



BRT



Regional BRT Feasibility Study



DRCOG RTC


August 20, 2019





Study Goal & Desired Outcomes

- Study Goal
 - Develop a data driven process to identify feasible BRT corridors
- Desired Outcomes
 - Develop a District-wide BRT network
 - Identify multiple corridors for near-term BRT investment
 - Identify one or more projects ready for FTA Small Starts project development

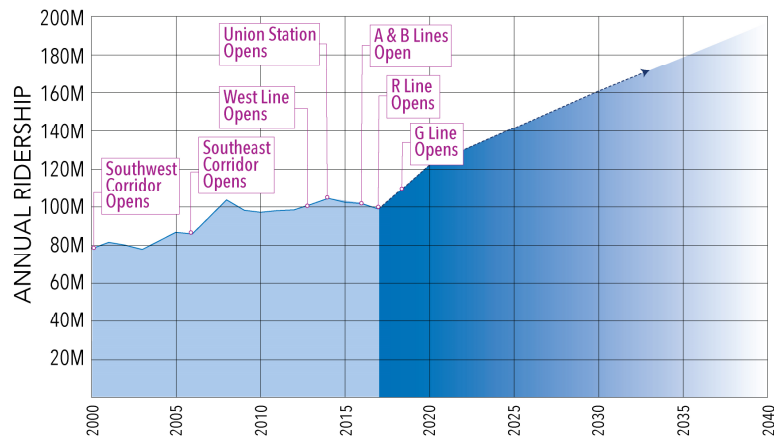


Regional BRT Feasibility Study

2



RTD Annual Ridership Projections

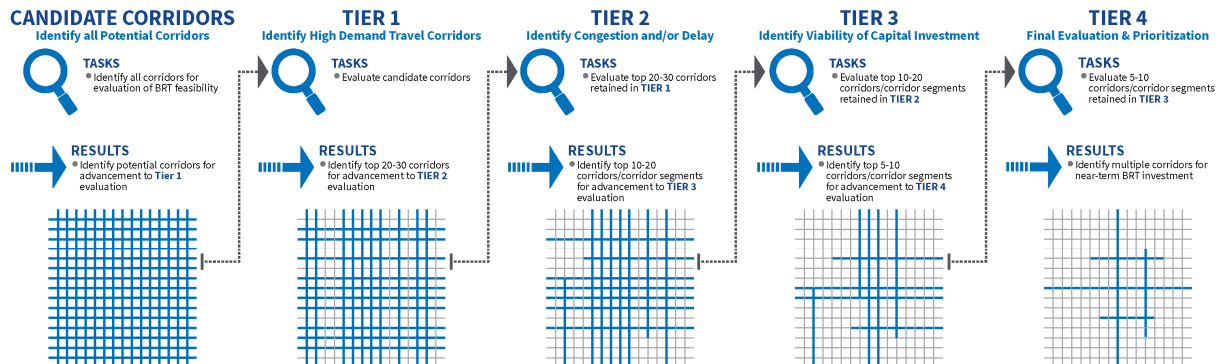


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3



Tiered Evaluation Methodology



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4



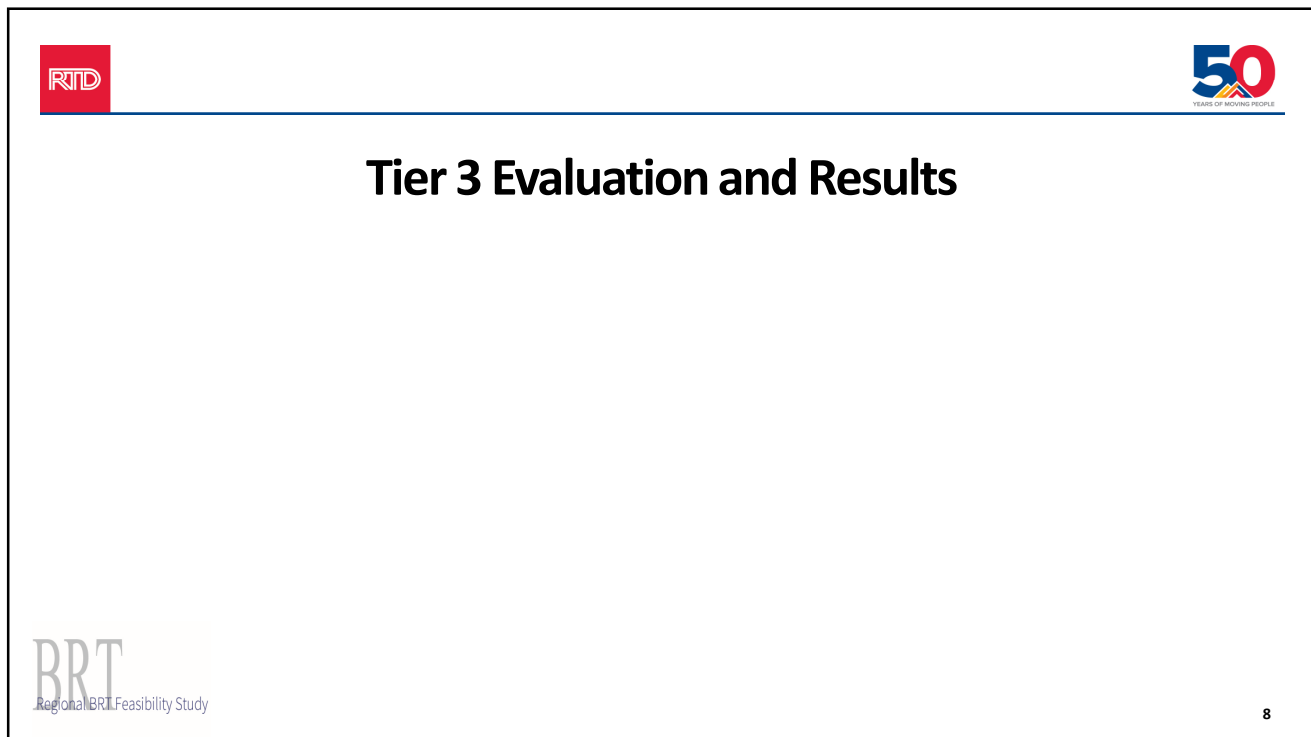
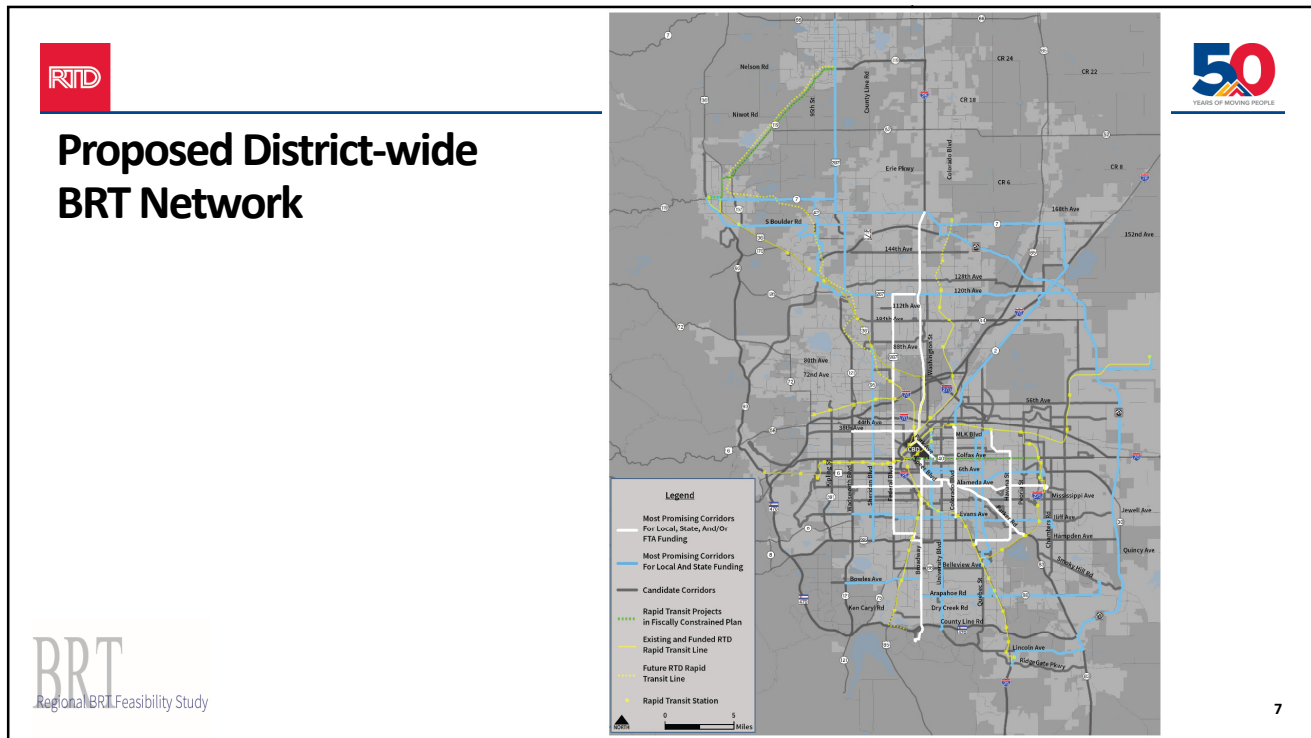
Recap of Stakeholder Engagement

