THE MICROMOBILITY REVOLUTION

The Growth of Electric Scooters and Mobility Regulations

SPUR Oakland
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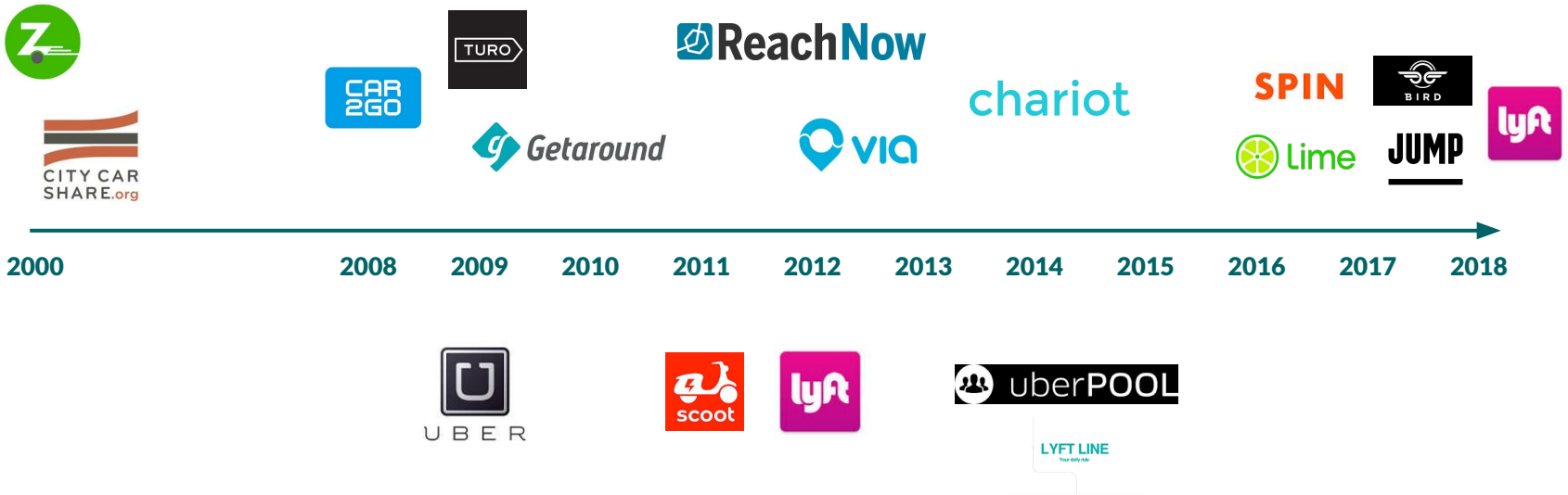
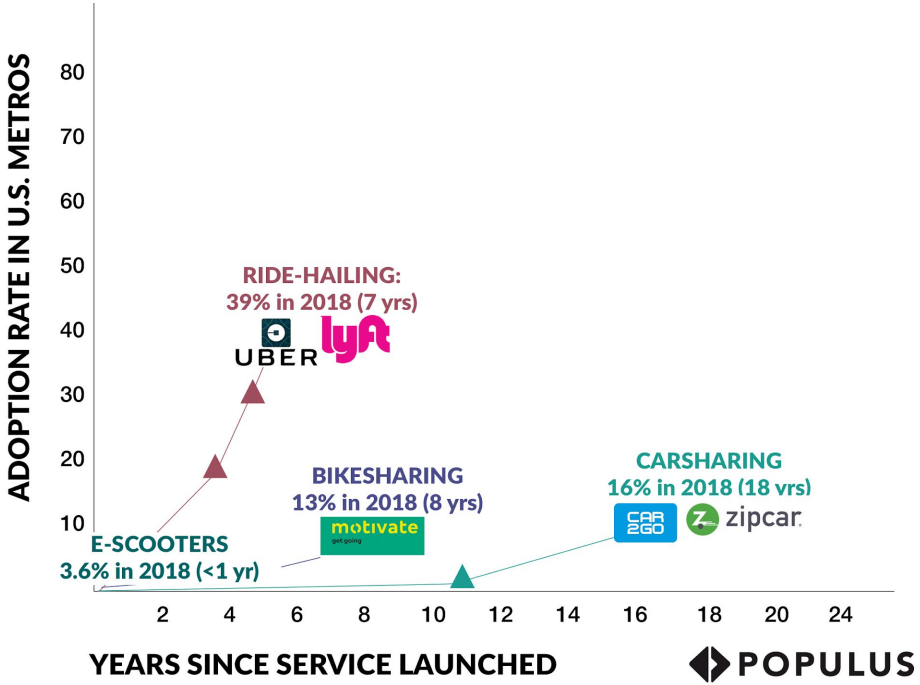
SHARED MOBILITY SERVICES HAVE RAPIDLY EVOLVED IN CITIES



