# Optimizing Infrastructure Investments: Leveraging Shared Mobility Data to Identify Key Sustainable Mobility Corridors

Prepared for ITF Transport Statistics Meeting

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THE MOBILITY ECOSYSTEM IS CHANGING RAPIDLY AND SO IS THE NEED FOR CITIES TO MANAGE IT

Share of the Urban Population Worldwide

1980 — 39% — 1.731 billion
2015 — 54% — 3.968 billion
2050 — 66% — 6.419 billion
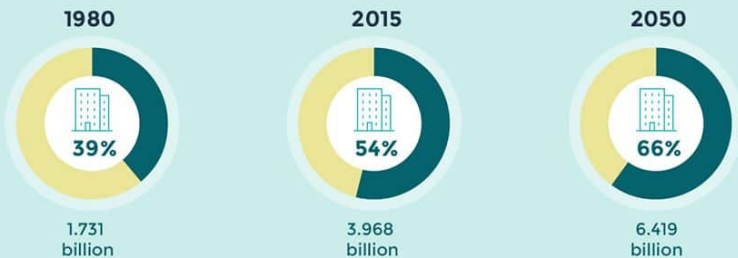
Source: United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, custom data acquired via website

Expanding Transportation Options

2010: PERSONAL, PERSONAL, PERSONAL, MUNI, BART, CALTRAIN, PARATRANSIT, PERSONAL, TAXI

2020: PERSONAL, STATION-BASED BIKESHARE, STATION-LESS BIKESHARE, PERSONAL, POWERED SCOOTER SHARE, SHARED MOPED, MUNI, BART, CALTRAIN, COMMUTER SHUTTLE, PRIVATE TRANSIT, PARATRANSIT, PERSONAL, TAXI, TNCs, ON-STREET VEHICLE SHARE

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Shared Mobility is Here to Stay

- Over 1.000 cities in the EU and 300 in the US have a shared mobility program

- Shared mobility is on the right side of the mobility pyramid and helps keep cities of all sizes healthier and more efficient

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Data Standards

Standard forms of communication between providers of mobility services is essential to the viability of these services.

Mobility Data Specification

- MDS was built for operators to communicate with cities, and for cities to communicate back; not for public consumption.
.
- Vehicle status changes provide updates on vehicles' state in the system.

- Defines formats for sharing trip data, including "breadcrumb" GPS traces.

- It has undergone considerable changes since it's creation

General Bikeshare Feed Specification (GBFS)

- Built for consumer-facing applications and integration into other platforms.

- APIs report the real-time information about available vehicles to users.

- GBFS data feeds typically report the vehicle location, type (bike/scooter), and battery charge

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But, we have a problem with data

43% of public sector entities - perception of **lagging behind in data and technology** *

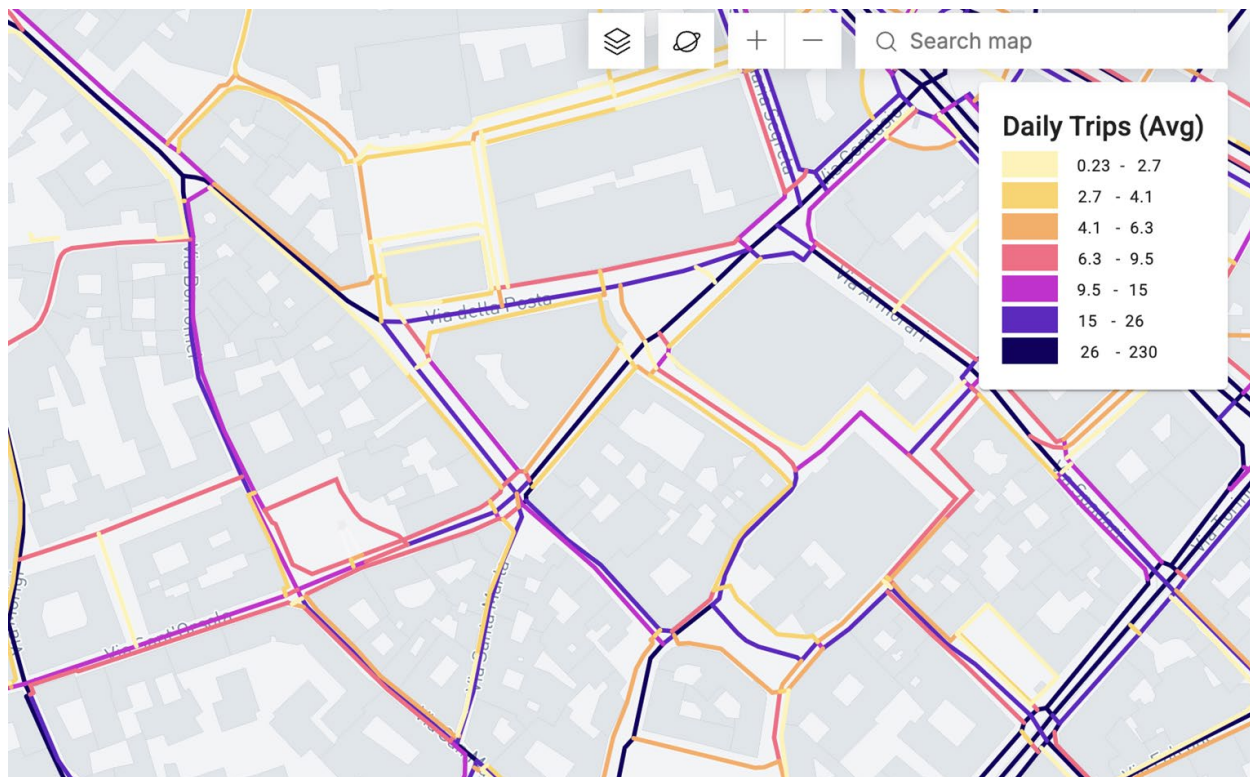**-15%** **cost** of infrastructure services with a **better use** of data and digital technologies*

