Addressing First and Last Mile with Microtransit

Rail~Volution
Pittsburgh, PA
October 22, 2018
Denver Metro Rail/BRT System
“Our vision is that America’s cities and regions be transformed into livable places – healthy, economically vibrant, socially equitable and environmentally sustainable – where people have transportation choices.”
My “First Mile”
Mobility Hubs

Credit: San Diego Association of Governments
Transportation Network Companies (TNCs)
Automated Vehicles (AVs)
Micromobility
Microtransit - RTD Call-n-Ride

CALL-N-RIDE

Just call and we’ll pick you up

Call-n-Ride is a personalized bus service that travels within select RTD service areas. Book online or call and you can connect to bus routes, Park-n-Rides, rail stations or to work, school, and appointments. Call-n-Ride is a shared ride. Reservations are available on a first-come, first-serve basis. Make your reservation and we’ll provide an estimated pickup time. When the bus arrives, pay your exact cash fare. It’s that simple.

CALL-N-RIDE RESERVATIONS

To make a one-time reservation, just call at least one hour or up to two weeks in advance, and we’ll provide an estimated pick-up time or book your trip online.

FARES

<table>
<thead>
<tr>
<th></th>
<th>local</th>
<th>discount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fares</td>
<td>$2.60</td>
<td>$1.30</td>
</tr>
</tbody>
</table>

one-way, within 1 Call-n-Ride area

Book your trip online
Call-n-Ride Stats

Arapahoe at Village Center Station
Lone Tree Link on Demand
RTD’s Approach
Takeways

• **Partner** early with private sector services to achieve public policy goals

• **Understand** role change from operator to “mobility integrator”

• **Measure** impact of private services

• **Prioritize** the fundamentals of transit service provision

• **Support** physical environments that accommodate shared modes
Questions?

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**Density**  How many people, jobs, and activities are near each potential transit stop?

- Many people and jobs are within walking distance of transit.
- Fewer people and jobs are within walking distance of transit.

**Walkability**  Is it possible to walk between the stop and the activities around it?

- The dot at the center of these circles is a transit stop, while the circle is a 1/4 mile radius. The whole area is within 1/4 mile, but only the black-shaded streets are within a 1/4 mile walk.
- It must also be safe to cross the street at a stop. You usually need the stops on both sides for two-way travel.

**Linearity**  Can transit run in reasonably straight lines?

- A logical transit line is a direct path between any two destinations on it.
- Destinations located off the straight path force transit to deviate, discouraging those who want to ride through and increasing cost.

**Proximity**  Does transit have to traverse long gaps?

- Short distances between many destinations are faster and cheaper to serve.
- Long distances between destinations means a higher cost per passenger. (Distance-based fares can compensate in part.)
WWJWD?

Would it be more efficient if transit agencies funded micro-transit instead of fixed routes? (Pre-Automation)

The worst-performing empty-looking fixed route bus usually does >10 passengers per driver hour, can demand response microtransit do that?

So if we subsidize microtransit instead of fixed routes, we get fewer passengers for more driver hours.

**How is this more efficient?**

- Higher fares
- Lower cost of labor

**It’s a fixed route**

Increased economic inequity:
- Upward redistribution of the benefits of public spending
- Opposite of environmental justice

Increased VMT (Vehicle Miles Traveled):
- Increased congestion
- More street space used by cars
- Increased emissions

It’s not really, but we’re improving “customer experience”

**A nice experience for eager customers, less service for everyone.**

### Service Type

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Typical Passenger Trips/service hour</th>
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<tbody>
<tr>
<td>Urban subway</td>
<td>&gt;200</td>
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<tr>
<td>Urban light rail</td>
<td>&gt;100</td>
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<tr>
<td>Urban frequent bus</td>
<td>40-100</td>
</tr>
<tr>
<td>Ridership-justified suburban bus</td>
<td>15-40</td>
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<tr>
<td>Coverage-justified suburban bus</td>
<td>10-15</td>
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<tr>
<td>General Public Dial-a-Ride</td>
<td>0-3</td>
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<tr>
<td>Microtransit Pilots to Date</td>
<td>0-3</td>
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<tr>
<td>Paratransit (senior-disabled)</td>
<td>0-2</td>
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RTD
RTD Service Standards