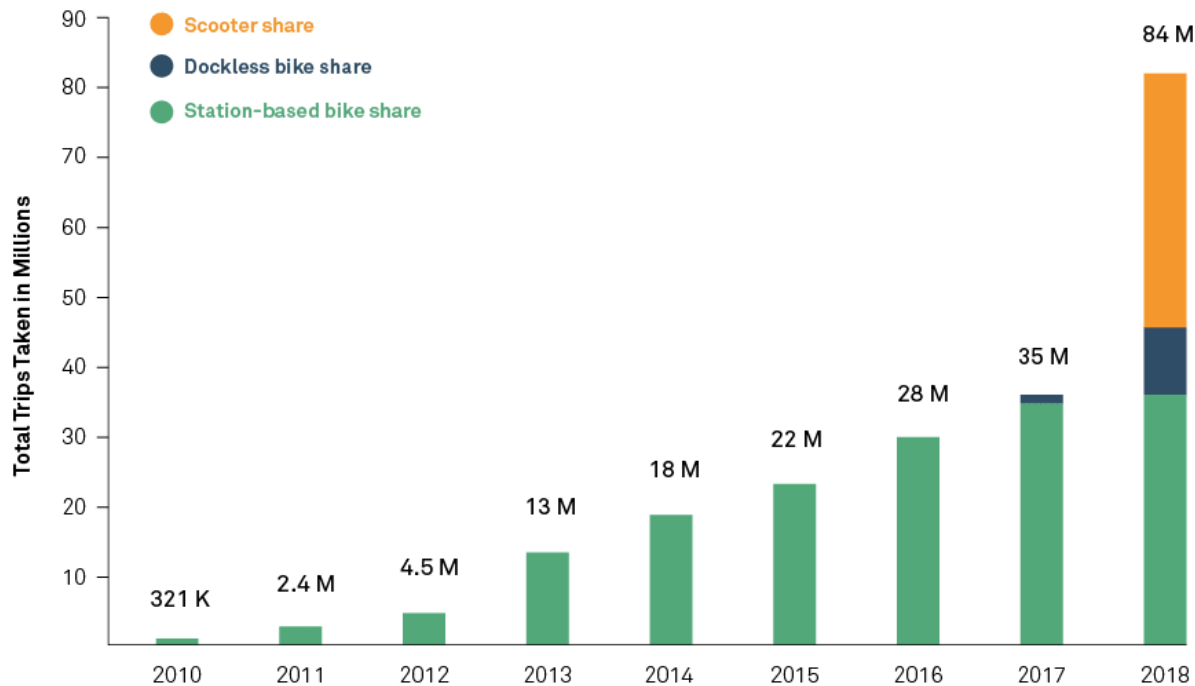
- Capital Bikeshare (station-based) ridership