Better Bike Share Partnership

GRANTS AND GRANTEES

The Better Bike Share Partnership has funded many initiatives to pilot, support, and share strategies to increase the access to and use of shared micromobility in low-income and BIPOC communities since its inception. Opportunities have included:

- **Research Grants**: Funding for academic institutions conducting studies to shed light on the barriers, incentives, practices, environment and other factors that increase or inhibit bike share ridership.
- **Mini-Grants**: Small, focused awards to support modest programs or activities.
- **Living Lab Cities**: New in 2020, this program will support four cities taking a deep dive into addressing a barrier or capitalizing on an opportunity to make the use of shared micromobility easier, safer, and more accessible in BIPOC communities.

2022-2023 Transportation Justice Fellowship

**NACTO / BBSP 2022 - 2023 TRANSPORTATION JUSTICE FELLOWSHIP**

- **Indego**
- **BBSP Shared Micromobility Roundtable: Peer to Peer Learning**
- **Getting Started**
- **Safe Routes Philly**
NACTO in 2022

HALF A BILLION TRIPS
On Shared Micromobility Since 2010

NACTO2023

nacto.org/publications
Part 1: Welcome
State of the State

Part 2: Peer-to-Peer Discussions
Break

Part 3: Industry remarks
Break
City led panel discussion
Closing
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30 PM</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:30 - 2:30 PM</td>
<td>Opening Plenary</td>
</tr>
<tr>
<td>3 PM - 4:15 PM</td>
<td>Recommended Breakout Session: Shared Bikes, Shared Ideas  [Centennial G]</td>
</tr>
<tr>
<td>4:25 PM - 6 PM</td>
<td>Group ride - meet in [Centennial G] advanced RSVP required</td>
</tr>
<tr>
<td>6 - 8 PM</td>
<td>Opening Reception at Improper City</td>
</tr>
</tbody>
</table>
Spectrum Stands

Shared Micromobility Roundtable
State of the State

Rachel Ruhlen
Transportation Planner
Fort Collins, CO

Chris Hagelin
Acting Transportation Planning Manager
Boulder, CO

Stephen Rijo
Principal City Planner
Denver, CO
Fort Collins Spin Program

May 15, 2023

Rachel Ruhlen
Transportation Planner, FC Moves
500 e-scooters
200 e-bikes
1 mile average trip length

30,348 unique riders
271,114 trips
409,795 miles traveled

Spin Program Year One Numbers

Source: Marketa Jancar
65% relocation requests are for vehicles that aren’t blocking anything
Potential effect of installing 12 parking boxes
- Average 6 vehicles per box (ranged from 4-8)
- 9.8% vehicles blocking access would have a parking box within 500 feet
- 11.6% vehicles blocking ADA access would have a parking box within 500 feet

Potential effect of policy change: Revise ordinance to allow shared micromobility to be parked on streets
- 37.6% illegally parked vehicles would have a legal place to park
- 56.1% vehicles blocking access would have a legal place to park
- 54.8% vehicles blocking ADA access would have a legal place to park
Parking Management

- Encourage reporting
- User penalties
- Parking boxes
- Revise ordinance
- Quiz

**Tier 1:** 1st offense – warning (25 issued in the first two months)

**Tier 2:** 2nd offense – 1-day suspension (4 users suspend in the first two months)

**Tier 3:** 3rd offense – permanent suspension, can be appealed; minimum 15-day suspension (2 users banned in the first two months)

To contact Spin
Email: fortcollinsops@spinteam.pm
Text: 970-387-2799
<table>
<thead>
<tr>
<th>Fall 2022</th>
<th>Spring 2023</th>
<th>Summer 2023</th>
<th>Fall 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect before data</td>
<td>Analyze data</td>
<td>Implement countermeasures</td>
<td>Collect &amp; analyze after data</td>
</tr>
</tbody>
</table>
For Questions or Comments, Please Contact:

