First and Last Mile Innovations

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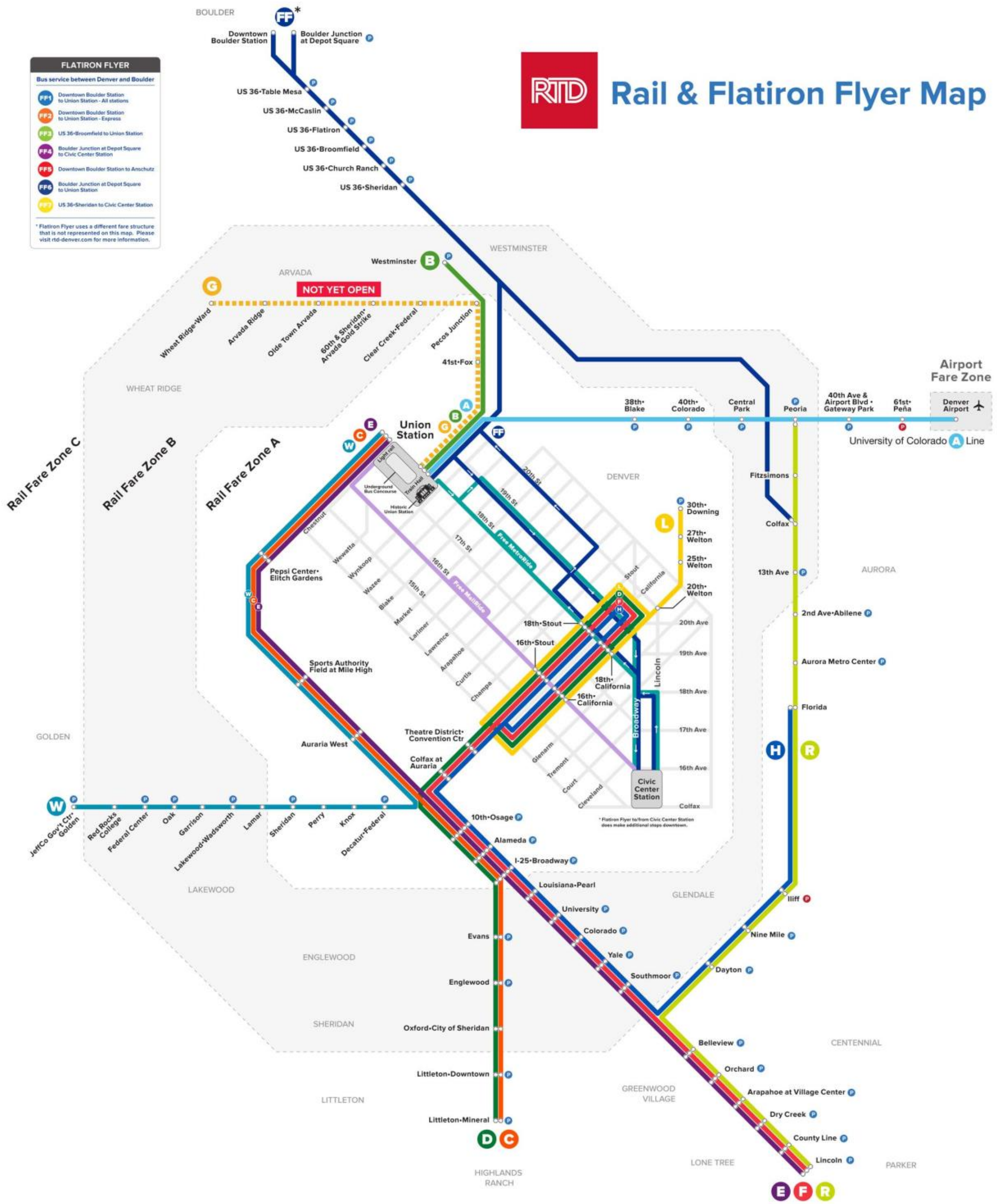
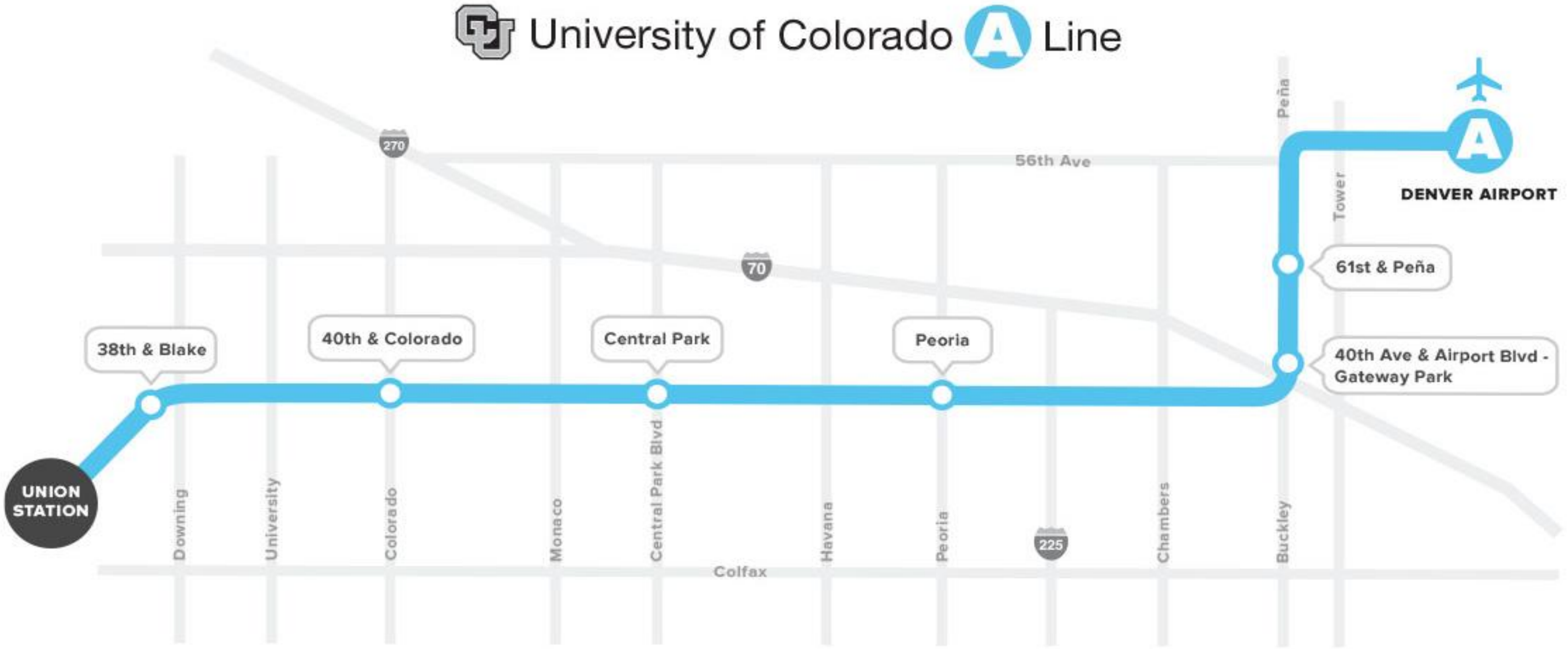


