

EL PASO COUNTY

2016 Major Transportation Corridors Plan Update



Adopted
December 6, 2016



EL PASOCOUNTY

2016 Major Transportation Corridors Plan Update

FINAL DRAFT – NOVEMBER 16, 2016



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*In memory of Baaron Pittenger, El Paso County Deputy Public
Information Officer, for his contributions to this MTCP.*

FHU Project No. 115448-01



TABLE OF CONTENTS

	PAGE
CHAPTER I. BACKGROUND AND CONTEXT.....	I
About El Paso County Colorado	I
Purpose of the Plan	3
Related Plans and Studies.....	5
CHAPTER II. COMMUNITY ENGAGEMENT	6
Public Engagement Process	6
Stakeholder Conversations	7
Digital Communication	8
Media Advisories	9
Collateral.....	10
Community Meetings.....	11
What We Heard.....	12
CHAPTER III. GROWTH IN THE COUNTY.....	19
Land Use Forecasts	19
Household Growth.....	19
Employment Growth.....	22
Areas of Uncertainty.....	25
Emerging Trends.....	26
Aging Population.....	27
New Technology	27



Summary	28
CHAPTER IV. 2040 MAJOR TRANSPORTATION CORRIDORS PLAN.....	29
Roadway Functional Classifications and Design Standards	29
Roadway Functional Class Descriptions	30
Existing Roadway System.....	31
Road Level of Service	33
Existing Needs Assessment.....	34
2040 Forecasts	39
2040 Needs Assessment.....	39
2040 Roadway Plan	44
Improvement Categories.....	44
Roadway Plan	46
Cost Estimates	55
CHAPTER V. MULTIMODAL TRANSPORTATION	57
Bicycle and Pedestrian Facilities	58
Transit.....	61
Truck Routes	61
CHAPTER VI. CORRIDOR PRESERVATION PLAN.....	63
Right-of-Way Preservation.....	63
2060 Corridor Preservation Plan	64
CHAPTER VII. FUNDING ANALYSIS	66
Funding Transportation.....	66



Federal Transportation Funding.....	67
State Gas Tax	68
Pikes Peak Rural Transportation Authority (PPRTA)	68
Property Taxes	69
Transportation Costs and Revenues	72
How Are We Doing?	75
CHAPTER VIII. IMPLEMENTATION	78
Roadway Improvement Phasing	78
Implementation Policies and Strategies	81

LIST OF MAPS

Map 1: Study Area	2
Map 2: 2010-2040 Household Growth.....	21
Map 3: 2010-2040 Job Growth.....	24
Map 4: Existing Roadway System (Classification and Lanes).....	32
Map 5: Existing Traffic Volumes	35
Map 6: Existing Capacity Analysis.....	36
Map 7: Existing Gravel Roads – Analysis	37
Map 8: Existing Unimproved Roads – Analysis	38
Map 9: Existing and 2040 Traffic Volumes	40
Map 10: 2040 Capacity Analysis – Existing Plus Committed Network.....	41
Map 11: 2040 Gravel Road Analysis	42
Map 12: 2040 Unimproved Road Analysis	43
Map 13: Roadway Improvement Projects	53
Map 14: 2040 Roadway Plan (Classification and Lanes).....	54
Map 15: Bicycle and Pedestrian Network and Improvements	60
Map 16: Truck Routes	62
Map 17: Corridor Preservation Plan	65
Map 18: Short and Mid-range Projects	79
Map 19: Long-range Projects.....	80



LIST OF FIGURES

	<u>Page</u>
Figure 1: Household Growth in the County	20
Figure 2: Employment Growth in the County	23
Figure 3: Typical 2-Lane Road Sections	45
Figure 4: Road and Bridge Expenses and Major Revenue Sources 2006-2016	69
Figure 5: Federal vs. State Fuel Tax Revenue	72
Figure 6: Colorado State Gas Tax Revenue	73
Figure 7: Purchasing Power	74
Figure 8: Road & Bridge Budget Per Centerline Mile and Regional Average 2015	77

LIST OF TABLES

Table 1: Outreach Summary	6
Table 2: Household Growth Summary	20
Table 3: Employment Growth Summary	22
Table 4: 2040 Roadway Improvement Projects	46
Table 5: 2040 Multi-modal Improvement Projects	59

LIST OF ACRONYMS

AFB	Air Force Base
BRAC	Base Realignment and Closure
CDOT	Colorado Department of Transportation
CPI	Consumer Price Index
CFR	Central Front Range Transportation Planning Region
DPW	Department of Public Works
ECM	Engineering Criteria Manual
FHWA	Federal Highway Administration
HOV	High Occupancy Vehicle
HUTF	Highway Users Tax Fund
I-25	Interstate 25
LOS	Level of Service
MMT	Mountain Metropolitan Transit
MPO	Metropolitan Planning Organization
MTCP	Major Transportation Corridors Plan
NEPCO	Northern El Paso County Coalition of Community Associations
PPACG	Pikes Peak Area Council of Governments
PPRTA	Pikes Peak Rural Transportation Authority
SH	State Highway
TAZ	Transportation Analysis Zone
VPD	Vehicles Per Day

CHAPTER I. BACKGROUND AND CONTEXT

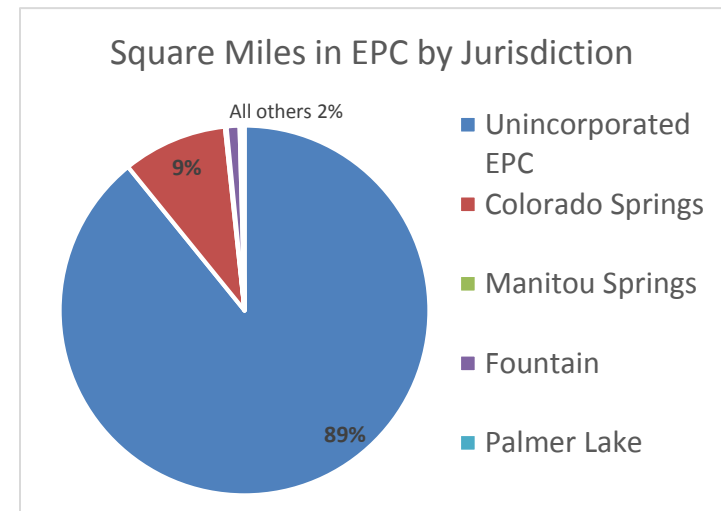
ABOUT EL PASO COUNTY COLORADO

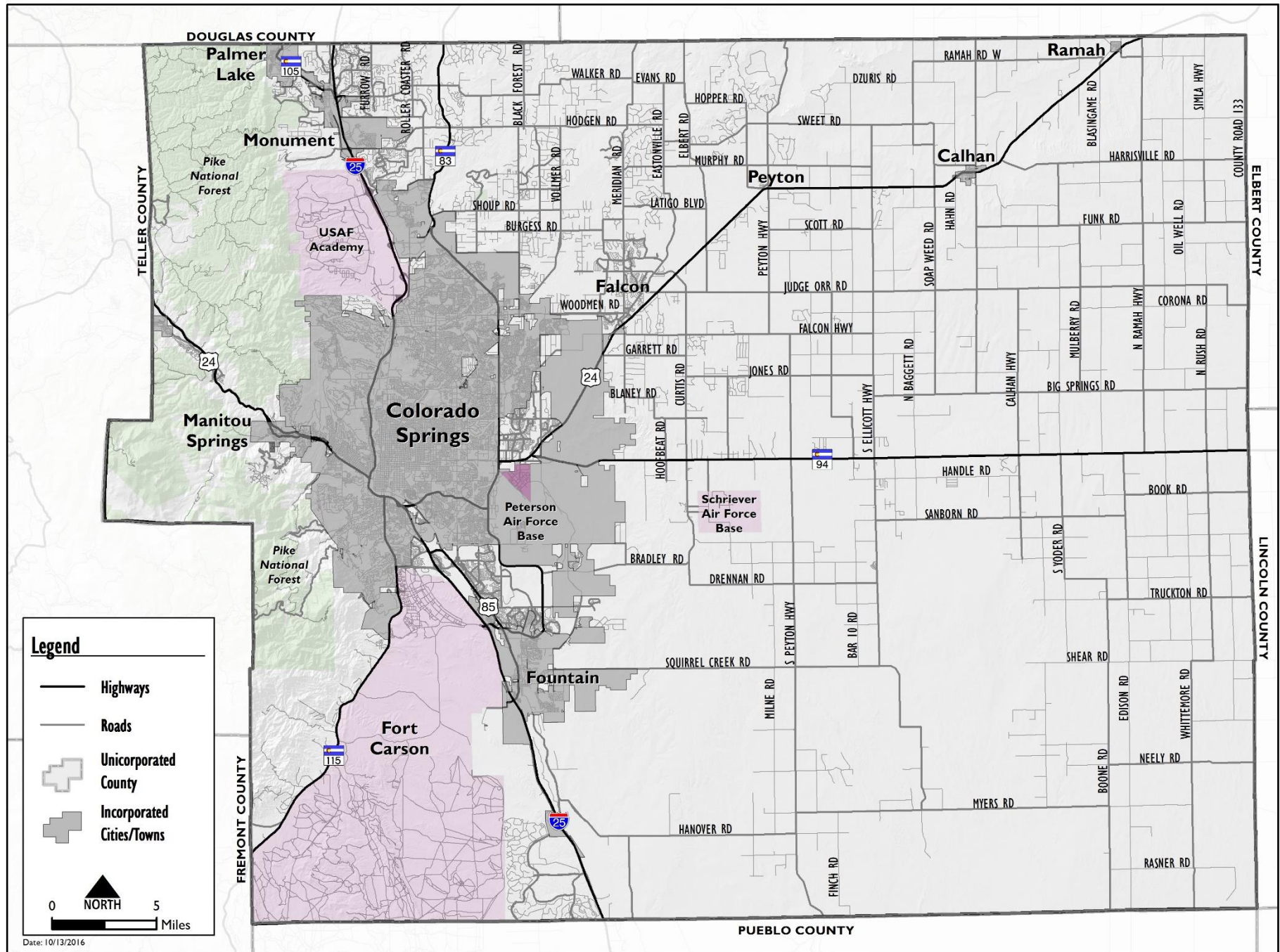
With a population of 674,000 people, El Paso County joins with Denver as the most populous counties in Colorado. El Paso County has 12.3 percent of the state's population and is home to the second largest employer in the state—Fort Carson. The County's population includes 174,000 residents who live outside cities in what is referred to as the unincorporated area (see Map 1).

El Paso County lies in east central Colorado and encompasses more than 2,158 square miles—roughly twice the area of the state of Rhode Island. While the western portion of El Paso County is extremely mountainous, the eastern part is prairie land where dairy cows and beef cattle are the main sources of ranchers' income. The altitude ranges from about 5,095 feet (1569 m) on the southern border at Black Squirrel Creek to 14,110 feet (4301 m) on the summit of Pikes Peak, near the western boundary. The mild climate, on average, supplies 285 days of sunshine, 15 inches of rain, 35 inches of snow, and very low levels of humidity.

All can enjoy the natural physical beauty of the area, situated at the base of Pikes Peak and with an uninterrupted view of the Front Range. The magnificent scenery inspired Katharine Lee Bates to write the poem "America the Beautiful" after her visit here.

El Paso contains both urban and rural areas. It is also a rapidly growing county, particularly in the unincorporated area. Population in the entire County is projected to grow at approximately 1.0 percent per year over the next 25 years, but for the unincorporated area, annual growth of nearly 2.5 percent is projected. Annual job growth is projected at 1.6 percent for the entire County and 2.65 percent for the unincorporated area.





Map I: Study Area

PURPOSE OF THE PLAN

To accommodate mobility needs associated with this growth in population and economic activity, the transportation system is carefully planned by the County, led by the Public Works Department. This 2016 Major Transportation Corridors Plan (MTCP) is the long-range plan focusing on the multi-modal transportation system in unincorporated El Paso County. To keep pace with the dynamic nature of growth and infrastructure in the County, the MTCP is updated regularly, and this 2016 MTCP represents an update to the previous plan adopted by the Planning Commission in 2011.

The MTCP is a critical step in creating effective and efficient transportation infrastructure that is ready to meet future needs. The Plan will provide:

- ▶ an updated vision for future transportation,
- ▶ a prioritized list of transportation improvements,
- ▶ a funding plan for ensuring adequate resources to build the future transportation system,
- ▶ a look at multimodal transportation needs,
- ▶ a long-term right-of-way preservation plan for each roadway corridor,
- ▶ policies and strategies to implement the plan, and
- ▶ a basis for the Road Impact Fee.

The following steps were undertaken to prepare the 2016 MTCP update, in addition to continuous website presence and input:

1. Review and report existing conditions on the County's roadway network
2. Solicit public input on priorities and direction for the Plan's development, alternatives, and funding
3. Adjust Pikes Peak Area Council of Governments (PPACG) demographic forecasts to reflect the most recent development patterns in the County
4. Model future 2040 traffic on the existing roadway network to identify future deficiencies and needed improvements
5. Develop roadway alternatives from public input and in response to the needs assessment
6. Solicit input from the public, local jurisdictions, and committees on the draft 2040 roadway improvements
7. Prepare funding analysis including a draft Road Impact Fee Study Update
8. Prepare the draft 2016 MTCP update document
9. Solicit public, local jurisdiction, and committee input for final adoption of the 2016 MTCP and Road Impact Fee Study updates

This report is organized with the following eight sections:

- ▶ **Chapter I, Background and Context:** Provides background on the County, the purpose of the MTCP and the planning process.
- ▶ **Chapter II, Community Engagement:** Describes the process to engage stakeholders including County officials, committees, other organizations and the public, and summarizes what we heard and how feedback was incorporated in the plan.
- ▶ **Chapter III, Growth in the County:** Presents 2020, 2040 and 2060 household and employment forecasts and discusses areas of uncertainty and emerging trends that influence transportation planning.
- ▶ **Chapter IV, 2040 Major Transportation Corridors Plan:** This is the heart of the roadway analysis for the plan, presenting the assessment of future needs and the 2040 roadway plan.
- ▶ **Chapter V, Multimodal Transportation:** Discusses transportation system accommodations for user groups beyond general automobile traffic, including bicyclists, pedestrians, public transit and trucks.

- ▶ **Chapter VI, Corridor Preservation Plan:** Presents a long-range plan for preserving right-of-way to accommodate travel demands that may occur beyond the 2040 time horizon.
- ▶ **Chapter VII, Funding Analysis:** Discusses the anticipated costs for improving and maintaining the County's transportation system and the multiple funding sources needed to pay for them.
- ▶ **Chapter VIII, Implementation:** Provides recommendations for phasing the 2040 roadway improvement plan, with a short/ mid-range phase through 2030 and long-range phase from 2030 to 2040, and outlines implementation policies and strategies.

RELATED PLANS AND STUDIES

El Paso County's MTCP planning process must be effectively coordinated with state, regional, and other county and city planning. Following is a listing of the other key recent and ongoing transportation planning process that most closely relate to the County's MTCP update:

- ▶ El Paso County Master Plan Documents
- ▶ Hodgen Road Access Management Plan
- ▶ US Highway 24 Access Management Plan
- ▶ Marksheffel Road Access Management Plan
- ▶ Woodmen Road Access Management Plan
- ▶ Woodmen Road Corridor Improvement Project
- ▶ Stapleton/Judge Orr Corridor Study
- ▶ Highway 105 Corridor Study
- ▶ Meridian Road Corridor Plan
- ▶ Moving Forward 2040 Regional Transportation Plan, PPACG, 2015
- ▶ Together We Go - Statewide Transportation Plan, Colorado Department of Transportation (CDOT), 2015
- ▶ Highway 105 Corridor Study – Corridor Preservation Plan, El Paso County, 2012
- ▶ US 24 West Environmental Assessment, CDOT, 2012
- ▶ Powers Corridor Environmental Assessment (EA) Document, CDOT, 2010
- ▶ US 24 East Planning and Environmental Linkages Study, CDOT, ongoing
- ▶ I-25, Monument to C-470 Planning and Environmental Linkages Study, CDOT, ongoing
- ▶ City of Colorado Springs Intermodal Transportation Plan

CHAPTER II. COMMUNITY ENGAGEMENT

PUBLIC ENGAGEMENT PROCESS

Public input is vital to the transportation planning process. Even if you never left your home, the transportation system plays a critical role in your life. It's how you get mail, how fire and police reach you in an emergency, and even how you get your utilities that may run under the road. Once you leave your home, roads and sidewalks get you where you are going and the quality of your roads and sidewalks impact your safety and access.

The MTCP determines what transportation infrastructure El Paso County needs and how projects will be prioritized for implementation. It turns community priorities into tangible transportation projects. For example, the last MTCP in 2011 led to new and improved roads, more funding through the PPRTA, and preserving land for future roads in anticipation of growth and development. For these reasons and others, community input into this planning process is highly valued. The public engagement process provided residents with several opportunities to contribute, resulting in projects and priorities that reflect the community's needs and desires.

The MTCP engagement effort began in January 2016 and continued through November 2016. Table 1 provides a high-level summary of the engagement effort throughout the project.

Table 1: Outreach Summary

Engagement Effort	Number
One-on-One Outreach	15
Email Updates Sent	14
Comments Received	99
Emails Received	38
Surveys Completed	204
Email Subscribers	434
Flyers Distributed	100
Posters	50
MTCP Website Business Cards	1000
Presentations	40
Interactive Web Sessions	3,405
News Articles	3

The outreach strategy included a diverse array of tactics used to both inform and engage the public. Some of those tools included:

- ▶ Stakeholder conversations
- ▶ Digital communication
- ▶ Media advisories
- ▶ Collateral (e.g., posters, flyers)
- ▶ Community meetings

Each tactic is summarized in the following discussion:

Stakeholder Conversations

Prior to starting outreach, the program team had a handful of informal conversations with previously engaged stakeholders in the area who had participated in the planning process in 2011. The informal check-ins helped preserve previous planning effort support and maintain strong relationships within the County as the team worked towards kicking off the update. These check-ins occurred periodically throughout the project to help clarify questions from the community and outline key update milestones.

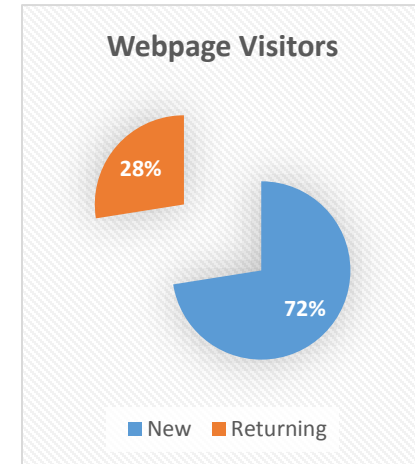
Digital Communication

Project Website—A highly interactive project webpage (epcroadplan.com) went live in February 2016. The webpage includes a program overview, information on past planning, details on fees and funding, how to attend Highway Advisory Commission meetings, the project schedule, and links to public involvement opportunities (e.g., mailing list sign-up, an online contact form and program contact information). The page also featured interactive maps and surveys that were heavily promoted through e-mail updates. The team received more than 90 comments through the online comment form and surveys, and over 30 emails were sent to the program manager.

In addition to digital resources, like the interactive map, another opportunity for public input and education was an interactive Tax Allocation exercise. This activity allowed the user to determine how property tax money should be spent. With a total of \$1000, residents filled in how much they'd spend on six main services: County General Fund, Roads and Bridges, Schools, Libraries, Fire Protection and Groundwater. Once they had submitted their fees, they saw how much El Paso County has allocated to each and how it ranks among other counties. Almost all users allocated between \$200-\$300 for Roads and Bridges, a stark contrast to the actual \$6 allocated. Two users suggested \$350 and \$375, respectively, and none of the participants allocated less than \$200.

The website has received over 7,987 page views, with an average session lasting well over two minutes. For comparison, as reported in 2014 by Chartbeat, a data analytics company, 55 percent of users spend less than 15 seconds actively on a web page.

E-mail Updates—The EPC MTCP Update email database consists of 434 individuals. The database includes the participants from the 2011 master plan update, elected officials, business/civic leaders, and other community members that submitted comments or registered on their own. The email distribution list was used to provide regular e-mail updates on the program, announcements at key milestones, and upcoming opportunities for public involvement.



Media Advisories

The project team worked closely with County officials to raise community awareness on the program and engagement opportunities through strategically promoting the project to local media outlets. The team sent news releases to media outlets in the region at each major project milestone, and responded to media inquiries throughout the planning process. The news release was also shared by partners on social media and included links to the MTCP update website:



Public social media posts regarding the 2016 MTCP Update



Collateral

The use of a postcard mailer, community flyers and posters allowed the project team to create broader, community-powered outreach. The postcard included a survey that was also made available online, allowing for wider reach and visibility. Flyers and posters encouraged community members to visit the project website for more information and a call-to-action to get involved.

Five hundred survey cards, 150 flyers and posters, and 1,000 business cards with the program website were placed in state, city and county office buildings, at military bases, libraries, stores, churches, and restaurants around the county.



About the Plan

Updating the El Paso County Major Transportation Corridors Plan is a critical step in meeting the future infrastructure needs of the community.



Why this Matters

The time to prepare for the future is now. Your input directly guides the development of a transportation system that is meaningful to you.

How To Participate

This is your plan.
There are a number of ways to make your voice heard.



Sign-up for
project updates
on our website



Attend a
Highway Advisory
Commission Meeting



Take a survey or
submit comments
online



Contact
project manager
Victoria Chavez
719-520-6884

Visit the project website to learn more:
www.EPCRoadPlan.com



Community Meetings

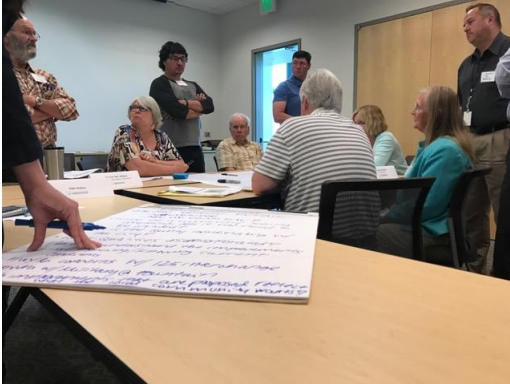
The project team provided program updates at a variety of meetings, both public and community-centered. Meetings ranged from regular updates at Highway Advisory Committee meetings to presentations with the Black Forest neighborhood group and the Northern El Paso County Coalition of Community Associations (NEPCO). These presentations served as important progress updates to stakeholders, and were also an opportunity for residents to raise questions and comment on the plan.

On September 21, 2016, the team hosted a facilitated discussion with over 15 community members on the MTCP process. The meeting also included an important break out session, where stakeholders reviewed two maps proposed in the plan and suggested edits and improvements.

Below is a list of additional public meetings with links to their respective presentations.

