



Regional Transportation Update

Sarah Grant
Transportation Manager
September 7, 2021



Broomfield Transportation Vision

PROVIDE A WELL CONNECTED AND WELL MAINTAINED MULTIMODAL TRANSPORTATION SYSTEM THAT SAFELY AND EFFECTIVELY ACCOMMODATES ALL MODES (PEDESTRIAN, BICYCLE, AUTOMOBILE, BUS, RAIL AND FREIGHT) , PROVIDES MOBILITY FOR GOODS AND PEOPLE OF ALL AGES AND ABILITIES WHILE SUPPORTING ECONOMIC DEVELOPMENT, REDUCING DEPENDENCE ON THE SINGLE OCCUPANT VEHICLE, AND MINIMIZING ENVIRONMENTAL IMPACTS.



Transportation Plan Goals

Goal A: People and Goods Moving Capacity

Optimize the capacity of the multimodal transportation system to handle existing and projected travel demands associated with moving people and goods.

Goal B: Alternative Modes

Promote and develop transportation alternatives to provide travel choices and mobility for people of all ages and abilities.

Goal C: A Connected Transportation System

Create and collaborate on an interconnected transportation system that facilitates safe travel for all modes, allows for seamless connections between modes, and provides linkages between neighborhoods and to neighboring communities.



Transportation Plan Goals

Goal D: Livable Streets

Encourage livable streets that are accessible, safe, efficient, and enjoyable for all people.

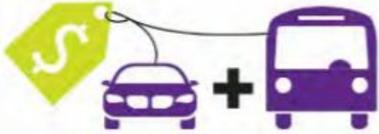
Goal E: Regional Transportation Planning

Participate in and influence regional transportation planning efforts and Broomfield's accessibility to the regional multimodal network, while coordinating with neighboring communities to promote an efficient and integrated transportation system.

Goal F: Land Use and Transportation

Integrate the multimodal transportation system to support and complement Broomfield's economic development plans and policies.

Broomfield Household Transportation Costs



\$13,198 → **\$13,782**
Annual Transportation Costs



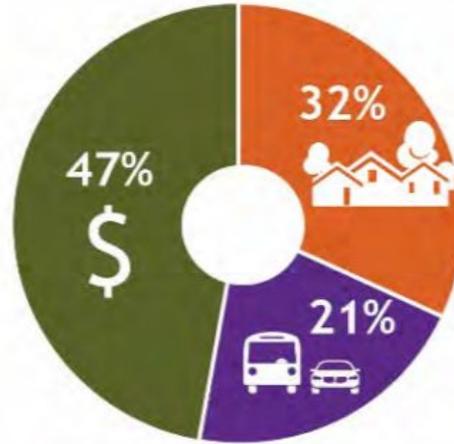
1.84 → **1.88**
Autos per Household



22,172 → **21,638**
Annual Average Household Vehicle Miles Traveled



26.2 Minutes → **27.8**
Average Travel Time to Work



Broomfield residents pay approximately 53 percent of their household income to cover the cost of their housing and transportation. The Center for Neighborhood Technology's (CNT) research indicates that these costs should remain below 45 percent of the household income to be affordable.

Source: Center for Neighborhood Technology H+T Fact Sheet



Regional Context

86%
of employed
Broomfield
residents
work outside of
Broomfield



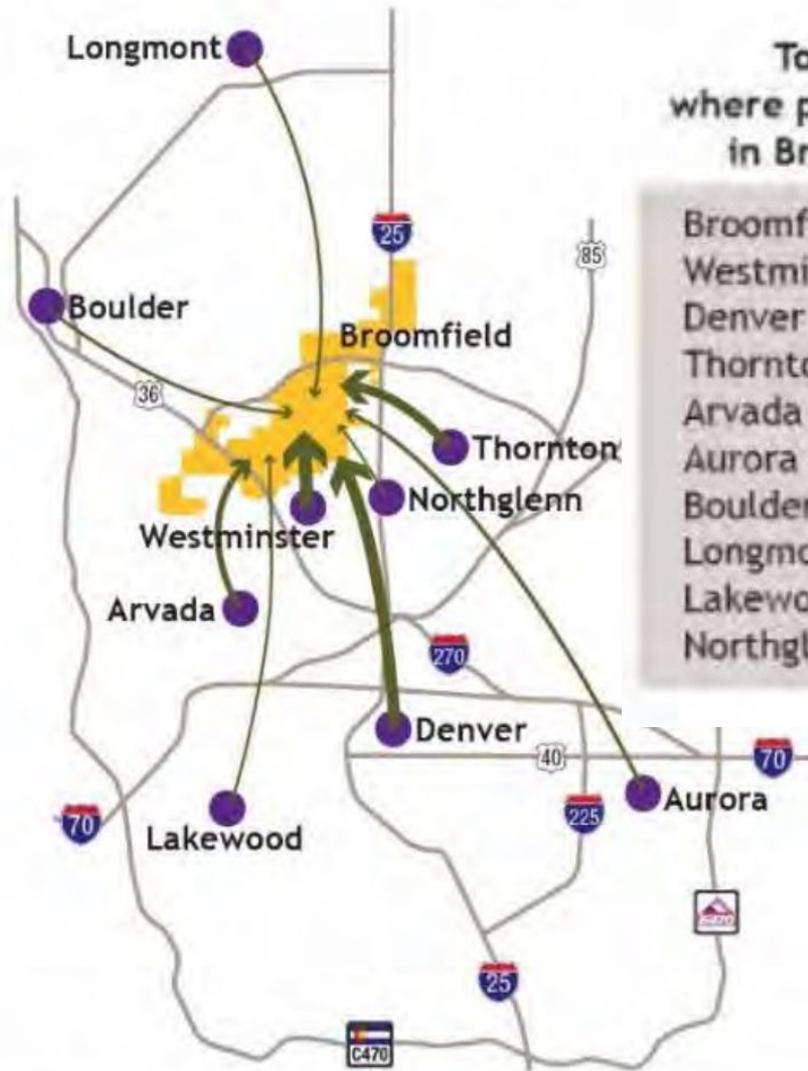
Top10 cities
where people who live in
Broomfield are employed

Denver	19.5%
Boulder	14.2%
Broomfield	14.1%
Westminster	6.6%
Lakewood	3.5%
Aurora	3.3%
Louisville	3.3%
Northglenn	3.0%
Longmont	2.2%
Thornton	2.1%



Regional Context

88%
of Broomfield employees live outside Broomfield



Top 10 cities where people employed in Broomfield live

Broomfield	11.7%
Westminster	10.6%
Denver	9.8%
Thornton	8.1%
Arvada	5.4%
Aurora	3.4%
Boulder	3.1%
Longmont	2.9%
Lakewood	2.3%
Northglenn	2.2%

