Project:	South Powers Extension Planning and Environmental Linkages Study
To:	Stephanie Gibson, FHWA Environmental Program Manager Armando Henriquez, FHWA Area Engineer
From:	Howard Schwartz, El Paso County; Troy Halouska, CDOT HQ
Date:	October 12, 2023
Subject:	FHWA Coordination Point #3: South Powers Extension (SPE) PEL Evaluation Criteria and Alternatives to be Evaluated

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El Paso County, in coordination with the Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA), has determined the attached Alternatives Evaluation Criteria (**Attachment A**) and Alternatives to be Evaluated are sufficient to address the established Purpose & Need and Goals of the South Powers Extension (SPE) Planning and Environmental Linkages (PEL) Study.

REASON AND VISION

In August 2020, El Paso County, CDOT, and FHWA met, discussed, and determined that a Planning and Environmental Linkages (PEL) Study is the correct study approach for the South Powers Boulevard Extension in El Paso County. Participants of the meeting concluded that a PEL is an appropriate method of study due to the amount of previous planning in this corridor and the need for a redundant route to I-25. As such, the PEL will fulfill a need to understand future growth and demand in this region.

PURPOSE & NEED AND GOALS

Purpose of Transportation Improvements

The purpose of the study is to recommend an alignment to extend South Powers Boulevard (CO 21) from CO 16/Mesa Ridge Parkway to a connection with Interstate 25 (I-25), south of Colorado Springs and Fountain, Colorado. This new corridor aims to enhance regional mobility and integrate future multimodal opportunities. The study will define the phasing and next steps for implementing Powers Boulevard to the south.

Need For Transportation Improvements

This section discusses the transportation needs for the Fountain Valley area. Transportation improvements are needed to:

Advance Local and Regional Mobility –SPE is needed to complete the regional transportation network in the Fountain Valley area to adequately serve future travel demands associated with continued growth. Improvements would enhance north/south mobility in the region by providing a connection to I-25, increasing access to future east/west routes, and adding an alternate route to other destinations.

Incorporate Multimodal Opportunities — Stakeholder input and prior planning efforts identified the need to increase connectivity and accessibility to multimodal opportunities. Through improved bicycle and pedestrian facilities, enhanced trail network connectivity, and potential public transit connections, SPE would support an integrated transportation network.

Goals of Transportation Improvements

The recommended transportation improvements were developed to support the project needs. The project goals include:

Accommodate Local and Regional Plans and Economic Growth– The recommended alternative should build upon previous local and regional planning efforts that document proposed growth and development and the need for the extension of South Powers Boulevard.

Corridor Preservation Footprint - Recommended project alternatives will be used to define the estimated right-of-way (ROW) needs to support future growth along the corridor. Although the Access Control Plan (ACP) is a separate and concurrent process, it will show the estimated ROW line developed during the PEL process to support local agencies in land use decision-making.

Consider Impacts to the Natural & Built Environment – The proposed corridor should minimize impacts to documented environmental resource constraints to the greatest extent possible. Environmental resource constraints documented in the Existing Conditions Report included wetlands, aquifers, stream channels, floodplains, potential habitat for threatened and endangered (T&E) species and general wildlife, underground and above-ground utilities, historic resources, recreational resources, easements, and hazardous materials. Improvements should also consider impacts to residential, agricultural, and commercial properties.

Resiliency – The rapidly increasing population surrounding the proposed corridor, coupled with the increasing rates of natural disasters and emergency response conditions, means that the corridor should be developed resiliently to withstand potential natural threats, such as fire and flood. Identifying risks that would require resilient solutions to protect the assets will reduce the likelihood of severe damage to those assets.

Support Technology and Green Infrastructure – Improvements should consider that increases in development and traffic volumes will result in changes in implementation and advancement of technology along the corridor. Transportation technology is anticipated to change within the next 20 to 30 years, and improvements should consider the potential for technological advancement and opportunities to incorporate green infrastructure and practices. This includes possible utilization of ROW, techniques to reduce greenhouse gas emissions, and technology that will facilitate the efficient movement of people, goods, and services.

EVALUATION CRITERIA AND PERFORMANCE MEASURES

Development, evaluation, and refinement of alternatives focused on identifying alignments that met the project Purpose & Need and matched corridor context. Evaluation criteria and performance measures were developed prior to beginning the alternatives development and evaluation process. The Project Team reviewed the proposed Evaluation Criteria with the Project Management Team (PMT) and Technical Team (TT) at several Technical Team meetings, and incorporated their revisions to confirm that the final Evaluation Criteria addressed the established Purpose & Need and Goals. These meetings included representatives from participating local agencies along the corridor, as well as representatives from CDOT and FHWA.

Three-Tiered Approach

The Project Team developed a three-tiered process to evaluate alternatives which is shown in Figure 1. Evaluation criteria were developed for each level of evaluation and were used to assess alternatives relative to the Purpose & Need and Goals.

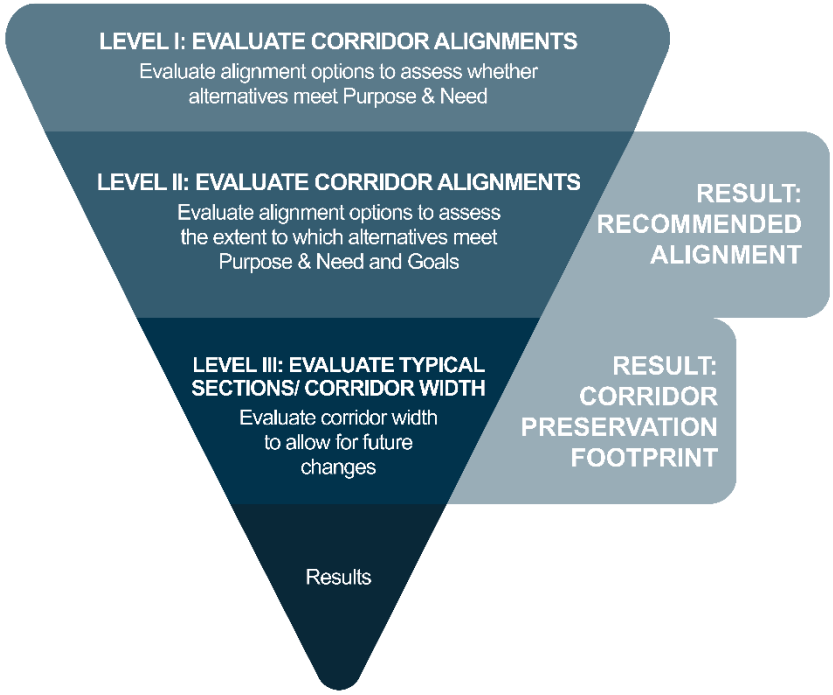

Figure 1. Alternatives Evaluation Process

Level 1 performance measures assessed the ability of each alignment alternative to meet Purpose & Need.

Level 2 performance measures assessed the extent to which each alignment alternative met the Purpose & Need and evaluated how well alignments met project Goals.

As part of the Level 3 analysis, the Project Team evaluated several corridor widths to determine what future elements could be considered without precluding potential future design ideas. Future corridor elements included multimodal infrastructure and connections, freight considerations, resiliency opportunities, and green infrastructure. These corridor widths were balanced with the consideration of impacts to resources to recommend a width that provides flexibility. This width is also intended to provide a Corridor Preservation Footprint which will inform decision-making at the state and local level in terms of preserving land and making land use decisions to not preclude future transportation improvements. The Level 3 analysis and Corridor Preservation Footprint is discussed further in the PEL.

The final Evaluation Criteria table is included in **Attachment A.**

ALTERNATIVES DEVELOPMENT AND EVALUATION PROCESS

Alternatives were developed through a multi-level iterative process. The process began with an array of varied alternatives that provided a phased sequence of recommended alternatives through a focused evaluation effort. Understanding of previous alignments studied, agency coordination, and public involvement, each played a major role in the alternative development process.

No Action Alternative

The No Action Alternative anticipates future conditions of the transportation network around the study area without completing any transportation improvements that are recommended by this PEL. The No Action Alternative includes required safety and maintenance improvements to maintain an operational transportation system, as well as projects previously identified in the Pikes Peak Area Council of Governments (PPACG) adopted 2045 fiscally constrained Regional Transportation Plan (RTP). Funding estimates for the 25-year RTP planning horizon are developed through a collaborative process with CDOT and statewide planning partner input. The federal funding that is taken into consideration for distribution comes from FHWA and the Federal Transit Administration (FTA) allocations to all 50 states. The State of Colorado also has transportation generated funds that are allocated to the transportation planning and construction process through legislation and the highway users tax distributions. Local funding and private/developer funded projects comprise the final funding components for the PPACG fiscally constrained RTP. The No Action Alternative does not meet the Purpose & Need of this PEL, but is used as a baseline for comparison to the operational and safety benefits associated with recommended transportation improvements.

Funding for projects included in the PPACG 2045 fiscally constrained RTP is drawn from sources that include funds from the following programs:

- FHWA funding programs
    - National Highway Performance Program [NHPP]
    - Surface Transportation Block Grant Program [STBG, formerly STP]
    - Highway Safety Improvement Program [HSIP]
    - Railway Highway Crossing
    - Transportation Alternatives Program/STBG set-aside [TAP]
    - Emergency Relief Program
- FTA funding programs
    - Enhanced Mobility of Seniors and individuals with Disabilities [5310]
    - Urbanized Area Formula Program [5307]
    - Capital Investment Program [5309, 5339, 5314]
- The Colorado Highway Users Tax Fund
    - 65% CDOT, 26% Colorado counties, 9% Colorado cities
- Funding Advancements for Surface Transportation and Economic Recovery Act of 2009 (FASTER)
    - Senate Bill 09-108, including Statewide Bridge Enterprise [SBE], High-Performance Transportation Enterprise [HTPE], Safety Programs, and Statewide Transit dedicated funds
- Local sales tax-supported funding programs

- Pikes Peak Rural Transportation Authority (PPRTA, Colorado Springs and Manitou Springs, unincorporated El Paso County, and the towns of Green Mountain Falls, Ramah and Calhan. El Paso County and Colorado Springs)
- The 2C2 Road Tax (Colorado Springs), and the Moving Fountain Forward (MFF) ballot initiative
- Private developer funding

Table 1 provides information on CO21/CO 16/CO 83 (Powers Boulevard) projects included in the PPACG 2045 fiscally constrained RTP that have thus been included in the No Action Model.

