
Shareable Mobility Devices

Council Work Session #2

August 1, 2018

Key Topic Areas

1. Definitions
2. Safe Operations
3. Capping
4. Parking
5. Equity
6. Data Sharing Standards
7. Sustainability

Definitions					
Jurisdiction/Organization	Term	Does the definition distinguish between			Notable Feature
		Docked vs Dockless	Scooter vs Bike	Personal vs Shared	
National Association of City Transportation Officials (NACTO)	Small Vehicles <ul style="list-style-type: none"> Bikes, Scooters, e-bikes, e-scooters, and other small, wheeled vehicles Designed specifically for shared-use and deployed by <i>Shared Active Transportation</i> companies 	Both	Both (plus other)	Shared only	
Santa Monica (Pilot)	Shared Mobility Devices <ul style="list-style-type: none"> A transportation device for moving/propelling/drawing humans and is placed for rent in the public right-of-way and <i>Not</i> include vehicles regulated under existing code (e.g. car share, City bike share, taxis) 	Both (but excludes existing City Bikeshare)	Both (plus other)	Shared only	Broad definition that specifically excludes existing systems (e.g. current bikeshare)
Philadelphia (draft)	Small Vehicle <ul style="list-style-type: none"> Intended for single-person use Does not include vehicles that must be registered with PennDOT 	Dockless only	Both (plus other)	Both shared and personal	Excludes DOT registered vehicles
Austin (Emergency Rule Adoption)	Dockless Mobility Unit <ul style="list-style-type: none"> Part of a publicly offered system Used to convey people, goods, or services Does not require fixed docking stations 	Dockless only	Both (plus other)	Shared only	Includes devices that transport goods/services
Recommendation <ul style="list-style-type: none"> Clearly distinguish regulations that apply to personal vs shared devices Ensure regulations do not conflict with the state vehicle code Use broad definitions in line with NACTO's terminology - remain responsive to the emergence of future devices/technologies Be specific to dockless operators - City already has legislation defining docked operators 					

Safe Operations

State of Practice

Most jurisdictions rely on existing federal, state, and local regulations to determine minimum operating standards

Regulatory Category	Regulatory Option	Example Jurisdiction/Organization
Power	Motor to not exceed 750 Watts	<i>NACTO recommended; Federal Public Law; Seattle; Austin</i>
Speed	A maximum assisted speed of 15mph for e-bikes and e-scooters	<i>NACTO recommended; Charlotte (e-scooters only)</i>
Lights	Requirement of running front and back lights for all small vehicles	<i>NACTO recommended; St Louis</i>
General Device Specifications	References to existing municipal or state code	<i>Washington, DC Municipal Code - vehicle standards for e-bikes and e-scooters Austin, TX State Code – requires front light and rear reflector</i>
General Operating Specifications	References to existing ordinances	<i>San Francisco Ordinance – Prohibits biking on sidewalks Chicago Ordinance – Prohibits biking on sidewalks</i>

Existing State and City Code

Device	Safety	Sidewalks	Multiuse Trails	Parking
Bicycle (City Code Sec 150)	Bicycles must include specific safety elements including (e.g. brakes, front lights, rear reflector)	Prohibited if older than 13 years old	Allowed – must yield to pedestrians	Require least obstruction for pedestrians
Electric bicycle (State Code Title 40)	Under 1,000 Watts and max 20 MPH	Prohibited	Allowed	N/A
Segway (State Code Title 40)	Max of 750 Watts and max 25 MPH	Allowed	Unclear	N/A

Recommendation

- To the extent possible, rely on existing municipal regulations to establish device safety standards
- Allow devices to operate in the same spaces that bikes are permitted (e.g. bike lanes, streets, multiuse trails)
- Add maximum speed cap for electric devices (could be incorporated into the definition)
- Safe operations should not be limited to *shared* mobility devices

