



Chapter 5. 2045 Plan Recommendations

Throughout the MTCP process, input from the public and transportation stakeholders revealed a preference for the County to address all modes of travel. This chapter recommends improvements to the transportation system in unincorporated El Paso County, beginning with the roadway plan, which is the foundation of the County's transportation system. While multimodal, transit, and freight networks are more thoroughly planned by related documents, it is important to incorporate each of these modes early in transportation planning and support partnering agencies as appropriate to the needs of the unincorporated County's residents and workforce.

Roadway Plan

This section describes the roadway system in unincorporated El Paso County, evaluates current and future demands on the roadway system, and identifies roadway improvement needs to accommodate future travel.

Roadway Functional Classifications

Roads generally provide two important functions: mobility and land access. The County's roadway system consists of a hierarchy of road types ranging from freeways that primarily provide a mobility function to local street that primarily 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 MTCP represent a desired function based on the character of service they are intended to provide for the year 2045. 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 the desired characteristics implied by their function, but strategic improvements can serve to fulfill the vision over time.

The following roadway classifications reflect El Paso County's definitions (El Paso County Engineering Criteria Manual [ECM]) and are different from those identified by the Federal Highway Administration (FHWA). 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. The MTCP focuses on El Paso County maintained roads with functional classification of Major Collector and higher. There are no expressways recommended in the MTCP at this time.

Functional Classification Definitions

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, and no direct parcel access is permitted.

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 shall be served by other network roadways and service roads.

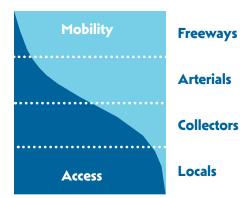
Minor Arterials: Roadways that currently serve

high-speed and high-volume traffic over medium distances or are anticipated to serve this kind of traffic within a twenty-year period. Access is restricted through prescribed distances between intersections, use of medians, and no or limited direct parcel access. Minor arterial status is assigned to rural roadways where the probability of significant travel demand in the future is high.

Collectors: Roadways that serve as links between local access 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. Collectors can be further designated as Major Collector or Minor Collector, and Residential or Non-Residential (in the urban context).

Locals: Roadways that provide direct access to lots and connect travel to collector roadways.









Urban vs. Rural

El Paso County's functional classification system also distinguishes between urban and rural roads, based on the existing and planned land use adjacent to the road. Urban roads are generally in areas within the FHWA Urban Area and/or the US Census Urbanizing Area designations. The County's Master Plan identifies PlaceTypes that require curb and gutter, including Employment Centers, Regional Centers, Suburban Residential, and Urban Residential. Roadways within these PlaceTypes are also categorized as urban. The ECM defines the roadway standards based on functional classification and urban vs. rural context. A primary difference is the

presence of curb and gutter and sidewalks on urban roadways, versus roadside ditches and multiuse shoulders on rural roadways.

Design Standards

The detailed design standards for each functional classification are documented in the ECM. **Table 4** and **Table 5** highlight some of the key cross-section and access spacing elements for each functional classification in the rural and urban context, respectively.

Table 4. Rural Road Design Elements

	Principal Arterial						
	6 Lane	4 Lane	Minor Arterial	Major Collector	Minor Collector	Local	Local Gravel
Design Speed/Posted Speed	70/65	70/65	60/55	50/45	40/35	30/30	50/45
Right-of Way Width	210′	180′	100′	90'	80′	70′	70′
Number of Through Lanes	6	4	2	2	2	2	2
Paved Shoulder Width	10′	10'	8′	4′	4′	2′	0'
Sidewalk Width	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Driveway Access Permitted	No	No	No	No	Yes	Yes	Yes
Intersection Spacing	½ mile	½ mile	¼ mile	¼ mile	660′	330′	330′

Reference: Table 2-4 and Table 2-5 of the El Paso County Engineering Criteria Manual for more detail

Table 5. Urban Road Design Elements

	Expressway		Principal Arterial		C		ector		Local
	6 Lane	4 Lane	6 Lane	4 Lane	Minor Arterial	Major Collector	Minor Collector	Local	(low volume)
Design Speed/Posted Speed	60/55	60/55	50/45	50/45	40/35	40/35	40/35	25/25	20/20
Right-of Way Width	160′	140′	160′	130′	100′	80′	60'	60′	60′
Number of Through Lanes	6	4	6	4	4	2	2	2	2
Paved Shoulder Width	8′	8′	8′	8′	n/a	6'	6′	n/a	n/a
Sidewalk Width	6' detached	6' detached	6' detached	6' detached	6' detached	5' detached	5' detached	5' attached	5' attached
Driveway Access Permitted	No	No	No	No	No	No	No	Yes	Yes
Intersection Spacing	1 mile	1 mile	½ mile	½ mile	¼ mile	660′	660′	175′	175′

Reference: Table 2-6 and Table 2-7 of the El Paso County Engineering Criteria Manual for more detail





Travel Demand Forecasting

As the metropolitan planning organization for the Pikes Peak Region, PPACG maintains a regional travel model as a tool to forecast travel demand in the region. The 2045 fiscally-constrained model was used as the basis to develop traffic forecasts for the MTCP plan year 2045. The PPACG household and employment forecasts were adjusted in the 2045 travel demand model as appropriate for the unincorporated County based on the land use and socioeconomic forecasting described in Chapter 4. In addition to socioeconomic forecast changes, modifications were also made to better reflect existing access configurations.

Traffic Forecasts

The travel demand model process used a comparison of existing 2021 traffic counts, gathered through StreetLight Data, with the 2020 base year model volume to adjust the 2045 model forecasts according to procedures described in the National Cooperative Highway Research Program Report (NCHRP) 765. The methodology involves comparing the base year model traffic estimate with a traffic count at the same location. The delta and the ratio between the two are calculated, and both are applied to the 2045 traffic forecast at the same location. The average of the two (delta adjustment and ratio adjustment) is used as the final adjusted 2045 traffic forecast.

Future Levels of Congestion

The 2045 traffic forecasts were compared to planning level roadway capacity thresholds to predict levels of congestion and identify the potential need for additional capacity. Roadway

capacity is defined as the maximum traffic volume that a road can carry at a desired level of service. Roadway capacities vary by roadway functional classification and number of through lanes. Since higher classification roads (like Principal Arterials and Minor Arterials) are designed for higher speeds with fewer intersections, they can carry a higher number of vehicles compared to Local roads and Collectors. Consistent with the existing levels of congestion shown in Chapter 3, a color scale ranging from green to red is used to depict road segments that are uncongested, congesting, near congested, and congested.

Iterative Travel Demand Modeling Process

The PPACG model (with the refined land use forecasts for the MTCP) was applied iteratively to inform the development of the MTCP. An initial model run was completed using the 2045 fiscally-constrained network. The initial model results (2045 traffic forecasts and level of congestion analysis) were used to identify candidate improvement projects. A second model run was completed using all candidate improvement projects identified from the initial congestion analysis and through previous planning efforts. This model run also included new roadway connections that were identified previously (in development plans, corridor studies, or other County and regional planning efforts) or through the MTCP network evaluation. The model results from this second model run (2045 traffic forecasts and level of congestion analysis) were used to confirm the capacity needs by 2045. In some cases, the widening of existing roads, or construction of new four-lane roadway connections, were determined to not be needed by 2045. These

improvements were deferred to the 2065 plan, as described in Chapter 6.

Needs Assessment

Capacity Deficiencies

Major Capacity Needs

Using the travel demand model iterative process, as described above, roadway segments needing additional through lanes (major capacity) to handle the traffic forecasts associated with the 2045 land use growth were identified.

Minor Capacity Needs

Many of the County's roads are two-lane rural roads with minimal or no shoulders and no turn lanes at intersections. The extensive road inventory completed as part of the MTCP was combined with the travel demand model results to identify county roads in need of minor capacity improvements (shoulders, turn lanes, and other improvements) to accommodate the anticipated growth and associated traffic forecasts.

New Road Connections

New roadway connections will also serve to expand the overall capacity of the County's roadway network. The travel demand model helps to assess how much traffic these new roadway connections are likely to attract, and the degree to which they might relieve parallel routes.





Paving Needs

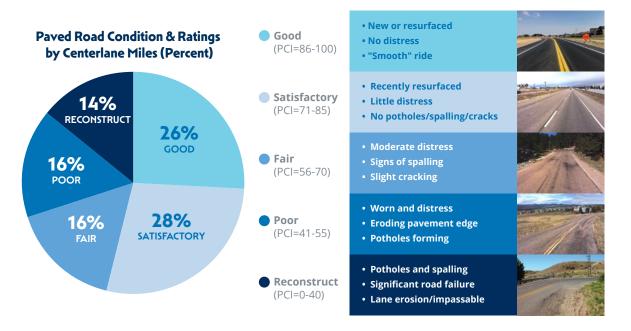
Paved Road Condition & Ratings

Since the previous MTCP was adopted in 2016, the County implemented a new pavement management system and has obtained newly surveyed roadway data. The data collection process assesses the condition of roadways and helps inform the prioritization of roadway maintenance and projects. Pavement Condition Index (PCI) is a numerical index between 0 and 100.

Pavement maintenance should occur generally every 7 to 10 years. This would be approximately 70 to 100 miles of paved road per year, or about 10 percent of paved roads per year. In the last ten years, we overlaid an average of 29 centerline miles or 2.5 percent of our paved roads per year. In 2022 and 2023, the Board of County Commissioners provided additional funding for road maintenance. In the last two years, 94 miles of road were treated with overlays costing \$53M. This extra funding allowed DPW to overlay 8 percent of our paved roads in two years, or an average of 47 miles of road or 4 percent of paved roads per year. The cost to overlay one mile of pavement in 2023 was about \$630,000.

Figure 20 shows the condition and ratings of paved roads by percentage of centerline miles. DPW works hard to keep the high-volume roads in good, satisfactory, and fair condition. Twenty-one percent are in poor condition, which may require maintenance to avoid further deterioration. Roads evaluated as reconstruct have deteriorated to the point where maintenance alone is not feasible to return the road to a good or satisfactory condition. These projects can be very expensive, often costing millions of dollars per mile to fix.

