Chapter 12

Implementation Plan

Town of Timnath. Image Credit: Susan Dussaman, https://flic.kr/p/9VZTnt

Chapter 12: Implementation

A. Introduction

The North Front Range Metropolitan Planning Organization's (NFRMPO) 2040 Regional Transportation Plan (RTP) sets the stage for transportation planning in the region for the next 25 years. While this is a long-term transportation plan, the climate of funding, projects, population, and employment are constantly evolving. With this in mind, the need to update or amend the 2040 RTP may arise.

B. Plan Amendment Process

The NFRMPO updates the RTP every four years, as required by federal law for all air quality nonattainment and maintenance areas. However, between RTP updates, amendments to the RTP may be necessary. Amendments can be triggered by new regionally significant projects or by substantially modified project descriptions. A plan amendment could also be necessary if substantial changes in financial resources occur not anticipated during this 2040 Plan process.

To initiate a plan amendment, a local agency, the Colorado Department of Transportation (CDOT) provides information to the NFRMPO outlining the specific amendment request along with a clear justification for the amendment or the source of the new funding. NFRMPO staff review the request and determine how the request should be processed. The Technical Advisory Committee (TAC) and NFRMPO Planning Council approve all amendments prior to submission to CDOT and the Federal Highway Administration (FHWA). If the amendment requires an air quality conformity determination, it must complete that process prior to the Plan Amendment being adopted.

C. Transportation Improvement Program (TIP)

The NFRMPO is responsible for the creation and adoption of a Transportation Improvement Program (TIP) for the region at least every four years. FHWA and Federal Transit Administration (FTA) determine if the TIP is consistent with the adopted RTP and if it was produced through the continuing, cooperative, and comprehensive (3C) transportation planning process. This requires the NFRMPO to produce and maintain a multi-year TIP, fiscally constrained by program and year. The FY2016-2019 TIP presents a four-year program of multi-modal projects using a combination of federal, state, and local funds, and identifies the type of improvement, the funding source(s), the sponsoring entity(ies), and an implementation schedule. Projects in the TIP must come from an approved RTP, follow the Congestion Management Process (CMP) outlined therein, and in nonattainment areas, it must show conformity according to air quality budgets outlined in the Statewide Implementation Plan (SIP). The TIP is included without changes in the Statewide Transportation Improvement Program (STIP), developed by CDOT and approved by the Governor.

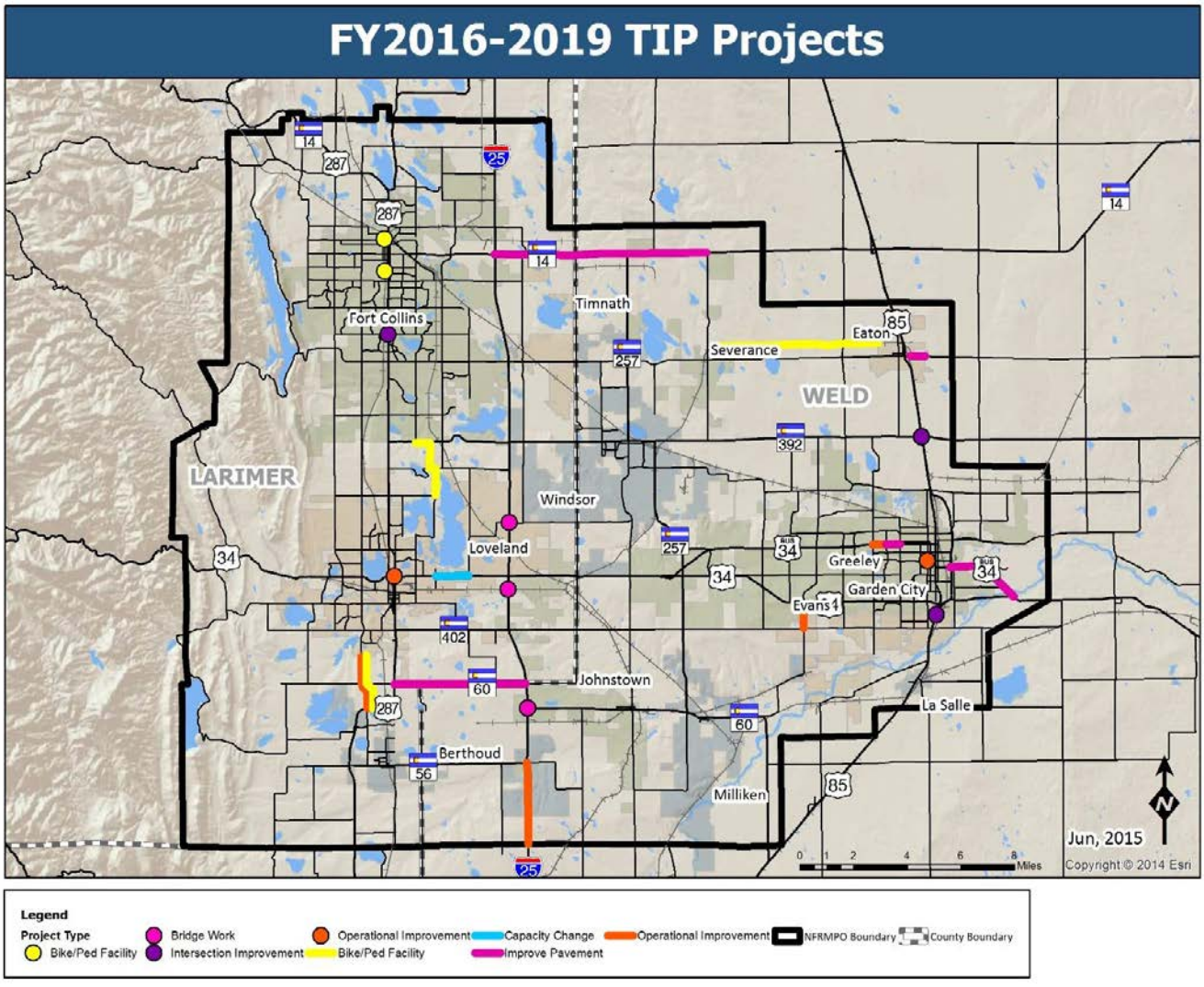
Moving Ahead for Progress in the 21st Century (MAP-21) requires the TIP include:

- To the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets established in the 2040 RTP, linking investment priorities to those performance targets.

- A priority list of proposed federally supported projects and strategies to be carried out within each four-year period after the initial adoption of the TIP.
- A financial plan which demonstrates how the TIP can be implemented, indicating resources from public and private sources reasonably expected to be available to carry out the program, and identifying innovative financing techniques to finance projects, programs, and strategies.
- In air quality nonattainment and maintenance areas, the TIP shall give priority to timely implementation of Transportation Control Measures (TCMs) contained in the applicable SIP in accordance with the Environmental Protection Agency's (EPA) transportation conformity regulations.

Figure 12-1 shows the location of projects included in the FY2016-2019 TIP.

Figure 12-1: FY2016-2019 TIP Projects



D. Fiscal Constraint

MAP-21 requires the 2040 RTP include sufficient financial information for demonstrating projects included in the RTP can be implemented using funds reasonably expected to become available over the life of the plan (FY2016–2040). Fiscal constraint means the total cost of all transportation projects and expenditures cannot exceed projected financial resources available. To demonstrate project fiscal constraint, the NFRMPO worked with local communities to determine regionally significant construction projects to be completed by 2040 (see *2040 RTP Regionally Significant Corridors* section). Available funds to implement these projects are derived from eligible federal, state, and local funds outlined in the *Roadway Maintenance, Operations, Rehab, and Safety* and *Congestion Management* categories included in ***Chapter 10*, Table 10-1**. Eligible programs include Regional Priority Program (RPP), Funding Advancements for Surface Transportation and Economic Recovery Act (FASTER) Safety, Highway Safety Investment Program (HSIP), STP-Metro, and local funds. The NFRMPO estimates $583.5M should reasonably become available over the life of the 2040 RTP to complete regionally significant projects on Regionally Significant Corridors (RSCs). **Table 12-1** identifies available capacity funds, FY2016-2019 TIP programmed projects, and the 2040 RTP modeled capacity project costs.