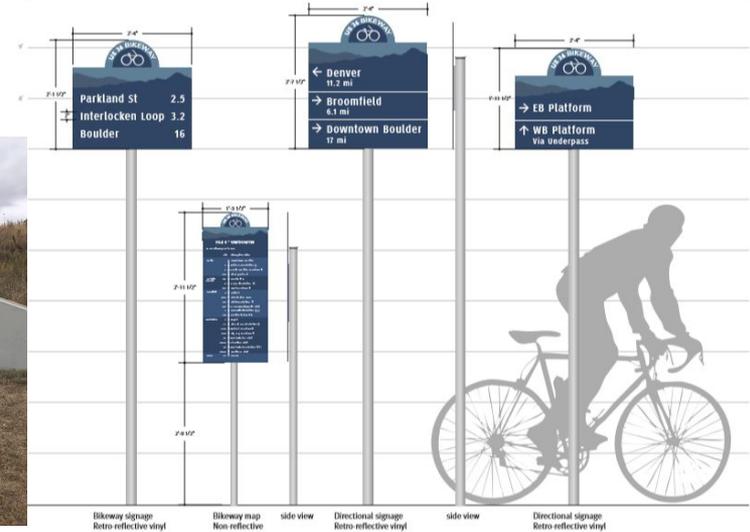
US 36 First & Final Mile

- US 36 First & Final Mile Improvements
 - US 36 Bikeway Wayfinding (2017-2018)
 - Bike N Ride Secure Bike Shelters (2021-2022)
 - Ongoing active transportation access & connectivity projects
 - Evaluate shared micro-mobility options
 - Future: Transportation Demand Management (TDM) programs to encourage multimodal options



Illuminated beacon

Bike shelter- Front elevation



Bikeway signage
Retro reflective vinyl

Bikeway map
Non reflective

side view

Directional signage
Retro reflective vinyl

side view

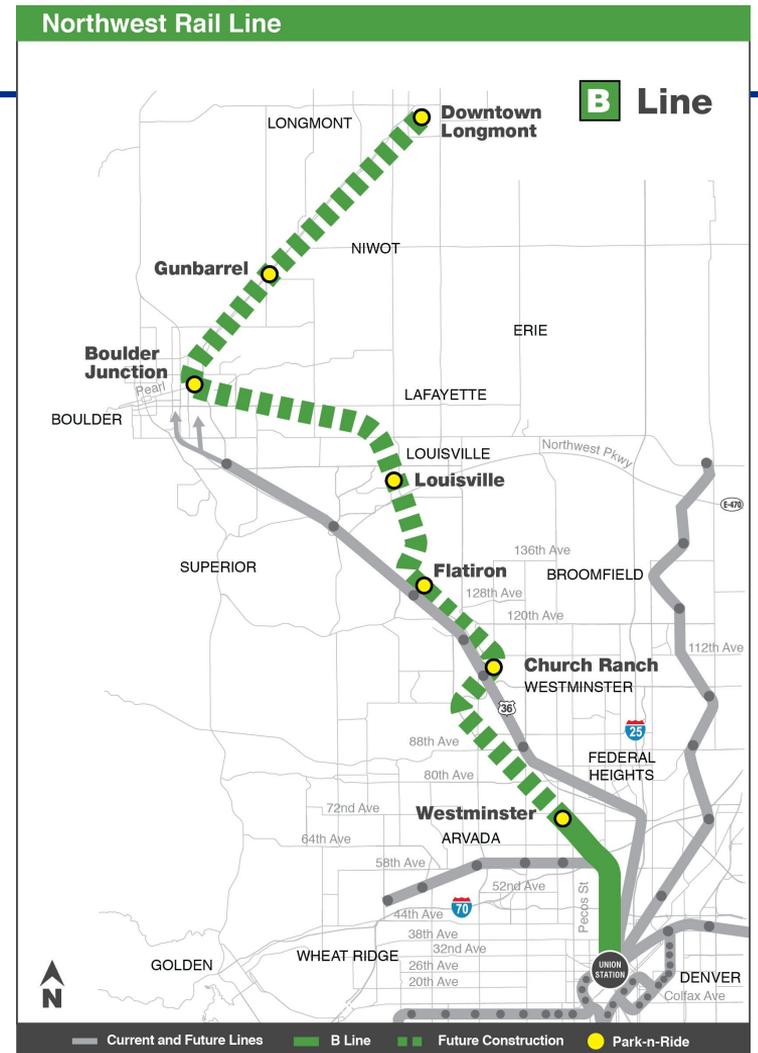
Directional signage
Retro reflective vinyl



Northwest (Commuter) Rail

Original Assumptions

- 41-mile Commuter Rail corridor
- Six FasTracks-funded stations:
 - Westminster, Church Ranch, Flatiron Broomfield, Louisville Downtown, Boulder Junction, Gunbarrel (Boulder), Longmont Downtown
- 55 trips per day
- Estimated travel time 61 minutes (full corridor)
- Double track configuration
 - Would share tracks with BNSF freight operations
- Diesel Multiple Unit (DMU) technology
 - Existing B-Line to Westminster currently using Electric Multiple Units (EMU)
- Would require DMU maintenance facility
- Cost Assumption.: \$1.5 - \$1.7 billion (2018\$)
- Average Daily Ridership: 5,400 daily riders (2040)