Figure 20. Paved Road Conditions & Ratings









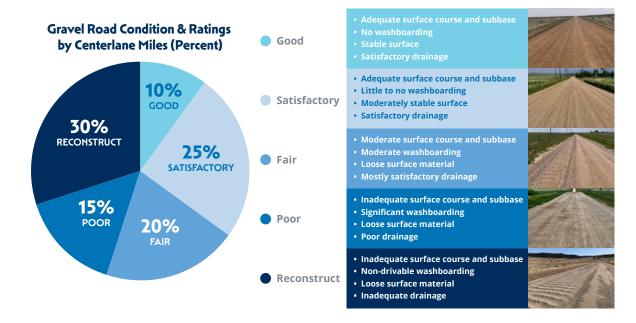
Gravel Road Condition & Ratings

Likewise, the County assesses the condition of gravel roads to maintain an accurate inventory and to plan and prioritize maintenance and paving projects.

Figure 21 shows the condition and ratings of gravel roads in the County, by centerline miles. At 35 percent, more than one-third of gravel roads are in good or satisfactory condition. Twenty percent are in fair condition, where moderate washboarding and loose surface material is present. Nearly half of all gravel roads, 45 percent, are rated poor or reconstruct, with loose surface material and significant or non-drivable washboarding.

Condition is one factor that could prompt a gravel road improvement project. Safety, drivability, lost surface, traffic volumes, and dust mitigation are other factors that influence the need for gravel road improvements along with available funding.

Figure 21. Gravel Road Conditions & Ratings











Roadway Plan

This section presents the 2045 roadway improvement plan that was developed to address the congestion and conditions identified in the needs assessment process. **Figure 22** presents the 2045 Roadway Functional Classifications, and **Figure 23** presents the 2045 Lane Requirements needed to meet the demands on the County roads anticipated in 2045.

The MTCP update process included an extensive evaluation of the County's Roadway Functional Classifications to verify the accuracy of the urban versus rural designation, and to identify roads that are either under-classified or over-classified based on connectivity, traffic volumes, and speeds. The MTCP utilized two sets of Roadway Functional Classifications: 2045 for improvements and 2065 for corridor preservation.

- O 2045 Functional Classification This system describes the roadway functional classifications needed to accommodate the growth, travel demands, and road infrastructure associated with the year 2045. The design for all road improvements, as well as the County's Road Impact Fee, shall be based on the standards associated with the 2045 Functional Classification.
- O 2065 Functional Classification This system identifies the functional classification needs to meet the growth and travel demand associated with the buildout of El Paso County. Right-ofway preservation along El Paso County roads shall be based on the 2065 Functional Classification (presented in Chapter 6).

Rural Functional Classification

- O Rural Expressway
- O Rural Principal Arterial
- O Rural Minor Arterial
- O Rural Major Collector
- O Rural Minor Collector
- O Rural Local

Urban Functional Classification

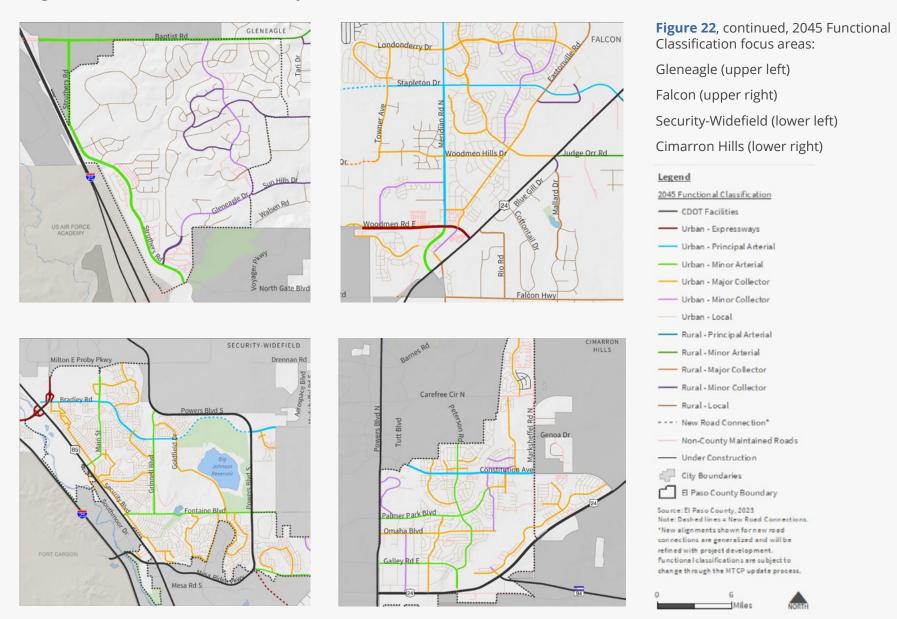
- O Urban Expressway
- O Urban Principal Arterial
- O Urban Minor Arterial
- O Urban Non-Residential Collector (Major Collector)
- O Urban Residential Major Collector
- O Urban Residential Minor Collector
- O Urban Local

Figure 22. 2045 Roadway Functional Classifications PALMER Ramah Rd W Walker Rd Simla Hwy Sweet Rd Murphy Rd PIKE NATIONAL Rd Rd **FOREST** USAIR TELLER FORCE Legend **ACADEMY** 2045 Functional Classification Corona Rd **CDOT** Facilities Falcon Hwy Urban - Expressways Sarrett Rd # Rd Jones Rd MANITOU Urban - Principal Arterial Big SPRINGS Rush Rd Urban - Minor Arterial COLORADO SPRINGS Urban - Major Collector LLICOTT Urban - Minor Collector Handle Rd Harding Rd ETERSON Urban - Local SCHRIEVER Sanborn Rd Rural - Principal Arterial Geick Rd Book Dr Rural - Minor Arterial Drennan Rd Rural - Major Collector Truckton Rd Bar 10 Rd Rural - Minor Collector PIKE Rural - Local NATIONAL Shear Rd Squirrel Creek Rd FOREST New Road Connection* Non-County Maintained Roads Milne Rd **Under Construction** City Boundaries FORT CARSON El Paso County Boundary Myers Rd Source: El Paso County, 2023 Hanover Rd Note: Dashed lines = New Road Connections. *New alignments shown for new road Rasner Rd connections are generalized and will be refined with project development. Functional classifications are subject to change through the MTCP update process. **PUEBLO** Miles NORTH





Figure 22. 2045 Roadway Functional Classifications (continued)



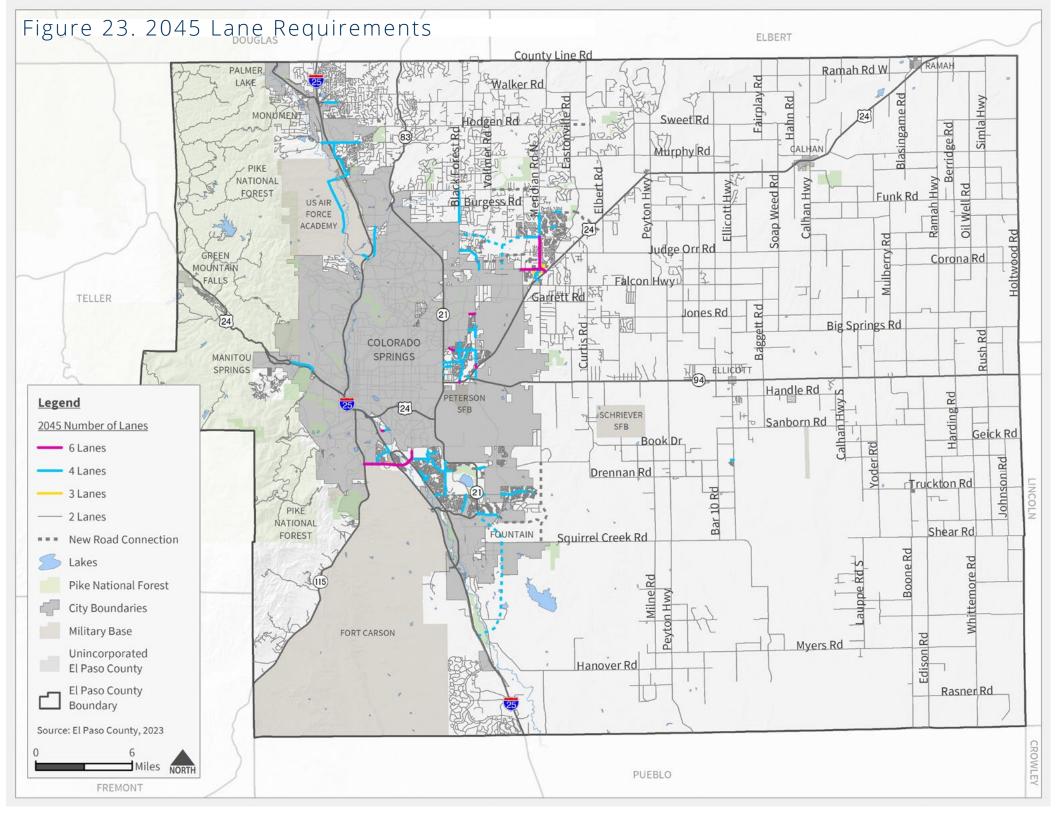
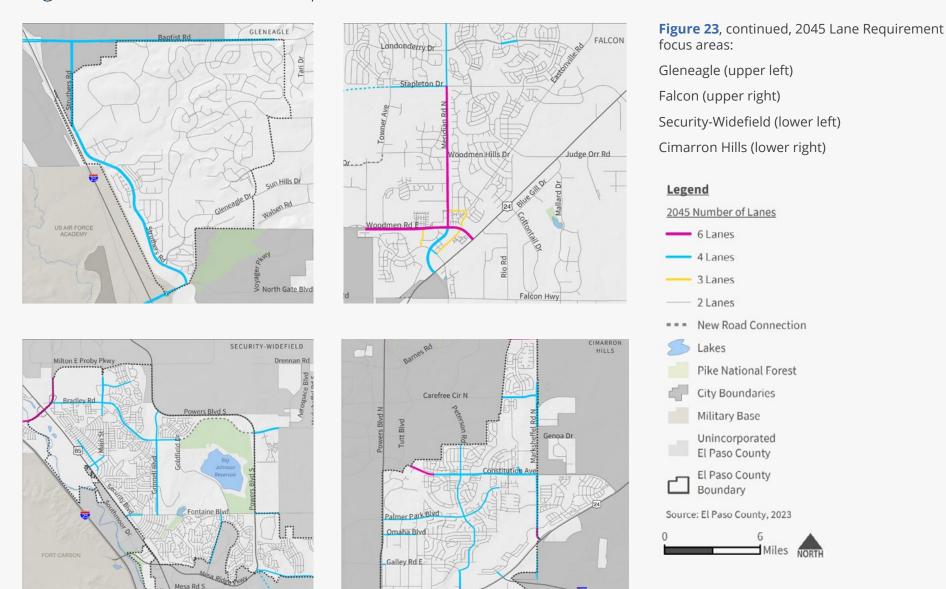