Table 1. 2045 Fiscally Constrained Projects Considered in No Action Alternative Model (STIP/TIP)

Facility	Project Name	Project Description	ID	Source
CO 21	CO 21 and Airport Road Diverging Diamond I Interchange Construction	Construction of a diverging diamond interchange at CO 21 and Airport Road	SR26867.118	SB-267 and CDOT's 10-Year Strategic Funds
CO 21	Powers Boulevard (CO 21) Post FONSI ROW Acquisition	ROW preservation project	SPP6337	CDOT Regional Priorities
CO 21	CO 21 and Research Parkway Diverging Diamond Interchange	Construction of a new interchange at CO 21 and Research Parkway	SPP7006 (Completed)	CDOT Regional Priorities, 10-year strategic funds
CO 16 & CO 21	CO 16 & CO 21 Signal project	Upgrade signals at various locations	SR26644.085 & SR26644.96	Region 2 Signal Pool
CO 21	North I-25 interchange at Northgate/Voyager	Construct new interchange	N/A (Completed)	Private developer funded
CO 21	CO 21 connection between Voyager and CO 83	Construct new connection to replace existing segments of CO 83 and Interquest Parkway that serves as the connection between CO 21 and I-25	N/A	TBD - Private developer, local funding mix

Alternatives Development

The Project Team utilized data from the existing conditions report, stakeholder input, previous planning studies, and local agency transportation plans to develop a range of alternatives for consideration.

Connection to I-25

Alternatives were developed by reviewing logical termini along I-25 within the study area and connecting to the proposed South Powers Boulevard Extension. Previous studies labeled alternatives based on the location of the connection to I-25. Letters (B, C, D, E, F, G, H) represent the connections and the numbers represent a variation to that connection.

Previously Considered Alignments

As shown in the Alignment Alternatives Development Process graphic (**Figure 2**), the previously identified alignments from the South Powers Boulevard Feasibility Study (CDOT; Completed 2000) were screened for inclusion in the alternatives analysis process. The previously identified alignments are shown **Figure 3.**

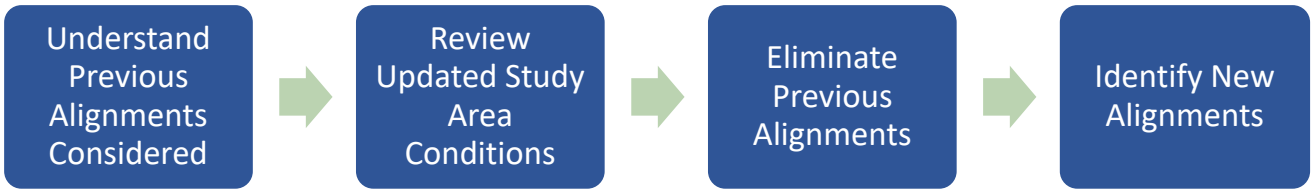

Figure 2. Alignment Alternatives Development Process

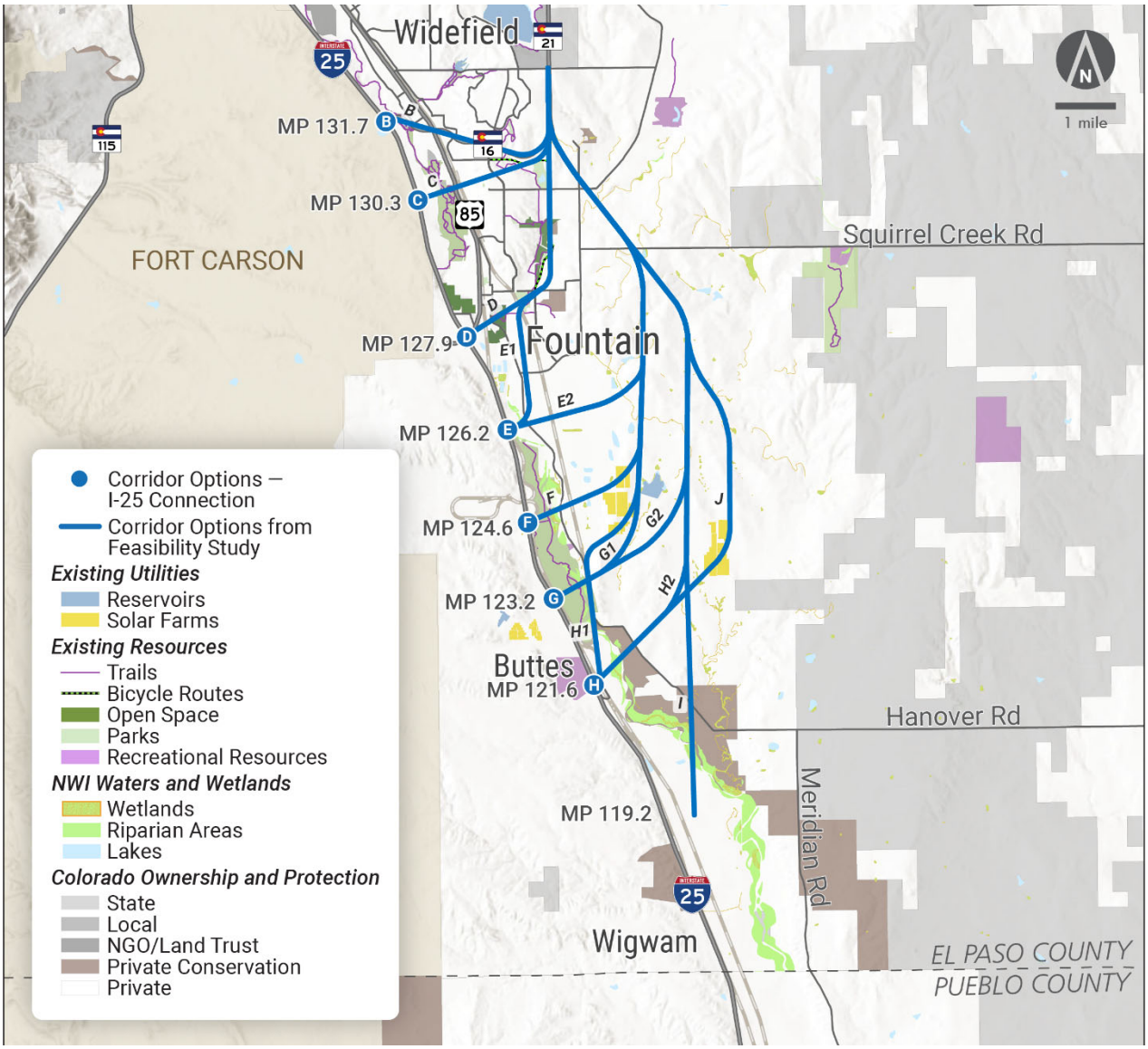

Figure 3. Previous Alignment Options from the South Powers Boulevard Feasibility Study

Alternatives that were no longer feasible and/or have fatal flaws due to new development, utility conflicts (solar farms), or that have already been constructed, were removed from consideration (**Figure 4**). The removed alternatives are shown in **Table 2**.

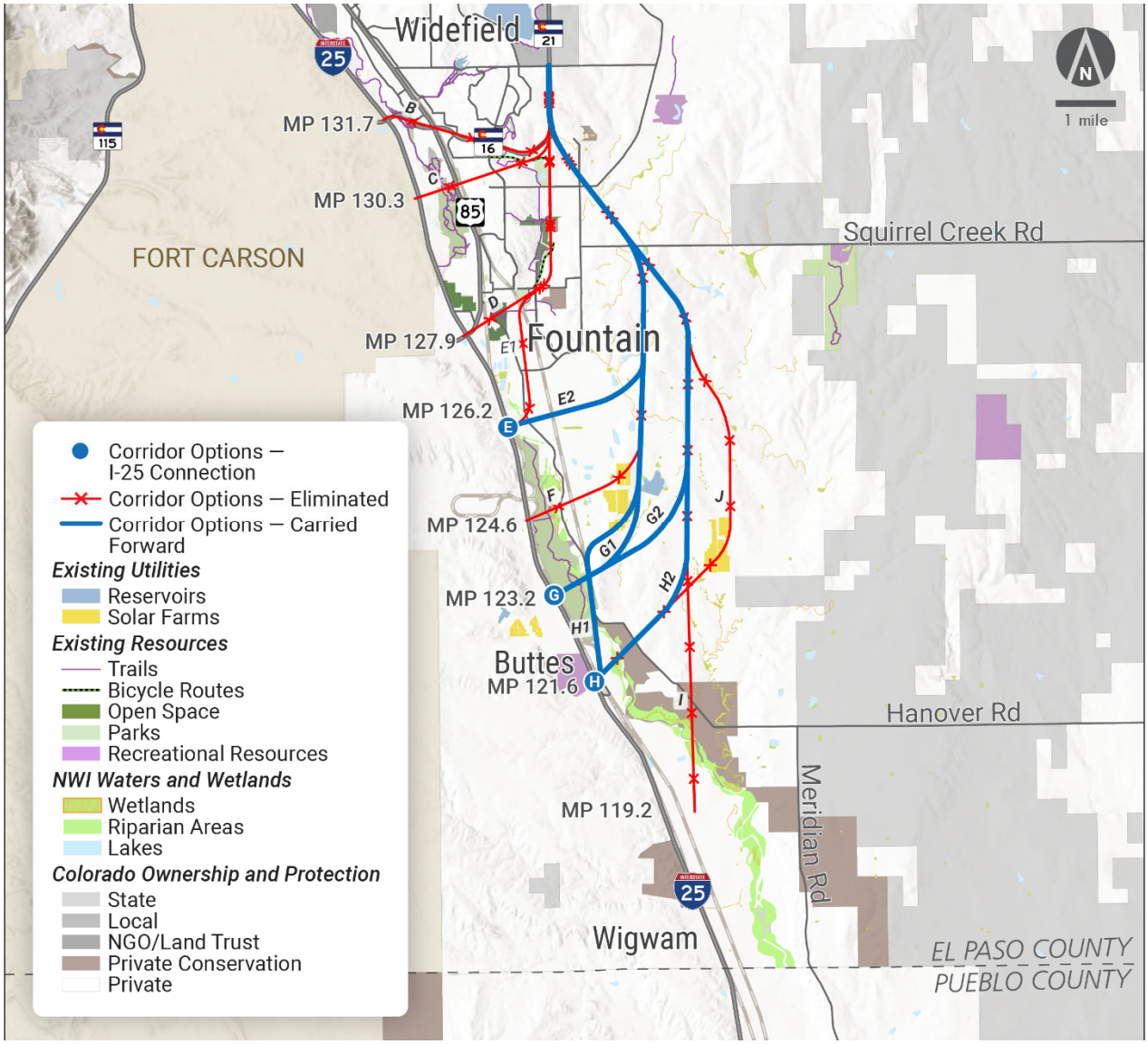

Figure 4. Elimination of Previously Considered Alignments

Table 2. Previous Alignments Retained

Alternative	Status	Reason for Elimination
B	Removed	Existing Mesa Ridge interim connection (No Action Alternative)
C	Removed	Bisects existing neighborhoods and residences; bisects Fountain Creek Regional Park
D	Removed	Bisects existing neighborhoods and residences; bisects John Metcalf Memorial Park, Adams Open Space, and Christian Open Space
E1	Removed	Bisects existing neighborhoods and residences
E2	Retained	-
F	Removed	Bisects existing solar farm and Clear Springs Ranch
G1	Retained	-
G2	Retained	-
H1	Retained	-
H2	Retained	-
I	Removed	Bisects private conservation lands
J	Removed	Intersects existing and proposed solar farm locations; intersects proposed reservoir location; bisects private conservation lands

New Alignments

The Project Team, in consultation with the TT, determined that an additional connection point to I-25, to the South of the El Paso County border and in the northern portion of Pueblo County, should be added to the analysis. This additional connection point was suggested to evaluate a parallel route to I-25 that provides another north-south connection between the City of Colorado Springs and the City of Pueblo.

