



Transportation

TRANSPORTATION
MASTER PLAN UPDATE



OCTOBER 2018

FINAL
STATE OF THE SYSTEM REPORT

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STATE OF THE SYSTEM REPORT

Boulder County adopted its first Transportation Master Plan (TMP) in December 2012 to plan and prepare improvements to the county's facilities for all transportation modes and connections among modes (multimodal transportation system). This State of the System report summarizes the current conditions facing transportation for Boulder County, with a look to future projects planned for the system. Information from this report will be used to inform the update of Boulder County's TMP, which is expected to be complete in spring 2019.

INTRODUCTION

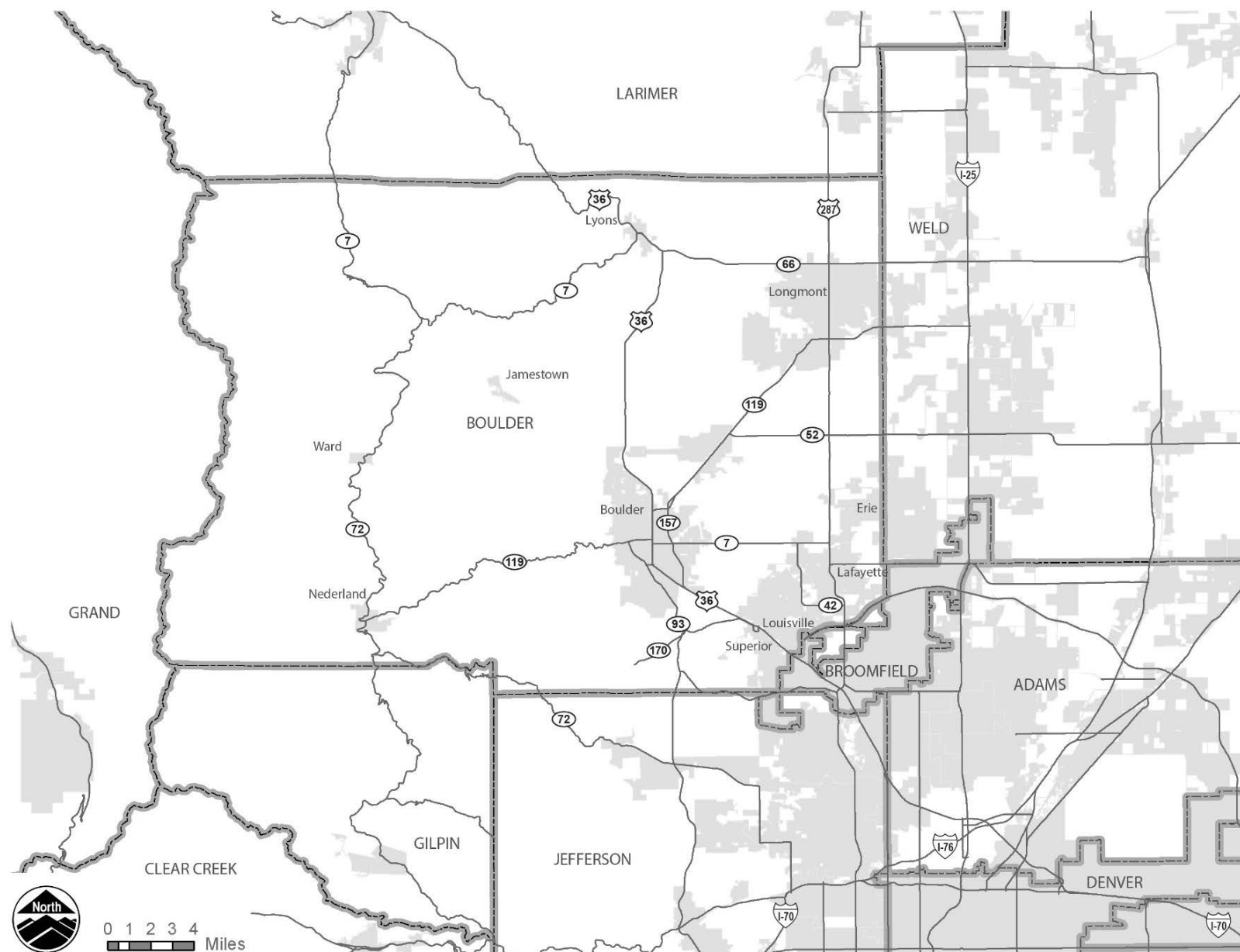
Growing population, changing demographics, rising construction costs, and rapidly changing technologies continuously effect transportation in Boulder County and as a result, affect the needs and capabilities of the system to meet those needs. The TMP is an effort to examine the way we currently provide projects and services, identify changes to those services, and chart a course for our transportation systems and infrastructure over a 25-year planning horizon. Boulder County started the TMP Update process in summer 2018.

This State of the System report provides an overview of current travel patterns, the future of transportation, current funding, and summarizes the projects and programs identified in other studies and plans. Together this information sets the foundation of the TMP Update and provides a starting point to recommend future projects and programs to meet identified needs. The overall funding picture illustrates the large funding gap for implementation of the identified improvement projects and on-going maintenance necessary for the transportation system. Figure 1 is a map of Boulder County and the surrounding counties.



Longmont-Boulder Trail near 63rd Street

FIGURE 1: MAP OF BOULDER COUNTY AND SURROUNDING COMMUNITIES



CURRENT TRAVEL PATTERNS

Peak-period travel patterns in Boulder County are influenced by the location of employment centers relative to housing availability. Boulder County employment opportunities draw workers from within the county and from surrounding areas. The relatively high cost of housing in Boulder County pushes employees to find more affordable housing outside of the county. This commute pattern contributes to congestion along the limited regional corridors into the county such as North 95th Street, State Highway 7, Dillon Road, State Highway 52, Valmont/Isabelle Roads, State Highway 119, State Highway 66, State Highway 93, and US36 both south and north of the county. While some of these work trips occur on major corridors where transit and/or bicycle and pedestrian connections exist, the current lack of alternative modes and/or connections along other corridors make non-driving modes difficult for many commuters.

Out of the approximately 154,000 primary jobs¹ within Boulder County, about 58 percent of workers live outside Boulder County. The top 15 home locations (Table 1) show the largest cities and towns within Boulder County (Boulder, Longmont, Lafayette, Louisville, Erie, and Superior) and also show a large group of people residing southeast of the county (Denver, Broomfield, Westminster, Thornton, and Aurora). Smaller percentages of workers are traveling from the north (Larimer and Weld Counties), as well as from the south (Arvada).