- ▶ December 2016 Board of County Commissioners
- ▶ November 2016 Planning Commission
- ▶ November 2016 Central Front Range Transportation Planning Region Meeting
- ▶ October 2016 HAC presentation
- ▶ October 2016 Department of Public Works Open House
- ▶ September 2016 Facilitated Discussion meeting summary
- ▶ August 2016 PPACG Community Advisory Committee
- ▶ July 2016 HAC presentation
- ▶ June 2016 HAC presentation





- ▶ April 2016 Meeting with Black Forest Residents
- ▶ April 2016 HAC presentation
- ▶ February 2016 PPACG Community Advisory Committee
- ▶ February 2016 Central Front Range Transportation Planning Region Meeting
- ▶ December 2015 HAC Update
- ▶ NEPCO presentation

- ▶ Monthly updates at the Housing and Building Association Land Use Committee Meetings
- ▶ Monthly updates to the Road Impact Fee Advisory Committee



WHAT WE HEARD

Throughout the MTCP Update process, the team gathered extensive feedback on the various aspects of the overall plan. Some of the comments were general in nature, while others offered direct feedback on suggested improvements. Here are examples of how community input is being incorporated into the MTCP Update:

Community Feedback	Action Taken
"Connect Howell's Lane with a bridge"	We modeled this bridge and see it as a valuable improvement. It is included in the draft plan.
"There is a great deal of development that is happening in Monument – consider adding lanes to Higby Road."	We worked with the Town of Monument to ensure that our growth projections were consistent with their plans. We've included the analysis in the model.
"Connect Briargate Parkway and Stapleton Road"	This connection is included in the draft plan.

Through the online and mailed survey specifically, the following themes emerged:

- ▶ **Maintenance**—Many respondents agreed that maintaining the County’s existing transportation system is a high priority.
 - A few expressed a concern for County growth and a desire to consider smart planning and regional partnerships as part of the plan update.
 - Many comments discussed a need to improve the condition of existing infrastructure before adding new roads or highways.
- ▶ **Funding**—Many of the comments expressed a desire for transparent and accurate funding, and for the plan to be diligent in discussing funding sources and costs.
- ▶ **Safety**—Community members expressed that safety should come first in planning future roadways. Many of the comments about safety encouraged a perspective that focused on getting places safely rather than quickly.
 - Safety concerns included a desire to improve the safety of bicycle facility conditions.
 - Several comments focused on the needs for people with disabilities, as well as the aging population.
- ▶ **Connectivity**—Numerous community members stated the importance of increasing and prioritizing bicycle/pedestrian connections, road connections and transportation connections to other areas.
 - Some encouraged inter-County connectivity through roadways and recreational trails.
 - Specific roads related to connectivity were mentioned a few times, including Briargate-Stapleton.
 - Some encouraged transportation connections between more distant destinations, such as Colorado Springs and Denver International Airport, and Colorado Springs and the City of Denver.
 - Many expressed a need for more connectivity of designated bike lanes and bike paths.
- ▶ **Choice**—Several community members expressed an interest in more diversified transportation options.
 - Residents expressed a desire for more designated bicycle lanes, ease of safe access for pedestrians, and more walkability.
 - The project team was encouraged to consider parks/trails master plans as part of planning and development.
 - Many encouraged multimodal alternatives like streetcars, expanded bus routes and connected metro systems.

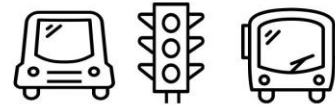
Other themes that emerged but were not as supported as strongly, include the following:

- ▶ **Economic Vitality**—Many residents ranked *Supporting Economic Vitality* as a higher priority and considered it an important part of the planning process.
- ▶ **Environment**—While not expressed through comments specifically, many residents highly ranked the need to be considerate of environmental impact during the planning process.
- ▶ **Involvement**—A common theme throughout the comments received was a desire to be included and involved in the MTCP Update. Several community members asked to be added to the mailing list and to be included in upcoming conversations regarding the update.

Survey Summary—189 respondents completed our survey either online or through direct mail. The table that follows ranks priorities from highest to lowest, based on averages and percentages.

How important are the following goals?
1 = least important, 5 = most important

	High Priority	Low Priority
Maintain our existing transportation system	86%	3%
Find adequate sources of funding	81%	7%
Offer transportation choices (bike, walk)	81%	30%
Provide safe and secure transportation	70%	15%
Support economic vitality	66%	12%
Protect the environment	60%	22%
Minimize travel time and distance	60%	22%
Add new lanes and roads	52%	16%



What's Most Important to You?



EL PASO COUNTY
2016 MAJOR TRANSPORTATION
CORRIDORS PLAN UPDATE

The 2016 El Paso Major Transportation Corridors Plan (MTCP) Update
 will build on the vision from the 2011 plan and identify new transportation services and infrastructure needs for the county. How important are the following goals?
 Circle the number that best reflects your response.

	1 = Least Important 5 = Most Important				
Maintain our existing transportation system	1	2	3	4	5
Add new lanes and roads	1	2	3	4	5
Find adequate sources of funding	1	2	3	4	5
Offer transportation choices (bike, walk)	1	2	3	4	5
Provide safe and secure transportation	1	2	3	4	5
Support economic vitality	1	2	3	4	5
Minimize travel time and distance	1	2	3	4	5
Protect the environment	1	2	3	4	5

Are there other priorities not listed, or additional thoughts you'd like to share?

NAME:

EMAIL (OPTIONAL):

ZIP CODE:

Want to know more? Have more to say? We want to hear from you!



www.EPCRoadPlan.com



Take the Survey Online

Five hundred survey cards were placed at community gathering centers and businesses in the county and were available as a digital survey online. Surveys helped the project team determine stakeholder priorities and plan for funding opportunities.

Feedback from Online Maps—Mid-way through the planning process, the project team posted roadway improvement and multimodal maps to the project website and invited the public to comment on the proposed improvements to help refine the plan recommendations.

The project team revised its year 2040 evaluation of operations and conditions for County roadways and based on these evaluations, developed recommendations for roadway improvements and upgrades to address the long-term transportation needs for the County.

The Draft 2040 Roadway Improvement Projects map shows proposed projects to address long-term transportation needs including new connections, roadway paving and roadway widening.

Here are the themes that emerged from those comments:



Themes	Description
Connectivity	Many respondents pointed out opportunities for more connectivity through bridges and road repairs. We also heard comments about how these proposed projects would fit in with other community projects and initiatives. Choice remained a priority through comments about bicycle routes and how they would connect to improved roads and trails.
Growth and Development	Growth and development considerations are a high priority for stakeholders. Comments challenged the project team to consider growth in Fountain and around Monument.
Suggested Improvements	Some comments suggested new road improvements, like added lanes, less traffic lights on certain roads, and new highway ramps.
General Questions	Questions were raised on City/County coordination, what qualifies for inclusion in the plan, and general inquiries on new transportation trends (Uber, Lyft, and high-speed rail).

The proposed multi-modal improvements are a combination of the 2040 Roadway Improvement Projects map above and the suggested projects from the El Paso County Parks Master Plan. The combination of these two maps allowed the team to continue refining proposed projects based on community input and countywide coordination with other departments.

Here are the themes that emerged from community comments:




Themes	Description
Development and Growth	The growing Fountain area was again discussed as an important consideration; comments suggested opportunities for more trails and bike paths in the area.
Use and Access	Stakeholders were helpful in pointing out areas with high volumes of cyclists and discussed roadways with too much vehicular traffic for bike lanes.
Map Improvement Suggestions	Some comments suggested improvements for the map itself, like adding in recreational attractions, identifying commuter versus recreational routes on the maps, and showing anticipated development (homes, businesses, etc.)
Suggested Improvements	A few direct projects were suggested, including adding bike lanes to certain roads, considering opportunities for connection, and adding pedestrian bridges with bike lanes, like those found in Denver, CO.

General Comments—The project website also allowed for general comments throughout the entirety of the program. The comment form and contact us page never changed and was therefore a steady means for members of the public who wanted additional information, to sign-up for project updates, or make recommendations. The project team received 85 general comments through the contact form on the webpage.

The homepage of the project website (below) served as a clear call-to-action.


The project team has completed a preliminary evaluation of operations for County roadways.
[We invite you to review and comment.](#)



About the Plan

Major Transportation Corridor Plans are a critical step in creating effective and efficient transportation infrastructure that is ready to meet future needs.


[Read more...](#)



Why this Matters

The time to prepare for the future is now. Even if you never left your home, the transportation system is important to you.

[Read more...](#)



How to Participate

Citizens as well as businesses in El Paso County are invited to help plan the County's future transportation system by getting involved in the MTCP.

[Read more...](#)

In summary, the project team reached an estimated 3000 people through impressions, organized outreach, project presentations, and digital content. Thank you to the many community members and valued stakeholders who took the time to provide input on the plan and shape the future of our County roads and highways.

CHAPTER III. GROWTH IN THE COUNTY

LAND USE FORECASTS

Household and employment growth will cause traffic increases in the future, and will drive a need for new roads and improvements to existing roads. The MTCP uses traffic modelling to forecast future traffic patterns, and a realistic understanding of possible future development patterns is important in ensuring that the future improvements suggested by the travel demand model are reasonable.

For this plan, future scenarios were developed for 2030, 2040, and 2060. These growth scenarios are based on the official Small Area Forecasts developed by the PPACG in 2013 for the *2040 Moving Forward Plan*, the regional transportation plan approved in 2015. These base forecasts, which were recently completed and involved an extensive input process from regional planning entities, were adjusted and refined through additional data gathering and review for the MTCP, while still maintaining 2010 (base year) and 2040 control totals at the regional level. Once the 2040 scenario was developed, the 2030 and 2060 scenarios were generated by developing and applying appropriate growth rates and patterns to the 2040 scenario.

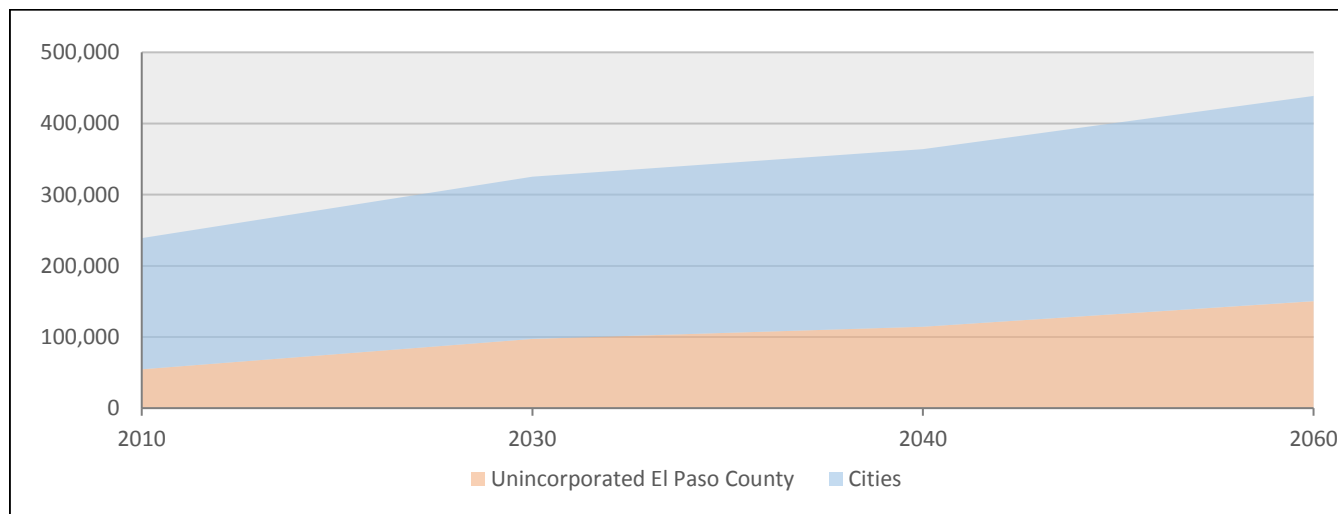
Notably, these scenarios are lower than previous forecasts documented in the 2011-approved El Paso County MTCP. This is largely because previous forecasts were based on pre-recession growth rates. As such, the forecasts documented in this MTCP have more realistic growth rate assumptions. Specifically, the previous 2040 forecasts for unincorporated County households was 146,000 and the updated forecasts used in this plan are 114,000 – a 22 percent reduction in the 2040 forecast.

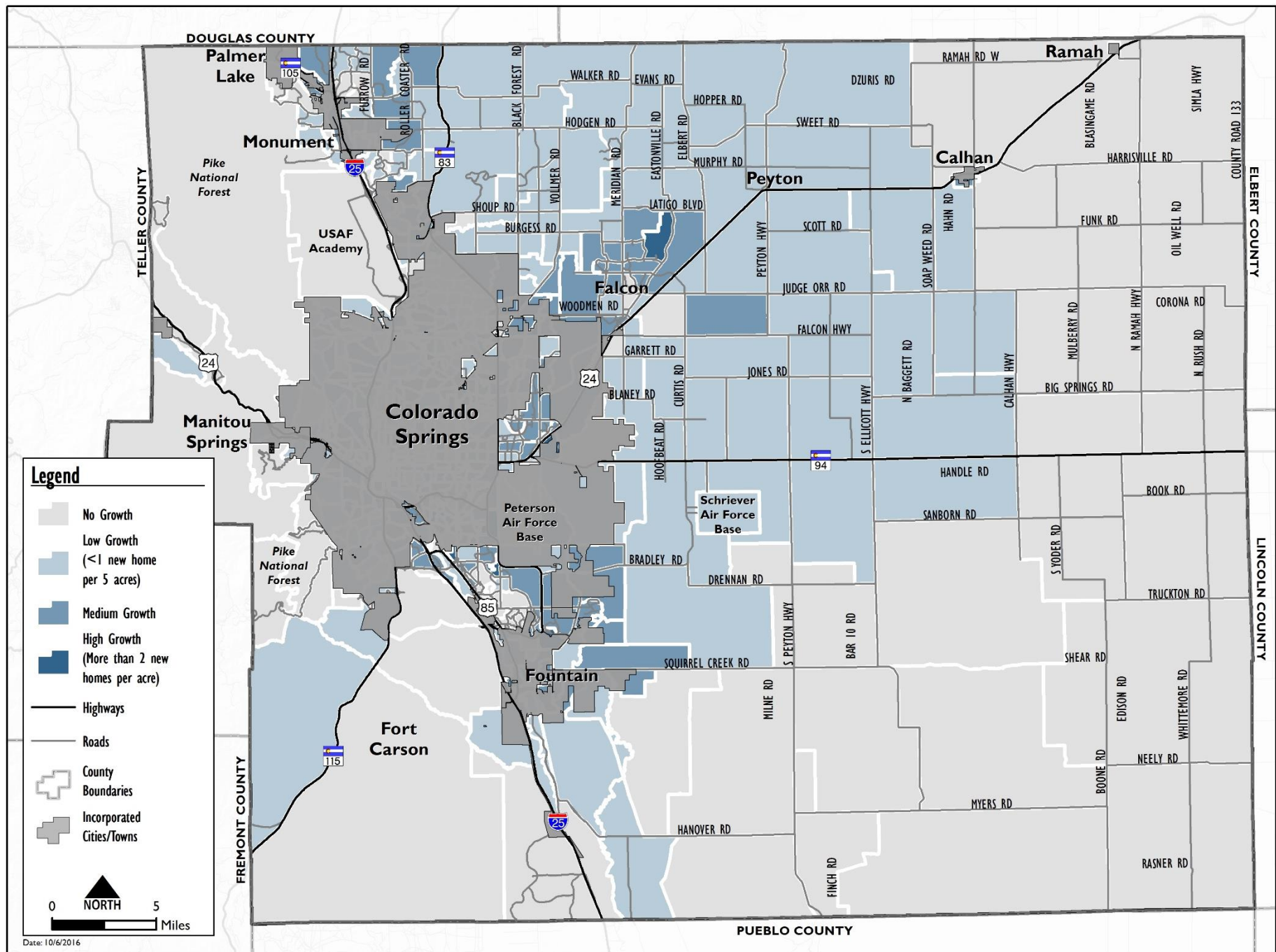
Household Growth

As shown in Table 2, household growth in unincorporated El Paso County is expected to occur at more than twice the pace of the incorporated portions of the County. The estimated growth is illustrated on Figure 1 and Map 2. As shown on the map, much of the anticipated growth before 2040 is focused around the Highway 24 corridor and the Transportation Analysis Zones (TAZs) that are nearest to Colorado Springs.

Table 2: Household Growth Summary

	2010	2030	2040	2060	Growth 2010-2040	Annual Growth Rate 2010-2040
Households - City	184,302	227,750	249,469	288,288	65,167	1.01%
Households – Unincorporated County	54,552	97,508	114,256	150,407	59,704	2.49%
Households - Total	238,854	325,258	363,725	438,695	124,871	1.41%


Figure 1: Household Growth in the County



Map 2: 2010-2040 Household Growth

Employment Growth

As shown in Table 3, employment in unincorporated El Paso County is expected to grow at a higher rate than the incorporated portions of the County. Figure 2 and Map 3 illustrate the estimated growth. As shown on the maps, much of the anticipated growth is focused around the Highway 24 and Highway 94 corridor, including Schriever Air Force Base (AFB). While Table 3 shows overall employment, the model incorporates different types of employment, including Basic Employment, Retail Employment, and Service Employment. Control totals of these categories of employment were maintained consistent with the PPACG model for the 2010 and 2040 forecasts, and the proportions were maintained for the 2030 and 2060 forecasts.

Table 3: Employment Growth Summary

	2010	2030	2040	2060	Growth 2010-2040	Annual Growth Rate 2010-2040
Employment - City	237,069	333,298	381,394	473,532	144,325	1.60%
Employment – Unincorporated County	46,709	86,346	102,241	130,200	55,532	2.65%
Employment - Total	283,778	419,644	483,635	603,732	199,857	1.79%

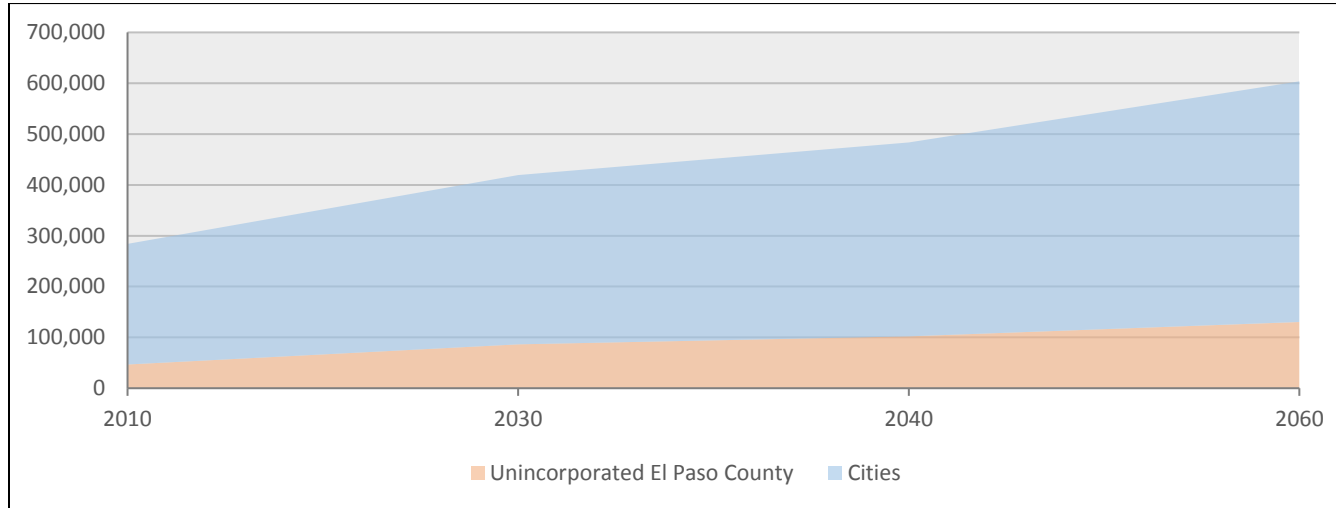
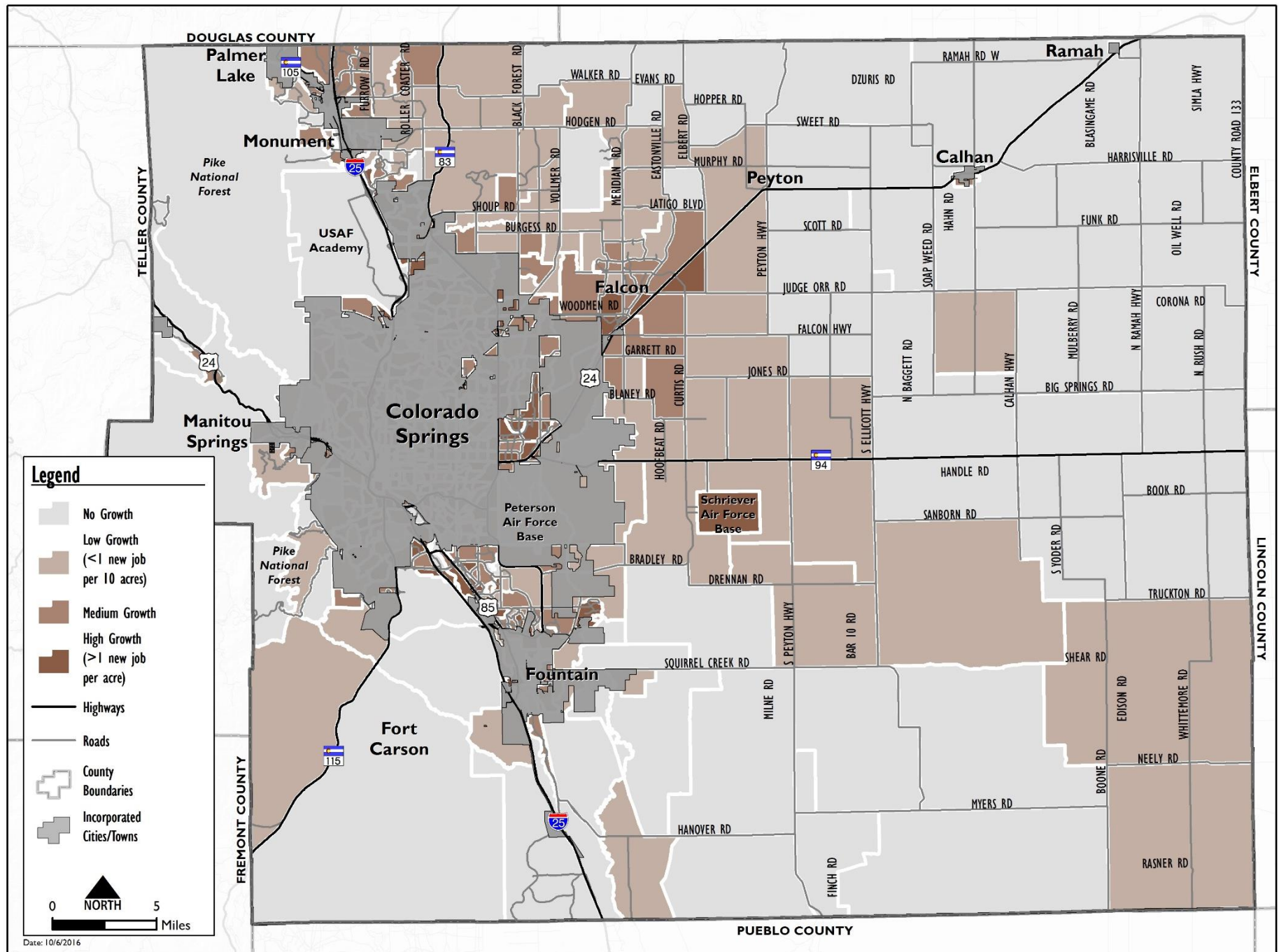


Figure 2: Employment Growth in the County



Map 3: 2010-2040 Job Growth

AREAS OF UNCERTAINTY

Predicting the future allocation of households and jobs is very difficult to do with precision. While these scenarios have been developed based on reasonable assumptions that have been vetted by regional land use authorities, there are a number of sources of uncertainty in the forecasts. Any changes in these areas should be considered during the update process for future plans.