Four additional alignment variations that avoided new utility facilities and development but retained the same connections points to I-25 were developed and included for analysis (**Figure 5** and **Table 3**).

Table 3. New Alignment Options

Alternative	Status	I-25 Connection
E3	New	E (126.2)
G3	New	G (MP 123.2)
H3	New	H (121.6)
K	New	K (MP 115.8)

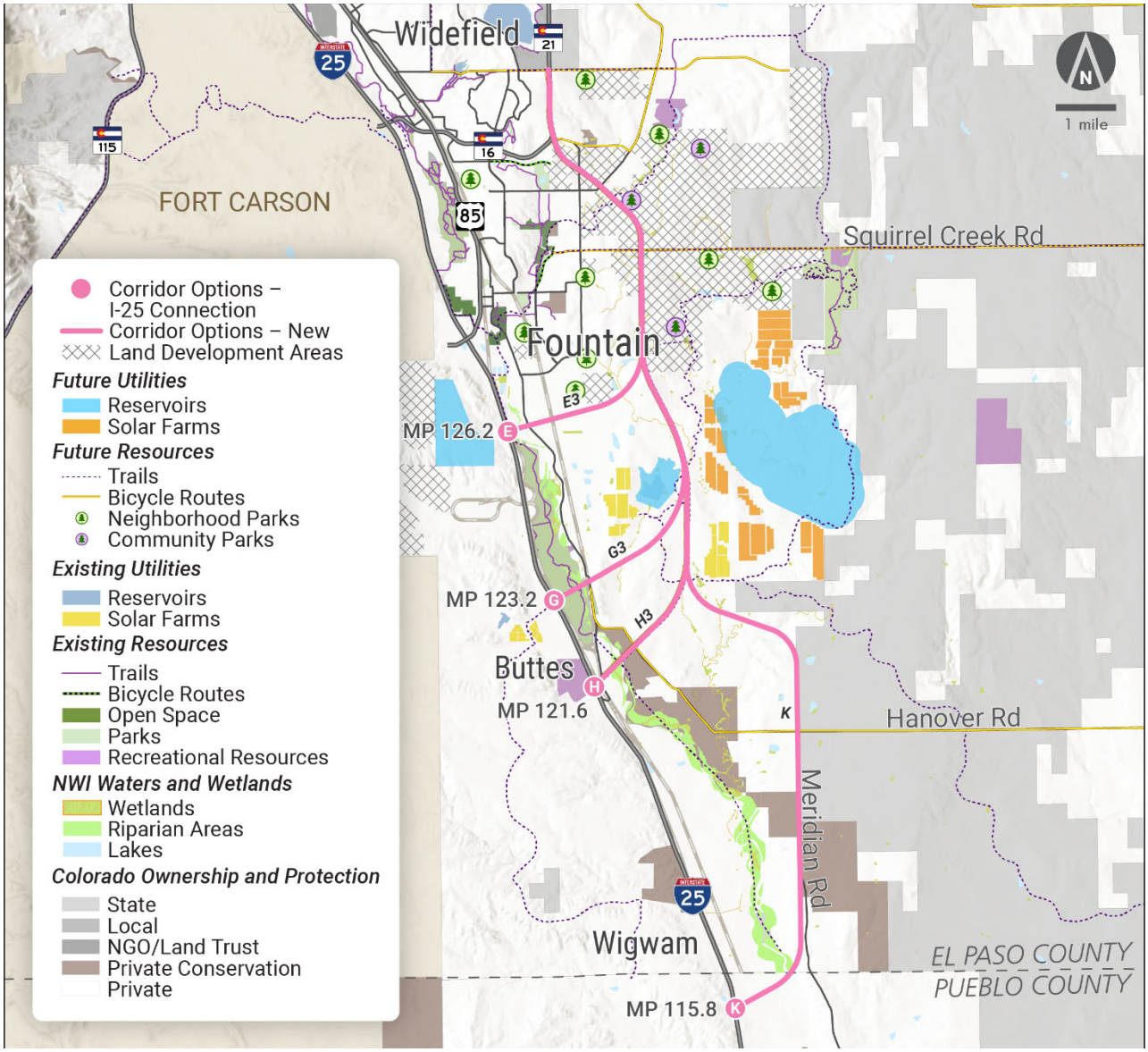

Figure 5. Newly Developed Alignment Options

The Project Team retained five of the alignments previously analyzed (**Table 2**) and developed four new alignments to be evaluated as part of the Alternatives Analysis process (**Table 3**). These nine options connect to four different I-25 connection points.

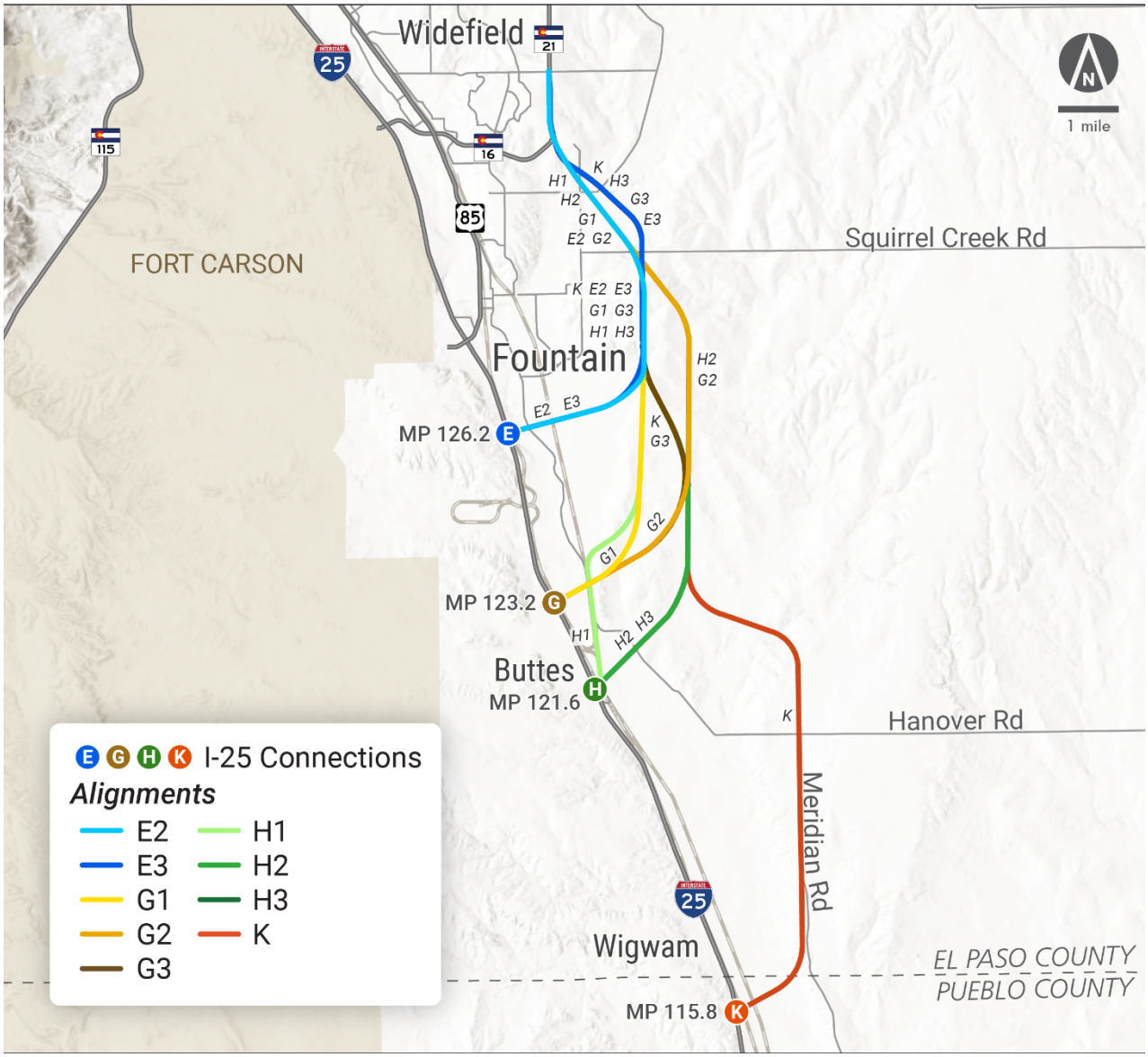

Figure 6. Alignment Alternatives for Alternatives Analysis

The South Powers Boulevard alignment alternatives shown in **Figure 6 and Table 4** start at the southern end of the existing Powers Boulevard (CO 21). This connection point forms the northern terminus of the South Powers Extension PEL Alignments considered. Each alignment then connects at various points along I-25 to complete the southern terminus. The following analysis determines the alignment which best meets project Needs and Goals while still addressing stakeholder concerns.

Table 4. Alignment Alternatives for Alternatives Analysis

Alternative	Status	I-25 Connection
E2	Retained	E (126.2)
E3	New	E (126.2)
G1	Retained	G (MP 123.2)
G2	Retained	G (MP 123.2)
G3	New	G (MP 123.2)
H1	Retained	H (121.6)
H2	Retained	H (121.6)
H3	New	H (121.6)
K	New	K (MP 115.8)

LEVEL 1 EVALUATION

The Level 1 Evaluation assessed a full range of alternatives to identify those that meet Purpose & Need. The Needs defined for the corridor were to advance local and regional mobility and incorporate multimodal opportunities. Each alternative was evaluated according to the established evaluation criteria as follows:

- Does this alternative have the potential to improve travel times for adjacent routes?
- Does this alternative have the potential to improve mobility and/or reduce congestion in the study area?
- Does this alternative have the potential to improve connectivity to regional destinations?
- Does this alternative have the potential to increase and not preclude multimodal mobility by way of trail system connectivity, transit opportunities, and freight connectivity?