80% of EU cities with a shared mobility program using data to monitor that are **not using data** coming from operators in a structured way

*Roundtable on Data for Informed Mobility Governance, ITF. 11 June 2024, Philippe Crist

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Data = Treasure

Treasure must be found

Daily Trips (Avg)

- 0.23 - 2.7
- 2.7 - 4.1
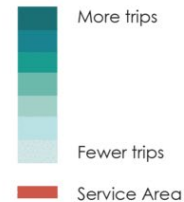- 4.1 - 6.3
- 6.3 - 9.5
- 9.5 - 15
- 15 - 26
- 26 - 230

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SF - Slow Streets

If you build it do they come?

Trip Paths that Intersect
SF Slow Streets Areas
August 1 - 15, 2020

More trips

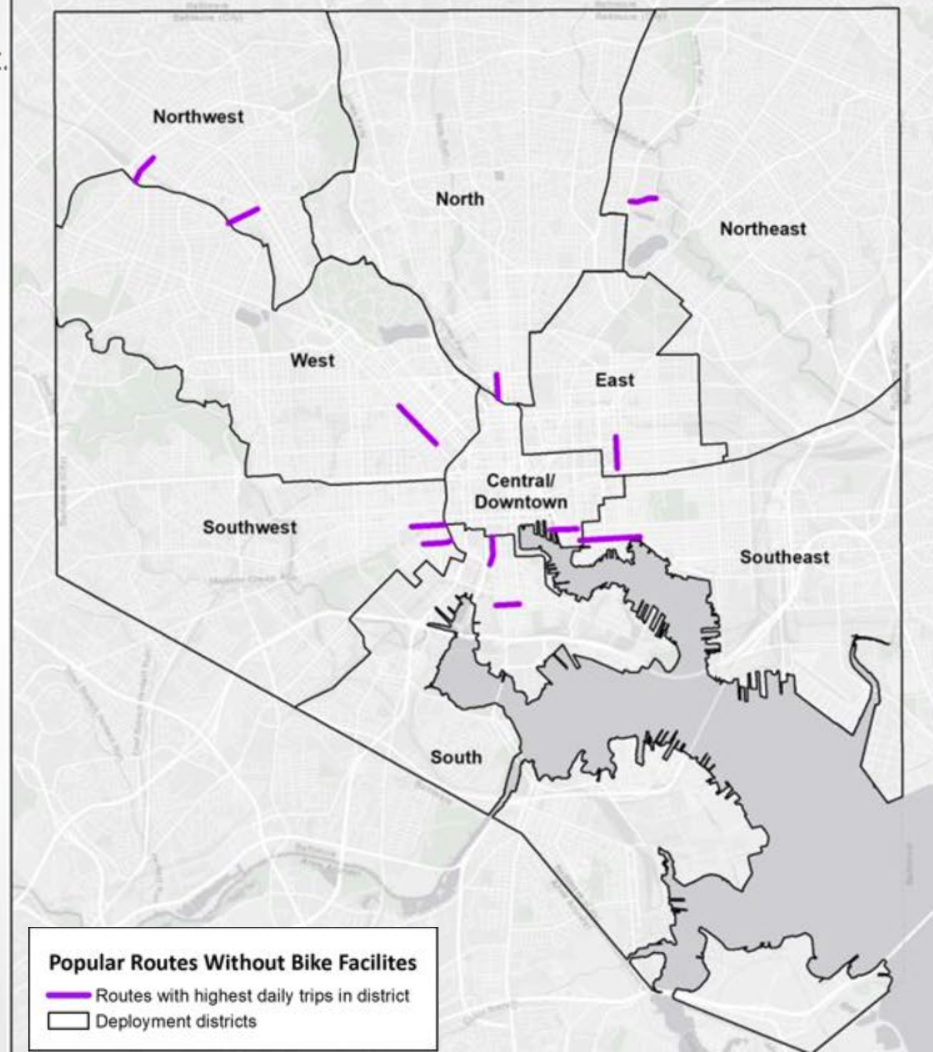Fewer trips

— Service Area