Figure 23. 2045 Lane Requirements (continued)



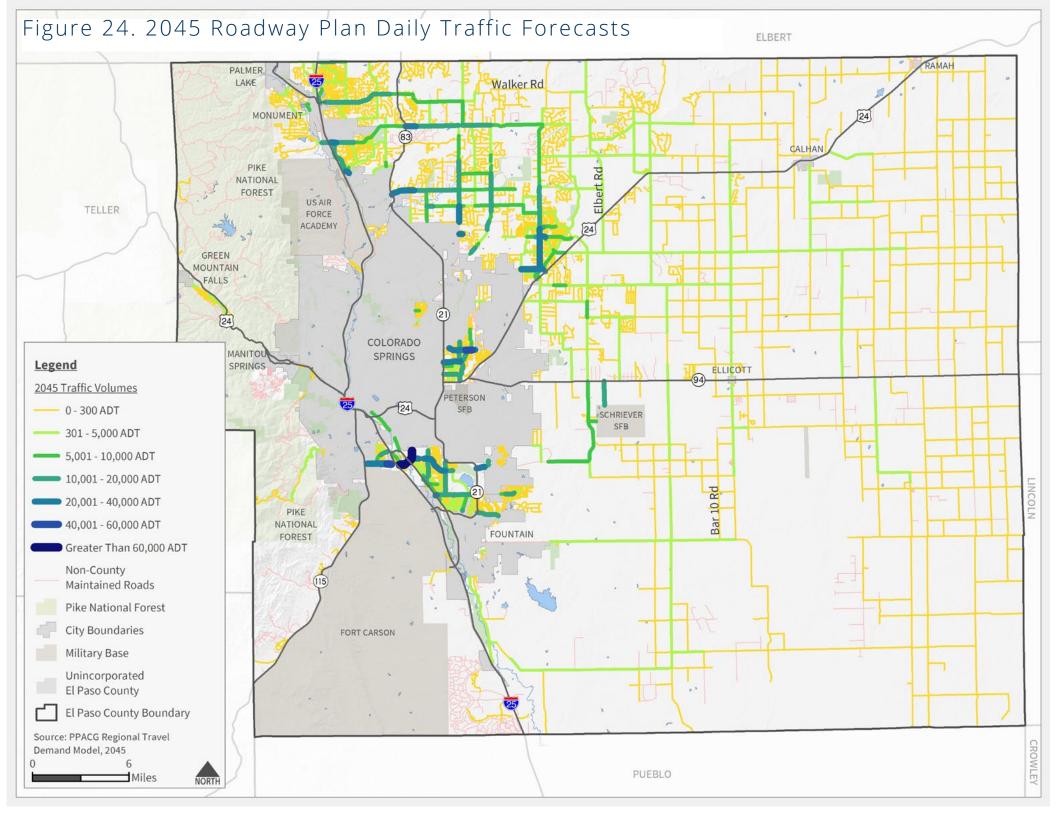




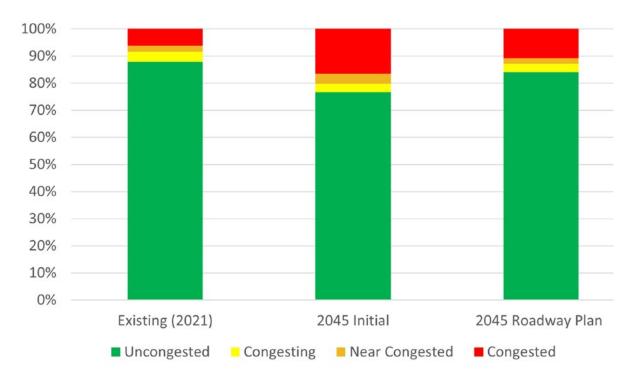


Figure 24 shows the 2045 daily traffic forecasts.

Figure 25 presents a comparison of the current and future (2045) levels of congestion. The 2045 levels of congestion are shown for the initial model run (PPACG fiscally constrained model with minimal improvements in the unincorporated County) and with the improvements associated with the MTCP 2045 Roadway Plan. The Roadway Plan improvements are expected to reduce the miles of congested roads from 16 percent down to 11 percent.

Figure 26 shows the resulting forecast levels of congestion.

Figure 25. Level of Congestion Comparison



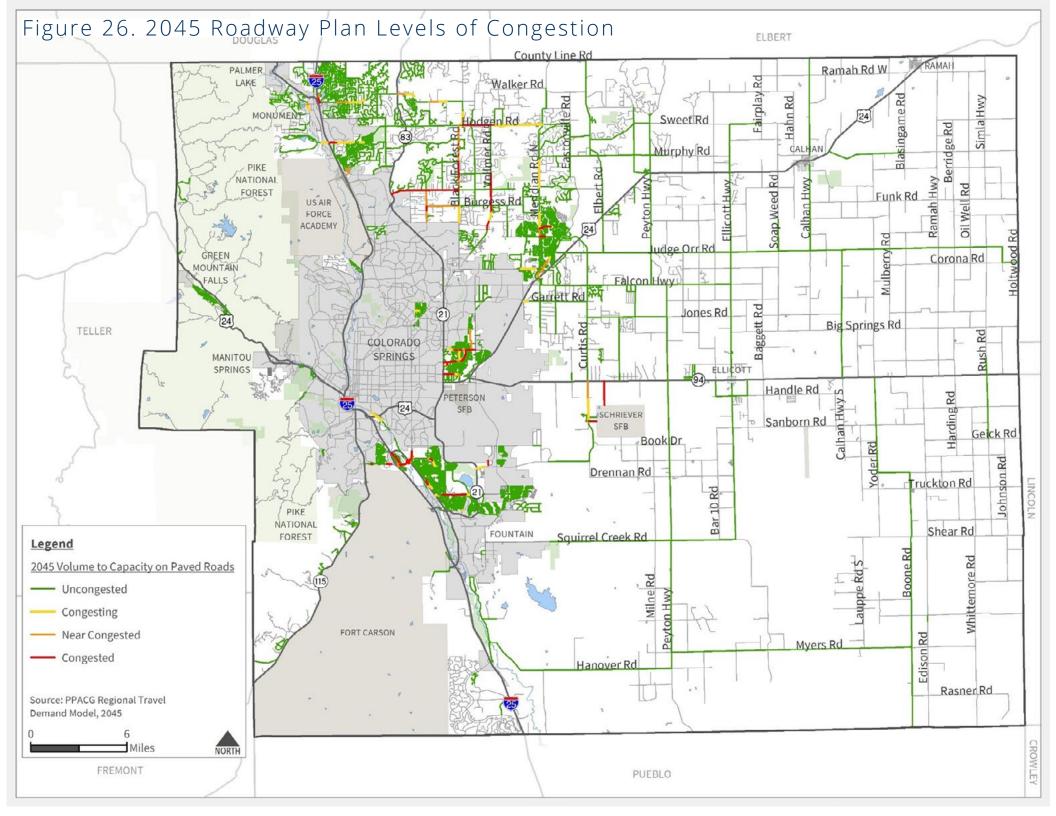






Figure 26. 2045 Roadway Plan Levels of Congestion (continued)









Figure 26, continued, 2045 Roadway Plan Levels of Congestion focus areas:

Gleneagle (upper left)

Falcon (upper right)

Security-Widefield (lower left)

Cimarron Hills (lower right)







Improvement Categories

Nine categories of roadway improvements are shown in **Figure 27**, including bridge, interchange, and re-gravel projects and intersection improvements.

The following pages provide maps and describe in more detail the following project types:

- Rural County Road Upgrades
- Urban County Road Upgrades
- Gravel Road Upgrades (and Re-Gravel)
- County Road Capacity
- New Road Connections



Project Cost Estimates and Assumptions

- Each project type assumed a 40 percent contingency
- All projects assumed typical roadway improvement cost components on a percentage basis, including:
 - o Mobilization and Traffic Control
 - o Utilities
 - o Construction Surveying
 - o Right-of-Way
 - o Water Quality
 - o Temporary Stormwater Best Management Practices
 - o Permanent Stormwater Stabilization
 - o Clearing and Grubbing
 - o Removals and Resets
 - o Erosion Control
 - o Contract Revisions
 - o Design Fee
 - o Environmental Clearance
 - o Construction Engineering
- Projects on undisturbed land were assumed to have greater earthwork quantities (embankment material), roughly three times the amount, compared to projects on already established roads.
- Rural projects were assumed to have 25 percent of project length protected by type 3

guardrail

- Projects where a road is already established assumed a full removal of existing pavement
- Urban projects with curb and gutter assumed inlets on both sides of the street spaced at 300' intervals
 - o Stormwater pipe size was assumed to average 30" throughout the corridor
- O Intersection improvements (such as traffic signals or roundabouts) are not included in the cost estimates because the County's Road Impact Fee includes a separate pool for signalization and roundabouts.

Rural County Road Upgrades

These are projects to improve two-lane paved rural county roads by adding needed turn lanes and shoulders and improving alignments and drainage to bring them up to the county road standards. The per-mile cost estimates used for the non-Pikes Peak Rural Transportation Authority (PPRTA) 3 projects assume full removal of existing pavement and full reconstruction of the road. County Road Upgrades were evaluated for roads with functional classification of Major Collector; however, two upgrades of Rural Minor Collectors are listed and mapped because they are included in PPRTA 3. The two Rural Principal Arterial projects (both on Highway 105) include the initial two lanes of the ultimate 2-lane crosssection required for a Rural Principal Arterial (per the El Paso County ECM). The list of rural county road upgrade projects is shown in **Table 6** and on Figure 28.

