

Appendix D: FHWA PEL Questionnaire

This questionnaire is intended to act as a summary of the Planning process and ease the transition from planning to a National Environmental Policy Act (NEPA) analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, so consequently much (or all) of the history of decisions made in the planning phase is lost. Different planning processes take projects through analysis at different levels of detail. NEPA project teams may not be aware of relevant planning information and may re-do work that has already been done. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage (PEL) process.

The Planning and Environmental Linkages study (PEL Study) is used in this questionnaire as a generic term to mean any type of planning study conducted at the corridor or subarea level which is more focused than studies at the regional or system planning levels. Many states may use other terminology to define studies of this type and those are considered to have the same meaning as a PEL study.

At the inception of the PEL study, the study team should decide how the work may later be incorporated into subsequent NEPA efforts. A key consideration is whether the PEL study will meet standards established by NEPA regulations and guidance. One example is the use of terminology consistent with NEPA vocabulary (e.g. purpose and need, alternatives, affected environment, environmental consequences).

Instructions: These questions should be used as a guide throughout the planning process, not just answered near completion of the process. When a PEL study is started, this questionnaire will be given to the project team. Some of the basic questions to consider are: "What did you do?," "What didn't you do?," and "Why?". When the team submits a PEL study to FHWA for review, the completed questionnaire will be included with the submittal. FHWA will use this questionnaire to assist it in determining if the study meets the requirements of 23 CFR §§ 450.212 or 450.318. The questionnaire should be included in the planning document as an executive summary, chapter, or appendix.

1. Background:

A. Who is the sponsor of the PEL study? (state DOT, Local Agency, Other)

Colorado Department of Transportation (CDOT)

B. What is the name of the PEL study document and other identifying project information (e.g. sub-account or STIP numbers, long-range plan, or transportation improvement program years)?

CO 52 from CO 119 to CO 79 Planning and Environmental Linkages Study
(CDOT Sub-Account Number: 21656)

C. Who was included on the study team (Name and title of agency representatives, consultants, etc.)?

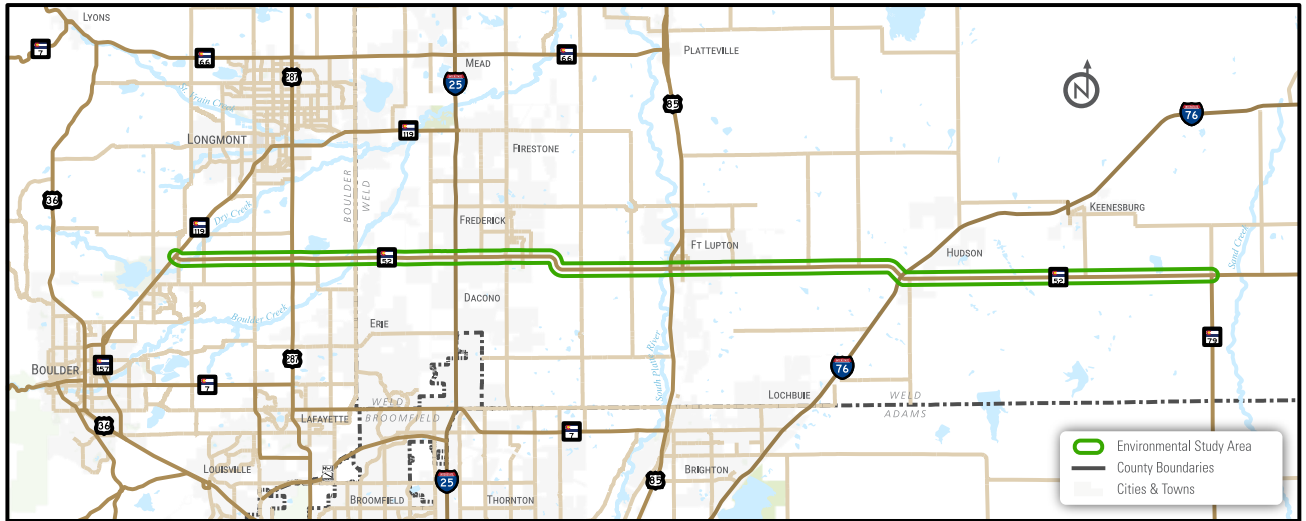
The CO 52 PEL agency and public coordination process was created to obtain input from and provide information to the Project Management Team, stakeholders, and the public. This included engaging a coalition of elected officials, creating a Technical Team of agency stakeholders, gathering public input, and ensuring community involvement, education, and outreach. Elected officials and staff from the following communities participated in the study: Boulder County, Weld County, Erie, Frederick, Dacono, Fort Lupton, Hudson, and Keenesburg.

The PMT, composed of CDOT, FHWA, and the consultant team, was responsible for making project decisions. They frequently reviewed the scope, schedule, and budget to make sure the project was moving forward. The PMT met monthly on the third Thursday of the month to discuss topics such as public involvement, traffic, environmental, engineering, and planning, in order to develop strategies and make decisions on technical questions and communication strategies.