is flat
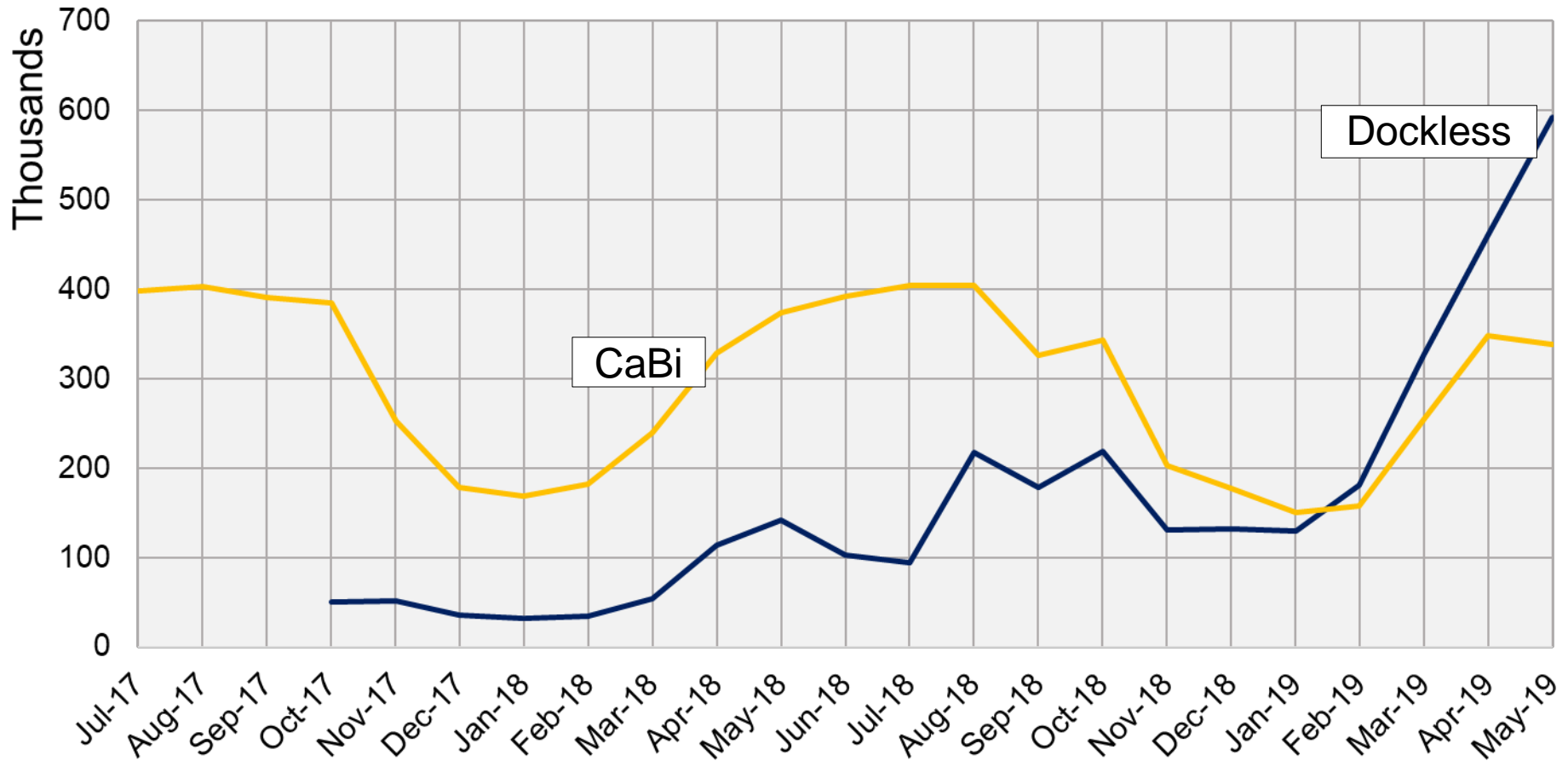
Photo Credit: Arlington