Table 12-1: 2040 RTP Regionally Significant Fiscal Constraint (FY2016 $ shown in thousands)

Anticipated Funds for Capacity Projects	Amount
Federal and State Funds Available	$215,109
Local Funds Available	$368,452
Total	**$583,561**
FY2016-2019 TIP Programmed Projects*	$17,049
Remaining Capacity Funds Available	**$566,512**
2040 RTP Modeled Regionally Significant Project Costs	$566,399
Difference	**$113**

*Includes projects programmed using RPP, FASTER Safety, and/or STP-Metro funding.

E. 2040 RTP Regionally Significant Projects

A 2040 RTP Regionally Significant Project is any fiscally constrained project that impacts the roadway network on a RSC, defined in ***Chapter 2***. This includes any capacity or non-capacity air quality project on a RSC, such as additional lane-miles or new intersections, and includes a specific funding source. A funding source is required to ensure a realistic forecast. All member jurisdictions, including CDOT, were asked to provide information on projects that fit this criteria, with a year of improvement between 2015 and 2040. These project lists were collected for the 2040 RTP and are included in the 2040 NFRMPO RTDM. These projects are shown in **Figure 12-2**. Individual project information is detailed in **Table 12-2**.

Figure 12-2: 2040 RTP Regionally Significant Projects

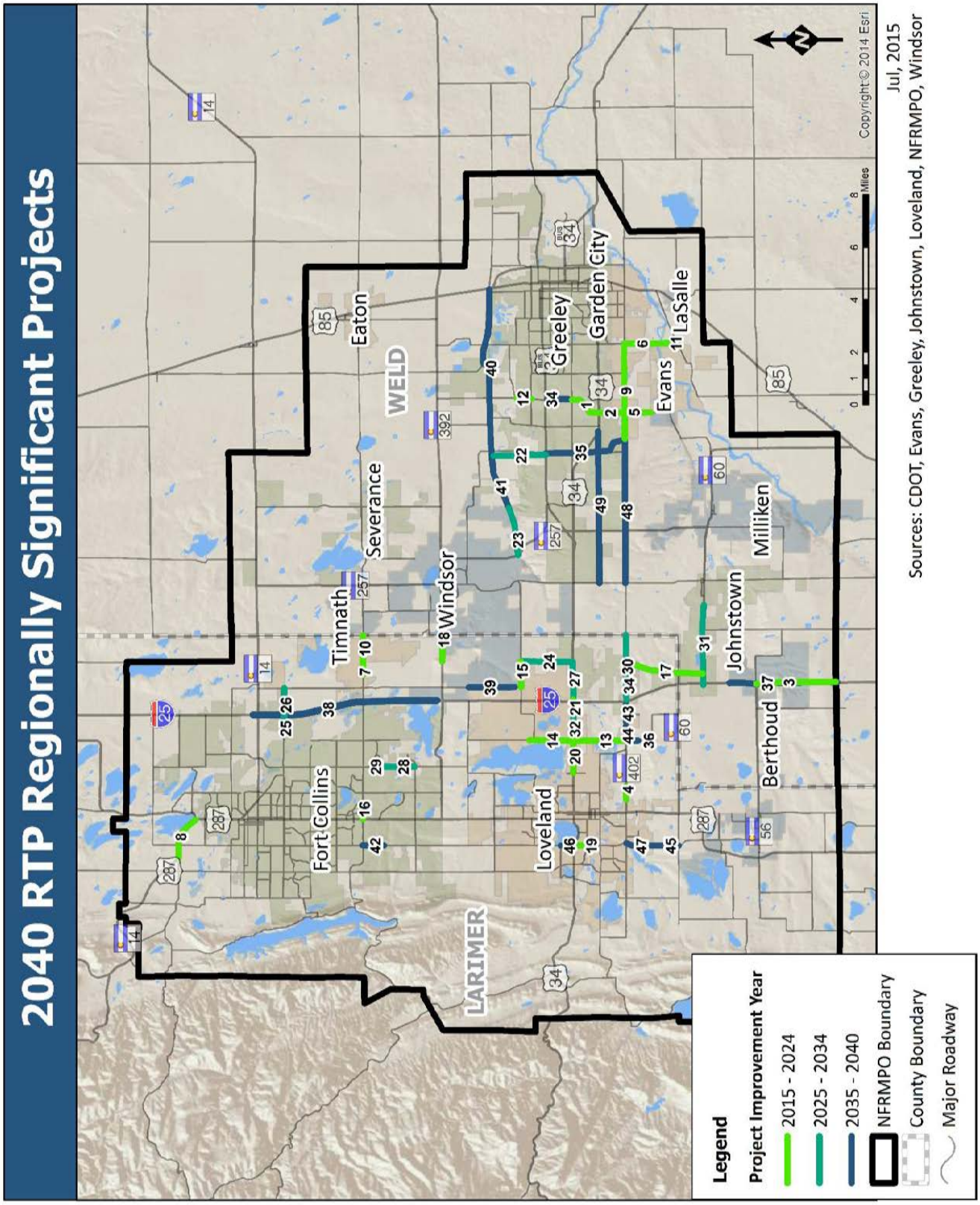


Table 12-7: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2015-2024 Network								
1	**59th Avenue**	20th Street	US 34 Bypass	2	3	2015	$1,500	Greeley – Capital Improvement Program
2	**65th Avenue**	US 34 Bypass	Weld CR 54	2	4	2015	$3,000	Greeley – Road Development Funds
3	**I-25 Southbound**	Approximately Mile Marker 247	Approximately Mile Marker 249	2	3	2015	$9,700	NFRMPO – STP-Metro Funds
4	**SH 402**	St. Louis Avenue	Boise Avenue	2	4	2015	$6,000	Loveland Transportation Capital Improvement Plan Funds – CDOT
5	**65th Avenue**	37th Street	49th Street	2	4	2016	$1,000	Evans – Capital Projects Street Fund Future Development
6	**35th Avenue**	37th Street	49th Street	2	4	2016	$1,000	Evans – Capital Projects Street Fund Future Development
7	**Harmony Road**	RR tracks	Three Bell Parkway (Larimer CR 3)	2	4	2016	$3,325	Timnath – General Fund/Adjacent Development

Table 12-2: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2015-2024 Network (Cont.)								
8	**US 287**	Shields Street	LaPorte Bypass	2	4	2016	$22,000	CDOT – FASTER Safety/RAMP
9	**37th Street**	35th Avenue	Two Rivers Parkway	2	4	2018	$1,500	Evans – Capital Projects Street Fund Future Development
10	**Harmony Road**	Three Bell Parkway (Larimer CR 3)	Lathem Parkway (Larimer CR 1)	2	4	2018	$3,500	Timnath – General Fund/Adjacent Development
11	**35th Avenue**	49th Street	Weld CR 35 & Weld CR 394	0	4	2020	$1,500	Evans – Capital Projects Street Fund Future Development
12	**59th Avenue**	4th Street	C Street	2	4	2020	$2,400	Greeley – Road Development Funds
13	**Boyd Lake Avenue**	Larimer CR 20C	US 34	2	4	2020	$1,988	Loveland – Transportation Capital Improvement Plan Funds
14	**Boyd Lake Avenue**	US 34	Canal	2	4	2020	$2,732	Loveland – Centerra Metro District
15	**Crossroads Boulevard**	Centerra Parkway	Larimer CR 3	2	4	2020	$2,365	Loveland – Transportation Capital Improvement Plan Funds

Table 12-2: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2015-2024 Network (Cont.)								
16	**Harmony Road**	College Avenue	Boardwalk Drive	4	6	2020	$9,349	Fort Collins – Street Oversizing Fund, Developer Contribution, Sales Tax
17	**Larimer CR 3**	Weld CR 50	Larimer CR 18	0	2	2020	$7,605	Johnstown – Johnstown/Adjacent Developers
18	**SH 392**	17th Street	Larimer CR 3	2	4	2020	$1,500	Windsor – Road Impact Fee and Adjacent Development
19	**Taft Ave.**	Arkins Branch	US 34	4	4 (Center turn Lane and Bike Lanes)	2020	$10,509	Loveland – Transportation Capital Improvement Plan Funds
20	**US 34**	Denver Avenue	Boyd Lake Avenue	4	6	2020	$5,245	Loveland – Transportation Capital Improvement Plan Funds - CDOT
21	**US 34**	Rocky Mountain Avenue	I-25	4	6	2020	$2,066	Loveland - Centerra Metro District
2025-2034 Network								
22	**83rd Avenue**	US 34 Business (10th Street)	US 34 Bypass	2	4	2025	$5,900	Greeley – Road Development Funds
23	**Crossroads Boulevard**	Great Western Drive	SH 257	0	3	2025	$5,000	Windsor – Road Impact Fee & Adjacent Development