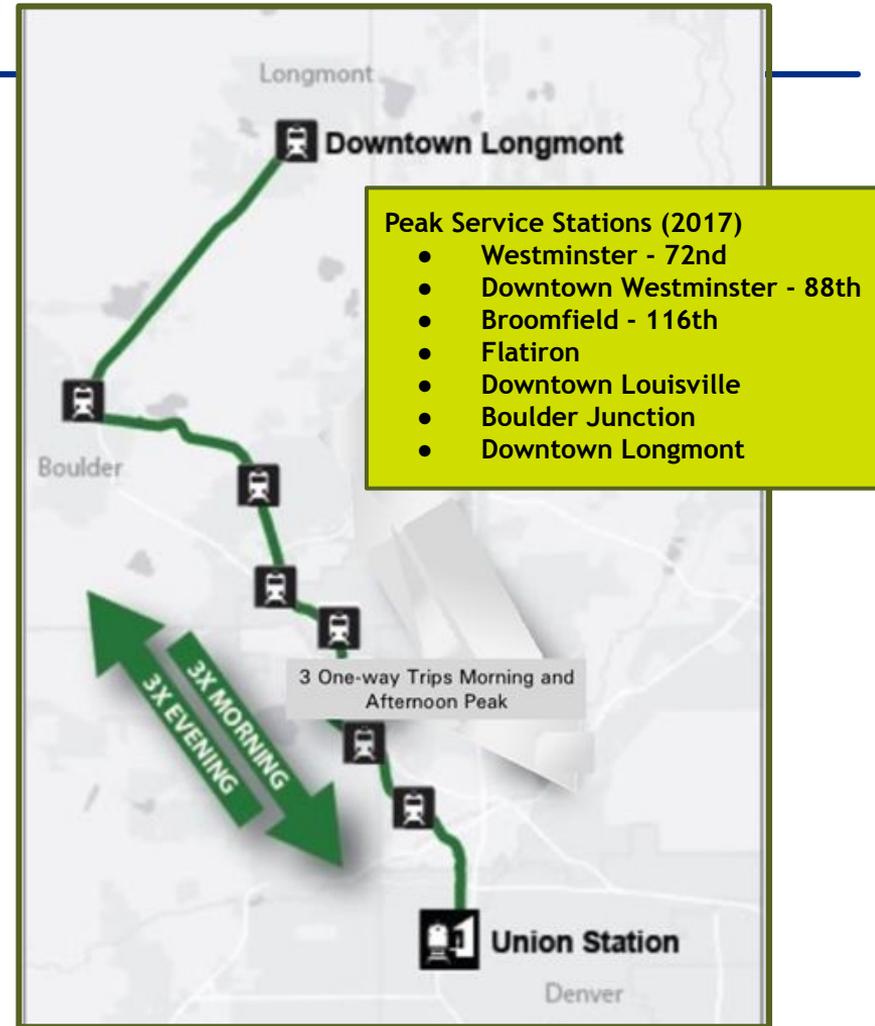
Northwest Rail

- First 6 miles Union Station to Westminster Station (72nd & Lowell) opened July 2016
- 2019 Ridership - 477,286



Peak Hour Starter Service Northwest Rail

- 35 miles remaining Westminster to Longmont
- Intent to provide an initial service requiring minimal infrastructure improvements to keep capital costs as low as possible
- Service:
 - Morning Peak - Three one-way trains from Longmont to Denver
 - Evening Peak - Three one-way trains from Denver to Longmont
 - 60-70 minute travel time
- Would generally rely on single-track operation (shared with freight traffic) with construction of new sidings (passing tracks)
- Would require maintenance facility



Northwest Rail

- 2018/2019 US 36 MCC makes a commitment to Northwest Rail in recognition of 2004 FasTracks approval by voters
- 2019 RTD Board adopts a resolution to commit to completion of FasTracks and support Peak Service Rail
- 2019 RTD staff delivers the FasTracks Unfinished Corridors Report at the direction of the RTD Board
- 2019/2020 NW MCC & RTD continue conversations with BNSF to more fully understand unknown costs. BNSF requests funding to further study Peak Rail Service operations request.
- 2020 NW MCC successfully protects the RTD FasTracks Internal Savings Account (FISA)
- 2021 Broomfield completes construction of Quiet Zones safety improvements

FasTracks

Initial Unfinished Corridors Report

June 14, 2019



Regional Transportation District
1650 Stout Street, Denver, Colorado
303.239.6000 rtd-denver.com



Front Range Passenger Rail

FRPR Commission's Purpose (SB 17-153)

- Work to preserve Amtrak's Southwest Chief service across southeast Colorado
 - Work with neighboring states of Kansas and New Mexico to upgrade rails, ties, signal systems and other rail infrastructure on BNSF's Amtrak Southwest Chief route across the three states
 - Pursue possible Amtrak Southwest Chief service extension into Pueblo and possibly Colorado Springs from La Junta
 - Consider re-routing the Southwest Chief service between La Junta and Trinidad by way of Pueblo and Walsenburg to better serve southern Colorado
- Facilitate the development of Front Range Passenger Rail service