Banning-Lewis Ranch—This large ranch (21,000 acres) was annexed into Colorado Springs in 1988. While the original master plan called for 75,000 homes and 180,000 people, the original owner went bankrupt and the property was sold out of bankruptcy to an energy resources company, which was interested in exploring the property for energy resources. In 2014, most of the ranch was bought by Nor'wood Development Group. The area is still largely undeveloped, and the City is working with Nor'wood to re-evaluate the current annexation agreement for applicability to the current market and regional context. Future land use scenarios for this area are based on the current annexation agreement, so any changes will likely affect the County's roadway network along this edge of the City.

Mountain Metropolitan Transit (MMT) Service—The regional transit provider, MMT, is continually making changes to its service patterns to better serve residents. While service to unincorporated County areas is sparse right now, MMT could see expanded service if funding levels are increased in the future. Future changes to service routes or frequencies could affect both development patterns and reliance on personal vehicles in the County.

El Paso County Small Area Master Plan Updates—The County's Small Area Master Plans, which document growth forecasts and patterns at a more detailed level, are aging and in some cases, out of date. Four of the areas were last updated in the 1980s, one was updated in 1990, and the remaining three were updated since 2000, with the most recent being 2008. As these plans are systematically updated, the County will gather more detail from area residents and developers, and will be able to identify areas where developer interest and community preferences may drive future growth differently from this plan's assumptions.

City of Colorado Springs Comprehensive Plan Update—Likewise, an update to the City's Comprehensive Plan, which was last updated in 2001, is currently underway. The Comprehensive Plan update will include new projections about future density within the city, which could affect County infrastructure, especially at the edge of the City.

Military Base Expansion/Contraction—Significant changes at any of the five military installations in the County would likely affect future roadway needs. The County coordinates with representatives from the bases, but military planning can change with administrations, global factors, budgets, and other factors. If the military changes force structure at any of the installations as a part of a Base Realignment and Closure (BRAC) action or as an isolated decision, or if a base’s mission expands substantially, it could significantly affect household and employment projections.

Water Availability—The recent completion of the Southern Delivery System ensures that the Colorado Springs area will have access to adequate water resources for several decades. Water availability is one of the key limiting factors for development in the County, so whether this water is available to communities in the unincorporated County could have a substantial impact on how development patterns progress into the future.

State and Federal Funding—State funding through CDOT and federal funding through CDOT, PPACG or direct funding to the County, may be a mechanism to help finance roadway and multimodal transportation improvement in the County, particularly on state highways. The availability of state and funding can vary significantly over time, as can the share of total funding that El Paso County can secure.

EMERGING TRENDS

In addition to the growth and development that the County is experiencing, there are key emerging trends that we need to be aware of to effectively plan for El Paso County transportation. This section focuses on two of these emerging trends: the aging population that requires targeted transportation services and emerging transportation technology that creates opportunities for the County’s transportation future.



Aging Population

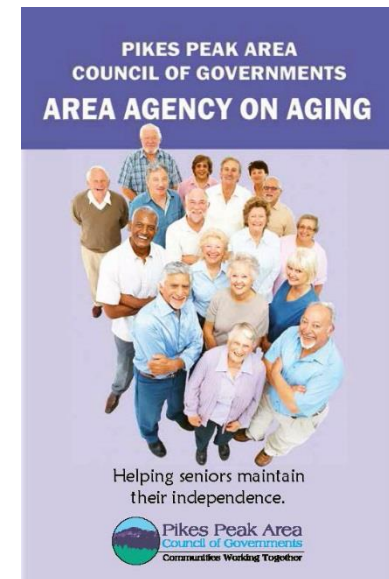
Per PPACG forecasts, the Pikes Peak region can expect an increase of 47 percent in the over-60 population between 2015 and 2030. The PPACG Area Agency on Aging focuses on initiatives to help the aging population to remain in their homes by removing barriers to independent living. Helping to provide suitable and safe transportation options plays a key role in fulfilling this goal. Examples of actions that El Paso County can take, in coordination with PPACG and other regional organizations to support this goal, include:

- ▶ Incorporate older drivers' capabilities and needs in roadway design including: clarity and size of regulatory signs, improved wayfinding and directional signing, and traffic signal visibility.
- ▶ Improved safety for older pedestrians including improved visibility and increased timing for street crossings and enhanced sidewalk facilities, particularly focused around retail, multifamily residential, medical and other land uses with high concentrations of older users.
- ▶ Continue coordinating with and providing referrals to transit service providers that offer mobility services to the aging population in the County, including Amblicab, El Paso Fountain Valley Senior Citizens Program, Goodwill Industries, Mountain Community Senior Services, and Rocky Mountain Health Care Services.

New Technology

Technology in transportation is moving quickly, with technological innovations in vehicles, the transportation network, and interactions between the two. Some new technologies are already seeing widespread implementation to improve safety and traffic flow in Colorado and elsewhere. Examples include:

- ▶ Variable message signs alerting drivers to real time weather and traffic conditions
- ▶ Ramp metering on freeways
- ▶ In-vehicle collision warning systems
- ▶ Variable traffic signal timing based on vehicle detection
- ▶ GPS navigation
- ▶ Real-time traffic condition smartphone applications

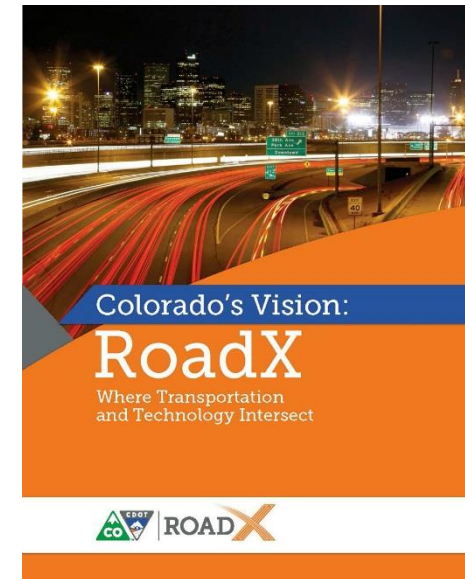


Other innovations with the potential to dramatically influence transportation in El Paso are certainly on the horizon, although the specific forms and timing of those innovations will evolve over time and cannot be predicted with certainty. Innovations will come in the form of vehicle connections to the roadway system, connections among vehicles and increasingly autonomous vehicles. Economic and technical innovations are combining the form of new vehicle sharing and ridesharing models.

CDOT has initiated the RoadX program focused to organize Colorado's effort to become a national leader in embracing technological advancements in transportation. By proactively coordinating with CDOT and other regional and local transportation agencies, El Paso County can incorporate technological innovations in its transportation planning process as the industry evolves.

SUMMARY

There are several areas of uncertainty and emerging trends that can significantly influence the extent and timing of roadway system and alternative transportation mode improvements. That is why it is important for the County to review and update plans on a regular basis.



CHAPTER IV. 2040 MAJOR TRANSPORTATION CORRIDORS PLAN

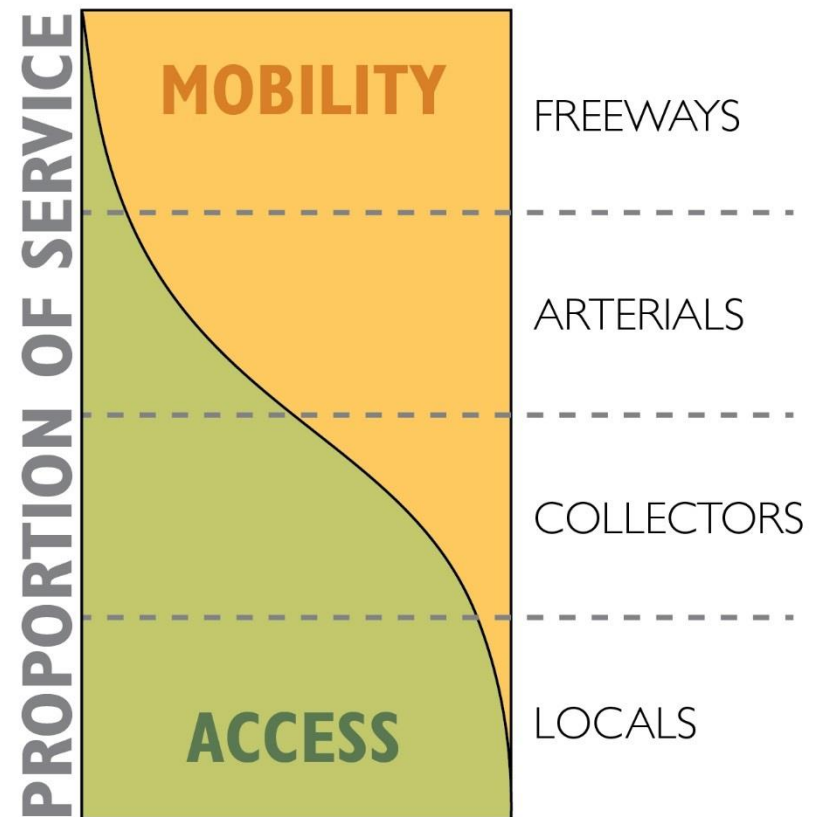
This chapter provides a description of the El Paso County roadway system, evaluates current and future demands on the roadway system, and identifies roadway improvement needs to accommodate future travel.

ROADWAY FUNCTIONAL CLASSIFICATIONS AND DESIGN STANDARDS

Roads generally provide two important functions: mobility and access. The County's roadway system consists of a hierarchy of road types ranging from freeways that solely provide a mobility function to local streets that solely provide an access function.

The classification of a roadway reflects its role in the County's street and highway system and forms the basis for street design guidelines and standards. The roadway functional classes in the 2016 MTCP represent a desired function based on the character of service they are intended to provide for the year 2040. The character of service includes attributes such as traffic volumes, trip lengths, speeds, and relationship to adjacent land use. Existing roadways may not meet all of the desired characteristics implied by their function, but strategic improvements can serve to fulfill the vision over time.

As proposed roadway improvements are planned and developed, the guidelines and standards associated with their classification and function should be considered to the degree practical and appropriate. The County's roadway design standards are provided in the Engineering Criteria Manual (ECM). Local jurisdictions and CDOT each have roadway design standards applicable to the streets under their jurisdiction.



Roadway Functional Class Descriptions

Roadway classifications are summarized below. These classifications reflect El Paso County definitions and are different from those identified by the Federal Highway Administration. Furthermore, a road's functional classification may be either current, future, or both, recognizing that roads can change function to some degree as improvements are made.

Freeways: Roadways that serve high-speed and high volume regional traffic. Access to a Freeway is limited to grade separated interchanges with no mainline traffic signals.

Expressways: Roadways that serve high-speed and high-volume traffic over long distances. Access to an Expressway will be highly controlled and may have both grade-separated interchanges and signalized intersections. Adjacent land uses, both existing and future, shall be served by other network roadways.



Principal Arterials: Roadways that serve high-speed and high-volume traffic over long distances. Access is highly controlled with a limited number of intersections, medians with infrequent openings, and no direct parcel access. Adjacent land uses, both existing and future, shall be served by other network roadways, service roads and inter parcel connections.

Minor Arterials: Roadways that currently serve high-speed and high-volume traffic over medium distances. Access is restricted through prescribed distances between intersections, use of medians, and no or limited direct parcel access.

Collectors: Roadways that serve as links between local access facilities and arterial facilities over medium-to-long distances, outside of or adjacent to subdivision developments. Collectors are managed to maximize the safe operation of through-movements and to distribute traffic to local access.



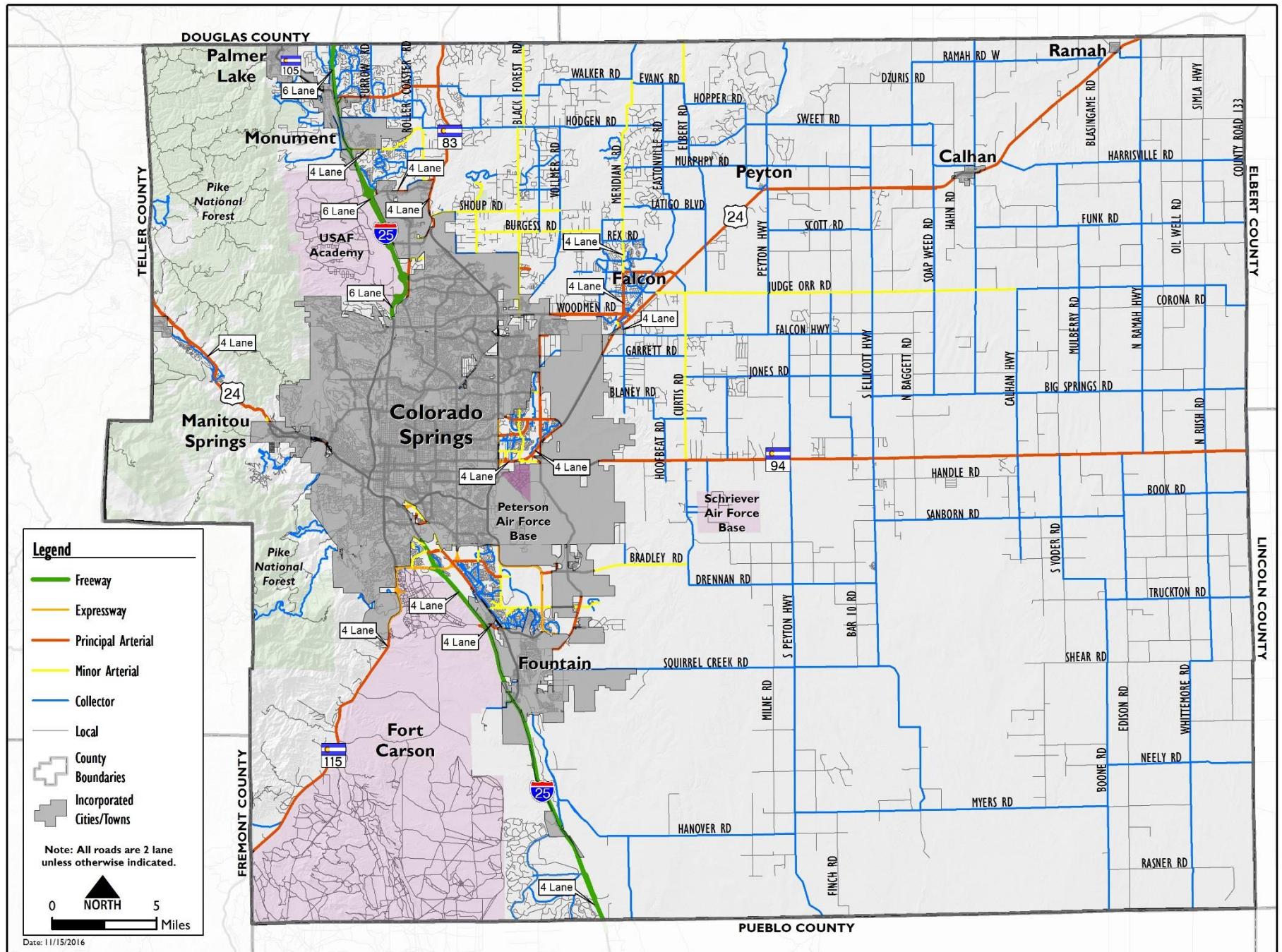
Locals: Roadways that provide direct parcel access and deliver parcel generated trips to the collector network.

(Note: Local streets are not the focus of this plan. The MTCP focuses on freeway through collector classified streets, which comprise the “major street system.” Local streets are typically built by developers as land is developed.)

EXISTING ROADWAY SYSTEM

Map 4 depicts the County’s existing roadway system, indicating each road’s current classification. In addition to the network of County roads, the map shows that several of the major roads are U.S. or state highways that are maintained by CDOT, including Interstate 25 (I-25), US 24, State Highway 83 (SH 83), SH 94, SH 105, SH 115 and SH 121 (Powers Boulevard).

Map 4 also shows the number of through lanes on each road. Many roads in the County have two through lanes (one in each direction), with four and six lanes provided on I-25 and four-lane sections provided on the busiest sections of state and County expressways and arterial streets.



Map 4: Existing Roadway System (Classification and Lanes)

ROAD LEVEL OF SERVICE



A commonly used measure of the performance of a roadway or intersection is level of service (LOS). Roadway LOS is measured on a scale from A to F, where “A” represents the best operations with essentially no congestion. LOS “F” represents poor LOS with severe congestion. LOS is generally reported for the peak hour of a roadway, often representing a morning or afternoon commuting rush hour. Although the exact level of traffic that can be accommodated at different LOS varies for individual roads depending on specific road and traffic characteristics, capacity thresholds can be developed to measure the LOS or level of congestion on different types of roads at a planning level. Planning-level daily traffic volume

thresholds were developed for different LOS and different roadway classifications. The County’s goal is to maintain LOS D or better on each roadway segment. Poorer LOS of E or F represent congested conditions and indicate the need to consider improvements, including additional travel lanes, improving the road to a higher classification, or implementing access management.

Planning-level traffic volume thresholds were also developed for Unimproved County Roads and Gravel Roads. Unimproved County Roads are collector or arterial roadways that have a paved surface but lack basic features such as turn lanes, shoulders, or adequate pavement surfaces or drainage. Unimproved County Roads are deemed to be “deficient” if they carry in excess of 6,000 vehicles per day (vpd). Many of the County’s roads are Gravel Roads. Without a paved surface, Gravel Roads are not designed to carry substantial volumes of traffic, thus they are deemed to be “deficient” with more than 300 vpd.

Existing and forecasted traffic volumes were compared to these traffic volume thresholds to determine what improvements are expected to be needed. Specifically, paved roads characterized as congested with LOS E or F, and unimproved or gravel roads characterized as deficient were identified as needing improvement.

EXISTING NEEDS ASSESSMENT

The County's extensive traffic count data, supplemented by CDOT and PPACG data, were assembled to understand the traffic volumes on the major road system.

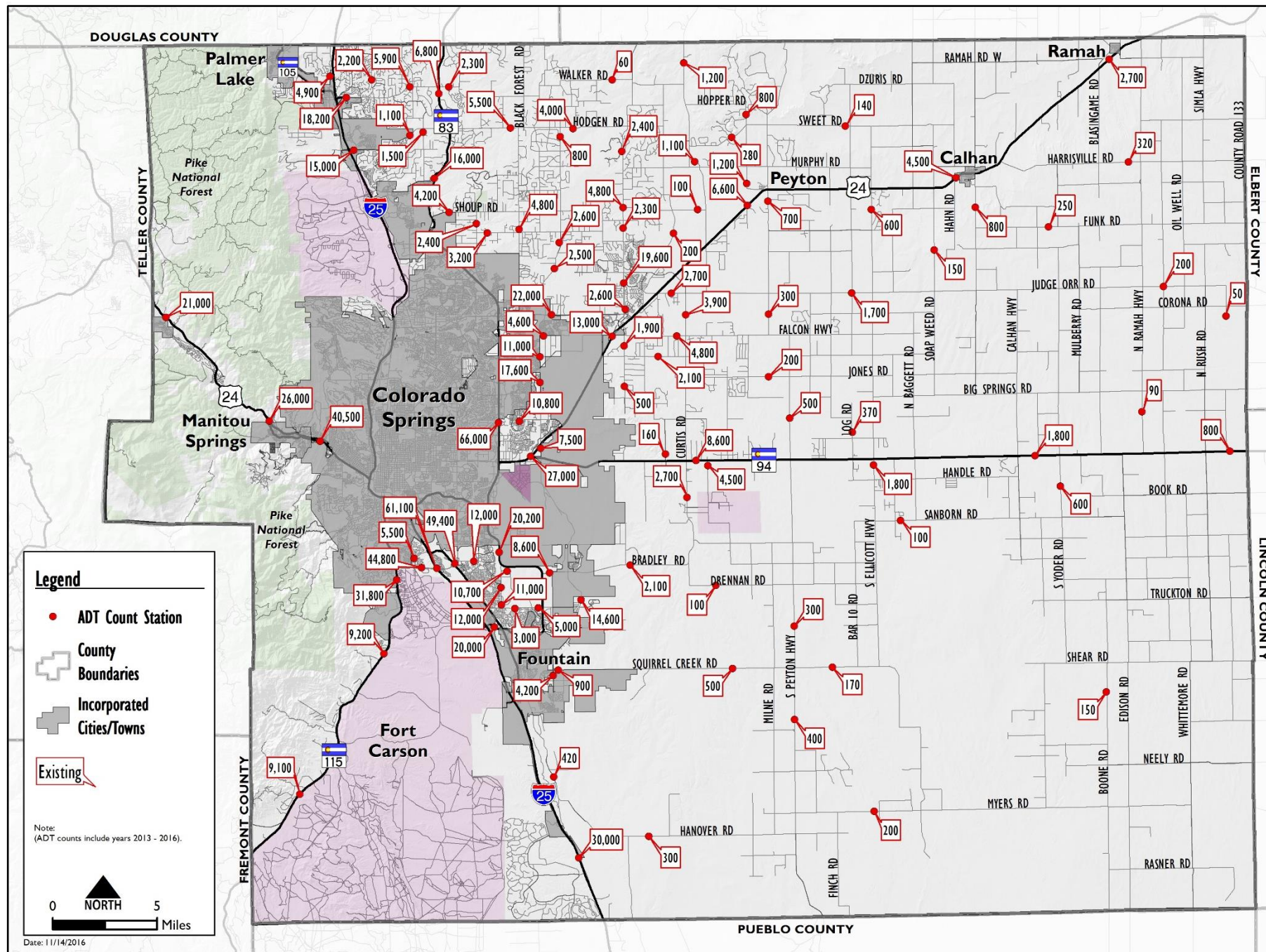
Map 5 shows a sampling of existing daily traffic volumes on road segments throughout the County. Existing traffic volumes were compared with lanes, functional classification and the planning-level traffic capacity thresholds described in previous sections to assess existing congestion levels.

