First and Last Mile Strategic Plan

CASTA Annual Meeting – 2018
Agenda

• Study Status
  • Purpose and goals
  • Project update
  • Project timeline

• Recap:
  • 15 stations and typologies
  • Existing conditions analysis process and example

• Public Engagement
  • Online map
  • Pop-up events
  • Partnering events

• Workshop – FLM Recommendation Application
  • S. Federal Blvd and W. Alameda Ave.
  • Iliff LRT Station
  • US 36 and Broomfield PnR

• Next steps
Project Purpose

To define 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.**
Update since last meeting

Since last meeting:
• Completed existing conditions analysis for all 15 stations
• Launched online comments map, survey, undertaken numerous partnering and pop-up events.
• Begun developing toolkit of recommendations and applications at each station and typology.
Project Schedule

12 Month Project - 2018

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
Recap of representative stations and typologies
Selected 15 representative stations

- Final approved 15 stations are as follows:
  1. Arapahoe at Village Center Station
  2. Englewood Pkwy – (Englewood Station to Broadway)
  3. Havana St and 17th Ave
  4. US 36 & Table Mesa PnR
  5. Iliff Station
  6. Clear Creek - Federal Station
  7. 72nd Ave Station
  8. Wheat Ridge - Ward Road Station
  9. 40th & Colorado Station
  10. US 36 & Broomfield Station
  11. 8th and Coffman PnR
  12. Wagon Road PnR
  13. Sheridan Station
  14. S Federal Blvd & Alameda Ave
  15. S Colorado Blvd & Florida

### Number of locations meeting overlays

<table>
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<th>Overlay</th>
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<td>Vulnerable Populations</td>
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<td>High Shift</td>
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<td>High Visitor</td>
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<td>High Parking Utilization</td>
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<td>High Propensity to Change</td>
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<td>Stations with no overlays</td>
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### Number of typologies

<table>
<thead>
<tr>
<th>Typology</th>
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<tr>
<td>Urban</td>
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<tr>
<td>Suburban Mixed</td>
<td>6</td>
</tr>
<tr>
<td>Suburban Residential</td>
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FLM analysis process

• Data request to each jurisdiction
• Undertake field visits
• Key analysis themes:
  • Travel patterns and demographics
  • Active Transportation (including micro-mobility e.g. e-scooters)
  • Shared Mobility analysis:
    • Bike share
    • Car share
    • Micro-transit
  • Existing TDM programs
  • Curbside management (I.e. TNC p/u and d/o zones).
  • Land ownership
  • Transit service levels
Station analysis example – Arapahoe at Village Center

**Travel patterns and demographics**
- Very high employment levels
- Large event space nearby
- Very high drive alone rates in the area
- Many transit users walk to the station
- Most commuters arrive from the north
- 54% of people commute less than 10 miles

**Existing TDM programs**
- Station within the Denver South TMA area
- Currently no TDM initiatives above and beyond those provided by DRCOG.

**Existing shared mobility**
- Two Zipcar™ vehicles available at Fiddlers Green

[Map of Arapahoe at Village Center Station]
Active and micromobility transportation

- Full site analysis including bicycle parking
- Two mile buffer for analysis
- Identification of two priority routes to access the station by walking, cycling, and micromobility
- Work with individual jurisdictions to identify the routes, to avoid duplication of local efforts
- Connect key employment and residential areas to the station for both first and last mile connections
- Highlight a current “comfort level” for each route, showing which sections should be prioritized for improvement
Curbside Management and Parking

- Includes documentation of all surrounding parking
- Provides current average weekday utilization of RTD park and ride facilities
- Analysis provides the bases to produce a robust curbside management and parking strategy
Land ownership

- Land ownership analysis is important to understand where FLM improvements can be made.
- Where public owned land exists, understanding which agency owns the land helps with implementation of FLM strategies.
- In areas with different ownership of right of way can also impact FLM recommendations.
Recommendations overview

Recommendations will be taken from the FLM recommendations toolkit, examples include:

• Programmatic
• Improvements and reuse of existing infrastructure
• Transportation Services
• New infrastructure improvements
• First and Last Mile Guidelines (all stations and locations)
Example application of recommendations

Arapahoe at Village Center:

**Programmatic**
- Identified issue: Our outreach suggests many employers are unaware of the Ecopass program.
- Example recommendation: Recommend a marketing campaign targeting businesses within 1 mile from the station regarding the Ecopass program.

**Improvements and reuse of existing infrastructure**
- Identified issue: Currently no designated space for TNCs, or other drop off/pick up services.
- Example recommendation: Provide a specific location for pick ups and drop offs in close proximity to the station, working with the City of Greenwood Village.

**Transportation Services**
- Identified issue: No shared micromobility options at the station location.
- Example recommendation: Work with City of Greenwood Village to allow a pilot of shared scooters or bikes within 3 miles of the station. Provide guidance towards management of shared systems.