Capping			
Option	City Examples	Advantages/Benefits	Challenges/Concerns
No Caps There is minimum or maximum number of devices overall or per operator	<i>Dallas, TX</i> - Fee structure allowed for unlimited devices	Allows companies to respond to demand freely	Bikes were discarded across the City as supply far exceeded demand
Hard Caps Cities define firm minimums and maximums per operator	<i>Washington, DC</i> - 50 min/400 max <i>Seattle</i> - 500 min/No max <i>Chicago</i> - No min/350 max	Allows cities to control the number of bikes and attempt to control clutter	Forces cities to estimate demand based on incomplete information (e.g. usage; number of operators)
Cap by Device Type Hard caps for different devices	<i>Denver</i> - Max cap of 400 bikes/e-bikes and 250 e-scooters <i>Charlotte</i> - Min of 200 bikes and 50 e-scooters; Max of 500 bikes and 300 e-scooters	Creates space to regulate devices differently.	Hard to determine demand by device type – little data exists
Fixed Phased Capping Fleet may expand in increments based on established factors and level of use	<i>St. Louis</i> – Initial Cap of 750; increases by 350/month until 2,500. Further expansion requires rides per device to be increasing <i>Austin</i> - Initial Cap of 500; increase by 250 if maintains avg of 2 rides/device/day	Allows number of devices to expand and contract with demand	Potentially favors existing and established companies
Flexible Phased Capping Empowers the City to adjust caps based on several factors including market needs, number deployed, utilization, and other factors identified by the City	<i>Santa Monica</i> – Minimum devices set at 250; “Director” can adjust cap no more than weekly or 14 days after adjustment by Council <i>Durham</i> - Operators determine fleet size at permitting, City can adjust as necessary	Allows cities to be responsive to changing conditions	Administrative regulations required to establish criteria
Additional Considerations <ul style="list-style-type: none"> Newness of these different frameworks makes it difficult to speak to their relative effectiveness Atlanta’s docked bike share legislation requires operators launch with a minimum of 500 bikes. 			
Recommendation - Flexible phased capping <ul style="list-style-type: none"> Establish minimum and maximum fleet sizes All caps apply for all operators Empower the Director of the Office of Mobility Planning to adjust permitted fleet sizes (applies to all operators) based on need, total number of devices deployed, usage, and other criteria in administrative regulations 			

Parking

Standard Elements Across Options

Be consistent with existing laws - Devices must be parked upright; legally; and in a way such that they do not create a public safety hazard

Allow flexibility - The Director is empowered to identify **parking areas** (e.g. designated parking space) or **no-parking areas** (e.g. Specific blocks)

Option	City Examples	Advantages/Benefits	Challenges/Concerns
Unrestricted Public accessibility (or minimum pedestrian clear zone) must be preserved	<i>Santa Monica</i> – do not block “access to the Public Right-of-Way” <i>Washington DC</i> –maintain pedestrian space (min 5 ft)	Simple structure; allows flexibility	Can be difficult for both users and enforcement to determine infractions
Furniture Zone/Bike Rack Priority Devices must be parked in paved <i>Furniture Zone</i> or at <i>bike racks</i> when available Devices must not block access to driveways, bus stops, loading zones, disabled parking spaces, benches	<i>Seattle (bikes only)</i> Should park in furniture zones (>3ft) or at bike racks; Otherwise, keep travel lane and 6-foot pedestrian lane clear	Easier to determine compliance in areas with furniture zones, but can get complicated in other areas	Creates different rules for areas with different sidewalk typology
Lock-To Requirement Devices must be capable of locking to a fixed object	<i>Austin</i> – By 8/1/18 devices must be able to lock to a bike rack <i>Chicago</i> – To exceed 50 bikes, bikes must be able to lock to a bike rack, street sign, or retired parking meter	May be able to better control location of parked devices	May limit use in certain areas Burdensome for many operators especially scooters

Additional Elements

Corner Restriction Bicycles must not be parked at street corner	<i>Seattle</i> – cannot park within “corner radius” <i>Dallas</i> – cannot park within 5 feet of a crosswalk or curb ramp	Helps preserve ADA access and sight distances	May be overly specific without enhancing operations
Customer Incentives Operators provide a plan on how they will incentivize customers to park safely and correctly	<i>Austin</i> – By August 1, 2018, device must provide haptic feedback when user has parked in a geo-fenced area <i>Santa Monica (pilot)</i> – Applicants submit plans for safety programs <i>St Louis</i> – Operators will submit plan on how they will incentivize customers to park safely and correctly	Provides means to work with operators to continue better reach customers and prioritize safety and accessibility	Enforcement remains a challenge

Recommendation – Unrestricted Model

- Maintain pedestrian space (minimum 5’) and encourage parking in the furniture zone or at bike racks
- Require operators to develop a plan for how they will incentivize customers to park safely
- Empower the “Director” through “Administrative Regulations” to have the ability to
 - Identify specific **parking areas** (e.g. designated parking spaces, geocoded locations) and **no parking areas** (e.g. entire blocks or other areas within the City)
- City has the right to impound devices in violation of regulations at the operators’ expense. The City may dispose of devices if unclaimed by the operator after 10 days.