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Harnessing data for new protected lane infrastructure

- Cities can use aggregated volumes from millions of trips to identify new protected lanes.

- Looking at shared micromobility trips the year before and 2 years after the construction, there has been a significant increase in ridership in the corridor:


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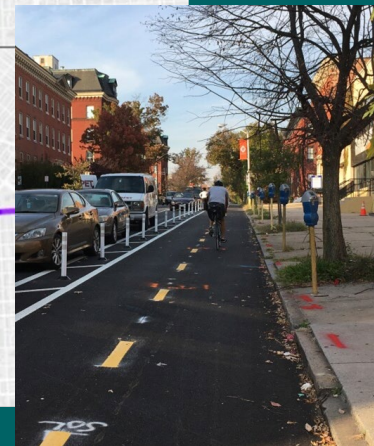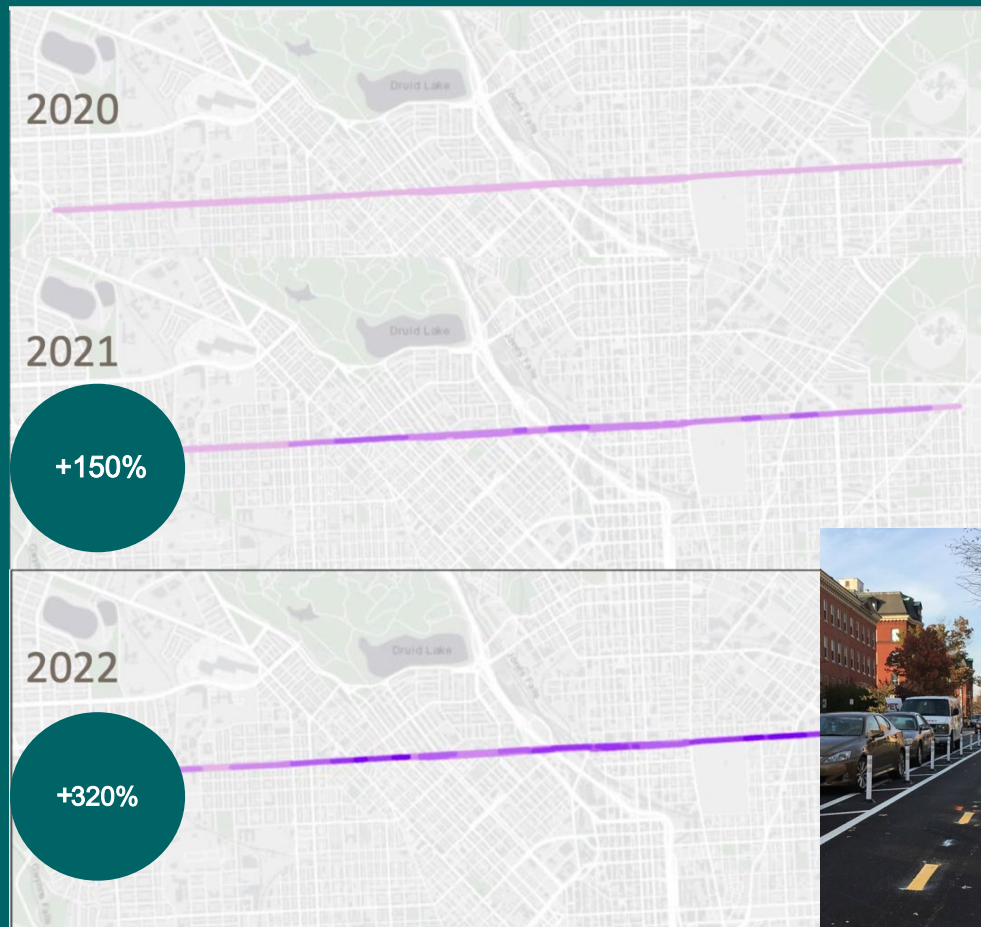
Using Micromobility Data: Highest Micromobility Ridership Streets which do not currently have Bike Facilities, per district. Data compiled for the BCDOT bike master plan update. *MDS Route Data from May – October 2022.*

