

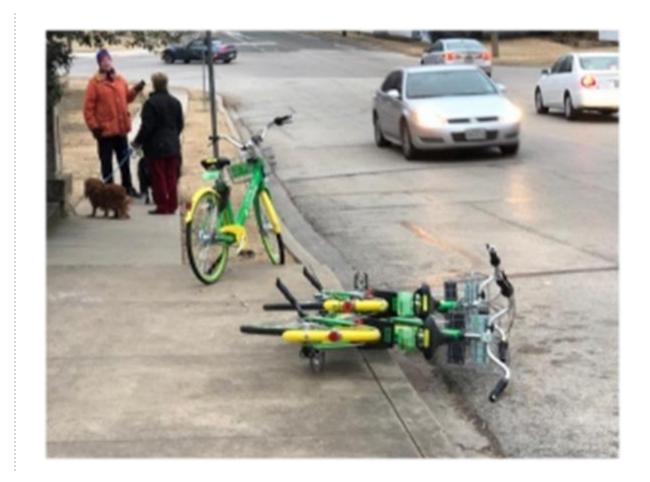
Dockless Mobility
Device Parking

in High-Density
Commercial
Corridors

Emmanuel Okoro, Paul Davidson, Gina Vlach, Josie Willman

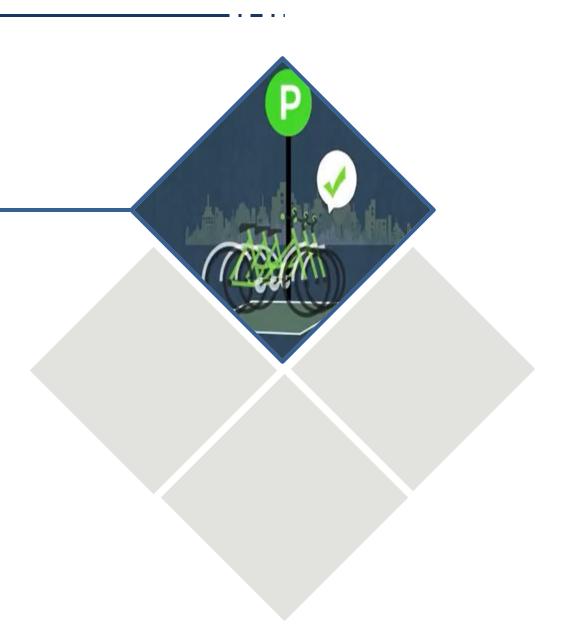
CHALLENGES

- Parking Where?
 - Right-of-way concerns
- Newness of dockless
- User accountability