Equity			
Option	City Examples	Advantages/Benefits	Challenges/Concerns
<p>Employment Operators are encouraged to train/employ local residents from historically disadvantaged groups</p>	<p><i>Chicago Pilot</i> – Vendors are encouraged to develop an equity hiring plan to train/employ local residents from historically disadvantaged groups</p> <p><i>St Louis/Minneapolis Permit</i>– Vendors must provide org chart and City demonstrates strong preference to hire locally</p>	<p>Would encourage operators to be engaged with Atlanta</p>	<p>May not have any real impact on operations or hiring</p> <p>May be more appropriate for a pilot program than this legislation</p>
<p>Financial Access Operators must provide options for non-smart phone and non-credit card memberships</p> <p>(Low income generally defined as at or below 200% of federal poverty level)</p>	<p><i>Austin and Minneapolis/St Paul</i> - Include an affordable non-smart phone option</p> <p><i>Los Angeles (pending), San Francisco, and Palo Alto</i> – Provide “affordable” plan with cash payment option providing low-income customers with one-year of unlimited trips under 30 minutes</p> <p><i>Minneapolis/St Paul</i> requires a discounted option for low income users</p>	<p>Ensures services are available to a larger population</p>	<p>Cities have a limited ability to determine what “affordable” means to the company.</p>
<p>Access and Reliability Cities can create specific distribution requirements to provide a more equitable distribution.</p> <p>Cities are empowered to identify and adjust equity zones over time.</p>	<p><i>St Louis</i> – At least 20% of bikes must be within designated equity area. With City permission, operators may exceed operation cap if an equity plan is implemented</p> <p><i>Boulder</i> – Operators must distribute bikes to specific areas identified in “City Manager Rules” which include transit stops</p> <p><i>Chicago Pilot</i> – Operators must distribute bikes such that a minimum of 15% of the fleet is available in each quarter of the service area according to an equitable distribution map</p> <p><i>Durham</i> – Operators must distribute bikes such that at least 20% of bikes (daily average) are located within designated low-income areas</p>	<p>Creates a practical means for diversifying deployment that does not rely on rebalancing throughout the day.</p>	<p>These requirements are difficult to monitor/enforce. Cities are conducting manual spot check, but there is an opportunity to automate the process using a public API (e.g. Portland)</p>
<p>Recommendation – All of the above</p> <ul style="list-style-type: none"> • Encourage vendors to hire/train/team with local residents/businesses • Require inclusion of an “affordable” non-smart phone and non-credit card payment option for low-income residents • Empower Director to establish equity zones and percentage distribution (distribution and boundaries may change based on consideration of number of total devices, functional service area) 			

Data Sharing Standards

Why is mobility data sharing important?

- NACTO calls data standards an area "where all cities should be in alignment"
- Provides objective oversight
- Informs planning efforts

What is an API?

- "Application programming interface", aka "data feed"
- Specifications and protocols for data delivery that makes it useable for different platforms

Data Requirement	Content Examples	State of Practice - Peer Cities	NACTO Recommended?	Required from Relay?
Open API A public API feed of specified, anonymized trip/device data	<ul style="list-style-type: none"> • Device ID number • Trip duration and distance • Trip start time/date, end time/date, • Start/end location (e.g. census block) 	<ul style="list-style-type: none"> • Requirement is a nationally established practice • NACTO highlights Los Angeles & Chicago as models 	Yes	Yes
Monthly or Quarterly data reports Aggregated spreadsheet data	<ul style="list-style-type: none"> • Number/type crashes during report period • Total number of trips • Number of distinct users • Number of users by trip frequency (e.g. users with 1-10 trips/month; 10-20; 20+) 	<ul style="list-style-type: none"> • Required by many peer cities, including Austin, TX, Washington DC; and Seattle, WA 	Yes	Yes
Survey Operators circulate an optional user survey designed by the City	<ul style="list-style-type: none"> • Demographics (e.g., age, gender, race) • Transit habits • Trip types associated w/mobility device • Perceptions of service/availability 	<ul style="list-style-type: none"> • Required by many peer cities, including Charlotte, NC; St. Louis, MO; & Seattle, WA 	Yes	Relay works with the City to deploy surveys

Recommendation

- Align with NACTO recommendations to ensure consistency with peer cities
 - Top priority is requiring a public API and monthly reports
- Retain right to geofence areas

Sustainability

Background

- Batteries powering e-scooters/e-bikes contain toxic & corrosive materials hazardous if not properly disposed of
- Life-cycles of these devices under heavy use is unclear
- Little consideration of sustainability in peer cities' recommendations
- In California, all batteries considered hazardous waste - must dispose by recycling or through hazardous waste facility

Existing Example – San Francisco

San Francisco requires operators to

- Comply with City's Zero Waste Policy
- Properly dispose of hazardous components
- Reduce need to replace scooters by managing repair
- Redistribute/repurpose scooters as much as possible

Recommendation

Atlanta could serve as a leader in the field by integrating sustainability into the legislation

- Operators submit a sustainability plan at application - protocols for disposing of devices unsuitable for repair
- Not intended to be overly prescriptive
- Permit revoked for significant/chronic failure to adhere to general provisions of plan