

# Emerging Technology and Mobility Options in City Right-of-Way



# Statement of Legislative Intent 35-3-A-1

1. A survey of anticipated new mobility options like scooters, “transit pods,” and other non-motorized vehicles, that may be coming to Seattle in the next three to five years;
2. An evaluation of other cities’ efforts to address these emerging private transportation investments; and
3. A strategy to integrate these options into the transportation network in a safe and sustainable manner, including the possibility of utilizing bike lanes for these modes of transportation.





# Guiding Principles

- Put people and safety first
- Design for customer dignity and happiness
- Advance race and social justice
- Forge a clean mobility future
- Keep an even playing field
- Maximize public benefits
- Be responsible stewards of public resources



# Potential Benefits of Emerging Mobility

We can...

- accommodate growth without increasing congestion
- enable more transportation options
- build a more responsive transportation system
- create a more equitable transportation system
- have a safer and greener transportation system

# Potential Risks of Emerging Mobility

We could...

- have more congestion and more pollution
- have more inequity
- erode support and resources for public transit
- disrupt the economy and lose jobs faster than innovation creates them
- have a system we don't understand, can't manage, and can't protect

# Emerging Mobility Options

## Included in SLI Response

- E-bike and e-trike
- E-scooter
- Electric personal assistive mobility device (EPAMD)
- Personal delivery device (PDD)
- Automated transit pod

## Not included

- Carsharing
- Ride-hailing
- On-demand micro-transit
- Aerial drone

# E-bike





# Success of Bikeshare

- 2 million rides last year
- Mayor Durkan made bike share permanent in 2018
- Changes made based on pilot lessons:
  - Expanded citywide coverage
  - Increased access to address equity (e.g., payment options)
  - Improved bike parking management requirements
  - Increased bike parking capacity
- Over 400k trips through April in 2019





# E-trike for Sharing



# E-trike for Delivery





# E-scooter





# Electric Personal Assistive Mobility Device (EPAMD)



Hoverboard



Uni-wheel



Onewheel

# Personal Delivery Device (PDD)





# Transit Pod and Delivery Shuttle





# Device Ownership Models

DEVICE	PRIVATE/PERSONAL	SHARED	COMMERCIAL FLEET (NOT SHARED)
E-bicycle	✓	✓	✓
E-tricycle	✓	✓	✓
E-scooter	✓	✓	
E-skateboard	✓		
EPAMDs (hoverboards, uni-wheels, and onewheels)	✓		
Personal delivery device/ delivery robot			✓
Automated transit pod			✓

# Use of ROW in Seattle

DEVICE	TOP SPEED	ALLOWED			
		SIDEWALK	BIKE LANE	ROADWAY	MULTI-USE TRAIL
E-bike, Class 1	20 mph	✓	✓	✓	✓
E-bike, Class 2	20 mph	✓	✓	✓	✓
E-bike, Class 3	28 mph		✓	✓	
E-trike	20 mph	Same as e-bikes classes under state and local code			
E-scooter	20 mph			✓	
E-skateboard	20 mph	✓			
Electric Personal Assistive Mobility Device (EPAMD)	20-25 mph	✓		✓	
Personal Delivery Device (PDD) or Delivery Robot	6 mph	✓			
Automated Transit Pod	25 mph			✓	



# State of Practice: Experimentation

- Determine if, where, and how devices should be ridden and parked
- Make necessary code updates
- Develop pilot programs



# Learnings from Other Cities

- No comprehensive road map
- Establish clear definitions and guiding principles
- Pilot programs
- Engage the community
- Gather data
- Clearly define *where* to operate
- Clearly define *how* devices may operate
- Manage parking clutter
- Provide education and enforcement



# Summary of Potential Next Steps

- Pilot programs (e-scooter pilot in development)
- Policy and legal framework upgrade
- Education and enforcement
- Data collection and analysis
- Design standards and right-of-way allocation

# E-scooter Pilot Program Principles (Planned Action)

- Safety
- Fairness to riders
- Protection of the City (and taxpayers) through full indemnification
- Equity



# E-scooter Pilot Program Development

Safety is first and foremost:

- Incorporate best safety practices from other cities
- Define helmet requirements
- Create education campaign
  - How to properly ride a scooter
  - Rules of the road



# Example: Education Campaign





# E-scooter Pilot Program Development (cont.)

- Engage community to help shape pilot
- Determine where and how to:
  - Ride and at what speeds
  - Park
  - Collect data
- Require full indemnification provisions
- Establish fines and enforcement
- Define minimum threshold for remaining shared bikes