National Trends

84 Million Trips on Shared Micromobility in 2018

- Scooter share
- Dockless bike share
- Station-based bike share

Total Trips Taken in Millions

Year	Value
2010	321 K
2011	2.4 M
2012	4.5 M
2013	13 M
2014	18 M
2015	22 M
2016	28 M
2017	35 M
2018	84 M

Source: NACTO

E-scooter Boom - DC

Content Credit: DDOT

Shared Dockless Mobility Permit Programs in the Washington Region

	DC	Arlington, VA	Alexandria, VA	Montgomery County, MD
Permitted Fleet Size as of 9/2019*	6210	2700	1400	2000 (e-scooters and e-bikes)
Number of Operators	8	7	7	4
Trips/Month	590k	80k	40k	
Coverage	All	All	All	Silver Spring, Rockville
Start Date of Pilot	9/2017 e-bike 3/2018 e-scooter	9/2018	11/2018	6/15/2019 (replaced pedal bikes)
End Date	12/31/2019	12/31/2019	12/31/2019	12/15/2019

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*Actual number on the street at any one time is less, typically 50% of the permitted number.

Role of MWCOG

COG holds a Regional <u>Dockless Workshop</u> every Six Months

Goal:
- Share information on evolving practices

Attendance:
- DDOT, Arlington County, Montgomery County, and City of Baltimore
- Interested agencies, consultants, dockless operators, and members of the public
- Transportation Planning Board Access for All Committee Chair

Workshops were held
  - May 31, 2018
  - October 31, 2018
  - May 30, 2019
- Next workshop will be held on December 9, 2019
- Sponsored by the Bicycle and Pedestrian Subcommittee

Successes

- SMD use is growing rapidly, with positive response from riders
- SMDs increase mobility options for short trips (typically 0.5 – 1.5 miles)
- Reduction in motorized trips, especially ride-hailing and personal motor vehicles
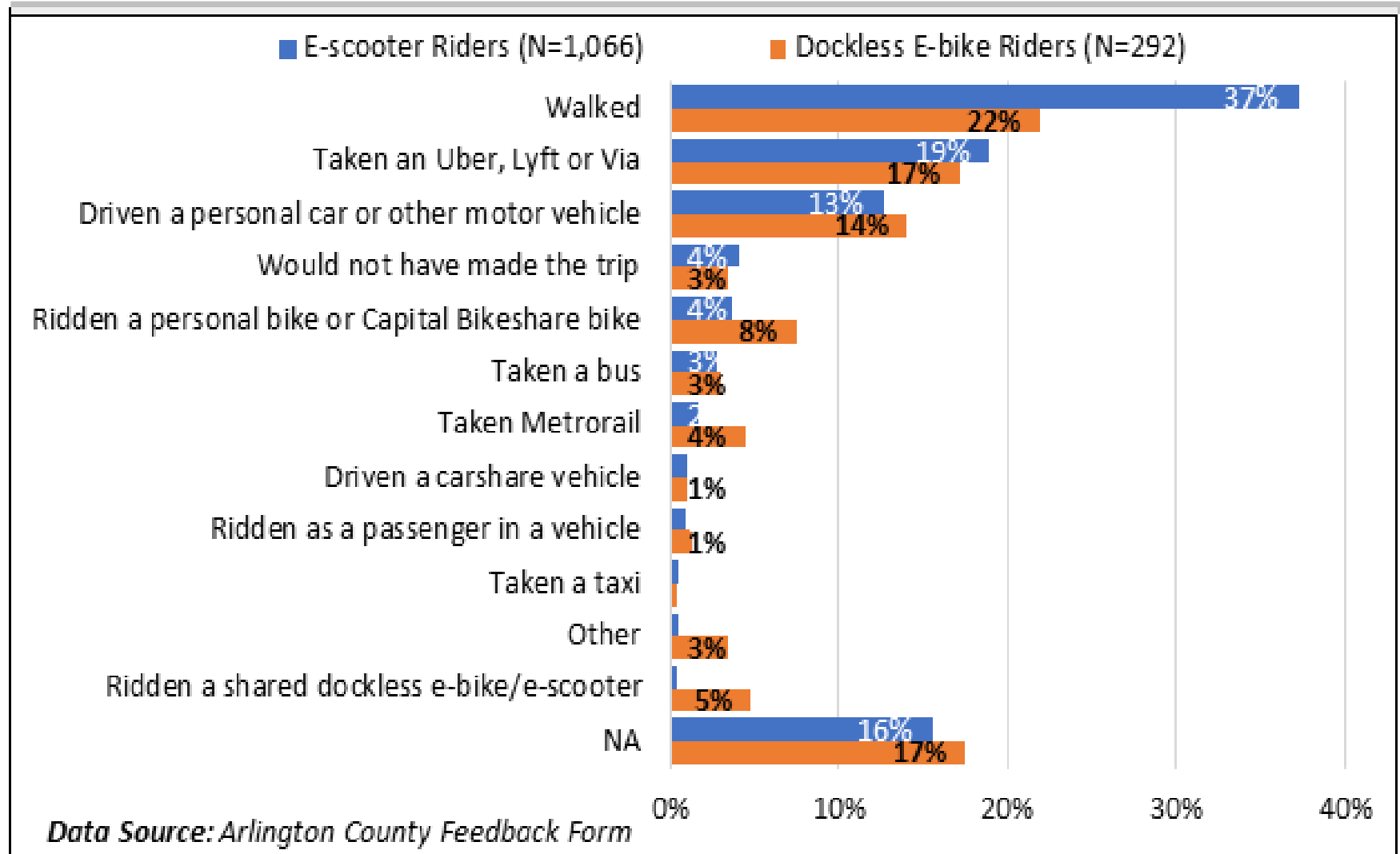
All four jurisdictions are extending their pilot permit programs

Photo Credit: DDOT

SMD Mode Replacement (Arlington)