Table 12-2: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2025-2034 Network (Cont.)								
24	**Larimer CR 3**	US 34	Crossroads Boulevard	0	2	2025	$8,073	Loveland – Transportation Capital Improvement Plan Funds
25	**Prospect Road**	North Summitview Drive	I-25	2	4	2025	$7,500	Fort Collins – Street Oversizing Fund, Developer Contribution, Sales Tax
26	**Prospect Road**	I-25	Growth Management Area Boundary	2	4	2025	$3,000	Fort Collins – Street Oversizing Fund, Developer Contribution, Sales Tax
27	**US 34**	Centerra Parkway	Kendall Parkway (Larimer CR 3E)	4	6	2025	$5,568	Loveland – Centerra Metro District
28	**Timberline Road**	Trilby Road	Kechter Drive	2	4	2025	$15,000	Fort Collins – Street Oversizing Fund
29	**Timberline Road**	Kechter Drive	Battlecreek Drive	2	4	2025	$2,003	Fort Collins – Street Oversizing Fund, Developer Contribution, Sales Tax
30	**Larimer CR 18**	I-25 Frontage Road	Weld CR 13	2	4	2030	$13,890	Johnstown – Adjacent Developers

Table 12-8: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2025-2034 Network (Cont.)								
31	**SH 60**	I-25	Weld CR 15	2	4	2030	$17,363	Johnstown – CDOT
32	**US 34**	Boyd Lake Avenue	Rocky Mountain Avenue	4	6	2030	$4,291	Loveland –Transportation Capital Improvement Plan Funds - CDOT
33	**US 34**	I-25	Centerra Parkway	4	6	2030	$2,543	Loveland – Transportation Capital Improvement Plan Funds - CDOT
2035-2040 Network								
34	**59th Avenue**	US 34 Bypass	20th Street	2	4	2035	$3,500	Greeley – Road Development Funds
35	**83rd Avenue**	Weld CR 54	Weld CR 64	2	3	2035	$7,000	Greeley – Road Development Funds
36	**Boyd Lake Avenue**	SH 402	Larimer CR 20E	2	4	2035	$6,300	Loveland – Transportation Capital Improvement Plan Funds

Table 12-9: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2035-2040 Network (Cont.)								
37	**I-25**	Weld CR 38	SH 56	2	4	2035	$85,000	CDOT Strategic Projects, Strategic Transit A, Local Funds (City of Loveland), Flexible Funds – RTP, Other STP Metro, CMAQ, FASTER Safety (1)
38	**I-25**	SH 392	SH 14	2	4	2035	$137,000	CDOT Strategic Projects, Strategic Transit A, Local Funds (City of Loveland), Flexible Funds – RTP, Other STP Metro, CMAQ, FASTER Safety
39	**North Fairground Avenue/Larimer CR 5)**	Rodeo Road	71st Street (Larimer CR 30)	2	4	2035	$3,000	Loveland – Transportation Capital Improvement Plan Funds
40	**O Street**	SH 85	83rd Avenue	1	3	2035	$4,700	Greeley – Road Development Funds
41	**O Street**	83rd Avenue	Weld CR 23	0	3	2035	$7,400	Greeley – Road Development Funds
42	**Shields Street**	Fossil Creek Drive	Harmony Road	2	4	2035	$6,500	Fort Collins – Street Oversizing Fund

Table 12-2: 2040 RTP Regionally Significant Projects								
Project Map Number	Street Name	From	To	Number of Lanes		Year of Improvement	Cost (thousands)	Funding Source
				Before	After			
2035-2040 Network (Cont.)								
43	**SH 402**	Approximately Heron Drive	I-25	2	4	2035	$33,378	Loveland – Transportation Capital Improvement Plan Funds – CDOT
44	**SH 402**	US 287	St. Louis Avenue	2	4	2035	$3,000	Loveland – Transportation Capital Improvement Plan Funds – CDOT
45	**Taft Avenue/ Larimer CR 17**	SH 60/Larimer CR 14	28th Street Southwest/ Larimer CR 16	2	4	2035	$6,123	Loveland – Transportation Capital Improvement Plan Funds
46	**Taft Avenue**	US 34	22nd Street	4	4 (Center turn Lane and Bike Lanes)	2035	$7,314	Loveland – Transportation Capital Improvement Plan Funds
47	**Taft Avenue**	28th Street Southwest	14th Street Southwest	4	4 (Center turn Lane and Bike Lanes)	2035	$3,920	Loveland – Transportation Capital Improvement Plan Funds
48	**Weld CR 54**	35th Avenue	Weld CR 17	1	3	2035	$6,800	Greeley – Road Development Funds
49	**Weld CR 56**	US 34 Bypass	Weld CR 17	0	2	2035	$21,000	Greeley – Road Development Funds

F. Environmental Mitigation Analysis

The Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU) introduced the requirement for MPOs and state DOTs to identify potential environmental mitigation activities in their long range plans. MAP-21 continued and expanded these requirements.[21] These activities should be developed alongside federal, State, land management, and regulatory agencies. Federally funded transportation projects are required to complete the National Environmental Policy Act (NEPA) process, as discussed in ***Chapter 5***. As part of the NEPA process, transportation projects must analyze potential impacts to the environment. Federal Register *40 CFR § 1500.1(b): Purpose* describes the NEPA process as a way to help public officials make decisions based on an understanding of environmental consequences and to take actions that protect, restore, and enhance the environment.[22]

NFRMPO staff analyzed the potential impacts of transportation projects according to the environmental features detailed in ***Chapter 5***. Transportation projects included are from the FY2016-2019 TIP and the 2040 RTP Regionally Significant Projects list. Project impacts are shown in **Table 12-3**. Total columns show the number of projects in each category; for example, there are four intersection projects which impact at least one resource and 14 projects within Flood Zones. It is important to note projects may be counted in more than one category because they may impact more than one environmental resource. As a result, column totals may be more than the total number of planned projects.

Transportation projects affect each environmental resource differently, depending on the resource's location within the region. The most impacted resource is Energy Production due to the span of the Wattenberg Gas Field across much of Weld County. Wetlands may potentially be affected by 22 proposed projects. Only one Historical and Archeological Site may be impacted by these projects. Three transportation projects will be located atop the Laramie-Fox Hills aquifer (Water Resources), while 14 projects will be located within a 100-year flood zone according to the available Federal Emergency Management Agency (FEMA) data. Four projects will be built within potential Conservation Areas. As each project moves forward, the respective agencies/jurisdictions will need to study individual project impacts on each environmental resource.

[21] 49 U.S.C. 5303: http://www.fta.dot.gov/documents/chap53MAP21.pdf
[22] 40 CFR § 1500.1(b): http://environment.fhwa.dot.gov/projdev/tdmmitig2.asp

Table 12-5: Environmental Mitigation Analysis							
Project Type (Total Number of Projects Planned)	Number of Projects Potentially Impacting Resources[23]						
	Historical and Archeological Sites	Flood Zones	Water Resources	Wetlands	Conservation Areas	Energy Production	Total Impacts
Bridge (3)	0	0	0	0	0	2	2
Intersection Improvement (4)	0	0	0	0	1	3	4
Bike/Ped Facility (5)	0	0	0	1	0	1	2
Operational Improvement (6)	0	0	0	2	0	4	6
Pavement (5)	0	3	1	2	0	4	10
Capacity (52)	1	11	2	17	3	23	57
Total	1	14	3	22	4	37	

Figures 12-3 through 12-9 map the transportation projects in relation to the region's environmental resources. **Figures 12-3 through 12-8** show each resource individually. **Figure 12-9** shows the number of resources each project may impact, with projects ranging from zero impacted resources to five. It is important to note a project's inclusion on this list does not guarantee the project will impact a given environmental resource; rather, the project should be aware of its potential impacts and work to mitigate any potential issues.

[23] Projects may be present in more than one column, reflecting the multiple resources the project may impact. Total number of projects affecting resources may be more than actual number of projects.