Pedestrian and Bicyclist Underpass on CO 119

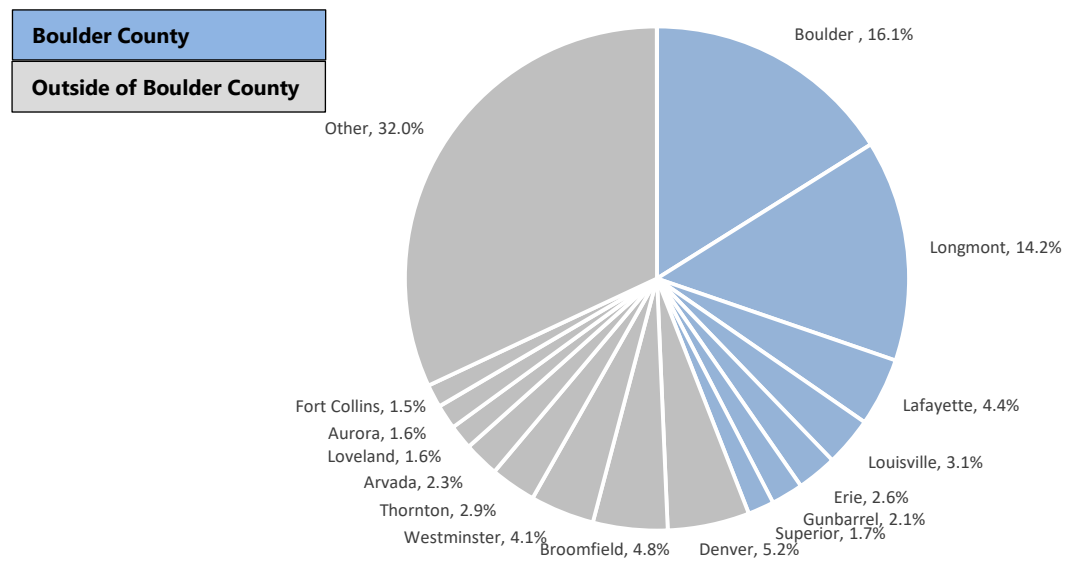


Longmont Coffman Park and Ride

¹ Primary job as defined by the US Census Bureau: "A primary job is the highest paying job for an individual worker for the year."

TABLE 1: TOP 15 HOME LOCATIONS OF EMPLOYEES THAT WORK IN BOULDER COUNTY

Place	Count	Share
Boulder	24,701	16.1%
Longmont*	21,815	14.2%
Lafayette	6,720	4.4%
Louisville	4,834	3.1%
Gunbarrel	3,154	2.1%
Superior	2,570	1.7%
Denver	8,045	5.2%
Broomfield	7,358	4.8%
Westminster	6,317	4.1%
Thornton	4,513	2.9%
Erie*	3,936	2.6%
Arvada	3,466	2.3%
Loveland	2,428	1.6%
Aurora	2,418	1.6%
Fort Collins	2,292	1.5%
Other	49,117	32%

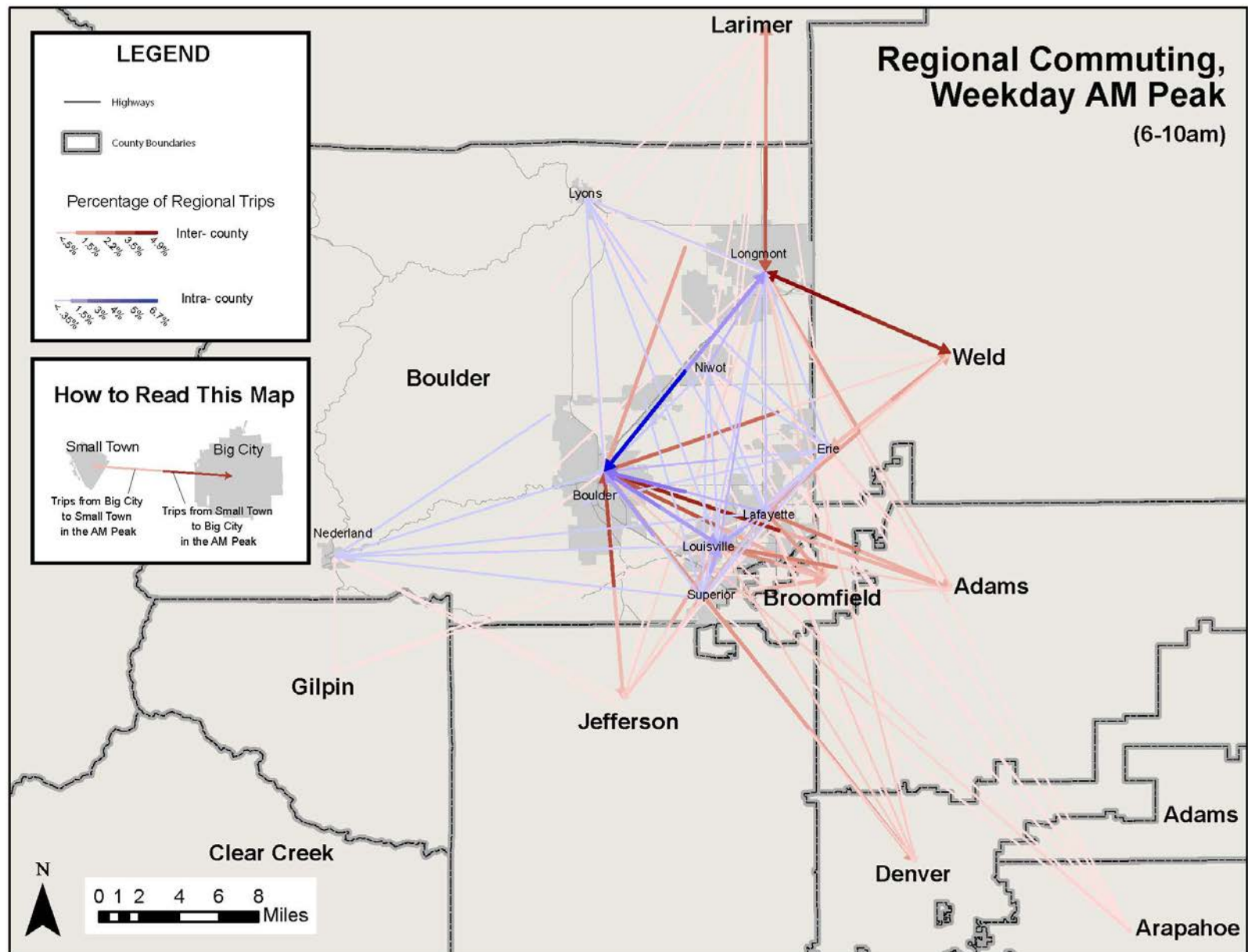


Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2015).

*Municipality within both Boulder County and Weld County.

Overall travel pattern analysis shows travel patterns across Boulder County and from communities outside of the county. Overall, there is a major concentration of trips from all communities to Boulder, especially from Longmont, Louisville, Lafayette, Erie, and Superior. There are strong regional patterns to/from Weld County, Adams County, and Broomfield County. Figure 2 shows the current regional travel patterns with Boulder County and between surrounding counties.

FIGURE 2: CURRENT REGIONAL TRAVEL PATTERNS



THE FUTURE OF TRANSPORTATION

Growth and technology changes will shape the future transportation system of Boulder County. The Colorado Department of Local Affairs forecasts that the county population will grow by 85,800 people (26%) from 329,200 in 2018 to approximately 415,500 by 2040². The county transportation system will need to accommodate these additional residents. Population of the surrounding areas are also projected to increase, leading to increased commuting, congestion, and need for additional overall mobility choices.

Technology changes will also affect our transportation system. Automated vehicles, shared ride vehicles, mobility as a service, working at home, electric vehicles, and electric bicycles are all potential future technology changes that could impact our transportation system. Although it is difficult to determine exactly how our transportation system might shift given these new technologies, it is critical that we discuss and evaluate potential implications of these changes for the transportation system and our communities. Change will happen, and it has already started altering the way people get around. Users of rideshare services don't need a parking space at their destination. Users of the dockless bike and scooter systems need space for safe travel within the right-of-way as well as space to park the equipment after the ride is complete. A number of considerations can help integrate known technology into planning now:

- ✦ Pick-up/drop-off areas
- ✦ Striping and signing visibility
- ✦ Roadway surface improvements
- ✦ Parking flexibility
- ✦ Energy implications
- ✦ Dedicated lanes for specific modes
- ✦ Right-of-way tradeoffs between vehicles and bicyclists/pedestrians
- ✦ Integrating vehicle improvements to transit service

To prepare for technology yet to arrive, it is important to have a process to respond effectively and in a timely manner, whether the response is new regulations, standards, and infrastructure, to ensure the new technology and innovation is consistent with community values and goals.