Denver Metro Rail/BRT System

First and Last Mile (FLM) in the Marketplace

Public Transit Main Lines



Station Contexts

Station Contexts

Why should we care about the FLM issue?

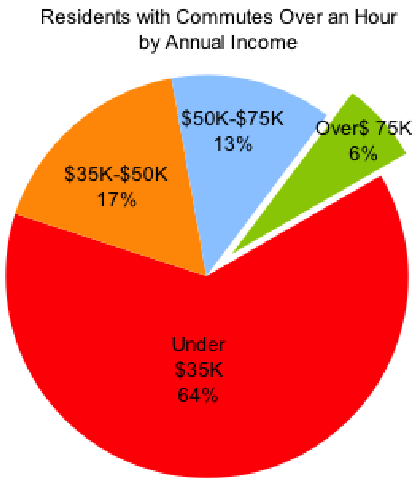
Transit ridership increased between 2010 and 2015; per capita boardings decreased.

5% increase
in annual boardings
(4.8 million more boardings)

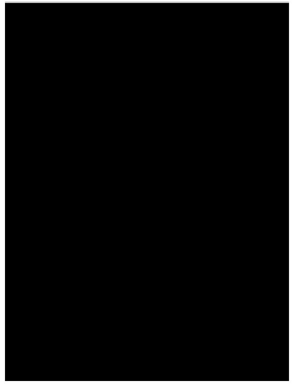
4% decrease
in annual boardings per capita
(1.6 fewer boardings per person)

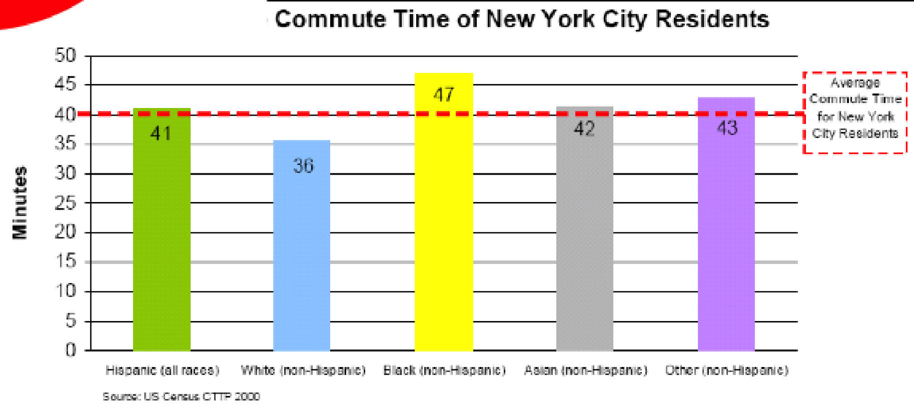
- Light rail ridership has **increased 30%**, bus ridership has been steady.
- Regional transit mode share was **consistent at 4%**.
- Ridership on the E/F/H Lines has **increased 18%**.