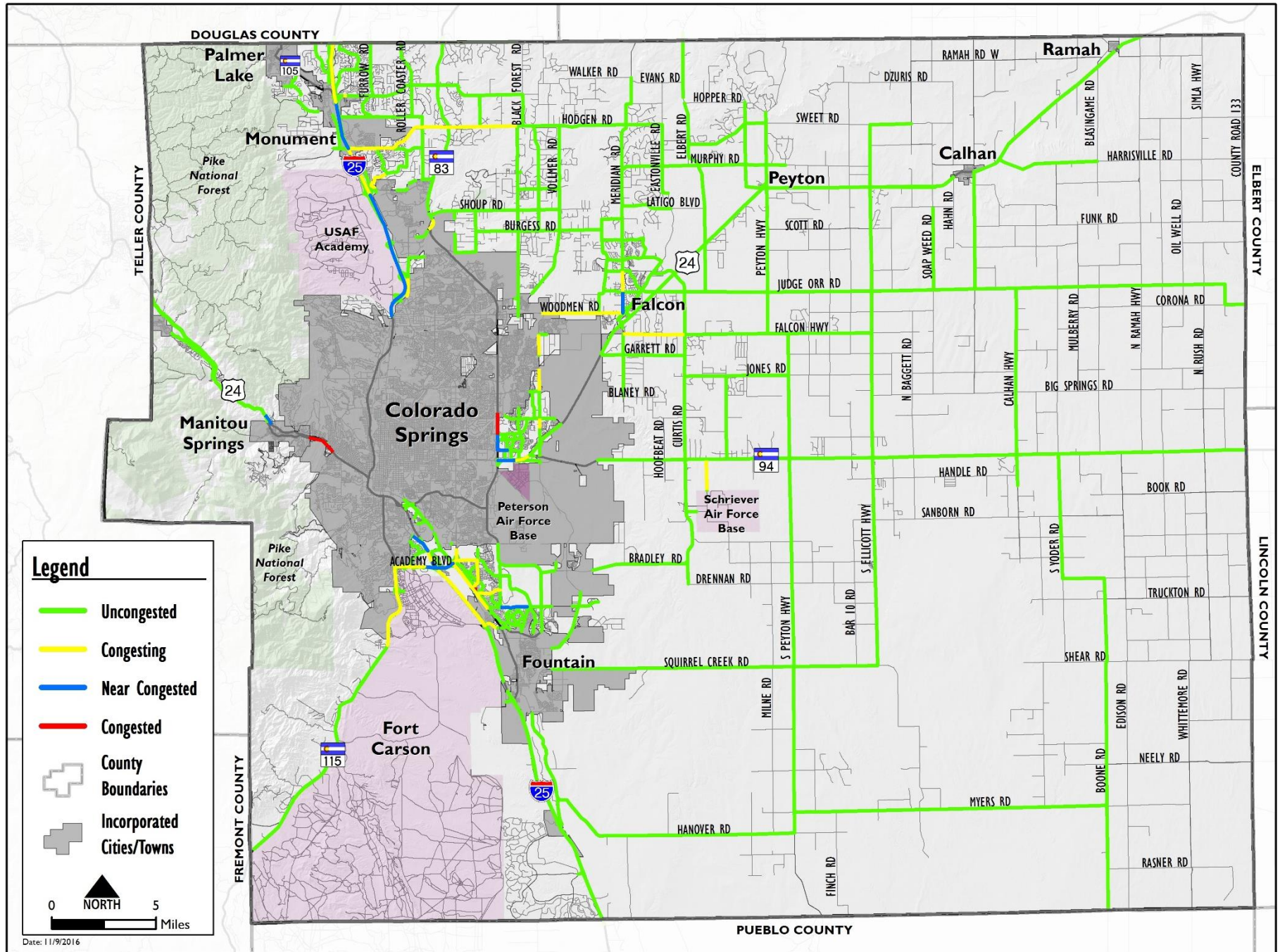
Map 6 identifies road segments that are Congested (LOS E or F), Near Congested (LOS D), Congesting (LOS C) or Uncongested (LOS A or B). The roads identified in red as Congested are ones that need short-range capacity upgrades. Roads identified as currently being Congested include relatively short segments of US 24 west, SH 21 (Powers Boulevard), Marksheffel Road and Meridian Road.

Map 7 highlights all gravel roads on the major county road system (arterials or collectors). Gravel roads that currently carry more than 300 vpd are shown in red as Deficient, including segments of Blaney Road, North Log Road and Harrisville Road.

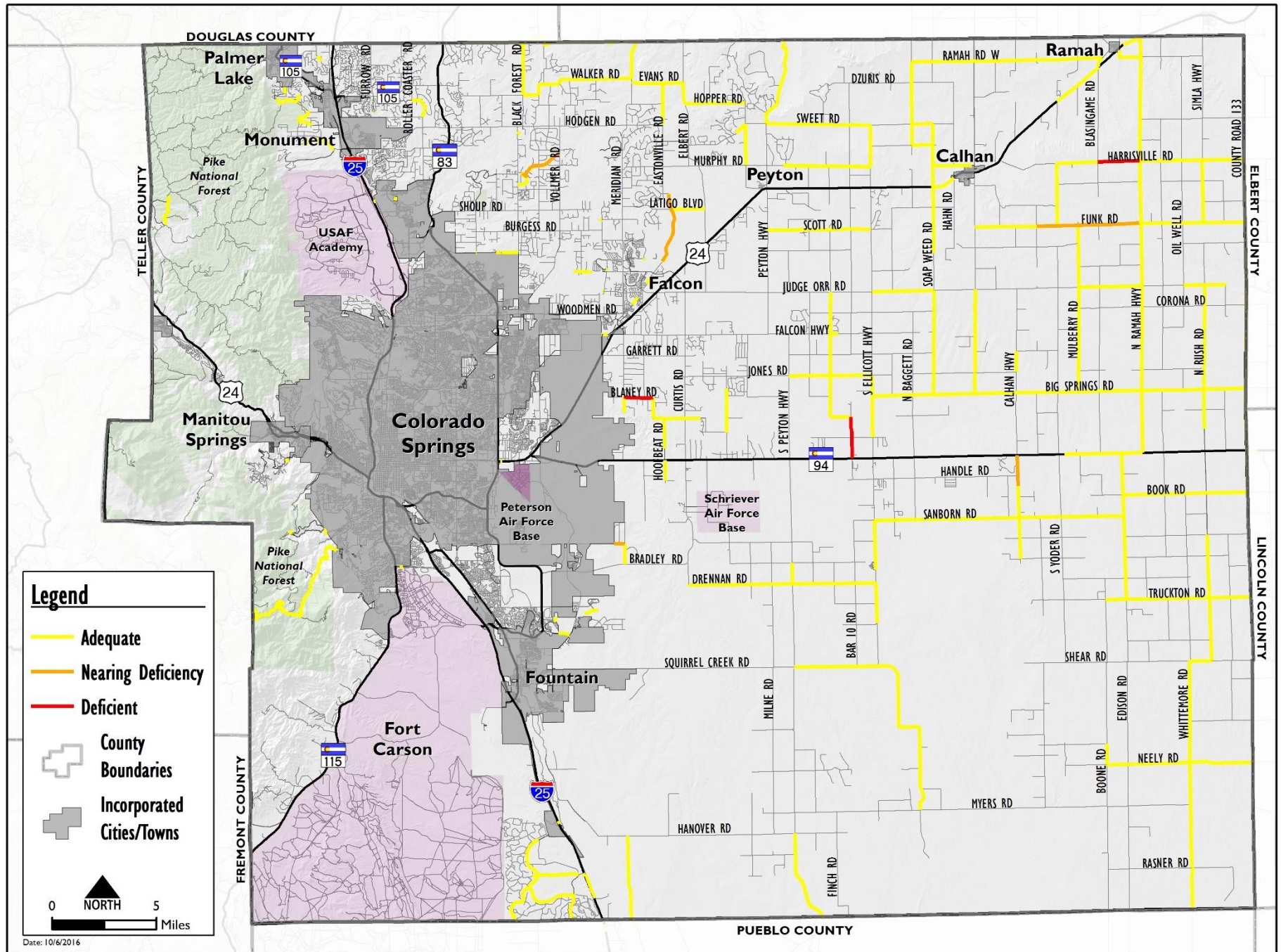
Map 8 highlights unimproved roads, which again are roads that are paved but are substandard due to lack of turn lanes, shoulders or adequate pavement surfaces or drainage.



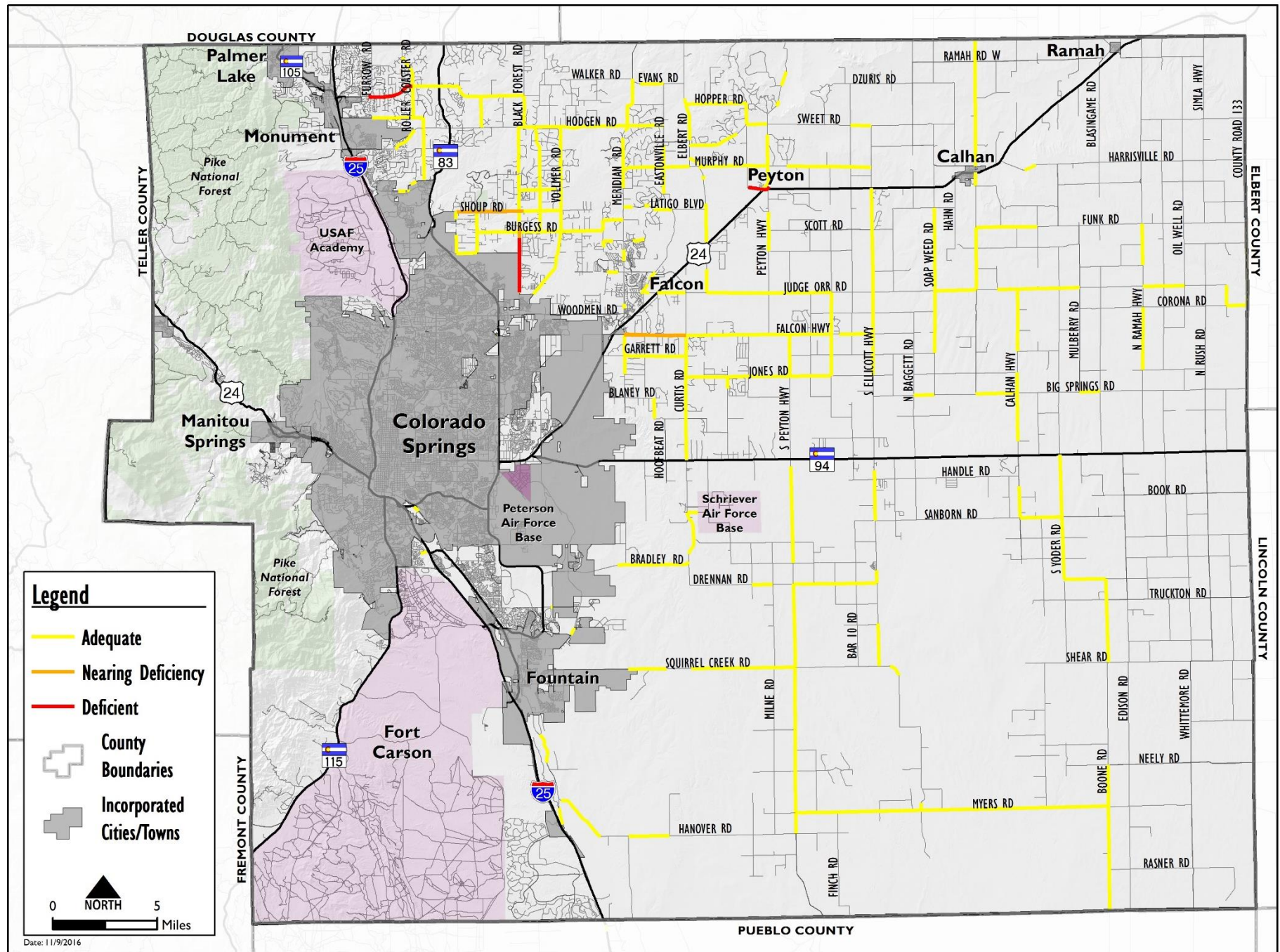




Map 6: Existing Capacity Analysis



Map 7: Existing Gravel Roads – Analysis



Map 8: Existing Unimproved Roads – Analysis

2040 FORECASTS

The PPACG regional travel model was used to develop traffic forecasts for the plan year 2040. As the metropolitan planning organization for the Pikes Peak Region, PPACG maintains a regional travel model as a tool for regional, county and city transportation planners to forecast travel demand in the region. 2040 is currently the PPACG long-range planning horizon matching the horizon year for this MTCP update. As described in Chapter III, PPACG household and employment forecasts were adjusted in some El Paso County locations based on current development patterns and stakeholder input.

Travel associated with projected 2040 household and employment was modeled using an “existing-plus-committed” roadway network. The PPACG base year roadway network was supplemented with a small number of projects which either have been recently completed (I-25 widening from Academy Boulevard to Monument), are funded and programmed to be constructed in the short-range future (SH 21 widening from US 24 East to Fountain Boulevard) or were needed to provide a viable route for travel demand that is included in the model (Banning Lewis Parkway and key east-west connectors in the Banning-Lewis Ranch).

Travel model results were adjusted based on calibration procedures prescribed by PPACG and resulting 2040 daily traffic forecasts are shown on Map 9. Comparisons between existing traffic volumes and 2040 forecasts show that growth percentages on most County roads is projected to be in the 50 to 100 percent range.

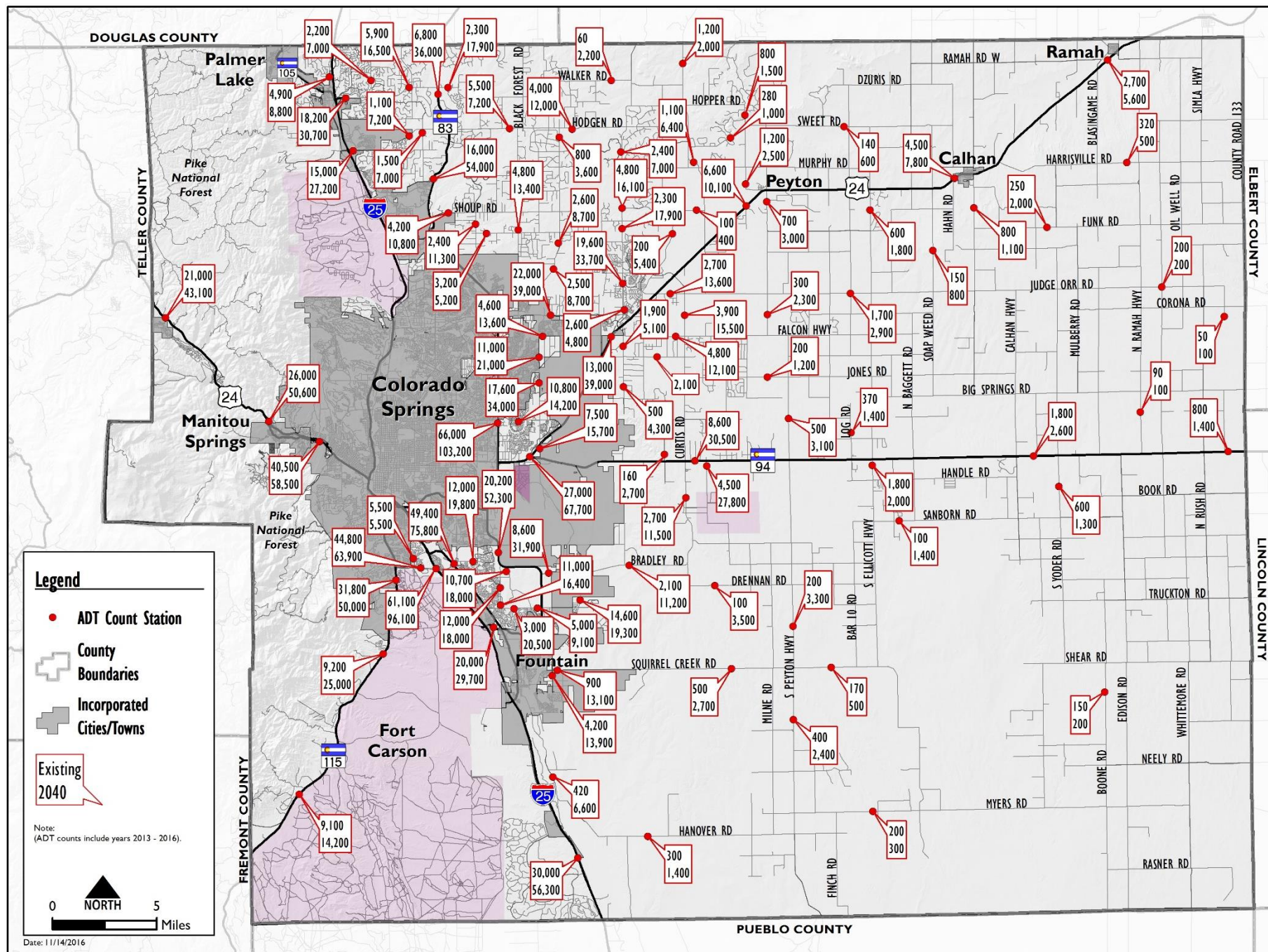
2040 NEEDS ASSESSMENT

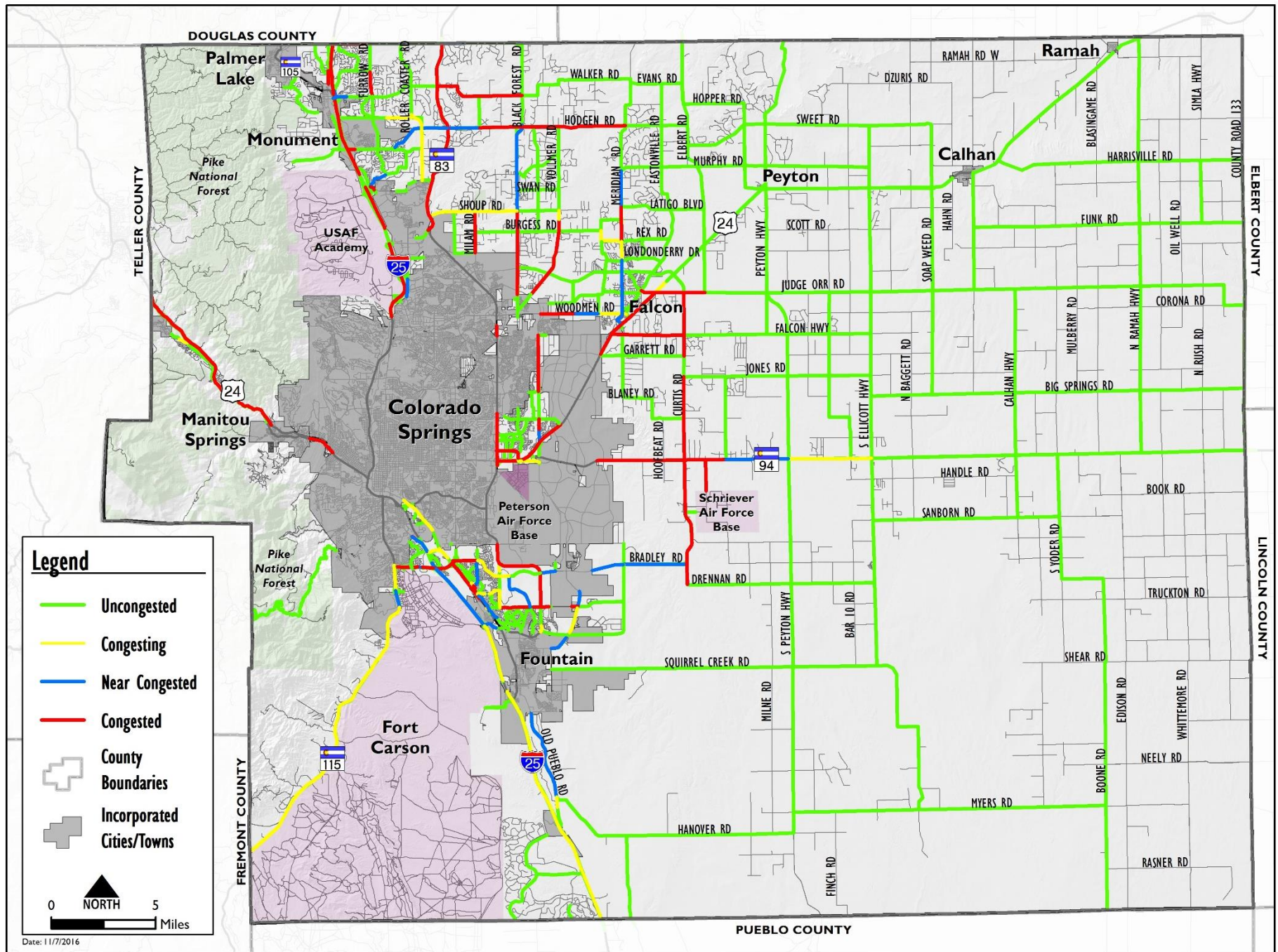
Road improvement needs for 2040 were assessed using similar capacity and deficiency thresholds as described for existing conditions.

Map 10 shows the results of the capacity analysis based on 2040 forecasts and the existing plus committed roadway network. Congested conditions are projected on segments of approximately 20 roadways in the western and central parts of the County.

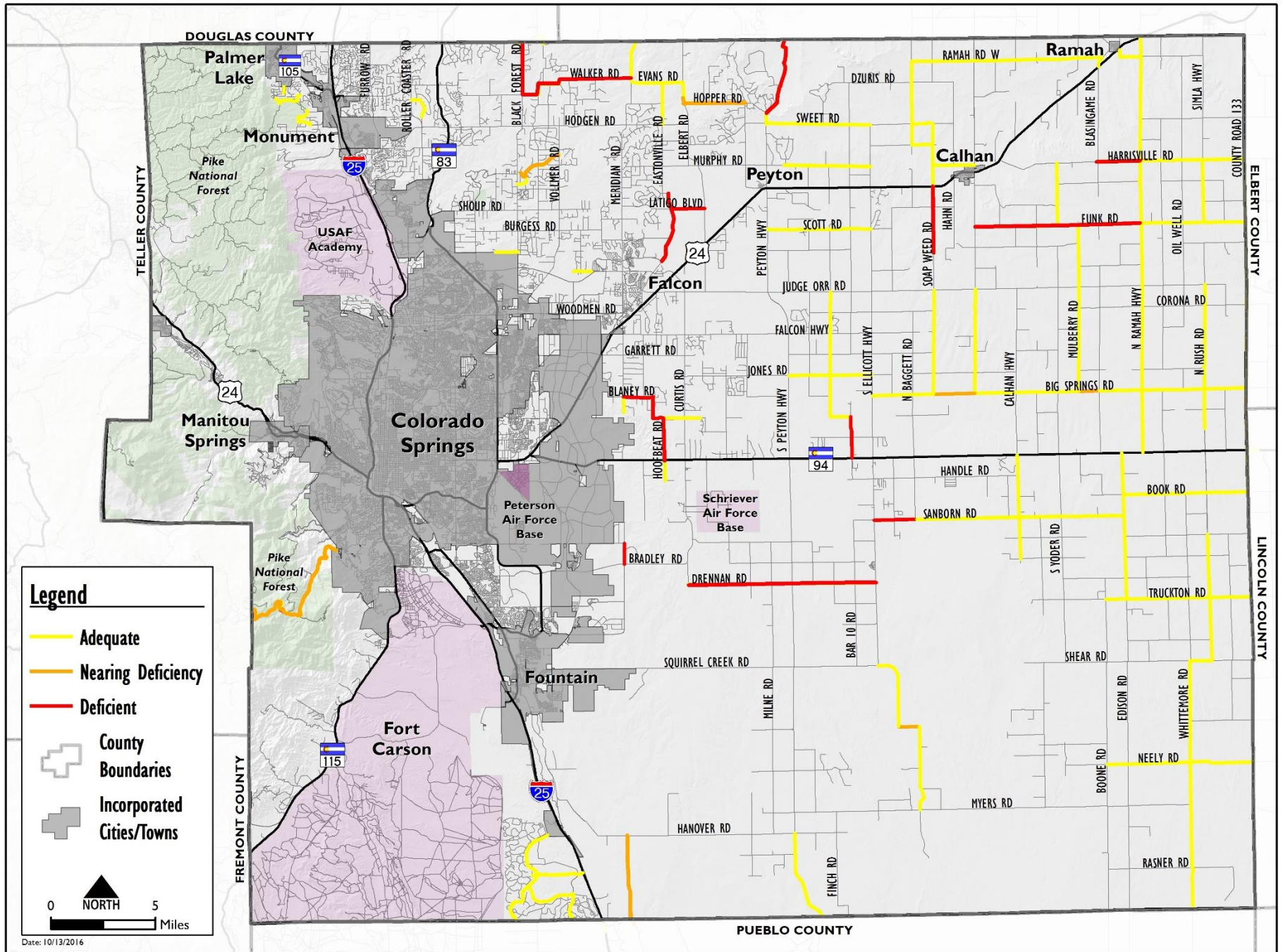
Map 11 shows the results of the gravel road analysis. The analysis shows approximately a dozen gravel roads projected to be in the deficient category based on projected traffic volumes.

