SH 119 MULTI-MODAL PLANNING AND ENVIRONMENTAL LINKAGES STUDY

PEL Questionnaire

Prepared For:

Regional Transportation District

Submitted by:

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September 2019
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ACRONYMS AND ABBREVIATIONS

34 Arland Arland Land Use Economics
35 Ave Avenue
36 BAT Business Access and Transit
37 Boulder City of Boulder
38 BRT Bus Rapid Transit
39 CatEx Categorical Exclusion
40 CDOT Colorado Department of Transportation
41 CU University of Colorado
42 DOLA Colorado Department of Local Affairs
43 DRCOG Denver Regional Council of Governments
44 EA Environmental Assessment
45 FHWA Federal Highway Administration
46 FTA Federal Transit Administration
47 HOV High Occupancy Vehicle
48 M million
49 MMCV Multi-Modal Corridor Vision
50 mph miles per hour
51 NAMS Northwest Area Mobility Study
52 NEPA National Environmental Policy Act
53 PAC Policy and Advisory Committee
54 PEL Planning and Environmental Linkages
55 PRT Personal Rapid Transit
56 Rd Road
57 ROW right of way
58 RTD Regional Transportation District
59 SH State Highway
60 St Street
61 STIP Statewide Transportation Improvement Program
62 T2 Transportation Transformation
63 TAC Technical Advisory Committee
64 TAZ Traffic Analysis Zone
65 US United States
66 USACE US Army Corps of Engineers
67 USFWS US Fish and Wildlife Service
68 Virtegic Virtegic Group
This questionnaire is intended to act as a summary of the planning process and ease the transition from the planning study to a National Environmental Policy Act (NEPA) analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, and much (or all) of the history of decisions, etc., is not passed along. Different planning processes take projects through analysis at different levels of detail. Without knowing how far, or in how much detail a planning study went, NEPA project teams often re-do work that has already been done.

Planning teams need to be cautious during the alternatives’ evaluation process. Alternatives’ 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 cannot be considered viable alternatives, even if they reduce impacts to a particular resource. This questionnaire is consistent with 23 CFR 450 (planning regulations) and other Federal Highway Administration (FHWA) policy on Planning and Environmental Linkage (PEL) process.

Instructions: These questions should be used as a guide throughout the planning process. The questionnaire should be filled out as the study progresses. It is a beneficial tool to keep leadership and program managers up to date on a study’s progress. When a PEL study (i.e. corridor 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 the study to FHWA for review, the completed questionnaire will be included with the submittal. FHWA will use this questionnaire to assist in determining if an effective PEL process has been applied before NEPA processes are authorized to begin. The questionnaire should be included in the planning document as an executive summary, chapter, or appendix.

1. Background

A. What is the name of the PEL document and other identifying project information (e.g. subaccount or Statewide Transportation Improvement Program [STIP] numbers)?

The PEL Study document is named the State Highway (SH) 119 Multi-Modal PEL Study, it was initiated by the Colorado Regional Transportation District (RTD) in summer 2017 and was completed in summer 2019. PEL Study documents can be found online at: www.SH119BRT.com. The project does not have Colorado Department of Transportation (CDOT) subaccount number or a code as it was initiated by RTD.

B. Who is the lead agency for the study? (FHWA, FTA, CDOT, Local Agency)

The Federal Transit Administration (FTA) and the FHWA jointly acted as the lead agency and RTD sponsored the project. CDOT was involved throughout the Study as well since SH 119 is under their jurisdiction, as well as several of the city streets that are a part of the analyses and recommended for improvement(s).

C. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were conducted. (Include project start date and end date).
D. Provide a description of the existing transportation corridor, including project limits, length of study corridor, modes, number of lanes, shoulder, access control and surrounding environment (urban vs. rural, residential vs. commercial, etc.)

The Study Area for the PEL is generally the operational right of way (ROW) of SH 119 between the City of Boulder (Boulder) and the City of Longmont (Longmont) in Boulder County, Colorado as well as the streets within both cities along which Bus Rapid Transit (BRT) would be routed including the associated bus stops and stations as well as the recommended local improvements that are included in the SH 119 MMCV. The overall environmental context of the PEL Study varies from urban within both cities to rural along SH 119 between them.

Between Boulder and Longmont, SH 119 is a divided state highway with 4-6 travel lanes plus shoulders and a wide center median within a 200-250-foot wide ROW. The pavement in each direction of SH 119 is 40-60-feet wide totaling 80-120-feet of pavement, which leads to a large amount of additional ROW in the corridor that diverges between the median and the sides of the corridor. The cross section varies through the corridor and, in some locations, includes auxiliary lanes; right- and left-turn lanes; queue jump lanes for buses at 63rd Street and Jay Road; and other features. The pavement condition is generally very good and well-maintained although the roadway shoulders are not built to the same width and full depth strength as the general-purpose traffic lanes.
The proposed SH 119 BRT routes travel along state highways and city-owned streets in both Boulder and Longmont. In Boulder, these roadways have 4-6 lanes of travel; 28th Street, which is also a state highway and US highway (SH 119 and US 36), includes bicycle lanes; business access and transit (BAT) lanes; and has transit signal priority at its intersections in this segment.