Level 1 evaluation was limited to qualitative, yes or no, answers to the questions above. Alternatives that met the Purpose & Need advanced to Level 2. The Project Team, in coordination with the Technical Team, had the opportunity to review and discuss inputs to this table as well as the alternatives progressing to Level 2. The Level 1 Evaluation matrix can be found in **Table 5**, as well as in **Attachment B**.

Table 5. Summary of Level 1 Analysis Results

Category	Advance Local and Regional Mobility				Incorporate Multimodal Opportunities			Action
Criteria	Mobility & Operations		Connectivity		Multimodal			
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*	
Performance Measures	Potential to Improve Travel Time for Adjacent Routes	Potential to Improve Mobility / Reduce Congestion	Potential to Improve Connectivity to Regional Destinations		Potential to Increase Multimodal Mobility			*Carried Forward* / *Eliminated*
	Y/N	*Y/N*	*Y/N*		*Y/N*			
Alignment								
No Action*	N	N	N		N			Carried Forward*
E2	Y	Y	Y		Y			Carried Forward
E3	Y	Y	Y		Y			Carried Forward
G1	Y	Y	Y		Y			Carried Forward
G2	Y	Y	Y		Y			Carried Forward
G3	Y	Y	Y		Y			Carried Forward
H1	Y	Y	Y		Y			Carried Forward
H2	Y	Y	Y		Y			Carried Forward
H3	Y	Y	Y		Y			Carried Forward
K	Y	Y	Y		Y			Carried Forward

*Although the No Action Alternative does not meet Purpose and Need, it was still Carried Forward for comparison to other alternatives

Result of Level 1

The following language was used to document the findings of the Level 1 analysis:

> *Carried Forward*: The alternative meets Purpose and Need, is considered reasonable and feasible, and may be considered for further evaluation in this study or subsequent NEPA and Project development.
>
> *Eliminated*: does not meet Purpose and Need, has a fatal flaw, and/or is considered unreasonable. A project alternative that is Eliminated is removed from further consideration in the PEL Study.

The Project Team identified that all alternatives met the Purpose & Need of the Study and were carried forward into Level 2.

LEVEL 2 EVALUATION

The goal of the Level 2 Evaluation was to introduce more detailed criteria to evaluate the project Needs and to assess how well the alternative met the project Goals. Each Alternative was evaluated according to the established criteria shown in **Attachment A**. The full Level 2 Evaluation Matrix can be viewed in **Attachment C**.

Attachment C provides the detailed assessment of the alternatives and shows the initial collection effort and rating system for each performance measure developed. Once data was collected and entered into the Level 2 Evaluation Matrix, alignments were compared against the No Action Alternative and other alignments.

The following values were used to rate each of the alignments:

-1 Value	represents an alternative that was substantially less effective in addressing the Needs and Goals of the proposed corridor, when compared to the No Action and other alternatives evaluated.
0 Value	represents an alternative that was neither substantially more or less effective in addressing the Needs and Goals of the proposed corridor, when compared to the No Action and other alternatives evaluated.
1 Value	represents an alternative that was the most effective in addressing the Needs and Goals of the proposed corridor, when compared to the No Action and other alternatives evaluated.

The following language was used to document the findings of the Level 2 analysis:

> *Eliminated*: Does not meet Purpose and Need, has a fatal flaw, and/or is considered unreasonable. A project alternative that is Eliminated is removed from further consideration in the PEL Study.
>
> *Not Recommended:* Will not be evaluated further in this study due to comparatively negligible benefits and higher impacts than other alternatives but may be studied further with subsequent NEPA and project development.

Carried Forward: Considered reasonable and feasible and may be considered for further evaluation in this study or subsequent NEPA and project development.

Recommended: Considered reasonable and feasible and recommended for consideration as the Preferred Alternative during subsequent NEPA and project development.

A summary of the Level 2 results is shown in **Table 6**. The colors of the values shown above were used as a visual representation to compare alternatives. Alternatives with green cells represent a more favorable alternative. Alignments E3 and H3 scored the same overall when measured against all the evaluation criteria and were Recommended to move forward.

CORRIDOR RECOMMENDATION

Based on the Alternatives Analysis, El Paso County selected E3 and H3 as the Recommended Alternatives. Although E3 and H3 scored the same overall, Alignment H3 scored higher in meeting the mobility and multimodal Needs of the corridor compared to Alignment E3, which scored higher in meeting the project Goals. **Figure 7** shows the two recommended alignments (E3 and H3).

The Project Team presented H3 as the recommended alignment to the Technical Team on April 18, 2023. During that meeting, the Technical Team suggested moving forward with Alignments E3 and H3 as a phased approach, to provide short- and long-term solutions to improve local and regional mobility. Alignment E3 aligns with current local planning efforts and provides a solution to address urgent needs in the corridor.

Technical Team was in agreement that the G2 and G3 alignments were less favorable than the other alternatives evaluated. As shown in the Alternatives Analysis, the G alignments:

- Are less effective in meeting the immediate transportation needs of the corridor in comparison to the E3 alignment;
- Provide less transportation-related benefits (they provide the least reduction in total VMT and VHT); and
- Have greater potential environmental impacts than the other alignments considered.

Since these two alignments are still considered reasonable and feasible, they have been Carried Forward.

Additionally, Technical Team suggested that Alignment K be studied further as a long-range plan to create a redundant route to I-25. This alignment would create another regional connection between the greater Colorado Springs area and Pueblo County. This effort requires collaboration between the El Paso and Pueblo County, which is currently beyond the scope of this PEL study. This alignment will be Carried Forward for further evaluation.

Table 6. Level 2 Results Summary

Category	Advance Local and Regional Mobility				Incorporate Multimodal Opportunities			Accommodate Local and Regional Plans and Economic Growth	Corridor Preservation Footprint	Consider Impacts to Land Use and the Natural & Built Environment		Resiliency		Support Technology & Green Infrastructure	Action
Criteria	Mobility & Operations		Connectivity		Multimodal			Local Agency Transportation and Development Plans	Landowners / Business Impacts / Neighborhoods	Social & Manmade Resources	Natural Resources	Redundancy	Regional Threats *Fire, Flood, Etc.*	Opportunities to Reduce GHG Emissions	
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*								
Performance Measures	**Vehicle Miles Traveled (VMT)** Reduces full network (regional) VMT (miles) and/or VHT (hours). (based on model assignment results for No Build and Build alignment alternatives)	**Out-of-Direction Travel** Reduces (average for multiple origin-destination pairs) out of direction travel distance (miles). (based on model-based comparison of selected O-D pairs)	**Reduces travel time and/or creates alternate routes between installations** Improves connectivity among installations and provides alternative or more direct deployment routes. (based on review of isochronal plots and network connectivity - model-based) (qualitative)	**Reduces emergency response time and/or expands area served with rapid response** Improves emergency response times. (based on review of isochronal plots to/from hospitals and fire stations - model-based/ qualitative)	**Multiuse Path Connection Opportunities** Number of E/W pedestrian and bicycle crossing opportunities (number of existing or planned facilities)	**Accommodates/ Supports Transit Expansion** The proximity of the alignment to existing and planned/approved development will support future transit connections and/or the alignment facilitates connectivity with existing/planned transit services.	**Reduces Freight Travel Times and/or Improves Route Connectivity** Reduces travel distance between freight terminals/hubs, provides connected alternative freight routes, and/or improves connectivity among freight routes and terminals/hubs.	**Alignment with Local Agency Plans** Analysis of conformance with local agency goals and plans (qualitative)	**Complexity of Acquisition** Analysis of difficulty obtaining future ROW needs (qualitative)	**Resource Specific Constraints** Identification of resource impacts (300' alignment footprint)		**Redundant Routes Opportunities** Number of connections to critical network links (Network Robustness Index (NRI) values)	**Identify Threats** Analysis of threats based on the CDOT Asset Resiliency Mapping Application (number)	**Connectivity to Disproportionately Impacted Communities (DICs)** DICs within walkable distance from alignment (number) Traffic Model GHG reduction (Million Metric Tons (MMT)/Year)	
No Action															Eliminated
E2															Carried Forward
E3															Recommended
G1															Not Recommended
G2															Carried Forward
G3															Carried Forward
H1															Not Recommended
H2															Carried Forward
H3															Recommended
K															Carried Forward

Figure 7. Recommended Corridor Alternatives Map

Attachment A: Evaluation Criteria and Performance Measures

Category	Criteria	Performance Measures	
		Level 1	Level 2 (Alignments)
PROJECT NEEDS			
Advance Local and Regional Mobility	**Mobility and Operations**	Potential to improve Travel Time for adjacent routes (Y/N) Potential to improve mobility / reduce congestion (Y/N)	• Vehicle Miles Traveled (VMT) (miles and/or hours) • Out-of-direction travel (miles)
	Connectivity • Military Rapid Deployment Routes • Incident Mgmt.	Potential to improve connectivity to regional destinations (Y/N)	• Reduces travel time and/or creates alternate routes between installations (qualitative) • Reduces emergency response time and/or expands service areas with rapid response (Travel time isochrones) (Model-based; qualitative)
Incorporate Multimodal Opportunities	• Trail System Connectivity • Transit opportunities • Freight Connectivity	Potential to increase multimodal mobility (Y/N)	• Multiuse path connection opportunities (number of existing or planned facilities) • Accommodates/supports Transit Expansion (qualitative) • Reduce freight travel times and/or Improves Route Connectivity (qualitative)

Category	Criteria	Performance Measures	
		Level 1	Level 2 (Alignments)
PROJECT GOALS			
Accommodate Local and Regional Plans and Economic Growth	**Local Agency Transportation and Development Plans**	Not evaluated in Level 1	• Alignment with local agency plans (qualitative)
Corridor Preservation Footprint	**Landowners/ Business Impacts/ Neighborhoods**	Not evaluated in Level 1	• Complexity of acquisition (qualitative)
Consider Impacts to Land Use and the Natural & Built Environment	**Resource Constraints**	Not evaluated in Level 1	• Resource Specific Constraints (potential impacts within 300' of alignment footprint)
Resiliency	**Redundancy** **Threat identification (Fire, Flood, etc.)**	Not evaluated in Level 1	• Redundant routes opportunities [Network Robustness Index (NRI) values] • Identify threats (number)
Support Technology and Green Infrastructure	**Optimize ROW (Level 2-Typical Section)** **Reduce GHG Emissions** **Inclusion of technology**	Not evaluated in Level 1	• Traffic Model GHG Reduction (Million Metric Tons (MMT)/Year) • Connectivity to Disproportionately Impacted Communities (DICs)(number of DICs within walkable distance from alignment)