ADOPTION OF NEW MOBILITY SERVICES IS ACCELERATING



Source: The Micro-Mobility Revolution, A Populus Research Report, July 2018

KEY FACTORS HAVE LED TO RAPID GROWTH

1. **GPS:** smartphone adoption has risen from 35% in 2011 to 77% in 2018

2. **Traffic:** in multiple major cities, it is likely faster to bike or scooter trips that are 3 miles or less

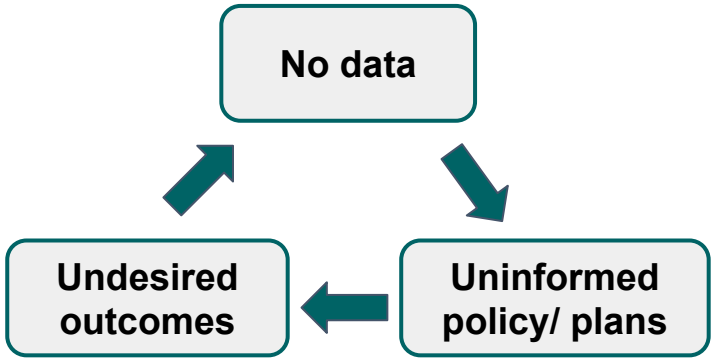
3. **Venture capital:** these companies have raise more money faster than prior mobility service providers

THE IMPORTANCE OF DATA FOR MANAGING MOBILITY SERVICES

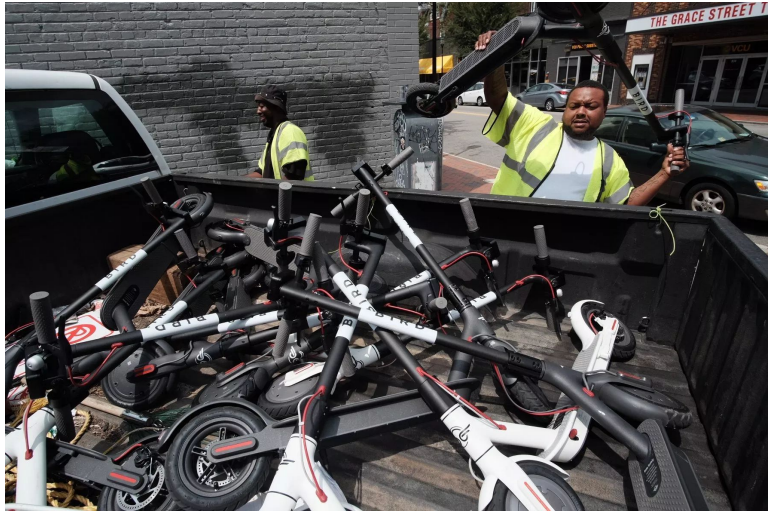
Cities need data to developed informed policies and transportation plans. Their goals typically are to steer progress towards:

1. **Safety:** reducing transportation-related injuries and fatalities.
2. **Equitable access:** improving availability and accessibility of transportation services to people of all backgrounds.
3. **Efficiency:** prioritizing efficient use of public space, and reducing transportation energy use/ climate impacts.

CITIES ARE LOOKING OUT FOR THE COMMON GOOD



WHY DOCKLESS MOBILITY HAS BEEN EASILY AND QUICKLY REGULATED



Cities from coast to coast have adopted dockless mobility regulations in 2018.

