

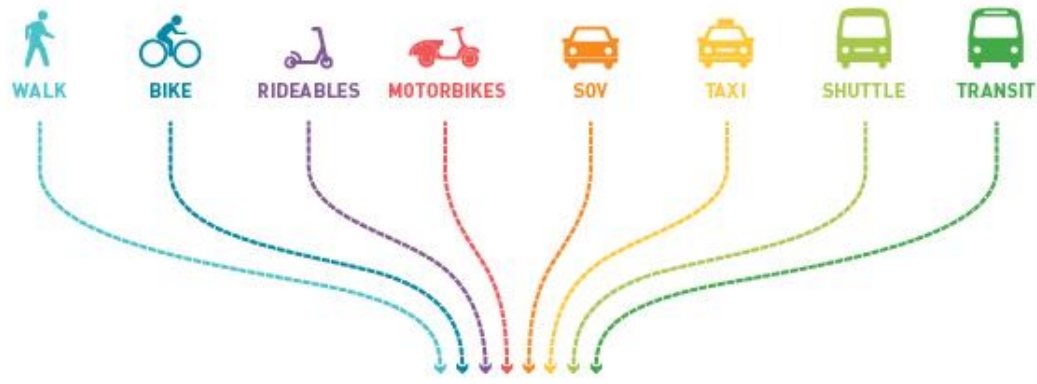
# THE RISE OF MICROMOBILITY

JEAN CROWTHER, AICP

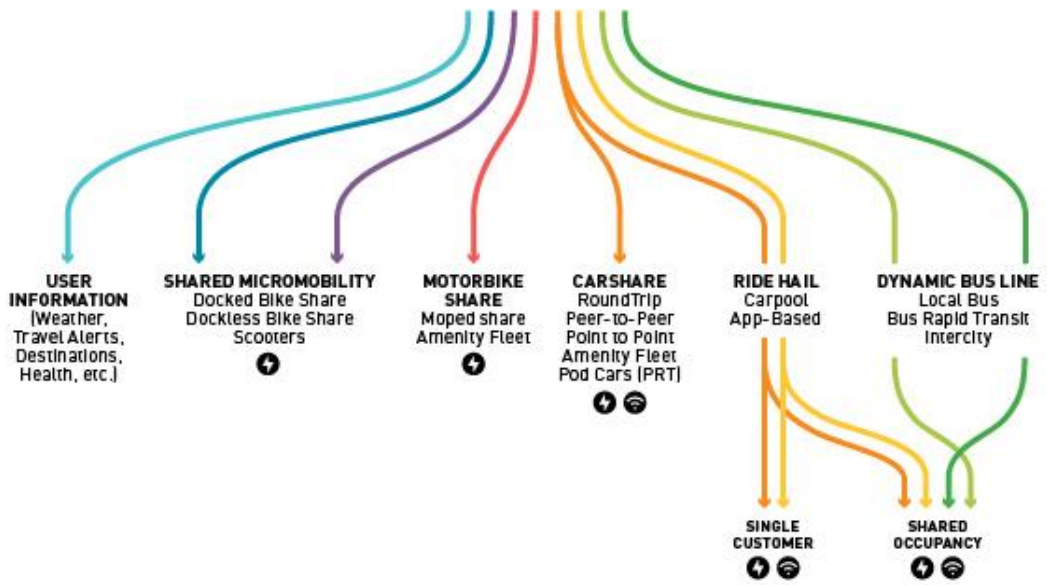
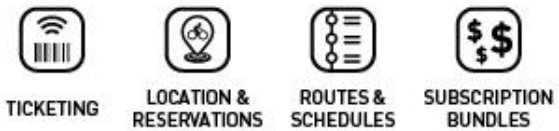
ALTA INNOVATION LAB

SEPTEMBER 20, 2018

[WWW.ALTAPlanning.COM](http://WWW.ALTAPlanning.COM)



**MOBILITY-AS-A-SERVICE**



- Electric Models
- Autonomous Models



2017+  
Dockless



A016001214

# 2018+ Expanding the Suite



# Multimodal Private Sector

## Uber is piloting a bike-sharing service with JUMP

Posted Jan 31, 2018 by Megan Rose Dickey (@meganrosedickey)