Attachment B: Level 1 Evaluation Matrix

Category	Advance Local and Regional Mobility			Incorporate Multimodal Opportunities			Action	Notes
Criteria	Mobility & Operations		Connectivity		Multimodal			
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*	*Carried Forward* *Retained as an Element* *Eliminated*	
Performance Measures	Potential to Improve Travel Time for Adjacent Routes	Potential to Improve Mobility / Reduce Congestion	Potential to Improve Connectivity to Regional Destinations		Potential to Increase Multimodal Mobility				
	Y/N	*Y/N*	*Y/N*		*Y/N*				
Alignment									
No Action	N	N	N		N			Carried Forward	Carried Forward for comparison to other alternatives.
E2	Y	Y	Y		Y			Carried Forward	
E3	Y	Y	Y		Y			Carried Forward	
G1	Y	Y	Y		Y			Carried Forward	
G2	Y	Y	Y		Y			Carried Forward	
G3	Y	Y	Y		Y			Carried Forward	
H1	Y	Y	Y		Y			Carried Forward	
H2	Y	Y	Y		Y			Carried Forward	
H3	Y	Y	Y		Y			Carried Forward	
K	Y	Y	Y		Y			Carried Forward	

Attachment C: Level 2 Evaluation Matrix

Category	Advance Local and Regional Mobility				Incorporate Multimodal Opportunities			NEEDS only Score Total	Accommodate Local and Regional Plans and Economic Growth	Corridor Preservation Footprint	Consider Impacts to Land Use and the Natural & Built Environment		Resiliency		Support Technology & Green Infrastructure	Total Score
Criteria	Mobility & Operations		Connectivity		Multimodal				Local Agency Transportation and Development Plans	Landowners / Business Impacts / Neighborhoods	Social & Manmade Resources	Natural Resources	Redundancy	Regional Threats	Opportunities to Reduce GHG Emissions	
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*				*Historic, HazMat sites, Potential Noise Receptors, EJ*	*Floodplains, Parks & Open Space, Lakes/Streams, Conservation easements, T&E Species*		*Fire, Flood, Etc.*		
Performance Measures	**Vehicle Miles Traveled (VMT)** Reduces full network (regional) VMT (miles) and/or VHT (hours). (based on model assignment results for No Build and Build alignment alternatives)	**Out-of-Direction Travel** Reduces (average for multiple origin-destination pairs) out of direction travel distance (miles). (based on model-based comparison of selected O-D pairs)	**Reduces travel distance and/or creates alternate routes between installations** - Improves connectivity among installations (qualitative) - Provides alternative (qualitative) or more direct/shorter deployment routes (miles) - Review of isochronal plots and network connectivity - model-based (qualitative)	**Reduces emergency response time and/or expands area served with rapid response** Improves emergency response times. (based on review of isochronal plots to/from hospitals and fire stations - model-based/qualitative)	**Multiuse Path Connection Opportunities** Number of E/W pedestrian and bicycle crossing opportunities (number of existing or planned facilities)	**Accommodates/Supports Transit Expansion** The proximity of the alignment to existing and planned/approved development will support future transit connections and/or the alignment facilitates connectivity with existing/planned transit services.	**Reduces Freight Travel Times and/or Improves Route Connectivity** Reduces travel distance between freight terminals/hubs, provides connected alternative freight routes, and/or improves connectivity among freight routes and terminals/hubs (qualitative).		**Alignment with Local Agency Plans** Analysis of conformance with local agency goals and plans (qualitative)	**Complexity of Acquisition** Analysis of difficulty obtaining future ROW needs (qualitative) Rate % of alignment through H, M, L difficulty - then compare against eachother to create benchmarks for ratings	**Resource Specific Constraints** Identification of resources impacts (300' alignment footprint)		**Redundant Routes Opportunities** Provides redundant route for HIGH CRITICALITY (NRI >4.4) or MEDIUM CRITICALITY (NRI >2.2 and <4.4) routes. - HIGH CRITICALITY: I-25 between US 85 and Old Pueblo Road - MEDIUM CRITICALITY: I-25 between Circle/Lake and CO16	**Identify Threats** Analysis of threats based on the CDOT Asset Resiliency Mapping Application (number)	Connectivity to Disproportionately Impacted Communities (DICs) - DICs within walkable distance from alignment (number) Traffic Model GHG reduction (Million Metric Tons (MMT)/Year)	
No Action	VMT=19,632,547 VHT=8,679 This is the baseline scenario the PPACG 2045 fiscally constrained RTP network as adopted.	The No Action Alternative does not remedy poor network connectivity or the lack of an alternative route for I-25, the only fully-connected north-south route through El Paso County.	The No Action Alternative does not remedy poor connectivity between Fort Carson, the Peterson Military Airfield and Schriever Space Force Base.	The No Action Alternative has poor connectivity to fire stations and trauma level medical facilities and does not provide alternative routes for incident management.	The No Action Alternative does not remedy obstacles to trail system connectivity; network connectivity and multiple at-grade rail crossings barriers are not remedied.	The No Action Alternative maintains obstacles to expansion and efficiency of transit service; poor roadway network connectivity and multiple at-grade rail crossings barriers are not remedied.	I-25 is primary freight route; there is poor connectivity among freight routes; I-25 access to planned rail facility is not well connected to other freight hubs or routes	-7	In general, all of the local planning documents that have been reviewed have included the South Powers Extension in some way. The local plans from El Paso County, The City of Fountain and the City of Colorado Springs all incorporate the need for the South Powers Extension based upon the recommendations from the South Powers Corridor Feasibility Study and The Link Powers Corridor EA. The plans generally note the need for a new connection to I-25 south of the existing US-85 interchange. The plans that have differences are generally the Overall Development Plans (ODP) for the large planned developments in the area. These include the Mesa Ridge Development, The Amara Development, Kane Ranch Development and the Front Range Dual-Service Rail Park. The No Action is not consistent with any of the published plans.	No ROW acquisition required	No Action would have no resource impacts, but also limits improvements to social resources	No Action would have no resource impacts	**Does not provide redundant routes for either the high or medium criticality I-25 links** between US 85 and Old Pueblo Road and between Circle/Lake and CO 16, respectively.	No threats	No Action does not provide connections to any DICs Air Quality would worsen due to increasing congestion	
	-1	-1	-1	-1	-1	-1	-1		-1	1	0	1	-1	1	-1	-7
E2	**VMT=19,632,547 VHT=8,679** The E alignments provide midline reduction in total VMT and VHT compared to other alternatives, and reductions in private commercial vehicle (truck) VMT and VHT are similar.	Alignment E2 DOES NOT PROVIDE a competitive (time/distance) alternative route for any of the O-D pairs evaluated (1: Fountain City Hall-First & Main Town Center, 2: Fort Carson Gate 19-Wolf Ranch, 3: Pueblo Rest Area-COS Airport, 4: Pueblo Rest Area-Schriever SFB)	The E Alignments IMPROVE ACCESS to Gate 19 and potential I 25 gate further south and PROVIDES ALTERNATIVE ROUTE between Fort Carson and COS Airport rapid deployment area with no reduction in travel distance.	The E alignments: 1) Extend 30-minute hospital access 1.2 miles and 40-minute hospital access 20 miles via Squirrel Creek Road; 2) Extend 30-minute hospital access 2 miles via I-25; 3) Extend 9-minute emergency response service 4 miles to the south and 2 miles to the east.	5 Trail connection opportunities	Alignment skirts and enters City of Fountain City Center and provides additional grade-separated RR crossing facilitating transit connectivity and expansion.	The E alignments provide connected route direct access to planned rail facility; provides improved connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provides an alternative freight route from northern Fountain with connectivity to Northgate Road.	3	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Provides a direct freeway connection between the Dual-Service Rail Park the Airport and freight corridors to the east. Inconsistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road and conflicts with the proposed development.	L: 22,179', 63% M: 0', 0% H: 13,203', 37% Total Length: 35,382'	Existing Solar Arrays (No. of Crossings): **0** Proposed Reservoirs (No. of Crossings): **0** Existing Utility Feature (No. of Crossings): **1** - substation DWR Wells (No. of w/in 200ft from Alignment): **6** Potential Historic (No. of Crossings): **3** Environmental Justice Potential Impact Scoring: Limited English Populations: **0** Minority Populations: **-1** Low income populations: **1**	Existing Parks & Open Space (Approx. Linear Ft): **0** Lakes (No. of w/in 200ft from Alignment): **0** Stream (No. of Crossings): **12 [4-303d streams]** Wetlands (No. of Crossings): **7** Riparian (No. of Crossings): **2** Prime Farmland (Approx. Linear Ft): **12,250** Bald Eagle Roost Sites (No. of Crossings): **0** Conservation Easements (Approx. Linear Ft): Private: **42,400**	E Alignments **provide a redundant route for ONLY the medium criticality link** between Circle/Lake and CO 16.	**Fire:** Ranges from 2 (low risk) to 4 (high risk) **Moderate** Drought area **Flood:** Flood Roadway: **3** Major Culverts & bridges: **14** **Other:** Species with ranges in the area: **7**	E Alignments reduce GHG emissions by 28 MMT/year compared to the No Action Alternative. E2 Alignment provides walkable distance to 10 DICs.	
	1	-1	1	1	-1	1	1		0	0	-1	1	0	1	1	5
E3	**VMT=19,632,547 VHT=8,679** The E alignments provide midline reduction in total VMT and VHT compared to other alternatives, and reductions in private commercial vehicle (truck) VMT and VHT are similar.	Alignment E3 DOES NOT PROVIDE a competitive (time/distance) alternative route for any of the O-D pairs evaluated (1: Fountain City Hall-First & Main Town Center, 2: Fort Carson Gate 19-Wolf Ranch, 3: Pueblo Rest Area-COS Airport, 4: Pueblo Rest Area-Schriever SFB)	The E Alignments IMPROVE ACCESS to Gate 19 and potential I 25 gate further south and PROVIDES ALTERNATIVE ROUTE between Fort Carson and COS Airport rapid deployment area with no reduction in travel distance.	The E alignments: 1) Extend 30-minute hospital access 1.2 miles and 40-minute hospital access 20 miles via Squirrel Creek Road; 2) Extend 30-minute hospital access 2 miles via I-25; 3) Extend 9-minute emergency response service 4 miles to the south and 2 miles to the east.	5 Trail connection opportunities	Alignment skirts and enters City of Fountain City Center and provides additional grade-separated RR crossing facilitating transit connectivity and expansion.	The E alignments provide connected route direct access to planned rail facility; provides improved connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provides an alternative freight route from northern Fountain with connectivity to Northgate Road.	3	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Provides a direct freeway connection between the Dual-Service Rail Park the Airport and freight corridors to the east. Is consistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road being in the area planned.	L: 23,040', 63% M: 0', 0% H: 13,451', 37% Total Length: 36,491'	Existing Solar Arrays (No. of Crossings):**0** Proposed Reservoirs (No. of Crossings):**0** Existing Utility Feature (No. of Crossings): **0** Conservation Easements (Approx. Linear Ft): **0** DWR Wells (No. of w/in 200ft from Alignment): **5** Potential Historic (No. of Crossings): **3** Environmental Justice Potential Impact Scoring: Limited English Populations: **0** Minority Populations: **-1** Low income populations:**1**	Existing Parks & Open Space (Approx. Linear Ft): **0** Lakes (No. of w/in 200ft from Alignment): 1 **[1-303d lake)** Stream (No. of Crossings): 15 **[6 - 303d streams]** Wetlands (No. of Crossings): **11** Riparian (No. of Crossings): **2** Prime Farmland (Approx. Linear Ft): **12,500** Bald Eagle Roost Sites (No. of Crossings): **0** Conservation Easements:0	E Alignments **provide a redundant route for ONLY the medium criticality link** between Circle/Lake and CO 16.	**Fire:** Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood:** Flood Roadway: **3** Major Culverts & bridges: **17** **Other:** Species with ranges in the area: **7**	E Alignments reduce GHG emissions by 28 MMT/year compared to the No Action Alternative. E3 Alignment provides walkable distance to 10 DICs.	
	1	-1	1	1	-1	1	1		1	0	1	1	0	1	1	8