- Fleets are owned
- Vehicles are small
- Vehicles are stationary (for a significant portion of time)
- Cities are sharing best practices

DOCKLESS MOBILITY PERMITS

Most city councils have approved dockless mobility permitting policies which include:

1. **Safety requirements:** insurance requirements, information operators must communicate to users of systems, and vehicle requirements.

2. **General parking restrictions:** general guidelines related to where scooters/ bikes cannot be parked, and potentially language reserving the city's right to designate incentivized or dis-incentivized (fined) parking areas.

3. **Data sharing requirements:** real-time or archival reports on vehicle fleet size/ availability, trips, and incidents (e.g. complaints, safety, etc.).

4. **Fees:** fees for submitting a permit application, a flat annual fee for operating a program if awarded a permit, and a per vehicle fee for operating.

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COMMON MICROMOBILITY DATA REQUIREMENTS

COMMONLY REQUESTED DATA POINTS FROM OPERATORS

- Trips
- Vehicles
- Maintenance logs
- Complaints
- Injuries

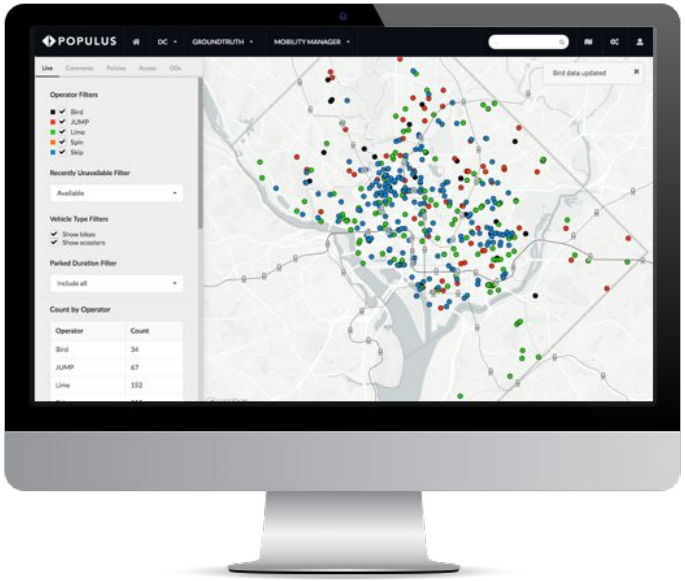
REQUEST DATA THROUGH INDUSTRY STANDARDS

- GBFS (General Bike Feed Specification) is commonly required for public-facing APIs of vehicle locations (for example to third-party apps).
- MDS (Mobility Data Specification), introduced by LADOT, is now being used widely to require trip, vehicle status, and route data.

COLLECT SURVEY DATA TO ANSWER KEY QUESTIONS

- Many key policy questions cannot be answered with GPS based locational data alone. They require asking people to respond to a survey.
- Cities should require that operators collect data in a consistent format approved by the city.

CITIES ARE TRANSITIONING TOWARDS ACTIVE MOBILITY MANAGEMENT



With access to real-time data for new mobility services (today primarily dockless shared bikes and scooters), cities are entering a new era of active mobility management.

KEY EXAMPLES

- Vehicle and fleet monitoring
- Incident management
- Data-driven policy (e.g. flexible vehicle caps)
- Data-driven planning
- Pricing to efficiently allocate public space