The Consultant Team included the following firms: Muller Engineering Company, HDR, CDR, Rocksol, OV Consulting, Arch, Goodbee, ArLand, and Heritage 32.

D. Provide a description of the existing transportation facility within the corridor, including project limits, modes, functional classification, number of lanes, shoulder width, access control and type of surrounding environment (urban vs. rural, residential vs. commercial, etc.)

As shown in the figure below, the 42-mile long study area is bounded by CO 119 north of Boulder and CO 79 east of the Town of Hudson. The CO 52 PEL corridor interchanges with I-25, US 85, and I-76 in Weld County. There are over 700 access points along the corridor. The Study Corridor also includes three at-grade railroad crossings.



A brief description of the general roadway attributes is described below:

Project Limits - CO 119 to CO 79

Length of Study Corridor - 42 miles

Modes - Includes vehicular, bicycle, and pedestrian. Part of the route is designated oversized/overweight and HAZMAT.

Speed - The posted speed limit is generally 55 miles per hour (mph) west of WCR 19 and 65 mph east of WCR 19. The speed limit drops to 35 mph through Fort Lupton and 30 mph through Hudson.

Number of Lanes - Generally, travel lanes throughout the study area are 12-ft wide. CO 52 is primarily two through lanes with a double yellow centerline or a yellow dash line for passing areas. The corridor widens to 4 lanes for roughly 3/4-mile through the I-25 interchange as well as at major intersections west of I-25 and through the WCR 13 intersection east of I-25.

Intersections - At many intersections, CO 52 includes auxiliary lanes for right- and left-turn movements. Specific intersection locations are described in Section 4.9 Intersection Improvements as part of the PEL.

Shoulders - Widths vary between 0 feet and 8 feet along the corridor. Shoulders greater than 4 feet are common through the western extents, but drop to 2 feet near WCR 31 and there is little to no shoulder east of Hudson.

Access Control - CO 52 is not currently a limited access highway with many uncontrolled accesses throughout the corridor. An Access Control Plan has been developed in parallel with this PEL study.

Surrounding Environment - Includes a mix of suburban development and open space in Boulder County and a mix of suburban development and agricultural uses in Weld County.

CDOT data indicates the average daily traffic (ADT) varies throughout the corridor. At CO 119, ADT is as high as 11,000 vehicles per day (vpd), at I-25 interchange as high as 19,000 vpd, and at I-76 interchange in Hudson is 8,800 vpd. Like other corridors and roadways along the North Front Range, CO 52 also has increasing truck traffic impacts due to land development and the oil and gas industry.

CO 52 is an important regional connection for the adjacent communities of Boulder, Niwot, Erie, Dacono, Frederick, Keenesburg, Fort Lupton, and Hudson. The corridor intersects with rural, residential, urban and commercial communities.

E. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were completed.

- Study Initiation – March 2020
- Data Collection – April 2020
- Purpose and Need development – May 2020
- Public Meeting No. 1 – August 2020
- Development of Evaluation Criteria – June/July 2020
- Development of Alternatives – July 2020
- Level 1 Alternatives Screening – August/September 2020
- Level 2 Alternatives Screening – October 2020
- Corridor Projects – November-January 2021
- Project Cost Estimates, Categorization and Funding – March 2021
- Public Meeting No. 2 – August 2021
- Final PEL Report – November 2021

F. Are there recent, current, or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?

As part of the Alternatives Development and analysis, the No Action Alternative anticipated future conditions of the CO 52 corridor without completing any transportation improvements. The No Action Alternative included required safety and maintenance improvements to maintain an operational transportation system, as well as those fiscally constrained projects that have committed funding sources that will be built regardless of the improvements recommended in this PEL. Funding sources for those fiscally constrained projects include the State Transportation Improvement Program (STIP), regional Transportation Improvement Programs (TIP) funded by Metropolitan Planning Organizations (MPOs), and local agency Capital Improvement Programs (CIPs). The No Action Alternative did not meet the Purpose & Need of this PEL but was used as a baseline for comparison to the operational and safety benefits that resulted from recommended transportation improvements.

The table below provides information on 2045 fiscally constrained projects that have been included in the No Action Alternative.