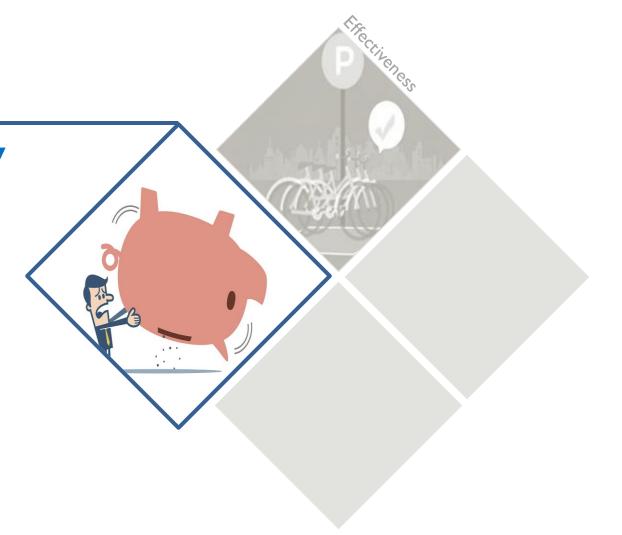


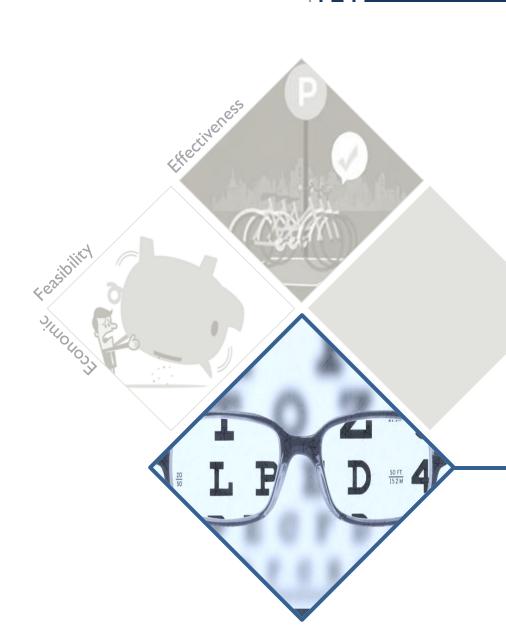
Effectiveness

Hold users accountable for parking dockless devices

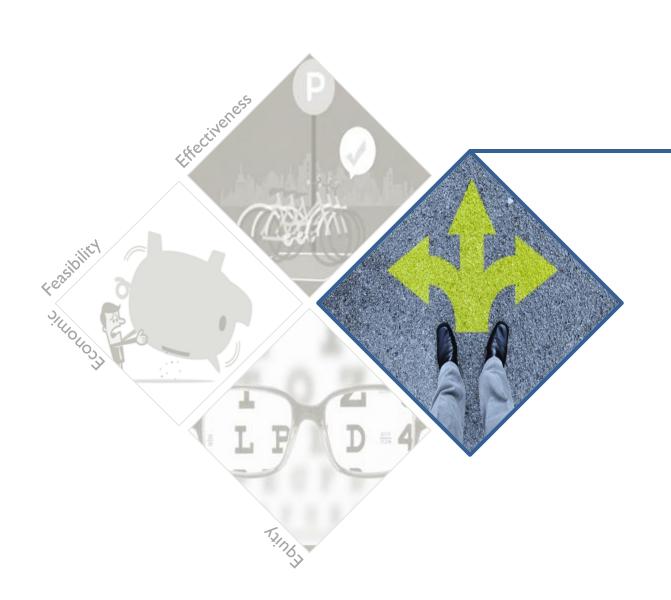


Economic Feasibility
Not cost prohibitive
for operators to enter
Milwaukee market





Equity Guidelines understandable for all user demographics



Flexibility Provide parking methods proportional to changes in quantity of deployed devices

PARKING PENALTIES



- Bicycle parking ordinance
- Parking Checkers (DPW)
- Citations case-by-case

GEO-FENCING

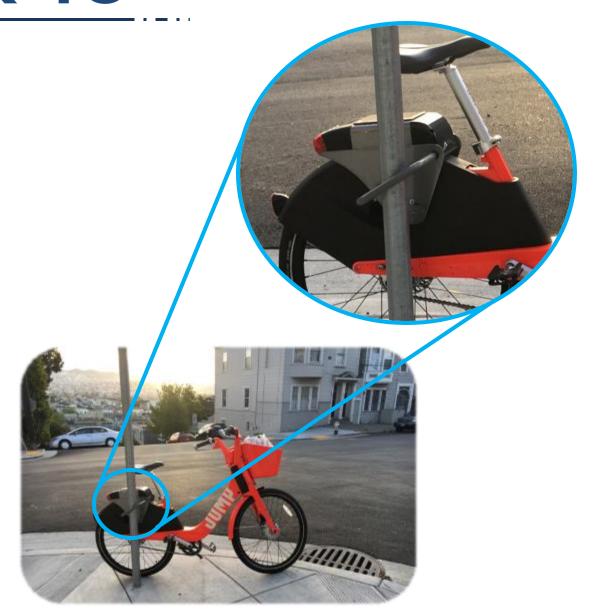
(in designated painted boxes)

- Virtual perimeter using GPS
- Visible boundaries
- Case studies



LOCK-TO

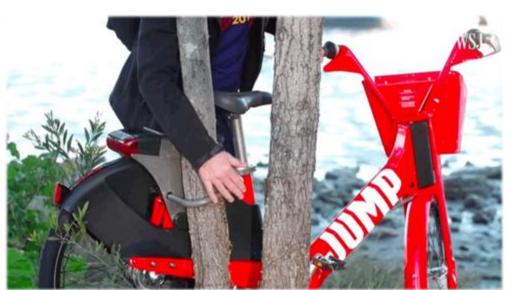
- Required technology
- Infrastructure needs
- Theft and vandalism concerns
- Scooters?



