# Slide 1:

# Presentation Title: SHARED MOBILITY DEVICES – National and Regional Trends

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# Access for All Advisory Committee

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Logos: TPB logo

Slide 2: Shared Micromobility in the DC Region

Photo of Capital Bikeshare bikes in a dock

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

Photo of various scooters in a courtyard

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

Slide 3: 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 of scooter

Photo of Jump bike

Slide 4: National Trends

* Bar Graph showing use of e-scooters, dockless bikes and docked bikes over the period of 2010 to 2018 with growth over time of bikes and the appearance of scooters in 2018 at a high usage.
	+ 84 million trips on shared micro-mobility in 2018

Slide 5: E-scooter Boom - DC

* Line graph of Capital Bikeshare vs. Scooters in DC from July 2017 to May 2019 showing decline in bike use as scooters were introduced, an uptick in bike use a couple months after, and a sharp increase in scooter use from February – May of 2019

Slide 6: Shared Dockless Mobility Permit Programs in the Washington Region

Chart of stats on programs

Permitted Fleet Size

* DC – 6,210
* Arlington - 2,700
* Alexandria – 1,400
* Montgomery County – 2,000 e-scooters and e-bikes

Number of Operators

* DC – 8
* Arlington – 7
* Alexandria – 7
* Montgomery County – 4

Trips per Month

* DC – 590,000
* Arlington – 80,000
* Alexandria – 40,000
* Montgomery County – no data

Coverage

* DC – All
* Arlington – All
* Alexandria – All
* Montgomery County – Silver Spring, Rockville

Pilot Start Date

* DC – 9/2017 e-bike, 3/2018 e-scooter
* Arlington – 9/2018
* Alexandria – 11/2018
* Montgomery County – 6/15/19 replaced pedal bikes

Pilot End Date:

* DC – 12/31/19
* Arlington – 12/31/19
* Alexandria – 12/31/19
* Montgomery County – 12/15/19

Slide 7: Role of MWCOG

COG holds a Regional Dockless Workshop 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

Slide 8: Successes

* Shared mobility device (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 of scooters in a parking corral

Slide 9: SMD Mode Replacement (Arlington)

Bar graph showing mode replaced by e-bike or e-scooter use in Arlington

Mode = Walked

* 37% dockless e-bikes
* 22% e-scooters

Mode – Uber/Lyft/VIA

* 19% dockless e-bikes
* 17% e-scooters

Mode – personal car/motor vehicle

* 13% dockless e-bikes
* 14% e-scooters

Mode – Would not have made trip

• 4% dockless e-bikes

• 3% e-scooters

Mode – personal bike/Capital bikeshare

• 4% dockless e-bikes

• 8% e-scooters

Mode – Bus

• 3% dockless e-bikes

• 3% e-scooters

Mode – Metrorail

• 2% dockless e-bikes

• 4% e-scooters

Mode – Carshare vehicle

• 1% dockless e-bikes

• 1% e-scooters

Mode – ridden as a passenger in a vehicle

• less than 1% dockless e-bikes

• 1% e-scooters

Mode – taxi

• less than 1% dockless e-bikes

• less than 1% e-scooters

Mode – Other

• less than 1% dockless e-bikes

• 3% e-scooters

Mode – ridden a shared e-bike/e-scooter

• less than 1% dockless e-bikes

• 5% e-scooters

Mode – not applicable

• 16% dockless e-bikes

• 17% e-scooters

Slide 10: Areas of Concern: Parking

Photo of scooters blocking a curb-cut

Photo of scooters in the middle of a path

Slide 11: Parking Solutions

* 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)

Photos of local scooter corrals

Photo of docking/charging station for e-bikes in Portland

Slide 12: Sidewalk Riding/Inadequate Facilities

* Hazard/discomfort for pedestrians due to sidewalk riding

Responses:

* DC, Arlington have 10 mph built-in speed limit
* Accelerate bike lane, protected lane construction
* Rider training

Photo of 14th Street protected bike lane

Slide 13: Safety – Arlington Data

Bar graph of 2018 crash, injury, fatality data by mode

Mode – Cars

• 2,535 crashes

• 998 injuries

* 2 fatalities

Mode – Pedestrian-involved

• 125 crashes

• 114 injuries

* 1 fatality

Mode – E-scooters full year

• 92 crashes

• 39 injuries

* 0 fatalities

Mode – E-scooters 9-month pilot

• 69 crashes

• 29 injuries

* 0 fatalities

Mode – Bike

• 58 crashes

• 43 injuries

* 0 fatalities

Mode – Capital Bikeshare

• 3 crashes

• 0 injuries

* 0 fatalities

Slide 14: 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

Slide 15: Training/Regulatory Responses

Training

* Mostly app-based
* 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
* Built-in speed governors enforce speed
* Geo-fence slow zones and no-service zones
* Patchwork of regulations governing where and how e-scooters e-bikes can be used
	+ Complicates enforcement
	+ Ex: In Montgomery County e-scooters can be used on trails run by the DOT, but not on most trails run by the parks department

Slide 16: Equity

* Higher percentage of low-income and minority people use e-scooters than Capital Bikeshare
	+ Baltimore survey found high proportions of Latinos reported using e-scooters
	+ Major differences were by age, not race. >55 don’t use
	+ Per-trip pricing structure is attractive to low-income people
* Discount/cash memberships
* Min % of e-scooters deployed to disadvantaged neighborhoods

Bar graph of Baltimore Dockless Survey results showing percentage of each race using the vehicles

* African American - 58
* Caucasian – 68
* Hispanic/Latino – 75
* Other - 63

Slide 17: Equity in Arlington

* E-scooters mostly in denser and more affluent areas with Metro access, developed bike networks
* Daytime population should be considered

Map of Arlington trip start locations

Map of Arlington showing daily vehicles per 1000 people

Concentrations are very similar in both maps

Slide 18: Outlook/Next Steps

Dockless Shared Mobility is likely to continue for the immediate future

* Safety, sidewalk riding, parking issues need mitigation

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

MWCOG will continue to hold regional Dockless workshops twice a year

Long-term threats

* Companies are not yet profitable
* Theft/vandalism – low vehicle lifespan
* Rising permit fees
* Rising rates

Slide 19

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