

# Just Another Way to Ride

## Exploring the Potential of Adaptive Cycle Sharing



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Washington Bike Summit  
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**Seattle**  
Department of  
Transportation

**W**  
UNIVERSITY of  
WASHINGTON

# SDOT's Mission, Vision, and Core Values

**Mission:** deliver a high-quality transportation system for Seattle

**Vision:** connected people, places, and products

Committed to **5 core values** to create a city that is:

- Safe
- Interconnected
- Affordable
- Vibrant
- Innovative

For **all**

# Presentation overview

- What are adaptive cycles?
- What can adaptive cycling offer people with disabilities?
- What can adaptive cycling offer people of all abilities?
- How can cycle sharing increase adaptive cycle access?





**What Are Adaptive Cycles?**



# What Are Adaptive Cycles?

*"Adapted cycles make cycling accessible to all, whatever your personal challenges."*

*There are a wide range of special cycles that suit people with a variety of learning and physical disabilities, as well as health issues."*

*-Cycling UK*

# Tricycles

- Upright vs. Recumbent
- Delta vs. Tadpole
- Cargo?



# Handcycles



# Tandem Cycles





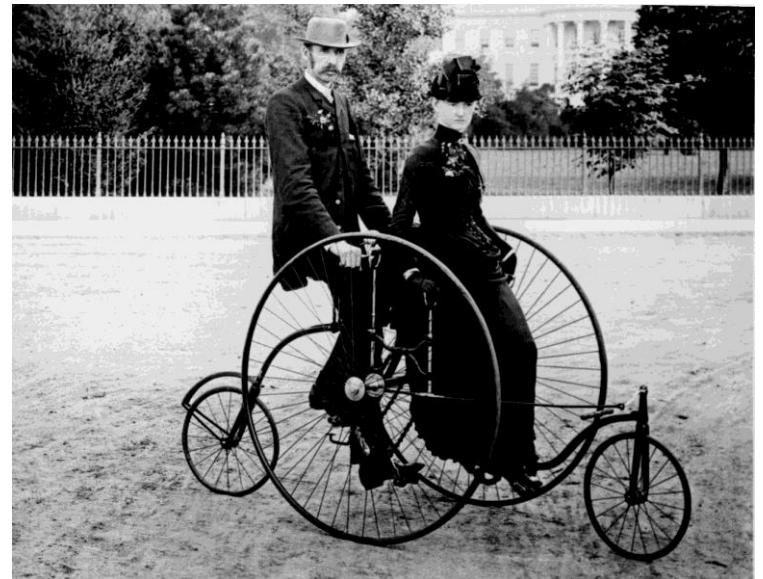
# And More...

- Prone cycles
- Electric pedal assist
- Heavy Duty cycles
- Grips and braces
- Individual customizations



# Adaptive Cycling in History

- Early cycling (before 1880): experiments on two, three, four wheels
- 1880-1900: safety bicycle becomes the default design
- 1900-1970: automobile boom, cycling bust
- 1970-present: (bi)cycling resurgence



# Adaptive Cycling and Disability

## Opportunities

- The right configuration or modifications allow nearly anyone to cycle
- Recreation, exercise
- Transportation, errands
- Socializing and building culture
- Empowering





# Adaptive Cycling and Disability

## Challenges

- Economic barriers
  - Expense
  - Small retail market
  - Smaller sharing market
- Information barriers
  - Lack of awareness
  - Stigma
- Limited support
  - Political barriers
  - (Bi)cycling culture



# Adaptive Cycling and All Abilities

- Don't self-identify as disabled
- Temporary illness or injury
- Elders
- Lifelong cycling
- Never learned
- Anyone's daily needs or wants



**Andres Salomon #DreamActNow** @Andres4Seattle · Apr 18

🚲 Bicycles 🚲 Are 🚲 Mobility 🚲 Devices 🚲

🚲 Just 🚲 Like 🚲 Wheelchairs 🚲 And 🚲 Walkers 🚲

**Queen Anne Greenways** @QAGreenways

I hurt my toe about a week ago and have been barely able to walk (getting better tho). I've basically been using bike share as a wheelchair. Not sure what I would do without it. @seattledot