Category	Advance Local and Regional Mobility				Incorporate Multimodal Opportunities			NEEDS only Score Total	Accommodate Local and Regional Plans and Economic Growth	Corridor Preservation Footprint	Consider Impacts to Land Use and the Natural & Built Environment		Resiliency		Support Technology & Green Infrastructure	Total Score
Criteria	Mobility & Operations		Connectivity		Multimodal				Local Agency Transportation and Development Plans	Landowners / Business Impacts / Neighborhoods	Social & Manmade Resources	Natural Resources	Redundancy	Regional Threats	Opportunities to Reduce GHG Emissions	
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*				*Historic, HazMat sites, Potential Noise Receptors, EJ*	*Floodplains, Parks & Open Space, Lakes/Streams, Conservation easements, T&E Species*		*Fire, Flood, Etc.*		
Performance Measures	**Vehicle Miles Traveled (VMT)** Reduces full network (regional) VMT (miles) and/or VHT (hours). (based on model assignment results for No Build and Build alignment alternatives)	**Out-of-Direction Travel** Reduces (average for multiple origin-destination pairs) out of direction travel distance (miles). (based on model-based comparison of selected O-D pairs)	**Reduces travel distance and/or creates alternate routes between installations** - Improves connectivity among installations (qualitative) - Provides alternative (qualitative) or more direct/shorter deployment routes (miles) - Review of isochronal plots and network connectivity - model-based (qualitative)	**Reduces emergency response time and/or expands area served with rapid response** Improves emergency response times. (based on review of isochronal plots to/from hospitals and fire stations - model-based/qualitative)	**Multiuse Path Connection Opportunities** Number of E/W pedestrian and bicycle crossing opportunities (number of existing or planned facilities)	**Accommodates/Supports Transit Expansion** The proximity of the alignment to existing and planned/approved development will support future transit connections and/or the alignment facilitates connectivity with existing/planned transit services.	**Reduces Freight Travel Times and/or Improves Route Connectivity** Reduces travel distance between freight terminals/hubs, provides connected alternative freight routes, and/or improves connectivity among freight routes and terminals/hubs (qualitative).		**Alignment with Local Agency Plans** Analysis of conformance with local agency goals and plans (qualitative)	**Complexity of Acquisition** Analysis of difficulty obtaining future ROW needs (qualitative) Rate % of alignment through H, M, L difficulty - then compare against eachother to create benchmarks for ratings	**Resource Specific Constraints** Identification of resources impacts (300' alignment footprint)		**Redundant Routes Opportunities** Provides redundant route for HIGH CRITICALITY (NRI >4.4) or MEDIUM CRITICALITY (NRI >2.2 and <4.4) routes. - HIGH CRITICALITY: I-25 between US 85 and Old Pueblo Road - MEDIUM CRITICALITY: I-25 between Circle/Lake and CO16	**Identify Threats** Analysis of threats based on the CDOT Asset Resiliency Mapping Application (number)	Connectivity to Disproportionately Impacted Communities (DICs) - DICs within walkable distance from alignment (number) Traffic Model GHG reduction (Million Metric Tons (MMT)/Year)	
G1	**VMT=19,552,20** **VHT=8,44** The G alignments provide the least reduction in total VMT and VHT, but the greatest reduction in commercial vehicle (truck) VMT and VHT.	Alignment G1 PROVIDES an alternative route that is 4.2 miles shorter between the I-25 Pueblo Rest Area and COS Airport and 3.2 miles shorter between the I-25 Pueblo Rest Area-Schriever SFB.	The G alignments provide BEST ACCESS IMPROVEMENT to Gate 19 and potential I-25 gate further south, and PROVIDE ALTERNATIVE ROUTES between Fort Carson and COS Airport rapid deployment area with a travel distance reduction of 4.2 miles.	The G alignments: 1) Extend 40-minute hospital access 20 miles via Squirrel Creek Road; 2) Extend 30-minute hospital access 2.6 miles via I-25; 3) Extend 9-minute emergency response service 8 miles to the south and 4 miles to the east.	6 Trail connection opportunities	North portion of alignment serves potential transit expansion in developing residential areas; alignment is far from exiting transit service and population centers.	The G alignments provide the greatest reduction in truck VMT/VHT; improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provides an alternative freight route from south of Fountain with connectivity to Northgate Road.	**3**	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Inconsistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road and conflicts with the proposed development. Inconsistent with the solar farms that were developed and constructed adjacent to the Calhan reservoir. Inconsistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir.	L: 31,630', 69% M: 0', 0% H: 14,115', 31% Total Length: 45,745'	Existing Solar Arrays (No. of Crossings): **1** Proposed Reservoirs (No. of Crossings): **2** Existing Utility Feature (No. of Crossings): **2** (Substation & Water Reclamation facilities) DWR Wells (No. of w/in 200ft from Alignment): **2** Potential Historic (No. of Crossings): **1** Environmental Justice Potential Impact Scoring: Limited English Populations: **0** Minority Populations: **0** Low income populations: **0**	Existing Parks & Open Space (Approx. Linear Ft): **3,300 - Clear Spring Ranch Southern Area** Lakes (No. of w/in 200ft from Alignment): **0** Stream (No. of Crossings): **13 [4-303d streams]** Wetlands (No. of Crossings): **9** Riparian (No. of Crossings): **1** Prime Farmland (Approx. Linear Ft): **9,400** Bald Eagle Roost Sites (No. of Crossings): **1** Conservation Easements (Approx. Linear Ft): Local: **3,330**	G Alignments **provide a redundant route for ONLY the medium criticality link** between Circle/Lake and CO 16.	**Fire:** Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood:** Flood Roadway: **3** Major Culverts & bridges: **14** **Other:** Species with ranges in the area: **7**	G Alignments reduce GHG emissions by 24 MMT/year compared to the No Action Alternative. G1 Alignment provides walkable distance to 10 DICs.	**1**
	0	1	1	1	-1	0	1		-1	0	-1	0	0	0	0	
G2	**VMT=19,552,20** **VHT=8,444** The G alignments provide the least reduction in total VMT and VHT, but the greatest reduction in commercial vehicle (truck) VMT and VHT.	Alignment G2 PROVIDES an alternative route that is 3.6 miles shorter between the I-25 Pueblo Rest Area and COS Airport and 2.6 miles shorter between the I-25 Pueblo Rest Area-Schriever SFB.	The G alignments provide BEST ACCESS IMPROVEMENT to Gate 19 and potential I-25 gate further south, and PROVIDE ALTERNATIVE ROUTE between Fort Carson and COS Airport rapid deployment area with a travel distance reduction of 3.6 miles.	The G alignments: 1) Extend 40-minute hospital access 20 miles via Squirrel Creek Road; 2) Extend 30-minute hospital access 2.6 miles via I-25; 3) Extend 9-minute emergency response service 8 miles to the south and 4 miles to the east.	13 Trail connection opportunities	North portion of alignment serves potential transit expansion in developing residential areas; alignment is far from exiting transit service and population centers.	The G alignments provide the greatest reduction in truck VMT/VHT; improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provides an alternative freight route from south of Fountain with connectivity to Northgate Road.	**5**	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Inconsistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road and conflicts with the proposed development. Inconsistent with the Kane Ranch ODP due to the alignment south of Squirrel Creek Road. Avoids the solar farms that were developed and constructed adjacent to the Calhan reservoir. Consistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir.	L: 35,267', 72% M: 0', 0% H: 13,968', 28% Total Length: 49,235'	Existing Solar Arrays (No. of Crossings):**0** Proposed Reservoirs (No. of Crossings): **0** Existing Utility Feature (No. of Crossings): **2** DWR Wells (No. of w/in 200ft from Alignment): **0** Potential Historic (No. of Crossings): **1** Environmental Justice Potential Impact Scoring: Limited English Populations: **0** Minority Populations: **1** Low income populations: **-1**	Existing Parks & Open Space (Approx. Linear Ft): **3,300 - Clear Spring Ranch Southern Area** Lakes (No. of w/in 200ft from Alignment): **1 [1 - 303d lake]** Stream (No. of Crossings): **20 [10 - 303d streams]** Prime Farmland (Approx. Linear Ft): **7,300** Wetlands (No. of Crossings): **15** Riparian (No. of Crossings): **1** Bald Eagle Roost Sites (No. of Crossings): **1** Conservation Easements (Approx. Linear Ft): Local: **3,330**	G Alignments **provide a redundant route for ONLY the medium criticality link** between Circle/Lake and CO 16.	**Fire:** Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood:** Flood Roadway: **3** Major Culverts & bridges: **21** **Other:** Species with ranges in the area: **7**	G Alignments reduce GHG emissions by 24 MMT/year compared to the No Action Alternative. G2 Alignment provides walkable distance to 10 DICs.	**5**
	0	1	1	1	1	0	1		0	1	1	-1	0	-1	0	
G3	**VMT=19,552,20** **VHT=8,44** The G alignments provide the least reduction in total VMT and VHT, but the greatest reduction in commercial vehicle (truck) VMT and VHT.	Alignment G3 PROVIDES an alternative route that is 3.6 miles shorter between the I-25 Pueblo Rest Area and COS Airport and 2.6 miles shorter between the I-25 Pueblo Rest Area-Schriever SFB.	The G alignments provide BEST ACCESS IMPROVEMENT to Gate 19 and potential I-25 gate further south, and PROVIDE ALTERNATIVE ROUTE between Fort Carson and COS Airport rapid deployment area with a travel distance reduction of 3.6 miles.	The G alignments: 1) Extend 40-minute hospital access 20 miles via Squirrel Creek Road; 2) Extend 30-minute hospital access 2.6 miles via I-25; 3) Extend 9-minute emergency response service 8 miles to the south and 4 miles to the east.	9 Trail connection opportunities	North portion of alignment serves potential transit expansion in developing residential areas; alignment is far from exiting transit service and population centers.	The G alignments provide the greatest reduction in truck VMT/VHT; improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provides an alternative freight route from south of Fountain with connectivity to Northgate Road.	**5**	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Is consistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road being in the area planned. Avoids the solar farms that were developed and constructed adjacent to the Calhan reservoir. Consistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir.	L: 33,345', 67% M: 0', 0% H: 16,766', 33% Total Length: 50,111'	Existing Solar Arrays (No. of Crossings): **0** Proposed Reservoirs (No. of Crossings): **0** Existing Utility Feature (No. of Crossings): **1** (Williams Creek Substation) DWR Wells (No. of w/in 200ft from Alignment): **1** Potential Historic (No. of Crossings): **1** Environmental Justice Potential Impact Scoring: Limited English Populations: **0** Minority Populations: **0** Low income populations: **0**	Existing Parks & Open Space (Approx. Linear Ft): **3,300 - Clear Spring Ranch Southern Area** Lakes (No. of w/in 200ft from Alignment):**0** Stream (No. of Crossings): **16 [6 - 303d streams]** Wetlands (No. of Crossings): **8** Riparian (No. of Crossings): **1** Prime Farmland (Approx. Linear Ft): **7,600** Bald Eagle Roost Sites (No. of Crossings): **1** Conservation Easements (Approx. Linear Ft): Local: **3,300**	G Alignments **provide a redundant route for ONLY the medium criticality link** between Circle/Lake and CO 16.	**Fire:** Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood:** Flood Roadway: **4** Major Culverts & bridges: **17** **Other:** Species with ranges in the area: **7**	G Alignments reduce GHG emissions by 24 MMT/year compared to the No Action Alternative. G3 Alignment provides walkable distance to 10 DICs.	**6**
	0	1	1	1	1	0	1		1	0	0	0	0	0	0	