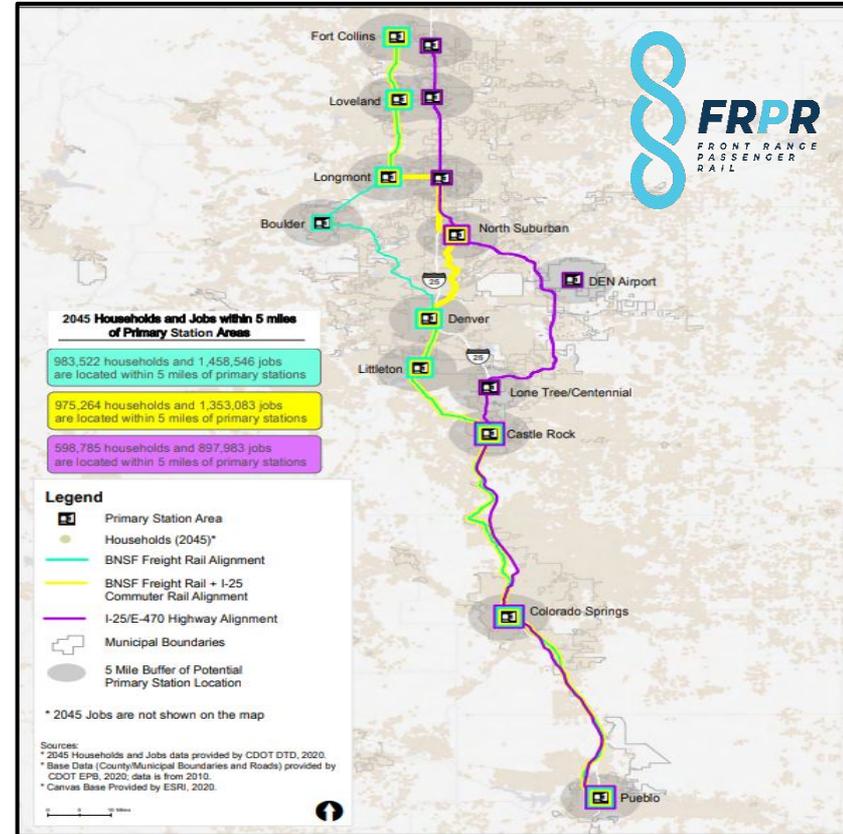


FRPR Rail Modeling Results

Alternatives Analysis Big Takeaway: Model Projects a Notable Demand for Rail

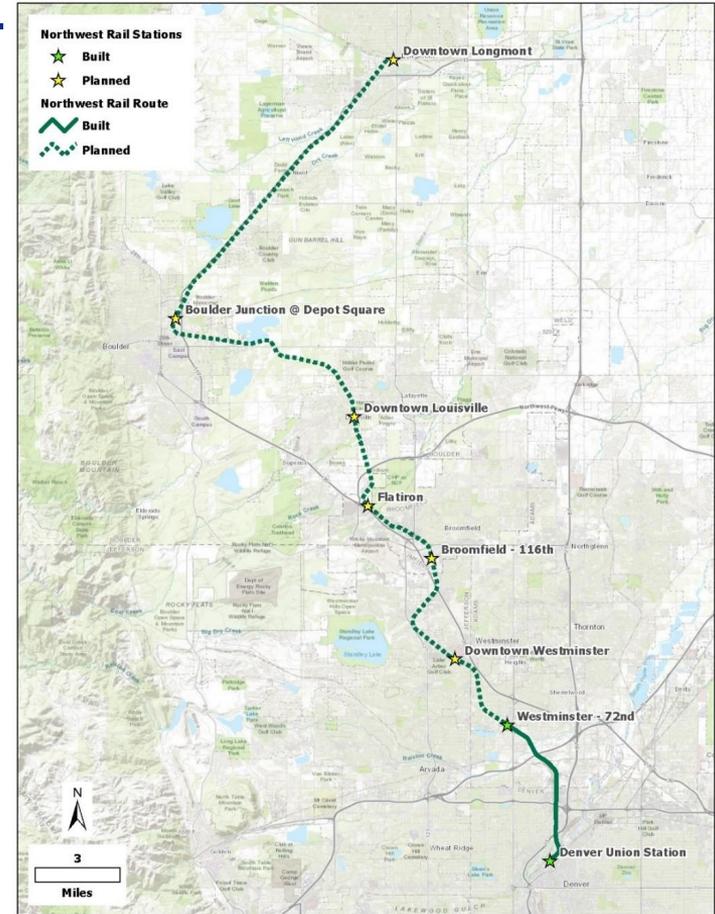
After months of data-intensive work and many simulated runs, the FRPR Study found:

- There would be notable demand for rail service all along the Front Range.
- Demand is highest for commuters, but there's also substantial demand for recreation and special events.
- Front Range Passenger Rail ridership projections fare well when compared to other successful intercity rail lines across the country.
- There would be real reductions in emissions and vehicle miles traveled.



Northwest Rail 2021 Update

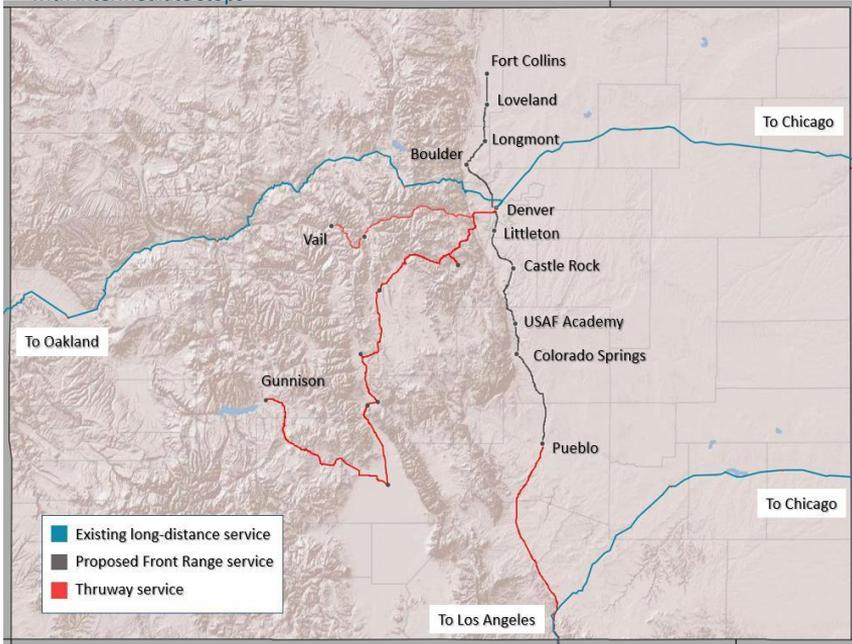
- DRCOG & RTD add NWR to the 2050 Regional Transportation Plan
- Front Range Passenger Rail Alternatives Analysis identifies the BNSF corridor between DUS and Longmont with most promising ridership potential
- FRPR Commission voted on its preference for the BNSF alignment, further study is required. The alignment is not determined until study is completed.
- SB21-260 allocates funds to allow FRPR to continue the next level of study
- SB21-238 allows for the creation of the Front Range Passenger Rail District
- RTD resumes study of Northwest Rail Peak service
 - RTD will re-evaluate costs & ridership projections



Proposed Service Improvements

Front Range Corridor: three round trips daily, Fort Collins—Boulder—Denver—Colorado Springs—Pueblo*

* with intermediate stops



Proposed Grant Program Could Help Fund Front Range Service

Amtrak is proposing creation of a Network Modernization Program (NMP) as part of our reauthorization to support rail network evolution and expansion, including efforts to plan, develop, construct, and operate intercity passenger rail service in high-potential short-distance corridors like the Front Range.

As envisioned, the program would make federal grant funds available to Amtrak to cover up to 100% of the capital costs and initial operating costs of new corridor service; states would then gradually assume a greater share of operating costs over a five-year transition period. After this five-year period, if the states want to continue service, long-term costs would be allocated in accordance with the existing Passenger Rail Investment and Improvement Act (PRIIA) Sec. 209 methodology as currently used by many states throughout the nation.

Existing Grants Continue

Amtrak intends for the NMP to supplement existing grant opportunities (e.g., BUILD, SOGR, CRISI, INFRA, & REG), and not to replace them.¹⁷

NAMS-Northwest Area Mobility Study

- Conducted by RTD and CDOT - Completed in 2014
- Purpose of NAMS was to develop consensus among RTD, CDOT and corridor stakeholders, including local jurisdictions, on cost effective mobility improvements to serve the Northwest area.
- Recommended BRT for SH 119, CO 7, US 287, West 120th Avenue, SH 42 and South Boulder Road
- SH 119 (highest priority) entering final stages design and heading to construction
- CO 7 in varying phases of design
- Other corridors in various phases of study/ planning
- Phased Northwest Rail Service
- North I-25 Reverse Managed Lanes
- Remaining US 36 Commitments- Broomfield Station 2nd parking structure