Why should we care about the FLM issue?



Race and income disparities in New York City commute times





First and Last Mile Strategic Plan

efine strategies and policies that improve multimodal transportation and connectivity to RTD services and facilities with the ultimate goal of **making RTD more accessible to more people**.

Station Typologies

Typology	Examples	Land use Density	Employment density	Residential density	Accessibility/ Service levels
Urban	Downtown Arvada/Belmar/Longmont, areas of Broadway, Federal and Colfax in Denver, DU campus, Anschutz campus, Denver neighborhoods	High	High	High	High
Suburban Mixed	Northglenn Marketplace Mall, US 36 and Sheridan Park-n-Ride area, Broomfield Plaza, Colorado Marketplace Shopping Center (Thornton)	Medium	High	Medium	Medium
Suburban Residential	Residential areas of Lone Tree, Highlands Ranch, Northglenn, Thornton, Aurora, Littleton, Parker, Lakewood, Brighton, etc.	Low	Low	Medium	Low/Med

Urban

- High land use density
- Mix of high employment and residential
- Many destinations
- Good levels of transit access
- Relatively high multimodal share
- Good scope of first and last mile solutions

Suburban Mixed

- Medium land use density
- Mix of office parks, shopping malls, event spaces and industrial areas
- Medium-high employment
- Numerous destinations
- Medium levels of transit access
- Relatively high SOV share