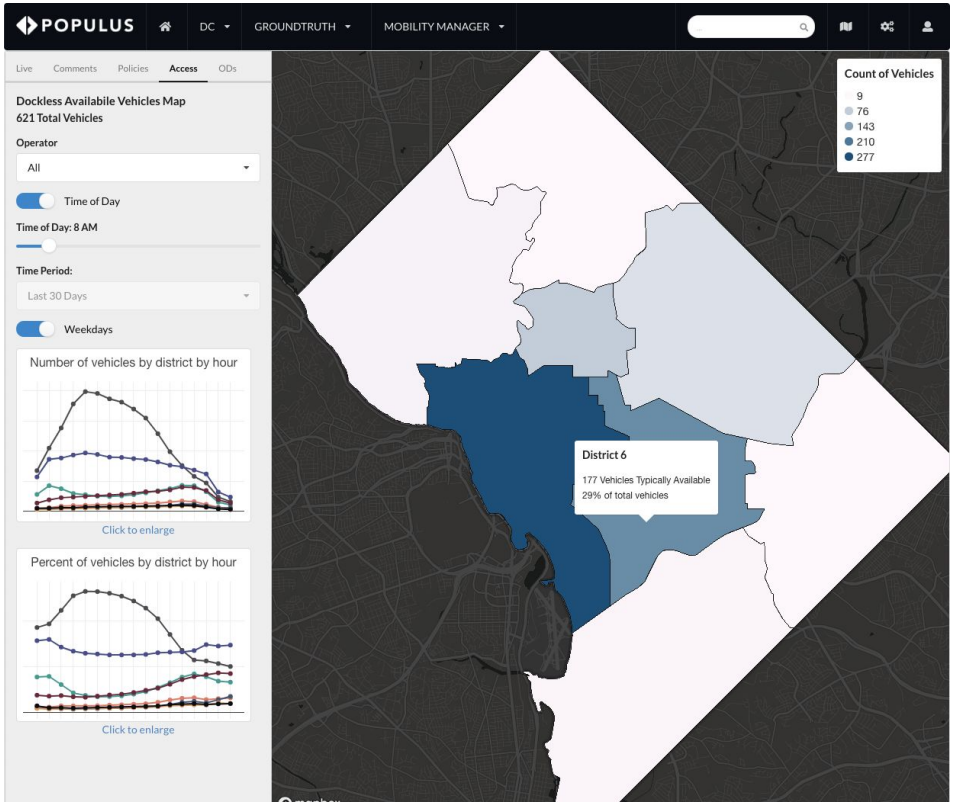
EVALUATING EQUITABLE ACCESS TO MICROMOBILITY

Equitable access to new mobility services by disadvantaged communities is a key concern for cities.

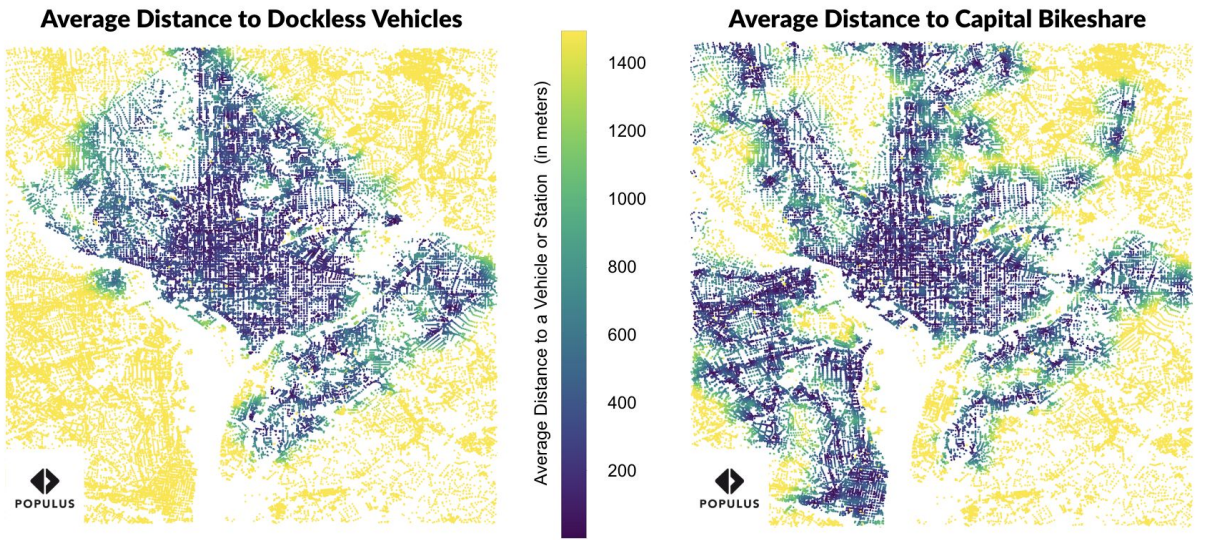
With access to real-time and historical data, cities can better design for equity.

