Introduction to “Micromobility” Devices

Dr. Kevin Fang – Sonoma State University
Urbanism Next Conference – May 8, 2019
Growing use of e-scooters reflects increasing demand for micro-mobility.

Pocket-sized personal transporters could soon be seen on the streets of Tokyo.

In the move toward personal mobility devices, D.C.’s poorest are left behind — again.

Last mile electric vehicles to become legal in Germany. A change of law will harmonise Personal Light Electric Vehicle regulation.
Traditional human-powered devices

Roller skates/in-line skates

Kick/push scooters

Skateboards

Often thought of in recreational contexts first, but demonstrated use for utilitarian purposes...
Traditional human-powered devices

Skateboard travel statistics...

California: 0.14% of trips
→ Equates to 48 million miles/year

CA Household Travel Survey (2012)

Los Angeles Metro Transportation Authority
~30,000 skate trips to/from bus stops and train stations

Portland, Oregon
Skateboarders observed at 79% of intersections

University of California, Santa Barbara
More students skateboard to school (7%) than drive cars (6%)
Motorized “traditionals”

Motorized skateboards

Motorized (kick) scooters

4 month pilot in Portland (2018)

700,369 trips covering 801,887 miles
These have actually been around awhile...

US Postal Service workers (1915)

Amelia Earhart and actress June Travis (1935)

https://goner.io/blogs/news/a-brief-history-of-scooters
“New” electric devices

In regulations, referred to as “Electric Personal Assist Mobility Devices (EPAMDS)”

Martha Stewart, living...
“New” electric devices: E-Unicycles?

Unicycle version of an EPAMDs?

Electric unicycle/skateboard hybrids?
And even more...

Rideable luggage

Motorized cooler

Our new robotic overlords...
Not just the domain of tech startups...
Name-brand corporations interested as well

Honda uni-Cub

Toyota i-Real
Devices for different user groups...

Devices for the general population

Devices for individuals with mobility challenges

Devices for kids/Electric cars for kids
They’re here! Questions for cities...

How should users operate the devices?

How do we manage fleets of dockless devices?

For the most part, little existing policy that specifically apply to these devices → No normal.
When present, rules often restrictive...

...In ways conventional modes are not similarly restricted

Delaware

MOTORIZED Scooters and skateboards

Motor must be off on streets and sidewalks

New Jersey

MOTORIZED scooters

Only

Six California cities

Skateboards
Inconsistency: Place to place

Motorized scooters on sidewalks

4 states:
Explicitly CAN NOT

2 states:
Explicitly CAN

Denver, CO:
MUST ride
on sidewalks
(devices classified as “toy vehicles”)
## Inconsistency: Device to device

<table>
<thead>
<tr>
<th></th>
<th>Motorized scooters</th>
<th>California</th>
<th>Motorized skateboards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helmets for adults</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Need Drivers Licenses</td>
<td>Yes</td>
<td>No</td>
<td></td>
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<tr>
<td>Sidewalk Riding</td>
<td>No</td>
<td>Yes</td>
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</tr>
</tbody>
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State Assembly Minority Leader Kristin Olsen
Inconsistency issues

- **Unclear rights and responsibilities** for device users and other travelers
- **Fairness** – within the suite of devices and particularly in comparison to cars
- **Rationality** – can opposite regulations both be backed up with evidence?
Thank you!