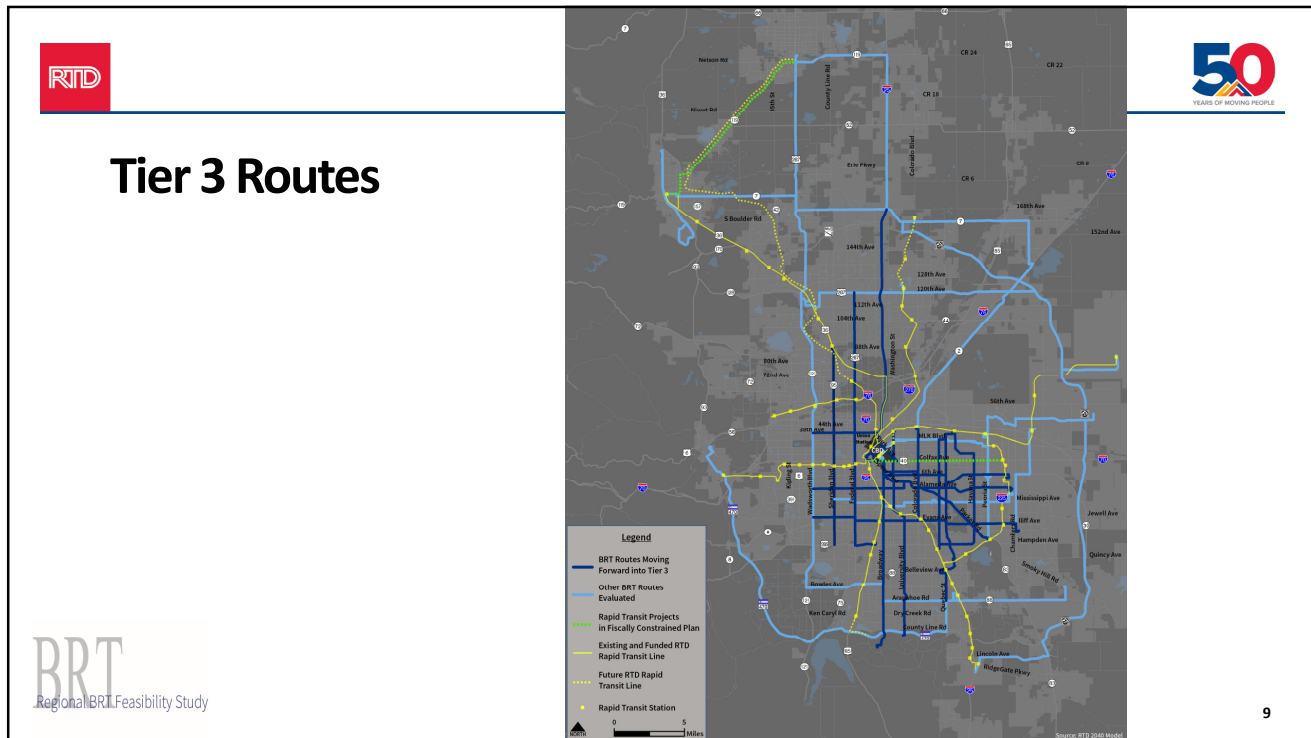
- December 2018
 - RTD Local Government/Planning Meeting (preliminary Tier 2)
- January 2019
 - DRCOG TAC
- February 2019
 - RTD Board (finalized Tier 2/initiate Tier 3)
 - DRCOG RTC and Board
- March 2019
 - CDOT Coordination Meeting
- May 2019
 - RTD Local Government/Planning Meeting (preliminary Tier 3/initiate Tier 4)
- June 2019
 - Local Agency Bus Tour
- July 2019
 - DRCOG TAC




Results of Stakeholder Engagement

- Developed a District-wide Regional BRT Network that could be phased in over time
- Include language that assured stakeholders of RTD's support of local agency BRT investments
- Updated evaluation to include passenger miles of travel and reduced stop spacing
- Added all NAMS corridors to the BRT Network
- Removed phasing from the BRT Network
- Created two categories of BRT: corridors likely to compete well for FTA funds and corridors that may have more success seeking local and state funds








Tier 3 Evaluation

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- Goal - Identify viability of capital investment
 - Right-of-way availability
 - Viability of lane repurposing
 - Viability of exclusive or semi exclusive lanes
 - Meets FTA definition of BRT
 - Alignment with agency plans/policies
- Result - Identify top corridors for Tier 4 evaluation

10

Federal Blvd TIER 3 Evaluation



Route
Advanced
to
Tier 4

Evaluation Summary

The Federal Boulevard corridor travels through Englewood, Federal Heights, Sheridan, Westminster, the City and County of Denver, and Adams and Arapahoe counties. Adams County's *Making Connections* (2016) identifies the need for a BRT study for Federal Boulevard; the Denver section of the route is currently being evaluated for multimodal improvements in the Federal Boulevard Corridor Study; and Westminster has plans to conduct a planning study for their section of the corridor in the near future. The staff of both Denver and Adams County indicate that they would support repurposing travel lanes for transit use on Federal Boulevard, while other communities along the corridor are either unsure or unknown if they would support lane conversion/repurposing for transit use along Federal Boulevard. There is good potential for repurposing travel lanes based on existing and future traffic volumes and available space along the corridor.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.

Community Support for BRT

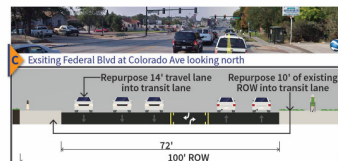
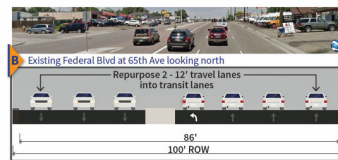
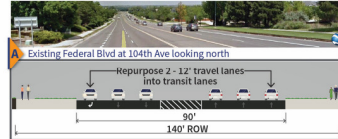
	Adopted Transportation Plan	Adopted Complete Streets Plans, and/or Guidelines	Likelihood of Planning Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Denver	✓	✓	●	●	●	●	●	●
Sheridan	✓	✓	○	○	○	○	○	○
Westminster	✓	✓	●	●	●	●	●	●
Adams County	✓	✓	●	●	●	●	●	●

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Englewood, Federal Heights, Arapahoe County

BRT Aerial Study 16-408 01/15/19

Physical Viability
Route Length: 19.7 miles

61% Green 15% Yellow 24% Red



Key
0-12' potentially available for BRT
12-23' potentially available for BRT
24' potentially available for BRT

LEGEND
Existing Bus Network
Existing & Funded Rapid Transit Line and Station
Planned Rapid Transit Line and Station
Existing BUSTANG Station
Planned BUSTANG Station
Rapid Transit Projects in Fiscally Constrained Plan

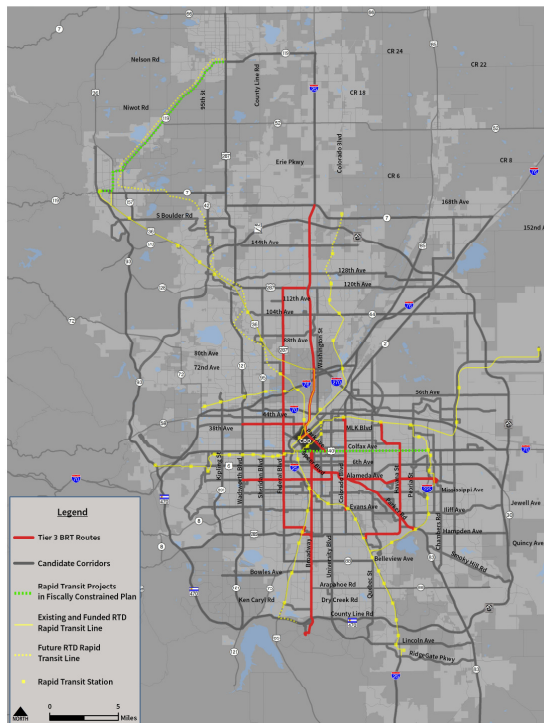
BRT Aerial Study 16-408 01/15/19

11



Tier 3 Results

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12

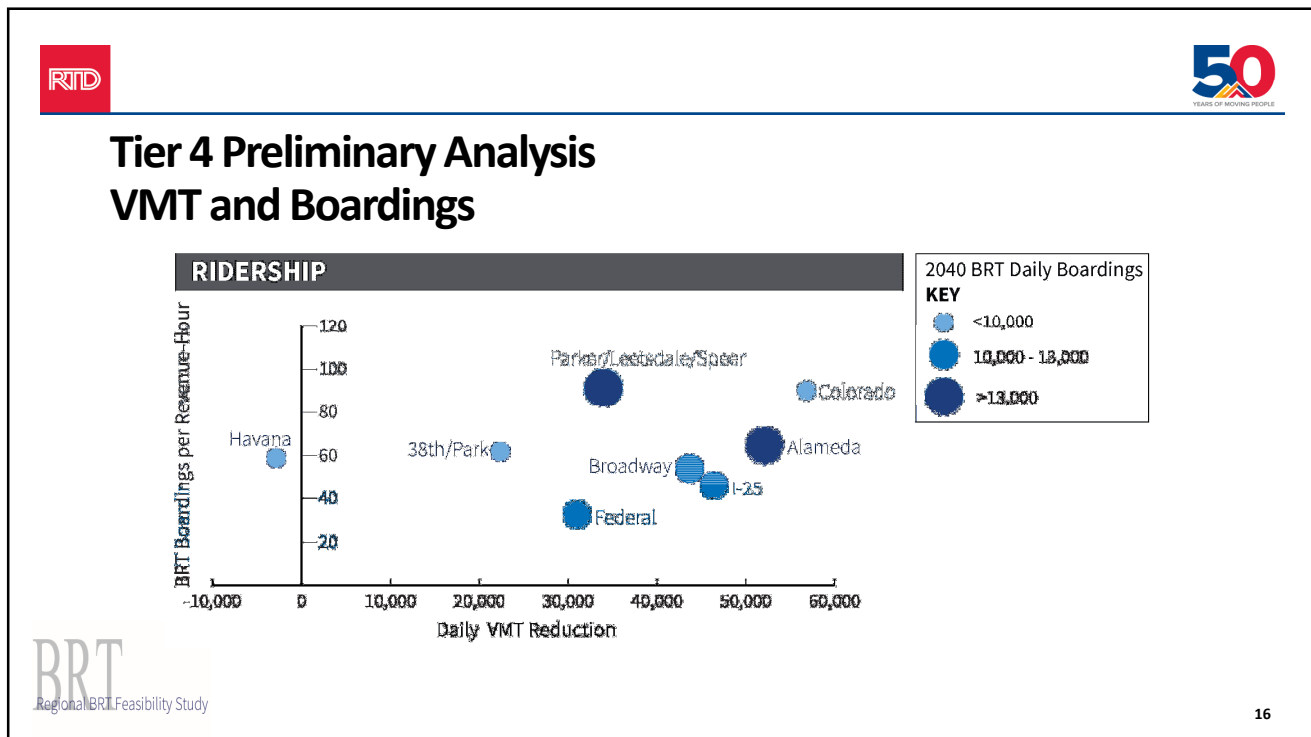
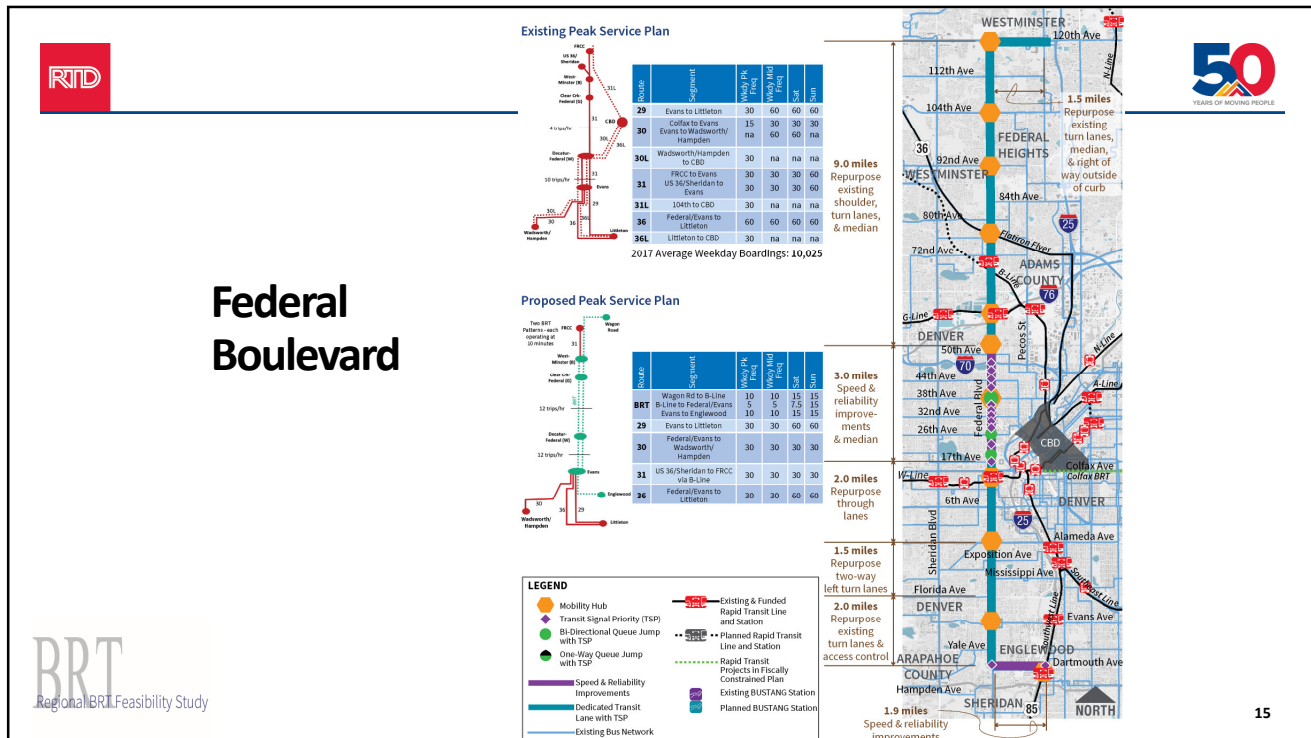