² Colorado Department of Local Affairs Components of Change forecasts. Available at: <https://demography.dola.colorado.gov/births-deaths-migration/data/components-change/>

THE TRANSPORTATION SYSTEM

The transportation system serving Boulder County is managed by many different agencies and jurisdictions. Each municipality in the county is responsible for the system within its boundary. The Colorado Department of Transportation is responsible for the state highway system. The Regional Transportation District is primarily responsible for the regional transit system. Via is the primary provider of mobility for the elderly and disadvantaged community. In addition, other smaller human service, non-profit, and private businesses provide mobility services. A great challenge that we all face is coordination and collaboration to provide a useful, flexible, sustainable, and cost effective transportation system that provides mobility choices to all members of our community.

The infrastructure that is the responsibility of Boulder County's includes over 650 miles of public roads in the unincorporated county, approximately 400 miles of which are paved and 270 miles are gravel. Paved roads include 145 miles in 110 county subdivisions. The system also includes 81 major bridges, 445 large culvers or smaller bridges/access points, and approximately 8,500 small culverts. The county owns and operates 19 traffic signals. Over 110 miles of trails can be found on county open space properties.

The Capital Improvement Program (CIP) is an on-going effort to plan, program, and implement work on all components of Boulder County's transportation system.

CAPITAL IMPROVEMENT PROGRAM (CIP)

The CIP links transportation policies and plans with projects and programs that fulfill those needs. To succeed, the CIP continuously examines both costs and outcomes to ensure both cost-efficient and cost-effective implementation given existing budgetary constraints.

The CIP:

1. Leverages county funding with state and federal grants, partnerships with local funding agencies, and collaboration with other agencies and jurisdictions.
2. Includes performance measures that tracks results of past implementation and forecasts impacts of current plans onto the future condition of the infrastructure.
3. Prepares for future implementation by preparing both short-term (5-year) and long-term (15-year) plans for future implementation of multiple programs.

Capital projects are funded through one of three primary sources of county funds:

- ✦ **The Road and Bridge Fund:** Supports the annual programmatic costs of repairing and replacing the county's transportation infrastructure, as well as other mobility improvements. The State Gas Tax, Specific Ownership Tax, and a small amount of property tax from the Road and Bridge Mill levy and miscellaneous revenue sources are deposited in the Road and Bridge Fund.
- ✦ **The Countywide Transportation Road .01% Sales Tax (RST):** 85% of the sales tax is dedicated to funding improvements to the countywide system of roads, transit, and pedestrian infrastructure. The RST program focuses on improvements beyond the maintenance and repair of existing facilities. The program emphasizes projects and programs with a countywide multimodal benefit that are consistent with the ballot measure approved by voters.
- ✦ **The Regional Trails Sales Tax Fund:** Similar to the RST fund, 15% of the .01% sales tax revenue is for the construction and management of regional trails that link communities.



WORK COMPLETED SINCE 2012 TMP

Over the past six years (2012-2018) the county has spent over \$178 million improving, repairing, and operating the transportation system. Half of these costs are for **programmatic** infrastructure repairs and operations such as plowing and grading roads, bridge repairs, and asphalt overlays on current facilities. The other half has been spent on **reconstruction** of transportation infrastructure over the seven-year period from the first TMP. A majority of the new infrastructure category consists of costs associated with recovery from the 2013 flood. Figure 3 shows the overall breakdown between programmatic and reconstruction infrastructure projects and Tables 2 and 3 show the details associated within these two types of infrastructure projects.

FIGURE 3: 2012-2018 TRANSPORTATION COSTS – OPERATIONS, FACILITY REPAIR, AND NEW INFRASTRUCTURE

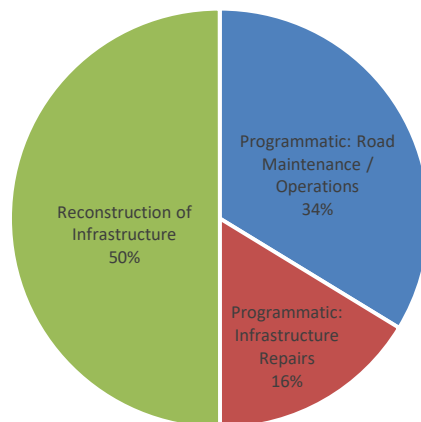


TABLE 2: 2012-2018 PROGRAMMATIC COSTS (IN MILLIONS)

Project	2012-2018 Cost	%
Road Maintenance / Operations	\$60.420	67%
Overlays / Road Resurfacing (non-reconstruction)	\$9.750	11%
Capital Equipment Replacement	\$8.580	10%
Safety / Guardrail / Striping, etc.	\$5.910	7%
Program Administration	\$2.020	2%
Sidewalk Repairs	\$1.830	2%
Bridge and Structure Repairs	\$1.080	1%
TOTAL PROGRAMMATIC:	\$89.590	100%
% of total transportation costs	51%	

Note: Costs for 2018 include projects that will be complete as of December 2018 and do not include any in-progress projects. Does not include \$75 million spent as part of the 2013 flood recovery.

TABLE 3: 2012-2018 INFRASTRUCTURE RECONSTRUCTION COMPLETED (IN MILLIONS)

Roads Reconstructions	Cost	%
Lefthand Canyon Dr – US 36 to Licksillet Rd (Flood)*	\$24.00	
James Canyon Dr – Lefthand Canyon Dr to Ballarat (Flood)*	\$14.90	
Wagonwheel Gap Rd (Flood) *	\$11.45	
Brainard Rd Reconstruction – CO 72 to USFS trailhead	\$4.20	
95th St Reconstruction – Lafayette to Boulder Creek	\$4.10	
North 83 rd St Reconstruction – Niwot Rd to CO 119	\$1.30	
51 st St Reconstruction – Jay Rd to Boulder Reservoir	\$0.45	
Total New Roads / Reconstructions	\$60.4	67%
Bridge Replacements / Construction		
83 rd St over Little Thompson (Flood)	\$5.35	
East County Line Rd over St Vrain Creek (Flood)	\$4.25	
Sunset St over St Vrain Creek (Flood)	\$4.20	
Logan Mill Rd over Four Mile Creek (Flood)	\$3.25	
Old South over St Vrain Creek (Flood)	\$2.75	
115 th St Bridge and Culvert	\$0.45	
119 th St over Dry Creek #2	\$0.45	
Total Bridges	\$21.5	24%
Minor Structures		
Four Mile Canyon Dr @ Gold Run (Flood)	\$3.10	
Dillon Rd @ Rock Creek (Flood)	\$1.60	
83 rd St @ Dry Creek 2	\$1.40	
Monarch Road @ Dry Creek 2	\$0.55	
Lee Hill Drive @ Six Mile Creek	\$0.45	
N 53 rd St @ Supply ditch	\$0.25	
95th Street @ Dry Creek 2	\$0.25	
65 th St @ Lykins Gulch	\$0.20	
Total Minor Structures	\$7.80	9%
TOTAL RECONSTRUCTED INFRASTRUCTURE:	\$89.6	100%
% of total	49%	

Note: Costs for 2018 only include completed projects as of December 2018 and do not include any in-progress projects.