- Good scope of first and last mile solutions

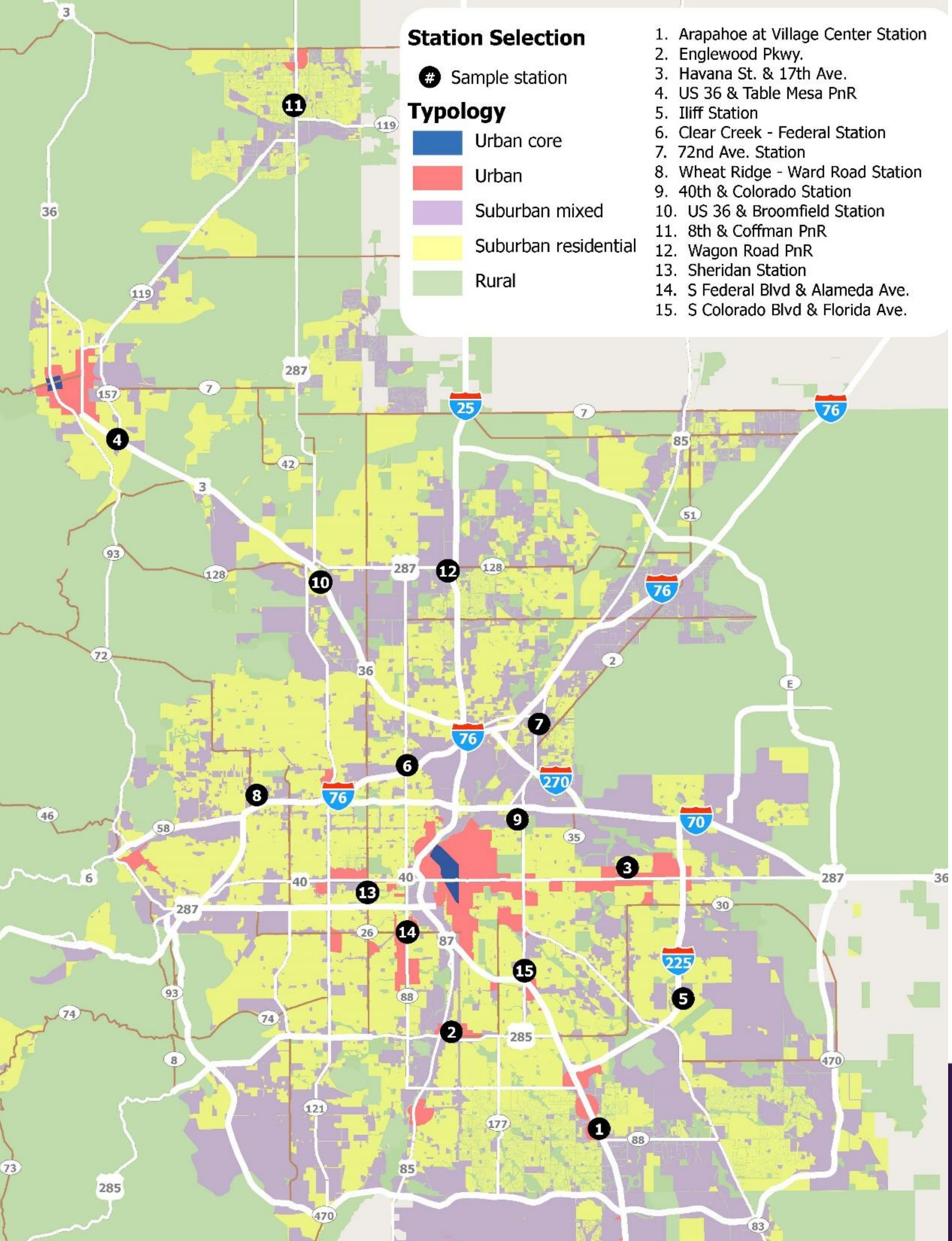
Suburban Residential

- Low density
- Residential
- Few destinations
- Low/Med levels of transit access
- High SOV share

- Low scope of first and last mile solutions


Two (2) types of overlays include:

1. **Prioritization overlay:** The function of this overlay is to help prioritize locations that may require FLM solutions more than others.
   – Historically vulnerable populations
   – High accessibility needs
2. **Recommendation overlay:** The function of the recommendation overlays is to help tailor the recommendations at specific locations with certain attributes.
   – High shift/visitor variability
   – High visitor trips
   – High propensity to change
   – Parking utilization



Representative Stations

- **Low income/transit dependent communities**
- **Mode specific** (i.e. a variety of BRT, rail and local bus)
- **Service level** (i.e. ridership, frequency, parking availability, stations with high ridership vs stations with relatively low ridership and/or stations within Call-n-Ride service areas)
- **Stations with potential to change, or changes in the near future** (i.e. stations within jurisdictions that have completed groundwork or are supportive of first and last mile solutions)
- **Jurisdictional/geographical distribution** (i.e. stations selected in diverse political boundaries)
- **Access** (i.e. ease of access by various modes)
- **Density** (i.e. a variety of different land use densities)