Facility	Project Name	Project Description	Source
CO 52	CO 52 & US 287 Intersection	Intersection improvements	CDOT (STIP)
CO 52	CO 52 & I-76 Interchange	Interchange improvements	CDOT (STIP)
CO 52	CO 52 & WCR 41 Intersection	Intersection improvements	CDOT (Upper Front Range, TRP)
I-25	MP 214-269	Congestion, safety, travel time and freight reliability improvements	CDOT (TIP)
N 71st St	Lookout Rd to CO 52	Realignment and widening of intersection	Boulder (CIP)
WCR 7	CO 52 to Erie Pkwy	Realignment and widening to 4 lanes	Erie Transportation Plan (CIP)

A number of plans were also reviewed to better understand specific local agency goals and objectives for the corridor:

- Boulder County Transportation Master Plan (2020)
- Boulder County Vision Zero (2018)
- Weld County Comprehensive Plan, Chapter 22 (2020)
- Weld County 2035 Transportation Plan (2011)
- East County Line Road/Weld County Road 1 Corridor Master Plan (2021)
- Town of Erie Comprehensive Plan (2016)
- Town of Erie Transportation Plan (2018)
- Town of Erie Wastewater Collection System Master Plan (2020)
- Town of Erie Outfall Systems Plan-East of Coal Creek (2020)
- Town of Frederick Comprehensive Plan (2015)
- Town of Frederick Downtown Development Plan (2010)
- Town of Frederick Parks, Open Space, and Trails Master Plan (2010)
- Dacono Forward. Comprehensive Plan Update (2017)
- Dacono Field Inventory, Regional Transportation and Drainage Impact Fees Analysis
- Dacono Parks, Trails, and Outdoor Recreation Master Plan (2008)
- Picture Fort Lupton. A Plan for Our Community's Future (2018)
- Fort Lupton Core Urban Renewal Plan (2015)
- Rooted in Fort Lupton: Commercial Corridor Streetscape Plan (2018)
- Fort Lupton Transportation Plan (2018)
- Town of Hudson 2035 Comprehensive Plan (2018)

- Town of Hudson Transportation Master Plan (2020)
- Town of Keenesburg Comprehensive Plan (2005)
- DRCOG Metro Vision Plan (2019)
- CDOT North I-25 Environmental Impact Statement (2011)

2. Methodology used:

A. What was the scope of the PEL study and the reason for completing it?

The scope of the CO 52 PEL Study was to provide an understanding of the existing conditions of the study area and work with stakeholders to develop and evaluate a range of improvements to increase safety, accommodate increased travel, and support multimodal connections.

In recent years, traffic congestion along CO 52 has increased dramatically. CDOT engaged this PEL study to create a comprehensive document that provides a long-term vision for the corridor with emphasis on stakeholder involvement. Such a document was deemed necessary to understand the needs of the corridor, develop alternatives and provide project recommendations for future consideration.

In conjunction with the PEL Study, this effort included the development of an Access Control Plan (ACP) for the entire corridor (CO 119 to CO 79).

B. Did you use NEPA-like language? Why or why not?

Yes. NEPA-like language was used to support Recommendations for future projects and/or NEPA processes that may arise from the PEL Study.

C. What were the actual terms used and how did you define them? (Provide examples or list)

The following terms in the PEL Study are the same in meaning to those used in NEPA and the CDOT NEPA Manual under Appendix B-Terminology:

- Purpose and Need
- Alternative
- Alternative Analysis
- No Action Alternative
- Alternatives Eliminated
- Project Study Area

The term Recommended Alternative can be used to refer to the recommendations from the alternatives evaluation conducted in the PEL Study when identifying the alternatives that can be carried forward from the Study. Based on the alternatives evaluation, the Recommended Alternatives were

determined to meet the Purpose and Need while minimizing impacts to the environment and community.

D. How do you see these terms being used in NEPA documents?

These terms will continue to be used in the same manner and in accordance with the CDOT NEPA Manual (2020). Planning and design concepts developed for the CO 52 PEL Study set the stage for NEPA and future design and construction.

E. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.

The PMT, comprising CDOT, FHWA, and consultant staff, met monthly over the course of the project. CDOT served as the decision-makers throughout the PEL, while the consultant team acted as technical support and professional expertise to aid in decision-making.

The Technical Team (comprised of CDOT, consultant staff, and local agency representatives) also met monthly and were able to voice the concerns of their communities to the project team and assure that decisions aligned with their local agency values and plans.

Official FHWA Coordination Points occurred at the following times:

- Determining the Reason for the PEL Study (Completed 7/23/19)
- Purpose & Need (Completed 8/17/20)
- Alternatives to be Evaluated During the PEL Study (Completed 10/14/21)
- PEL Document (Completed 12/03/2022)

The following list includes a summary of key milestones, dates and documentation of decisions:

Decision Log		
Decision Description	Reasoning	Date
Project Team to present to SH 52 Coalition with specific updates, not at every meeting	Maintain reporting consistency to Coalition	4/16/2020
Move Forward with Purpose and Need on schedule despite traffic data constraints	Existing Conditions Report schedule	4/16/2020
Paleo will be included in Existing Conditions	Data collection	5/6/2020