Deployment District	Street, Segment	Average Daily Rides	Corral
C/D	Eastern Avenue Pier V to Little Italy	219	Yes
SE	Aliceanna Street Fells Point	118	Yes
NE	Morgan State Campus (not shown on map)	96	Planned
S	East Fort Avenue West of Light Street	61	Yes
S	South Sharp Street Convention Center, Otterbein	54	Yes
NE	Argonne Drive Morgan State Campus	37	Planned
E	Wolfe Street Johns Hopkins Hospital	31	Yes
SW	Washington Boulevard Pigtown	30	Yes
N	Charles Street Penn Station to North Avenue	30	Yes
SW	West Pratt Street Railroad Museum	26	Planned
W	Pennsylvania Avenue Robert C. Marshall Rec Center	21	No

Popular Routes Without Bike Facilites
— Routes with highest daily trips in district
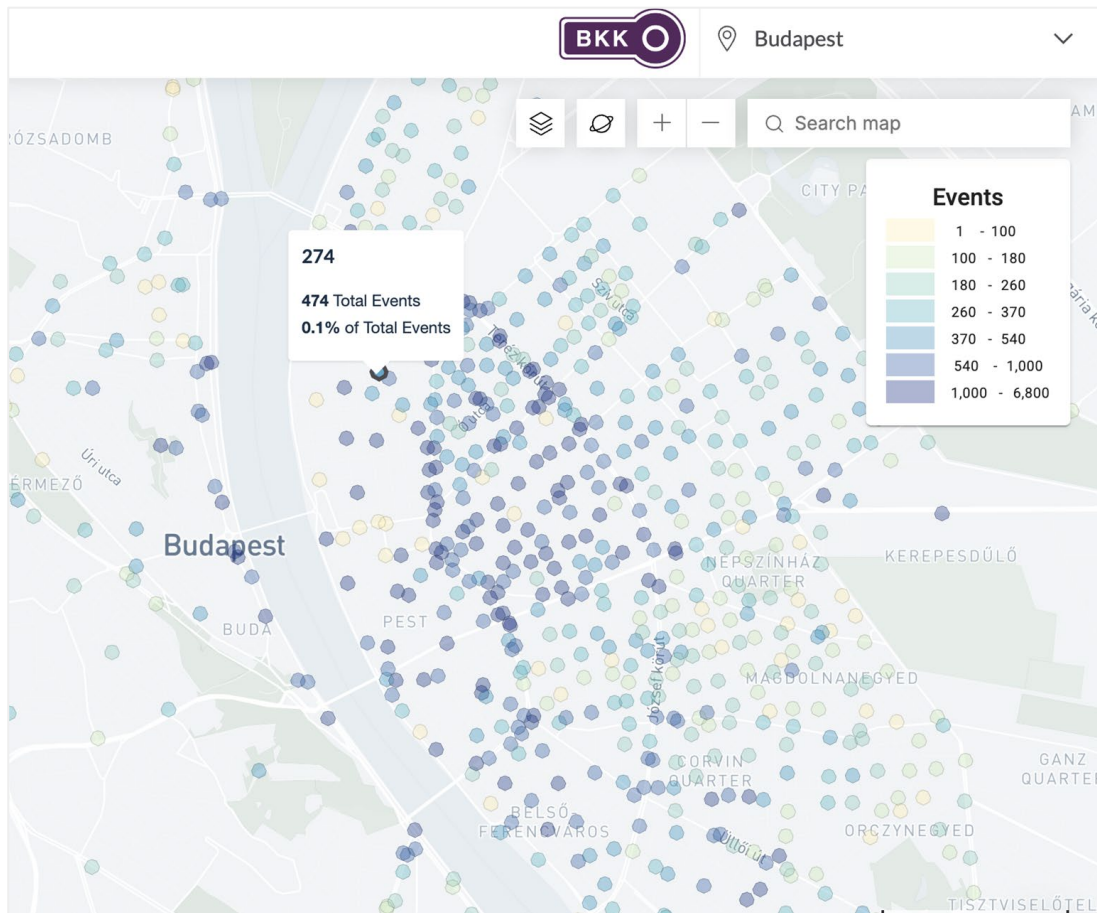☐ Deployment districts