Rachel Ruhlen
rruhlen@fcgov.com
Shared Micromobility in Boulder

NACTO Denver
Shared Micromobility Roundtable
May 15, 2023

Chris Hagelin, Principal Planner
City of Boulder
To provide community members safe, equitable and sustainable forms of transportation to improve quality of life, provide connections to transit and key destinations; and replace motor vehicle trips to reduce traffic congestion and transportation-related greenhouse gas emissions.
### Program Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Baseline</th>
<th>2023 Performance Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Build upon the success of Boulder’s previous bike share program</td>
<td>2020 – 110,000 trips</td>
<td>440,000 trips</td>
</tr>
<tr>
<td>2) Expand the quantity of available shared e-bikes and e-scooters by 2023</td>
<td>2020 – 300 bikes</td>
<td>500-700 devices (e-bikes and e-scooters) in service</td>
</tr>
<tr>
<td>3) Demonstrates on-going safety improvements for users of shared devices</td>
<td>Establish baseline number of severe crash reports in 2021-2022</td>
<td>Compare number of severe crashes in 2023 to 2022 – 0 is the goal.</td>
</tr>
<tr>
<td>4) Provides equitable services through accessibility and affordability for traditionally underserved community members.</td>
<td>Establish baseline use in 2021-2022</td>
<td>Compare use in 2023 to 2022</td>
</tr>
<tr>
<td>5) Expand city-wide accessibility to shared micromobility devices</td>
<td>2020 – 45 B-Cycle docking stations</td>
<td>Compare 2023 accessibility (areas of Boulder served) to 2020</td>
</tr>
</tbody>
</table>
## 2022 by the Numbers

<table>
<thead>
<tr>
<th>Measures</th>
<th>Lime E-scooters</th>
<th>BCycle E-bikes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of devices currently deployed</td>
<td>240</td>
<td>300</td>
<td>540</td>
</tr>
<tr>
<td>Number of trips</td>
<td>115,000</td>
<td>467,315</td>
<td>582,315</td>
</tr>
<tr>
<td>Total Distance Traveled (miles)</td>
<td>117,700</td>
<td>817,800</td>
<td>935,500</td>
</tr>
<tr>
<td>Average Trips per device per day</td>
<td>1.5</td>
<td>4.25</td>
<td>3.0</td>
</tr>
<tr>
<td>Number of reported crashes*</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

* Includes reports to police, bicycle/e-scooter vendor, and staff
**Program Highlights**

- Station refurbishing
- Modular rack design
- Growth in fleet size
- New stations in E. Boulder
- Regional expansion - feasibility study
- Equity program status
- CU Student Program

*City of Boulder collects annual license and per trip fees*
### Which Wheels Go Where?

#### How to Use an E-Scooter Safely

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Always wear a helmet</td>
</tr>
<tr>
<td>2</td>
<td>Follow traffic laws</td>
</tr>
<tr>
<td>3</td>
<td>Use bell for warning</td>
</tr>
<tr>
<td>4</td>
<td>Yield to pedestrians</td>
</tr>
<tr>
<td>5</td>
<td>Ride predictably and defensively</td>
</tr>
<tr>
<td>6</td>
<td>Ride solo and sober</td>
</tr>
</tbody>
</table>

#### Where can different mobility devices be used in Boulder?

<table>
<thead>
<tr>
<th>Streets/Bike Lanes</th>
<th>Sidewalks (except dismount zones)</th>
<th>Multi-use Paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bikes/e-Bikes</td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>Skateboards / Rollerblades (non-electric)</td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>Electric scooters/ skateboards</td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>Motorized Scooters</td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
</tr>
</tbody>
</table>

*Can ride in the street on residential streets and only in the bike lane on all other streets*

*Can only ride on sidewalk (outside dismount zones) if no bike lane is present*

*Can only ride in the street, not in bike lanes*

**ALL device types must dismount when they see this symbol:**

![Dismount Zone Symbol]
Denver DOTI’s Shared Micromobility Program

Stephen Rijo – Principal Multimodal Planner
NACTO Designing Cities 2023 – BBSP Roundtable
Denver’s Shared Micromobility History

Denver B-Cycle (2010-2020)

Dockless Pilot Program (2018-2021)

Shared Micromobility Licensed Program (May 2021 - Present)

First Bikeshare Program in US

Transit Amenity Program

First and Last Mile

Starting Fleet (1500 S & 300 B)

Current Fleet (2930 S & ~586 B)
DOTI’s SM Program Management

- Goal = Mode Shift
- License Requirements
  - Data Sharing → Ride Report & Public Dash
  - 2-Hr Parking Response
  - Opportunity Areas: 30%
  - Bikes: 20%
  - 5,280 Free Pass Programs
  - Equity Programs: Need and Geography Based
  - Utilization Based Fleets
  - Corrals & Stations
- Equity Focus
- Actual vs. Perceived Issues
- Mode vs. Operators vs. Rider Responsibility
June 2019:  
- Trips: 124,188  
- Max Single Day: 7,990  
- Median Daily Trips: 3,823  
- Average Daily Fleet: 723  
- TVD: ~3.9

June 2022:  
- Trips: 604,675  
- Max Single Day: 36,227  
- Median Daily Trips: 18,401  
- Average Daily Fleet: 4,356  
- TVD: ~4.5

Growing Pains: SW Riding, Parking, Fleets, Safety & Infrastructure Inadequacies
Geofence Technology & LoDo Pilot
Blake & Market Streets: Bus & Bike Priority