Category	Advance Local and Regional Mobility				Incorporate Multimodal Opportunities			NEEDS only Score Total	Accommodate Local and Regional Plans and Economic Growth	Corridor Preservation Footprint	Consider Impacts to Land Use and the Natural & Built Environment		Resiliency		Support Technology & Green Infrastructure	Total Score
Criteria	Mobility & Operations		Connectivity		Multimodal				Local Agency Transportation and Development Plans	Landowners / Business Impacts / Neighborhoods	Social & Manmade Resources	Natural Resources	Redundancy	Regional Threats	Opportunities to Reduce GHG Emissions	
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*				*Historic, HazMat sites, Potential Noise Receptors, EJ*	*Floodplains, Parks & Open Space, Lakes/Streams, Conservation easements, T&E Species*		*Fire, Flood, Etc.*		
Performance Measures	**Vehicle Miles Traveled (VMT)** Reduces full network (regional) VMT (miles) and/or VHT (hours). (based on model assignment results for No Build and Build alignment alternatives)	**Out-of-Direction Travel** Reduces (average for multiple origin-destination pairs) out of direction travel distance (miles). (based on model-based comparison of selected O-D pairs)	**Reduces travel distance and/or creates alternate routes between installations** - Improves connectivity among installations (qualitative) - Provides alternative (qualitative) or more direct/shorter deployment routes (miles) - Review of isochronal plots and network connectivity - model-based (qualitative)	**Reduces emergency response time and/or expands area served with rapid response** Improves emergency response times. (based on review of isochronal plots to/from hospitals and fire stations - model-based/qualitative)	**Multiuse Path Connection Opportunities** Number of E/W pedestrian and bicycle crossing opportunities (number of existing or planned facilities)	**Accommodates/Supports Transit Expansion** The proximity of the alignment to existing and planned/approved development will support future transit connections and/or the alignment facilitates connectivity with existing/planned transit services.	**Reduces Freight Travel Times and/or Improves Route Connectivity** Reduces travel distance between freight terminals/hubs, provides connected alternative freight routes, and/or improves connectivity among freight routes and terminals/hubs (qualitative).		**Alignment with Local Agency Plans** Analysis of conformance with local agency goals and plans (qualitative)	**Complexity of Acquisition** Analysis of difficulty obtaining future ROW needs (qualitative) Rate % of alignment through H, M, L difficulty - then compare against eachother to create benchmarks for ratings	**Resource Specific Constraints** Identification of resources impacts (300' alignment footprint)		**Redundant Routes Opportunities** Provides redundant route for HIGH CRITICALITY (NRI >4.4) or MEDIUM CRITICALITY (NRI >2.2 and <4.4) routes. - HIGH CRITICALITY: I-25 between US 85 and Old Pueblo Road - MEDIUM CRITICALITY: I-25 between Circle/Lake and CO16	**Identify Threats** Analysis of threats based on the CDOT Asset Resiliency Mapping Application (number)	Connectivity to Disproportionately Impacted Communities (DICs) - DICs within walkable distance from alignment (number) Traffic Model GHG reduction (Million Metric Tons (MMT)/Year)	
H1	**VMT=19,531,250** **VHT=8,441** The H alignments offer the second greatest reduction in total VMT and VHT primarily due to reduced private vehicle VMT and VHT.	Alignment H1 PROVIDES an alternative route that is 2.1 miles shorter between the I-25 Pueblo Rest Area and COS Airport and 3.1 miles shorter between the I-25 Pueblo Rest Area-Schriever SFB.	The H alignments IMPROVE ACCESS to Gate 19, a potential I-25 gate further south, and Schriever SFB, and PROVIDE ALTERNATIVE ROUTES between Fort Carson and COS Airport rapid deployment area and to Schriever SFB with travel distance reductions of 2.1 miles and 3.1 miles, respectively.	The H alignments: 1) Extend 40-minute hospital access 20 miles and 30-minute hospital access 1.2 miles via Squirrel Creek Road; 2) Extend 40-minute hospital access 5.5 miles and 30-minute hospital access 2.0 miles via I-25; 3) Extend 9-minute emergency response service 10 miles to the south and 4.5 miles to the east.	6 Trail connection opportunities	Alignment serves developing areas in the north but over half is located far from population and activity centers that would support transit connections and expansion.	The H alignments improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provide an alternative freight route from south of Fountain with connectivity to Northgate Road.	3	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Inconsistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road and conflicts with the proposed development. Inconsistent with the solar farms that were developed and constructed adjacent to the Calhan reservoir. Inconsistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir. Crosses Clear Springs Ranch Open Space and Conservation easements dedicated by the Hannah Ranches along Old Pueblo Road.	L: 31,568', 60% M: 0', 0% H: 20,637', 40% Total Length: 52,205'	Existing Solar Arrays (No. of Crossings): **3** Proposed Reservoirs (No. of Crossings): **1** Existing Utility Feature (No. of Crossings): **1** - substation DWR Wells (No. of w/in 200ft from Alignment): **2** Potential Historic (No. of Crossings): **3** Environmental Justice Potential Impact Scoring: Limited English Populations: **1** Minority Populations: **1** Low income populations: **-1**	Existing Parks & Open Space (Approx. Linear Ft): **3,500 - Clear Spring Ranch Southeastern Side** Lakes (No. of Crossings): **0** Stream (No. of Crossings): **14 [3-303d streams]** Prime Farmland (Approx. Linear Ft): **9,300** Wetlands (No. of Crossings): **7** Riparian (No. of Crossings): **0** Bald Eagle Roost Sites (No. of Crossings): **1** Conservation Easements (Approx. Linear Ft): Local: **3,500** Private: **53,300** Private Conservation: **1,600**	H Alignments **provide redundant routes for BOTH the high and medium criticality I-25 links** between US 85 and Old Pueblo Road and between Circle/Lake and CO 16, respectively.	**Fire**: Ranges from 1 (low Risk) to 4 (high risk) evenly **Moderate** Drought area **Flood**: Flood Roadway: **3** Major Culverts & bridges: **14** **Other**: Species with ranges in the area: **7**	H Alignments reduce GHG emissions by 29 MMT/year compared to the No Action Alternative. H1 Alignment provides walkable distance to 10 DICs.	1
	1	1	1	1	-1	0	0		-1	1	-1	-1	1	0	1	
H2	**VMT=19,531,250** **VHT=8,441** The H alignments offer the second greatest reduction in total VMT and VHT primarily due to reduced private vehicle VMT and VHT.	Alignment H2 PROVIDES an alternative route that is 1.7 miles shorter between the I-25 Pueblo Rest Area and COS Airport and 2.7 miles shorter between the I-25 Pueblo Rest Area-Schriever SFB.	The H alignments IMPROVE ACCESS to Gate 19, a potential I-25 gate further south, and Schriever SFB, and PROVIDE ALTERNATIVE ROUTES between Fort Carson and COS Airport rapid deployment area and to Schriever SFB with travel distance reductions of 1.7 miles and 2.7 miles, respectively.	The H alignments: 1) Extend 40-minute hospital access 20 miles and 30-minute hospital access 1.2 miles via Squirrel Creek Road; 2) Extend 40-minute hospital access 5.5 miles and 30-minute hospital access 2.0 miles via I-25; 3) Extend 9-minute emergency response service 10 miles to the south and 4.5 miles to the east.	12 Trail connection opportunities	Alignment serves developing areas in the north but over half is located far from population and activity centers that would support transit connections and expansion.	The H alignments improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provide an alternative freight route from south of Fountain with connectivity to Northgate Road.	5	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Inconsistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road and conflicts with the proposed development. Inconsistent with the Kane Ranch ODP due to the alignment south of Squirrel Creek Road. Avoids the solar farms that were developed and constructed adjacent to the Calhan reservoir. Consistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir. Crosses Conservation easements dedicated by the Hannah Ranches along Old Pueblo Road.	L: 39,919', 73% M: 1,638', 3% H: 12,824', 24% Total Length: 54,381'	Existing Solar Arrays (No. of Crossings): **0** Proposed Reservoirs (No. of Crossings): **0** Existing Utility Feature (No. of Crossings): **1** (Substation) DWR Wells (No. of w/in 200ft from Alignment): **1** Potential Historic (No. of Crossings): **2** Environmental Justice Potential Impact Scoring: Limited English Populations: **1** Minority Populations: **1** Low income populations: **-1**	Existing Parks & Open Space (Approx. Linear Ft): **0** Lakes (No. of w/in 200ft from Alignment): **1** Stream (No. of Crossings):**20 [7 - 303d streams]** Wetlands (No. of Crossings): **10** Riparian (No. of Crossings): **4** Prime Farmland (Approx. Linear Ft): **7,300** Bald Eagle Roost Sites (No. of Crossings): **0** Conservation Easements (Approx. Linear Ft): Private Conservation: **1,500** (Hanna Ranch)	H Alignments **provide redundant routes for BOTH the high and medium criticality I-25 links** between US 85 and Old Pueblo Road and between Circle/Lake and CO 16, respectively.	**Fire**: Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood**: Flood Roadway: **3** Major Culverts & bridges: **24** **Other**: Species with ranges in the area: **7**	H Alignments reduce GHG emissions by 29 MMT/year compared to the No Action Alternative. H2 Alignment provides walkable distance to 10 DICs.	7
	1	1	1	1	1	0	0		0	1	0	0	1	-1	1	
H3	**VMT=19,531,250** **VHT=8,441** The H alignments offer the second greatest reduction in total VMT and VHT primarily due to reduced private vehicle VMT and VHT.	Alignment H3 PROVIDES an alternative route that is 1.6 miles shorter between the I-25 Pueblo Rest Area and COS Airport and 2.6 miles shorter between the I-25 Pueblo Rest Area-Schriever SFB.	The H alignments IMPROVE ACCESS to Gate 19, a potential I-25 gate further south, and Schriever SFB, and PROVIDE ALTERNATIVE ROUTES between Fort Carson and COS Airport rapid deployment area and to Schriever SFB with travel distance reductions of 1.6 miles and 2.6 miles, respectively.	The H alignments: 1) Extend 40-minute hospital access 20 miles and 30-minute hospital access 1.2 miles via Squirrel Creek Road; 2) Extend 40-minute hospital access 5.5 miles and 30-minute hospital access 2.0 miles via I-25; 3) Extend 9-minute emergency response service 10 miles to the south and 4.5 miles to the east.	8 Trail connection opportunities	Alignment serves developing areas in the north but over half is located far from population and activity centers that would support transit connections and expansion.	The H alignments improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provide an alternative freight route from south of Fountain with connectivity to Northgate Road.	5	Generally Consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Is consistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road being in the area planned. Avoids the solar farms that were developed and constructed adjacent to the Calhan reservoir. Consistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir. Crosses Conservation easements dedicated by the Hannah Ranches along Old Pueblo Road.	L: 36,680', 68% M: 1,638', 3% H: 15,622', 29% Total Length: 53,940'	Existing Solar Arrays (No. of Crossings): **0** Proposed Reservoirs (No. of Crossings): **0** Existing Utility Feature (No. of Crossings): **0** DWR Wells (No. of w/in 200ft from Alignment): **2** Potential Historic (No. of Crossings): **3** Environmental Justice Potential Impact Scoring: Limited English Populations: **1** Minority Populations: **1** Low income populations: **-1**	Existing Parks & Open Space (Approx. Linear Ft): **0** Lakes (No. of w/in 200ft from Alignment):**1** Stream (No. of Crossings): **21 [8-303d streams]** Wetlands (No. of Crossings): **12** Riparian (No. of Crossings): **4** Prime Farmland (Approx. Linear Ft): **7,700** Bald Eagle Roost Sites (No. of Crossings): **0** Conservation Easements (Approx. Linear Ft): Private Conservation: **1,500** (Hanna Ranch)	H Alignments **provide redundant routes for BOTH the high and medium criticality I-25 links** between US 85 and Old Pueblo Road and between Circle/Lake and CO 16, respectively.	**Fire**: Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood**: Flood Roadway: **4** Major Culverts & bridges: **25** **Other**: Species with ranges in the area: **7**	H Alignments reduce GHG emissions by 29 MMT/year compared to the No Action Alternative. H3 Alignment provides walkable distance to 10 DICs.	8
	1	1	1	1	1	0	0		0	1	1	0	1	-1	1	