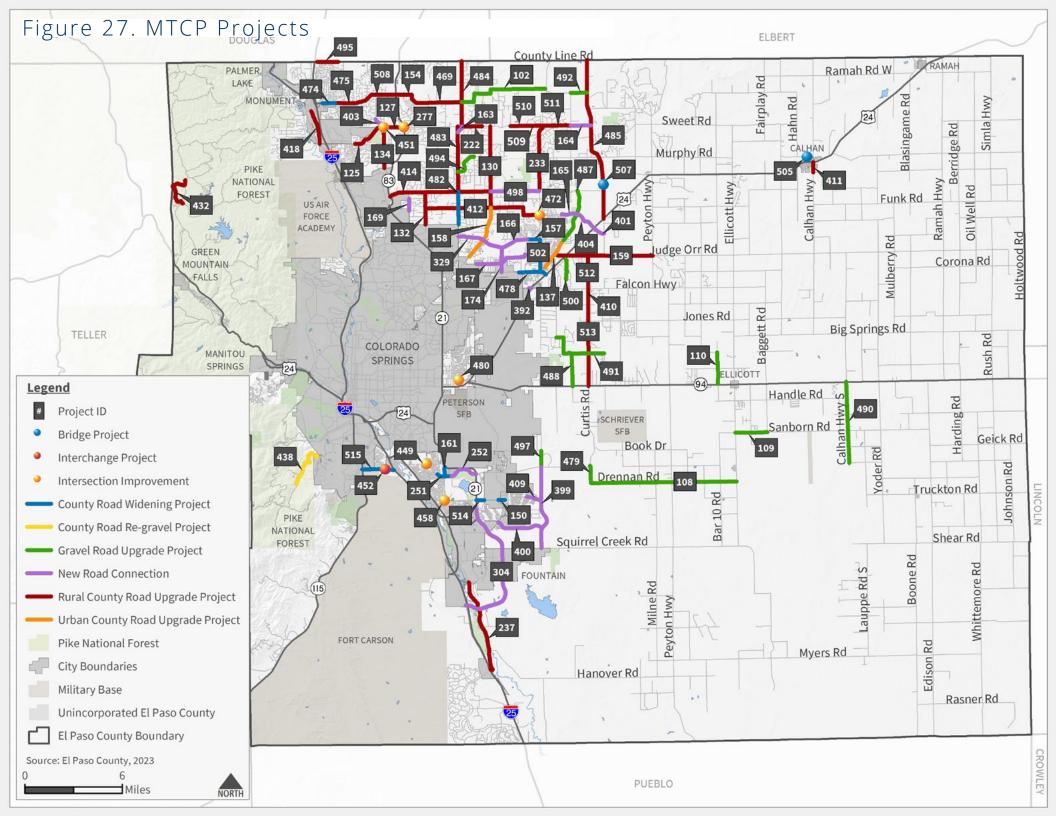


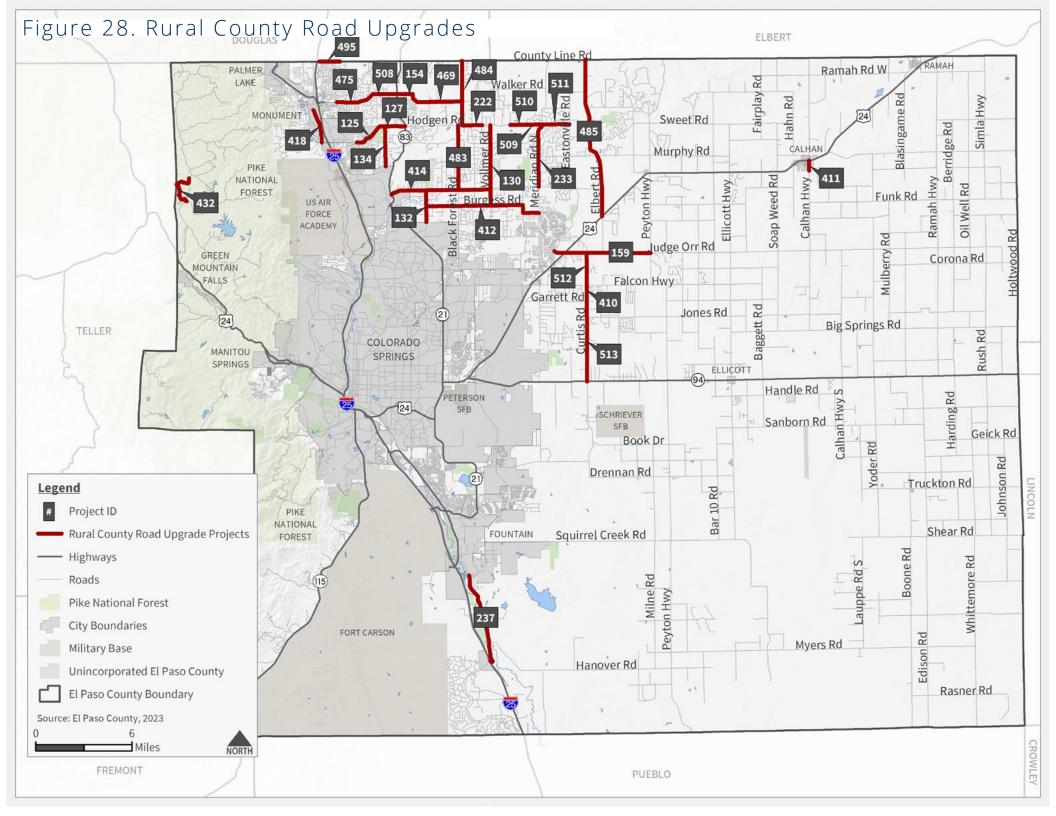




Table 6. Rural County Road Upgrades

ID	Name	From	То	Length (miles)	Existing Lanes	2045 FC	2045 Lanes	Cost
125	Baptist Rd	Desiree Dr	Roller Coaster Rd	2.2	2/4	Rural Minor Arterial/ Urban Minor Arterial	2/4	\$28,500,000
483	Black Forest Rd	Shoup Rd	Hodgen Rd	4.0	2	Rural Minor Arterial	2	\$28,600,000
484	Black Forest Rd	Hodgen Rd	County Line Rd	4.0	2	Rural Minor Arterial	2	\$28,600,000
412	Burgess Rd	Milam Rd	Meridian Rd (via Goodson/Rex)	7.5	2	Rural Minor Arterial	2	\$71,000,000
495	County Line Road	Monument Hill Rd	Vista Clara Ln	1.3	2	Rural Minor Arterial	2	\$9,200,000
410	Curtis Rd	Garrett Rd	Falcon Hwy	1.0	2	Rural Minor Arterial	2	\$10,000,000
512	Curtis Rd	Falcon Hwy	Judge Orr Rd	2.0	2	Rural Minor Arterial	2	\$10,900,000
513	Curtis Rd	SH 94	Garrett Rd	5.0	2	Rural Minor Arterial	2	\$27,100,000
485	Elbert Rd	US 24	County Line Rd	10.1	2	Rural Minor Arterial	2	\$71,500,000
475	Highway 105	Lake Woodmore Dr	Martingale Rd	0.9	2	Rural Principal Arterial	2	\$35,000,000
508	Highway 105	Martingale Rd	CO 83	3.0	2	Rural Principal Arterial	2	\$65,000,000
127	Hodgen Rd	Roller Coaster Rd	SH 83	1.3	2	Rural Minor Arterial	2	\$8,900,000
222	Hodgen Rd	Black Forest Rd	Bar X	1.3	2	Rural Minor Arterial	2	\$21,000,000
509	Hodgen Rd	Winsome Wy	Meridian Rd	1.0	2	Rural Minor Arterial	2	\$10,600,000
510	Hodgen Rd	Goshawk	Winsome Wy	1.0	2	Rural Minor Arterial	2	\$5,600,000
511	Hodgen Rd	Meridian Rd	Eastonville Rd	1.7	2	Rural Minor Arterial	2	\$12,300,000
159	Judge Orr Rd	Eastonville Rd	Peyton Highway	6.1	2	Rural Minor Arterial/ Urban Major Collector	2	\$43,000,000
233	Meridian Rd	Latigo Blvd	Hodgen Rd	4.0	2	Rural Minor Arterial	2	\$28,200,000
132	Milam Rd	Old Ranch Rd	Shoup Rd	2.0	2	Rural Major Collector	2	\$22,700,000
411	N Calhan Hwy	US 24	Paint Mine Rd	0.6	2	Rural Minor Collector	2	\$7,100,000
418	Old Denver Rd	Sante Fe Ave	W Baptist Rd	2.1	2	Rural Major Collector	2	\$12,200,000
237	Old Pueblo Rd	Link Rd	I-25	6.0	2	Rural Minor Collector	2	\$57,000,000
432	Rampart Range Rd	FS 393	Loy Creek Rd	2.6	2	Rural Major Collector	2	\$4,700,000
134	Roller Coaster Rd	Old Northgate Rd	Hodgen Rd	2.5	2	Rural Minor Arterial	2	\$17,700,000
414	Shoup Rd	SH 83	Vollmer Rd	6.3	2	Rural Minor Arterial	2	\$72,000,000
130	Vollmer Rd	Burgess Rd	Hodgen Rd	5.0	2	Rural Major Collector	2	\$29,100,000
154	Walker Rd	SH 83	Steppler Rd	2.3	2	Rural Major Collector	2	\$13,500,000
469	Walker Rd	Steppler Rd	Black Forest Rd	2.1	2	Rural Major Collector	2	\$25,000,000