Tier 4 Route Development

- This extensive level of analysis focuses on those corridors that appear to have high potential to compete well for FTA Small Starts funding.
- Tier 4 analysis is necessary to test adherence to Small Starts project justification criteria.
- Corridors that are not Federal funding candidates did not require this level of analysis.



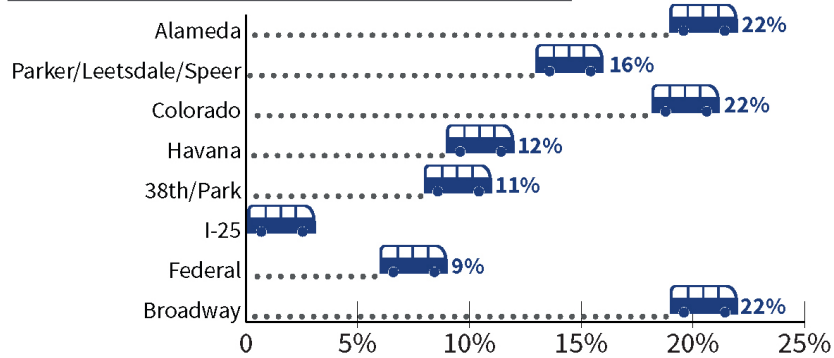
Tier 4 Route Development and Evaluation





Tier 4 Preliminary Analysis Travel Time Savings

AVERAGE TRAVEL TIME SAVINGS



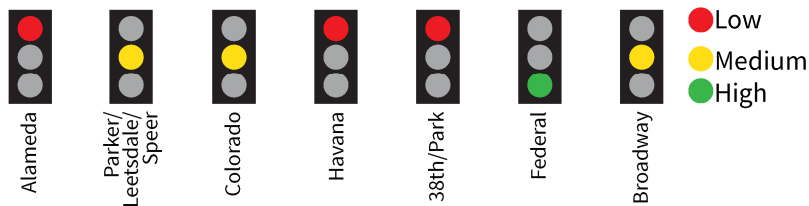
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17



Tier 4 Preliminary Analysis Next Generation Technology Readiness

NEXT GENERATION TECHNOLOGY READINESS

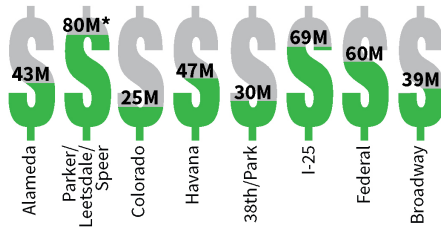


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18

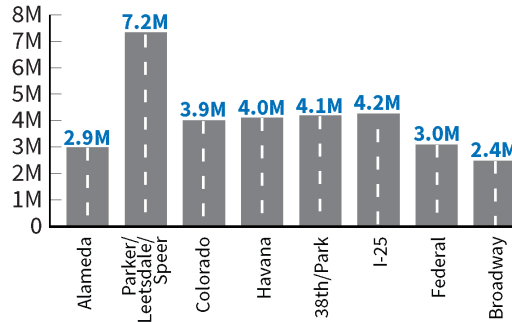
Tier 4 Preliminary Analysis Capital Cost

CAPITAL COST (does not include vehicles)



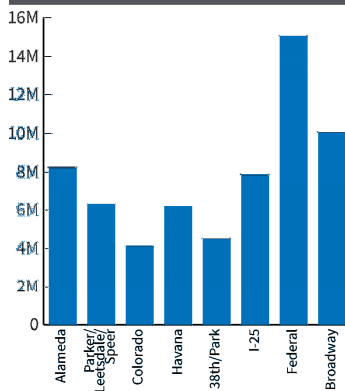
* Cost based on improvements identified in
CCD GO SPEER LEETSDALE

CAPITAL COST per MILE

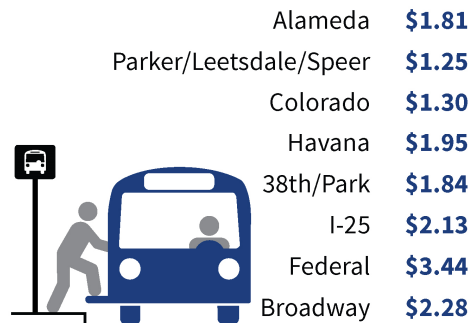


Tier 4 Preliminary Analysis O&M Cost

ANNUAL OPERATING & MAINTENANCE COST

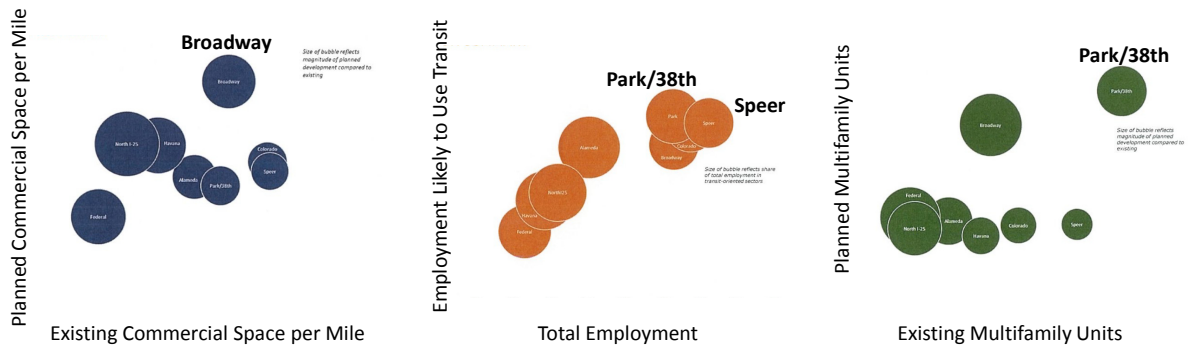


O & M COST/BOARDING





Economic Development (Commercial, Multifamily, Jobs)



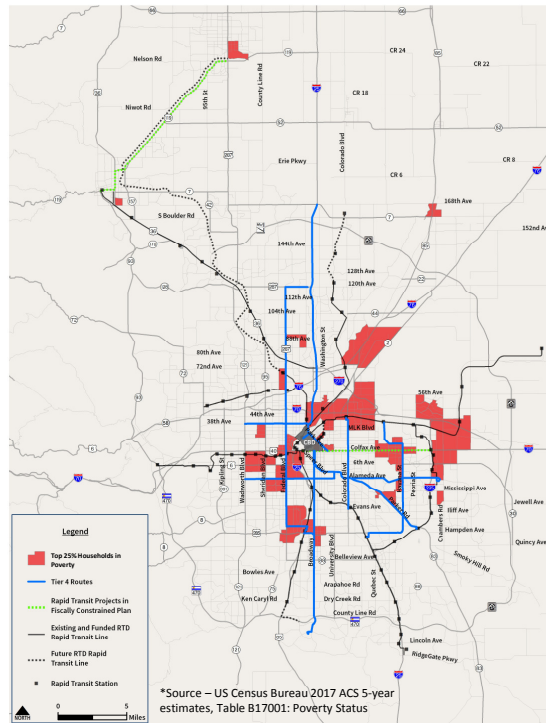
FTA Small Starts Evaluation

Land Use	
Population density	Number of jobs
Affordable housing	Parking supply
Economic Development	
Transportation policies	Land use policies
Mobility Improvements	
Non-transit dependent linked trips	Transit dependent linked trips
Total linked trips	Cost effectiveness
Environmental	
Vehicle miles traveled	



Equity Mapping

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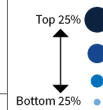
23