Managing operator compliance and a scaling program with access to data

- BKK has scaled their shared mobility program from 1,000 bikes to a fleet of over 9,000 bikes and scooters

- The need for data to help measure performance against goals became clear.

- Evaluating trip counts, station utilization rates, and routes.

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Leveraging new mobility to expand equitable access
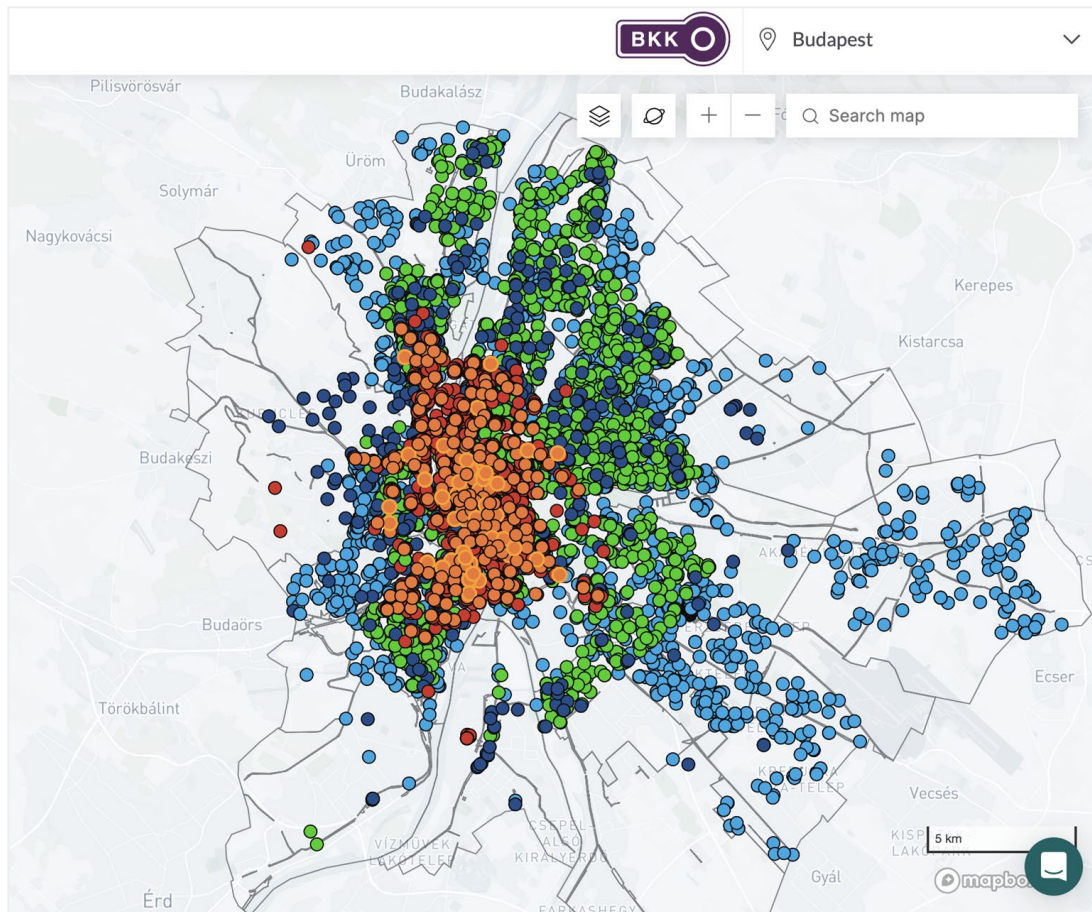
- Cities can quickly evaluate parking events to ensure vehicles are accessible to all.

- BKK is now evaluating hybrid station-based and floating parking areas for bikes and scooters.

- Immediate access to data allows one to monitor impacts across a large geographic area.

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