Decision Log

Decision Description	Reasoning	Date
Historic Resources APE will be 350' from centerline	Encompasses two rows of houses from ROW	5/22/2020
TDM "Study Area" and "Regional Study Area" will be removed from the maps and projects	Specific boundary lines confuse the actual extent of the TDM inputs. Traffic patterns and commuting locations are situated well outside the original boundaries and are all considered throughout the existing conditions analysis.	6/1/2020
Fourth Thursday of the month is a good meeting date for the majority of TT members.	Consistent meeting time	5/28/20
Will consider the City of Boulder as an "organization"	Organizations are defined as "Additional federal, state and local agencies; schools; community groups," distinct from coalition members	7/10/2020
Incorporate potential ROW footprint into ACP	Useful for and will save time in making decisions for both CDOT and Local Agencies	7/16/2020
ACP meetings will be for jurisdictions that do have access along corridor. This does not include Firestone or Broomfield.	Jurisdictions may have ownership of property along the corridor; however, property ownership does not indicate interest in access locations or changes	10/8/2020
We are creating one ACP for the entire project corridor	The ACP should consider the corridor as a whole	10/29/2020
The TT agrees to move forward with the Evaluation Criteria, given additional clarifying changes	Consistent approach for evaluating alternatives	12/3/2020
TT supports bringing this ACP amendment voting procedure recommendation to the Coalition for review.	TT Approval of voting procedure	12/3/20
Project Team agrees to move forward with alternatives terminology	Consistent terminology	12/17/2020

Decision Log		
Decision Description	Reasoning	Date
Decision to move forward with Evaluation Criteria	Consistent approach for evaluating alternatives	12/17/2020
Decision to move forward with applied factors for 2020 traffic volumes	COVID adjustments	12/17/2020
Confirmation of excluded areas; will not include US 287	Alternatives development	2/18/2021
Coalition decision to approve one voting block	Solidify amendment decision-making	2/25/2021
Public Meeting #2 to be virtual	Consistent with success of Public Meeting #1	6/17/2021
All reverse curve alternatives will be Recommended as part of the Level 2 evaluation. Show footprint in ACP.	Best alternative to be determined as part of potential future project	7/15/2021
Cancelling 8/19 Technical Teams meeting	another Technical Teams meeting is scheduled for 8/31	8/5/2021
Travel Demand Management Memo will not be prepared as a separate document - TDM will be mentioned within the PEL document	Providing best-value for project	
Structures Report will not be prepared as a separate document - Structure information is included as part of existing conditions and any structure projects are included in the list of potential projects, if applicable	Providing best-value for project	9/2/2021 8/18/2021
Remove interim options from project	Help strengthen rationale for developers to be responsible for ultimate development configurations/ reduce disagreement between agencies, CDOT and developers on what is required	11/18/2021

F. How should the PEL information be presented in NEPA?

The PEL documentation was prepared consistent with NEPA requirements and allows for future NEPA processes to readily extract pertinent information from the

reports. The PEL Study's alternatives development and analysis process included developing screening and evaluation criteria based on the Purpose and Need and documenting the reason for alternatives elimination to limit the need for consideration during future NEPA processes. Concepts were screened with input from the entire PEL Study team to understand and incorporate all aspects of future needs and potential design for the corridor.

3. Agency coordination:

A. Provide a synopsis of coordination with Federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.

Agency coordination was done at the start of the CO 52 PEL Study process. Local agencies were involved and provided input and feedback throughout the entire Study. FHWA was part of the Technical Team and provided valuable input throughout the Study, including the required coordination points: Approval of Need for the Study, Review of Purpose and Need Statements, Review of Evaluation Criteria and Alternatives to be Evaluated, and Review of the Draft PEL Document and FHWA PEL.

Coordination letters and the Existing Conditions report were sent to the CDOT/ CDPHE Liaison, CDPHE EPS Oil and Gas Liaison, CDPHE Hazardous Materials, CDPHE Solid Waste, CDPHE Water Quality Control Division, Colorado Parks and Wildlife, RTD, State Historic Preservation Officer, US Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fisheries and Wildlife Service, and the EPA NEPA Transportation Sector Coordinator for their review. A meeting was held with Colorado Parks and Wildlife on August 26, 2020, to discuss their specific concerns and questions. Additional details can be found in Appendix I: Project Communications and Public Involvement Report in the final PEL document.

B. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved during the PEL study?

The Technical Team, comprising local agency staff representatives, provided technical input to the study and PMT. The TT identified relevant materials that could be helpful to the Study teams, supported development of the corridor vision, coordinated with and informed the State Highway 52 Coalition of project status and helped articulate problems and evaluate solutions for the corridor. The TT included representatives from: Boulder and Weld Counties, City of Dacono, Town of Erie, City of Fort Lupton, Town of Frederick, Town of Hudson, and the Town of Keenesburg.

The SH 52 Coalition assisted the PMT in resolving issues, making decisions on policy issues, and providing feedback on the status of study activities and

decisions. In addition, they helped guide local involvement in the PEL. The team provided monthly updates to the SH 52 Coalition and presented to the SH 52 Coalition at project milestones. The Coalition was made up of elected officials from the local agencies along the CO 52 corridor and policy-level representatives of CDOT.