LOCK-TO & PAINTED BOXES

- Combination alternative specific to each type
- Timing considerations
- Spacing and infrastructure
- Case studies





EVALUATION

	Effectiveness	Economic Feasibility	Equity	Flexibility
	Hold users accountable for parking dockless devices by December 2019	Not cost prohibitive for operators to enter Milwaukee market	Guidelines understandable for all user demographics	Provide parking methods proportional to changes in quantity of deployed devices
Alternative #1	YES	NO	NO	YES
Parking Penalties	60 existing parking checkers can assess parking noncompliance	Assessing fines likely to be cost-prohibitive	Ordinances may not be understandable by all users	Tehcnology and man-power exists to assess influx of devices
Alternative #2	NO	NO	YES	NO
Geo-fencing & Painted Boxes	Painted boxes can, but GPS technology used by operators is not accurate enough yet	Cost to equip each device with the needed GPS technology is costly	Operators already use multi- media, multi-language materials	Requires greater coordination, investment, and labor to rollout
Alternative #3	NO	NO	YES	YES
Lock-to	Lock-to techolongy currently does not exist for scooters	Requiring scooters to have lock- to technology could be cost- prohibitive for operators	Operators already use multi- media, multi-language materials	Plenty of exisintg parking infrastructure and more racks purchased by City for installation
Alternative #4	YES	YES	YES	YES
Lock-to (Bicycle) & Painted Boxes (Scooter)	Plenty of existing parking infrastructure and space for painted boxes on sidewalks	Lock-to technology exists for bicycles and painted boxes exist in other cities	Operators already use multi- media, multi-language materials	Enough existing parking infrastructure and space for painted boxes to adapt