Rural County Upgrade Projects Total Cost: \$846,400,000





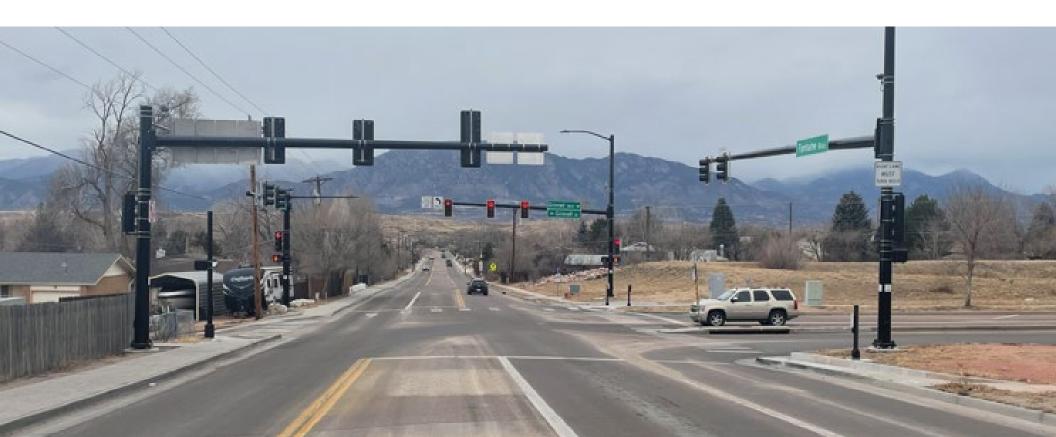


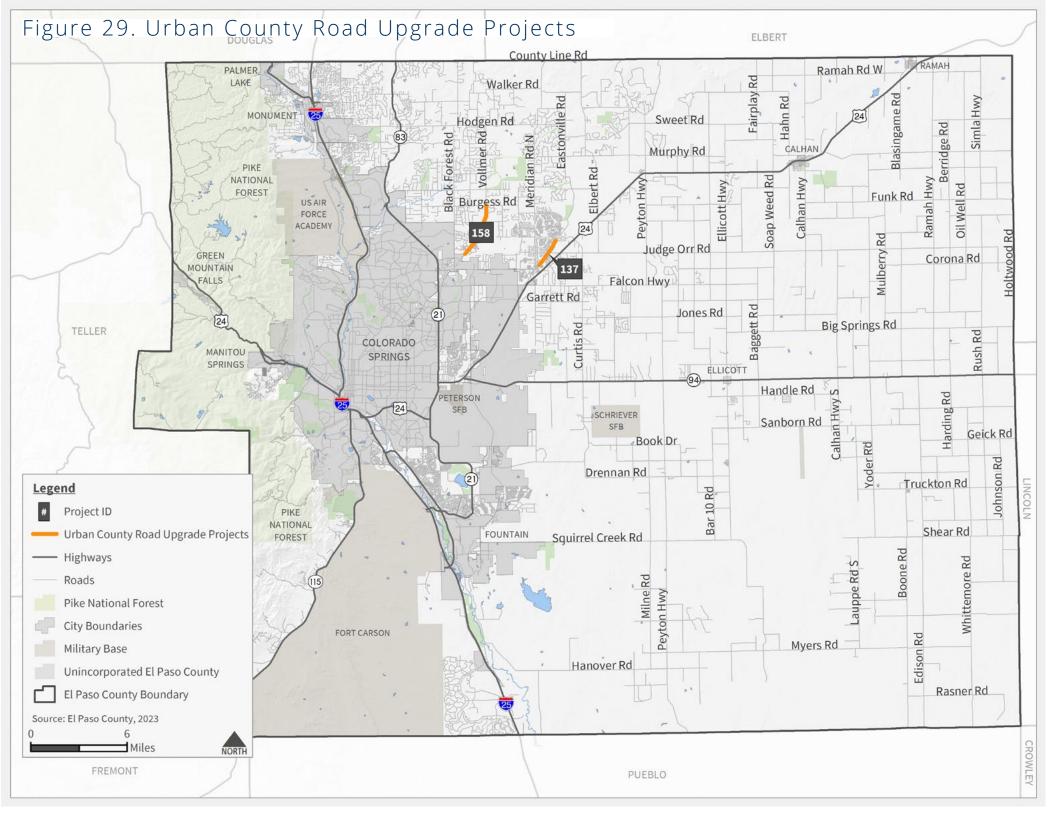
Urban County Road Upgrades

These are projects to improve county roads in the urban context by adding turn lanes, sidewalks, curb and gutter, and improving alignments and intersections to bring them up to the county road standards. The per-mile cost estimates used for the non-PPRTA 3 projects assume full removal of existing pavement and full reconstruction of the road. County Road Upgrades were evaluated for roads with functional classification of Major Collector and higher. The list of urban county road upgrade projects is shown in **Table 7** and on **Figure 29**.

Table 7. Urban County Road Upgrades

ID	Name	From	То	Length (miles)	Existing Lanes	2045 FC	2045 Lanes	Cost
137	Eastonville Rd	McLaughlin Rd	Bandanero Rd	1.9	2	Urban Major Collector	2	\$15,000,000
158	Vollmer Rd	Marksheffel Rd	Burgess Rd	3.4	2	Urban Major Collector	2	\$48,000,000
						Rural County Upgrade Pr	ojects T	otal Cost: \$63,000,000







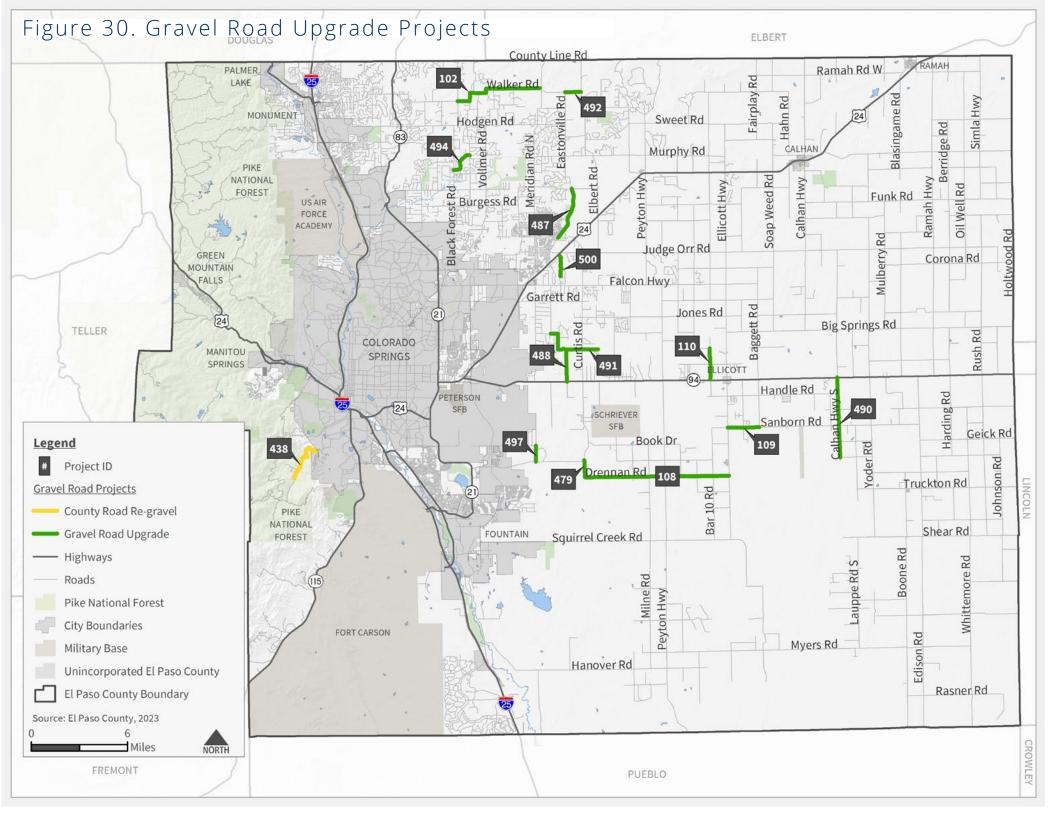


Gravel Road Upgrades

These are projects to upgrade gravel county roads to meet the county road standard for Rural Major Collectors. An evaluation was conducted for all gravel roads classified as Major Collector and higher to determine which roads should be paved by 2045. Those road segments that currently carry more than 300 ADT (and/or more than 500 ADT in 2045) were flagged for gravel road upgrades. The resulting list of gravel road upgrade projects is shown in **Table 8** and on **Figure 30**. El Paso County uses an asset management process separate from the MTCP to determine when Local and Minor Collector gravel roads should be paved and when gravel road maintenance is needed. One Local County Road Re-Gravel project is listed because it is included in PPRTA 3.

Table 8. Gravel Road Upgrades

ID	Name	From	То	Length (miles)	Existing Lanes	2045 FC	2045 Lanes	Cost
			Gravel Ro	oad Upgra	ades			
488	Blaney/Davis/ Hoofbeat	Hwy 94	Curtis Rd/Blaney Rd E	4.9	2	Rural Major Collector	2	\$23,700,000
490	Calhan Hwy	Hwy 94	Torrence Rd	5.0	2	Rural Major Collector	2	\$24,000,000
479	Curtis Rd	Drennan Rd	Bradley Rd	1.1	2	Rural Major Collector	2	\$5,300,000
491	Davis Rd	Curtis Rd	Kennedy Rd	1.0	2	Rural Major Collector	2	\$4,800,000
108	Drennan Rd	Curtis Rd	Ellicott Hwy	8.9	2	Rural Major Collector	2	\$42,900,000
487	Eastonville Rd	Stapleton Dr	Latigo Blvd	3.4	2	Rural Major Collector	2	\$16,200,000
492	Evans Rd	Eastonville Rd	Elbert Rd	1.0	2	Rural Major Collector	2	\$4,800,000
110	Log Rd	SH 94	90-Degree Bend	1.9	2	Rural Major Collector	2	\$9,300,000
500	Mallard Dr	Buckboard Dr	Blue Gill Dr	1.3	2	Rural Major Collector	2	\$6,200,000
497	Meridian Rd	Bradley Rd	Drennan Rd	1.0	2	Rural Major Collector	2	\$4,900,000
109	Sanborn Rd	Ellicott Highway	Baggett Rd	2.0	2	Rural Major Collector	2	\$9,400,000
102	Walker Rd	Black Forest Rd	Meridian Rd	5.9	2	Rural Major Collector	2	\$28,400,000
494	Wildridge Rd	Black Forest Rd	Hering Rd	1.6	2	Rural Major Collector	2	\$7,900,000
	County Road Re-Gravel							
438	Old Stage Rd	Mile Post 4.157	Mile Post 0.75	3.4	2	Rural Local	2	\$7,300,000
	Gravel Road Upgrade Projects Total Cost: \$195,100,000							