Project Schedule

Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec

Project Management and Stakeholder/Public Outreach

Existing Cond./Problem ID

First/Last Mile Station Typologies

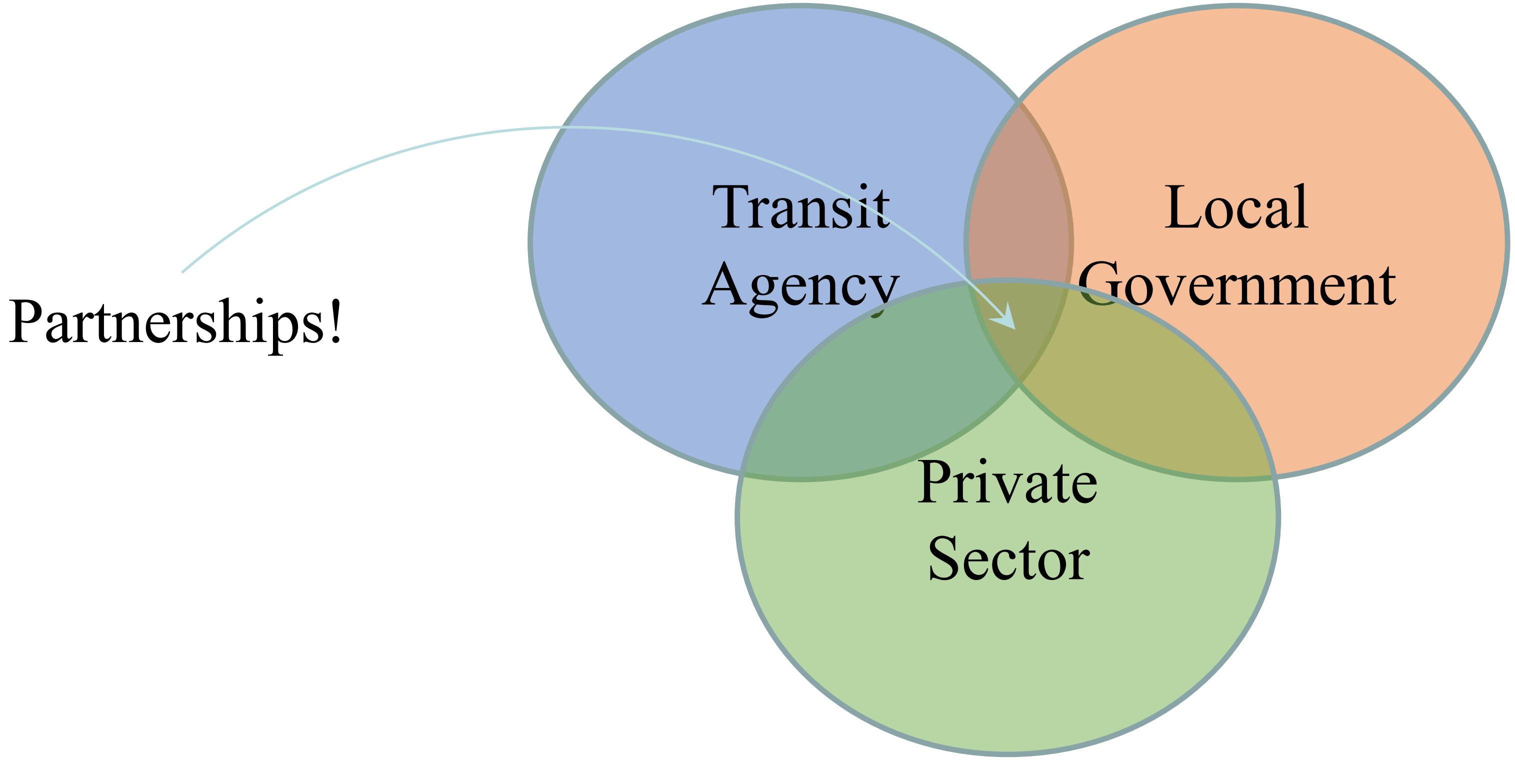
Selection of Rep. Stations

Toolbox of Solutions

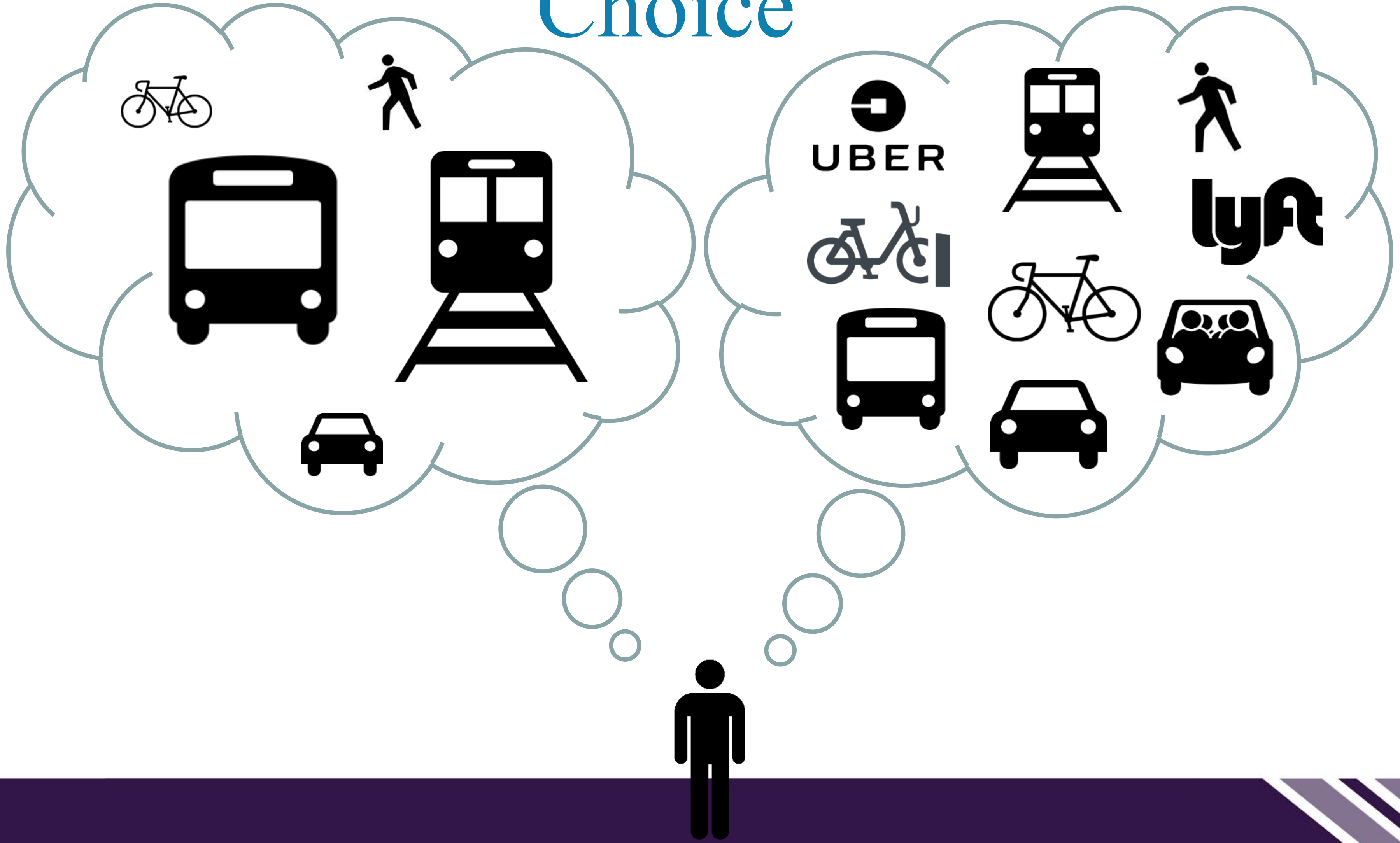