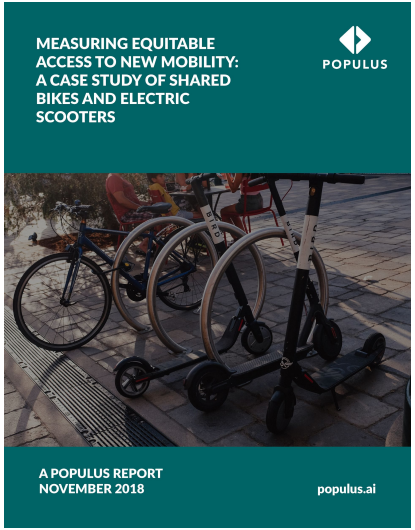
Key examples:

- Incentivizing placement of a specific # or % of vehicles in underserved communities.
- Developing a low-income program for new mobility services and to measure progress.



EVALUATING EQUITABLE ACCESS: A MORE ROBUST ANALYSIS

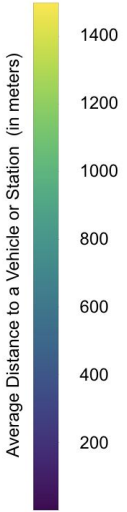




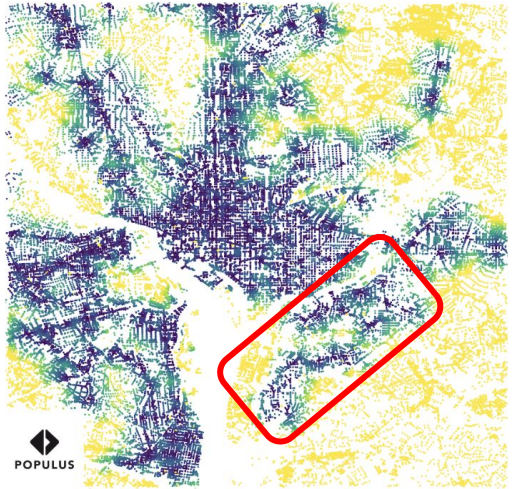
- We evaluated the average distance to a bike (or scooter) for each street intersection.

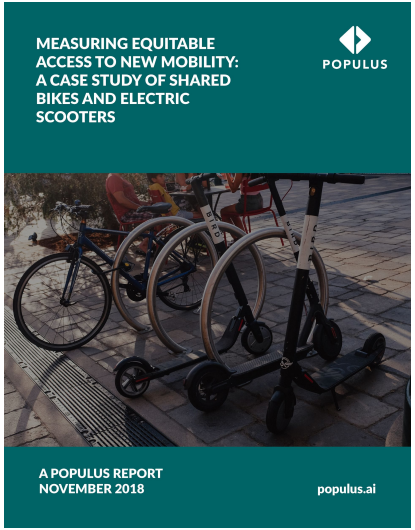
EVALUATING EQUITABLE ACCESS: A MORE ROBUST ANALYSIS

Average Distance to Dockless Vehicles



Average Distance to Capital Bikeshare





- We evaluated the average distance to a bike (or scooter) for each street intersection.
- In Ward 8 (traditionally underserved), one can access a dockless vehicle within a shorter distance than the pre-existing docked system.
- Analysis of utilization rates suggests that dockless is not cannibalizing the existing docked system.

BETTER DATA HELPS CITIES EXPAND BIKE/SCOOTER INFRASTRUCTURE

Cities that receive detailed trip data can now harness GPS trace data to plan safer routes for bicycling and scooter infrastructure such as protected lanes and parking areas.

In addition to requiring that operators provide stationary vehicle location data (i.e. parked vehicles), the city would also need to require trip and route data through a standard such as the Mobility Data Specification (MDS).