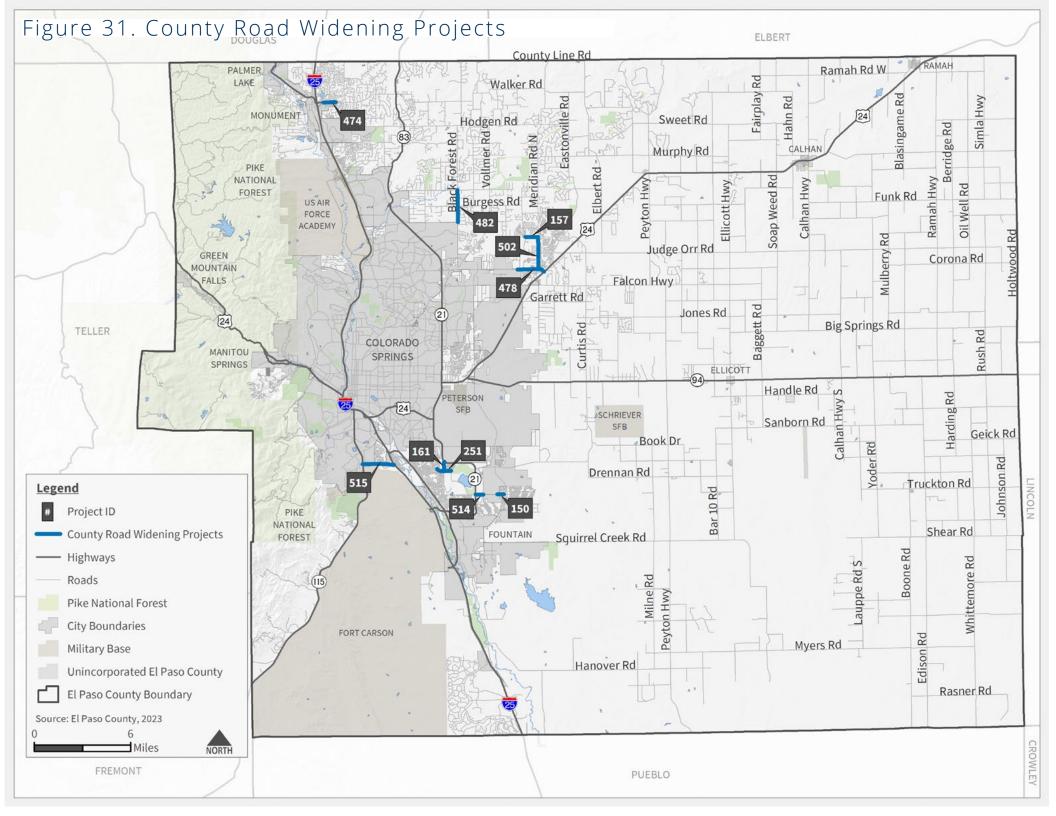
County Road Widening

Approximately 12 miles of County Roads are expected to require widening by 2045 to accommodate the future traffic forecasts. County Road Widening projects involve widening a 2-lane road to a 4-lane road, or in the case of Meridian Rd, Woodmen Rd, and Academy Blvd, widening a 4-lane road to a 6-lane road, and upgrades to meet the standards for the applicable functional classification. The county road widening projects are shown in **Table 9** and on **Figure 31**.

Table 9. County Road Widening Projects

ID	Name	From	То	Length (miles)	Existing Lanes	2045 FC	2045 Lanes	Cost
515	Academy Blvd	CO 115	I-25	2.0	4	Urban Expressway	6	\$62,500,000
482	Black Forest Rd	Old Ranch Rd	Shoup Rd	2.0	2	Rural Principal Arterial	4	\$14,300,000
251	Bradley Rd	Wageman Dr	Goldfield Dr	0.9	4/2	Urban Principal Arterial	4	\$22,400,000
150	Fontaine Blvd	Sleepy Meadow Dr (west of)	Marksheffel Rd	0.4	2	Urban Minor Arterial	4	\$7,700,000
514	Fontaine Blvd	Powers Blvd	Rolling View Dr (east of)	0.5	2	Urban Minor Arterial	4	\$9,000,000
161	Grinnell Blvd	Bradley Rd	Powers Blvd	0.6	2	Urban Minor Arterial	4	\$10,700,000
474	Highway 105	Jackson Creek Pkwy	Lake Woodmore Dr	0.8	2	Urban Principal Arterial	4	\$23,000,000
502	Meridian Rd	Woodmen Rd	Stapleton Dr	2.0	4	Urban Principal Arterial	6	\$38,000,000
157	Stapleton Dr	Towner Ave	Meridian Rd	0.8	2	Urban Principal Arterial	4	\$18,200,000
478	Woodmen Rd	Golden Sage	US 24	1.7	4	Urban Expressway	6	\$4,500,000

County Road Widening Projects Total Cost: \$210,300,000







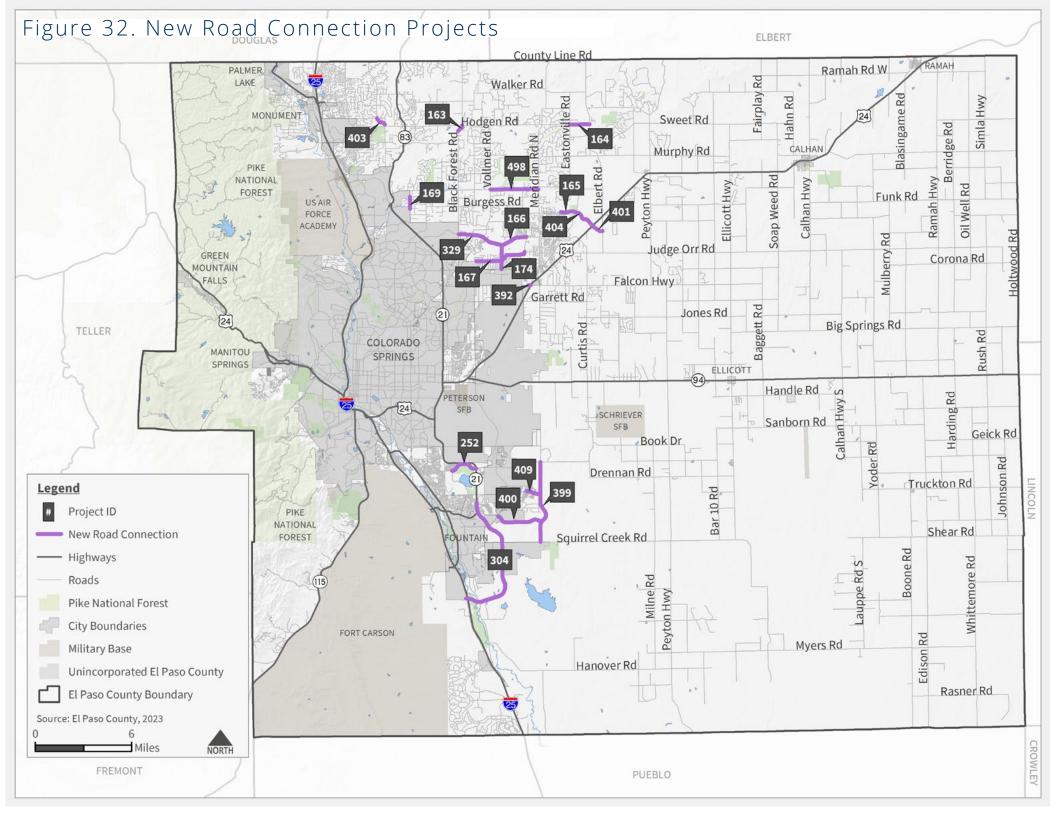
New Road Connections

Nearly 30 miles of new County Roads (classified as Major Collector and higher) are anticipated by 2045. Many of these projects are needed to support new development in the County. Two projects (163 – Black Forest Rd and 403 – Roller Coaster Rd) involve roadway realignments to eliminate offset intersections. New Road Connection projects involve construction of new roads on undisturbed land to meet the standards for the applicable functional classification. In several cases, as noted with an asterisk in Table 7, the new road connection is anticipated to be built as half of the ultimate cross section. For example, Project 252 will include building the first two lanes of Bradley Road's ultimate 4-lane Urban Principal Arterial cross-section. The iterative travel demand modeling process indicated that these roads will not need their full capacity until sometime after 2045. The list of new road connections are shown in **Table 10** and on **Figure 32**.

Table 10. New Road Connections

ID	Name	From	То	Length (miles)	Existing Lanes	2045 FC	2045 Lanes	Cost
174	Banning Lewis Pkwy	Woodmen Rd	Stapleton Dr	1.5	N/A	Urban Principal Arterial	4	\$36,700,000
163	Black Forest Rd	Hodgen Rd	Black Forest Dr	0.5	N/A	Rural Minor Arterial	2	\$3,700,000
252	Bradley Rd	Goldfield Dr	Powers Blvd	1.8	N/A	Urban Principal Arterial	2	\$23,000,000
392	Dublin-Falcon- HWY-4	Falcon Highway	Tamlin Rd	0.2	N/A	Rural Major Collector	2	\$1,200,000
409	Fontaine Blvd Extension	Mumford Dr	Meridian Rd Extension	0.9	N/A	Urban Minor Arterial	2	\$18,200,000
164	Hodgen Rd	Eastonville Rd	Elbert Rd	1.2	N/A	Rural Minor Arterial	2	\$9,900,000
169	Howells Rd	Mountain View Dr	Crosslen Ln	0.8	N/A	Urban Major Collector	2	\$11,200,000
399	Meridian Rd	Squirrel Creek Rd	Bradley Rd	5.2	N/A	Rural Minor Arterial	2	\$41,500,000
400	Mesa Ridge Pkwy	West of Williams Creek	Marksheffel Rd	2.9	N/A	Urban Minor Arterial	2	\$58,900,000
165	Rex Rd	Rainbow Bridge Dr	Eastonville Rd	0.9	N/A	Urban Minor Arterial	2	\$19,000,000
401	Rex Rd	US 24	Elbert Rd	0.7	N/A	Rural Minor Arterial	2	\$5,900,000
404	Rex Rd	Eastonville Rd	US 24	1.5	N/A	Urban Minor Arterial	2	\$29,100,000
403	Roller Coaster Rd	Hodgen Rd	Higby Rd	0.7	N/A	Rural Major Collector	2	\$4,100,000
498	Shoup Rd	Vollmer Rd	Meridian Rd	3.0	N/A	Rural Minor Arterial	2	\$18,600,000
166	Stapleton Dr	west of Vollmer Rd	Towner Ave	3.2	N/A	Urban Principal Arterial	4	\$77,500,000
329	Stapleton Dr/ Briargate Pkwy	Black Forest Rd	west of Vollmer Rd	1.3	N/A	Urban Principal Arterial	4	\$38,000,000
167	Woodmen Hills Dr	Marksheffel Rd	Towner Ave	3.2	N/A	Urban Major Collector	2	\$48,300,000
304	South Powers Ext	Mesa Ridge Pkwy	I-25	9.0	N/A	Expressway	4	\$772,000,000

New Road Connection Projects Total Cost: \$1,216,800,000







Coordination with Other Jurisdictions

In a county as large as El Paso County, the transportation network includes roadways and related facilities owned, operated, and maintained by multiple jurisdictions. Unseen to the typical traveler, however, is that jurisdictions are working together to improve safety, maintain existing facilities, and enhance the overall transportation network with future projects. Partnerships, collaboration, and coordination are essential. On a regular basis, El Paso County staff coordinate with the following agencies and municipalities to ensure transportation plans and projects meet the County's needs.

Colorado Department of Transportation

The regional transportation network includes state highways that are under CDOT jurisdiction, including the following:

- O I-25
- O US 24
- O CO 16, 21, 83, 85/87, 94, and 115

In transportation, El Paso County and CDOT coordinate on funding, timeline, design standards, access permits, and regional priorities. A current example is the South Powers Extension project, an ongoing collaborative study between the County, CDOT, the cities of Colorado Springs and Fountain, and stakeholders to recommend an alignment to extend S. Powers Blvd (CO 21) from Mesa Ridge Pkwy to I-25.