**New infrastructure improvements**
- Identified issue: Lack of wayfinding for pedestrians and cyclists to the station.
- Example recommendation: Provide improved wayfinding to the station, up to 1 mile for pedestrian signage, and 2 miles for bicycle signage. Include a map at the station showing major destinations surrounding the station and time taken to walk and bike.
Outreach and events

• Four main methods of outreach:
  • Partnering events
  • Pop-up events
  • Online comments map
  • Webpage feedback
Partnering events
Pop-up events

- Arapahoe at Village Center – Sept 12th
- US36 and Table Mesa P&R – Sept 13th
- Wagon Road P&R – Sept 18th
- Iliff Station – Sept 20th
- 40th and Colorado – Sept 24th
Welcome to the Online Input Map for the RTD First and Last Mile Project. RTD is looking to improve walking, bicycling, transit, and other means to get you to and from our transit stops.

GET STARTED: Click on a marker on the map representing a transit stop you use. The map will then zoom into this transit stop and give you the opportunity to share your mobility experiences.

If you don’t see any of these 1st transit stops, you can view and interact with input from other users or click on the “RTD Survey” button below to take a brief survey on your mobility experiences using RTD in other locations in the Denver metro area.

About First and Last Mile Study
RTD Survey

Online comments map
RTD wants to hear from you! Attend one of these pop-up events to share how you get to and from our stations and if we can make your experience easier. Look for our events in Greenwood Village, Denver, Aurora, Westminster and Boulder. Learn more at http://www.rtd-denver.com/firstmile-lastmile.shtml

How can RTD provide a better connection from point A to B? Attend one of our five pop-up events.

General Online Comments
- FLM webpage comment form
- Social Media Posts
Workshop – FLM Recommendation Application

Using the existing conditions maps, work in groups to provide FLM recommendations to the following locations:

- **S. Federal and Alameda Ave**
  - High transit corridor
  - Urban
  - Historically vulnerable population

- **US 36 and Broomfield Station**
  - P&R Station
  - Suburban-mixed
  - Event space (1st Bank Center)
  - High propensity to change

- **Iliff LRT Station**
  - LRT Station
  - Suburban-residential
  - High accessibility requirements (Medical Center of Aurora)
  - High number of shift workers
Issues:
• S. Federal Boulevard is the most dangerous street in Colorado. Crossing conditions are less than desirable.
• Low income population.
• Poor pedestrian conditions.

Opportunities:
• Good network structure for active transportation access.
• Included within Denver’s dockless pilot program.
• S. Federal Blvd is a source of particular attention by the City.
• Will be within a new TMA area in 2019 (West Corridor TMA).
Issues:
• Highway 225 creates a barrier to the west.
• High drive alone mode share.
• Generally low density.

Opportunities:
• Access to Aurora Medical Facility.
• Younger people tend to be more open to new modes.
• Space to work with.
• New higher density housing being built.
**Issues:**
- Long crossing distances – difficult active transportation and micromobility conditions.
- Park and Ride usually under capacity (63%).
- US36 acts as a barrier to non-vehicular modes.
- 1st Bank Center is a major attractor (also an opportunity)

**Opportunities:**
- Mixed uses surrounding the station, including some areas of density.
- Space to work with.
- Commuting Solutions is an active TMA.
- Congestion on US 36 results in more people being open to transit.
Examples of FLM tools

• New infrastructure:
  • New pedestrian and ADA infrastructure
  • New biking and micromobility infrastructure
  • Provide free, informal bike parking
  • Provide bike repair station
  • Provide high quality, secure bike parking (Basic)
  • Provide high quality, secure bike parking (Advanced)
  • Provide parking spaces for on-site vehicle share vehicles, prioritizing peer-to-peer shared vehicles
  • Food kiosks and other on-location amenities
  • Multimodal wayfinding signage
  • Artwork/place making

• Transportation Services
  • Implement shared bicycle service
  • Implement shared micromobility service
  • Autonomous transit
  • Microtransit service
  • Point to point car share
  • Short term car share
  • Peer to peer car share

• Programmatic (differentiated by applicability to either residential (first mile) or employment/destination based (last mile)):
  • Unbundle parking from all tenant leases
  • TNC to transit subsidies
  • Provide discounted car share memberships to employees within 1/2 mile
  • Transit welcome packages to new residents and employees
  • Provide subsidized transit passes to residents and employees within 1/2 mile
  • Microtransit/dynamic transit service (no set route)
  • Bike share
  • Bike maintenance
  • Develop transit access specific carpool matching service
  • Develop access marketing plan (if no TMA present)
  • Integrated fares
  • Videos showing how to access station from major destinations using 360 camera
  • Co-ordinate with local TMA

• Improvements and reuse of existing infrastructure
  • Right-size parking/parking management
  • Curbside management
  • Reallocation of parking spaces to:
    • Carpool only parking
    • Bike and micromobility parking
    • Shared mobility

• First and Last Mile Policies (all stations and locations)
  • Prioritize and diversify a mix of mode access
  • Bring pedestrian environment ½ mile around the station to ADA compliance
  • Provide incentives for shared use and micromobility providers to operate at the station.
Next steps

• Produce toolkit of FLM recommendations
• Develop recommendations for each of the 15 stations
• Begin pilot project identification process
Thank you!

Questions and Answers
# Station Typologies

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

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

• Aim of the representative stations is to provide a broad range of stations that can be replicated across the RTD service area.

• Recommendations from the 15 stations can then be re-used and support decision making in other parts of the district to emphasize the impact of the FLM project.

• All criteria used to select the stations was informed by input from both the PPAC and IWG groups.

• We offered 20 stations to advisory groups and culled to the top 15 stations that represent a diverse range of the typologies and overlays.
Criteria to Select 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)