Data Source: Arlington County Feedback Form

Concerns Expressed by AFA

- TPB's Access for All (AFA) Committee has on multiple occasions discussed SMDs and their impacts on everyone, but particularly for persons with mobility and/or vision challenges, such as:

  - Careless parking of SMDs causing tripping hazards or blocking wheelchair movement on sidewalks and ramps

  - Speed (and even allowability) of SMD travel on sidewalks (rules vary)

  - Lack of audible warning of approaching SMDs

  - Perceived lack of enforcement of laws and rules

- AFA's chair has spoken and will again speak at COG's dockless vehicle workshops about AFA's concerns

Areas of Concern: Parking
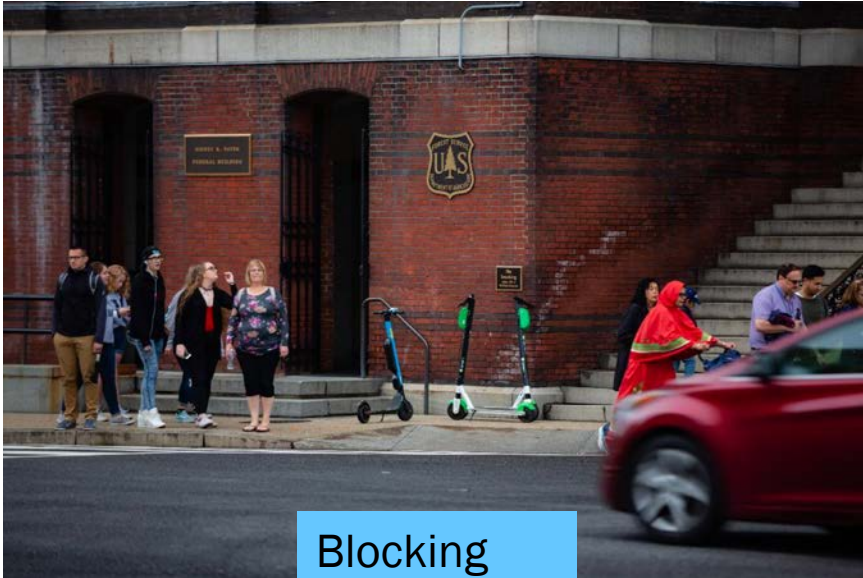
Blocking the ramp

Photo Credit: DDOT

Parking Ideas Here and Nationally

Biketown, Portland OR

Photo Credit: DDOT Corral

Alexandria Scooter Corral

- In-street parking corrals, in high use areas (DC, Arlington, Alexandria)

- Geofencing to exclude scooters from selected areas

- Offer discounted trips for parking the e-scooter in a corral

- Lock-to devices/hybrid

- Take photo to end ride (Baltimore)

Sidewalk Riding/Inadequate Facilities

Hazard/discomfort for pedestrians due to sidewalk riding

Responses:

- DC, Arlington: 10 mph built-in speed limit
- Accelerate bike lane, protected lane construction
- Rider training
- Geofencing (but precision is an issue)

14th Street NW Protected Bike Lane

E-scooter Injury Rates

- Arlington: Approximately 0.64 injury crashes/10,000 e-scooter trips during the 9 month pilot

- Baltimore: About 0.9 emergency room visits per 10,000 e-scooter rides

- Crash rates can be expected to decline as users become more experienced*

Safety problem has not been judged sufficiently serious to cancel the SMD program

*A study in Austin showed that a third of incidents happen on the first use and that sixty-three percent of people interviewed said they had ridden a scooter less than nine times when they were injured

# Training/Regulatory Responses

Training

- Mostly app-based, followed by trial and error
- A third of incidents happen on the first use
- Some agencies/operators sponsor training events
- "Push" safety reminders from the app

Regulation

- Age restrictions
- Drivers License requirements
- Late night use restrictions
  - Affects service/swing shift workers
- Built-in speed governors
- Geo-fence slow zones and no-service zones
- Patchwork of regulations governing where and how e-scooters e-bikes can be used
 - Complicates enforcement