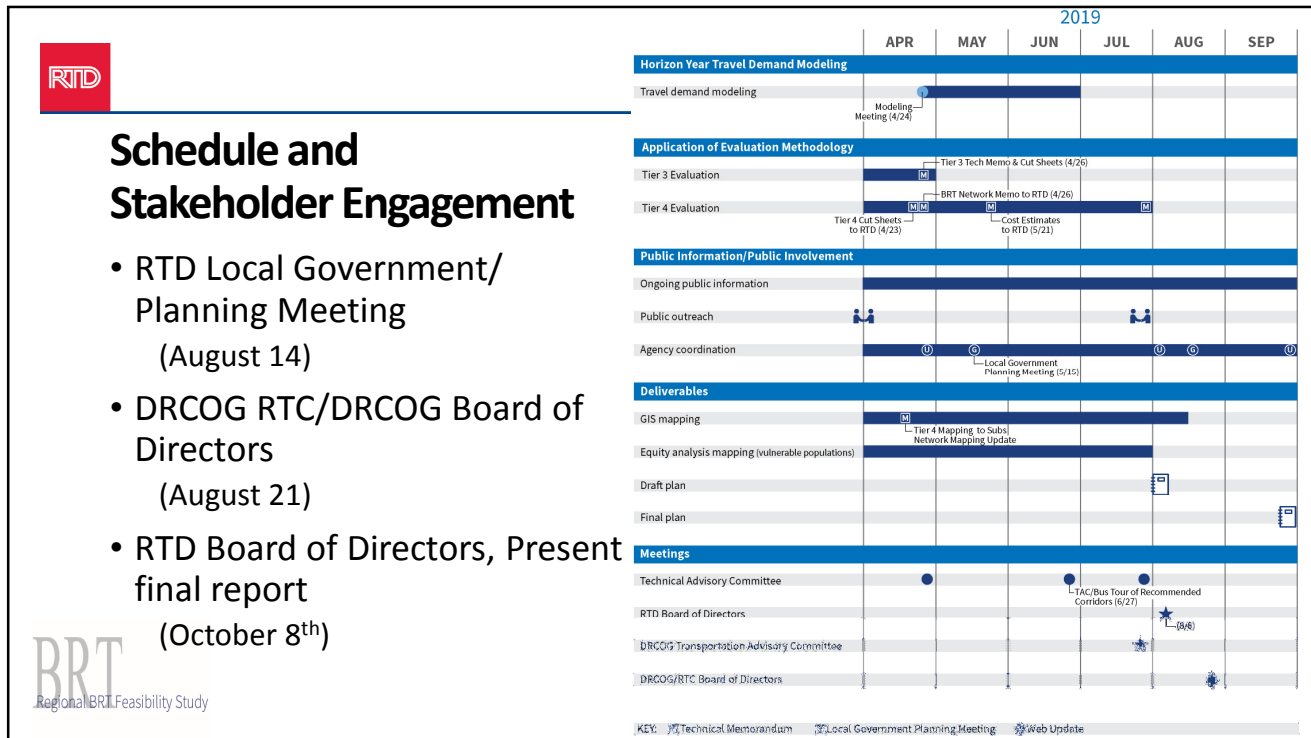
DRAFT Matrix of Tier 4 Results


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	Alameda Ave	Speer Blvd/ Leetsdale Dr/ Parker Rd	Colorado Blvd	Havana St	38th Ave/Park Ave	I-25	Federal Blvd	Broadway
2040 Daily Boardings	●	●	●	●	●	●	●	●
Daily Vehicle Miles Traveled Reduction	●	●	●	●	●	●	●	●
Average Travel Time Savings	●	●	●	●	●	●	●	●
Technology Readiness	●	●	●	●	●	na	●	●
Capital Cost per Mile	●	●	●	●	●	●	●	●
O&M Cost per Boarding	●	●	●	●	●	●	●	●
Safety								
Economic Development Potential	●	●	●	●	●	●	●	●
Small Starts								
Equity	●	●	●	●	●	●	●	●





24





Discussion





Discussion

26



Supporting Materials/Maps



Tier 3 Corridor Development and Evaluation

North I-25 TIER 3 Evaluation

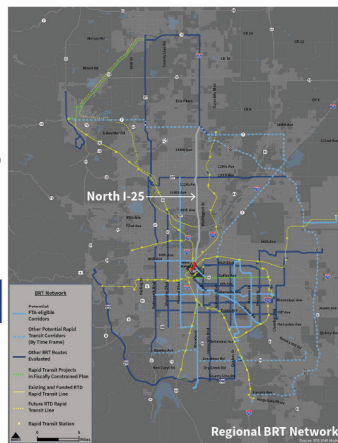


Route
Advanced
to Tier 4

Evaluation Summary

The North I-25 corridor travels through Northglenn, Thornton, Westminster, the City and County of Broomfield, the City and County of Denver, and Adams County. The North I-25 corridor has been identified for express bus service in the North I-25 Environmental Impact Statement (2012) and further evaluated in the North I-25 Planning and Environmental Linkages Study (2014). Broomfield also notes BRT on I-25 in their Transportation Plan (2016). Staff across all communities support BRT service in the managed lanes (existing and planned) on north I-25.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Broomfield	✓	✓	✓	✓	✓	✓	✓	✓
Denver	✓	✓	✓	✓	✓	✓	✓	✓
Northglenn	✓	✓	✓	✓	✓	✓	✓	✓
Thornton	✓	✓	✓	✓	✓	✓	✓	✓
Adams County	✓	✓	✓	✓	✓	✓	✓	✓

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Thornton

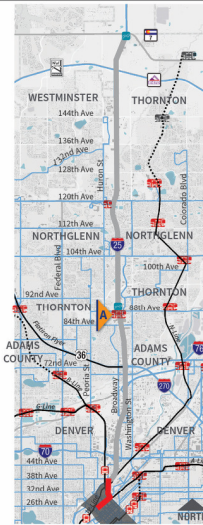
BRT Arden Study 16-408 05/15/19

Physical Viability

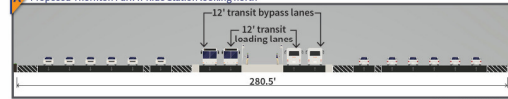
Route Length: 17.5 miles

0% Green 0% Yellow 5% Red 95% Gray

Key
0-11' potentially available for BRT
12-23' potentially available for BRT
24' potentially available for BRT
Existing/Planned Managed Lanes Available for BRT



Proposed Thornton Park-n-Ride Station looking north



29

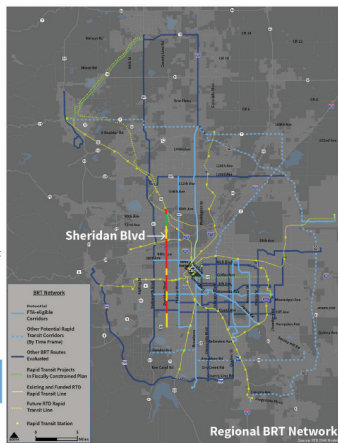
Sheridan Blvd TIER 3 Evaluation



Evaluation Summary

The Sheridan Boulevard corridor travels through the communities of Arvada, Edgewater, Lakewood, Lakewood, Mountain View, Westminster, and Wheat Ridge, as well as the City and County of Denver and Adams and Jefferson counties. Adams County's Moving Connections (2016) identifies the need for BRT service on Sheridan Boulevard between US 36 and I-70. Denver Moves Transit (2016) identifies Denver's section of Sheridan Boulevard as a speed and reliability (enhanced bus) transit corridor, and City of Arvada staff support BRT service on Sheridan Boulevard. There is limited potential for repurposing existing travel lanes along Sheridan Boulevard due to existing and future traffic volumes and the limited space along the corridor. No specific planning has been initiated to evaluate these trade-offs.

This corridor is recommended to be a long-term priority for implementation of BRT service.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Arvada	✓	✓	✓	✓	✓	✓	✓	✓
Denver	✓	✓	✓	✓	✓	✓	✓	✓
Mountain View	✓	✓	✓	✓	✓	✓	✓	✓
Westminster	✓	✓	✓	✓	✓	✓	✓	✓
Wheat Ridge	✓	✓	✓	✓	✓	✓	✓	✓
Adams County	✓	✓	✓	✓	✓	✓	✓	✓

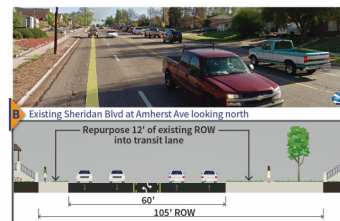
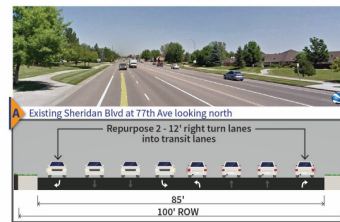
Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Edgewater, Lakewood, Lakewood, Jefferson County

BRT Arden Study 16-408 05/15/19

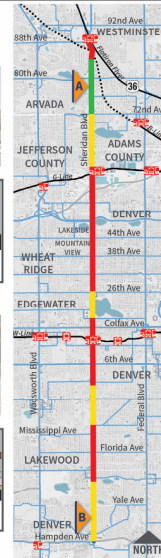
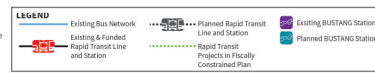
Physical Viability

Route Length: 14.2 miles

11% Green 36% Yellow 53% Red



Key
0-11' potentially available for BRT
12-23' potentially available for BRT
24' potentially available for BRT



30

Federal Blvd TIER 3 Evaluation

Route
Advanced to
Tier 4

Evaluation Summary

The Federal Boulevard corridor travels through Englewood, Federal Heights, Sheridan, Westminster, the City and County of Denver, and Adams and Arapahoe counties. Adams County's *Making Connections* (2016) identifies the need for a BRT study for Federal Boulevard; the Denver section of the route is currently being evaluated for multimodal improvements in the Federal Boulevard Corridor Study; and Westminster has plans to conduct a planning study for their section of the corridor in the near future. The staff of both Denver and Adams County indicate that they would support repurposing travel lanes for transit use on Federal Boulevard, while other communities along the corridor are either unsure or unknown if they would support lane conversion/repurposing for transit use along Federal Boulevard. There is good potential for repurposing travel lanes based on existing and future traffic volumes and available space along the corridor.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.

Community Support for BRT

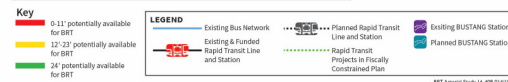
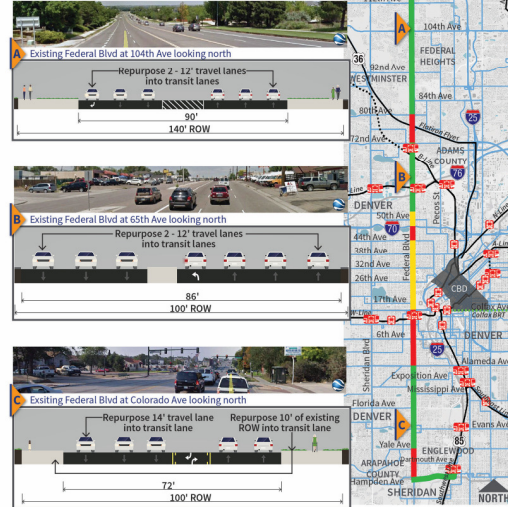
	Adopted Transportation Plan	Adopted Complete Streets Plan, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Denver	✓	✓	○	○	○	○	○	○
Sheridan	✓	✓	○	○	○	○	○	○
Westminster	✓	✓	○	○	○	○	○	○
Adams County	✓	✓	○	○	○	○	○	○

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Englewood, Federal Heights, Arapahoe County

BRT Aerial Study 16-408 03/15/19

Physical Viability
Route Length: 19.7 miles

61% Green 15% Yellow 24% Red



31

Park Ave/38th Ave TIER 3 Evaluation

Route
Advanced to
Tier 4

Evaluation Summary

The 38th Park Avenue corridor travels through Wheat Ridge, the City and County of Denver, and Jefferson County. *Denver Moves: Transit* (2019) recommends 38th Avenue as a medium capacity (rapid bus to full BRT) transit corridor and Park Avenue as a high-capacity (BRT to rail) transit corridor. Denver staff indicate high levels of support for repurposing travel lanes for transit use, but Wheat Ridge staff are unsure if they would support repurposing travel lanes. Overall, this corridor offers good potential for repurposing travel lanes based on existing and future traffic volumes and space along the corridor, though some segments are very constrained as Wheat Ridge staff indicate.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.

Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plan, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Denver	✓	✓	○	○	○	○	○	○
Wheat Ridge	✓	✓	○	○	○	○	○	○

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Jefferson County

BRT Aerial Study 16-408 03/15/19

Physical Viability
Route Length: 7.2 miles

29% Green 11% Yellow 60% Red



32

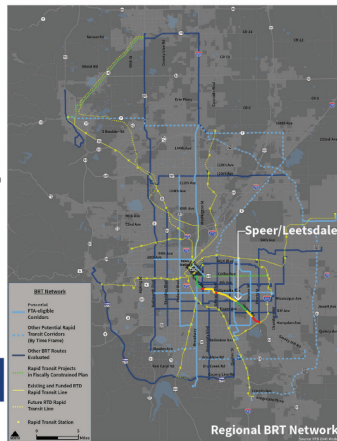
Speer Blvd/Leetsdale Dr/Parker Rd TIER 3 Evaluation



Evaluation Summary

The Speer/Leetsdale corridor travels through Aurora, Glendale, the City and County of Denver, and Arapahoe County. The section of the route that travels through Denver was evaluated in the GoSpeer/Leetsdale Study (2017), which recommends BRT service and developed cross sections throughout the corridor. Denver staff also support the repurposing of travel lanes for transit use and queue jumps or bus bypass lanes along the corridor. City of Aurora's Aurora Places (2018) also identifies this corridor as a high frequency transit corridor, but staff is unsure if they would support repurposing of travel lanes for transit use along the Aurora section of this route without further analysis.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Aurora	✓	✓	✓	✓	✓	✓	✓	✓
Denver	✓	✓	✓	✓	✓	✓	✓	✓

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Glendale, Arapahoe County

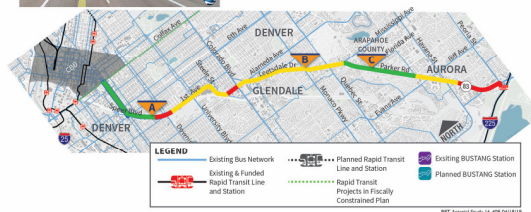
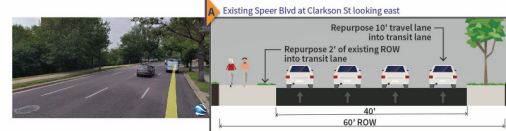
BRT Aralyst Study 16-408 05/15/19

Physical Viability

Route Length: 10.1 miles

34% Green 40% Yellow 26% Red

Key
0-11' potentially available for BRT
12-23' potentially available for BRT
24' potentially available for BRT



33

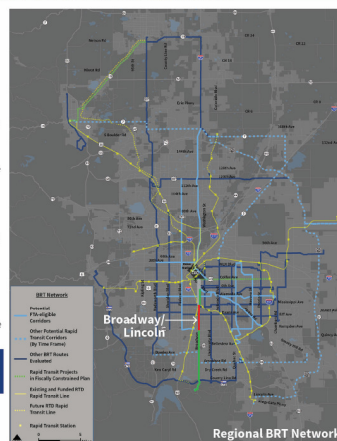
Broadway/Lincoln TIER 3 Evaluation



Evaluation Summary

The Broadway/Lincoln corridor travels through Centennial, Englewood, Littleton, the City and County of Denver, and Arapahoe and Douglas counties. Broadway/Lincoln has existing transit only lanes north of I-25, and Denver Moves: Transit (2019) identifies the entire Denver portion of the corridor as a high-capacity (BRT to rail) transit corridor. Denver staff is interested in expanding the transit-only lanes along Broadway/Lincoln south of the existing service; however, communities south of Denver along the remaining route are either unsure or did not respond to inquiries about the potential for repurposing travel lanes for transit use along the corridor. Overall, the corridor offers good potential for repurposing travel lanes based on existing and future volumes and space along the corridor.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Centennial	✓	✓	✓	✓	✓	✓	✓	✓
Denver	✓	✓	✓	✓	✓	✓	✓	✓

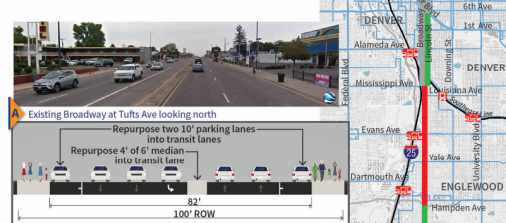
Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Englewood, Littleton, Arapahoe County, Douglas County

BRT Aralyst Study 16-408 05/15/19

Physical Viability

Route Length: 13.9 miles

63% Green 0% Yellow 23% Red 14% Gray



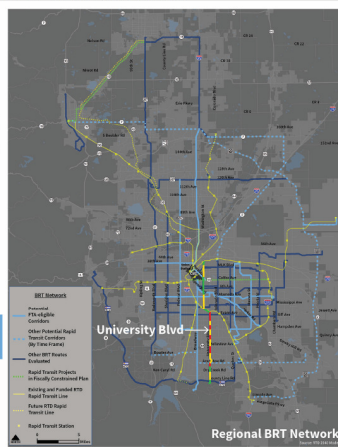
34

University Blvd TIER 3 Evaluation



Evaluation Summary
The University Boulevard corridor travels through Centennial, Cherry Hills Village, Englewood, Greenwood Village, the City and County of Denver, and Arapahoe and Douglas counties. Denver Moves Transit (2019) has identified Denver's section of the corridor as a medium-capacity/rapid transit to full BRT transit corridor. No other communities have formally recommended BRT-type transit service along the corridor. There is limited potential for repurposing travel lanes due to existing and future traffic volumes and the limited space along the corridor. No corridor-specific planning has been initiated to evaluate these trade-offs.

This corridor is recommended to be a long-term priority for implementation of BRT service.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Financial Support for Capital Improvements	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Centennial	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely
Denver	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely
Greenwood Village	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely

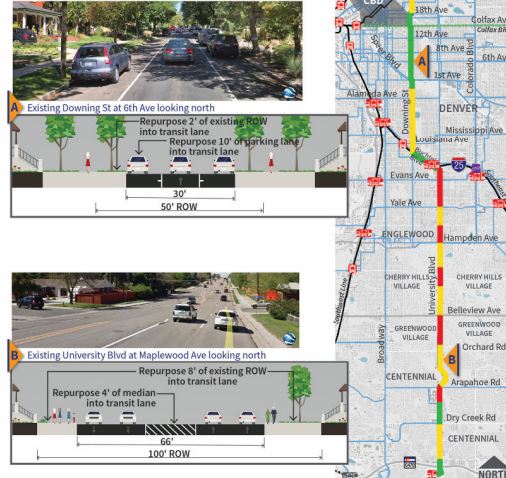
Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Cherry Hills Village, Englewood, Arapahoe County, Douglas County

BRT Arterial Study 16-408 03/15/19

Physical Viability

Route Length: 15.4 miles

30% Green 48% Yellow 22% Red



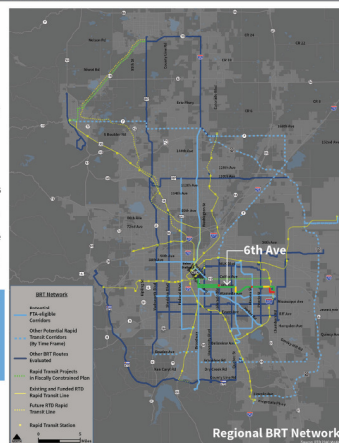
35

6th Ave TIER 3 Evaluation



Evaluation Summary
The 6th and 8th Avenue corridor travels through Aurora, the City and County of Denver, and Arapahoe County. Denver Moves Transit (2019) identifies 6th Avenue as a speed and reliability (enhanced bus) transit corridor and Denver staff indicate support for travel lane conversion on 6th Avenue. There is good potential for repurposing travel lanes along 6th and 8th avenues due to relatively low traffic volumes and the potential for repurposing existing space (parking) along the corridor. However, no specific planning has been initiated to evaluate these trade-offs.

Although this assessment indicates the potential for BRT service, the lower level of service recommended (enhanced bus) in Denver Moves Transit (2019) makes this corridor a long-term priority for implementation of BRT service.

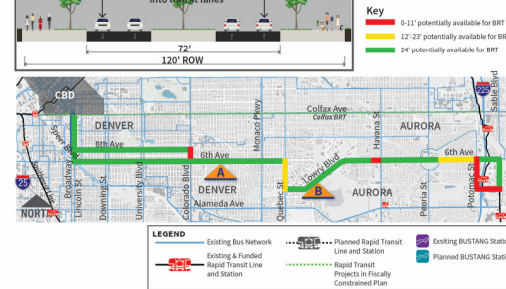
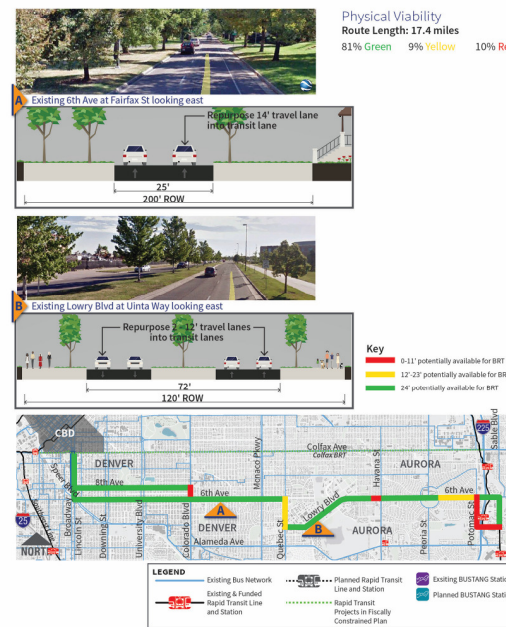


Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Financial Support for Capital Improvements	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Aurora	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely
Denver	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Arapahoe County

BRT Arterial Study 16-408 03/15/19



36

Colorado Blvd TIER 3 Evaluation

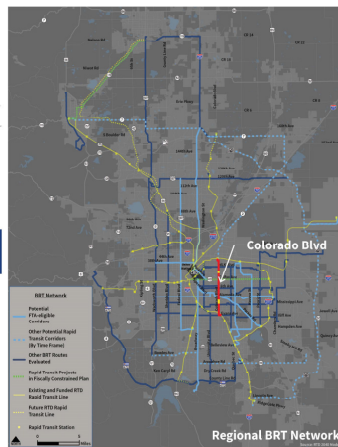


Route
Advanced to
Tier 4

Evaluation Summary

The Colorado Boulevard corridor travels through Glendale, the City and County of Denver, and Arapahoe County. Denver Moves Transit (2019) identifies Colorado Boulevard as one of six future high-capacity (full BRT or rail service) transit corridors. Denver staff indicate a high level of support for repurposing travel lanes on Colorado Boulevard for transit use.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Denver	✓	✓	✓	✓	✓	✓	○	✓

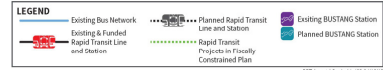
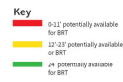
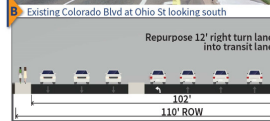
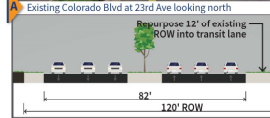
Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Glendale, Arapahoe County

BRT Annual Study 16-408 05/15/19

Physical Viability

Route Length: 14.2 miles

0% Green 12% Yellow 88% Red



BRT Annual Study 16-408 05/15/19

37

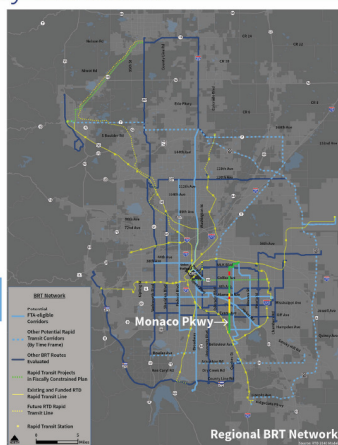
Monaco Pkwy TIER 3 Evaluation



Evaluation Summary

The Monaco Parkway corridor travels through the City and County of Denver and Arapahoe County. Denver Moves Transit (2019) did not identify Monaco Parkway as a transit corridor. No corridor-specific planning has been initiated on Monaco Parkway, but there is good potential for repurposing travel lanes in some areas due to the relatively low existing and future traffic volumes along Monaco Parkway. However, available space is limited due to the historically designated central parkway north of 6th Avenue.