Show this thread





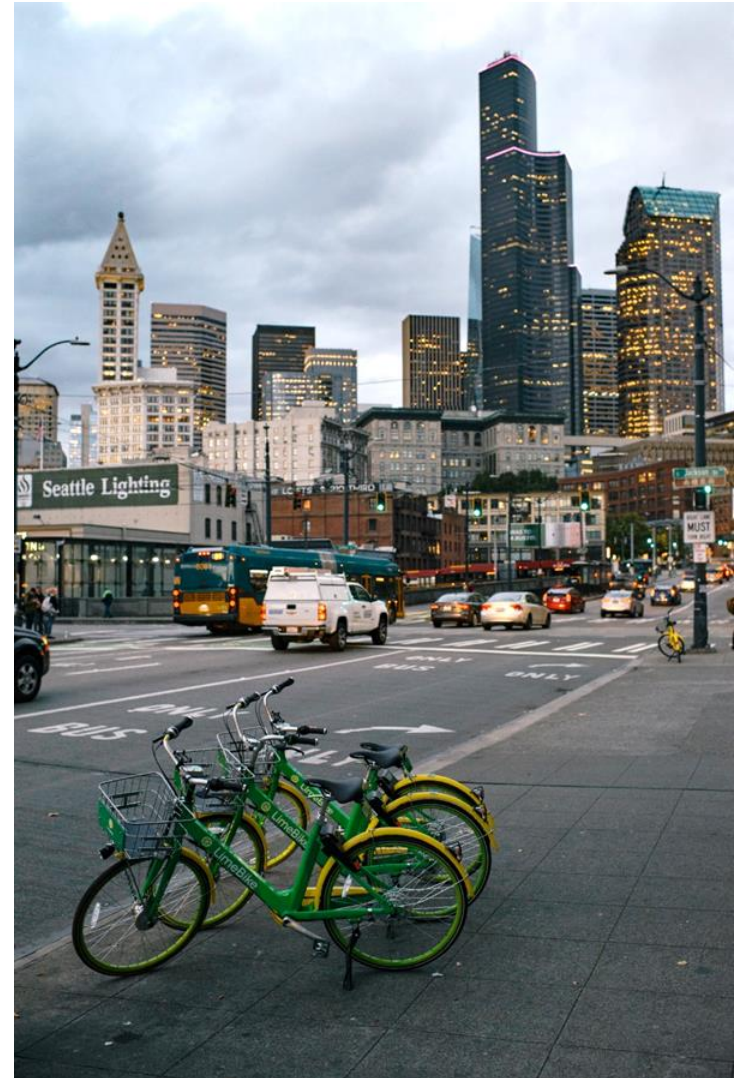
**Adaptive Cycle Sharing**



# Adaptive Cycle Sharing

## SDOT's work so far

- Free-floating bike share pilot evaluation
- Exploratory research
  - Public meeting with disability community
  - Meetings with advocacy organizations
  - Three surveys
  - Program feedback



# Adaptive Cycle Sharing

## Benefits

- More transportation and recreation options
- Support cycling and exercise for all abilities
- Support self-sufficiency and aging in place
- Reduce car trips and air pollution
- More inclusive cycling culture
- More visibility for the mobility needs of people with disabilities



# Adaptive Cycle Sharing

## Barriers

- Few existing providers, no largescale examples
- Scalability vs. accommodating individual needs
- Step-free cycle network
- Knowing where to find the right cycle for you
- Getting on and off; mobility device storage
- Sighted riders
- Parking and storage
- Expense





# Adaptive Cycle Sharing

## Potential Distribution Models: Depot-Based

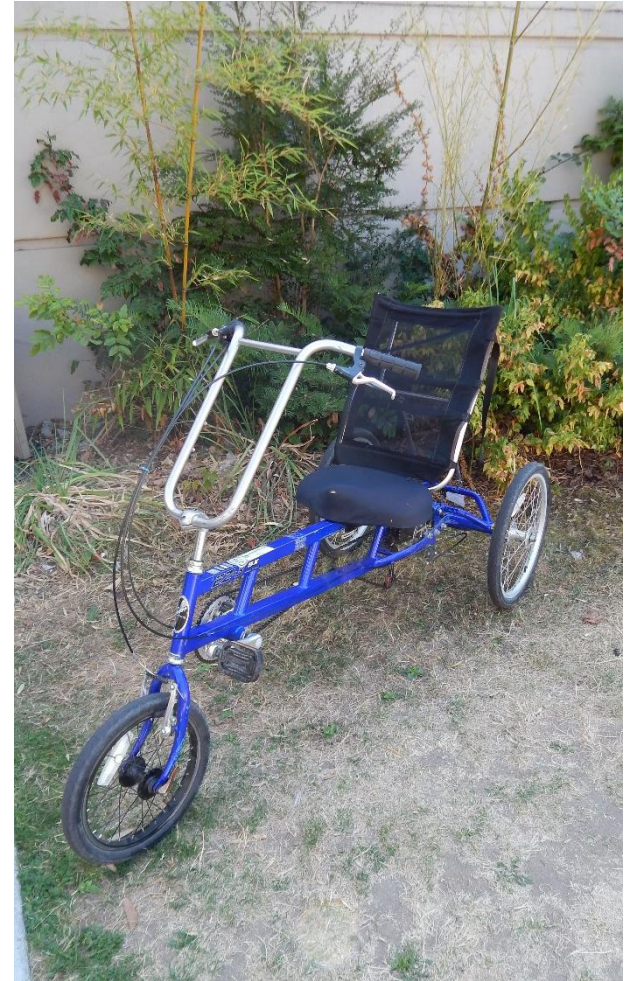
- **Examples:** Outdoors for All (Seattle), Adaptive BIKETOWN (Portland)
- **Advantages**
  - Individual fittings and education provided
  - Store mobility device at depot
  - Wide variety of models
- **Limitations**
  - Recreational round trips only (or depot to depot)
  - Low ridership potential