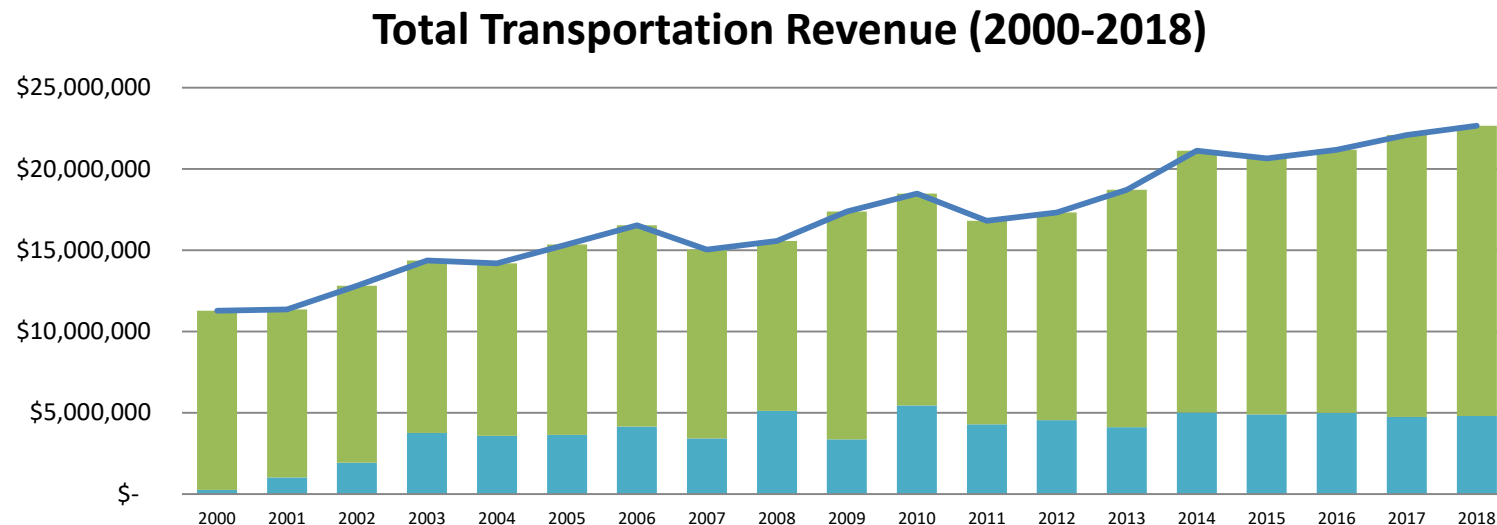
*Includes cost for multiple structures such as bridges and culverts.

BOULDER COUNTY PLANNED PROJECTS AND FUNDING SOURCES

Boulder County's funding comes from a variety of funding sources, including state gas tax revenue, the specific ownership tax (an auto registration fee), a small amount of property tax, and other minor categories which are deposited in the Road and Bridge fund. In addition, in 2007, county voters approved a 15-year extension of a .01% transportation sales tax and state and federal grants, which are dedicated to specific projects and programs and cannot be used for ongoing road maintenance and construction.

Total transportation revenue has increased on average 4.3% per year from 2000 through 2018. Road and Bridge revenue has increased at an average of 3.2% annually, and sales tax revenue has increased on average 4.5% annually. The Colorado Department of Transportation (CDOT) Construction Cost Index, which measures change in CDOT construction costs has increased at an average rate of 5% per year for 2000 through 2011, and 7.5% per year from 2012 through the first half of 2018. On average, construction costs have increased at a greater rate than revenue (CDOT changed the methodology for calculating the construction cost index in 2012).

FIGURE 4: 2000-2018 FUNDING SOURCES



Cost Assumptions:

CDOT Construction Cost Annual Change 2000-2011: 5% | 2012 - 2018: 7.5%

Annual Average Change in R&B Revenue: 3.2%

Annual Average Change in S.T. Revenue: 4.5%

Annual Average Change in Total Trans. Revenue: 4.3%

■ Total Sales Tax/Grant \$ ■ Mntce./Recon. \$ Total — Total

ROAD AND BRIDGE CAPITAL FUND - FIVE YEAR PLAN

The Boulder County CIP includes a schedule of Road and Bridge projects extending five years into the future. The five-year plan includes both project needs and costs along with the programmatic components required to repair and maintain existing infrastructure. The five-year plan is fiscally constrained and includes the following categories:

- ✦ Capital Equipment Replacement: Snow plows, graders, and other equipment needed to repair and maintain the roads
- ✦ Traffic and sidewalk safety program
 - Annual traffic safety, guardrail repairs, and striping
 - Annual sidewalk repairs for compliance with the Federal Americans with Disabilities Act
- ✦ Annual Asphalt Road Overlays
- ✦ Bridge and Structure Repairs
- ✦ Subdivision Paving – Community Use Roads
- ✦ Subdivision Paving – Incentive Program
- ✦ Special Projects: Large capital improvements too large or unique to be programed elsewhere, such as the Eldora Ski Road or 95th Street Bridge replacement

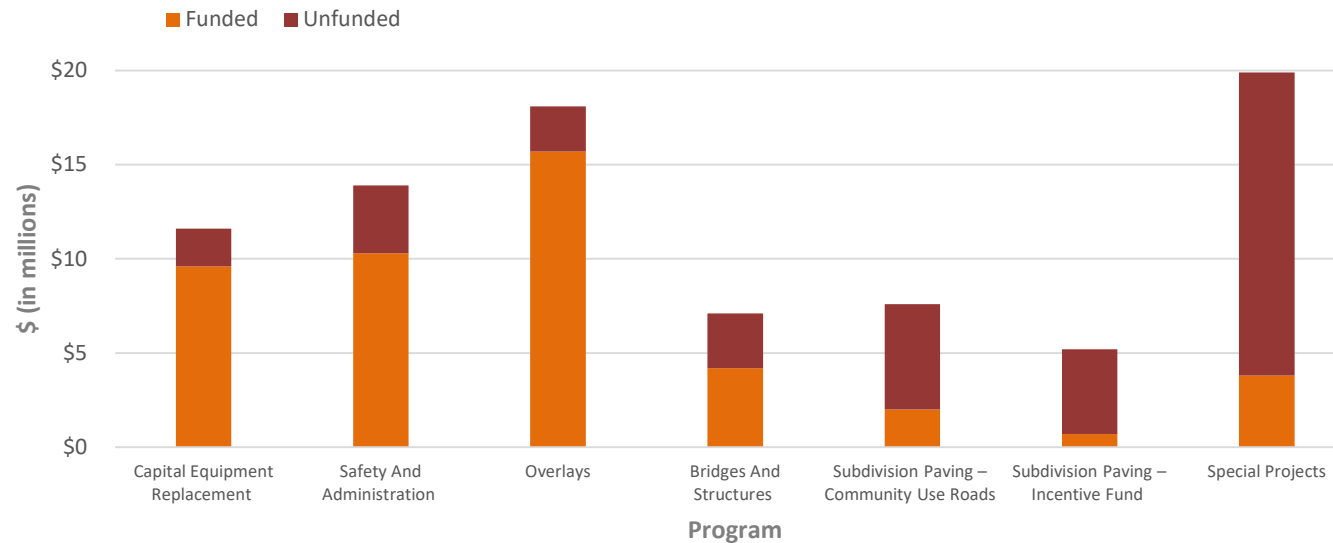
FIVE-YEAR PROJECT NEEDS AND AVAILABLE FUNDING

Boulder County's capital projects and programs are funded through multiple sources. Table 4 and Figure 4 show the summary of costs and available funding for the 2018-2022 CIP. The total project estimates for the next five years is \$83.4 million, while there is an estimated \$46.4 million available to fund proposed projects, resulting in a shortfall of \$37 million.