Additional stakeholder coordination and outreach occurred with the following: CDOT Rail (July 28, 2020) Colorado Motor Carriers Association (CMCA) (July 24, 2020) Colorado Parks and Wildlife (CPW) (August 26, 2020) IBM (August 5, 2020) Transit Organizations (May 12, 2021) Boulder County Cycling Meeting (July 20, 2021) with Bicycle Colorado, Boulder County, CDOT. CO 119 Bikeway, CO 119 Mobility, CO 52 PEL / ACP, Community Cycles, Cyclists 4 Community, RTD Glen's Coalition (July 8, 2021) Aims Community College (August 18, 2020).

C. What steps will need to be taken with each agency during NEPA scoping?

The steps to be taken will depend on the type of future NEPA documentation prepared for the proposed improvement project(s). CDOT will coordinate with the identified transportation and resource agencies during the NEPA scoping process. Any scoping meetings may either be one-on-one or group setting with the relevant agency. During these meetings, CDOT will present and reference the PEL Study findings and process and work to identify agency concerns regarding the project. The PEL Study will be used as a guide and reference on preferred projects in the area to reduce the NEPA scoping process and review period.

4. Public coordination:

A. Provide a synopsis of your coordination efforts with the public and stakeholders.

The CO 52 PEL Study held two open houses during the PEL process to engage and inform the public as well as gather their input and opinions. Due to the COVID-19 State and Federal regulations, the meetings were held virtually and were each open to the public for several weeks. Public materials were translated into Spanish and made available on the project website.

- Virtual Open House # 1
 - August 24, 2020-September 17, 2020. Hosted on a website platform, separate from the general project website. This provided for the opportunity to have stakeholders interact with the materials on their own schedule and time. The opportunity to request more information or ask questions was available. Over 800 individuals viewed the site, and 126 new contacts were collected during the public event.

- Virtual Open House # 2
 - August 30, 2021-September 20, 2021. Hosted on a website platform, separate from the general project website. This provided the opportunity for the public to view updates and how the feedback received from the first Virtual Open House was able to be incorporated into the PEL evaluation process. This also informed stakeholders and the public about progress on the PEL & ACP. More than 1,000 individuals visited the site, and participants completed 237 surveys.

Project-relevant content was produced, managed, and maintained on the project website through the duration of the PEL Study. To engage individuals and corridor users, the project team connected with local schools, community groups, HOAs, and other local organizations. A Communications Packet was distributed to the Technical Teams and Coalition members to share information on the Virtual Open Houses and status updates of the project.

The Project Team prepared and distributed the Project One-Pager, ACP One-Pager, and February e-blast to stakeholders and local residents who signed up to stay informed about the project. Throughout the PEL process, an email distribution list was developed, and email blasts were sent to over 400 recipients on July 23, 2020, November 23, 2020, and March 25, 2021.

5. Purpose and Need for the PEL study:

A. What was the scope of the PEL study and the reason for completing it?

The scope of the CO 52 PEL Study is to provide an understanding of the existing conditions of the study area and work with stakeholders to develop and evaluate a range of improvements to increase safety, accommodate increased travel, and support multimodal connections.

B. Provide the purpose and need statement, or the corridor vision and transportation goals and objectives to realize that vision.

The Project Team, with input from local agencies, developed the reason and vision for the CO 52 corridor that unified the project team, local agencies, and stakeholders throughout the process.

Reason: The reason for conducting the PEL is to complete a high-level study of CO 52 to better understand transportation issues and environmental resources along the corridor. It will support CDOT, the local agencies, stakeholders, and the public to determine improvements that should be made and estimate right-of-way preservation for future projects. This study will prioritize a list of short and long term projects that will benefit CO 52 in both Boulder and Weld Counties.

Vision: The vision for CO 52 is to improve safety and travel time reliability along the corridor for all modes and accommodate future growth plans of the local communities.

Project Purpose: The purpose of the recommended transportation improvements is to increase safety, accommodate increased travel and freight demand, and support multi-modal connections.

Project Goals: Goals were developed with the Project Team and local agencies using input from the SH 52 Coalition, Technical Team, and Stakeholder one-on-one meetings. The recommended improvements of the PEL should: consider the natural and built environment, support local and regional planning efforts, identify estimated ROW needs, and accommodate future technology.

C. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?

The Purpose and Need statement addresses the entire project corridor, depending on the specific project, the Purpose and Need may need to be revised to address the needs at the specific location. Updated traffic data may be needed depending on when the NEPA study is initiated. Individual project elements that advance out of the Carried Forward alternative should address at least one Need identified in the PEL report.