Figure 12-3: Historic and Archaeological Sites (2040 RTP)

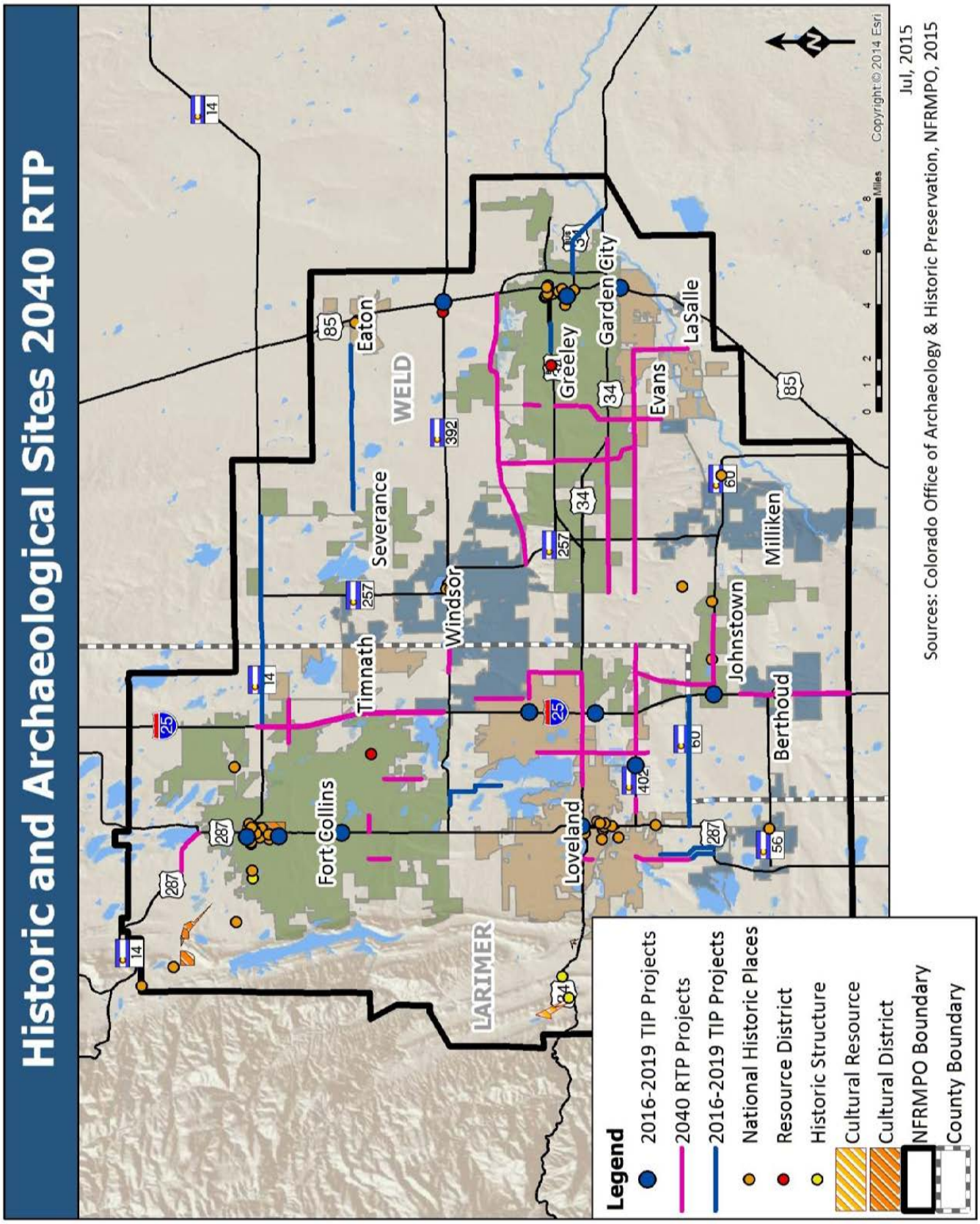


Figure 12-4: Flood Plains (2040 RTP)

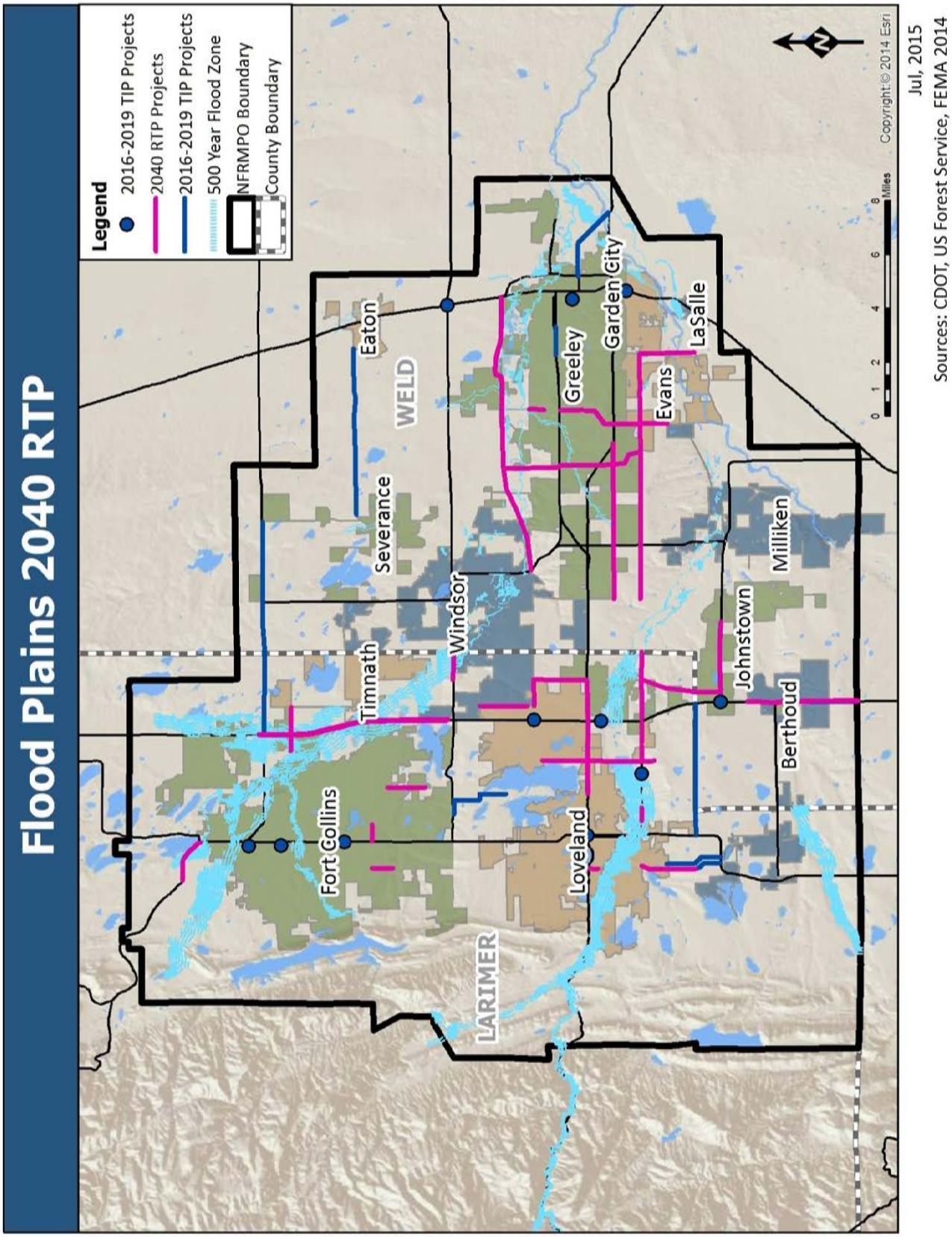


Figure 12-5: Water Resources (2040 RTP)