Station/Typology Recommendations

Final Report / Pilot Projects

First and Last Mile - Implementation



Transit Agency Considerations vs Customer Choice



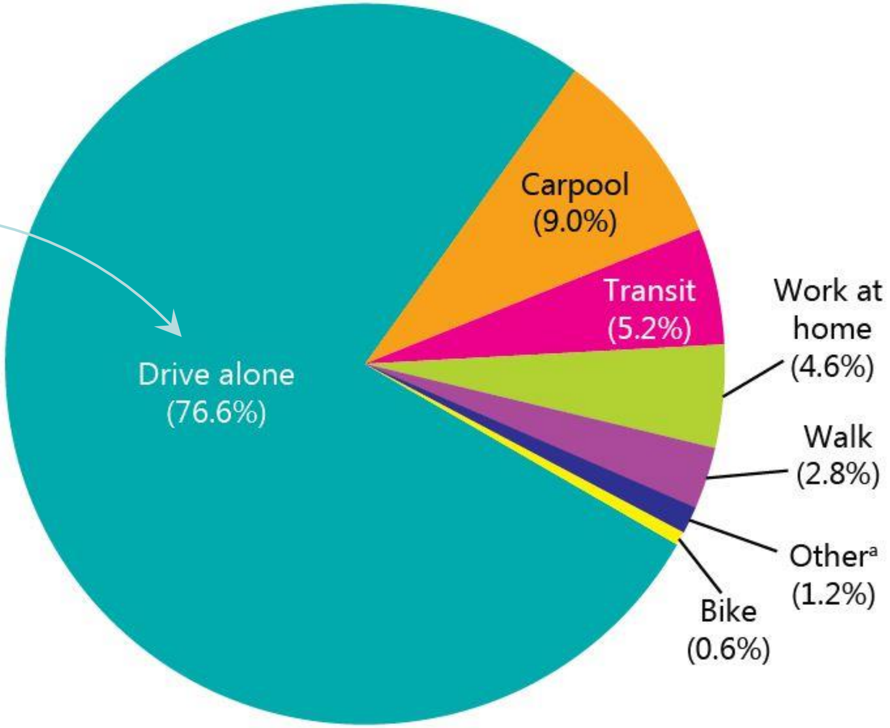
Are we providing what our customers really want?

"Cheap(er) gas prices, driver's license availability, "new mobility", etc. give all-purpose riders ***more choices and less tolerance*** *to poor transit customer experiences."*

"The future of public transit hinges on shifting from a supply model to a demand model and embracing emerging modes to better serve, satisfy and grow ridership."

“New” Mobility + “Old” Mobility

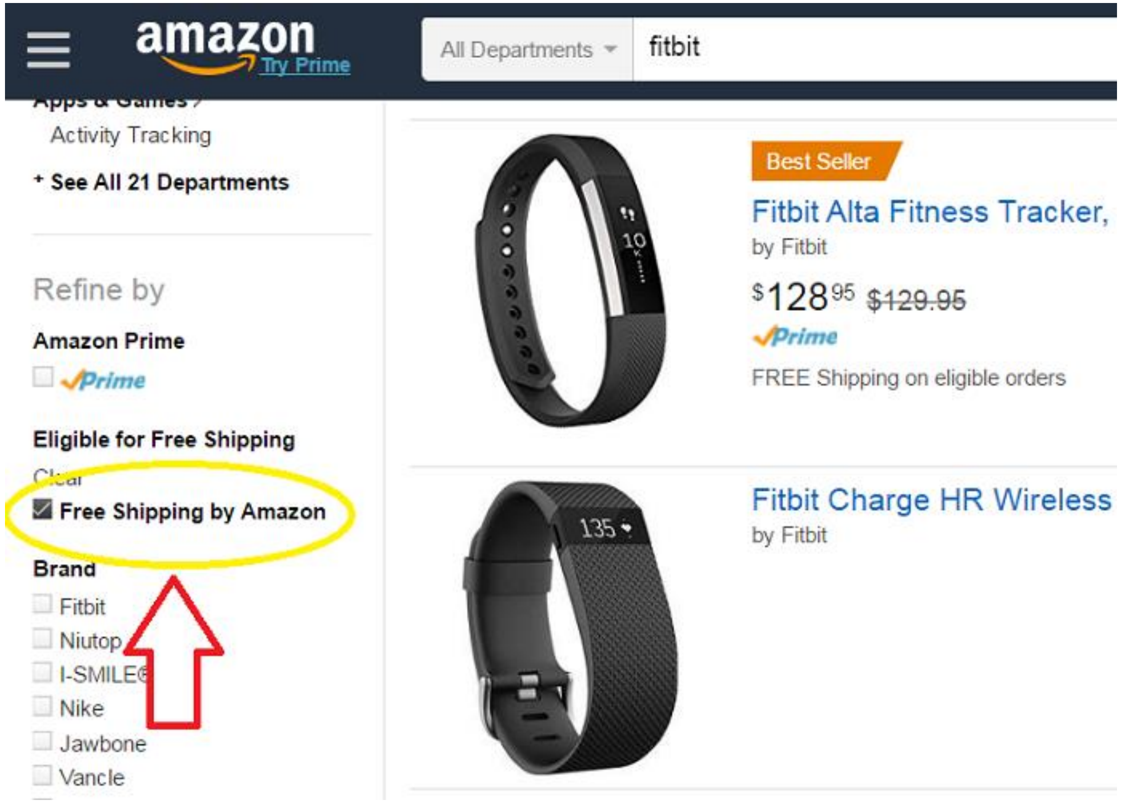
Opportunity!