6. Range of alternatives: Planning teams need to be cautious during the alternative screen process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis, and possibly mode selection. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision will not be considered reasonable alternatives, even if they reduce impacts to a particular resource. Detail the range of alternatives considered, screening criteria, and screening process, including:

A. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)

The alternatives focused on addressing the issues identified in the evaluation of existing conditions and were developed based on input received from agency stakeholders, traffic data, and public open houses. Concepts were developed for each segment and were categorized by the project Needs that were identified.

The alternatives development process is discussed in detail in Section 4.6.3 Alternatives Development in the PEL report and an Alternatives Analysis memo can be found in Appendix F of the PEL report.

B. How did you select the screening criteria and screening process?

The screening criteria were developed based on the project Purpose and Need and Goals. The process assisted in narrowing down a wide range of alternatives from individual concepts into packages of alternatives, ultimately identifying alternatives to be Recommended or Carried Forward. Screening criteria were developed in close coordination with local agency partners.

C. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws.)

During the screening process, alternatives were eliminated if the concept had a fatal flaw or did not meet the Purpose and Need. If a concept had negligible benefits or high impacts than other concepts, it was not carried forward for further evaluation in the PEL Study.

D. Which alternatives should be brought forward into NEPA and why?

The alternatives that should be brought forward into NEPA are identified in the Level 2 Alternatives Analysis table. The alternatives are recommended to be Carried Forward into NEPA that clearly follow the Purpose and Need and project goals of the PEL while minimizing environmental and community impacts. The alternatives fit into the future vision of the corridor. Each alternative that is recommended to be Carried Forward was evaluated according to the established evaluation criteria that was agreed to by the SH 52 Coalition, Technical Teams, and the Project Team.

E. Did the public, stakeholders, and agencies have an opportunity to comment during this process?

Yes. Throughout the study, the public had ongoing and accessible opportunities to participate and provide input to inform the Study. Input was solicited at public and community meetings with comment forms. An email address and project website were created so members were easily able to provide input and ask questions throughout the Study process. Several one-on-one meetings were held to ensure agencies and stakeholders understood the alternatives being evaluated and had the proper chance to respond and provide input.

The comments that were collected were shared with the Technical Team and SH 52 Coalition. The public meeting summaries are included in Section 6.3 of the PEL report.

F. Were there unresolved issues with the public, stakeholders, and/or agencies?

All concerns and comments expressed-submitted to the project team throughout the project were addressed directly with the individual or agency. The project team made phone calls, responded to emails, and offered one-on-one meetings to answer questions or concerns.

7. Planning assumptions and analytical methods:

A. What is the forecast year used in the PEL study?

The forecast year used in the PEL Study is 2045.

B. What method was used for forecasting traffic volumes?

The traffic forecasting reviewed traffic volumes under the 2020 existing conditions, the 2045 No Action alternative, and four 2045 action alternatives using the CDOT travel demand model. The analysis then summarizes the traffic volumes at screen line locations along CO 52, including parallel routes to CO 52.

C. Are the planning assumptions and the corridor vision/purpose and need statement consistent with each other and with the long-range transportation plan? Are the assumptions still valid?

The Vision and Purpose and Need statement are consistent with each other and the long-range transportation plans within the project corridor. The assumptions remain valid.

D. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs, and network expansion?

The Current Land Use Patterns Map was developed using County Assessor records and aerial maps. The Future Land Use Map was developed by aggregating future land use data from Local Agencies' comprehensive plans. All land use categories were aggregated to provide land use designations along the entire project corridor. This analysis assumes that cities and towns will annex adjacent County lands as reflected by their plans.

In addition to the plan review above, local agency stakeholders were interviewed about current and future planned developments in order to identify any concerns related to near term growth. Current and future land uses along the corridor were aggregated into the following categories:

- Agriculture / Rural Residential
- Commercial
- Industrial / Mineral
- Mixed Use

- Public / Semi-Public
- Public Lands / Open Space
- Residential
- Vacant

8. Environmental resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:

A. In the PEL study, at what level of detail was the resource reviewed and what was the method of review?

The resources identified within the PEL were assessed through a desktop review of available data within the context of the regulatory framework. This was prepared as part of the PEL Study to identify resources early in the planning process. Further information on the environmental resource details and mapping can be found in the CO 52 Existing Conditions Report.

B. Is this resource present in the area and what is the existing environmental condition for this resource?

Floodplains and Floodways	Seven different floodplain or floodway zones were identified within the corridor limits.
Wetlands and Waters of the U.S. (WOTUS)	Wetlands and other WOTUS within the corridor limits are a mix of stream channels, ponds, reservoirs, and wetlands. Bulrush Wetland Park in the Town of Frederick is identified as a wetland mitigation bank.
Water Quality	Seven surface water 303 (D) Listed areas were identified within the project limits. Several State and Local Agencies are identified throughout the corridor to comply with stormwater discharge.
Threatened & Endangered Species, Species of Special Concern, Migratory Birds, and Eagles	Habitat that can support T&E species, special concern species, migratory birds, and eagles are found within the corridor. The Potential for the occurrence of these species must be considered. Preble's Meadow Jumping Mouse and Ute Ladies'-Tresses Orchid have the potential to occur within the study area. There area several active bald eagles nests located within or near the study area. The presence of mule deer crossing the highway has been identified within the project corridor.
Vegetation and Noxious Weeds	Cultivated cropland compromises the majority of the study area. Noxious weed locations were identified throughout the corridor through data from CDOT.