Proposed BAT lanes in Boulder include Iris Avenue between 28th Street and Foothills Parkway (which is also SH 157); 28th Street between Iris Avenue and Valmont Road; and 28th Street between Pearl Street and Canyon Boulevard (which is also SH 119). The streets in Longmont are mixed-flow traffic and range from 2 lanes (one in each direction) with parking to a 5-lane roadway that is approximately 74 feet wide.

Dedicated BRT lanes are proposed along Coffman Street in Longmont. There is an existing Park-n-Ride facility at 8th Avenue and Coffman that serves as a major transit hub. Along the proposed routes in Longmont, the streets do not have bicycle lanes, nor do the intersections have transit signal priority in place.

The posted speed limit on the BRT routes within Boulder and Longmont generally is 35 miles per hour (mph) with frequent signalized intersections. There are existing buses operating on the proposed routes within both cities along with vehicle traffic. Portions of the routes include sidewalk and bicycle paths.

Study Corridor Lengths:
- SH 119 between Boulder and Longmont = a little over 9 miles
- Orange BRT Route = a little over 20 miles
- Blue BRT Route = slightly under 19 miles

E. Who was the sponsor of the PEL study? (CDOT, Local Agency [name the local agency], Other)

RTD is the sponsor of the SH 119 Multi-Modal PEL Study. CDOT has also been involved consistently in the project as have the cities of Boulder and Longmont, and Boulder County.

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

- **RTD**: Chris Quinn, Project Manager; Perry Edman, Planning Project Manager—Environmental; Judy Lubow, Director, District I; Chuck Sisk, Director, District O; Lee Cryer, Planning Project Manager; Nataly Handlos, Lead Service Planner and Scheduler, North Team; Ali Imasepahi, Deputy SH 119 Project Manager/Systems Engineering Project Manager; Ravi Palakurthy, Transportation Planner; Lisa Trujillo, Manager of Public Outreach; Bill Van Meter, AGM, Planning; Christina Zazueta, Manager of Community Engagement

- **FTA, Region 8**: Tracey MacDonald, Director, Planning and Program Development Office; Kristen Kenyon, Community Planner
CDOT Region 4: Johnny Olson, Previous Regional Transportation Director; Jim Eussen, Region Planning and Environmental Manager; Dan Marcucci, Resident Engineer; Karen Schneiders, Local Agency Environmental and Planning Manager

CDOT Department of Transit and Rail: David Krutsinger, Deputy Director, Division of Transit and Rail

Parsons: Phil Hoffman, Project Manager; Amber Haines, Deputy Project Manager, Rail and Transit Systems; Jen Leifheit, Quality Assurance Manager; Amber Brenzikofer, NEPA/Environmental Specialist; John Braaksma, Preliminary Engineering; Roland Genick, Stations/Urban Design

Pinyon Environmental, Inc.: Amy Kennedy, Transportation Market Manager/SH 119 Environmental Analysis and Documentation Project Manager; Kate Turner, NEPA Specialist; Pamela Roszell, Environmental Scientist; Robyn Kullas, Technical Group Manager—NEPA and Environmental Planning; Jake Fritz, Environmental Scientist/Geographic Information Science Specialist

Apex Design: Malinda Reese, Traffic Operations Analysis and Micro-simulation

ArLand Land Use Economics: Arlene Taniwaki, Land Use Economic Development Analysis, Project Support

Boulder County: Elise Jones, Commissioner; George Gerstle, Transportation Director (retired); Scott McCarey, Alternative Transportation Coordinator

City of Boulder: Suzanne Jones, Mayor; Kathleen Bracke, Go Boulder Manager; Natalie Stiffler, Senior Transportation Planner; Jean Sanson, Senior Transportation Planner

City of Longmont: Joan Peck, Council Member; Phil Greenwald, Transportation Planner; Shawn Lewis, Assistant City Manager; Micah Zogorski, Senior Civil Engineer

Denver Regional Council of Governments (DRCOG): Matthew Helfant, Senior Transportation Planner

University of Colorado (CU) – Boulder: Tom McGann, Director Planning and Transportation Services; David Cook, Senior TDM Manager, CU Boulder

Harris Kocher Engineering Group: Aaron Murphy, Aerial Mapping and Field Survey


Connetics Transportation Group: Susan Rosales, Transit Operations Analysis and Operation and Maintenance Costs

Felsburg, Holt & Ullevig: Elliot Sulsky, Transportation Planning/Engineering; Holly Buck, Transportation Planning/Engineering

Fehr & Peers: Charles Alexander, Transportation Planning/Engineering; Jon Nepstad, Transportation Planning/Engineering

H.C. Peck & Associates: J. Parker, ROW Analysis

Virtegic Group: Marta Sipeki, Stakeholder/Public Outreach
G. List the recent, current or near future planning studies or projects in the vicinity. What is the relationship of this project to those studies/projects?