This corridor is recommended to be a long-term priority for implementation of BRT service.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Denver	✓	✓	✓	✓	✓	○	○	✓

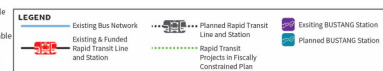
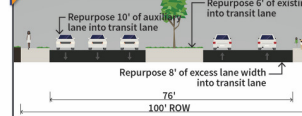
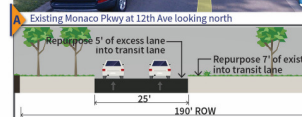
Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Arapahoe County

BRT Annual Study 16-408 05/15/19

Physical Viability

Route Length: 9.7 miles

74% Green 22% Yellow 4% Red



BRT Annual Study 16-408 05/15/19

38

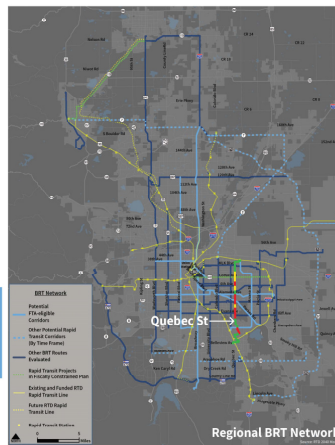
Quebec St TIER 3 Evaluation



Evaluation Summary

The Quebec Street corridor travels through Centennial, Greenwood Village, the City and County of Denver, and Arapahoe County. Community plans have not identified the implementation of BRT on Quebec Street, but there is good potential for repurposing travel lanes along Quebec Street due to existing and future traffic volumes. Communities show support for BRT at the staff and planning levels, and a Multimodal Improvement Project has been initiated by Denver to assess potential multimodal improvements along the corridor.

Although this assessment indicates the potential for BRT service, the lower level of service recommended (enhanced bus) in Denver Moves: Transit (2019) makes this corridor a long-term priority for implementation of BRT service.



Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Ordinances	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Centennial	✓	✓	○	○	○	○	○	○
Denver	✓	✓	○	○	○	○	○	○
Greenwood Village	✓	✓	○	○	○	○	○	○

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Arapahoe County

BRT Arapahoe Study 16-408 06/13/19

Physical Viability

Route Length: 12.1 miles

37% Green 21% Yellow 42% Red



39

Alameda Ave TIER 3 Evaluation

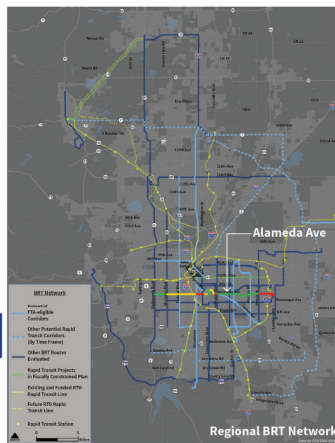


Route Advanced to Tier 4

Evaluation Summary

The Alameda Avenue corridor travels through Aurora, Glendale, Lakewood, the City and County of Denver, and Jefferson and Arapahoe counties. Denver Moves: Transit (2019) identifies Alameda Avenue as a medium-capacity (rapid transit to full BRT) transit corridor and Lakewood 2025 recommends exploring dedicated transit lanes on Alameda Avenue. However, no corridor-specific planning has been initiated on Alameda Avenue. There is moderately good potential for repurposing travel lanes along Alameda Avenue due to relatively low existing and future traffic volumes and available space along the corridor.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.

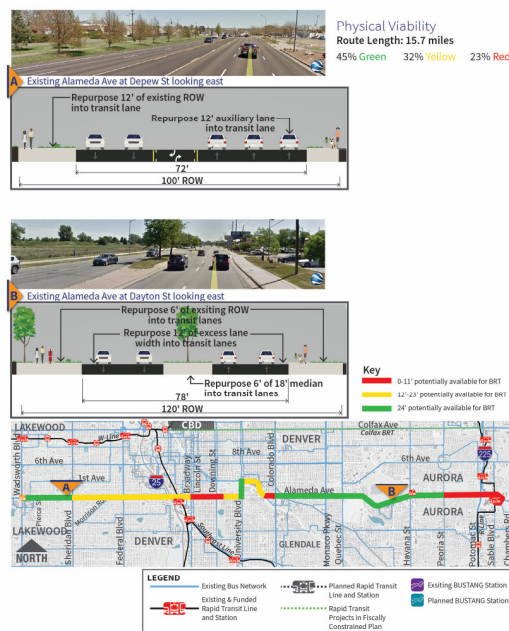


Community Support for BRT

	Adopted Transportation Plan	Adopted Complete Streets Plans, Policies, and/or Ordinances	Likelihood of Policy Level Support	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Aurora	✓	✓	○	○	○	○	○	○
Denver	✓	✓	○	○	○	○	○	○

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Lakewood, Arapahoe County, Jefferson County

BRT Arapahoe Study 16-408 05/13/19



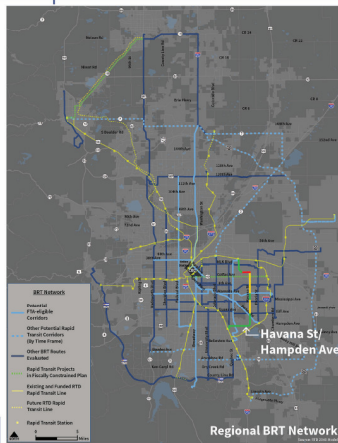
40

Havana St/Hampden Ave TIER 3 Evaluation



Evaluation Summary
The Havana Street/Hampden Avenue corridor includes Havana Street on the north and Hampden Avenue on the south. This corridor travels through Aurora, the City and County of Denver, and Adams and Arapahoe counties. Aurora Places (2018) is currently being updated to include Havana Street as a high-frequency transit corridor, and Denver Moves: Transit (2019) identifies Hampden Avenue as a speed and reliability (enhanced bus) transit corridor. City of Aurora staff indicate support for bus bypass lanes/queue jumps, and Denver staff are likely to support general-purpose travel lane conversion for priority bus use. Denver has also initiated corridor-specific planning along Hampden Avenue with the Hampden Avenue Corridor Study, although the study does not recommend transit lanes. There is good potential for repurposing travel lanes along Havana and Hampden Avenue based on existing and future traffic volumes and available space along the corridor.

This corridor will be progressed for further evaluation into Tier 4 of the RTD Regional BRT Feasibility Study.



Community Support for BRT

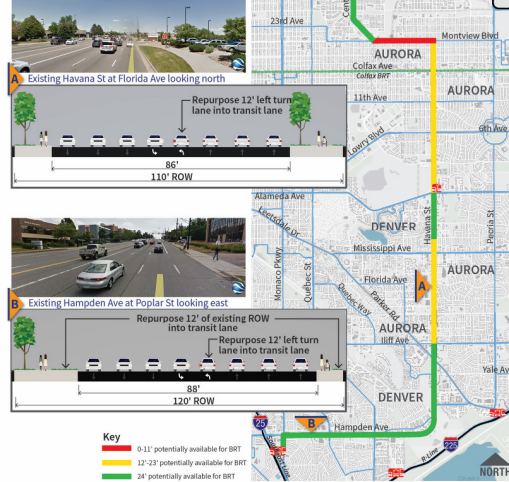
	Adapted Transportation Plan	Adapted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Aurora	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely
Denver	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Arapahoe County.

BRT Aerial Study 16-408 05/15/19

Physical Viability

Route Length: 12.0 miles
57% Green 35% Yellow 8% Red



Key
0-11' potentially available for BRT
12-23' potentially available for BRT
24' potentially available for BRT

LEGEND
Existing Bus Network
Existing & Funded Rapid Transit Line and Station
Planned Rapid Transit Line and Station
Planned BUSTANG Station
Planned BUSTANG Station
Rapid Transit Projects in Fiscally Constrained Plan

BRT Aerial Study 16-408 05/15/19

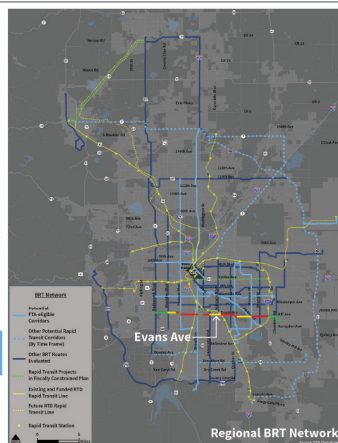
41

Evans Ave TIER 3 Evaluation



Evaluation Summary
The Evans Avenue corridor travels through Aurora, Englewood, Lakewood, the City and County of Denver, and Arapahoe and Jefferson counties. Denver Moves: Transit (2019) identifies Denver's section of the corridor as a medium-capacity rapid transit to full BRT transit corridor. Denver staff have indicated a high level of support for repurposing travel lanes on Evans Avenue. No other communities have formally recommended BRT-type transit service along the corridor. There is also limited potential for repurposing existing travel lanes due to existing and future traffic volumes and the limited space along the corridor. No specific planning has been initiated to evaluate these trade-offs.

This corridor is recommended to be a long-term priority for implementation of BRT service.



Community Support for BRT

	Adapted Transportation Plan	Adapted Complete Streets Plans, Policies, and/or Guidelines	Likelihood of Planning Level Support	Likelihood of Staff Support	Likelihood of Financial Support for Capital Improvements	Likelihood of Financial Support for Annual Operations & Maintenance Costs	Likelihood of Elected Officials Prioritizing Transit Improvements on Candidate Corridors
Aurora	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely
Denver	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely	Very likely

Source: RTD Regional BRT Local Agency Community Support Survey, February 2019
Survey responses not received from Englewood, Lakewood, Arapahoe County, Jefferson County.