Photo Credit: Arlington
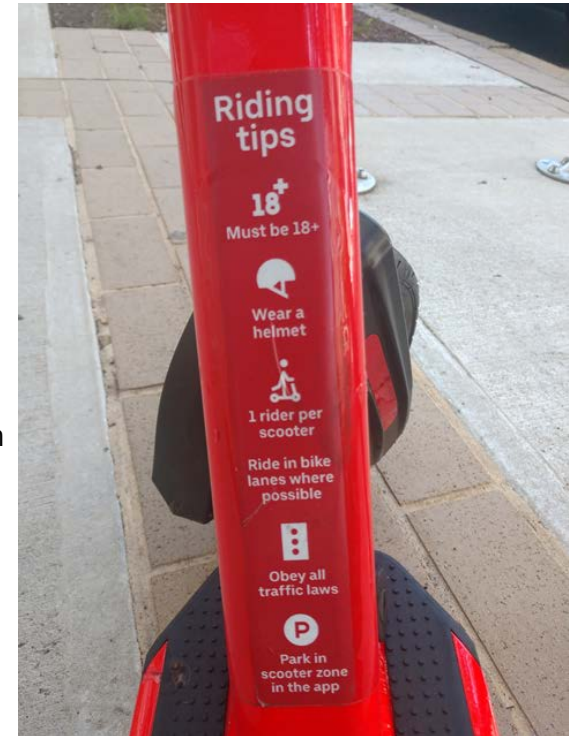
Users – Baltimore Community Survey

- Higher percentage of low-income and minority people use e-scooters versus bikesharing

  - Per-trip pricing structure
  - Discount/cash memberships
  - Min % of e-scooters deployed to disadvantaged neighborhoods

- Major differences by age, not race

  - >55 tend not to use

- More women, more people in business attire using e-scooters versus bikesharing (anecdotally)

Baltimore Dockless Survey

Percentage of each race who use the vehicles

■ African American   ■ Caucasian
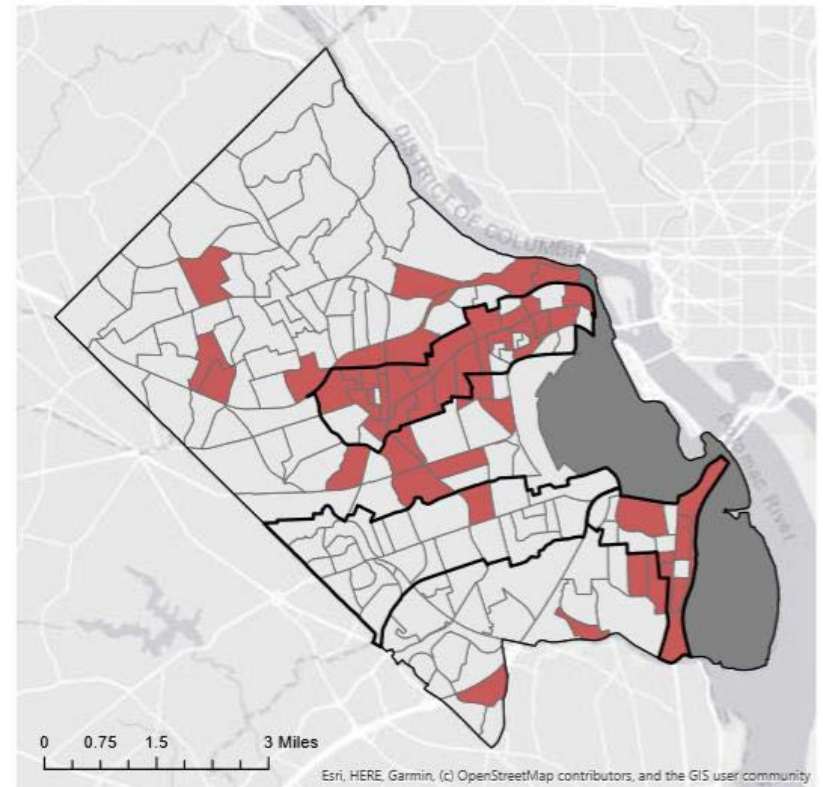■ Hispanic/ Latino   ■ Other
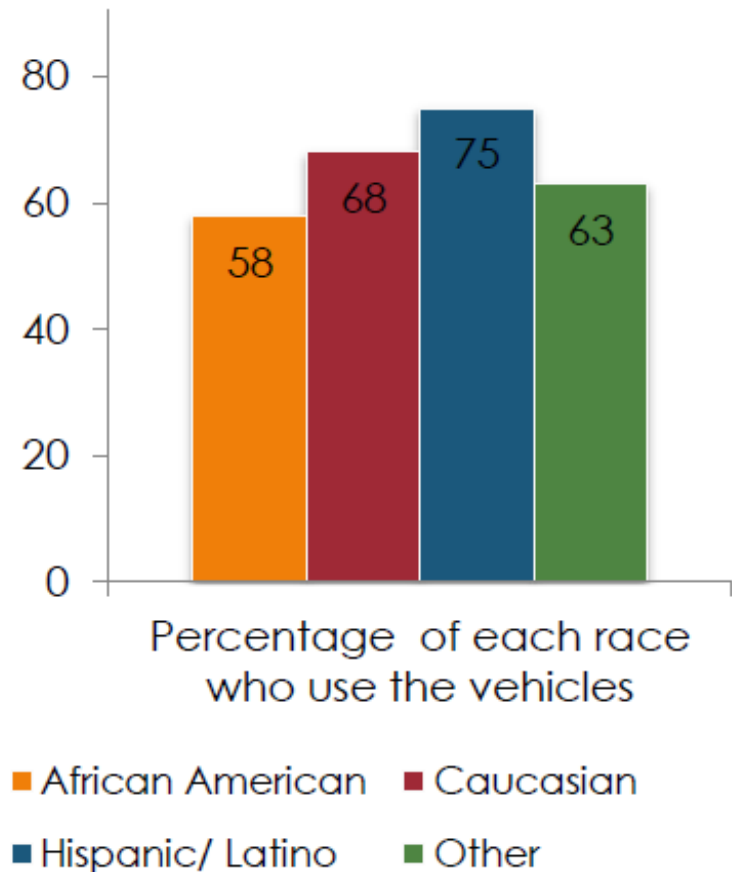
Use Patterns - Arlington