Map 12 shows the results of the unimproved road analysis. Many unimproved roads identified as deficient also showed up on Map 10 as being congested, but several additional roads are identified as deficient on Map 12 due to the lower volume threshold established for unimproved roads.

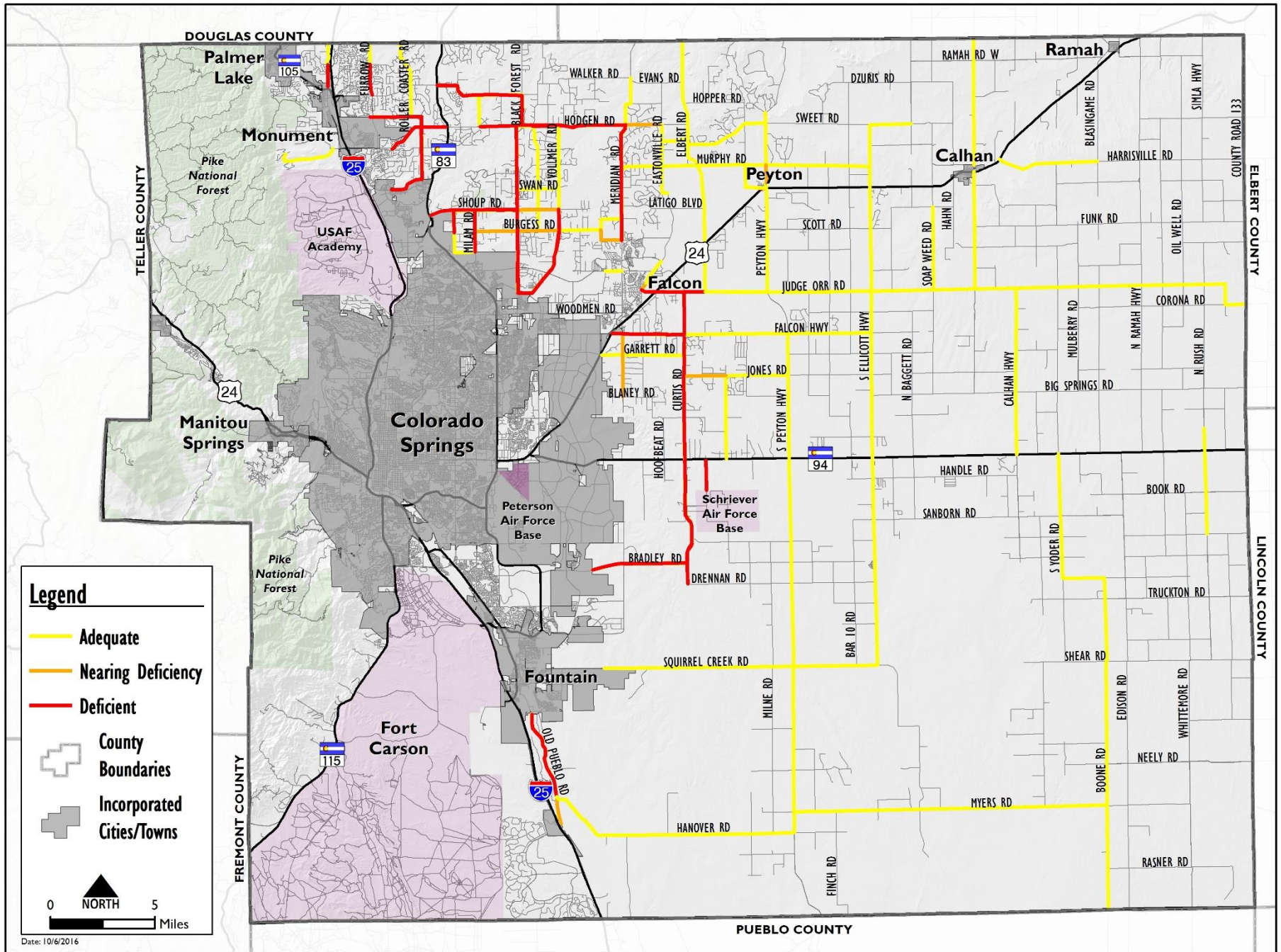




Map 10: 2040 Capacity Analysis – Existing Plus Committed Network



Map 11: 2040 Gravel Road Analysis



Map 12: 2040 Unimproved Road Analysis

2040 ROADWAY PLAN

This section presents the 2040 roadway improvement plan to address the congestion and deficiencies identified in the needs assessment process.

Improvement Categories

The plan identifies five categories of roadway improvements:

- ▶ **Paving/Repaving Projects:** These projects primarily include paving of gravel roads. In some cases, they involve repaving of currently paved roads but whose paving has been rated as poor.

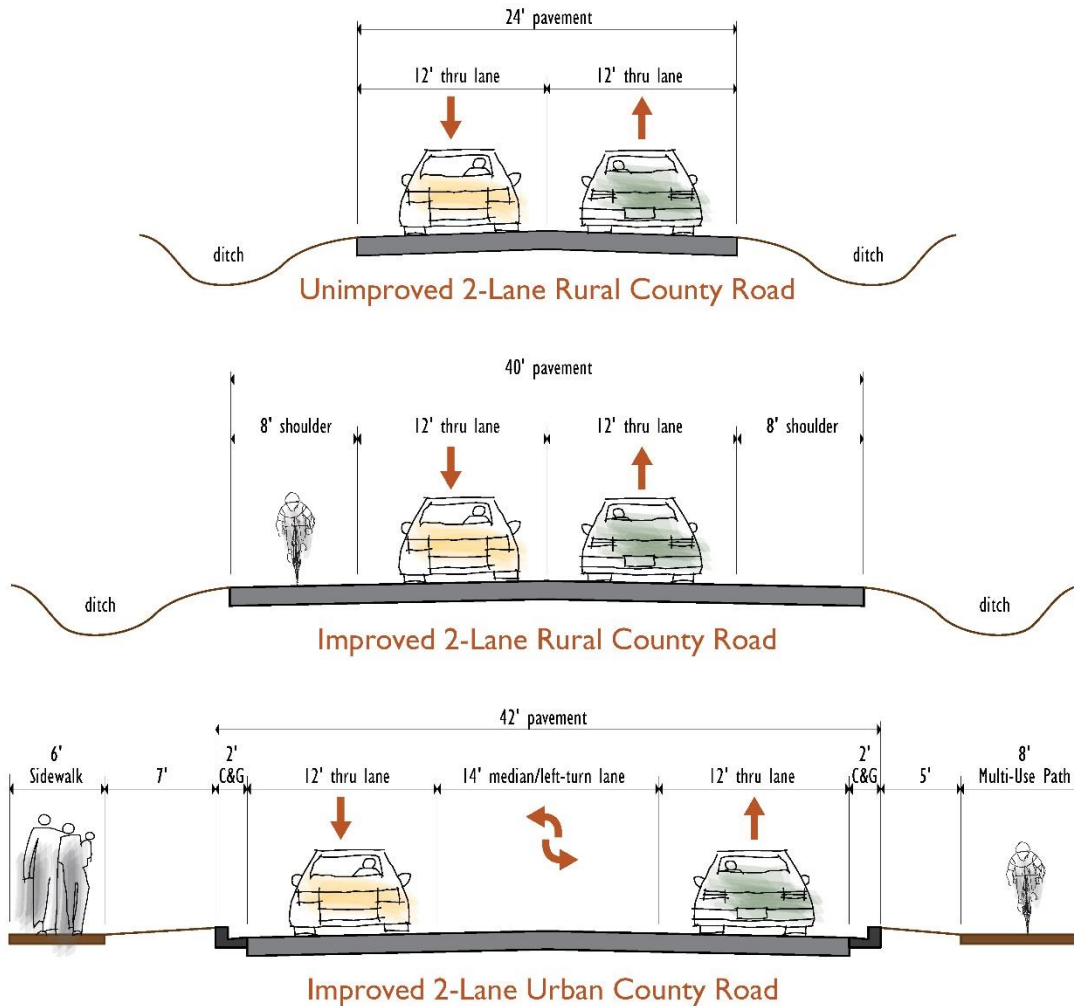


Rural County Road Upgrades: These are projects to improve unimproved two-lane paved rural county roads by adding needed turn lanes, shoulders and improved alignments to bring them up to County road standards, including Departments of Public Works, Planning & Community Development, and Parks standards.

Figure 3 illustrates typical road sections for an unimproved 2-lane rural road, followed by typical improved sections in a rural and an urban part of the County. For planning purposes, the parts of the unincorporated County with higher densities are considered urban and urban street sections may be appropriate; however, the County will determine specific boundaries for urban versus rural treatments based on the context of each road segment at the time of road construction or reconstruction.

- ▶ **New Road Connections:** Several new road connections have been identified to improve accessibility or safety or to relieve congestion on other routes. Connections were identified based on previous planning, 2016 needs assessment, and stakeholder input.
- ▶ **State Highway Capacity Improvements:** Capacity improvements typically involve widening to add through lanes. More focused design studies may identify additional turn lanes, improved access control, grade separations or other operational or physical improvements in addition to or as an alternative to adding through lanes.
- ▶ **County Road Capacity Improvements:** These are the same types of capacity improvements as those described for State Highways. State Highway and County Road capacity improvements are distinguished on maps and in project lists because of different agency responsibilities for funding, design and implementation.





NOTE: These are representative road sections. Specific dimensions and design will be determined in coordination with Departments of Public Works, Planning & Community Development, and Parks, and their respective standards.

Figure 3: Typical 2-Lane Road Sections

Roadway Plan

A total of 67 different projects have been identified as being needed by the year 2040. These projects are shown on Map 13 and listed on Table 4, with each project numbered within each improvement category. Capacity improvement projects are concentrated in the developing urban/suburban western part of the County, while paving projects are spread throughout the County with several in the eastern part.

Map 14 shows the 2040 Roadway Plan that results from the implementation of the improvements described above. The map shows road laneage and classification envisioned in 2040 if all 67 projects are implemented.

Table 4: 2040 Roadway Improvement Projects

Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
Paving Improvement Projects										
P1	Black Forest Rd	Walker Rd	County Line Rd		Rural	2	Gravel Road	2	Unimproved County Rd	\$1,954,000
P2	Walker Rd	Black Forest Rd	Meridian Rd		Rural	2	Gravel Road	2	Unimproved County Road	\$4,899,000
P3	Sweet Rd	Peyton Hwy	Ellicott Hwy		Rural	2	Gravel Road	2	Unimproved County Road	\$6,431,000
P4	Harrisville Rd	Blasingame Rd	Ramah Hwy		Rural	2	Gravel Road	2	Unimproved County Road	\$1,601,000
P5	Funk Rd	Calhan Hwy	Ramah Hwy		Rural	2	Gravel Road	2	Unimproved County Road	\$7,913,000
P6	Eastonville Rd	Eastonville Loop	Londonderry Dr		Rural	2	Gravel Road	2	Unimproved County Road	\$1,284,000
P7	Blaney Rd S	Meridian Rd	Hoofbeat Rd		Rural	2	Gravel Road	2	Unimproved County Road	\$1,125,000
P8	Drennan Rd	Curtis Rd	Ellicott Hwy		Rural	2	Gravel Road	2	Unimproved County Road	\$7,148,000

Table 4: 2040 Roadway Improvement Projects

Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
P9	Sanborn Rd	Ellicott Hwy	Baggett Rd		Rural	2	Gravel Road	2	Unimproved County Road	\$1,566,000
P10	Log Rd	90-degree bend	SH 94		Rural	2	Gravel Road	2	Unimproved County Road	\$1,550,000
P11	Latigo Blvd	Eastonville Rd	Elbert Rd		Rural	2	Gravel Road	2	Unimproved County Road	\$1,297,000
P12	Hoofbeat	Blaney Rd S	SH 94		Rural	2	Gravel Road	2	Unimproved County Road	\$2,756,000
P13	Soap Weed Rd	South of US 24	Beg. of Paved section		Rural	2	Gravel Road	2	Unimproved County Road	\$2,495,000
Paving Projects Total										\$42,019,000
Resurfacing Projects										
R1	Boone Rd	Fossinger Rd	Myers Rd		Rural	2	Unimproved County Road	2	Unimproved County Road	\$11,647,000
R2	Sweet Rd	Elbert Rd	Peyton Hwy		Rural	2	Unimproved County Road	2	Unimproved County Road	\$1,633,000
R3	Murphy Rd	Eastonville Rd	Bradshaw Rd		Rural	2	Unimproved County Road	2	Unimproved County Road	\$1,622,000
R4	Chamberlin South	B St	End of street	B	Rural	2	Unimproved County Road	2	Unimproved County Road	\$112,000
R5	Fountain Mesa Rd	Caballero Ave	Fontaine Blvd	B	Rural	2	Unimproved County Road	2	Unimproved County Road	\$355,000
Resurfacing Projects Total Cost										\$15,369,000

Table 4: 2040 Roadway Improvement Projects

Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
County Road Upgrades										
U1	Curtis Rd	Judge Orr Rd.	SH 94		Rural	2	Unimproved County Road	2	Principal Arterial	\$35,549,000
U2	Curtis Rd	SH 94	Drennan Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$23,379,000
U3	Bradley Rd	COS City Limit	Curtis Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$24,252,000
U4	Old Pueblo Rd	Fountain City Limits	I-25	B	Rural	2	Unimproved County Road	2	Collector	\$16,722,000
U5	Falcon Hwy	US 24	1 mi east of Curtis Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$16,509,000
U6	Hodgen Rd	Goshawk Rd	Meridian Rd.	B	Rural	2	Unimproved County Road	2	Minor Arterial	\$7,698,000
U7	Baptist Rd	Desiree Dr	Roller Coaster Rd		Rural	2	Unimproved County Road	2	Collector	\$5,286,000
U8	Hodgen Rd	Black Forest Rd	Bar X Rd	B	Rural	2	Unimproved County Road	2	Minor Arterial	\$5,053,000
U9	Hodgen Rd	Roller Coaster Rd	SH 83		Rural	2	Unimproved County Road	2	Minor Arterial	\$3,518,000
U10	Meridian Rd	Hodgen Rd	Murphy Rd	B	Rural	2	Unimproved County Road	2	Minor Arterial	\$7,763,000
U11	Black Forest Rd	Hodgen Rd	Stapleton Dr	B	Rural	2	Unimproved County Road	2	Minor Arterial	\$22,714,000
U12	Vollmer Rd	Stapleton Dr	Shoup Rd	B	Rural	2	Unimproved County Road	2	Minor Arterial	\$11,691,000

Table 4: 2040 Roadway Improvement Projects

Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
U13	Shoup Rd	SH 83	Black Forest Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$15,019,000
U14	Milam Rd	Shoup Rd	Old Ranch Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$9,447,000
U15	Walker Rd	Steppler Rd	Black Forest Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$6,783,000
U16	Roller Coaster Rd	Hodgen Rd	Old Northgate Rd		Rural	2	Unimproved County Road	2	Minor Arterial	\$11,697,000
U17	Higby Rd	Cloverleaf Rd	Roller Coaster Rd		Urban	2	Unimproved County Road	2	Minor Arterial	\$6,514,000
U18	Beacon Lite Rd	SH 105	County Line Rd	A	Rural	2	Unimproved County Road	2	Collector	\$5,321,000
U19	Eastonville Rd	Mclaughlin Rd	Latigo Blvd	A	Rural	2	Unimproved County Road	2	Minor Arterial	\$18,420,000
U20	Monument Hill	Woodmoor Dr	County Line Rd	A	Rural	2	Unimproved County Road	2	Collector	\$5,224,000
U21	Deer Creek Rd	Monument Hill	Woodmen Dr	A	Rural	2	Unimproved County Road	2	Collector	\$879,000
County Road Upgrade Projects Total Costs										\$259,437,000

Table 4: 2040 Roadway Improvement Projects

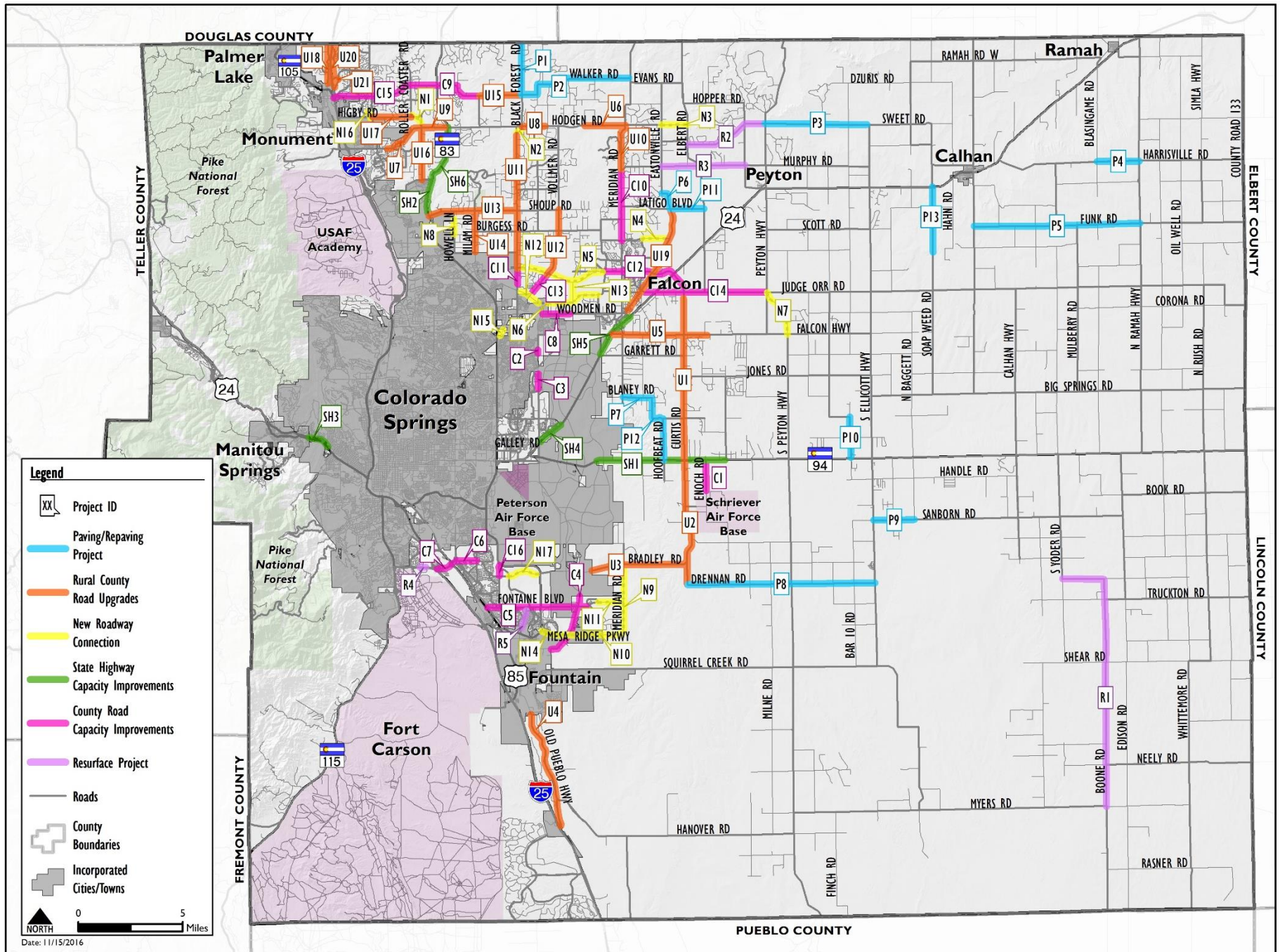
Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
State Highway Improvements										
SH1	SH94	City Limits	Slocum Rd		Rural	2	Principal Arterial	4	Principal Arterial	\$31,129,000
SH2	US 83	Shoup Rd	Northgate Rd		Rural	4	Principal Arterial	6	Principal Arterial	\$5,953,000
SH3	US 24 West	31st St	Manitou Interchange		Urban	4	Principal Arterial	4	Freeway	\$9,045,000
SH4	US 24	Marksheffel Rd	Constitution		Urban	4	Principal Arterial	6	Expressway	\$4,591,000
SH5	US 24	Garratt Rd	Woodmen Rd		Rural	4	Principal Arterial	6	Principal Arterial	\$7,995,000
SH6	US 83	Northgate	Hodgen Rd		Rural	2	Principal Arterial	4	Principal Arterial	\$10,742,000
State Highway Capacity Projects Total Costs										\$69,455,000