# Other Potential Next Steps



# Policy and Legal Framework Upgrade

- Review and upgrade regulations
- Refresh City's existing principles
- Define where devices can operate and park
- Revisit modal priority to inform regulations
  - Operate in bike lane?
  - Evaluate based on safe speeds





# Education and Enforcement

- Wayfinding and signage
- Training and education of enforcement authorities
  - Police
  - Street ambassadors
  - Other partner agencies and organizations

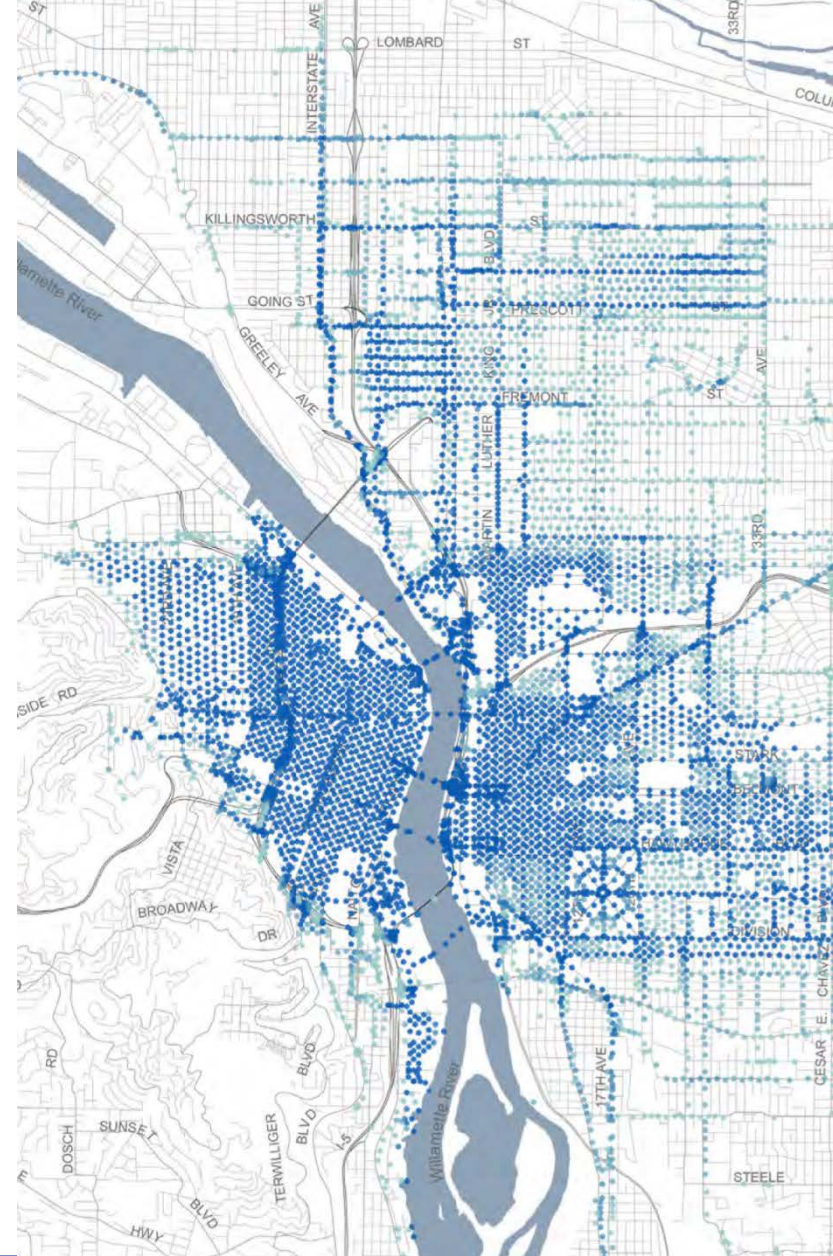


Potential to adapt a variation of the trail courtesy sign for ROW

# Data Collection and Analysis

- Establish baseline usage to help inform policy decisions
- Require data as part of any pilot
  - Commercial services
  - Private vehicles

E-scooter data from 2018 pilot in Portland



# Design Standards and Right-of-Way Allocation

- Consider designation of low-intensity travel lanes in strategic locations
- Integrate emerging mobility devices into street design guidelines
- Manage the sidewalk
- Provide marked parking space or zones





# Questions?

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