Next Story



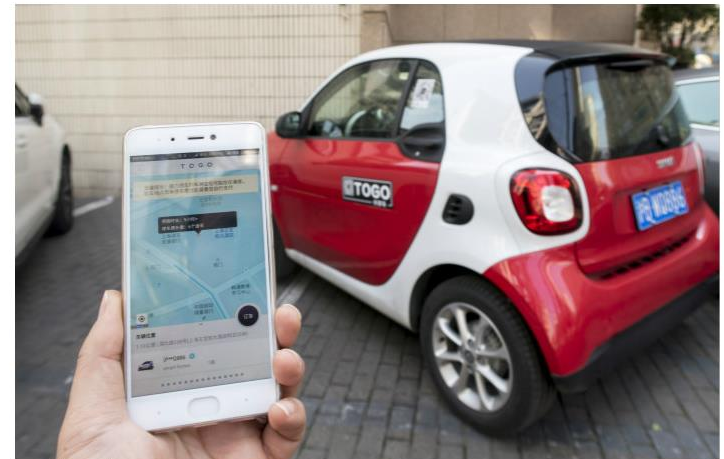
SAMSUNG

Nov 07, 2017 02:55 AM

BUSINESS & TECH

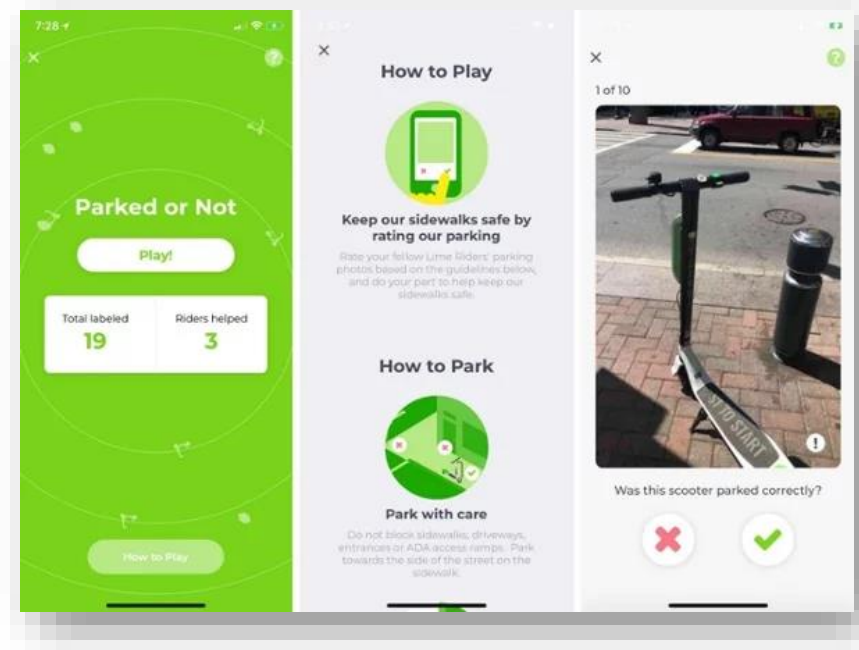
## Mobike Pedals Into Car-Sharing

By Mo Yelin



# Dockless Permits: Trends

- Tension among caps, coverage rules and response times
- Aggregation for Mobility-as-a-Service
- Sponsored infrastructure upgrades
- Use of in-app education and rider engagement



# Dockless Permits: Trends

## This is how Portland E-Scoots!



# Dockless Permits: Trends





# First/Last Mile



# Dockless Permits: Trends

- Proactive compliance & enforcement
- Increase in # vehicles
- Parking strategies
- Caps on number of companies
- Enhanced equity requirements
- Increase usage for first/last mile
- Funding for program management (net zero cost to city)

# On the Horizon...

- E-bike share
- Continued integration with transit
- Continued expansion to underserved neighborhoods
- Meaningful data and data specifications
- New financial models

# Aggregation Challenge

14:43

55 4th St

**BIRD**

1 minute  
Electric Scooter  
Battery Level: 66%

Unlock in Bird

14:43

55 4th St

**SPIN**

2 minutes  
Electric Scooter  
Battery Level: 100%

Unlock in Spin

09:05

1300 Massachusetts Ave NW

**WAYBOTS**

3 minutes  
Electric Scooter

Unlock in Waybots

09:05

1300 Massachusetts Ave NW

**LimeBike**

3 minutes  
Electric Scooter  
Est. Range: 22 mi

Unlock in LimeBike

Once you find a scooter, we'll deep-link you to the corresponding app, so you can unlock it. Easy peasy.