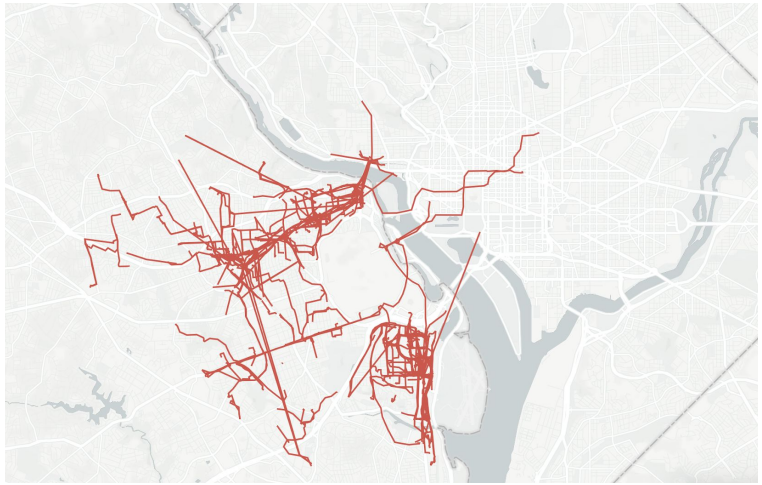


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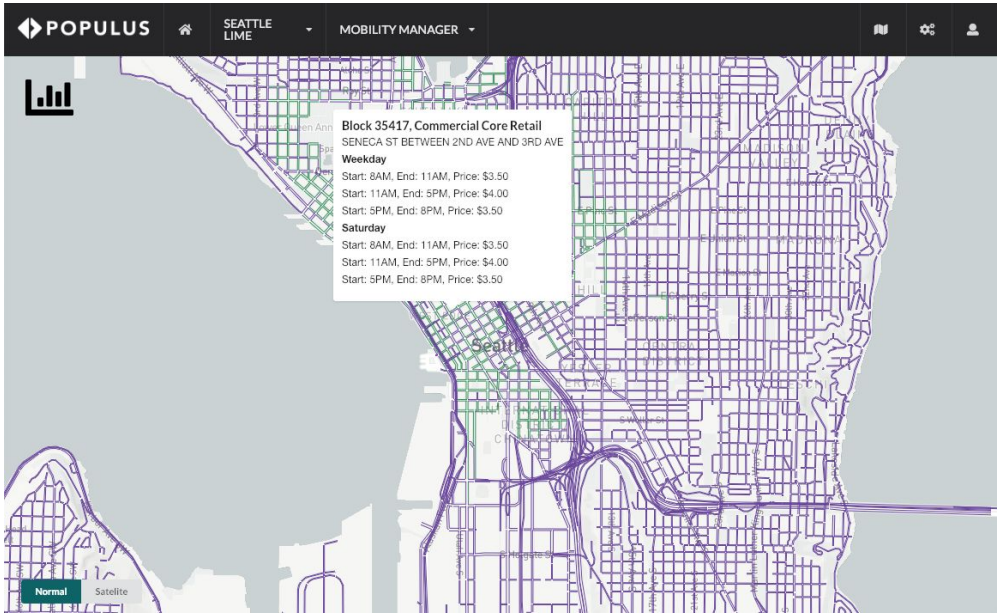
Photo credit: Gregory Matletsky

1 PARKING SPOT FOR A CAR >> 15 BIKES AND SCOOTERS

VALIDATING USE OF SHARED MOBILITY CURBSIDE UTILIZATION

As we look to the future, many cities are exploring strategies for more efficient curbside utilization:

- Allocating parking for car-sharing vehicles with higher trip utilization rates than personally-owned vehicles.
- Creating pick-up/ drop-off zones for fleet vehicles.
- Pricing and incentivizing public space for shared fleets, including curbs and sidewalks, for micromobility parking.



Lime and Populus announced a new partnership to validate use of on-street parking for their free-floating car-sharing vehicles, the LimePod, for a city.

THANK YOU

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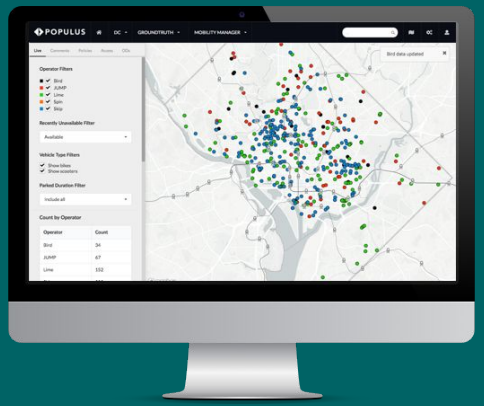

POPULUS

A data platform for cities to manage the future of mobility