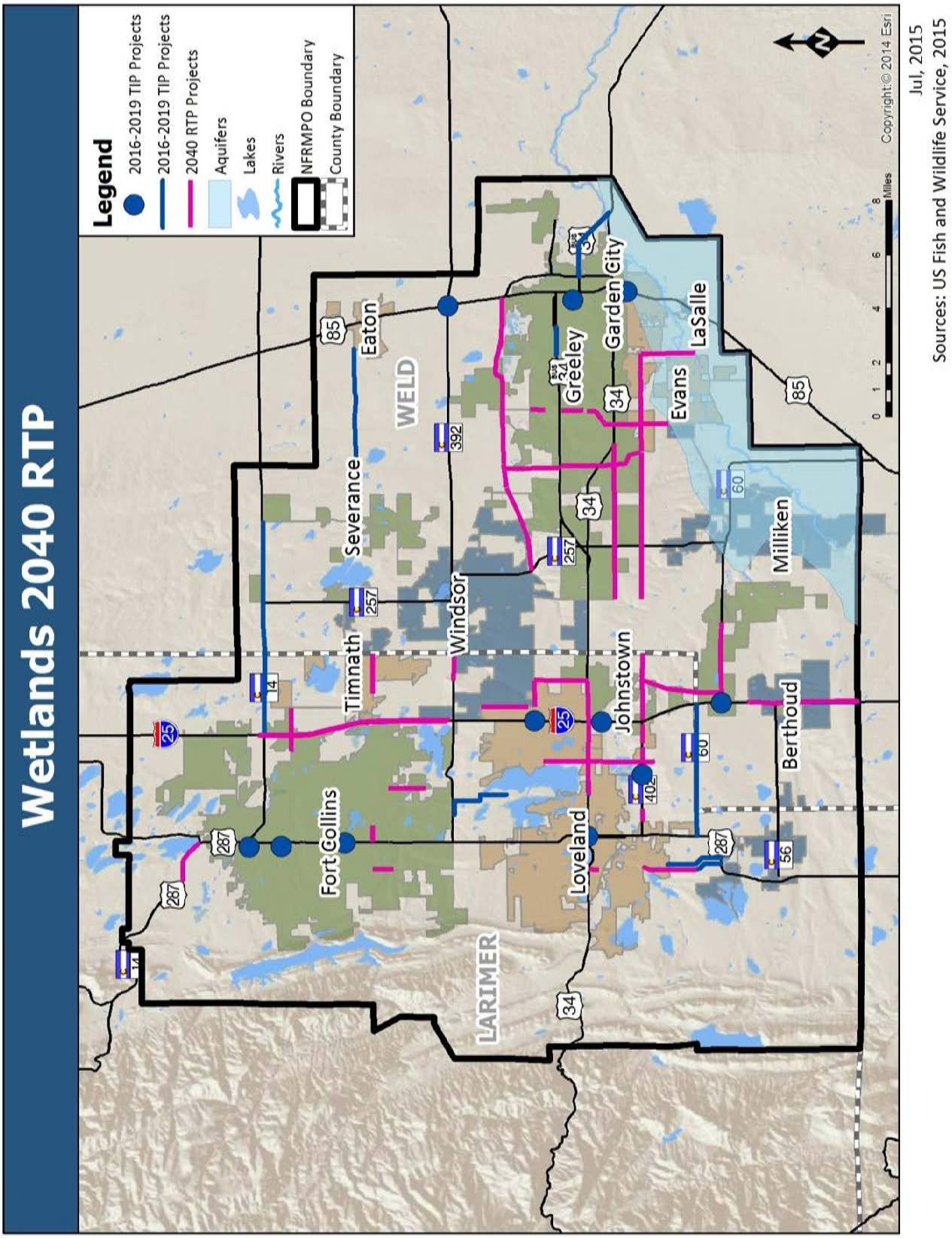


Figure 12-6: Wetlands (2040 RTP)

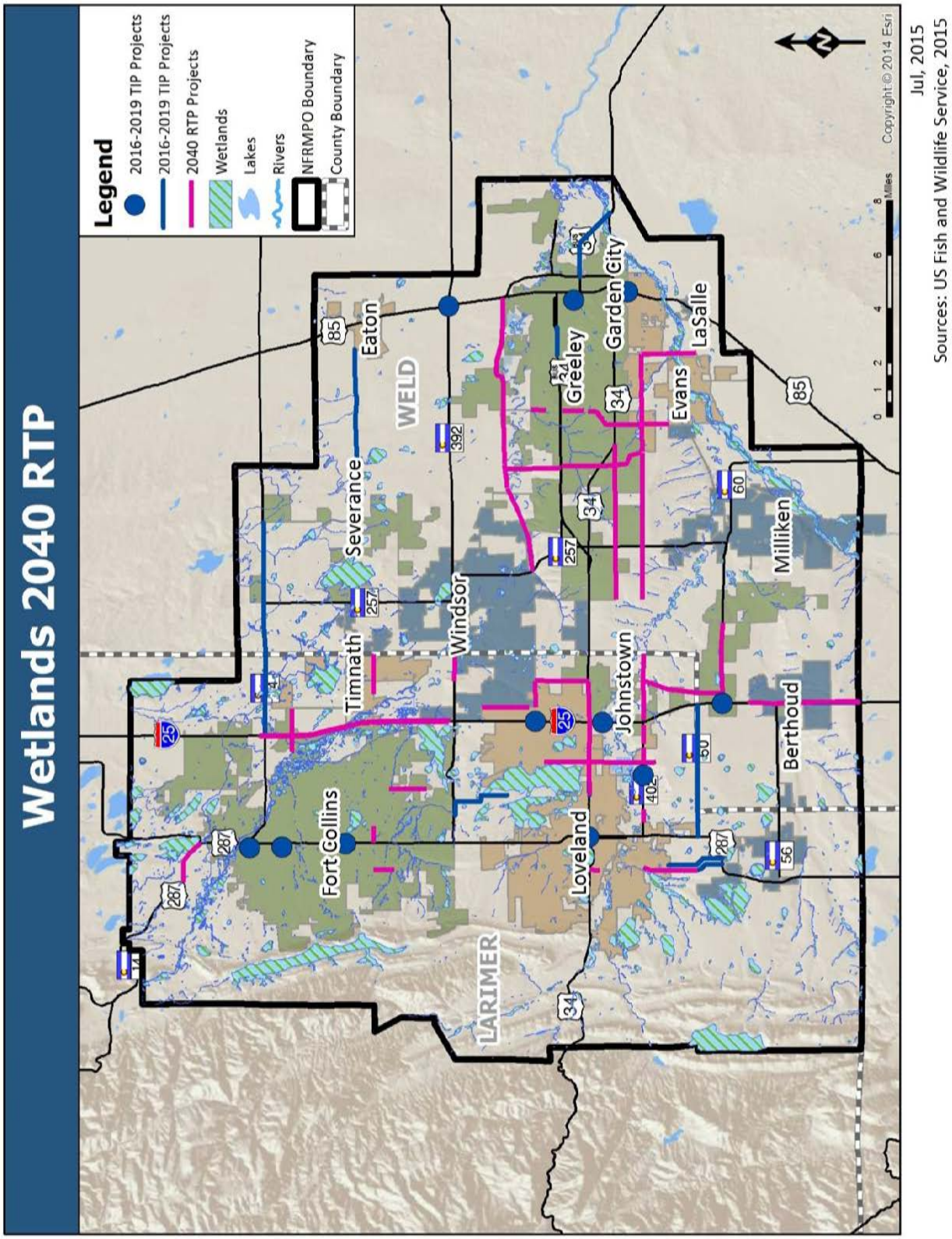


Figure 12-7: Conservation Areas (2040 RTP)