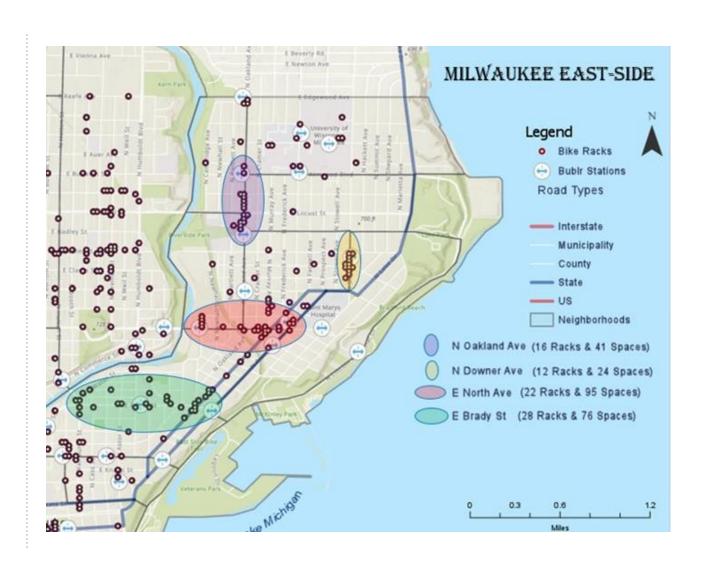
EVALUATION

	Effectiveness	Economic Feasibility	Equity	Flexibility
	Hold users accountable for parking dockless devices by December 2019	Not cost prohibitive for operators to enter Milwaukee market	Guidelines understandable for all user demographics	Provide parking methods proportional to changes in quantity of deployed devices
Alternative #1	YES	NO	NO	YES
Parking Penalties	60 existing parking checkers can assess parking noncompliance	Assessing fines likely to be cost-prohibitive	Ordinances may not be understandable by all users	Tehcnology and man-power exists to assess influx of devices
Alternative #2	NO	NO	YES	NO
Geo-fencing & Painted Boxes	Painted boxes can, but GPS technology used by operators is not accurate enough yet	Cost to equip each device with the needed GPS technology is costly	Operators already use multi- media, multi-language materials	Requires greater coordination, investment, and labor to rollout
Alternative #3	NO	NO	YES	YES
Lock-to	Lock-to techolongy currently does not exist for scooters	Requiring scooters to have lock- to technology could be cost- prohibitive for operators	Operators already use multi- media, multi-language materials	Plenty of exisintg parking infrastructure and more racks purchased by City for installation
Alternative #4	YES	YES	YES	YES
Lock-to (Bicycle) & Painted Boxes (Scooter)	Plenty of existing parking infrastructure and space for painted boxes on sidewalks	Lock-to technology exists for bicycles and painted boxes exist in other cities	Operators already use multi- media, multi-language materials	Enough existing parking infrastructure and space for painted boxes to adapt

RECOMMENDATION

- Individual solutions to individual devices
- Existing infrastructure
- BID support (flexibility)

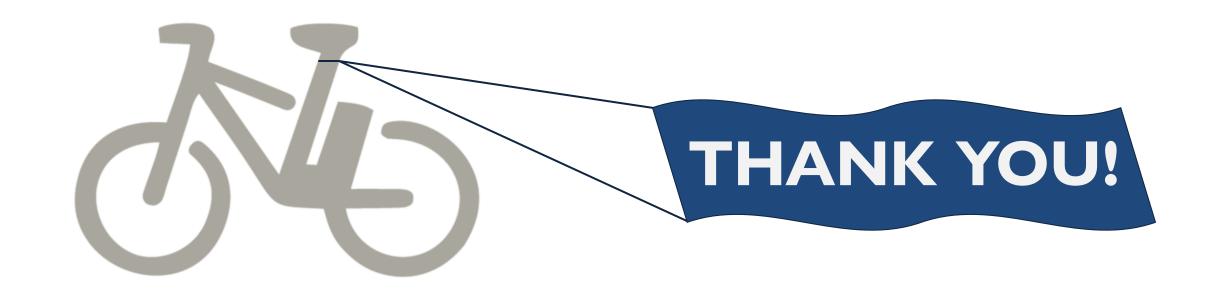


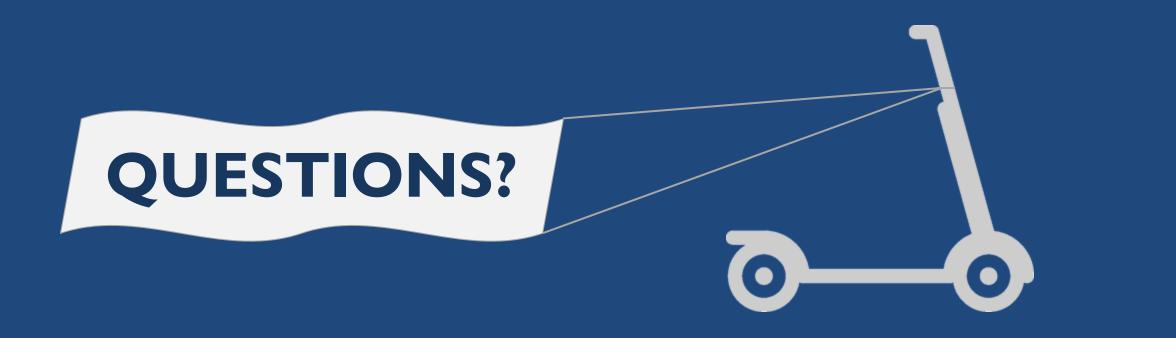


MONITORING

- Monthly basis
- General Bikeshare Feed Specification
- Fee analysis
- Surveys
 - Businesses & residents
 - Online option







APPENDIX

User Accountability

Our Definition

- 1) User's responsibility to park their device in compliance with the City's regulations
- 2) User's obligation for any consequences brought forth by the noncompliant parking of their dockless mobility device

Critical factor influencing the ability of the user to park in compliance is:

The provision of information and structures which enable the user to adhere to the City's expectations.

APPENDIX

Singapore LTA Example