TABLE 4: CIP FIVE-YEAR PROJECT NEEDS AND AVAILABLE FUNDING (IN MILLIONS)

Capital Program	Estimate	Funded	Shortfall
	2018 - 2022		
Capital Equipment Replacement	\$11.6	\$9.4	-\$2.2
Safety And Administration	\$13.5	\$9.8	-\$3.7
Road Resurfacing	\$18.1	\$15.7	-\$2.4
Bridges And Structures	\$7.1	\$4.2	-\$2.9
Subdivision Paving	\$12.8	\$2.7	-\$10.1
Special Projects	\$19.9	\$3.8	-\$16.1
Total Capital Costs Constrained	\$83.0	\$46.4	-\$37.4

Source: [2018 CIP Report to Board of County Commissioners](#), July 2018.

FIGURE 5: CIP FUNDED AND UNFUNDED ESTIMATES

COUNTYWIDE TRANSPORTATION SALES TAX & TRAILS SALES TAX FUNDING

In 2007, Boulder County voters approved an extension of an existing countywide sales tax measure to fund a specific list of 44 projects that includes 10 roadway improvements, 13 road shoulder projects, six transit projects, a large Transportation Demand Management (TDM) program, five pedestrian improvement projects, and nine countywide regional trail projects. Collections began in July 2009 with current 15 percent separated out for use on regional trail connections, 15 percent allocated to projects and programs that helped the regional transit and travel demand management (TDM), and the remainder allocated to road and shoulder improvements and pedestrian access and safety projects.

COUNTYWIDE SALES TAX PROJECTED COSTS AND FUNDING AVAILABILITY

The original 2007 ballot issue was expected to collect \$59.7 million over 14 years and fund \$93.2 million in projects when combined with funding from state, regional, and local partnerships. Cost inflation along with increased spending by sales tax contributors has increased the revenue estimate to \$81.8 million (an increase of 37%) and the total cost estimate to \$95.2 million needed in sales tax funds alone (an increase of 59%).

With total sales tax expenditures to-date of \$33.2 million, there is approximately \$47.4 million in remaining revenues to fund \$62.0 million in remaining projects, which leaves a shortfall of \$17.2 million. Table 5 and Figure 5 show the summary of costs and available funding. Full details of the estimated sales tax program expenditures and revenue is available in the county's [Transportation Sales Tax Seven Year Update Report](#) (2017).

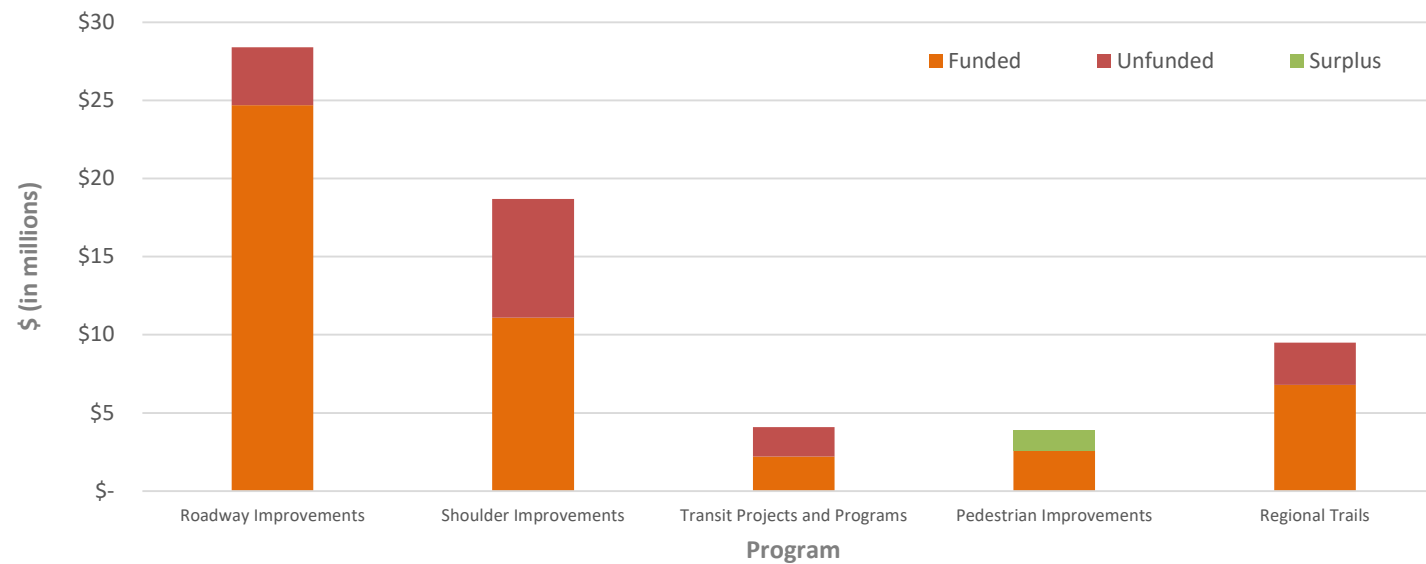
TABLE 5: COUNTYWIDE TRANSPORTATION SALES TAX NEEDS ASSESSMENT (IN MILLIONS)

Projects	2007 Estimate (adjusted)*	Spent to date (2009-2016)	Remaining 2007 Estimate (adjusted)	Remaining Funds Available (2017-2024)	Shortfall or Surplus
Roadway Improvements	\$36.0	\$7.5	\$28.4	\$24.7	\$-3.7
Shoulder Improvements	\$29.9	\$11.3	\$18.7	\$11.1	\$-7.6
Transit Projects and Programs	\$9.2	\$5.2	\$4.1	\$2.2	-\$1.9
Pedestrian Improvements	\$3.6	\$2.3	\$1.3	\$2.6	\$1.3
Regional Trails	\$16.4	\$7.0	\$9.5	\$6.8	\$-2.7
Total Sales Tax	\$95.2	\$33.2	\$62.0	\$47.4	\$-17.2

* 2007 estimates were adjusted to 2017 dollars based on the CDOT construction cost index at the time of construction.

Source: Countywide Transportation Sales Tax Seven Year Update, Boulder County Transportation, April 2017

FIGURE 6: SALES TAX PROGRAM FUNDED AND UNFUNDED ESTIMATES



STUDIES AND PLANS ON THE REGIONAL AND STATE SYSTEM

A number of planning efforts led by regional, state, and local agencies have developed recommendations for roadways that influence Boulder County, even if they are not located on roadways maintained by the county. For this report, the following plans were reviewed to identify proposed projects and estimated costs:

Regional

- ✦ US 36 First and Final Mile Study (Commuting Solutions)
- ✦ 2040 Metro Vision Regional (Denver Regional Council of Governments [DRCOG])
- ✦ Active Transportation Plan (DRCOG)
- ✦ Jefferson County Bicycle and Pedestrian Plans (Jefferson County)
- ✦ Jefferson Countywide Transportation Plan (Jefferson County)
- ✦ First and Last Mile Strategic Plan (RTD)
- ✦ Northern Area Mobility Study (NAMS) (Regional Transportation District [RTD])
- ✦ University of Colorado TMP Update (CU)

State

- ✦ CO 7 Planning and Environmental Linkages (PEL) (Brighton – CO 287) (CDOT)
- ✦ CO 66 PEL Study (CDOT)
- ✦ CO 7 PEL Study (CO 287 - 75th) and Bus Rapid Transit (BRT) Feasibility Study (CDOT)
- ✦ Colorado Front Range Trail Comprehensive Implementation Plan (Colorado State Parks)
- ✦ WestConnect Coalition PEL Study (CDOT)