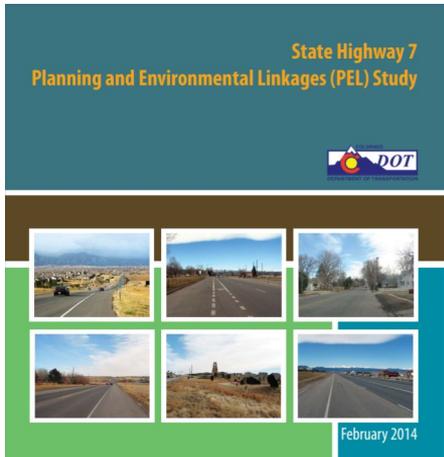


CO-7 Coalition: Brighton to Boulder



CO-7 Coordination & Collaboration

- Prior work coordination with CDOT, RTD and local communities:
 - 2014 SH 7 PEL US 287 to US 85 (CDOT)
 - 2018 SH 7 PEL 75th Street to US 287 (Boulder County)
 - 2018 East Arapahoe Transportation Plan (City of Boulder)
 - 2018 SH 7 Bus Rapid Transit Feasibility Study (Boulder County)
 - 2019 SH 7 Station Area Design (Boulder County/Broomfield)
- 2020 - \$10m DRCOG TIP Preliminary & Environmental Engineering CO-7 from Brighton to Boulder
 - DRCOG Regional TIP (\$4m), 3 County Subregional Federal (\$4m), CDOT (\$1m) and 8 communities local (\$1m) - Phase 1: 2021 Corridor Development Plan completed



Colorado 7

- SH 7/CO 7 Coalition - Adams County, Broomfield, Boulder, Boulder County, Brighton, Erie, Lafayette, Thornton, CDOT, RTD, Smart Commute, Commuting Solutions, Northwest Chamber Alliance and Adams County Regional Economic Partnership

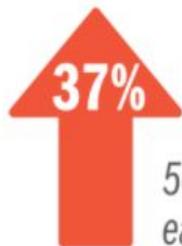
By 2040...



56,000
new residents



38,000
new jobs



37%

TRAFFIC increase

50-60% increase on the eastern end of the corridor



BRT

will cut travel time & increase reliability between Brighton and Boulder



8,500 to 9,800 projected boardings daily

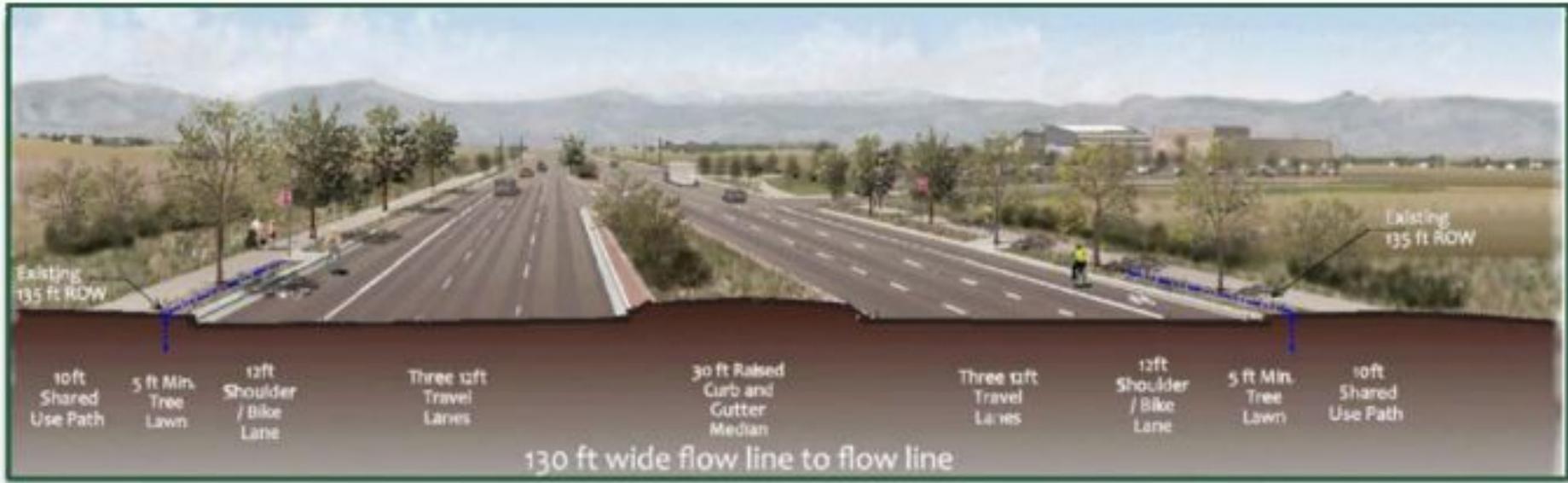
Project Funding

\$342M project cost

\$10M funding secured so far

2014 CO-7 PEL Streetscape

Figure D.9 Illustrative View To West, Near Huron Street



2014 SH 7 PEL US 287 TO US 85

2014 CO-7 PEL Cross Section

Figure D.6 Segment 2 - Relocated County Line Road to Sheridan Parkway Cross-Section Shoulder to serve Bus in congestion