Hazardous Materials	There are 33 Potential Environmental Concerns and 16 Recognized Environmental Concerns in the study area. The sites are characterized as follows: leaking underground storage tanks (18), underground storage tanks(29), aboveground storage tanks(9), liquefied petroleum gas tank sites(3), superfund sites (1), clandestine drug laboratory (1) reported spills (7), industrial sites (2), railroads, or oil and gas facilities (225).
Historic Resources	Historic resources in the study area include: urban and agrarian buildings, railroads, roads, culverts, bridges, and irrigation systems. 18 resources within the study area were previously determined eligible to the National Register Historic Places or State Register or Historic Places. CO 52 itself was determined to officially be eligible to the NRHP.
Paleontological Resources	Two areas along the corridor were identified as highly sensitive for paleontological resources. Projects in this area require additional investigations. Table 4.6 in the Existing Conditions Report shows potentially sensitive areas in the corridor.
Traffic Noise	Results of a data review indicated that 888 out of 1,490 parcels in the traffic noise study area contain noise-sensitive land uses.
Parks, Trails, Open Spaces, Wildlife Refuges	The corridor contains several existing and future recreational trailheads and crossings. Sections of four major regional trails intersect the corridor. There are two parks and one trail classified as Section 6(f) that intersect or are adjacent to the project area. The corridor hosts 7 public open-space properties. The largest Section 4(f) resource is the 934-acre Banner Lakes State Wildlife Area that is bisected by CO 52.
Environmental Justice	Minority and Low-Income populations were identified throughout the project corridor. Table 4.9 and 4.10 of the Existing Conditions Report contains further information on location and statistics.
Utilities	The Existing Conditions review identified 107 major utility infrastructure that is critical for service distribution within the study area that could be costly or complicated to relocate. This includes electric lines and stations, water lines, sanitary sewers, storm sewers, gas transmission lines, petroleum lines, and telecommunication lines.

Visual Resources	The Rocky Mountain Front Range, Longs Peak, and Indian Peaks were all identified as an influence of landscape and community character. Five landscape units were established along the corridor based on their specific visual identities such as viewsheds, vegetation, landforms, and development.
Prime and Unique Farmland	There are areas within the study area that identify as prime farmland, farmland of statewide importance, and farmland of local importance. Prime farmlands are located along the majority of the western and eastern portions of the corridor.
Air Quality	A portion of the study area is within the Denver Regional Council of Governments and partially within the Upper Front Range Transportation Planning Area which have air quality standards and procedures in place.

C. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?

Floodplains and Floodways	The floodplain evaluation should be completed during conceptual design of any proposed project. Design solutions should minimize impacts to the floodplain and be developed cooperatively with U.S. Army Corps of Engineers, FRMA, and the affected communities.
Wetlands and Waters of the U.S. (WOTUS)	If proposed improvements impact an area that may contain wetlands or WOTUS, a wetland delineation would be required. Various permits and additional documentation are required under Section 404 of the Clean Water Act and CDOT policy. A Wetland Delineation Report and FACWet Analysis must be completed prior to construction.
Water Quality	MS4 boundaries and 303(d) listings should be confirmed within the proposed project limits, and the needs for permanent water quality should be considered based on conceptual designs. Construction and long-term maintenance of permanent water quality control measures will need to be determined before final design is completed.
Threatened & Endangered Species, Species of Special Concern,	A field survey along with a Biological Resources Report should be prepared to document the resources present in the proposed project area. The documentation would aid in decision-making

Migratory Birds, and Eagles	and identify required permitting. When impacts are expected, cost and mitigation measures should be built into the design during project development. Additionally, seasonal restrictions can affect construction and design development timeline.
Vegetation and Noxious Weeds	Future projects will require field work during the growing season to characterize the major vegetation communities and verify the presence of noxious weeds. Commitments will be required for revegetation and noxious weed management through an integrated weed management plan. Coordination with local agencies should be anticipated, especially in areas adjacent to conservation lands.
Hazardous Materials	A CDOT ISA Checklist, modified Environmental Site Assessment, or Phase 1 Site Assessment would be required depending on proposed project location. If an alternative requires acquisition of property with a Recognized Environmental Concern, a Phase 2 Environmental Site Assessment is required.
Historic Resources	The existing conditions information should be used to help inform the project planning process to minimize or avoid impacts to previously identified eligible or listed historic resources. Design solutions should minimize impacts to historic resources and recognize the areas that may require additional survey. Future projects would require Section 106 and potentially Section 4(f) coordination. An APE should be developed once conceptual level design plans are developed that include all areas of impacts.
Paleontological Resources	Spot-monitoring by a qualified and permitted paleontologist may be required dependent on the proposed project location. Continuous monitoring required a qualified and permitted paleontologist to be on site during all excavation into the rock unit being monitored.
Traffic Noise	Projects should consider potential noise receptors along the corridor such as parks, trails, and rural homes. NEPA requires comparison of a proposed alternative with a baseline no-build alternative to evaluate potential changes in the traffic noise environment. A noise assessment is required for Type 1 projects to determine if there will be an