Current CDOT emphasis is on projects that reduce GHG emissions, such as more multimodal and active transportation projects and fewer roadway capacity projects. CDOT has also modified their project planning approach and now uses a shorter timeframe, a 10-year plan, to prioritize transportation projects. When projects cross jurisdictional boundaries, partnering entities collaborate to plan and complete projects. CDOT's Updated 10-Year Plan for the PPACG metropolitan planning organization (MPO) Area for fiscal years 2023-2032 includes roadway and transit projects.

Larger Municipalities: Colorado Springs and Fountain

When adjacent municipalities update their transportation planning documents, El Paso County is a stakeholder and provides input, as evidenced by participation in the recent development of both city's plans: ConnectCOS and the Fountain Transportation Master Plan (TMP). Partnerships are effective in providing a robust transportation network in the region that, for example, provide consistency in roadway functional classification, connected trails, or access to public transportation. A map showing the ConnectCOS Major Thoroughfares Plan is available via this link. The City of Fountain's Overall Network/ Functional Classification Map is provided on Figure 6.4 in the TMP, available via this link.







Multimodal Plan

A balanced transportation system that provides a safe and convenient environment for all travel modes is an important element in the quality of life that makes El Paso County attractive to current residents, tourism, employers, and people considering relocating to the area. The development patterns in El Paso County 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, for various reasons, people are increasingly seeking more travel options to fulfill their individual mobility or recreational needs and desires.

Convenient and safe bicycle and pedestrian facilities provide opportunities for nonmotorized transportation and recreation-oriented use of the transportation system. Transit services also provide mobility options to those who may not have availability of, or access to, private vehicles. This section presents how the MTCP plans for bicycle/pedestrian and transit modes of travel will combine with the roadway network to enhance transportation facilities, services, and connections in El Paso County.

Pedestrian, Trails, and Bicycle Facilities

Active transportation includes modes of travel such as pedestrians walking, bicycles and e-bikes, scooters, motorized wheel chairs, and horses. The active transportation network

in unincorporated El Paso County includes sidewalks, trails, and multi-use shoulders.

In activity centers such as unincorporated communities, employment centers, and school or medical campuses, sidewalks are important where more pedestrians are likely and separation from vehicle traffic is needed. Sidewalk and trail projects improve safety for foot and non-motorized modes of travel and for people with disabilities by closing gaps, adding crossings, and connecting to the larger network. In addition to serving safety and emergency functions, wide multiuse shoulders provide a space for bicyclists separate from the vehicle travel lane.

Well in advance of a road or bridge design and construction, recommendations from the MTCP address and prioritize community needs such as road improvements to accommodate new development, connections between rural and urban areas, right-of-way preservation to accommodate long-range needs, and options to serve other means of travel such as walking and biking. Multimodal projects may include the following:

- Construction of new sidewalks, multi-use paths, accessibility projects for people with disabilities, or trails
- Improvements to existing trails
- Grade separations to provide safer crossings
- Addition of multi-use shoulders

The El Paso County Parks Master Plan (Parks Master Plan) is a guiding document that works with other County plans to strategize and provide outdoor recreation opportunities such as parks and trails in addition to the long term protection of open space. Like the MTCP process but focused on parks and trails, the Parks Master Plan is updated regularly to comprehensively address the needs of parks, trails, and open space throughout El Paso County. As the guiding document to allocate resources and identify trail projects for the next five to ten years, the Trails Master Plan should be consulted.

Multimodal Elements of Roadway Projects

The inclusion of multimodal elements depends on the roadway's functional classification. Table 2 and Table 3 show the shoulder and sidewalk widths for each functional classification in the rural and urban context. Section 2.2.4 of the County's ECM provides cross-section diagram of roadways and show the placement of sidewalks and shoulders where appropriate. MTCP project types will also improve the active transportation network, as indicated by the following examples:

 A County Road Upgrade project may add paved multi-use shoulders, improve intersections, add





multimodal features such as sidewalks, and upgrade to current ADA standards.

- O Intersection Improvement projects address safety for multimodal travel and people with disabilities with improvements such as crosswalks, curb ramps, and pedestrian signals that are also audible.
- O A Paving/Repaving project will provide a faster, smoother ride for bicyclists, easier travel for people with disabilities, and eliminate dust that would be present on a gravel road.
- O A New Road Connection project might include multi-use shoulders or trails for bicyclists and sidewalks for pedestrians and people with disabilities.

American with Disabilities Act

In 2019, El Paso County adopted an Americans with Disabilities (ADA) Transition Plan to identify physical obstacles in the public realm that could impede persons with disabilities and to begin planning needed steps and a timeline to address such obstacles. Physical obstacles such as gaps in sidewalks, curbs without ramps, and street crossings without visual or audible aids could affect a person's ability or level of comfort in travel, thus becoming a barrier to their mobility. The ADA Transition Plan also addresses the County's plan to include ADA compliance in a variety of DPW project types – capital projects, pavement management, and developments - as well as responding to citizen requests. An additional strategy is the pursuit of external grant monies to fund additional accessibility projects. In recent years, the Federal government has increased its emphasis on non-motorized projects and has supported that focus with additional funds made available for grants.

In 2020, El Paso County received two grants for almost \$4.675 M to assess ADA infrastructure and compliance and to design and construct ADA improvements. ADA infrastructure includes curb ramps, sidewalks, crossings, striping, signals and adequate ROW, etc. Each of these components is made up of attributes, such as slope, width, height, type of material, signal crossing, and state of repair. The ADA projects resulted in an inventory of the important attributes of ADA infrastructure and facilitated a determination of compliance with the updated engineering standards. The inventory, completed in Spring 2023, measured attributes for more than 6400 curb ramps, 525 miles of sidewalks, curbs and gutters, and more than 525 intersections and crosswalks. DPW is now in the process of implementing improvements. The County invested \$23.34M to upgrade 24 pedestrian crossings with Manual of Uniform Traffic Control Devices (MUTCD) compliant signals and audible countdown pedestrian signals, ADA improvements, and other safety features at high priority pedestrian crossing locations.

The County will continue working on a variety of projects in the unincorporated area within the MPO boundary (per the grant requirements) to carry out the ADA Compliance Program. In addition to sidewalk and curb improvements, ADA elements of

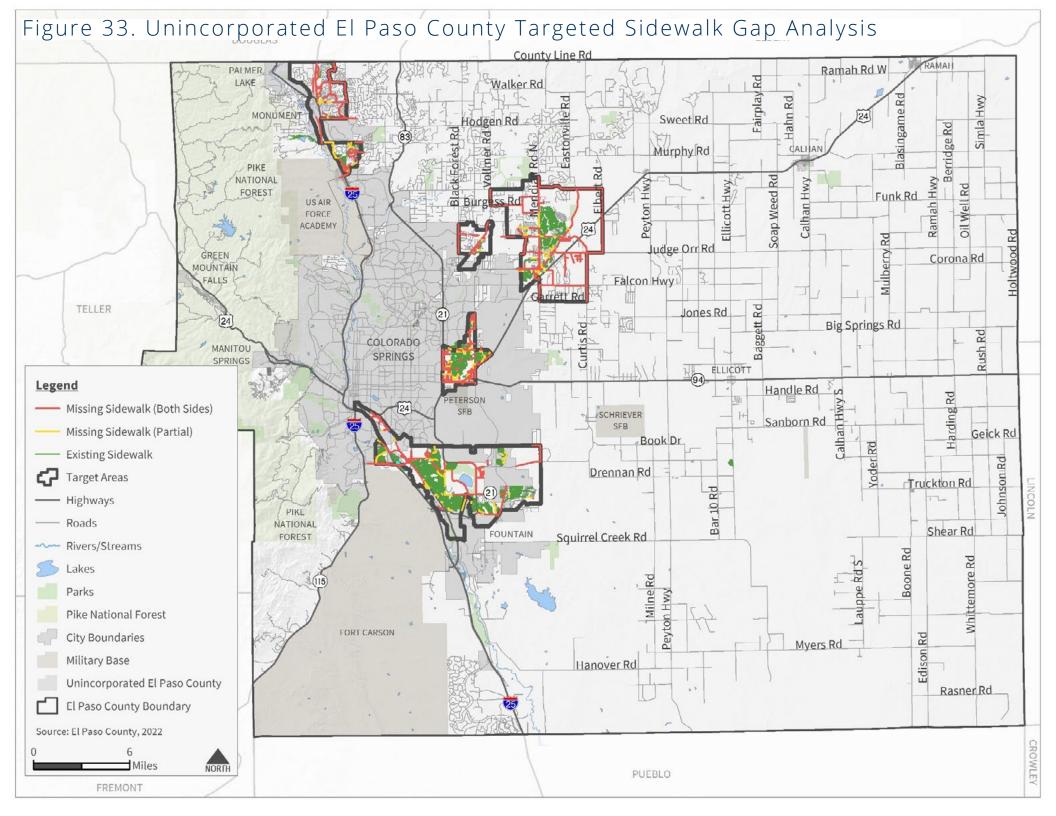
roadway projects may include pedestrian crossings, signals, and removal of other barriers to travel.

Figure 33 shows a sidewalk gap analysis of targeted populated centers within the unincorporated portion of the County. This map, along with the zoomed-in maps provided on the following pages, further informs the County's multimodal network planning.

Within the areas shown, there are 565 miles of sidewalk. Of the 206 miles of missing sidewalk, 31 miles represent the need is on one side of the roadway. Constructing or repairing sidewalks to close these gaps will improve the travel experience for pedestrians and those who travel by means such as wheelchair and other mobility aids.

Targeted Sidewalk Gap





El Paso County Major Transportation Corridors Plan



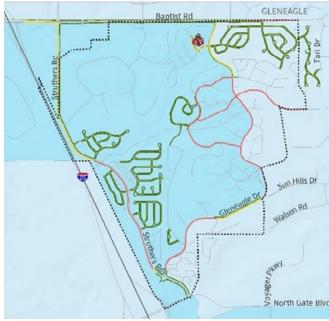


The following four subareas were selected for sidewalk analysis. The fifth map shows the Woodmoor area, a CDP north of Monument. The analysis evaluated roadways with a functional classification of Urban Collectors and higher, as well as local roads near schools.

Green lines indicate sidewalks are present on both sides of the road, while red lines indicate sidewalks are missing on both sides. A yellow line represents sidewalk gaps on one side or the other. Projects that close sidewalk gaps in these areas are good candidates for future grant funding as they improve safety for those using the active transportation network.