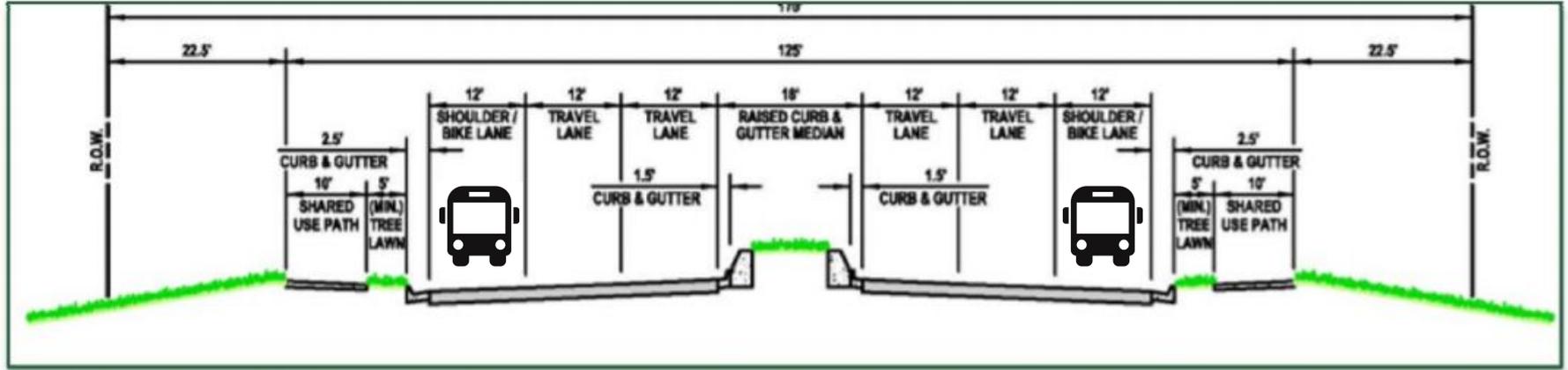
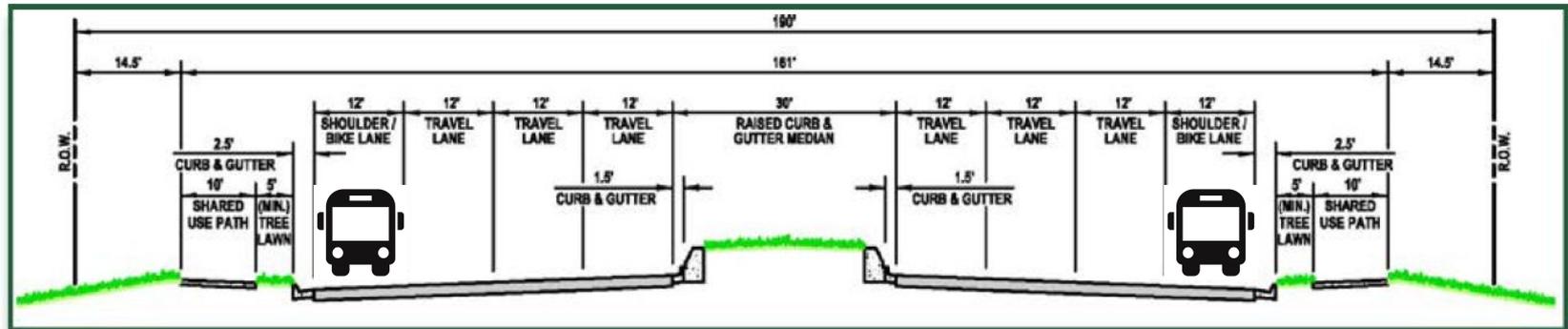


Figure D.8 Segment 3 - Sheridan Parkway to York Street Cross-Section



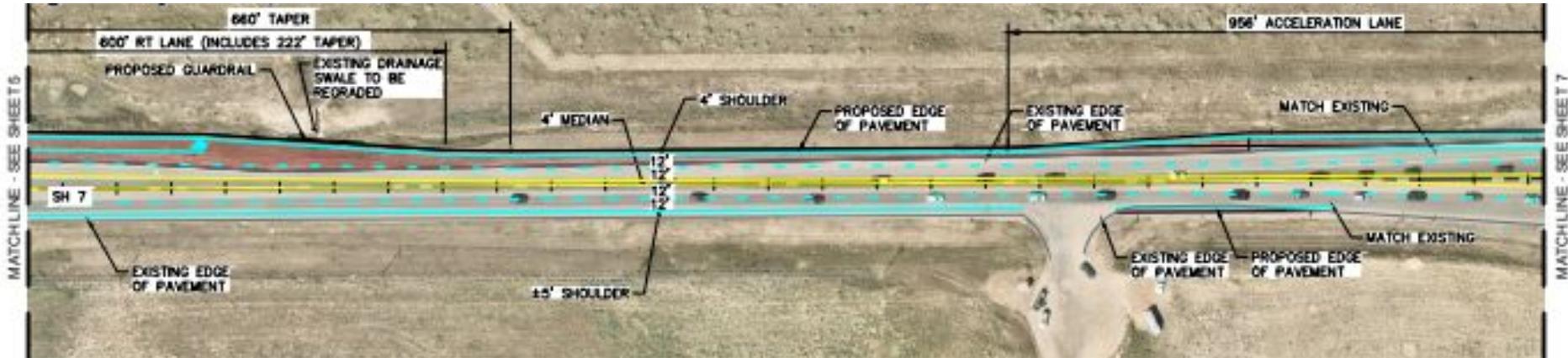
Colorado 7 Projects

- 2021-2022: CO 7 Sheridan to I-25 Interim Capacity Expansion
 - IGA with CDOT for Broomfield and CDOT to contribute \$1m each for capacity increase from I-25 to Sheridan Street, will result in two through lanes in each direction
 - Highly coordinated with development improvements
 - Ultimate project will take time - in the interim, incremental improvements for capacity
- 2020-2024: Preliminary Engineering (Broomfield related project components)
 - Sheridan to I-25
 - Lowell intersection
 - BRT Station in Broomfield concept development
 - Corridor Management
 - Aerial LIDAR, Tech Deployment Plan, Corridor Bicycle Plan, Environmental Analysis, Corridor Communications
- 2021-2025: I-25 / CO 7 Mobility Hub
 - CDOT Transportation Commission secured \$1.5m to design and \$12.5 to construct interim transit access improvements
 - Stakeholders continue to seek strategies to complete design of ultimate to prepare for construction funding opportunities

CO 7 Sheridan to I 25 Capacity

2022 - CO 7 Sheridan to I-25 Interim Capacity Expansion

- IGA with CDOT for Broomfield and CDOT to contribute \$1m each for capacity increase from I-25 to Huron Street, will result in two through lanes in each direction
- Highly coordinated with development improvements
- Ultimate project will take time - in the interim, incremental improvements for capacity



- Broomfield: Regional DRCOG TIP Funding for Preliminary & Environmental Engineering of CO-7 from Brighton to Boulder - \$10m including DRCOG, CDOT and local agency funding
- Prior work -
 - 2014 SH 7 Planning & Environmental Linkage Study (PEL) US 287 to US 85,
 - 2018 SH 7 PEL 75th Street to US 287,
 - 2018 East Arapahoe Transportation Plan (Folsom Street to 75th Street),
 - 2018 SH 7 Bus Rapid Transit Feasibility Study, and
 - 2019 SH 7 Station Area Design Report.
- This Project will take the recommendations from the previous studies and develop preliminary plan packages that will allow municipalities, counties, agencies, and developers to rapidly invest into the corridor to implement the transportation recommendations. Work is estimated to be complete by 2023