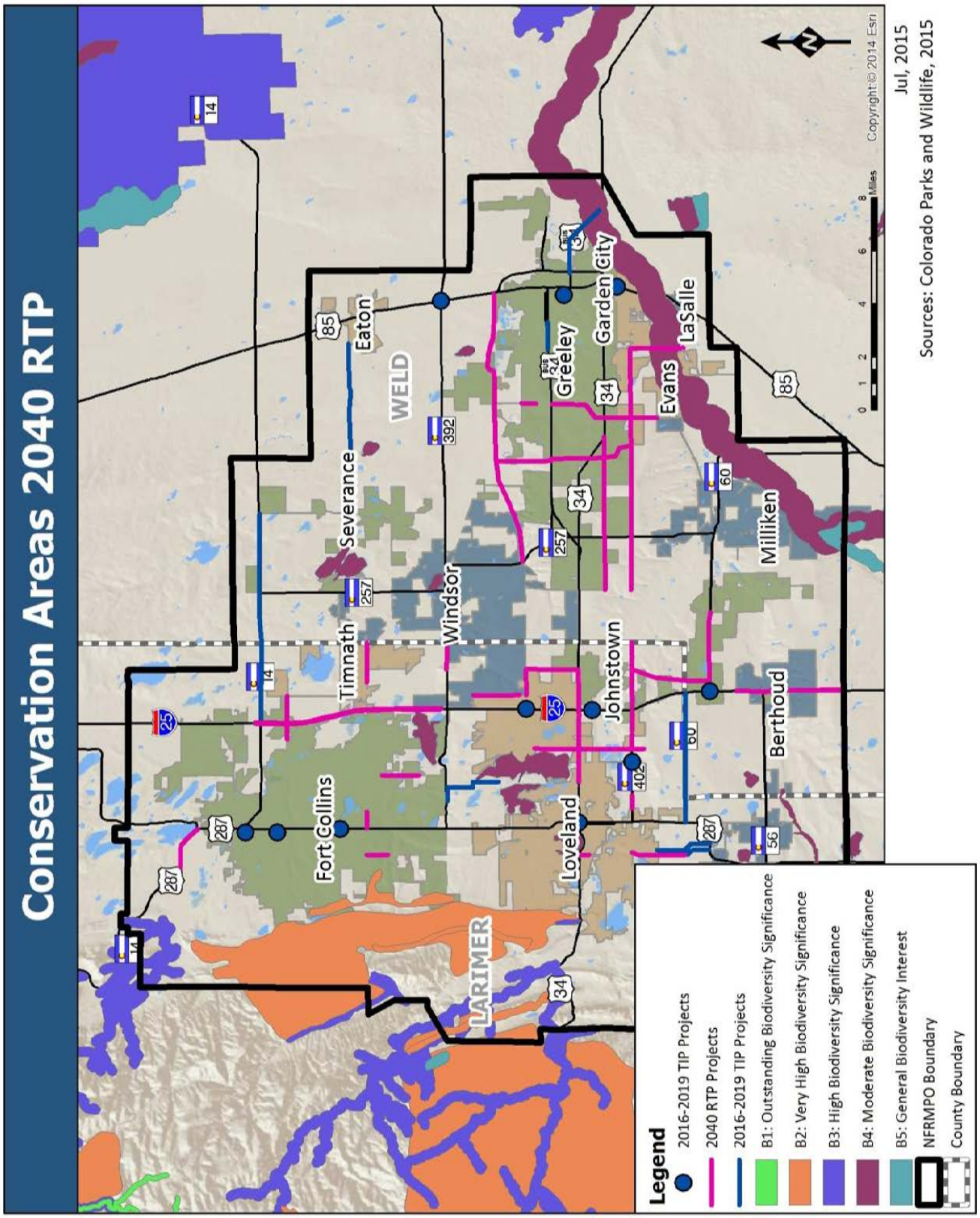


Figure 12-8: Energy Production (2040 RTP)

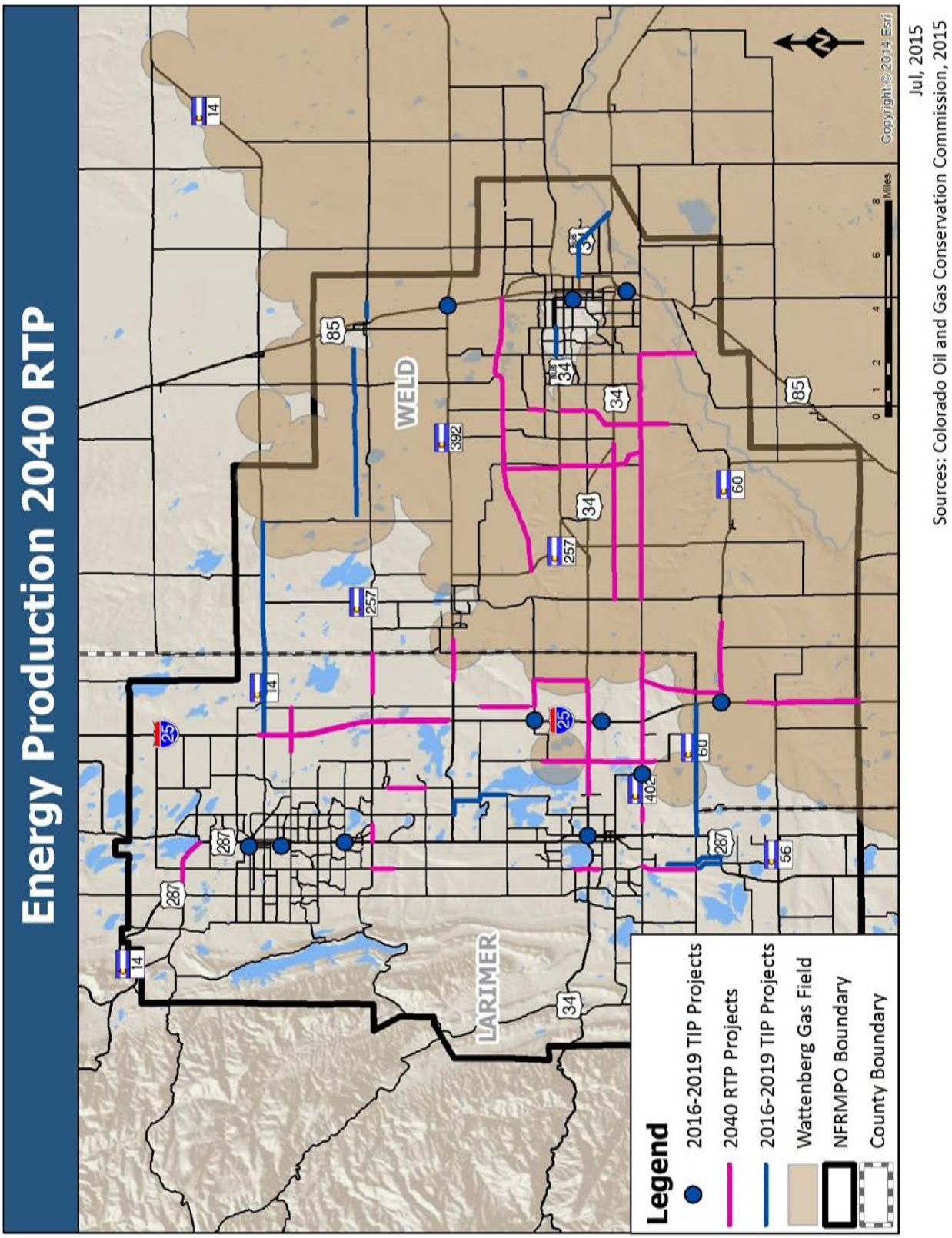
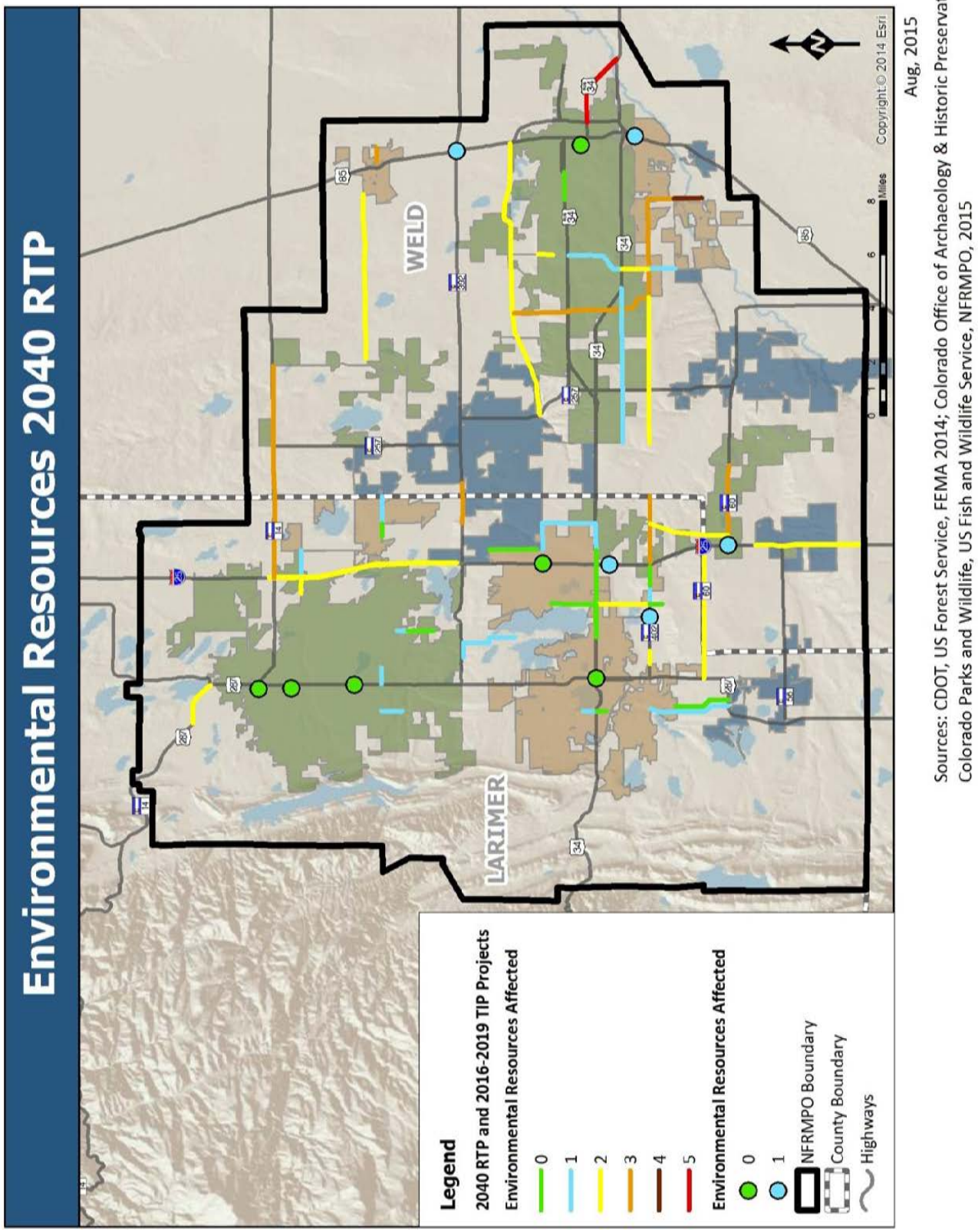