BRT Aerial Study 16-408 05/15/19



Physical Viability
Route Length: 15.7 miles
22% Green 27% Yellow 43% Red

Key
0-11' potentially available for BRT
12-23' potentially available for BRT
24' potentially available for BRT

LEGEND
Existing Bus Network
Existing & Funded Rapid Transit Line and Station
Planned Rapid Transit Line and Station
Planned BUSTANG Station
Planned BUSTANG Station
Rapid Transit Projects in Fiscally Constrained Plan

BRT Aerial Study 16-408 05/15/19

42



Tier 4 Corridor Development

BRT
Regional BRT Feasibility Study

43



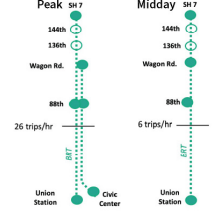
I-25

Existing Peak Service Plan

Route	Segment	Way-Pk Freq	Way-Pk Sat	Way-Pk Sun
120X	120th to Civic Center	7.5*	30	na
122X	120th to Civic Center	5	na	na

*Peak direction frequency
2016 Average Weekday Boardings: 4,750

Proposed Service Plan

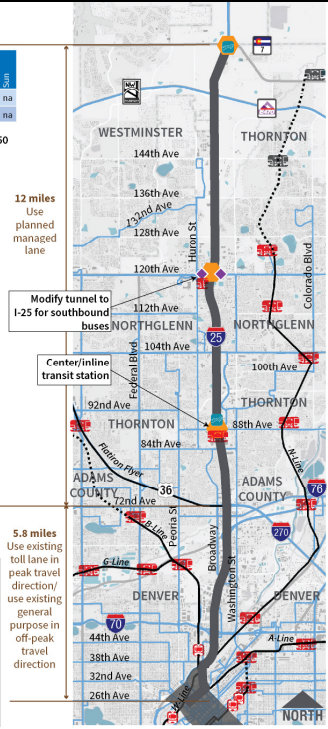


Route	Segment	Way-Pk Freq	Way-Pk Sat	Way-Pk Sun
NI-25.1	SH 7 to DUS	10	10	15
NI-25.2	120th to Civic Center	3	na	na

1. In peak period, long pattern from SH 7 operates at 10-min frequency and short pattern operates at 3-min frequency
2. 136th and 144th are on-line and walk-up stations
3. Peak period short pattern from Wagon Rd makes same stops downtown as 122X

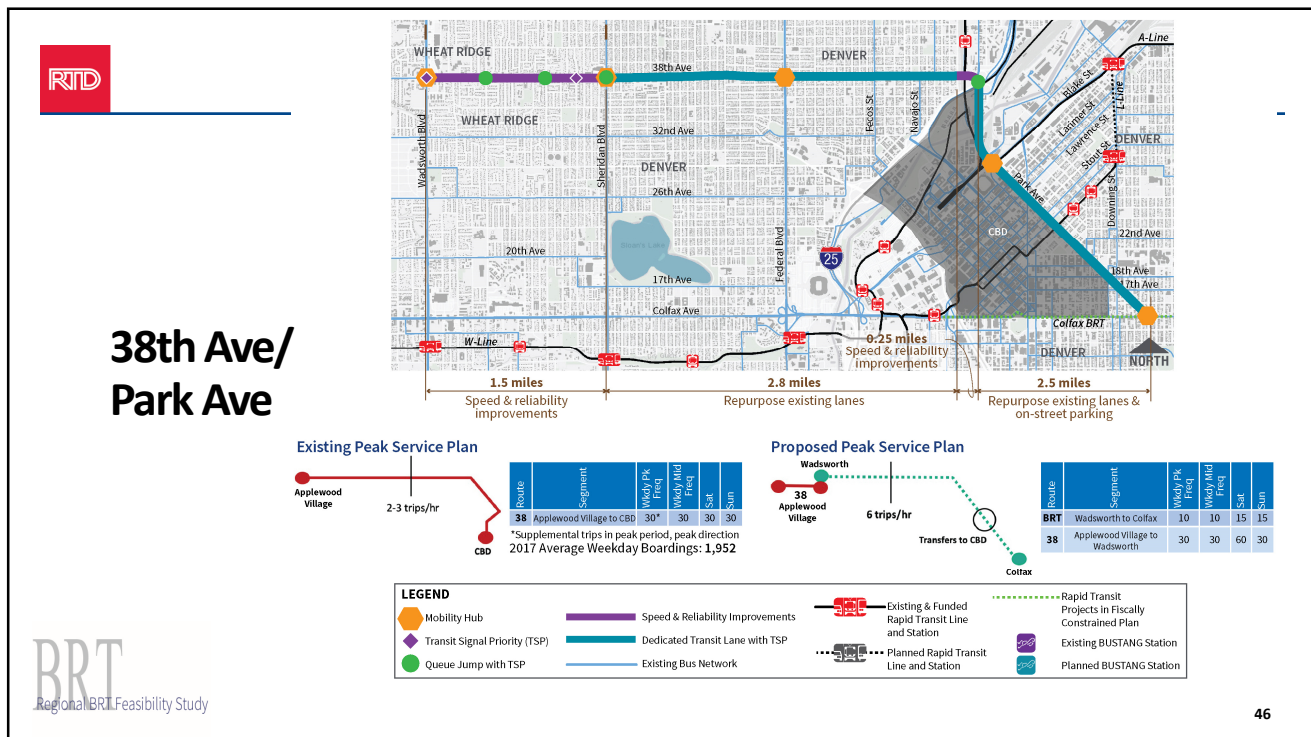
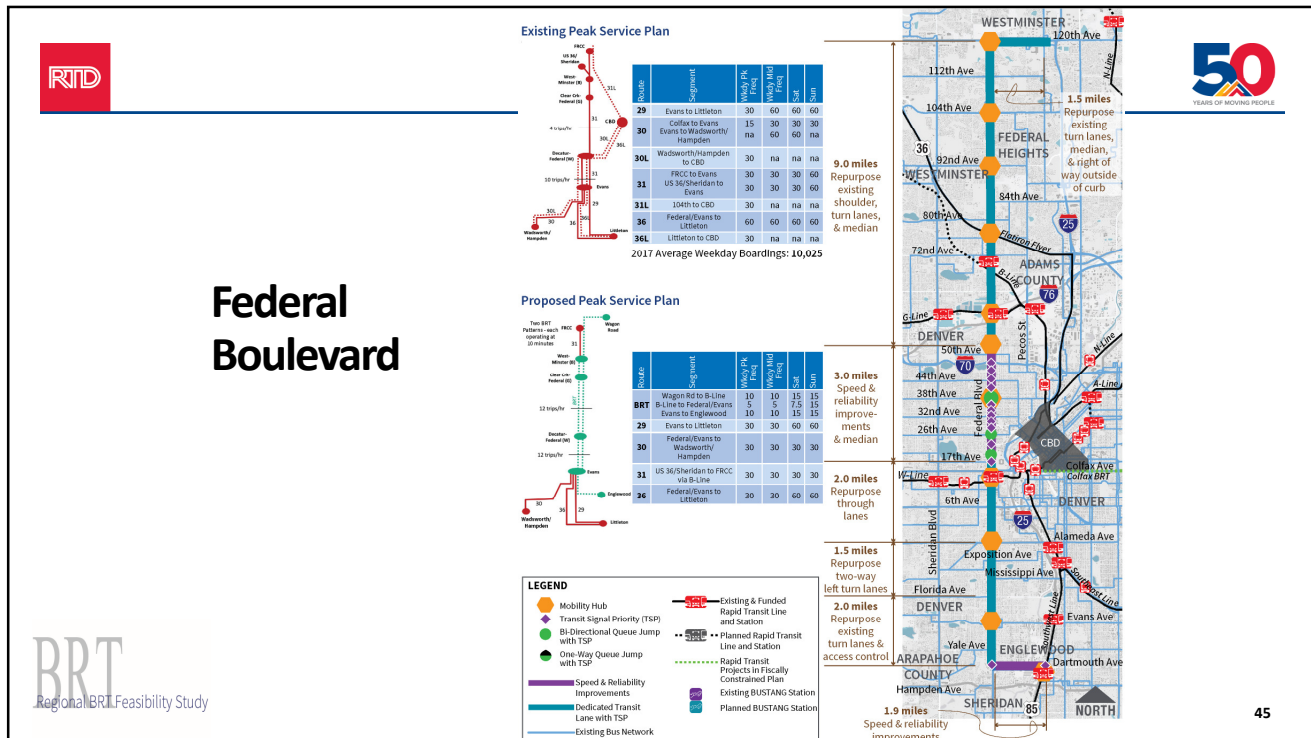
LEGEND