Smartphones as Mobility Devices

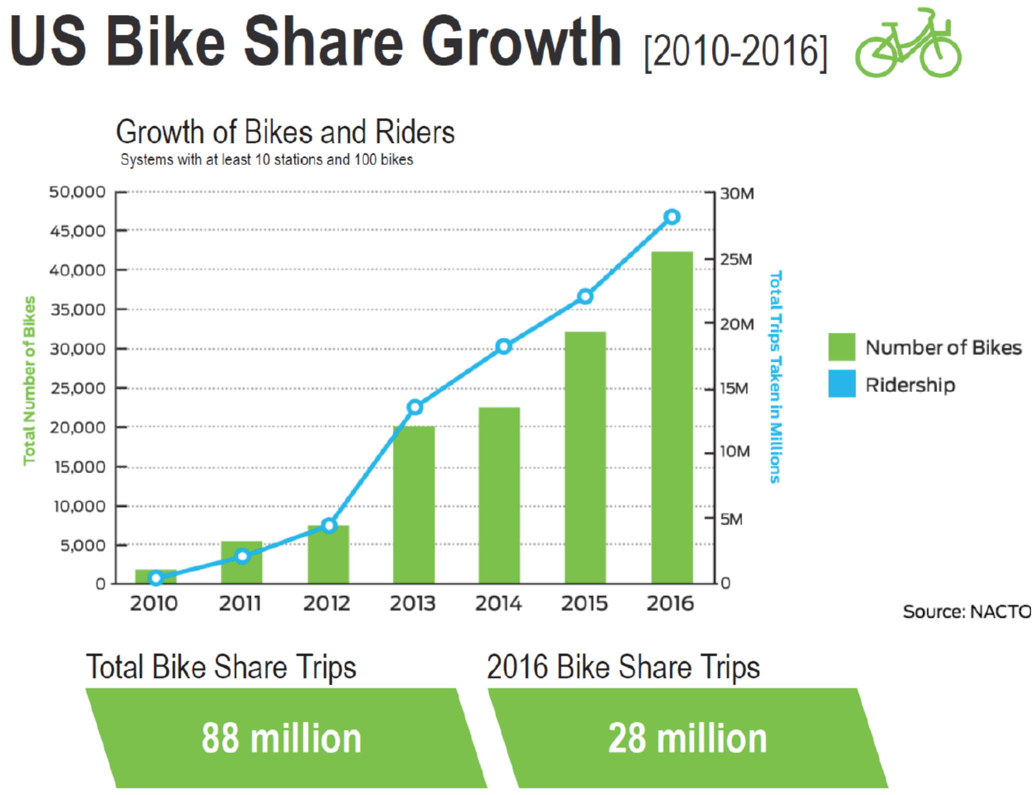
The Amazon Effect

Cost to Organization vs. Cost to User



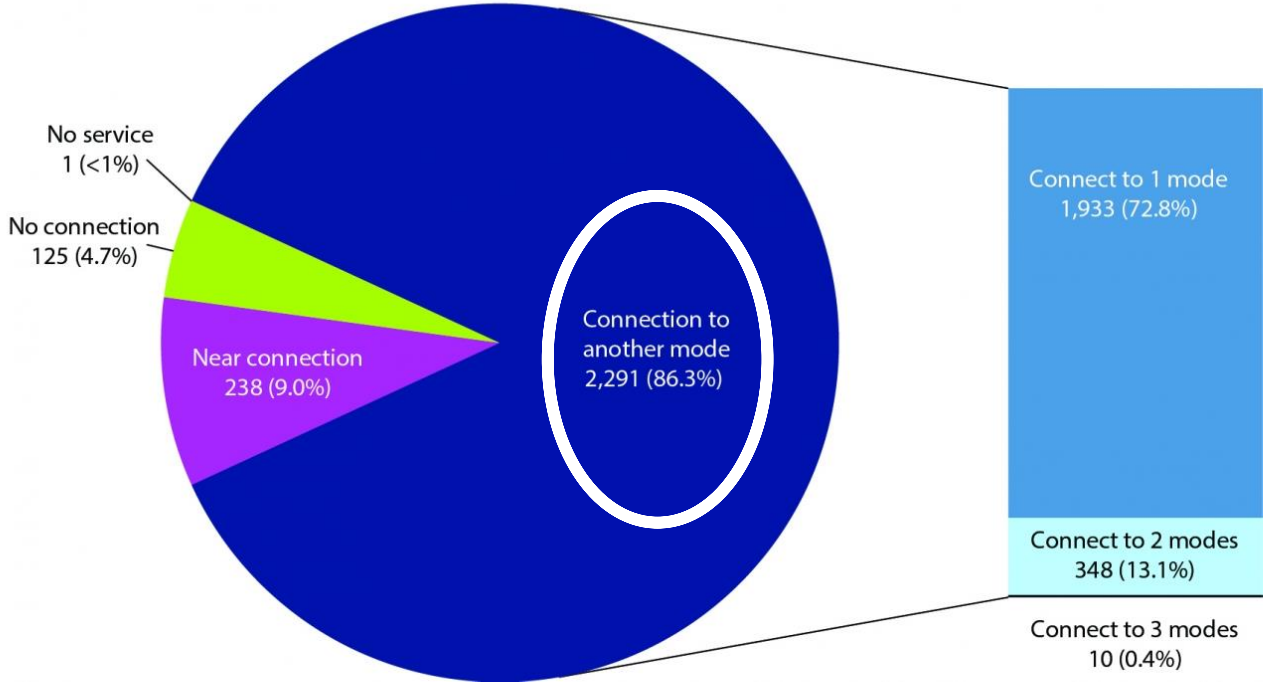
Interoperability

Bikes and Transit



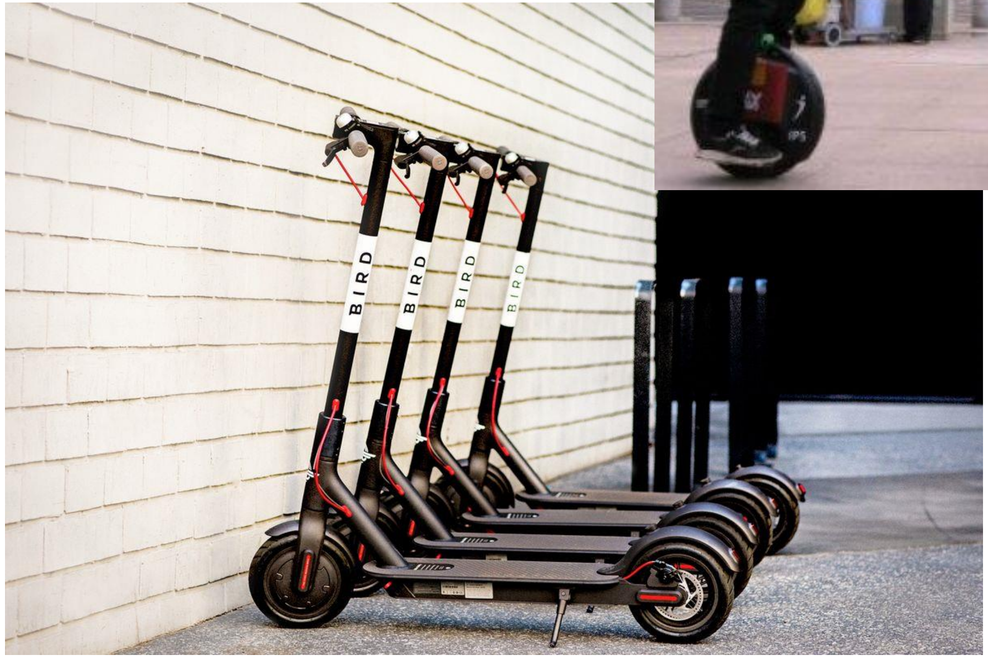
Graphic: King County Metro

FIGURE 1. Bike-Share Connectivity to Scheduled Public Transportation




ALL DAY
$10.00
EVENINGS
$10.00
ALL PRICES INCLUDE SALES TAX


JUMP


BIRD
BIRD
BIRD
BIRD

Coming July/Aug 2018…

Thank You!

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