# Adaptive Cycle Sharing

## Potential Distribution Models: Delivery

- **Examples:** Pedal Anywhere (Seattle), MoGo delivery-to-dock (Detroit)
- **Advantages**
  - User reserves cycle for delivery to home or pickup location
  - Individual fittings and education possible with attended delivery
  - Store mobility device at home or pickup point
- **Limitations**
  - Preplanned trips only
  - Delivery and pickup costs



# Adaptive Cycle Sharing

## Potential Distribution Models: Dock-Based

- **Examples:** Zagster (Westminster, CO; Fort Collins, CO; Carmel, IN)
- **Advantages**
  - Can pick up and drop off at any dock
  - Supports both recreation and transportation
- **Limitations**
  - Standardized commercial models; no individual fittings
  - No mobility device storage
  - Limited service area



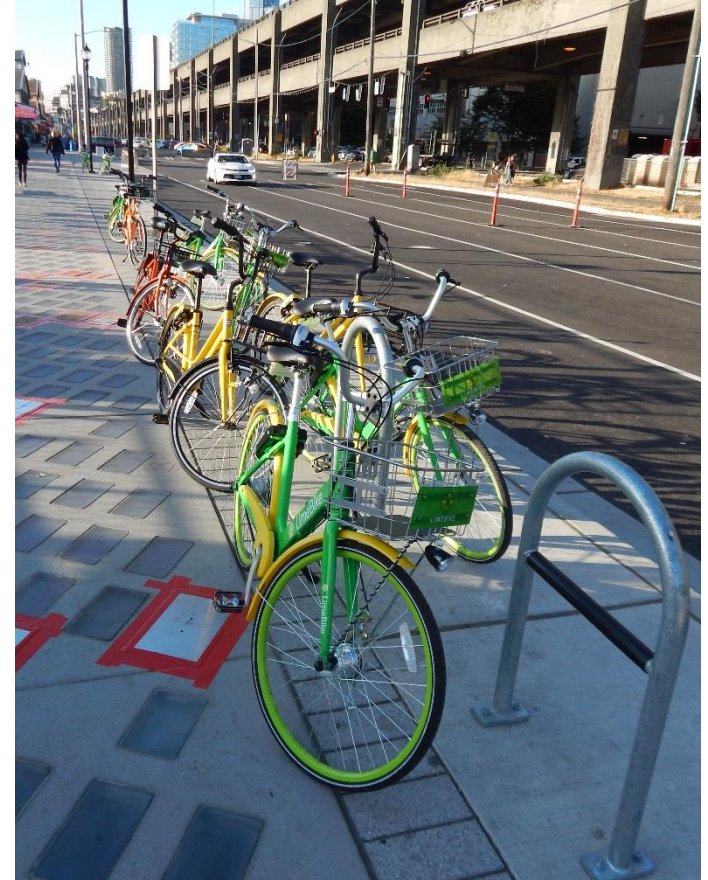
Photo credit: Fox59.com



# Adaptive Cycle Sharing

## Potential Distribution Models: Dockless (Free-Floating)

- Examples: E-bikes in Seattle
- Advantages
  - Anywhere to anywhere trips – most flexible, large service area
  - Supports trips for recreation and transportation
- Limitations
  - Standardized commercial models; no individual fittings
  - No mobility device storage
  - Pickup point changes
  - Parking challenges



# Adaptive Cycle Sharing

## Feedback so far

- Disability community
  - People with disabilities need opportunities to build cycling culture
    - Recreation → transportation
  - Broad interest in cycle types
- General population
  - Are they for everyone?
  - Interest in ebikes, cargo, tandems
  - Scooters, family bikes?
- No single solution fits all



# Adaptive Cycle Sharing

## Next steps

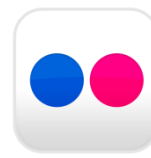
- Keep collecting data and feedback
- Explore programming and funding options
- Form key partnerships
- Build awareness of adaptive cycling options for all



# Thanks!

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[www.seattle.gov/transportation/newmobility](http://www.seattle.gov/transportation/newmobility)



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