Figure 12-9: Environmental Resources (2040 RTP)



G. Environmental Justice Analysis

As explained in ***Chapter 3,*** Executive Order 12898 requires federal agencies to address adverse human health and environmental impacts or effects of its programs on Environmental Justice (EJ) populations. An EJ analysis is required on all projects included in the 2040 RTP and FY2016-2019 TIP to determine these impacts. Projects within ¼-mile of or adjacent to an EJ population are considered to be EJ. If it does not, the project is considered Non-EJ. The benefits and burdens of each project must be examined on all EJ and Non-EJ projects, and an overall analysis on projects in the RTP determines if it meets EJ requirements. The analysis process follows the three guiding principles outlined in DOT order 5610.2(a) listed in ***Chapter 3***.

Table 12-4 lists the total number of EJ and Non-EJ projects included in the FY2016-2019 TIP. The FY2016-2019 TIP contains a fiscally constrained list of projects covering the first four years of funding in the RTP. **Table 12-5** includes all projects on Regionally Significant Corridors (RSCs) in the North Front Range Region that are modeled for air quality purposes. **Figure 12-10** shows all of the EJ and Non-EJ projects.

An overall EJ analysis of projects included in the FY2016-2019 TIP and RTP shows 49 percent of projects are being completed in EJ areas, while 31 percent of the overall funding is being spent in EJ areas. Non-EJ areas contain 51 percent of projects being completed and 69 percent of overall funding spent. **Table 12-6** includes an EJ analysis of projects by type. EJ areas benefit from the addition of bicycle and pedestrian, operational improvement, intersection improvement, and pavement improvement projects. While 42 percent of capacity projects are being completed in or adjacent to EJ areas, only 28 percent of capacity project funds are being spent on those projects. Capacity projects could present a burden to an EJ area by separating communities and creating an unsafe environment for bicyclists and pedestrians crossing roadways.

Transit projects included in the FY2016-2019 TIP are not included **Figure 12-10,** but project totals are included in the overall EJ analysis. The three major transit operators in the region have received Congestion Mitigation and Air Quality (CMAQ) funds to purchase new alternative fuel buses. Since the three transit operators provide services in EJ areas, all three projects are considered to be a benefit to EJ areas.

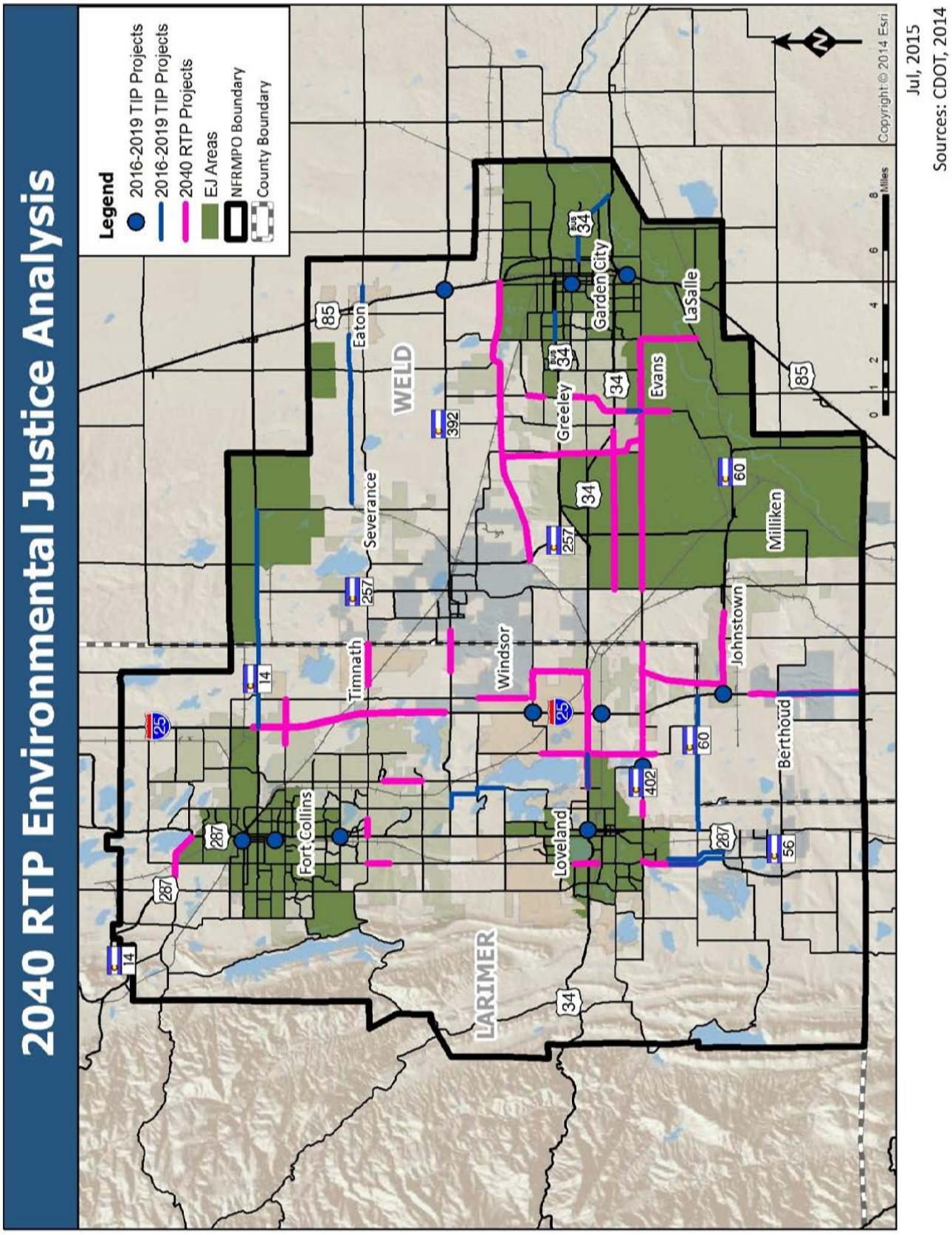
Table 12-6: FY2016-2019 TIP EJ Projects (FY2016 $ shown in thousands)

Totals	EJ Areas	Non-EJ Areas	Total
Total Number of Projects	17	10	27
	63%	37%	100%
Total Investment Amount	$34,972	$13,847	$48,819
	72%	28%	100%