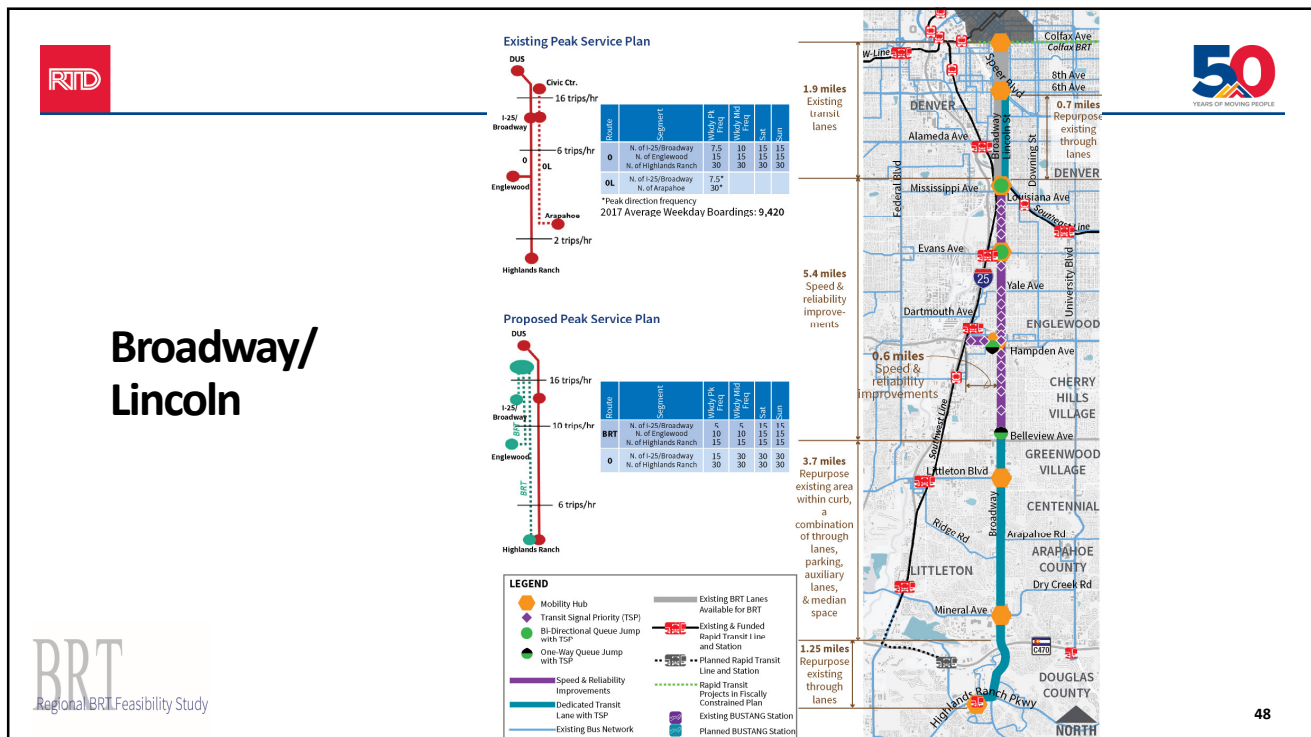
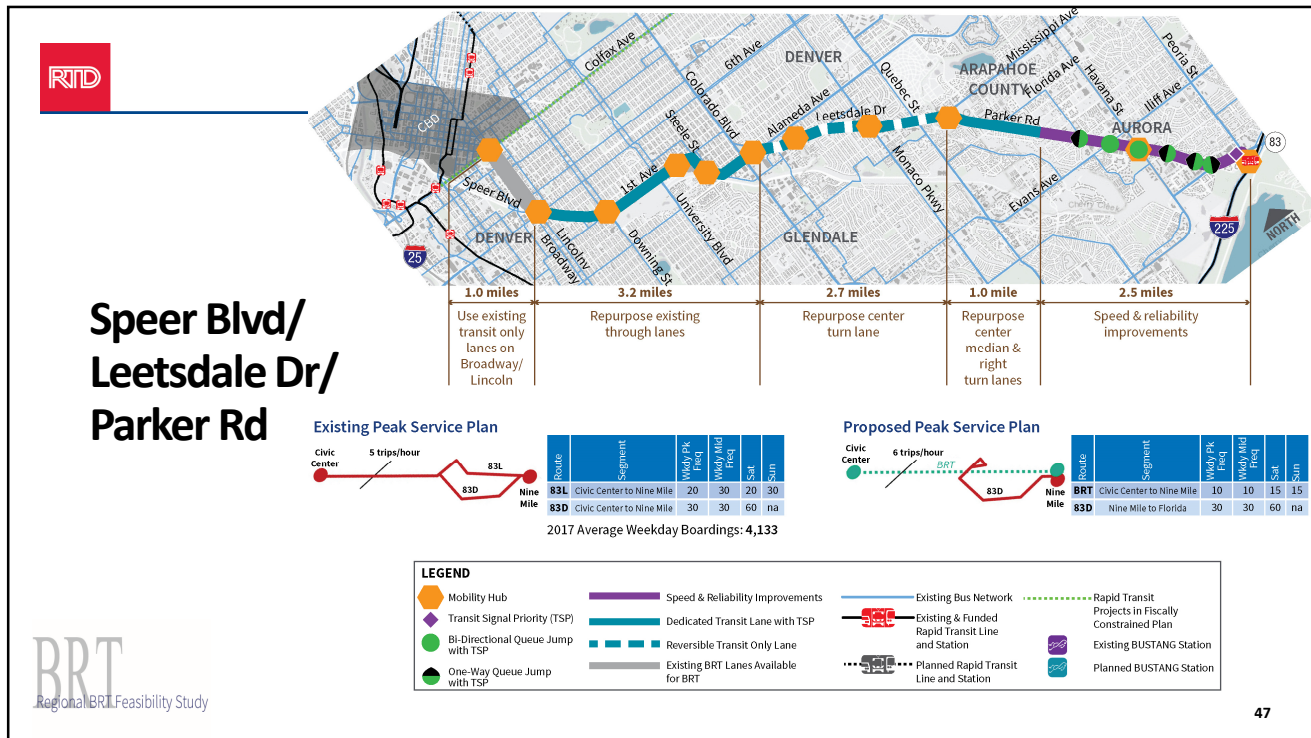
- Mobility Hub
- ◆ Transit Signal Priority (TSP)
- Bi-Directional Queue Jump with TSP
- One-Way Queue Jump with TSP
- Existing & Planned Managed Lanes
- Existing Bus Network
- Existing & Funded Rapid Transit Line and Station
- Planned Rapid Transit Line and Station
- Rapid Transit Projects in Fiscally Constrained Plan
- Existing BUSTANG Station
- Planned BUSTANG Station

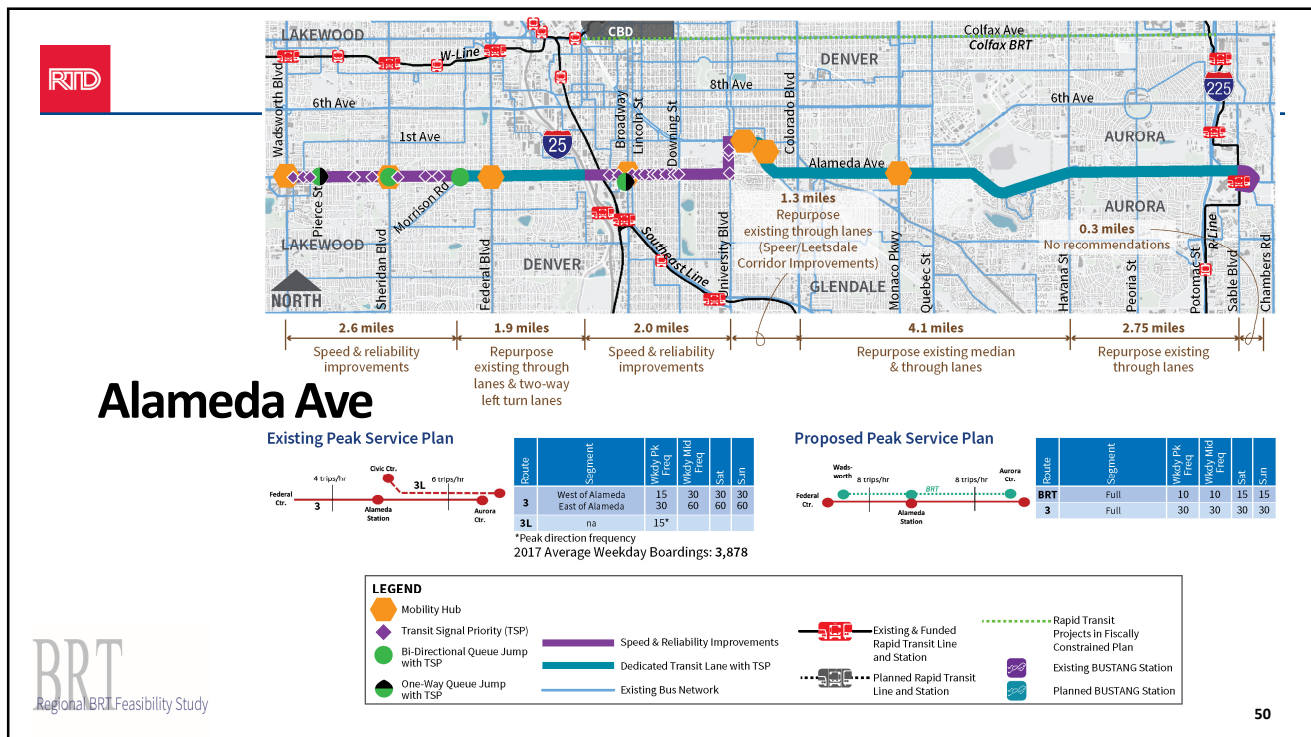
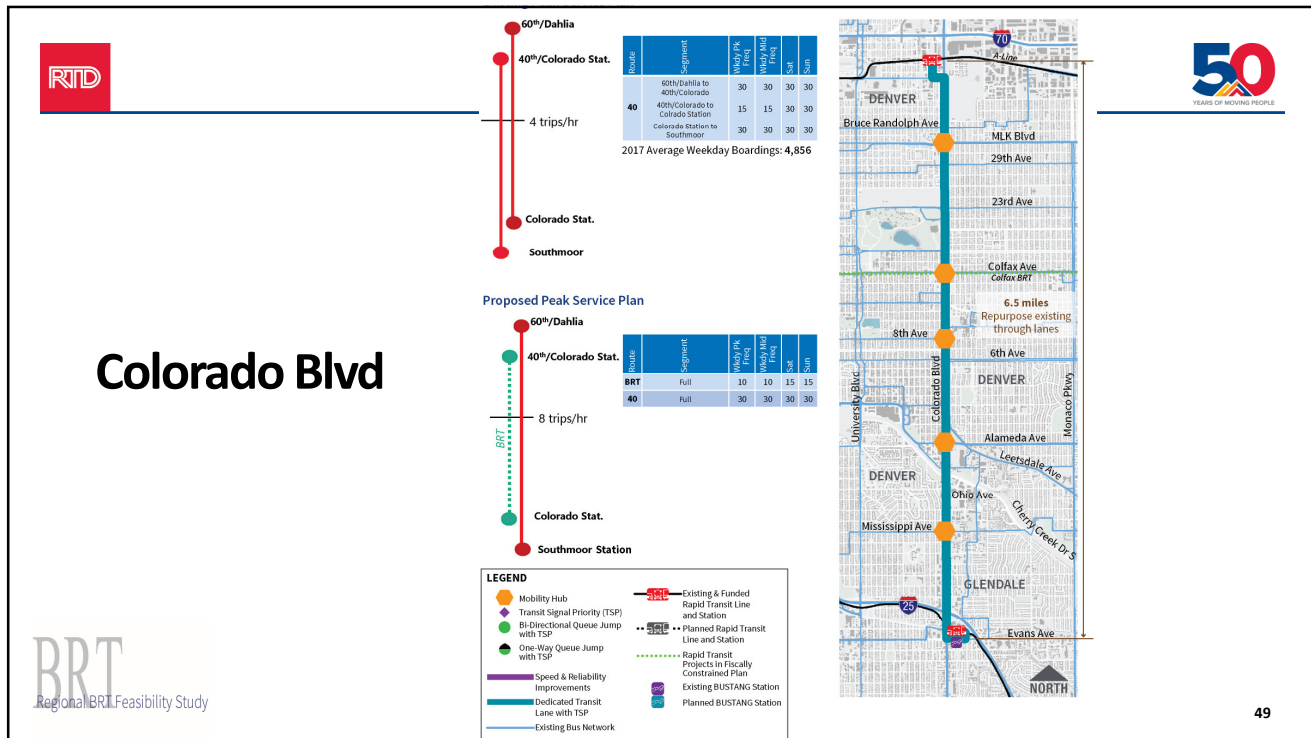


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44







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