Local

- ✦ Canyon Boulevard Complete Streets Study (City of Boulder)
- ✦ East Arapahoe Plan (City of Boulder)
- ✦ North Boulder Mobility Hub (City of Boulder)
- ✦ Transportation Master Plan Update (City of Boulder)
- ✦ Transportation Report on Progress (City of Boulder)
- ✦ Transportation Delivery Option Study (Boulder)
- ✦ Erie Transportation Plan (City of Erie)
- ✦ Erie Parkway Corridor Study (City of Erie)
- ✦ 120th and South Boulder Road Master Plan (City of Lafayette)
- ✦ 1st and Main Station Plan (City of Longmont)
- ✦ Enhanced Multi-Use Corridor Plan (City of Longmont)
- ✦ Main Street Corridor Study (City of Longmont)
- ✦ Parks, Recreation and Trails Master Plan (City of Longmont)
- ✦ 42 Gateway Alternative Analysis Report (City of Louisville)
- ✦ South Boulder Road Small Area Plan (City of Louisville)

The following projects/plans were reviewed but did not have specific project recommendations:

Regional

- ✦ Gilpin County Transportation Master Plan (Gilpin County)
- ✦ Grand County Transportation Master Plan (Grand County)
- ✦ Larimer County Transportation Master Plan (Larimer County)
- ✦ CO 287 Plan (North Front Range MPO)

Local

- ✦ Boulder Valley Comprehensive Plan (City of Boulder)
- ✦ Open Space and Mountain Parks Master Plan (City of Boulder)
- ✦ Envision Longmont (City of Longmont)
- ✦ Environmental Assessment: Resilient St. Vrain (City of Longmont)
- ✦ Highway 42 Revitalization Area Urban Renewal Plan (City of Louisville)
- ✦ Lyons Master Plan (Town of Lyons)
- ✦ Parks, Recreation, Open Space and Trails Master Plan (Town of Superior)
- ✦ Transportation Plan 2014 Update (Town of Superior)



ESTIMATED PROJECT COSTS, AVAILABLE FUNDING, AND FUNDING GAP

Out of the approximately 60 identified projects with cost estimates, the county has identified five regional priority corridors for improvement. The total estimate of costs for improvements along these corridors is approximately \$791 million, with about \$64.8 million identified. An additional \$726.2 million of funding would be needed for full implementation.

All of the studies/plans summarized in Table 7 have specific projects identified and the following information is included:

- ✦ Overall Policy/Vision: Brief description about the overall policy/vision for the study/plan.
- ✦ Project Location: Description of location for proposed projects identified.
- ✦ Proposed project(s): Details associated with the project at that location.
- ✦ Cost estimate: Estimated cost estimate in the millions from the study/plan of the year of completion. It is assumed that these project costs include planning, design, and construction costs associated with the project. Projects without cost estimates may not have been developed yet due to the ongoing nature of the study or because cost estimates were not developed as part of the study/plan. Some cost estimates have been updated since the plan and those are indicated as such.
- ✦ Funding source: Funding source listed from the study/plan for project completion.

TABLE 6: PROJECT PLANS AND REPORTS WITH PROPOSED PROJECTS

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
Regional Priority Corridors			
CO 119- Boulder and Longmont	Operation improvements and BRT	\$509 M (\$470 M unfunded)	RTD and local agencies
CO 7- Boulder and Lafayette	Operation improvements and BRT	\$172 M (\$160 M unfunded)	RTD and local agencies
CO 287- Longmont and Broomfield	Operation improvements and BRT	\$57 M (\$51 M unfunded)	RTD and local agencies
CO 42/95 St- Longmont and Louisville/Lafayette	Operation improvements and BRT	\$27 M (\$19.2 M unfunded)	RTD and local agencies
28th St/Broadway- Boulder	Operation improvements and BRT	\$26 M	TBD

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
Regional			
US 36 First and Final Mile Study, Commuting Solutions (2013)			
Identifies suitable options to complete transit trips without single-occupancy vehicle travel in the US 36 corridor.			
Throughout the US 36 corridor	Bus then bike shelters	No estimate	N/A
	EcoPasses	No estimate	N/A
US 36 and Table Mesa Park and Ride	Improved pedestrian connection/underpass from Thunderbird Dr to the park and ride, improved kiss and ride, shuttle service to/from Regent/Colorado, mini transportation hub, S. Loop Rd path connection, Foothills Pkwy shuttles	No estimate	N/A
US 36 and McCaslin Park and Ride	Mini transportation hub, priority parking locations, sidewalk connections, trail crossing at Dillon Rd, ramps for pedestrian bridge, employer based shuttles, enhanced bike connections	No estimate	N/A
2040 Metro Vision, DRCOG (2017)			
Presents the region's vision for a multimodal transportation system needed to respond to future growth and demographic trends. Includes vision and fiscally constrained elements.			
Throughout Boulder County and the DRCOG region	Includes system category expenditures and regionally significant projects	No estimate	N/A
	6 lanes on CO 119	No estimate	N/A
	CO 119 interchange at CO 52	\$30 M	CDOT/local
	BRT on CO 119	\$57 M	Not funded
	Widening CO 66 – Hover St to Main St	\$19 M	CDOT/local
	BRT station at Nelson Rd	No estimate	N/A
	Park-n-ride lot at US 287 and CO 66	No estimate	N/A
	Managed lanes on CO 119	No estimate	N/A
	Northwest Rail	No estimate	N/A
Active Transportation Plan, DRCOG (currently ongoing)			
The first ever regional active transportation plan.			
Throughout Boulder County and the DRCOG region	TBD	TBD	N/A
Jefferson County Bicycle and Pedestrian Plans, Jefferson County (2012)			
Safe and efficient with a regional approach and continuous facilities.			
CO 93	Paved shoulder	No estimate	N/A
Indiana St	Shared use path	No estimate	N/A

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
Jefferson Countywide Transportation Plan, Jefferson County (2014)			
Unified multimodal transportation plan for the efficient, cost effective movement of people and goods.			
CO 93 and Indiana St Corridors	Roadway capacity improvements	No estimate	Not funded
First and Last Mile Strategic Plan, RTD (currently ongoing)			
Address the issue of transit accessibility and improve connectivity to RTD services.			
Throughout RTD system	TBD	TBD	N/A
Northern Area Mobility Study (NAMS), RTD (2014)			
Mobility improvements for the Northwest area of the RTD service area and comprises of five areas: northwest rail, north metro rail line, US 36 BRT, Arterial BRT, and reverse commute between Denver Union Station and the US 36 corridor.			
US 287/CO 66 PnR to US 36 Broomfield PnR	US 287 BRT	\$56.4 M	Not funded
Wadsworth to ADCOGC	120 th Ave BRT	\$31.8 M	Not funded
Boulder Transit Center to Lafayette PnR	South Boulder Rd BRT	\$36.6 M	Not funded
City of Boulder on arterial BRT roads	Boulder System Improvements that improve BRT service within city limits	\$22 M	Not funded
9 th St in Boulder to I-25	Arapahoe Ave/CO 7 BRT	\$45.4 M	Not funded
US 287/Arapahoe to US 36 Broomfield PnR	CO 42 BRT	\$27.4 M	Not funded
Unknown	Maintenance/Storage Facility	\$50.9 M	Not funded
University of Colorado (CU) TMP Update, University of Colorado, Boulder (currently ongoing)			
Define innovative possibilities and set a vision for current and future travel to, between, and through the CU Boulder locations.			
CU Boulder Locations	TBD	TBD	N/A
State			
CO 7 PEL (Brighton – CO 287), CDOT (2014)			
Improve safety, reduce existing and future congestion, provide efficient access, improve multimodal mobility and connectivity.			
Boulder County and Lafayette	Intersection improvements at 119 th St/CO 7	\$7.5 M ²	Partially funded
CDOT and Boulder County and Erie	Intersection improvements at US 287/CO 7	\$0.9 M	Not funded
Erie and Boulder County	CO 7/County Line Rd intersection relocation and roundabout	\$6.9 M	Not funded
Boulder County	Cross-section improvements	\$3.6 M	Not funded

² Cost estimate is an update from amount in original report based on additional project design / implementation.