- **FasTracks (2004 - ongoing).** FasTracks is a voter-approved comprehensive program established in 2004 to build 122 miles of new commuter rail and light rail; 18 miles of Bus Rapid Transit (BRT); 21,000 new parking spaces at light rail and bus stations; and enhanced bus service for easy, convenient bus/rail connections across its eight-county district. Planning activities are ongoing since the project elements were designed to be phased and funding has not been secured for all elements (RTD, 2019). The design and construction of the Northwest Rail Line (see below) and the 1st Street/Main Street Park-n-Ride in Longmont (an MMCV element) are part of the FasTracks Program.

- **Northwest Rail (2010 - ongoing).** The Northwest Rail line is a 41-mile high-capacity, fixed-guideway transit project from Denver Union Station to Longmont, passing through North Denver, Adams County, City of Westminster, City of Broomfield, City of Louisville, and Boulder. In July 2016 commuter rail started service between Denver Union Station and the Westminster Station. Also, in 2016, RTD allocated funds to build the end-of-the-line station in Longmont at 1st Street/Main Street (RTD, 2019). The design and construction of rail between Westminster and Longmont, which is expected to utilize BNSF railroad ROW that is adjacent to SH 119 between Boulder and Longmont is still a planned long-term transit improvement.

- **Northwest Area Mobility Study (2013 – 2014).** RTD began the Northwest Area Mobility Study (NAMS) in 2013 to collaboratively develop a consensus agreement with local and state agencies on near-term mobility improvements that would not preclude future implementation of Northwest Rail in the long-term. The NAMS addressed growing travel demand to provide improved mobility in the northwest region. The NAMS resulted in a prioritized list of mobility improvements, and BRT along SH 119, which would provide service between and within Boulder and Longmont, was identified as a high priority and a viable, cost-effective way to increase mobility within the Northwest Area of the RTD (RTD, 2014).

- **Longmont Roadway Plan (2014).** The Longmont Roadway Plan performed a technical analysis of the City’s street system and identified future roadway needs and improvements; these improvements would support the MMCV.

- **Longmont Multimodal Transportation Implementation Plan (2016).** This plan contains the technical analysis and more detailed background information related to the multi-modal transportation components of Envision Longmont (Longmont, 2016). It includes traffic forecasting information as well as phased improvement plans for roadways and the transit and bicycle system. SH 119 BRT is described as a component of this plan.

- **City of Boulder Transportation Master Plan update (underway; initiated in 2018).** The plan is the guiding policy document for Boulder’s transportation system. This update will establish transportation policy and investment priorities for the future. This project will likely be discussed in the update.
University of Colorado (CU) Boulder Transportation Master Plan (underway; initiated in 2019). The plan will define innovative possibilities for travel to, between, and through both the main and east campuses that address short-term needs and set a course for the long term. It will examine key drivers for alternative modes of transportation along with vehicular and parking needs. The SH 119 Multi-Modal PEL Study will likely be discussed in this plan.

Southwest Longmont Operations Study (2017-2019). The Southwest Longmont Operations Study addresses future demands on Longmont’s multi-modal transportation system in the southwest part of town. The Study examines the roadway network formed by Ken Pratt Boulevard (which is also SH 119), Hover Street, and Nelson Road, including major intersections along these corridors and identifies needed intersection and transportation system improvements, as well as pedestrian and bicycle improvements.

RTD Transportation Transformation (T2) Plan (in progress; initiated in 2019). The T2 Plan is a two-year project featuring extensive public outreach, engagement, and involvement that will cover comprehensive operations assessments and systems optimization; fiscal sustainability; scenario planning and system expansion; mobility expansion and emerging technologies; and the future of the workforce. The objective is to gain a comprehensive knowledge of the district’s transportation needs with an understanding that mobility changes have the potential of transforming how RTD serves its passengers and the public.

2. Methodology Used

A. Did the Study follow the FHWA PEL Process? If the Study was conducted by another US Department of Transportation agency, provide a crosswalk table to demonstrate how the FHWA Process was utilized.