# Charging Challenge



## Current

- Companies recharge at night
- Companies swap batteries
- Paid "Juicers"
- BYOB (as in battery)

## Emerging

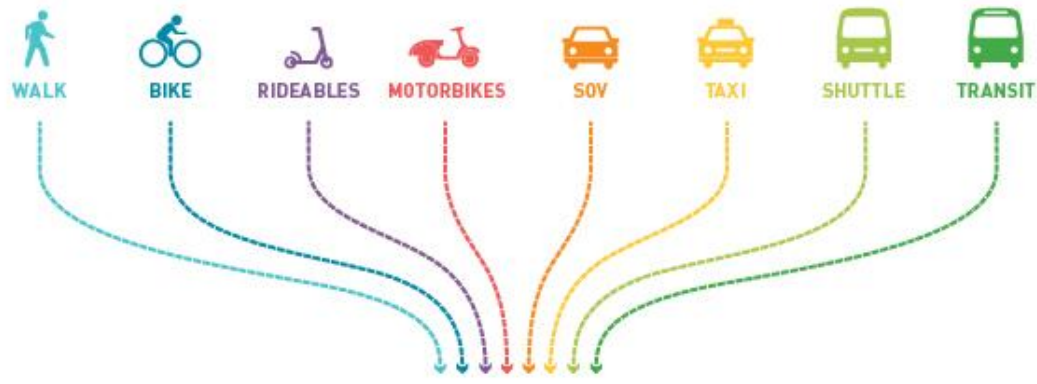
- Multiple, proprietary recharging stations?
- Single standard for recharging for all vehicles?
- Single swappable battery?

***"Whoever can solve that at scale in many cities is going to have a very strong operating advantage,"***  
Rzepecki says.

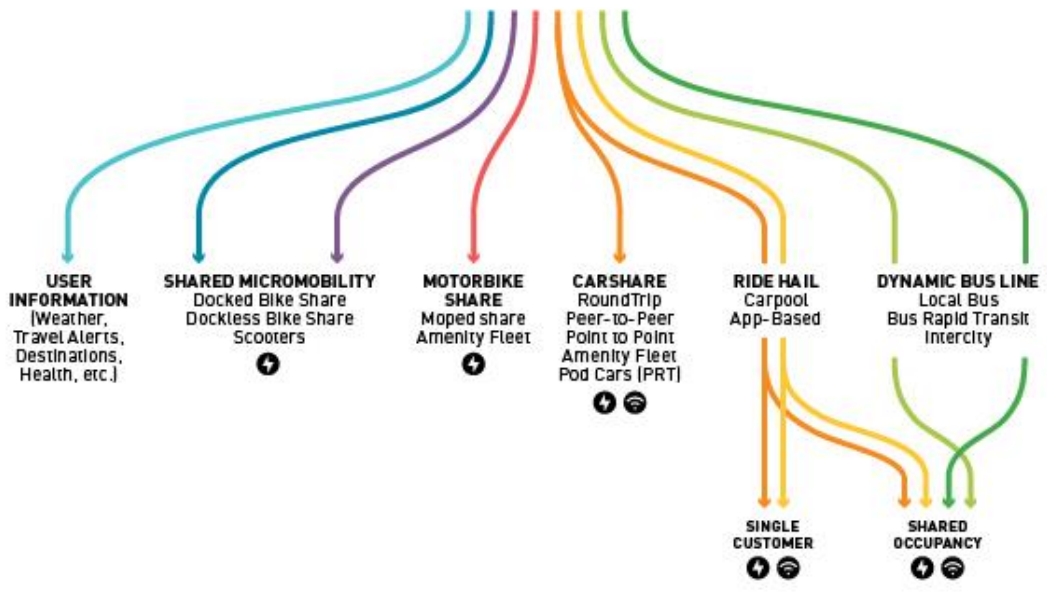
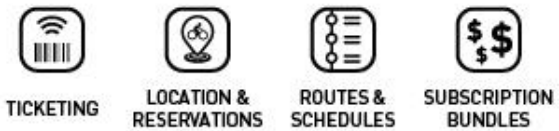
(Curbed, June 28, 2018; <https://www.curbed.com/2018/6/28/17515758/electric-bike-share-cycling-city-transportation>)

# Mobility Hub Integration





**MOBILITY-AS-A-SERVICE**



- Electric Models
- Autonomous Models