CO-7 Corridor Development



CO 7 CORRIDOR

Project Budget Summary – Program of Proposed Actions

Item	Description	Cost
Corridor-wide Programmatic Activities		
Corridor Development Plan	Develop the overall delivery plan for the Project.	\$250,000
Project Administration and Oversight	Provide overall management, administration, and oversight for the delivery of the Proposed Actions including contract, procurement, budget/schedule and quality management.	\$1,500,000
Aerial/LiDAR Mapping	Provide corridor-wide design level aerial photography, LiDAR and supporting target control surveys for cloud-based topography data collection.	\$200,000
Corridor Systems Planning Tool and Traffic Forecasts	Develop a corridor systems planning tool and dataset for land use and planning-level demand forecasting that can be administered and utilized by CDOT and the CO 7 Coalition in their ongoing land use and transit planning activities and develop design horizon traffic projections for preliminary engineering.	\$220,000
Environmental Analyses and Coordination	Perform environmental inventory and analyses pursuant with the CDP and coordinate resource issues with preliminary design activities.	\$360,000
Technology Deployment Plan	Develop a Smart Technology plan for the Corridor to identify design details and treatments to be included in the preliminary engineering considering emerging technologies and communications infrastructure.	\$115,000
Corridor Bike Treatment Plan	Develop a Corridor-wide plan addressing bike facility connectivity, standards, and design details for inclusion in the preliminary engineering activities.	\$103,000
Strategic Communications	Provide Corridor-wide strategic communications including, but not limited to, branding, CO 7 Coalition coordination, public official briefings, media relations, Corridor-based communications, and coordination of stakeholders and general public involvement.	\$210,000
Recommended Proposed Actions		
Proposed Actions (Priority 1)	Complete concept studies and deliver preliminary engineering and plans for the highest value Proposed Actions constrained to the budget.	\$7,042,000
Total		\$10,000,000

Budgets are under current refinement with detailed scoping

CO-7 Corridor Development



CO 7 CORRIDOR

Recommended Plan (Proposed Actions) for the Project



KEY

Section of Independent Utility (SIU)

Intersections

BRT Stations

Bridge Replacement

Priority 1 Proposed Actions

Concept Study

Preliminary Engineering (Level 1)

Intersection

BRT Stations

Priority 1 Actions



CO 7 CORRIDOR

SIU	No.	Location	Title	Cost	Activity	
					Study	PE
A	2-20	Boulder	SIU A - 28 th to 64 th Street	\$1,467,000		X
B	1-1	Boulder, Boulder Co	BRT Concept Study (64 th - US 287) (SIU B)	\$180,000	X	
B	2-21	Boulder, Boulder Co	SIU B - 64 th Street to US 287	\$1,263,000		X
C	2-22	Lafayette, Erie, Bldr Co	SIU C - US 287 (N) to 119 th Street	\$224,000	X	
E	4-1	Erie	Erie Airport Entrance Rd Concept Plan	\$112,000	X	
E	2-7	Broomfield	Lowell Intersection	\$280,000		X
F	1-2	Broomfield	BRT Station Concept Plans (CR 7/Palisade)	\$112,000	X	
F	2-24	Broomfield	SIU F - Sheridan Pkwy to I-25	\$862,000		X
I	2-26	Thornton	SIU I - York to Holly Street	\$1,198,000		X
J	2-27	Thornton	SIU J - Holly to Quebec Street	\$560,000		X
K	2-28	Thornton	SIU K - Quebec to Yosemite Street	\$560,000		X
M		Brighton, Adams Co	Placeholder - TBD	\$224,000		
Total				\$7,042,000		

CO-7 Corridor Development Plan



CO 7 CORRIDOR

Unresolved Planning Issues	Advance Design Issues (PE and Environmental Analysis)	Right-of-way Acquisition	Manage for Predictable Future
<ul style="list-style-type: none">• BRT Concept Study (64th to US 287)• BRT Station Location	<ul style="list-style-type: none">• Selected Major Intersections• Corridor Sections (SIU)• Selected Major Bridges• Left-turn Lanes (Willow Creek/Park Lane)	TBD	<ul style="list-style-type: none">• Erie Airport Entrance Road Concept Plan

CO-7 CDP BRT Playbook



CO 7 CORRIDOR

The vision for the Corridor includes high-quality BRT, extending from Brighton to Boulder. Previous planning studies have identified and defined the BRT operations plan, routing, and supportive multimodal infrastructure.

Recommended improvements, to be implemented as part of the Project, include:

- Running Way - Exclusive transit lanes from Boulder to US 287 and shared-use shoulders east of Lafayette.
- Intersection Provisions - Bus queue jump lanes at major intersections and bus stations as identified by earlier BRT station area planning.
- BRT Stations - 15 planned stations, plus an intermodal station at the I-25 Mobility Hub, with supporting FFM and micro-transit infrastructure.
- Transit Oriented Development (TOD) - Implementation of land use plans and densities and mobility on demand (including micro-transit) at the planned station locations supportive of bus transit.

CO-7 Project Timeline



CO 7 CORRIDOR

Figure 17. Project Development Process

	2020	2021	2022	2023	2024	2025
Corridor Development Plan		CDP Preparation				
Corridor Program Management		Program Management - Delivery Oversight, Schedule, Budget and Funding Opportunities				
		Procure/Contract				
Project Delivery (TBD)	Land Use Planning, BRT Station Area Planning, Developer Coordination and Execution of BRT Implementation Playbook					
		Project 1 - Planning Study(s)				
			Project 2 - PE and Env Analysis	Final Design and NEPA		Construction
			Project 3 - PE and Env Analysis	Final Design and NEPA		Construction
		Project 4 - PE and Env Analysis	Final Design and NEPA		Construction	

↑
Construction
Funding (TBD)

I-25/CO-7 Mobility Hub

- Serves state and future regional transit transfers on I-25, CO-7 and local routes
- Safe bicycle/pedestrian access from all four corners
- CDOT/Bustang from Ft. Collins stop potential
- Diverging diamond component enhances safety of intersection/interchange
- Concept came from a CDOT study of the area, funded primarily by Adams County
- Estimate cost \$200,000,000 includes I-25 from NWP to CO-7 and interchange/mobility hub. Must be constructed at same time for cost efficiencies.
- Project Planning: CDOT 10 Year Vision Plan and Draft DRCOG RTP