Blue shading represents the Legend presence of a vulnerable population group, such as youth, older adults. people with disabilities. minorities. low-income. or zerovehicles households. Darker blue shading represents two or more groups.





Gleneagle

Gleneagle is a CDP in unincorporated El Paso County. Primarily residential land use, Gleneagle is also home to schools, businesses, and retail. The 2020 US Census population was approximately 6,600.

The origin/destination (O/D) analysis showed that nearly 200 of 6,500 vehicle trips were less than 1 mile in length, and about 1,700 trips were 1 to 3 miles in length. These short distances represent vehicle trips that could potentially be converted into bike or pedestrian trips if travelers perceive the active transportation network to be "comfortable" for their needs. Among the roadways that significantly serve the area but lack sidewalks on both sides are parts of Gleneagle Dr, Struthers Rd, and Rangely Dr.



Falcon

Falcon is an unincorporated community that has experienced significant growth in the past two decades. Though primarily residential, the community offers significant commercial and retail services in proximity of Woodmen Rd and US 24. The O/D analysis showed that the majority of the 38,500 vehicle trips that originate daily in Falcon end in these commercial areas. Approximately 1,200 trips are less than 1 mile in length and more than 7,300 trips are 1 to 3 miles in length.







Cimarron Hills

This CDP in unincorporated El Paso County is an enclave within the city limits of Colorado Springs. The west boundary of Cimarron Hills is CO 21, a commercial corridor. Peterson Space Force Base lies to the south. Portions of the east boundary reach US 24 as well as Marksheffel Rd and slightly beyond. The 2020 US Census population was 19,311. In recent years, the County has invested in improvements to the active transportation network in Cimarron Hills. Remaining sidewalk gaps exist primarily in the light-industrial commercial areas east of CO 21. The O/D analysis of almost 33,000 vehicle trips that originate in Cimarron Hills every day showed that approximately 1,200 are less than 1 mile in length and approximately 8,000 trips are 1 to 3 miles in length.



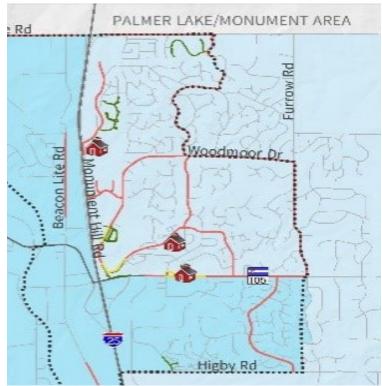
Security-Widefield

Security-Widefield is another CDP area of unincorporated El Paso County. The 2020 US Census population was 38,639. The O/D analysis in Security-Widefield showed a high concentration of vehicle trips ending in the commercial area along US Hwy 85 and in the areas in proximity to Hancock Expressway and Bradley Rd. Of nearly 65,000 vehicle trips analyzed, approximately 3,000 were less than 1 mile in length and about 17,5000 were 1 to 3 miles in length.









Woodmoor

Woodmoor is a CDP in unincorporated El Paso County, adjacent to the Town of Monument. Woodmoor is a residential area with a 2020 US Census population of 9,536. Roadways that lack sideways on both sides include Woodmoor Dr, White Fawn Dr, Lake Woodmoor Dr, and Monument Hill Rd.







Transit Plan

Figure 14 on page 26 shows a map of transit services within El Paso County. While not a provider of transit services, El Paso County supports regional goals to address the public transportation needs of its residents. While the County recognizes transit providers typically align fixed-route service areas with good rider demand, there could also be opportunities for demand-responsive or flex route services for residents in unincorporated El Paso County.

The County is open to considering partnering on projects for routes, studies, or transit alternatives that serve its residents in unincorporated areas. One example is the Academy Blvd "Enhanced Transit Corridor Implementation Plan," which if defined as the full Academy Blvd corridor from Academy Blvd/Voyager Pkwy south to the Pikes Peak State College (PPSC) Centennial campus, includes a segment that is in unincorporated El Paso County. Another example is the financial partnerships to construct park-and-rides near municipal/County boundaries, such as the one DPW recently completed in the Falcon area.

Local Transit Providers

In 2023, the City of Colorado Springs adopted ConnectCOS, the multimodal transportation plan that addresses citywide and regional mobility issues. The Transit Vision Network map in **Figure 34** shows how future expansion of MMT's service area would connect public transportation with unincorporated El Paso County. The red dots represent mobility hubs that would provide access and facilitate connections along the municipal border. Some MMT routes serve portions of the unincorporated County, as shown on MMT's webpage (link) and route map (link).

Similarly, Fountain Municipal Transit offers connections between its municipal boundaries with unincorporated El Paso County and the MMT service area, as shown on the <u>Fountain Municipal Transit schedule (link)</u> and <u>route map (link)</u>, shown in **Figure 35**. Other local service providers include private transportation services and local human services.

Figure 34. ConnectCOS Transit Vision Network (2023)



Source: City of Colorado Springs website





Regional Transit Providers

CDOT's Bustang and Outrider routes provide interregional bus service to other metropolitan regions across the state and to rural areas. The Bustang provides daily services with stops at the Tejon parkand-ride, the downtown Colorado Springs terminal, and Woodmen and Monument park-and-rides. The CDOT Outrider route between Lamar and Colorado Springs includes a stop in Fountain.

Front Range Passenger Rail (FRPR)

In 2021, the Colorado Legislature established the Front Range Passenger Rail District as an independent government agency tasked with all steps needed to design, finance, construct, operate and maintain a passenger rail system along Colorado's front range, connecting Fort Collins to Pueblo with stops in Denver, Colorado Springs, and other cities in between.

The current plan focuses on existing rail alignments in order to introduce FRPR service more economically and with less environmental disruption than building a new rail line. Therefore, as shown in **Flgure 36**, in El Paso County, the only alignment under consideration is the consolidated main line (CML) jointly operated by Burlington Northern-Santa Fe (BNSF) and Union Pacific Railroad (UPRR). An inter-city rail has fewer stops than commuter rail.

At this time, the FRPR study recommends one station in El Paso County; Colorado Springs was selected. Following that decision, MMT completed a Colorado Springs Passenger Rail Station Location Study in December 2022. The study, which evaluated 11 sites against seven criteria, recommends the station be in downtown Colorado Springs, immediately south of the Olympic & Paralympic Museum.

Figure 35.
Existing
Fountain
Municipal
Transit Service
Map



Figure 36. FRPR Alignment Under Consideration



Source: openrailwaymap.org

Freight Plan

Beyond the travel needs of El Paso County residents, the MTCP recognizes the importance of moving freight and goods, whether by truck and/or rail, to the regional economy. The ability to transport freight and goods to, from, and within the region is another important purpose of El Paso County's transportation network. The freight network includes truck, rail, and air modes of travel as well as the interconnections between modes. The PPACG Regional FreightStudy is currently being finalized. The study's recommended actions include El Paso County as a partner entity or advisory stakeholder for additional freight planning efforts, including a Freight Plan, a Regional Truck Parking Study, a freight working group, and regional bridge improvements.

Rail

With the exception of the Manitou Pikes Peak rail line, which provides tourism service to Pikes Peak, rail corridors in El Paso County essentially parallel the I-25 corridor and are used by both BNSF and Union Pacific (UP). Rail is typically used to ship heavy commodities in bulk, such as fertilizers or lumber, which are inputs to the local economy. The rail to truck to end use connection relies on the road network for delivery to the commodities' final destination. El Paso County has been significantly involved in the planning of the Southern Colorado Rail Park (SCRP), a planned industrial park and freight hub that is planned to be located on the east side of Fort Carson with convenient access to I-25 and connecting routes.

Air

The freight study reports that of seven airports in El Paso County, only the Colorado Springs Municipal Airport handles freight traffic. When compared to truck and rail, the volume of freight handled by air is significantly less and tends to be smaller and lighter weight. The roadway network serves the delivery of inbound air freight to destinations throughout the County.







Truck

Figure 37 shows the two levels of truck routes in the County. Primary routes are federal and state roads that act as through roads, used by freight haulers with no origin or destination in El Paso County. The primary truck routes include I-25, US 24, CO 83, and CO 21. The secondary routes serve trucks with an origin or destination, often 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. The network of secondary truck routes, shown in yellow, includes arterials under the County's jurisdiction:

- North-South: Elbert Rd, Curtis Rd, Segments of Marksheffel Rd
- East-West: Bradley Rd, Hwy 105, Woodmen Rd, Briargate-Stapleton

Table 11 identifies projects in the Regional Freight Plan that will continue to improve the network of roads for freight haulers.

Table 11. Improvements to Regional Freight Network

Roadway	Benefit					
Freight Plan Project Type						
Bradley Rd (Grinnell to Wageman Dr)	Improvement to complete the loop around Colorado Springs.					
Widen from 2 to 4 lanes						
Hwy 105 (I-25 to CO 83)	A northern connection from I-25 to CO 83. Also, an important redundancy project for incident management on both state highways.					
Improvements	project for incident management on both state nighways.					
Curtis Rd (US 24 to Bradley, COS limits)	Part of the loop around Colorado Springs. The roads need to be brought up to current standards as the rural road has no shoulders and needs intersection safety, Improvements and drainage improvements.					
Improvements						
Blaney Rd/Davis Rd/Hoofbeat Rd	This project supports the regional use of the landfill on Blaney Rd. These connector roads are gravel and have too many truck trips to safely function for freight. The gravel roads need to be paved and brought up to					
Pavement Project	current standards including shoulders, safety improvements, and drainage improvements.					
Woodmen Rd (US 24 to Golden Sage)	Woodmen Rd is a major east-west connector from I-25 to US 24 East. While the Colorado Springs segment is currently 6 lanes, the EPC section needs to be widened to 6 lanes, intersection and drainage improvements and					
Widen to 6 lanes	multimodal accommodations					
Elbert Rd (US 24 to County Line)	Elbert Road makes an important connection from US 24 East going to Douglas County and connects to SH 86. This rural road needs to be brought up to current standards as the road has no shoulders and needs					
Improvements	intersection safety improvements and drainage improvements.					
Powers Blvd South	This project will serve as a redundant road for I-25 and will serve freight from Powers north, the Colorado Springs airport, and the freight					
New Road Connection	distribution centers around the airport.					
South Academy	The project was just done, but east of I-25 S. Academy needs to go to 6 lanes and an interchange is potentially needed at PPSC/Commercial area for military readiness, connection to rail, and an important connection from Hancock Expressway, the COS airport, and CO 115.					