- 23 Blocks (2mi) of Protected Bike Lanes
- 6 Blocks of Bus Lanes
- 3 Blocks to Pedestrian Walkways
- Shared Micromobility Data, Public Complaints & Safety Concerns
- ~6 Months from Idea to Implementation!
- Infrastructure is the Way to Improve Safety & Reduce Sidewalk Riding!
Event Mgmt. – Rockies Gameday Opps

• Stakeholders
  – City & Safety (DPD & DFD)
  – Operators
  – Rockies Mgmt. and Staff
  – McGregor Square Mgmt. and Staff
  – Local Businesses
  – Riders & Attendees

• Needs
  – Maintain Clear ROW
  – Provide Safe, Convenient & Intuitive Parking for Riders

• Approach
  – Geofencing: Slow, No-Ride, & Preferred Parking Zones
  – Staffing & Signage
  – 101 Videos on Jumbotron
  – Push Notifications

DenverGov.org/ScooterBikeShare
Event Mgmt. – Rockies Opening Day 2023
¿Questions?

Stephen.Rijo@DenverGov.org
Shared Micromobility Regulatory Best Practices

NACTO Designing Cities 2023
Since the introduction of the country’s first bike share system in 2010, people in the U.S. have taken half a billion trips total on shared micromobility.
North America Micromobility Industry Best Practices
What regulations lead to a successful shared micromobility program?
Success from... **reliability**

<table>
<thead>
<tr>
<th>Fleet size</th>
<th>Contiguous service area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 per 500</td>
<td></td>
</tr>
</tbody>
</table>

### Best Practices:

- 2
- 7

#### 24/7 service

*Georgia Tech research* showed that Atlanta’s scooter curfew increased congestion by 325,000 to 780,000 additional hours of travel for drivers per year.

#### Multiple vehicle options
## Success from... financial sustainability

<table>
<thead>
<tr>
<th>Mode</th>
<th>Carbon footprint (g CO2e / p-km)</th>
<th>Taxes vs Subsidies</th>
<th>Parking Fines (example from San Francisco)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uber / Lyft</td>
<td>251</td>
<td>10¢ - 25¢/Trip²</td>
<td>$108</td>
</tr>
<tr>
<td></td>
<td></td>
<td>~4¢/Mile</td>
<td></td>
</tr>
<tr>
<td>Car</td>
<td>161</td>
<td>~2¢/Mile³</td>
<td>$108</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(gas tax/mileage fees)</td>
<td></td>
</tr>
<tr>
<td>Lime / Bird</td>
<td>27</td>
<td>~22¢/Mile³</td>
<td>$150</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spin</td>
<td>49</td>
<td>+70%⁴ (30% farebox recovery)</td>
<td>$150</td>
</tr>
<tr>
<td>Bicycle</td>
<td>35</td>
<td>+80%⁴ (20% farebox recovery)</td>
<td></td>
</tr>
</tbody>
</table>

1 Fraunhofer ISI: “The Net Sustainability Impact of Shared Micromobility in Six Global Cities”
2 University of Illinois Chicago: “Taxing New Mobility Providers”
3 City Observatory: “Scooter Lessons: Success, but a stark double standard”
5 San Francisco Chronicle: “Another company leaves S.F., blaming ‘the most onerous regulations’ in the world”
### Success from joint commitment

#### Permit duration

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilots:</td>
<td>2 years</td>
</tr>
<tr>
<td>Permanent programs:</td>
<td>3–4 years</td>
</tr>
</tbody>
</table>

#### Selection process & criteria

- ![CO2](image)
- ![Heart](image)
- ![Shopping cart](image)

#### Equity programs

Monash University research found that **Lime Access riders are**:

- 5x more likely to ride daily
- 2x more likely to ride for utilitarian trips

#### Infrastructure investments

University of Southern California research shows that COVID-era **Slow Streets led to 50% - 75% increases in Lime ridership** compared to similar nearby streets.
Thank you.

Reach out with any Qs!
evancatlett@li.me
Extra slides
To build a future where transportation is shared, affordable and carbon-free.
Sustainability
Lime’s e-scooters & e-bikes reduce carbon emissions

E-scooters

- Net impact CO2e 2022 [g/km]
  - Berlin: -14.8
  - Dusseldorf: -22.1
  - Melbourne: -42.4
  - Paris: -20.7
  - Seattle: -37.7
  - Stockholm: -20.7

E-bikes

- Net impact CO2e 2022 [g/km]
  - Berlin: -20.4
  - Dusseldorf: -13.7
  - Melbourne: -15.4
  - Paris: -15.2
  - Seattle: -13
  - Stockholm: N/A
Lime Gen4 e-bikes and e-scooters are less carbon intensive than public buses and electric vehicles.