Table 4: 2040 Roadway Improvement Projects

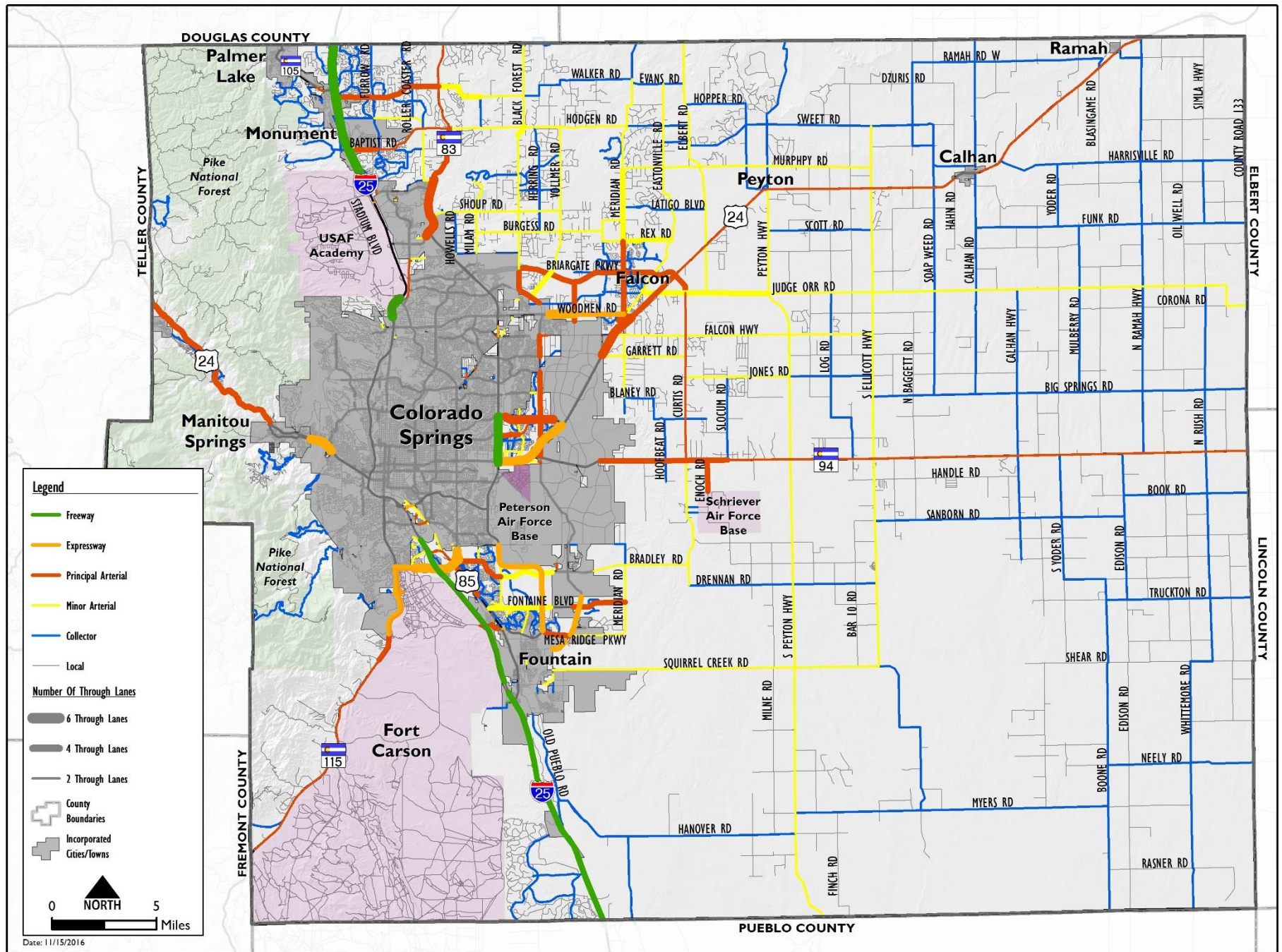
Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
County Road Capacity Improvements										
C1	Enoch Rd	SH 94	Schriever		Rural	2	Collector	4	Principal Arterial	\$8,208,000
C2	Marksheffel Rd	Stetson Hills	2000 ft north		Urban	2	Principal Arterial	4	Principal Arterial	\$3,526,000
C3	Marksheffel Rd	Barnes Rd	Carefree Cir. N		Urban	2	Principal Arterial	4	Principal Arterial	\$8,864,000
C4	Marksheffel Rd	0.5 mi. north of Fontaine	Link Rd		Rural	2	Minor Arterial	4	Expressway	\$20,816,000
C5	Fontaine	Marksheffel Rd	Easy St		Urban	2	Minor Arterial	4	Minor Arterial	\$42,449,000
C6	Bradley Rd	Academy Blvd	Hancock Expy		Urban	2	Principal Arterial	4	Principal Arterial	\$18,301,000
C7	Academy Blvd	I-25	Bradley Rd	A	Urban	4	Expressway	6	Expressway	\$22,733,000
C8	Woodmen Rd	Marksheffel Rd	Banning Lewis		Urban	4	Principal Arterial	6	Expressway	\$19,316,000
C9	Walker Rd	SH 83	Steppler Rd		Rural	2	Collector	4	Minor Arterial	\$15,126,000
C10	Meridian Rd	Murphy Rd	Rex Rd	B	Rural	2	Collector	4	Minor Arterial	\$21,081,000
C11	Black Forest Rd	Stapleton Dr	1300 ft south of Silver Pond Heights	B	Urban	2	Minor Arterial	4	Minor Arterial	\$7,507,000
C12	Stapleton Dr	Towner	Judge Orr Rd.	B	Urban	2	Principal Arterial	4	Principal Arterial	\$41,076,000
C13	Vollmer Rd	Marksheffel Rd	Stapleton Dr		Rural	2	Collector	4	Minor Arterial	\$9,599,000
C14	Judge Orr Rd	Eastonville Rd	Peyton Hwy		Rural	2	Minor Arterial	4	Minor Arterial	\$38,248,000
C15	Hwy 105	Knollwood Blvd	SH 83		Rural	2	Principal Arterial	4	Principal Arterial	\$28,297,000
C16	Grinnell St	Powers Blvd	Bradley Rd	B	Rural	2	Minor Arterial	4	Minor Arterial	\$3,807,000
County Road Capacity Projects Total Costs										\$319,856,000

Table 4: 2040 Roadway Improvement Projects

Project ID	Road Segment	Segment		PPRTA Project	Urban vs. Rural	Existing Conditions		Future Conditions		Total Cost
		Beginning	End			Lanes	Functional Class	Lanes	Functional Class	
New Road Connections										
N1	Roller Coaster Rd	Eliminate jog in alignment			Rural			2	Minor Arterial	\$4,118,000
N2	Black Forest Rd	Eliminate jog in alignment			Rural			2	Minor Arterial	\$2,585,000
N3	Hodgen Rd	Eastonville Rd	Elbert Rd		Rural			2	Collector	\$4,470,000
N4	Rex Rd	Rex Rd	Eastonville Rd		Urban			2	Collector	\$6,359,000
N5	Stapleton Dr	Towner Rd	Black Forest Rd		Urban			4	Principal Arterial	\$55,771,000
N6	Woodmen Hills Rd	Stapleton Dr	Raygor Rd		Urban			2	Collector	\$12,296,000
N7	Peyton Hwy	Judge Orr Rd	Peyton Hwy		Rural			2	Collector	\$8,365,000
N8	Howell Lane	Bridge over Kettle Creek			Rural			2	Collector	\$8,130,000
N9	Meridian Rd	Bradley Rd	Mesa Ridge Pkwy		Rural			2	Minor Arterial	\$11,312,000
N10	Mesa Ridge Pkwy	Marksheffel Rd	Meridian Rd		Rural			2	Minor Arterial	\$5,216,000
N11	Fontaine Blvd	Fontaine Blvd	Meridian Rd		Urban			4	Principal Arterial	\$11,217,000
N12	Marksheffel Rd	Woodmen Rd	Research Pkwy		Urban			4	Principal Arterial	\$40,262,000
N13	Banning Lewis	Woodmen Rd	Stapleton		Urban			4	Principal Arterial	\$11,131,000
N14	Mesa Ridge Pkwy	Powers Blvd	Marksheffel Rd	A	Rural			4	Principal Arterial	\$14,170,000
N15	Tutt Blvd Extension	Dublin Blvd	Templeton Gap	A	Urban			4	Principal Arterial	\$4,506,000
N16	Furrow Rd Ext	Lamplighter Dr	Higby Rd		Urban			2	Collector	\$1,078,000
N17	Bradley Rd	Grinnell St.	Powers Blvd	B	Urban			2	Minor Arterial	\$10,335,000
New Road Connections Total Project Costs										\$208,915,000
Total Project Cost of County Improvements										\$845,596,000
Total Cost for PPRTA A List Projects										\$68,847,000
Total State Highway Improvements Cost										\$69,455,000
Total Cost of All Projects										\$915,051,000



Map 13: Roadway Improvement Projects



Map 14: 2040 Roadway Plan (Classification and Lanes)

Cost Estimates

Planning Level Cost Estimates—Table 4 summarizes the planning level cost estimates for implementing the improvements in the 2040 MTCP Roadway Plan. Costs are reported for 24 years of roadway improvements (2016 to 2040) in constant year 2015 dollars.

It should be noted that these cost estimates are based on planning level costs that typically include all roadway improvement cost components. These planning level costs are based on actual final roadway improvement costs. They generally include utility relocations, item cost contingencies, design, right-of-way purchase, and construction management. The unit costs were developed and refined over several years based on final bid prices for similar improvements in the County and across Colorado. They can be thought of as “top-down” unit costs.

Planning level costs are primarily used as a reference point and for comparison to other transportation plans. They are only realistic if all of the improvements in the 2040 MTCP roadway plan were constructed by the County through an open-bid process. In the County, this is not necessarily the case as there are many projects that are constructed directly by land developers through subdivision improvement agreements with the County. Furthermore, the fees paid by developers are based on a different set of unit costs (see next section).

Fee Program Cost Estimates—New development in El Paso County contributes to roadway system improvements proportional to the needs created through a Road Impact Fee Program. A Road Impact Fee Study update has been prepared in parallel with this MTCP update. The Fee Program cost estimates contained in the Road Impact Fee Study update correspond to the same roadway improvements as the Planning Level cost estimates. The two scenarios differ in the unit costs that are applied. For the Fee Program, the unit costs were developed based on a quantity takeoff method that could be described as “bottom up” calculated. These assume that a developer constructs the road improvement rather than letting through a County bid process.

The Fee Program unit costs include many roadway improvement cost components but exclude certain others. Issues with roadway construction (e.g., undulating/rolling terrain, utilities, drainage issues, poor soils, etc.) that can significantly raise costs are generally borne by the contractor/developer as part of subdivision improvement investments and not included in the Fee Program unit costs. This was done so that increased costs due to lower-cost land with higher-cost roadway improvements would be picked up by the benefitting land owner/developer and not spread to other developers or the public. This is a primary reason why the Fee Program unit costs are lower than the Planning Level unit costs.

The Fee Program cost scenario is generally realistic in that it provides ranges of funding exposure based on the Fee Program unit costs, but it assumes that all of the growth-related improvements are constructed by developers.

What This All Means—Two different cost estimates are provided above – Planning Level and Fee Program costs. The Planning Level costs assume that all improvements will be let through competitive bid by the County. The Fee Program costs assume that all of the growth-related improvements will be constructed by developers. In reality, improvements will likely be made through both methods. Therefore, the Planning Level costs could be considered the high end of the cost estimate and the Fee Program costs could be considered the low end.

CHAPTER V. MULTIMODAL TRANSPORTATION

The development patterns in El Paso County, as is the case in most Colorado counties, rely on private motor vehicles as the dominant means of travel for residents, workers and visitors, thus the preceding chapters have focused primarily on that travel mode. However, other modes of travel are increasingly important pieces of the puzzle in providing citizens with a variety of travel options that fulfill their individual mobility needs. Convenient and safe bicycle and pedestrian facilities provide opportunities for non-motorized transportation and recreation oriented use of the transportation system. Transit services provide access to services for those who may not have availability of private vehicles. Beyond the travel needs of El Paso County residents, the MTCP recognizes the importance of moving freight on trucks as well as rail to the County's and region's economy.

A balanced transportation system that provides a safe and convenient environment for multiple travel modes is an important element in the quality of life that makes El Paso County attractive to current residents and that people and companies consider when locating to a new area. This chapter provides background on other travel modes—bicycle/pedestrians, transit and trucking—that combine with the roadway network to make up the full complement of transportation facilities, services, and connections in El Paso County.

BICYCLE AND PEDESTRIAN FACILITIES

Bicycling and walking can be healthy alternatives to the automobile for many types of trips as well as for recreational purposes. El Paso County recognizes a need to expand bike and pedestrian facilities within the unincorporated areas. The County's Community Services Department has developed plans for several existing and proposed trail corridors to accommodate bicycle, pedestrian, equestrian and other non-motorized uses. Specifically, the El Paso County Parks Master Plan (2013) includes more than 700 miles of trails and bicycle routes. In addition, a network of proposed bicycle routes along roadway corridors has been developed.

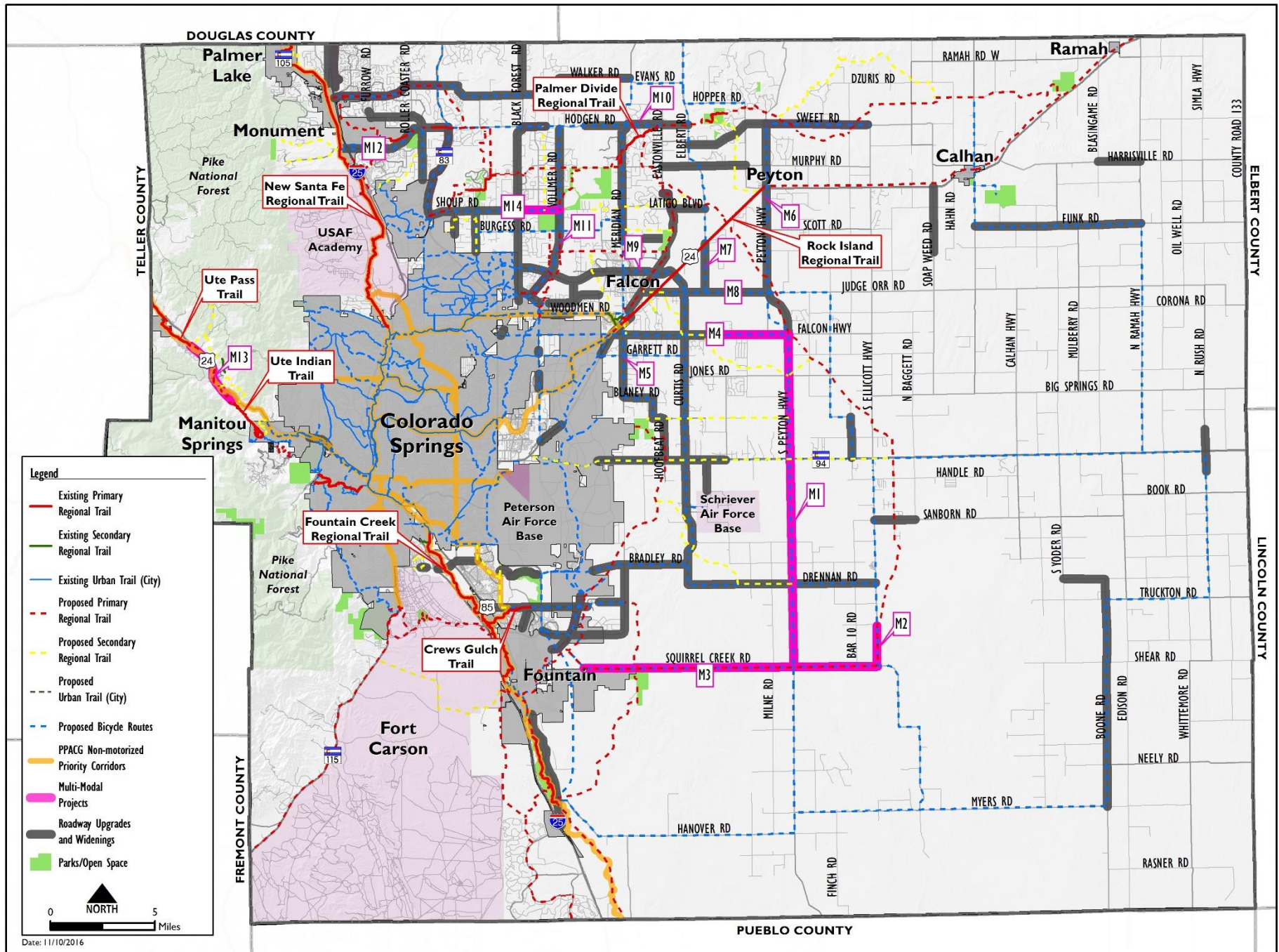
Map 15 provides a plan for non-motorized facilities in the County. The plan includes:

- ▶ A network of off-street trails to accommodate bicycle, pedestrian, equestrian and other non-motorized uses. The plan includes three categories of existing and proposed multi-use trails:
 - Primary Regional Trails – These trails are intended to link and provide access to recreation areas of regional significance, and local communities, and commuting opportunities.
 - Secondary Regional Trail – These trails are intended to link and provide access to Primary Regional trails, recreation areas of local significance, local communities and commuting opportunities.
 - Urban Trails – For the purposes of this study these are existing and proposed significant trails located in the incorporated areas of El Paso County.
- ▶ A network of roadway corridors with proposed bicycle and pedestrian routes. Of these many routes, 12 have been highlighted as “priority multi-modal projects” and are numbered M1 through M12. Bicycles and other non-motorized modes can be accommodated with two general types of upgrades on these priority multi-modal corridors: Widened shoulders can be constructed to accommodate non-motorized modes on many rural County road corridors or multi-use sidewalks can be provided on one or both sides of roads in more urban settings or high-traffic rural corridors with sufficient space for sidepaths.

Table 5 provides a summary of recommended bicycle and pedestrian improvements.

Table 5: 2040 Multi-modal Improvement Projects

Project ID	Road Name	Improvement Type	Beginning (South, West)	End (North, East)	Length
M1	S. Peyton Highway	Bicycle	Squirrel Creek Road	Falcon Highway	15.93
M2	S. Ellicott Highway	Bicycle & Primary Regional Trail	Squirrel Creek Road	Farmer Road	1.93
M3	Squirrel Creek Road	Bicycle & Primary Regional Trail	Shumway Road	S. Ellicott Highway	14.06
M4	Falcon Highway	Bicycle & Secondary Regional Trail	Meridian Road	S. Peyton Highway	6.95
M5	Meridian Road	Bicycle	Blaney Road	Falcon Highway	2.98
M6	Peyton Highway	Bicycle	Falcon Highway	US 24	7.00
M7	Elbert Road	Bicycle	Judge Orr Road	US 24	2.32
M8	Judge Orr Road	Bicycle	Eastonville Road	Peyton Highway	2.98
M9	Stapleton Dr	Bicycle	Meridian Road	US 24	2.56
M10	Hodgen Road	Bicycle	Meridian Road	Eastonville Road	1.67
M11	Vollmer Road	Bicycle & Primary Regional Trail	Marksheffel Road	Shoup Road	4.51
M12	Hodgen Road	Bicycle & Primary Regional Trail	Highway 105	US 83	4.07
M13	US 24	Primary Regional Trail	Manitou	Cascade	3.44
M14	Shoup Road	Bicycle	US 83	Vollmer Road	6.24



Map 15: Bicycle and Pedestrian Network and Improvements

TRANSIT

The Pikes Peak Region's principal transit service provider is Mountain Metropolitan Transit, a department of the City of Colorado Springs. Mountain Metro currently provides fixed route bus service focused in Colorado Springs, and the *2040 Regional Transportation Plan – Transit* (Appendix E of the *2040 Moving Forward Regional Transportation Plan*) calls for the agency to continue with this service focus area. So, there are currently no plans to provide fixed route transit service to the unincorporated parts of El Paso County. Fountain Municipal Transit connects residents in the City of Fountain to the Mountain Metro routes as well.

CDOT provides regional commuter bus service between Colorado Springs and Denver via the Bustang. The Bustang provides weekday peak period service with stops in downtown Colorado Springs and at the Woodman Road and Monument park-n-rides.

Demand responsive transit service is provided to targeted transit-dependent populations within parts of the unincorporated County, including senior, disabled and low-income populations. These service providers include Community Intersections, ComCor, Amblicab, El Paso Fountain Valley Senior Citizens Program, Goodwill Industries, Metro Mobility, Mountain Community Senior Services, Rocky Mountain Health Care Services, and Silver Key Senior Services.

TRUCK ROUTES

Map 16 shows the two levels of truck routes in the County. The primary routes are federal and state roads that act as through roads. Primary routes are used by freight haulers that have no origin or destination in El Paso County. The secondary routes serve trucks with an origin or destination within the more urbanized areas of the county. Unlike the City of Colorado Springs, El Paso County does not prohibit trucks from using roads that are not identified on the truck route map. Trucks may legally use any road in the County that is not weight, height, or width restricted.



CHAPTER VI. CORRIDOR PRESERVATION PLAN

RIGHT-OF-WAY PRESERVATION

Long-range transportation plans typically have been developed for a 20- to 30-year timeframe, as has this 2016 MTCP update with a 2040 time horizon. However, we know that growth in El Paso County will continue after 2040, and growth in some parts of the County may in fact occur faster than is reflected in our 2040 forecasts. Given the potential need to expand major transportation corridors beyond the levels identified in this plan for 2040, it is wise to preserve rights of way that may be needed for future road expansion in the long-range future.

The objectives are to preserve the necessary right-of-way for future roadway improvements, maintain the desired character of the corridor, and fulfill the intended functional classification of each roadway. These corridors should be preserved and restricted from development and encroachments so that future improvements can be made in an efficient manner. This is done through the active process of:

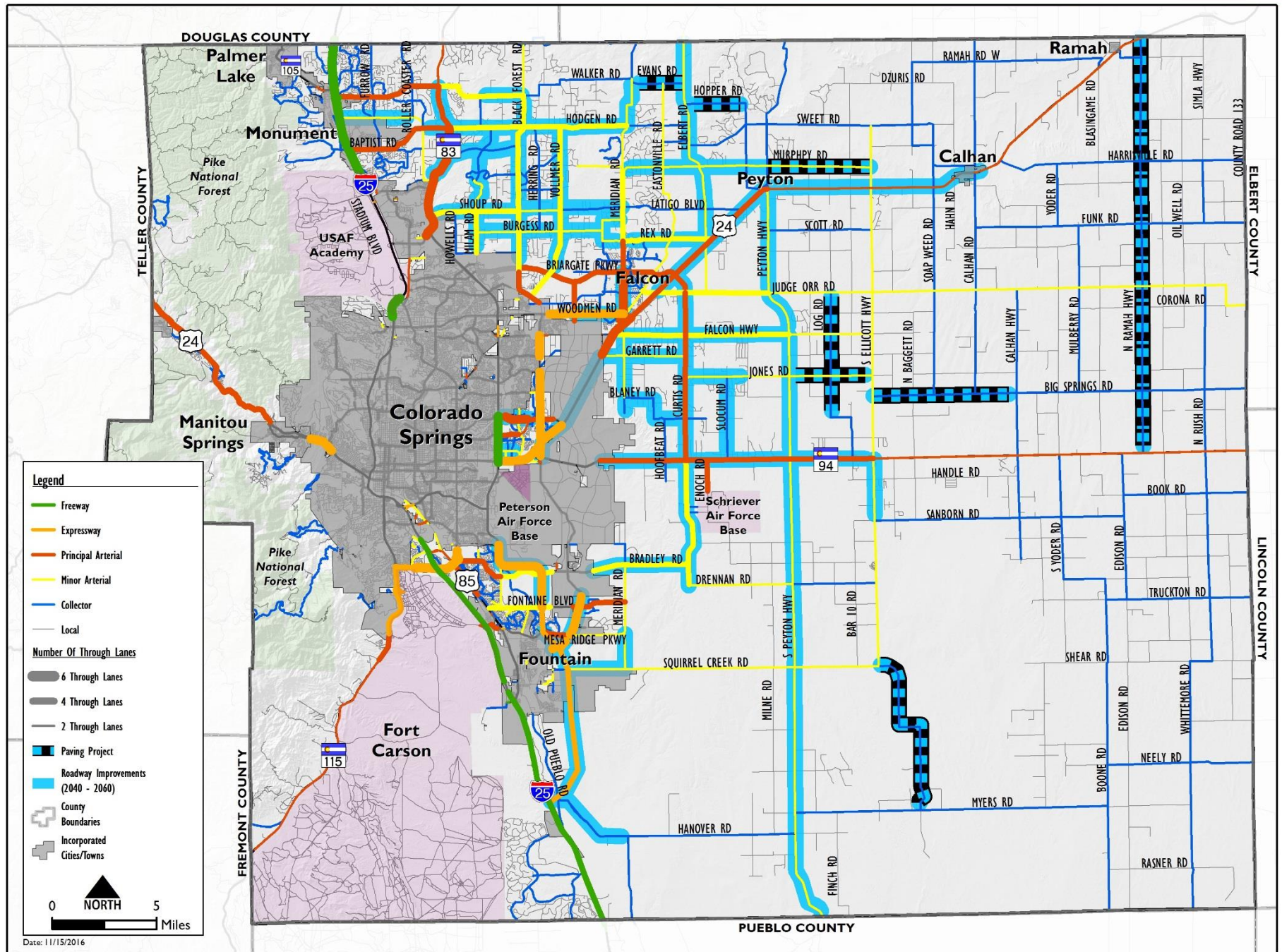
- ▶ Identifying major corridors for future roadway improvements
- ▶ Adopting access management requirements that identify appropriate access point spacing for each corridor consistent with the County's Engineering Criteria Manual
- ▶ Requiring building and development setbacks that preserve the relationship between the right-of-way and development so that future roadway improvements can be accommodated.

2060 CORRIDOR PRESERVATION PLAN

Using the travel demand model and the 2060 demographic forecasts discussed in Chapter III, travel demand forecasts were prepared for the year 2060. Although forecasts this far into the future and highly speculative given the impossible task of reliably predicting both growth patterns and travel behavior over 40 to 50 years, these order-of-magnitude 2060 forecasts provided a basis to identify corridors for which long-range future options should be preserved.