Category	Advance Local and Regional Mobility				Incorporate Multimodal Opportunities			NEEDS only Score Total	Accommodate Local and Regional Plans and Economic Growth	Corridor Preservation Footprint	Consider Impacts to Land Use and the Natural & Built Environment		Resiliency		Support Technology & Green Infrastructure	Total Score
Criteria	Mobility & Operations		Connectivity		Multimodal				Local Agency Transportation and Development Plans	Landowners / Business Impacts / Neighborhoods	Social & Manmade Resources	Natural Resources	Redundancy	Regional Threats	Opportunities to Reduce GHG Emissions	
			Military Rapid Deployment Route	*Incident Management*	*Trail System Connectivity*	*Transit Opportunities*	*Freight Connectivity*				*Historic, HazMat sites, Potential Noise Receptors, EJ*	*Floodplains, Parks & Open Space, Lakes/Streams, Conservation easements, T&E Species*		*Fire, Flood, Etc.*		
Performance Measures	**Vehicle Miles Traveled (VMT)** Reduces full network (regional) VMT (miles) and/or VHT (hours). (based on model assignment results for No Build and Build alignment alternatives)	**Out-of-Direction Travel** Reduces (average for multiple origin-destination pairs) out of direction travel distance (miles). (based on model-based comparison of selected O-D pairs)	**Reduces travel distance and/or creates alternate routes between installations** - Improves connectivity among installations (qualitative) - Provides alternative (qualitative) or more direct/shorter deployment routes (miles) - Review of isochronal plots and network connectivity - model-based (qualitative)	**Reduces emergency response time and/or expands area served with rapid response** Improves emergency response times. (based on review of isochronal plots to/from hospitals and fire stations - model-based/qualitative)	**Multiuse Path Connection Opportunities** Number of E/W pedestrian and bicycle crossing opportunities (number of existing or planned facilities)	**Accommodates/Supports Transit Expansion** The proximity of the alignment to existing and planned/approved development will support future transit connections and/or the alignment facilitates connectivity with existing/planned transit services.	**Reduces Freight Travel Times and/or Improves Route Connectivity** Reduces travel distance between freight terminals/hubs, provides connected alternative freight routes, and/or improves connectivity among freight routes and terminals/hubs (qualitative).		**Alignment with Local Agency Plans** Analysis of conformance with local agency goals and plans (qualitative)	**Complexity of Acquisition** Analysis of difficulty obtaining future ROW needs (qualitative) Rate % of alignment through H, M, L difficulty - then compare against eachother to create benchmarks for ratings	**Resource Specific Constraints** Identification of resources impacts (300' alignment footprint)		**Redundant Routes Opportunities** Provides redundant route for HIGH CRITICALITY (NRI >4.4) or MEDIUM CRITICALITY (NRI >2.2 and <4.4) routes. - HIGH CRITICALITY: I-25 between US 85 and Old Pueblo Road - MEDIUM CRITICALITY: I-25 between Circle/Lake and CO16	**Identify Threats** Analysis of threats based on the CDOT Asset Resiliency Mapping Application (number)	Connectivity to Disproportionately Impacted Communities (DICs) - DICs within walkable distance from alignment (number) Traffic Model GHG reduction (Million Metric Tons (MMT)/Year)	
K	**VMT=19,528,072** **VHT=8,440** The K alignment provides the greatest decreases in VMT and VHT with similar reductions for private and commercial vehicles. -1	Alignment K PROVIDES viable alternative routes between the I-25 Pueblo Rest Area and COS Airport and between the I-25 Pueblo Rest Area-Schriever SFB; however the alternative routes are 3.9 miles longer than for the No Action alternative routes for these O-D pairs. 0	The K alignment IMPROVES ACCESS to Fort Carson and Schriever SFB, and PROVIDES ALTERNATIVE ROUTES between Fort Carson and COS Airport rapid deployment area and to Schriever SFB with travel time distance increases of 3.9 miles for each alternative route. 1	The K alignment: 1) Extend 40-minute hospital access 20 miles and 30-minute hospital access 1.2 miles via Squirrel Creek Road; 2) Extend 40-minute hospital access 8.5 miles and 30-minute hospital access 2.0 miles via I-25; 3) Extend 9-minute emergency response service 10 miles to the south and 4.5 miles to the east. 1	7 Trail connection opportunities 0	Alignment serves undeveloped and unlikely to develop areas that are far from population centers and not good candidates for transit expansion. -1	The K alignment provides greatest reduction in total VMT/VHT; improves connectivity from I-25 (via Powers) to US 24 and the COS Industrial Park freight hub; provides an alternative freight route from Pueblo County with connectivity to Northgate Road. 1	**1**	Generally consistent with the El Paso County Major Transportation Corridors Plan Update, ConnectCOS: Transportation Plan for a Mobile Community, City of Fountain, Transportation Master Plan, Kane Ranch Overall Development Plan, Mesa Ridge Overall Development Plan, Front Range Dual-Service Rail Park. Provides a new connection to I-25 as planned to improve mobility and connectivity in the area. Is consistent with the Amara draft Overall Development Plan due to the alignment between Mesa Ridge Parkway and Squirrel Creek Road being in the area planned. Avoids the solar farms that were developed and constructed adjacent to the Calhan reservoir. Consistent with the plans by Woodmore Water District for the expansion of the Calhan reservoir. Crosses Conservation easements dedicated by the Hannah Ranches along Old Pueblo Road. Extends into Pueblo County which is not consistent with any of the current planning documents in Pueblo County. Utilizes the existing Meridian Road Corridor which is in not consistent with current plans. -1	L: 36,680', 42% M: 13,494', 15% H: 38,144', 43% Total Length: 88,318' -1	Existing Solar Arrays (No. of Crossings): **0** Proposed Reservoirs (No. of Crossings): **0** Existing Utility Feature (No. of Crossings): **0** DWR Wells (No. of w/in 200ft from Alignment): **1** Potential Historic (No. of Crossings): **1** Environmental Justice Potential Impact Scoring: Limited English Populations: **-1** Minority Populations: **1** Low income populations: **-1** 1	Existing Parks & Open Space (Approx. Linear Ft): **0** Lakes (No. of w/in 200ft from Alignment): **1** Stream (No. of Crossings): **23 [8 - 303d streams]** Wetlands (No. of Crossings): **14** Riparian (No. of Crossings): **1** Prime Farmland (Approx. Linear Ft): **28,300** Bald Eagle Roost Sites (No. of Crossings): **0** Conservation Easements (Approx. Linear Ft): Private Conservation: **6,600** (Frost) State: **14,500** (Colorado State Land Board) -1	K Alignment **provide redundant routes for BOTH the high and medium criticality I-25 links** between US 85 and Old Pueblo Road and between Circle/Lake and CO 16, respectively. 1	**Fire**: Ranges from 2 (low Risk) to 4 (high risk) **Moderate** Drought area **Flood**: Flood Roadway: **6** Major Culverts & bridges: **24** **Other**: Species with ranges in the area: **7** -1	K Alignment reduces GHG emissions by 30 MMT/year compared to the No Action Alternative. K Alignment provides walkable distance to 11 DICs. 1	**0**