Error bars indicate (a) variations between cities due to electricity grid emissions or congestion and (b) a general uncertainty of +/- 25% across all LCA estimates.
Parking
Provide a dense parking network

Provide 1 corral on every block (every 200 meters, and at least 25 corrals/sq km)

![Parking Grid]

![Graph showing relationship between parking density and percent improper parking with R^2 = 0.75]
Safety
Safety is improving as more people and communities adopt micromobility

12% Increase in trips taken in North America over 2021

99.99% Of all trips were incident free

23.4% decrease in the rate of injuries requiring medical attention
Lime is committed to being a partner that cities can count on to achieve Vision Zero

- Lime vehicles are **designed in-house to prioritize safety** by incorporating insights from over 400 million rides.
- Lime makes **safe riding easy** by providing intuitive instructions and thoughtfully educating our riders on how to ride and park responsibly.
- Lime is **constantly innovating and testing new technologies** to improve safety for our riders and community members.
- Lime is uniquely positioned to help inform cities on **critical policy and planning decisions** through research and data sharing.
- Lime is a **proud supporter** of the Vision Zero Network, National Complete Streets Coalition and many other local initiatives to achieve safety for all.
Our Future Is Micromobility

2023 NACTO Designing Cities Conference
Providing the most reliable, sustainable, and loved urban transportation options

**Operations**
Lyft operates connected network of shared lightweight vehicles for urban areas

**Technology**
- Vehicles and software for riders to plan, optimize, and take a journey
- Stations and charging systems for warehouse and in-field use
- Tools for operators to efficiently manage and service a fleet

**Sales**
We sell and deliver hardware and software to 15 countries

160K+ bikes | 10K+ stations
We believe in station-based, city-led micromobility systems

- Strong city partnerships which achieve **symbiotic, strategic growth** of ridership and infrastructure
- Unified micromobility systems offering both bikes and scooters to **grow active travel** and serve a wide variety of use cases, from **commuting to recreation**
- Station-based systems providing **predictability, reliability, economic benefits**, and **community-building** as a place of gathering and interaction
- Sustainability initiatives focused on **reducing lifecycle emissions**, including pursuit of **station electrification**
Micromobility station electrification

Support the growth in ebikes popularity

Ebikes have increased in popularity and are seen as a more prominent car replacement for riders. 36% of Lyft’s ebike riders stated that they would have used a car-based form of travel if not for our ebikes.

Increase efficiency, decrease operational VMT and emissions

Our models show that electrifying ~20% of stations can reduce the need for battery swapping by up to 90% while reducing VMT significantly from operations.

Improve ebike fleet availability

Immediate, regular charging of ebikes in stations ensures far fewer ebikes ever reach low battery levels in the field resulting in higher fleet availability and increased usage.

Electrifying the curb

The curbside grid connections established would be electric mobility charging assets the city can use in perpetuity for bikeshare systems and/or other modes.
Where we’ve been & where we’re going

Docked Bikeshare

Dockless Bikes/Scooters

Docked Bikes and Scooters with Electrified Stations
Public investment supporting shared goals

Divvy for the Entire City: Divvy Service Hits All 50 Wards

May 2, 2023

Service area is now 234 square miles - the largest by area in North America. And as part of expanding operations citywide, Divvy will grow its fleet of classic bikes and add new stations on the Northwest, Southwest and Far South Sides.

MTC's Operations Committee approved a $16 million expansion of the Bay Wheels #bikeshare contract, which will add 2700 new e-bikes to the system and expand service areas, lower fees, and reduce per-minute e-bike charges. @seamlessbayarea

seamlessbayarea.org
Progress made towards regional, public micro-mobility — ... A $16M expansion of the Bay Wheels bike-share contract was approved by the MTC Operations Committee at their ...
Public private partnership

Regulatory Framework
- 5 year term length
- Two operators
- No fees to operate
- Utilization based fleet increases

Lyft Investment
- Next gen scooter
- 60+ stations/corrals
- Front line staffing program
- Electric fleet van pilot
Thank you!

joshuajohnson@lyft.com
Panel of Cities

Camille Boggan
Associate
NACTO

Kim Lucas
Director of Mobility and Infrastructure
Pittsburgh, PA

Stefanie Seskin
Active Transportation Director
Boston, MA

Lily Gordon-Koven
Director of Policy & Dockless Programs
New York City, NY
Today
3 - 4:15 PM  Shared Bikes, Shared Ideas  Centennial G

4:25 - 6 PM  Group ride - meet in  Centennial G
Advanced RSVP required

Tomorrow morning
8 - 9 AM  BIPOC-only Breakfast Meet & Greet
Register:  www.tinyurl.com/NACTO2023
Complete the feedback survey!

BBSP Shared Micromobility Roundtable