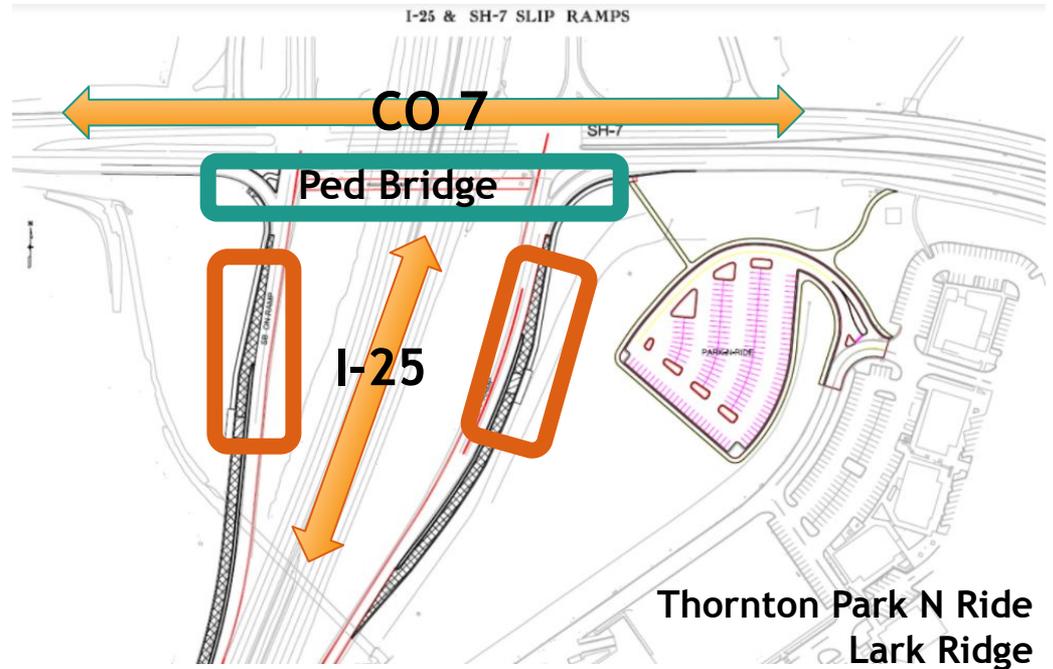
I-25/CO-7 Mobility Hub Interim

2021-2025: I-25 / CO 7 Interim Transit Improv.
CDOT Transportation Commission secured

- \$2 m to design (SB267 Year 3 & SB260)
- \$12 m (SB260) to construct interim transit access improvements

What's included:

- I-25 Bustang slip ramps & bus shelters
NB off-ramp & SB on-ramp
- Pedestrian Bridge
- Park-n-Ride (Partial build-out of ultimate)
- Sidewalk connectivity
- Other potential items (TBD):
 - Taxi accommodations
 - Charging stations



North I-25

- CDOT and HPTE have funded managed lanes from US 36 to south of SH-7
- Broomfield contributed to the first segment. Other communities adjacent to the segment of I-25 south of West 120th Avenue contributed greater amounts
- The managed lane is expected to continue north to Ft. Collins
- The third lanes northbound and southbound from south of CO 7 to north of Longmont will become part of the managed lane system
- There is an on-going discussion by HPTE and CDOT about the use of toll revenues in the corridor from which they were collected
- CDOT/HPTE received and is evaluating an unsolicited proposal to complete I-25 North



NAMS: US 287 & West 120th Ave.

Included in NAMS study as potential BRT corridors

- West 120th Ave.
 - Multimodal & Safety Study
CDOT/Broomfield
 - 120th Ave. Sidepath Infill & Transit Access Improvements - Safer Main Streets Grant
 - Teller to Quay Sidewalk & Utility Project
- US 287 Multimodal Study: Longmont to Broomfield - [Boulder County](#)
- Identifying opportunities to provide/preserve facilities for BRT system & improve multimodal access & safety
- Expected to follow SH-119, CO-7 projects in investment



State & Regional Planning

CDOT Your Transportation Plan & 10 Year Vision



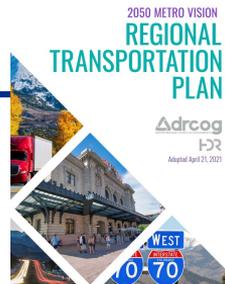
July 2020		Highway	Transit	NAMS Total
Years 1-4	CO 119	\$30,000,000	\$10,000,000	\$40,000,000
	R1 Urban Arterials Safety	\$25,000,000		
"Years 5-10"	CO 119 Bus Rapid Transit (BRT) and Managed Lanes	\$20,000,000	\$4,880,000	\$24,880,000
	R1 :CO 7 Corridor Intersection Improvements	\$15,000,000	\$5,000,000	\$20,000,000
	R4: CO 7 Corridor Improvements	\$9,000,000	\$6,300,000	\$15,300,000
→	I-25/ CO 7 Mobility Hub	\$5,000,000	\$5,000,000	\$10,000,000
	US 287 Corridor Improvements: US 36 to CO 66	\$25,000,000	\$5,000,000	\$30,000,000
	CO 42 Safety and Intersection Improvements	\$14,000,000		\$14,000,000
	US 36/28th Street and SH 93/Broadway Intersection Improvements	\$10,120,000	\$5,000,000	\$15,120,000
	R1: Regionwide Arterial Transit Improvements		\$70,000,000	
	R1: Vision Zero Priority Improvements	\$10,000,000		
	R1: Regionwide Trail Grade Separations & Crossings Improvements	\$10,000,000		
				\$129,300,000



Statewide
Transportation Plan
May 2020

State & Regional Planning

DRCOG 2050 Metro Vision Regional Transportation Plan



DRCOG Metro Vision Regional Transportation Plan				
	Limits	Description	Project Cost (2020\$)	Staging Period
CO-7*	Boulder to Brighton	Multimodal corridor improvements	\$100,000,000	2030-2039
I-25 North & CO-7 Mobility Hub	NWP/E-470 to CO 7	Managed lanes & Mobility Hub	\$200,000,000	2030-2039
I-25 North Segment 4	CO 7 to CO-66	Managed lanes, SH119 mobility hub (Firestone, ITS, bike/p	\$150,000,000	2030-2039
US 287*	US 36 to Larimer County Line	Safety, Operational and Multimodal corridor improvements	\$200,000,000	2030-2039
SH 42*	Louisville/Lafayette	Safety & Operational improvements	\$50,000,000	2030-2039
US 287/120th Ave*	Midway to Lowell Blvd	Safety, operational and multimodal corridor improvements	\$15,000,000	2030-2039
South Boulder Road*	Lafayette to Boulder	Multimodal Corridor Improvements	\$75,000,000	2030-2039
US 36/28th Street & CO 93/ Broadway*	Boulder	Corridor Safety	\$15,200,000	2030-2039
Northwest Rail*	Westminster to Downtown Longmont	Implement Peak Service Rail	\$700,000,000	2045-2050
New Bus Maintenance Facility*	TBD - North Area of District	Construct new bus facility in RTD's northern area	\$50,000,000	2020-2029
North I-25 BRT	Union Station to SH 7	BRT service and supporting safety/multimodal (Keep eye o	\$97,000,000	2045-2050
* denotes NAMS Project			\$2,002,200,000	



Questions & Discussion