Map 17 presents the Corridor Preservation Plan. The blue highlights indicate roads on which roadway improvements are anticipated to be needed in roughly the 2040 to 2060 timeframe. Right-of-way on these corridors should be preserved and development setbacks should be required to respond to potential development and growth as it occurs. The preservation plan does not imply that all of these facilities will be improved to the level indicated. If anticipated developments do not happen, a particular long-range roadway expansion may not be needed.

While new developments will use the 2040 Plan and the 2060 Corridor Preservation Plan, additional traffic studies may be required and may create the need to add or modify alignments or road sections.



Map 17: Corridor Preservation Plan

CHAPTER VII. FUNDING ANALYSIS

There are about 3405 miles of bridges and roads in unincorporated El Paso County, and of those, roughly 1226 centerline miles are privately owned, and about 2179 centerline miles are County owned and managed, which equates to more than 4335 lane miles. To put that in context, the distance, as the crow flies, between Canada and Mexico is 1,200 miles. The County's responsibility includes 266 bridges, about 109,000 linear feet of drainage ditch, over 382,000 feet of drainage pipe, over 24 miles of guardrail, almost 29,000 traffic control signs, 92 traffic signals and over 22,000 acres of right-of-way. Since 1980, almost 400 centerline miles of road have been added for the county to maintain and the number of paved lane miles has more than doubled.

FUNDING TRANSPORTATION

The roadway system in El Paso County represents a substantial public investment to accommodate motor vehicles, as well as non-motorized travel. Likewise, improvements shown on the 2040 MTCP Roadway Plan maps will require significant resources to implement. To present a plan that is realistic, an analysis of costs associated with roadway improvement and resources available to fund them is necessary.

In El Paso County, off-system (i.e., non-CDOT) County roads are typically funded through three sources – development exactions/impact fees, local sales and property taxes, and Highway Users Tax Fund (HUTF), which comes from the state gas tax and registration fees. The County has adopted a Countywide Road Impact Fee Program that will fund a significant portion of the future off-system capacity needs in the County.

The local and neighborhood streets in the County, including non-regional collector streets, are often funded and constructed by the developer when a subdivision is developed. Many local roads are maintained by the County while others are private roads maintained by a local fee district or a homeowners association. The Road Impact Fee program helps the County to accurately plan for roads needed due to new development.

For the Department of Public Works (DPW), the largest sources of revenue for transportation are HUTF (the gas tax), specific ownership tax, and the property tax. In 2007, almost 61 percent of the budget was funded by the gas tax and the road and bridge mill levy. In 2013, the gas tax and the road and bridge mill levy provided almost 81 percent of our budget. In addition to these

funding sources, the Pikes Peak Rural Transportation Authority (PPRTA) collects a sales tax increment that funds multi-modal transportation projects across the County, including roads in the unincorporated parts of the County.

Development Impact Fees/Exactions

El Paso County's road impact fee program was adopted in 2012 to create an equitable method of establishing a fair-share contribution for development for transportation improvements needed to accommodate growth. A Road Impact Fee Study update is being prepared, in a parallel effort with this MTCP update, to set the impact fee rate per new trip created by new development.

New development is often required to construct projects on the adjacent major roadway system to provide access for that development. These requirements are referred to as development "exactions". In cases where the cost of these road improvements or exactions exceeds the development's fair share road impact fee, the County uses impact fee funds to reimburse developers for excess costs.

A significant portion of the roadway system improvement needs on County roads identified in this plan are funded through development impact fees and exactions.

Federal Transportation Funding

Gas taxes come to the county in two ways from both the state and federal levels. The federal gas tax is funded by an 18.4¢/gallon tax that has not changed since 1993. Federal gas tax funding is distributed through PPACG in the form of grants that generally require a 20 percent local match. These are competitive grants, not formula disbursements. While DPW has been successful in obtaining grants, most of the funding in the region goes to the City of Colorado Springs. The difficult parts of using federal funds are:

- ▶ DPW must fund 100 percent of the project upfront and then 80 percent is refunded later. This poses a cash flow issue for us as we do not have a federal projects budget.
- ▶ Due to regulations and requirements, federal projects are often more expensive than the same project funded with local dollars.
- ▶ It often takes longer to implement.

State Gas Tax

The HUTF consists of the state gas tax of 22¢/gallon and motor vehicle fees such as license and registration fees. About 75 percent of the HUTF funds come from the gas tax. The state gas tax is required by law to be spent on transportation. Over 65 percent of the HUTF funding goes to CDOT to construct and maintain state roads such as I-25, US 24, and State Highways 21, 94 and 115. The remaining funds are split among all other cities, towns and counties in the state.

The HUTF payments represent the return of gas and diesel taxes and other fees to the local communities (e.g., El Paso County) and residents that paid them, but only 20 percent of funds paid by residents is returned to the County. The County received an average of \$9.9 million a year over the last ten years. DPW's personnel cost averages about \$9.5 million a year. The state gas tax has not increased since 1991.

Pikes Peak Rural Transportation Authority (PPRTA)

In response to the need for additional road funding voters in El Paso County, Colorado Springs, Manitou Springs, and Green Mountain Falls approved the creation of PPRTA. The Town of Ramah joined in 2009. PPRTA is funded by a 1 percent sales and use tax that was approved to start January 1, 2005 and was renewed by voters in 2014 to fund transportation and transit improvements.

Fifty-five percent of funds collected pay for a voter approved list of capital projects with a 10-year sunset on these funds. Thirty-five percent go to transportation maintenance and 10 percent to expand the transit services. In 2012, the nearly 80 percent of voters reauthorized the collection of 55 percent of capital funds for an additional 10-year period from 2015 to 2024.

El Paso County has not seen a significant increase in transportation funding. This has the effect of reducing the number of road miles that can be repaved and limits maintenance on all roads. For example, we have been prioritizing higher use roads so that arterials and collectors stay in fair shape, consequently, pavement overlays on lower use roads such as neighborhood roads is almost nonexistent. If roads do not get regular maintenance the result over time means more than potholes, it results in road closures and turning paved roads back to gravel, safety concerns, and increasing costs to rehabilitate.

Property Taxes

El Paso County also received some property taxes for roads. The median home price in El Paso County is \$236,000. The average home pays about \$148.00 per year in property taxes to the County general fund and only \$6.20 going to roads. El Paso County roads receive about \$1.1 million a year in property taxes.

Figure 4 displays the major sources of funding to the County's Road and Bridge account. For a variety of factors, revenues have not kept up with inflation, which is denoted by the Consumer Price Index (CPI) on the figure. Please note that the increased revenue in 2008 and 2009 was due to a grant reimbursement from Federal Highway Administration (FHWA).

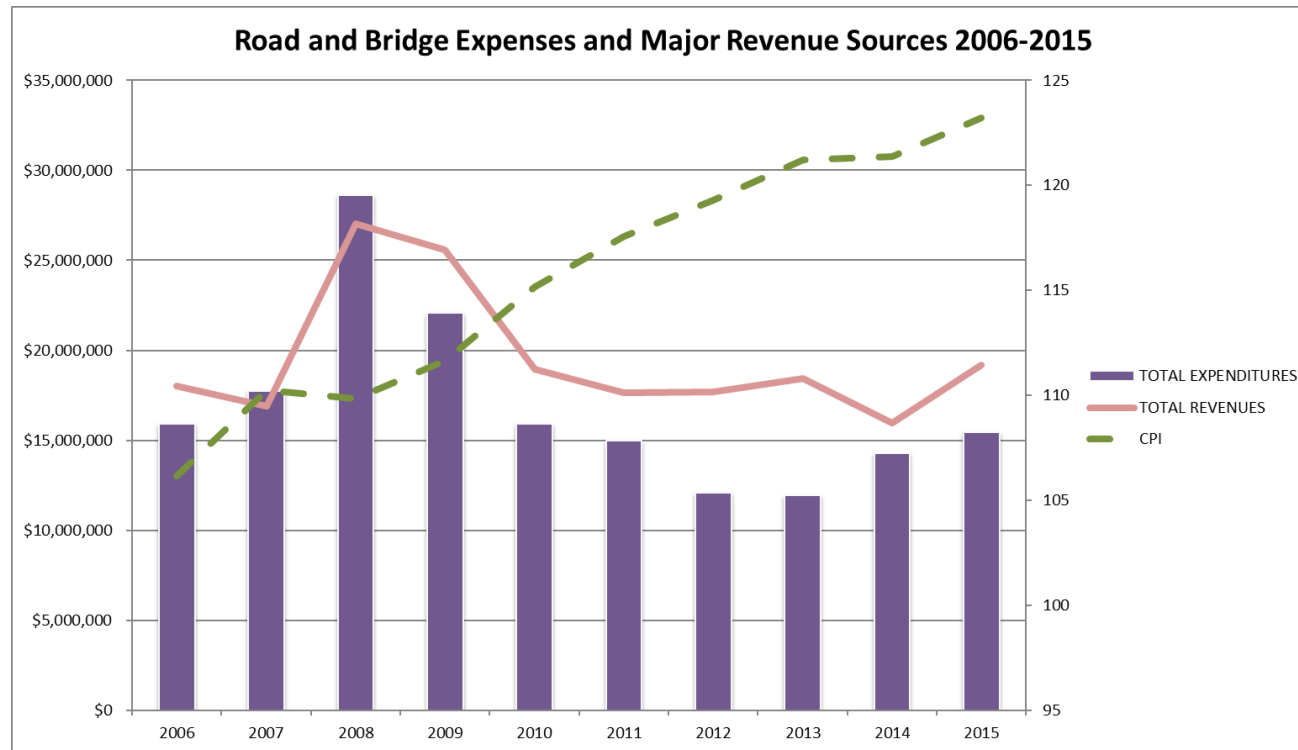
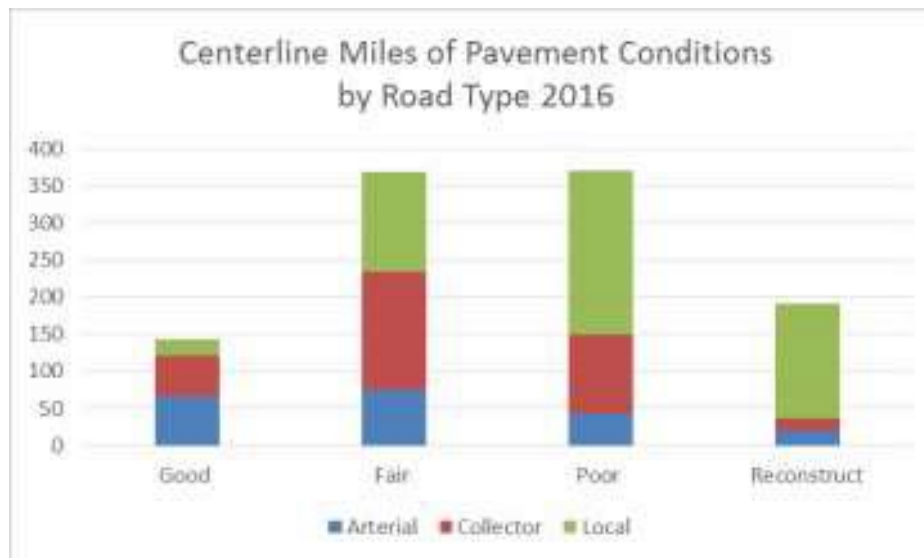


Figure 4: Road and Bridge Expenses and Major Revenue Sources 2006-2016

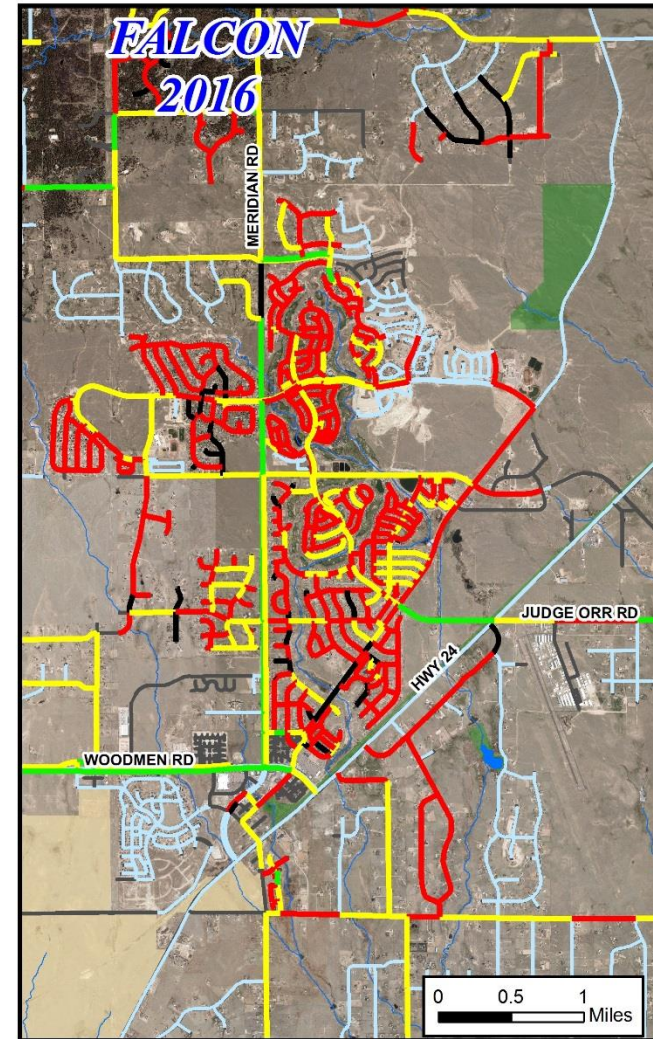
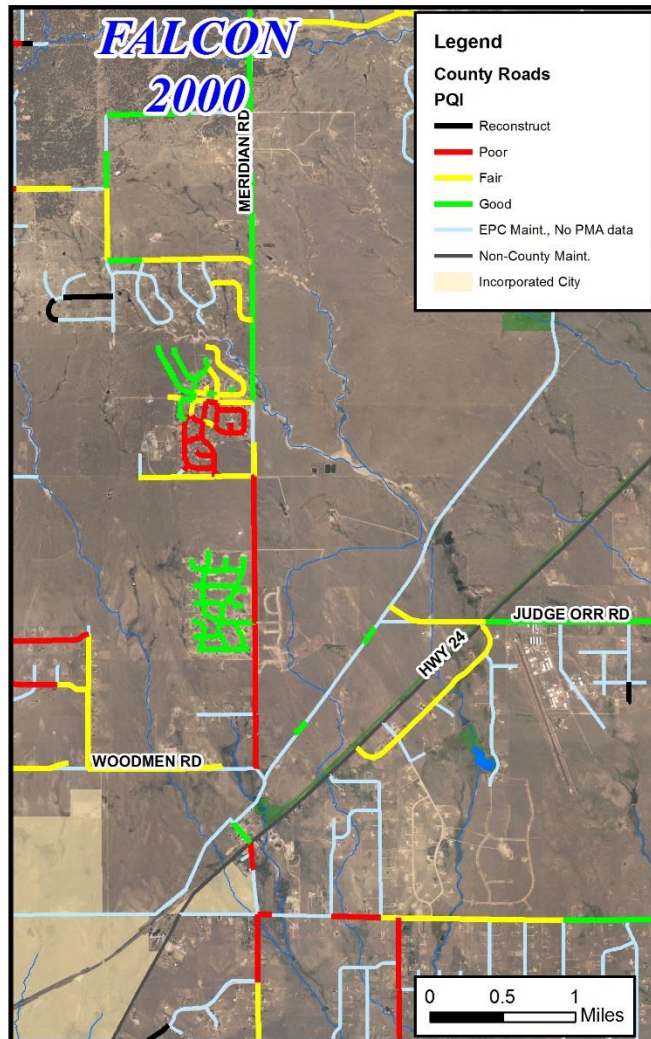
Pavement overlays should occur generally every 7-10 years. This would be approximately 70-100 miles of road per year, or about 10% of our roads per year. In the last ten years, we overlaid an average of 23 centerline miles or 2 percent off our paved roads a year. With current funding, about 50 percent of our roads will fail before they receive maintenance. The cost to overlay 85 miles of pavement would be about \$16 million per year.

DPW has funding to maintain about 20 miles of road each year. This lack of ongoing maintenance coupled with more severe weather results in more catastrophic failures that cause potholes, bridges to be weight limited, roads to washout, road closures, flooding, increased need for debris removal in ditches, culverts and ponds.

The chart below shows that most of the roads that are failing are local roads. DPW works hard to keep the high volume roads in fair-good condition. There are about 25 centerline miles of arterial roads in need of reconstruction. These projects can be very expensive often costing millions of dollars per mile to fix.



A further demonstration of increased road miles and the problems associated with infrequent maintenance can be seen in the Falcon area. Many of the road miles were new within the last 16 years, but already are in poor condition.



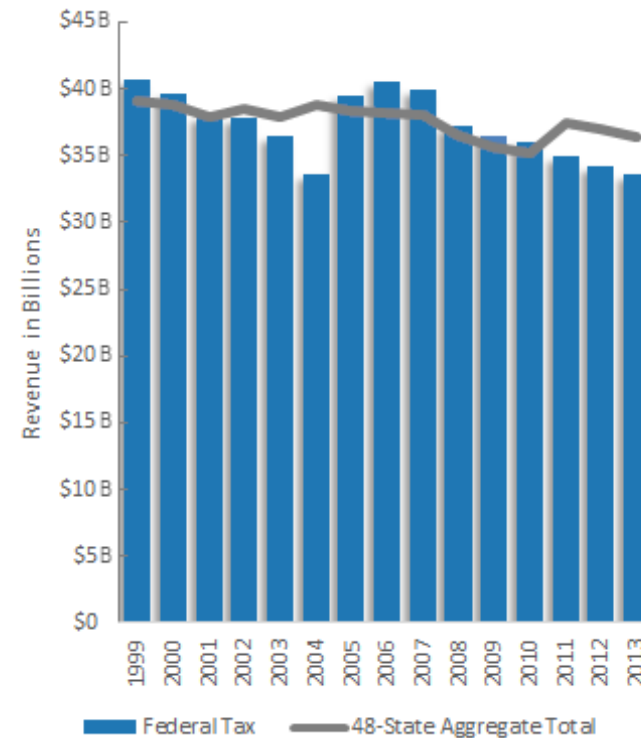
Transportation Costs and Revenues

Gas Taxes—As the primary funding sources for transportation, gas taxes have remained constant since the early 1990s at 40.4 cents per gallon on gasoline (\$0.22/gallon state; \$0.184/gallon federal). More significant is the lack of benchmarking to inflation or construction costs. The result is that gas tax revenues have stalled. “The federal government’s 18.4-cent gasoline tax brought in a fifth less, in inflation-adjusted dollars, in 2013 than in its first year at that level. That revenue decline comes over a period when the Country’s population grew by a fifth, adding more strain to the nation’s transportation’s networks.”

(<http://www.governing.com/topics/transportation-infrastructure/gov-gas-tax-revenue-states-inflation.html>)

Daniel C. Vock, May 18, 2015) (see Figure 5 and Figure 6).

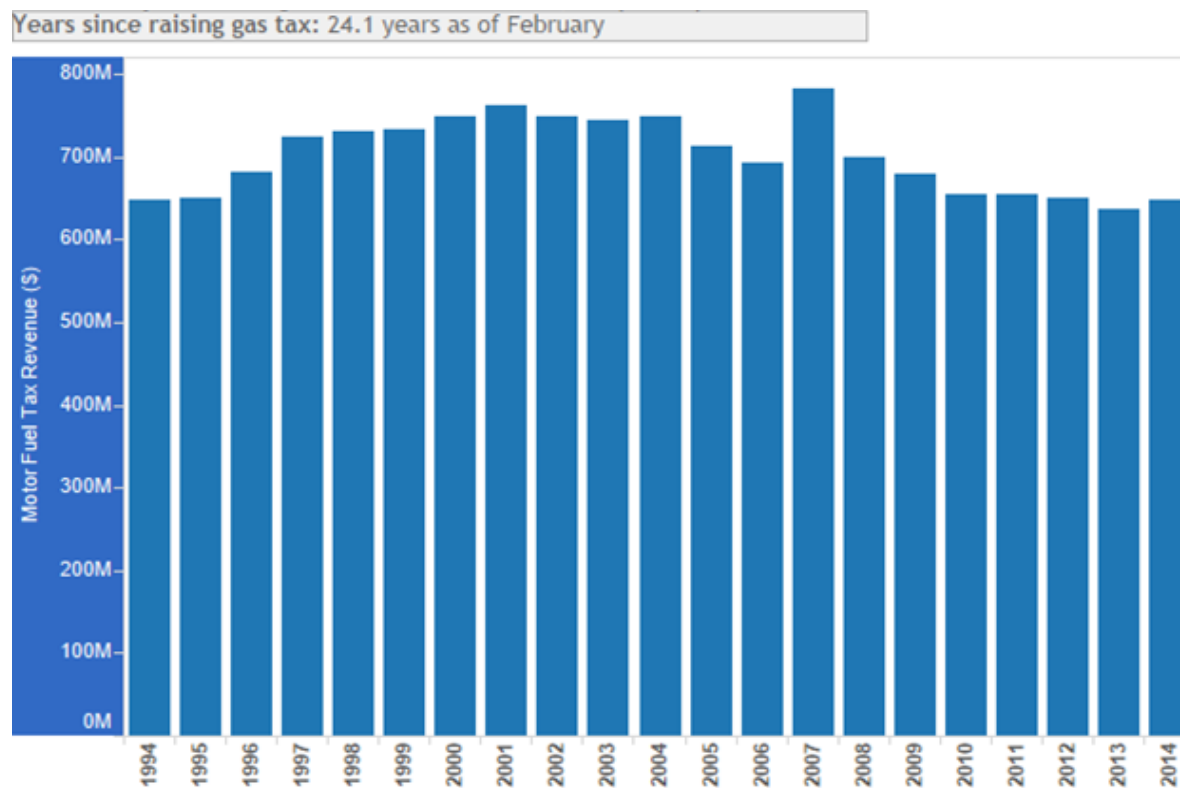
This chart compares federal and total state motor fuel tax revenues when adjusted for inflation.



NOTE: State figures exclude Pennsylvania and New York, which made changes in how tax data was reported. Amounts shown in 2013 dollars.

SOURCE: Governing calculations of IRS, Census Annual Survey of State Government Tax Collections data.

Figure 5: Federal vs. State Fuel Tax Revenue



Figures were adjusted for inflation and shown in 2014 dollars.

SOURCE: Governing calculations of U.S. Census Bureau Annual Survey of State Government Tax Collections data. Information on last gas tax raise compiled by the Institute on Taxation and Economic Policy.

Figure 6: Colorado State Gas Tax Revenue

Fuel Efficiency—The federal government recently raised the standard for passenger cars from 27.5 (1990 to 2010 standard) to 39.0 miles per gallon in 2016. While this may have a positive effect on emissions and reduce US dependency on foreign oil, it has the effect of also reducing motor fuel tax revenues by 30 to 40 percent per vehicle mile driven over time. In addition, alternative fuels and electric vehicles become a more significant part of the vehicle fleet across the country, funds for transportation will decrease.

Inflation and Construction Cost Increases—The purchasing power of a dollar decreases each year due to inflation (see Figure 7). Of more significance is the trend that construction and maintenance costs have increased faster than inflation in recent years. Thus, costs are outpacing revenues.