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
CO 7 PEL (CO 287 - 75th) and BRT Feasibility Study, CDOT (2018)			
Address current and future traffic congestion issues, proactively plan for a BRT system in this corridor.			
Boulder County	BRT system	\$30 M	Not funded
	Shared Use Path	\$4 M	Not funded
CO 66 PEL, CDOT (currently ongoing)			
Identify challenge areas, safety concerns, and operational needs for short- and long-term transportation priorities.			
Lyons and Longmont	TBD	TBD	N/A
Colorado Front Range Trail Implementation Plan, Colorado State Parks (2007)			
Develop a five-year Colorado Front Range Trail (CFRT) Comprehensive Implementation Plan (CFRT Plan) for Colorado State Parks (State Parks).			
Lyons to Niwot	Planned trail linking Lyons to Niwot	No estimate	N/A
South of Superior to Jefferson County	Planned trail continuing the Front Range Trail into Jefferson County	No estimate	N/A
WestConnect Coalition PEL, CDOT (2018)			
Overall goal to reduce congestion, improve operational performance/safety, and address future transportation needs.			
CO 93 from Boulder County border to CO 72	Roadway improvements to reduce congestion, improve highway speeds, provide more transit, and continuous separate trail.	\$161 M	Not funded
CO 93 and CO 128	At grade intersection improvements	\$1 M	Not funded
	Channelized-T intersection	\$1 M	Not funded
CO 93 and CO 170	At grade intersection improvements	\$5 M	Not funded
Local			
Canyon Boulevard Complete Streets Study, City of Boulder (currently ongoing)			
Travel improvements along Canyon Blvd along with urban design, landscaping and placemaking enhancements.			
Canyon Blvd between 9th and 17th St	TBD	TBD	N/A
East Arapahoe Plan, City of Boulder (2018)			
Complete street creation to accommodate all transportation modes.			
Folsom St to 75th St	Side running BRT and other bicycle, pedestrian and transit improvements	\$91 M	Not funded
North Boulder Mobility Hub, City of Boulder (currently ongoing)			
Multimodal transit center as a gateway into the city. A number of transportation options will provide multiple transportation options.			
US 36 and Broadway	TBD	TBD	N/A

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
Transportation Delivery Option Study, City of Boulder (currently ongoing)			
Determine transit service delivery for Boulder and surrounding areas.			
Boulder	TBD	TBD	N/A
Transportation Master Plan Update, City of Boulder (currently ongoing)			
Guiding policy for complete streets, regional travel, TDM, funding, and sustainability.			
Boulder	TBD	TBD	N/A
Transportation Report on Progress, City of Boulder (2018)			
Focus on progress since 2016 and identifies priority action items for the next few years.			
US 36 and Broadway	North Broadway reconstruction	TBD	N/A
Erie Parkway Corridor Study, City of Erie (2017)			
Identify, and eventually implement, multimodal transportation improvements to enhance mobility and safety along Erie Parkway, as well as define streetscape design elements that will support local economic vitality, retain the small-town character, and enhance the identity of Erie.			
US 287 to 119 th St	Reconstruction and restriping to narrow travel lanes/widen bike lanes (restriping between Baxter Farm Ln to Meadowview Pkwy)	\$21.5 M	Not funded
US 287 to 111 th St	Addition of 2nd EB thru lane and improvements to the sidewalk and landscape area	\$4.4 M	Not funded
119 th St to County Rd 5	Restriping to narrow travel lanes/widen bike lanes and widen sidewalk and intersection enhancements	\$3.5 M	Not funded
Coal Creek Bridge	Bridge replacement, reconstruction and trail improvements	\$15.1 M	Not funded
County Rd 5 to I-25	Reconstruction	\$49.4 M	Not funded
Erie Transportation Plan, City of Erie (2018)			
Create a safe, efficient, innovative system to reduce neighborhood isolation, connecting all areas, accommodates modes, and facilitates regional travel.			
CO 7	Widen from 2 to 4 Lanes – Boulder County Line to Sheridan Pkwy	No estimate	N/A
I-25	Extend JUMP and add bus service from CO 7/I-25 to Lafayette Park and Ride until BRT operates	No estimate	N/A
US 287 and CO 7	BRT	No estimate	N/A
US 287 and CO 7	Mobility hub	No estimate	N/A
County Line Road and CO 7	New signalized three-quarters movement intersection	\$0.3 M	Not funded
Erie Pkwy (Botany Lane to 109 th St)	Add bike lane	\$0.1 M	Not funded
Arapahoe Road east of 107 th St	Add bike lane	\$0.1 M	Not funded

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
120th and South Boulder Road Master Plan, City of Lafayette (2014)			
Widening of South Boulder Road to accommodate bike lanes, new sidewalks, a multi-use path; intersection improvements of 120th / SBR and 120th/Emma, along with a new multimodal bridge over Coal Creek.			
South Boulder Rd from Malory St to 120 th St and 120 th St from Emma St to Horizon Ave	South Boulder Rd multimodal improvements and intersection signalization	\$10 M ²	Boulder County, City of Lafayette, CDOT TIP & TAP Funds
	120 th St north of South Boulder Rd roadway and sidewalk	\$3.7 M	Not funded
	120 th St south of South Boulder Rd roadway, sidewalk, and bridge	\$6.80	Not funded
	120 th St Bridge replacement over Coal Creek	\$4.3 M	UDFCD, Lafayette, and Boulder County
1st and Main Station Plan, City of Longmont (2017)			
Create a transit center for local, regional and BRT transit service with anticipation of serving the Northwest Rail Line.			
Surrounding area around station area	Offsite floodplain mitigation improvements	\$47.8 M (\$18.65 M unfunded)	Longmont, RTD
Onsite station area	Onsite infrastructure improvements	\$19.6 M (\$4.6 M unfunded)	RTD
Enhanced Multi-Use Corridor Plan, City of Longmont (2014)			
A planning level document to propose designs for each enhanced multi-use corridor.			
Highway 66 between Airport Rd and County Line Rd	Multi-use path	No estimate	N/A
Main Street Corridor Study, City of Longmont (currently ongoing)			
Improvements to Main St within Longmont outside of the downtown area.			
Main St in Longmont	TBD	TBD	N/A
Parks, Recreation and Trails Master Plan, City of Longmont (2014)			
Establishes a vision for the system of parks, recreation facilities, and trails.			
Continuation of St. Vrain Greenway west of Golden Ponds	Complete St. Vrain Greenway	\$2.5 M	Not funded

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
Highway 42 Gateway Alternative Analysis Report, City of Louisville (2013)			
Complete CO 42 as a context sensitive, multimodal, three lane highway supported by enhanced local street network connections.			
CO 42 from Paschal Dr to Hecla Dr	Removal of southbound acceleration lane at Paschal Dr, sidewalks, and bike lanes	\$0.05 M	Not funded
Hecla Dr intersection	Signalized full movement intersection	\$0.425 M	Not funded
Hecla Dr to South Boulder Rd	Creation of two south bound lanes north of Hecla Dr with a southbound left turn separated by a median at Hecla Dr and bike lanes	\$1.4 M	Not funded
South Boulder Road intersection	Raised crosswalks for right turns with pedestrian island	\$0.05 M	Not funded
South Boulder Rd to Cannon Cir	One lane northbound with midblock crossing north of Cannon Cir	\$1 M	Not funded
Griffith St intersection	Unsignalized, 3/4 movement with midblock crossing north of Griffith St	\$0.1 M	Not funded
Griffith St to Short St	One lane southbound with reduced turn lanes for both directions, bike lanes, and sidewalk	\$2.45 M	Not funded
Short St intersection	Signalized intersection and east intersection leg to access Louisville Sports Complex	\$2.525 M	CDOT, City of Louisville and Boulder County
Short St to South St	One lane southbound with sidewalks	0.65 M	Not funded
South St to Pine St	Sidewalks, bike lanes, and landscaped median	\$2.6 M	Not funded
Pine St Intersection	Intersection approach changes for north, south and west legs and southbound right turn lane with pedestrian island	\$0.425 M	Not funded
Pine St to Lock St	Two lanes in each direction with bike lanes	\$1 M	Not funded
Lock St intersection	Roundabout	\$3 M	Not funded
Transit route alignment along CO 42	Transit route along 96 th St between Lafayette and US 36 and Flatiron Park and Ride	No estimate	Not funded