- E-scooters mostly used in in denser areas
  - Metro access
  - Developed bike lane networks

- High daytime population/employment

Arlington

Arlington Trip Start Locations
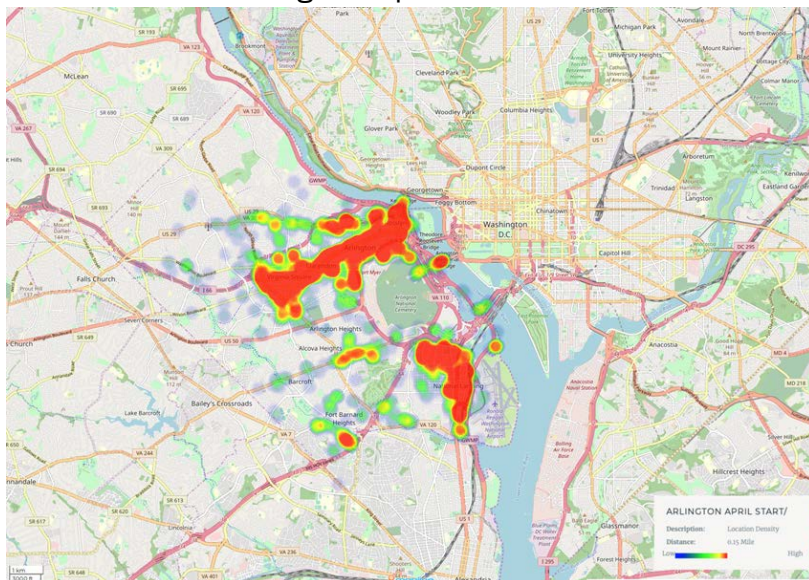
Major Planning Corridors

Daily Vehicles/1000 People

(based on 2019 census block group population)

- 0 - 4
- 4 - 22
- Population <10 people

Conclusions/Next Steps

- Dockless SMDs are likely to continue for the foreseeable future

- Growth in dockless micromobility has come mostly at the expense of ride-hailing, driving, and walking

- Safety, sidewalk riding, parking issues need mitigation

- Long-term threats/issues

  - Companies' profitability

  - Theft/vandalism – low vehicle lifespan

  - Rising permit fees to recoup public sector costs

  - Rising per-minute rates impacting cost-effectiveness for users

- MWCOG will continue to hold regional SMD workshops twice a year as long as the need continues

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