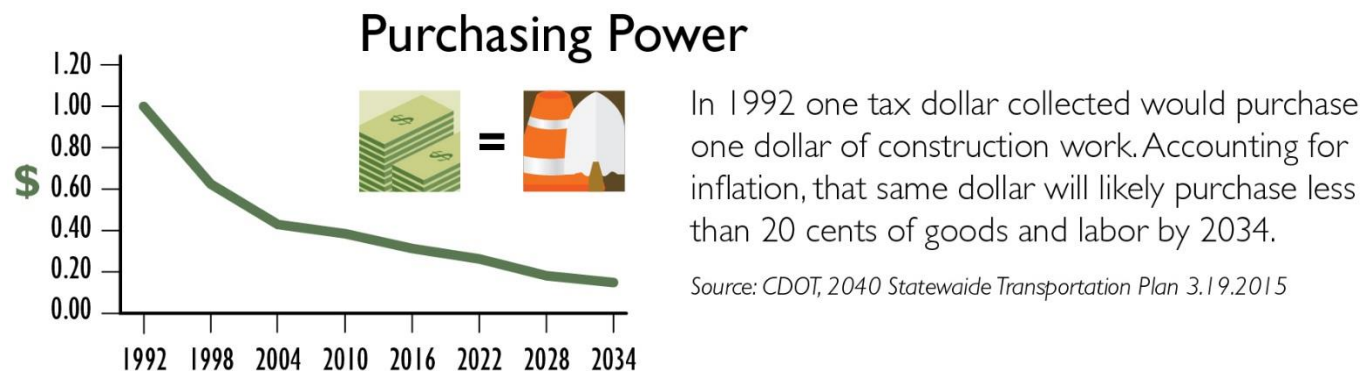


Figure 7: Purchasing Power

Natural Disasters—Since 2012, El Paso County has suffered through four presidentially declared natural disasters from fires to floods. These disasters not only destroyed and damaged private property, but also parks, government buildings and roads and bridges. So far, the four disasters cost over \$76 million dollars and will continue to impact County funding since flooding impacts from fires typically continue for at least 10 years.

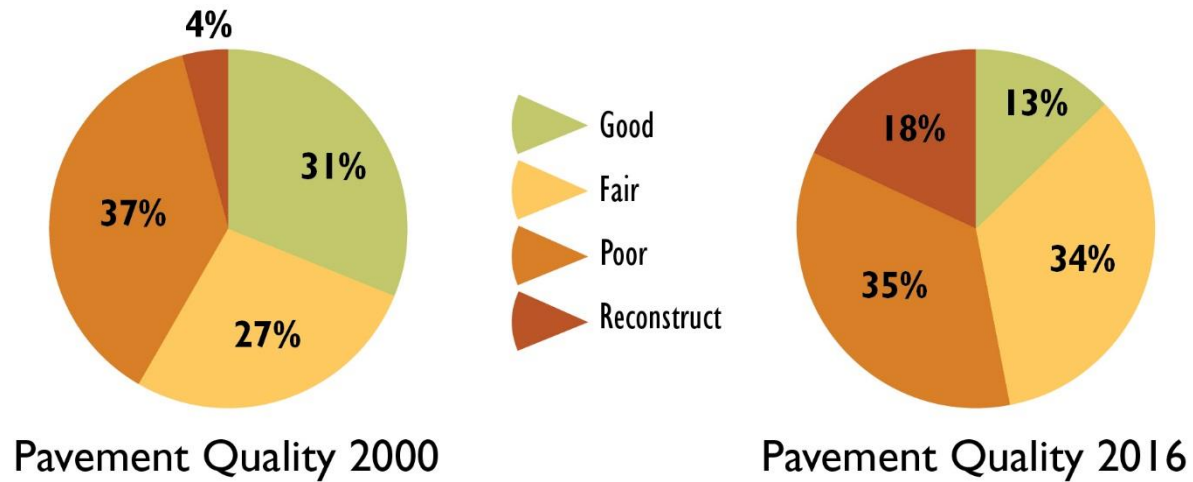
How Are We Doing?

DPW has maintained an average of 5.6 percent of our paved road miles over the last 10 years. This is well below the needed maintenance level of 10 percent per year. This means that our road conditions have worsened. In 2016, more than 52 percent of our roads are in poor condition. In 2007, 46 percent of the roads were in poor condition. Fleet parts costs increased from \$720,000 to \$1,584,000 a year in this last five years. Add on increased demands for multimodal transportation, aging infrastructure and increased regulations for stormwater, people with disabilities, and rules for spending federal money, the funding picture becomes more bleak.



Pavement overlays should occur generally every 7 to 10 years. This would be approximately 70 to 100 miles of road per year. With current funding, about 50 percent of our roads will fail before they receive an overlay. The cost to overlay 85 miles of pavement would be about \$16 million per year. DPW has funding to maintain about 20 miles of road each year. This lack of ongoing maintenance coupled with more severe weather results in more catastrophic failures that cause potholes, bridges to be weight limited, roads to washout, road closures, flooding, increased need for debris removal in ditches, culverts and ponds, and even roof repair. Aging infrastructure and recent weather events has forced us to temporarily close roads due to dangerous failures including Black Forest, Slocum, Burgess, Jones, Hanover and Old Stage Roads. These road closures are not only inconvenient, they also cost more to repair.

On average, El Paso County spends less on roads than nearby counties. While this is a bargain for taxpayers in the short term, road rehabilitation and reconstruction costs more per mile than ongoing maintenance.



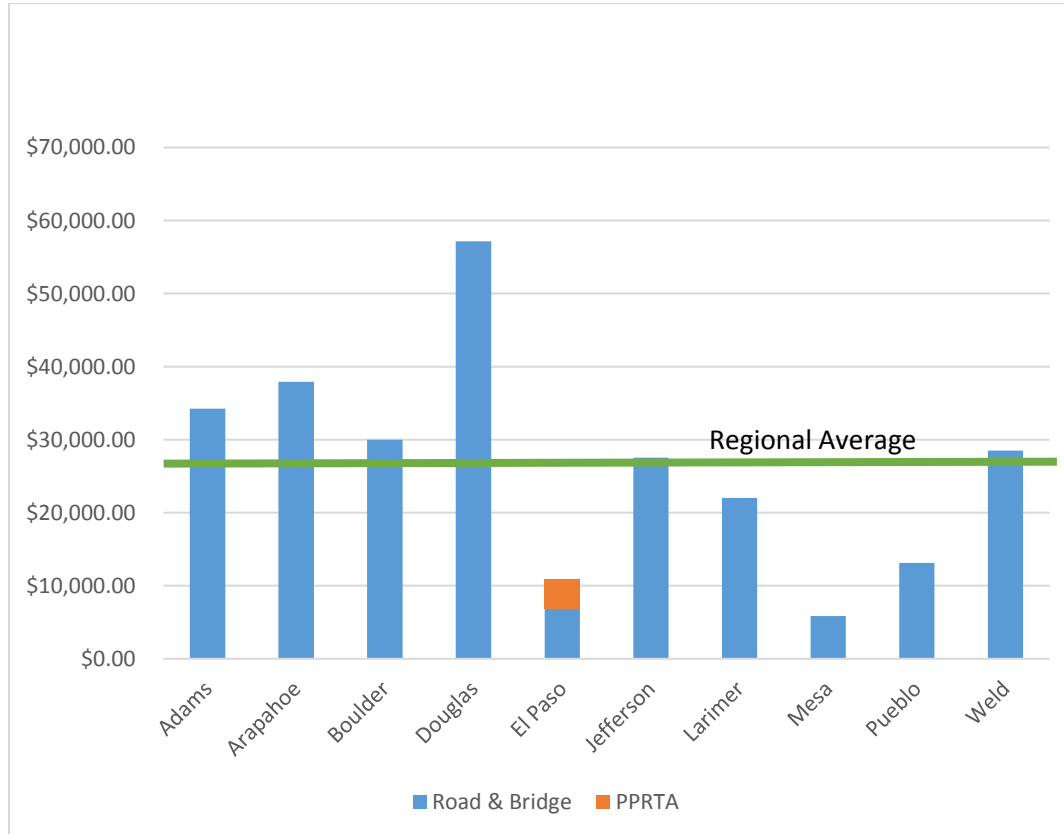


Figure 8: Road & Bridge Budget Per Centerline Mile and Regional Average 2015

In addition, the recession forced some developers to abandon new developments before infrastructure was complete. We have seen over a dozen subdivisions go into default leaving the County to finish over \$2 million of infrastructure. These factors mean that we have less funding, less buying power, and more road miles to maintain.

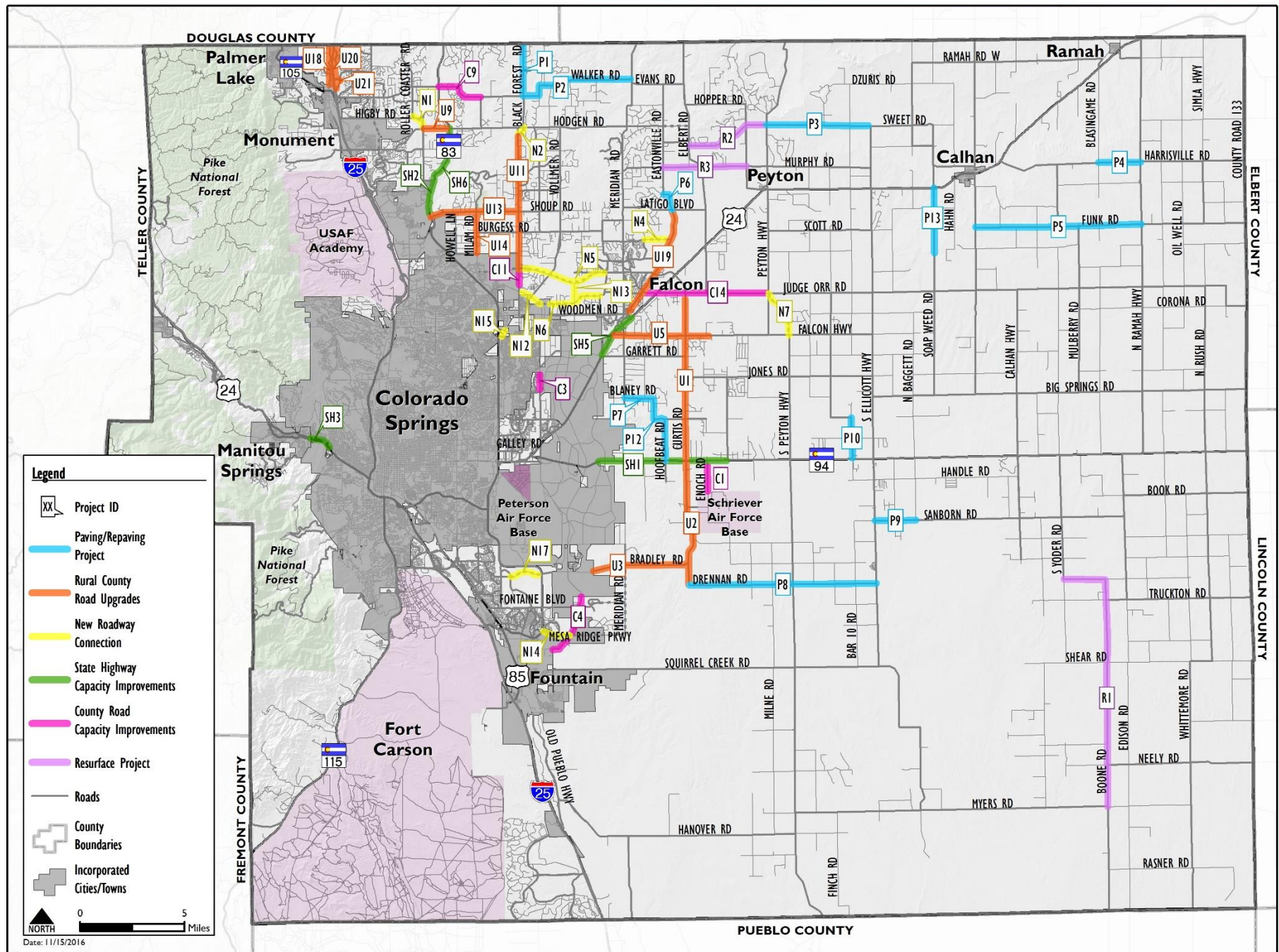
CHAPTER VIII. IMPLEMENTATION

ROADWAY IMPROVEMENT PHASING

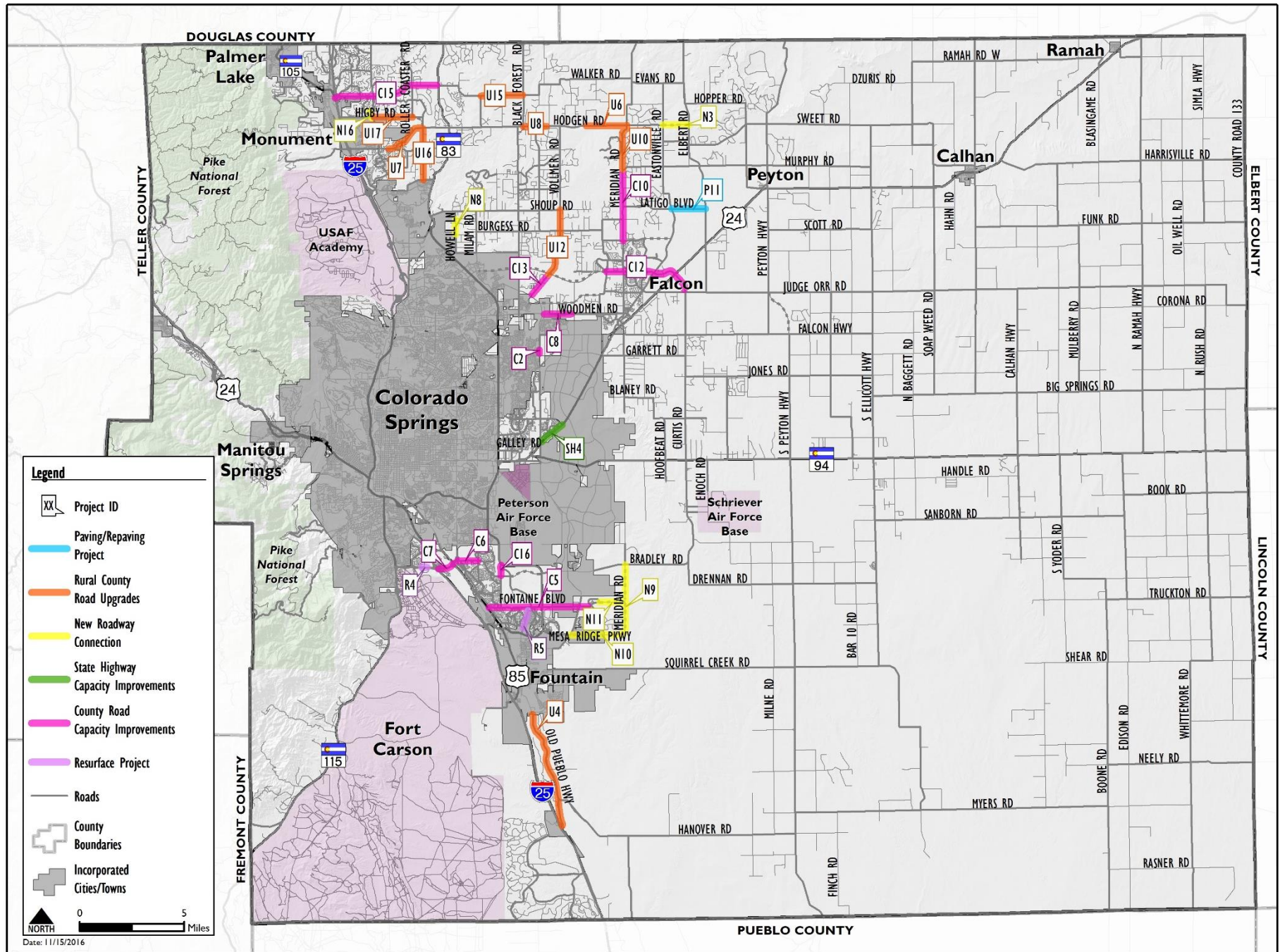
The need for different projects contained in the 2040 roadway improvement plan will be triggered by development leading to growth in traffic levels. Since the timing of development and resulting traffic demands cannot be predicted with certainty, the precise timing of the project needs cannot be predicted precisely. Additionally, the availability of funding dictates the timing of project implementation and future budgets and priorities will emerge over the next 25 years.

Despite these uncertainties, it can be valuable to provide a sense of the phasing of improvements within the time 2040 horizon. The 2040 projects have been divided into two phases—a short and mid-range phase to 2030 and a long-range phase between 2030 and 2040, based on the estimated timeframe when the need will be triggered.

Map 18 depicts the short and mid-range projects and Map 19 shows the remaining projects planned for the 2030-2040 period.



Map I8: Short and Mid-range Projects



Map 19: Long-range Projects

IMPLEMENTATION POLICIES AND STRATEGIES

The fundamental goal of the MTCP is to identify future transportation needs, opportunities, and the best use of limited resources for implementing this plan for the next 25 years. This MTCP is extremely important, as unincorporated El Paso County is largely made up of rural communities experiencing urbanization as part of the growing Colorado Springs metropolitan area. New urban growth places unforeseen demands on a rural transportation network and rural public finances.

That growth also requires a complement of policies and strategies for plan implementation. The growth in development, and its associated impacts on traffic, puts stress on local resources. Planning for this growth offers opportunities to mitigate traffic impacts through construction of new facilities and services that offer County residents travel options. These improvements also help guide the direction of growth as new opportunities are provided. New opportunities include not just roadway improvements, but also include mobility choices through implementation of a balanced transportation system that includes transit, bicycle, and pedestrian infrastructure.

Where new investments are financially constrained, it is critical to preserve the corridors and maintain the ability to develop them in the future. The following describes the policies and strategies that El Paso County will follow as the MTCP is implemented. These policies and strategies should be considered in light of current El Paso County planning and engineering practices, and several laws, regulations, statutes and requirements at the Metropolitan Planning Organization (MPO), state, and federal levels. It should be further noted that the Plan policies and strategies complement and are integrated with El Paso County's Policy Plan, Land Development Code, Engineering Criteria Manual and Drainage Criteria Manual.

Plan, develop and maintain a safe and efficient transportation system to meet the present and future mobility needs of people, goods, materials and services.

- ▶ Identify and preserve the functional integrity of the corridors necessary to meet the County's potential future surface transportation needs.
- ▶ Maintain transportation planning flexibility that will allow the accommodation of different potential future systems and technologies.
- ▶ Achieve compatibility between transportation facilities and adjacent land areas through comprehensive planning.

- ▶ Coordinate and integrate the planning, design and development of transportation modes including highways, public transit, bikeways, pedestrian facilities, equestrian trails, railroads, airports, ride-sharing, car-pooling and telecommunications networks with PPACG, Central Front Range Transportation Planning Region (CFR), and the County's municipalities and military installations.
- ▶ Coordinate the County's transportation system with the transportation systems of neighboring counties, municipalities and the state.
- ▶ Balance the need for regional mobility with demands for local access onto major transportation corridors.
- ▶ Maximize the efficiency of the existing transportation system through efficient traffic management and operations techniques including signalization and additional turning lanes, which help to regulate traffic flow and thereby increase capacity.
- ▶ Encourage employers to develop and implement methods such as flexible scheduling and car or van pooling to reduce peak hour congestion on major transportation corridors.
- ▶ Encourage the planning, development and use of a telecommunication network to reduce the number of work and shopping related automobile trips.
- ▶ Develop and implement a capital improvement program and a major maintenance program that is utilized to prioritize projects.
- ▶ Work with local metropolitan districts or develop Local Improvement or Public Improvement Districts to offer opportunities for development and the public to see that transportation responsibilities are fairly assigned.

Promote land use planning which maximizes transportation efficiency.

- ▶ Encourage the development of major activity centers with regional multimodal access.
- ▶ Require advance right-of-way preservation and dedication for transportation facilities as part of the land development process.

- ▶ Require advance right-of-way preservation and dedication, access management and transportation improvements to implement the proposed actions of environmentally cleared corridors in coordination with FHWA, CDOT and other publicly funded programs.
- ▶ Strictly limit direct access onto major transportation corridors to preserve their functional capacity.
- ▶ Plan, build and manage the capacity of the roadway system to accommodate maximum expected land use densities.
- ▶ Evaluate land use patterns, which place exceptionally large demands on the transportation systems and mitigate their impact.
- ▶ Encourage carefully-planned mixed-use developments which integrate vehicular and pedestrian transportation modes and which maximize the effective use of transportation infrastructure and parking areas.
- ▶ Along corridors with development pressures, develop and implement access management plans.
- ▶ Require new development to improve nearby roadways to acceptable design standards to match the functional classification.

Reduce the adverse environmental impacts of existing and future transportation systems through a combination of careful planning and mitigation techniques.

- ▶ Place a high priority on maintaining the environmental condition when planning or building roads.
- ▶ Place a high priority on those system improvements, which will substantially reduce risks to public safety including but not limited to signalization and traffic controls.
- ▶ Encourage the identification, designation and preservation and enhancement of scenic transportation routes and vistas.
- ▶ Provide for noise attenuation and visual screening along major transportation corridors by incorporating techniques including setbacks, buffers, berms and vegetation treatments.
- ▶ Plan and provide for mitigation of secondary impacts of traffic congestion including the protection of air and water quality and drainage system enhancements.

Implement the planned transportation system in a coordinated and cost-effective manner utilizing a fair, equitable and sufficient method of funding.

- ▶ Base funding for transportation improvements and maintenance as much as possible on a user-pay system while recognizing the unique needs of the transit-dependent along with the indirect costs and benefits of transportation projects.
- ▶ Utilize transportation strategies designed to improve the efficiency of existing roadways prior to investing in system expansions or additions.
- ▶ Adequately fund maintenance of existing and future transportation infrastructure to preserve the value of investments made.
- ▶ Encourage user-pay approaches to funding transportation system improvements and maintenance.
- ▶ Encourage processes by which development can contribute a reasonable and fair share toward necessary off-site transportation improvements by continuing the Road Impact Fee Program.
- ▶ Place a high priority on financing transportation improvements that significantly reduce health and safety risks.

Promote the planning and development of transportation modes offering alternatives to single-occupant automobiles.

- ▶ Encourage the development of convenient, reasonably economic public transit options to serve the mobility needs of all segments of the population to and from major regional destinations.
- ▶ Encourage the development and maintenance of pedestrian and bicycle networks by identifying and setting aside corridors early in the planning process and by fully integrating these functions into land development plans.
- ▶ Encourage the use of high occupancy vehicles (HOVs), buses, vans, carpools and rapid rail.
- ▶ Promote the conservation of energy resources through enhancement of all modes of transportation and telecommunications networks.
- ▶ Promote the development of park-n-Ride areas to facilitate the use of alternative modes of transportation and coordinate the development of an intermodal system.

- ▶ Emphasize the needs of the transit-dependent population in the planning and prioritization of alternative transportation systems.
- ▶ Encourage inter-regional cooperation for the planning and development of alternative modes of transportation.

Improve transportation safety.

- ▶ Adopt and implement a “towards zero deaths strategy.”
- ▶ Coordinate with the CDOT RoadX project to prepare for technology innovations that improve road safety.
- ▶ Improve intersection safety and develop a prioritized list of improvements.
- ▶ Identify funding sources for needed maintenance and capital improvements and minimize the long-term cost to taxpayers.
- ▶ Actively work with school districts to cooperatively implement and fund existing transportation needs and to plan appropriate new school sites away from major arterial roads.
- ▶ Identify all transportation needs related to capital, operations, safety, and maintenance and identify new revenue sources to match the county needs.

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