Project Location	Proposed project(s)	Cost Estimate	Funding Source(s)
South Boulder Road Small Area Plan, City of Louisville (2016)			
Intended to define desired community character, land uses, and public infrastructure priorities to provide a reliable roadmap for public and private investments in the corridor. The South Boulder Rd small area plan translates the broad policies of the Comprehensive Plan into the specific actions and regulations that will achieve those policies.			
CO 42 and trail connecting to Hecla Lake	Underpass connecting North End and Kestrel between Hecla Dr and Summit View	\$1 M	Not funded
South Boulder Rd and Via Appia Wy	Underpass connecting Cottonwood Park and Centennial Park	\$1 M	Not funded
South Boulder Rd and Main St	Underpass under South Boulder Rd near Main St	\$1 M	Not funded
Highway 42 between Paschal Dr and Harney/Lastoka Open Space underpass	Trail	\$0.4 M	Not funded
South Boulder Rd between Centennial Dr and Steel St	Trail	\$0.4 M	Not funded
Via Appia and South Boulder Rd	With underpass, remove crosswalk and extend left-turn storage	\$0.1 M	Not funded
Garfield and South Boulder Rd	Remove acceleration and deceleration lanes, install offset left	\$0.5 M	Not funded
Jefferson and South Boulder Rd	Close north-south through movement	\$0.1 M	Not funded
Main St and South Boulder Rd	Add pedestrian island in eastbound right turn lane, create offset left, tighten geometrics	\$0.1 M	Not funded
Plaza and South Boulder Rd	Introduce protected left phase	\$0.1 M	Not funded
Blue Star and South Boulder Rd	Allow un-signalized full movement	\$0.1 M	Not funded
Westbound South Boulder Rd	Remove continuous acceleration/deceleration lane	\$0.5 M	Not funded



McCaslin Boulevard and US 36 Interchange

FUNDING GAP

Based on review of relevant Boulder County programs and regional plans, a large gap exists between identified projects and available funding. Approximately \$940 million in projects have been identified as “high priority” for Boulder County roadways or corridors affecting regional transportation within the county, and \$158 million has been identified for funding from CDOT, RTD, the county or other sources, which leaves a total shortfall of \$778.2 million (Table 8). This funding gap does not include costs or potential funding for other regional, state, or local projects, including Northwest Rail or Peak Northwest Rail. It is quite possible for the cost estimate to be larger than what is calculated here including inflation and additional costs associated with planning and design.

TABLE 7: ESTIMATED COSTS (IN MILLIONS)

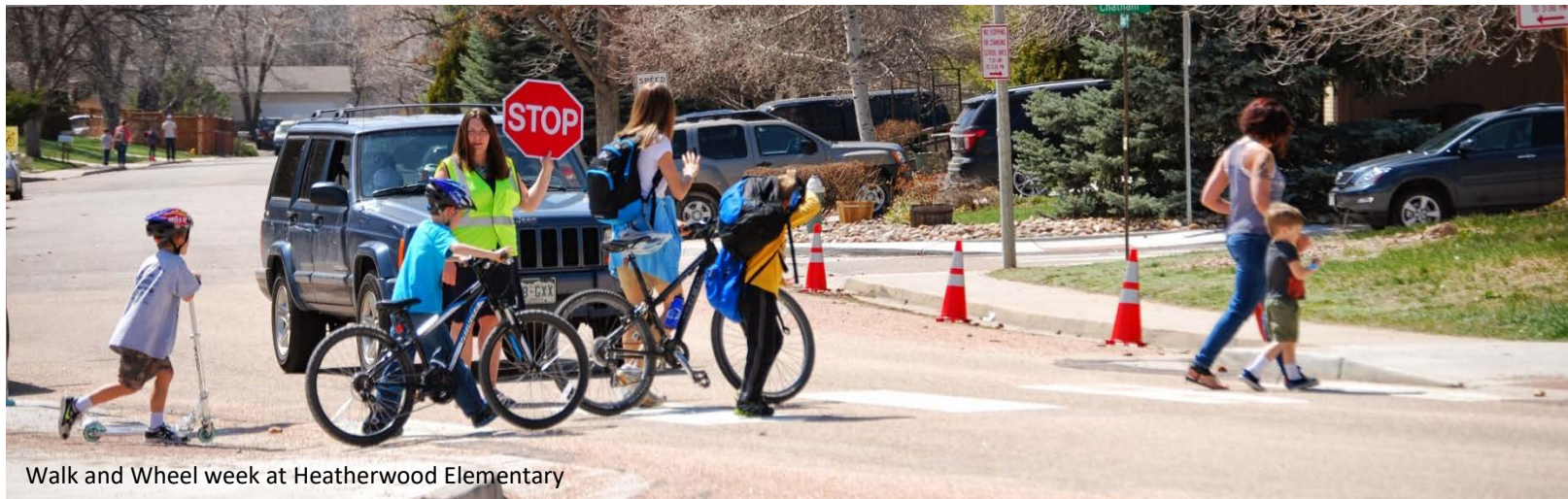
Program	Total Project Costs for Projects with Cost Estimates	Identified Funds	Shortfall
Boulder County CIP	\$83	\$46	-\$37
Boulder County Sales Tax	\$62	\$47	-\$15
CO 119	\$509	\$39	-\$470
CO 7	\$172	\$12	-\$160
CO 287	\$57	\$6	-\$51
CO 42/95 th St	\$27	\$7.8	-\$19
28th St/Broadway	\$26	-	-\$26
Total	\$936	\$158	-\$778.2
Northwest Rail	\$1.6 billion	-	\$1.6 billion
Peak Northwest Rail	?	?	?

CONCLUSION

Boulder County is faced with a number of factors that will likely affect the future transportation system. Although many improvements have been identified for both county roadways and roadways with regional impact on Boulder County transportation, the Transportation Master Plan update will be focused on how we should address significant changes in demographics, travel patterns, technology, and funding challenges and constraints as we plan for and develop our transportation system. The county will have to navigate the following considerations for implementing projects:

- ✦ Travel Patterns: Many employees within Boulder County work in different communities than they live, in addition to employees traveling from outside Boulder County.
- ✦ Growing Population: Population forecasts estimate the Boulder County population will grow from 329,200 in 2018 to approximately 415,500 by 2040.
- ✦ Changing Technology: Although it is difficult to determine exactly how our transportation system might shift given these new technologies, there are some ideas about how to integrate new technology.
- ✦ Funding Shortage: With the funding shortfall close to \$1 billion from planned projects, creative funding sources are necessary to create a transportation system to meet the growing demands from increased population.

The Transportation Master Plan Update will help set priorities given these considerations to make improvements across the entire Boulder County transportation system.



Walk and Wheel week at Heatherwood Elementary