Table 12-7: 2040 RTP EJ Projects (FY2016 $ shown in thousands)			
Totals	**EJ Areas**	**Non-EJ Areas**	**Total**
Total Number of Projects	20	29	49
	40%	60%	100%
Total Investment Amount	$159,022	$418,077	$577,099
	20%	80%	100%

Table 12-8: EJ Projects by Type (FY2016 $ shown in thousands)			
Totals	**EJ Areas**	**Non-EJ Areas**	**Total**
Bike/Ped Facility	3	2	5
	$1,814	$1,251	$3,065
Bridge Work	0	3	3
	$0	$2,555	$2,555
Intersection Improvement	2	2	4
	$3,283	$5,000	$8,283
Operational Improvement	5	1	6
	$5,468	$3,316	$8,784
Capacity Change	21	29	50
	$160,322	$418,077	$578,399
Improve Pavement	3	2	5
	$14,206	$1,725	$15,931
Transit	3	0	3
	$8,901	$0	$8,901
Total	37	39	76
	$193,994	$431,924	$625,918

Figure 12-10: 2040 RTP Environmental Justice Analysis

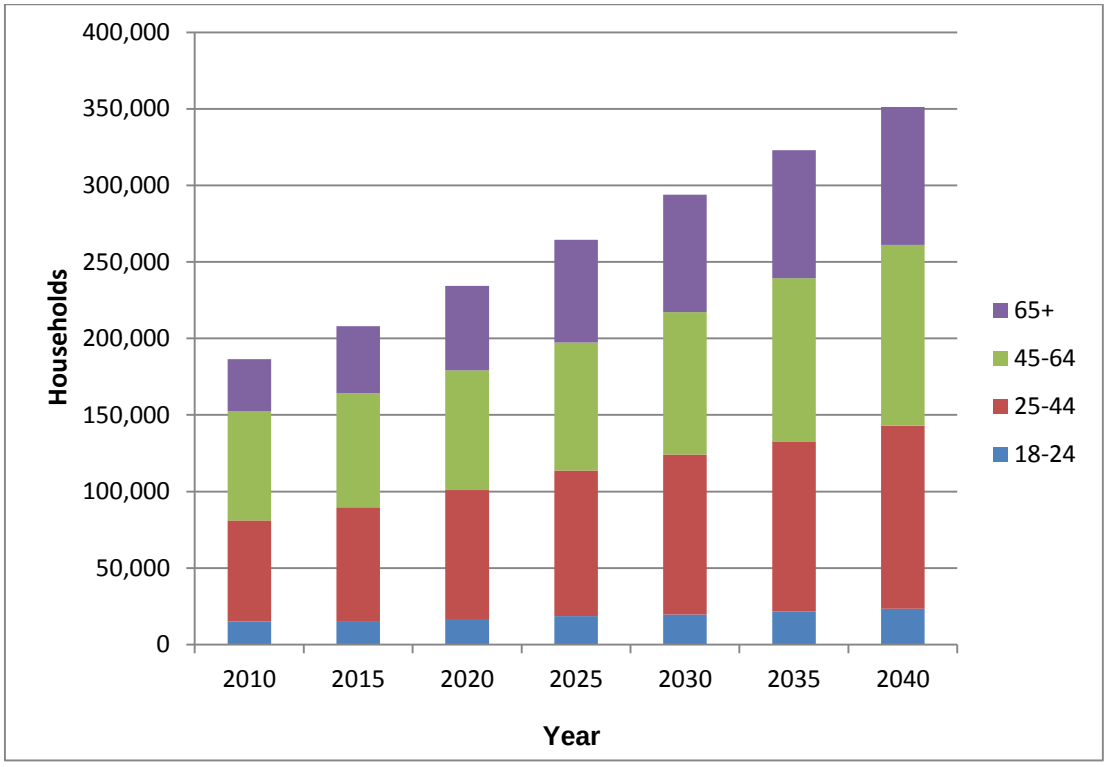


H. Emerging Trends

The North Front Range region has experienced rapid growth in recent years, resulting in an area with a 2012 population of approximately 450,000. This growth is continuing and population projections show by 2040, the North Front Range area population will double. This population growth will place an even greater demand on the movement of people and goods on an already stressed and aging transportation system.

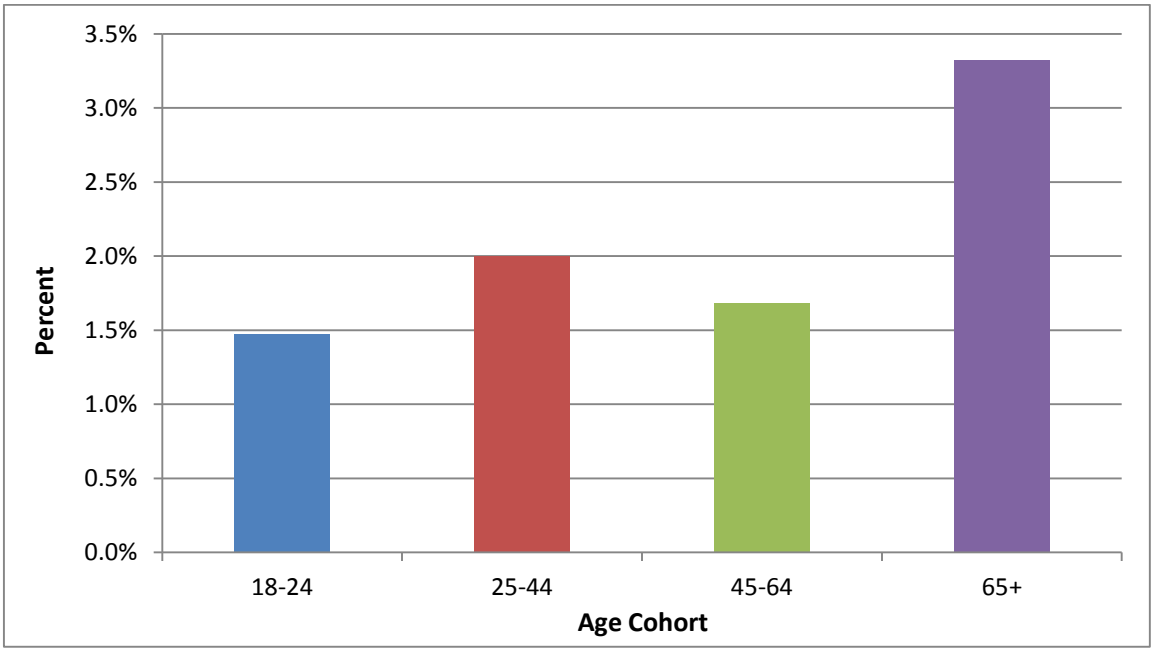
This population growth will occur in all age cohorts; however, households headed by the oldest cohort, those aged 65 years and older, will grow the fastest due to the area's popularity with retirees. This cohort will grow from 18 percent of the population in 2010, to 26 percent of the population by 2040. This equates to a growth rate of over 166 percent, from 33,000 to over 90,000. Additionally, this cohort will increase more than three percent every year on average through 2040. This is over twice the growth rate for the group with the smallest gains, the 18-24 cohort. The average annual growth rate for all segments is shown in **Figures 12-11 and 12-12**.

Figure 12-11: Household Growth by Head of Household Age Group, 2010-2040



Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

Figure 12-12: Average Annual Household Growth Rate by Age Group, 2010-2040



Source: *2040 Economic and Demographic Forecast North Front Range Metropolitan Planning Organization (NFRMPO), 2013*

Knowing the age group growth projection rates is important to the transportation planning process as it allows time to plan to better meet the specific transportation needs of the age groups. Based on this projection, providing more transportation options for the senior population should be a priority in the region over the next 25 years.

Future transportation trends the region should consider in future planning efforts could include, but are not limited to:

- Seniors needing transportation to medical appointments, the grocery store, and social events, etc.;
- A higher number of people commuting via bicycle, transit, or walking versus automobiles;
- Decreased transportation funding;
- Higher gas prices; and
- New and emerging transportation technologies, including self-driving automobiles.

As the region moves toward 2040, these emerging trends will need to be to be factored into the transportation planning process and into the allocation of transportation funds to those projects providing the greatest benefit to the region's population.