	<p>impact to sensitive receptors. Qualified practitioners must conduct the noise evaluations.</p>
<p>Parks, Trails, Open Spaces, Wildlife Refuges</p>	<p>To avoid delays, Section 4(f) and 6(f) evaluations should occur at the start of the NEPA process and be considered when determining a proposed project. Affected properties require coordination with FHWA, CDOT, and officials with jurisdiction. Planning and documentation of measures to avoid, minimize, and mitigate impacts to resources will be required. An Individual Section 4(f) approval process can take up to a year to complete. Negotiations and mitigation plan approval for Section 6(f) impacts can take 16 months for approval.</p>
<p>Environmental Justice</p>	<p>Future projects will need to consider environmental justice analysis. Area of potential impact for the project and identification of minority and low-income populations will be required. Public participation opportunities should be provided throughout the project development process. Efforts should be made to mitigate any adverse impacts to these populations identified during the NEPA analysis.</p>
<p>Utilities</p>	<p>Utility coordination should occur during design of any proposed improvements. During the design phase, all utilities must be identified consistent with CRS 9-1.5. CDOT procedures must be followed when utilities may be impacted by a project. The Design Team must coordinate with the affected utility companies. The coordination will need to be documented and provided to the Region Utility Engineer to review and issue clearance.</p>
<p>Visual Resources</p>	<p>Project improvements should consider the panoramic viewsheds of the Rocky Mountain Front Range for adjacent properties and travelers to the west. The FHWA Visual Impact Assessment scoping process provides a framework for establishing the appropriate level of study and documentation for NEPA projects. Measures should be developed to avoid or minimize visual contrast of transportation improvements. Design solutions should consider local agency aesthetic and planning goals. Project design guidelines should be developed to achieve visual compatibility and continuity with landscape</p>

	settings and viewsheds. Local jurisdictions have policies and regulations which indicate the desire for roadways to be context-sensitive, protect viewsheds, and improve visual quality.
Prime and Unique Farmland	The proposed project goal should be to minimize the conversion of farmland to non-agriculture use. NRCS maps should be reviewed to determine if farmland is present. Right-of-way acquisition should minimize impacts to prime farmlands and complete the application for conversion from prime farmland to developable land as necessary.
Air Quality	Proposed future projects that consider federal funding must conform to both regional and local air quality standards. Project alternatives need to be assessed for local conformity to standards to determine the need for a hot-spot analysis based on whether there is a significant increase in diesel vehicle traffic associated with the improvements.

D. How will the planning data provided need to be supplemented during NEPA?

Additional analysis will be required during NEPA to examine the new potential resource impacts and new potential mitigation requirements. Consultations with appropriate agencies and continued public involvement will also be required. Field surveys will be required to determine

9. List environmental resources you are aware of that were not reviewed in the PEL study and why. Indicate whether or not they will need to be reviewed in NEPA and explain why.

The following resources will need additional analysis during NEPA depending on the NEPA class of action and also the context of the Proposed Action and project location:

- Air Quality/GHG
- Geologic Resources and Soil
- Archaeological
- Water Quality
- Vegetation and Noxious Weeds
- Fish and Wildlife
- Social Resources
- Economic Resources
- Energy

10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where the analysis can be found.

Cumulative impacts were not considered in the PEL study. They will be considered during future NEPA processes.

11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.

Mitigation strategies were developed at a planning level in this PEL Study. Known environmental resources are described for each of the project Segments in Table 1: Summary of Existing Conditions. The PEL clearly states that future improvements being implemented should consider the built environment through a context-sensitive approach to land use and character along the corridor.

12. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?

The PEL Study, along with the preliminary environmental scoping, will serve as a basis of the NEPA document and will be included as an appendix, if applicable. The documents developed through the PEL process are available on the project website for future use.

13. Are there any other issues a future project team should be aware of?

The CO 52 PEL Study presented an opportunity to understand the regional importance of CO 52 and the connectivity it provides from the foothills to the eastern plains. Although many goals for CO 52 are shared among agencies, namely to improve safety and maintain mobility, corridor stakeholders also have unique objectives for their communities. Future project implementation will need to rely heavily on the unique local needs of agencies and jurisdictions while developing mutually agreeable solutions for corridor-wide mobility.