The PEL Study followed the FHWA PEL process; please see crosswalk below.
Table 1. SH 119 PEL Crosswalk for Coordination Points

<table>
<thead>
<tr>
<th>FHWA/CDOT Coordination Point</th>
<th>SH 119 PEL Study Actions</th>
<th>Agency Involvement</th>
</tr>
</thead>
</table>
| 1 Determine Reason for PEL Study and Desired Outcome | **Reason for PEL Study:**  
- Project has resulted in the identification of a MMCV that meets the Purpose and Need statement; however, the MMCV is not fully funded and/or in constrained plan meaning NEPA studies cannot be completed through to a Decision Document.  
- Completion of a PEL Study provides a documentation of the purpose and need statement; alternatives development and evaluation; environmental analyses and mitigation strategies; and financial analyses to be used in subsequent NEPA studies.  
- MMCV Elements have independent utility and will be implemented over time as funding becomes available.  
- MMCV Elements are expected to be implemented by more than one agency under multiple NEPA studies over multiple years.  
**Desired Outcome:**  
- Complete a PEL Study that captures purpose and need; alternatives development and evaluation; location and magnitude of anticipated environmental impacts; identifies mitigation strategies; and lists out next steps for implementation in order to support completed of future NEPA studies to implement the MMCV. | ✓ FTA  
✓ RTD  
✓ CDOT  
✓ Cities of Boulder and Longmont  
✓ Boulder County  
✓ DRCOG  
✓ CU Boulder |
### Project Purpose:
The purpose of the SH 119 Multi-Modal PEL Study is to optimize regional connectivity and mobility along SH 119 between and within Boulder and Longmont by providing multi-modal improvements that result in faster and more reliable transit travel in accordance with the NAMS (RTD, 2014).

### Project Need:
The needs of the project are to:
- Address future travel demand on the SH 119 between Boulder and Longmont with multi-modal improvements, including first- and last-mile connectivity;
- Optimize transit services, connections, and ridership on SH 119 between and within Boulder and Longmont;
- Reduce transit travel time and increase travel time reliability; and
- Advance the recommendation from the 2014 NAMS to provide efficient BRT service between and within the cities of Boulder and Longmont.

<table>
<thead>
<tr>
<th>FHWA/CDOT Coordination Point</th>
<th>SH 119 PEL Study Actions</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2 Develop Purpose and Need; Goals and Objectives</td>
<td>Project Purpose: The purpose of the SH 119 Multi-Modal PEL Study is to optimize regional connectivity and mobility along SH 119 between and within Boulder and Longmont by providing multi-modal improvements that result in faster and more reliable transit travel in accordance with the NAMS (RTD, 2014). Project Need: The needs of the project are to: ■ Address future travel demand on the SH 119 between Boulder and Longmont with multi-modal improvements, including first- and last-mile connectivity; ■ Optimize transit services, connections, and ridership on SH 119 between and within Boulder and Longmont; ■ Reduce transit travel time and increase travel time reliability; and ■ Advance the recommendation from the 2014 NAMS to provide efficient BRT service between and within the cities of Boulder and Longmont.</td>
<td>✓ FTA ✓ RTD ✓ CDOT ✓ Cities of Boulder and Longmont ✓ Boulder County ✓ DRCOG ✓ CU Boulder</td>
</tr>
</tbody>
</table>
### FHWA/CDOT Coordination Point

| 3 | Identify and Screen Alternatives |

### SH 119 PEL Study Actions

Conducted three tiers of alternatives development and evaluation:

1. **Alternatives’ Evaluation Tier 1 – Evaluation of Technologies** provided a high-level evaluation of conceptual alternative technologies and focused on BRT for more detailed analysis.

2. **Alternatives’ Evaluation Tier 2 – Service Level and BRT Route Pattern Alternatives** analyzed the benefits of different BRT route patterns, branches, and service operations alternatives resulting in several alternatives taken into the third and final tier of evaluation.

3. **Alternatives’ Evaluation Tier 3 – Evaluation of Refined BRT Alternatives (routes, frequency, and physical improvements)** conducted a detailed analysis of the most promising BRT route pattern(s), physical configuration options, and operational alternatives to define the BRT element for completion of preliminary engineering and environmental study. The focus of the Tier 3 alternatives’ evaluation built on the Tier 2 evaluation and included factors related to the physical configuration of the alternatives. It identified a MMCV that includes BRT operating on managed lanes on SH 119 between Boulder and Longmont, Park-n-Rides, station enhancements, a separated bikeway, and dedication of streets within Boulder and Longmont for BRT or BAT.

### Agency Involvement

- ✓ FTA
- ✓ RTD
- ✓ CDOT
- ✓ Cities of Boulder and Longmont
- ✓ Boulder County
- ✓ DRCOG
- ✓ CU Boulder
<table>
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</table>
| **4** Identify Environmental Impacts and Potential Mitigation | **Scoping:**  
- Reviewed list of environmental resources; identified those present and those potentially impacted; discussed expected level of impact anticipating that all impacts would be within operational ROW.  
- Toured study area with RTD/FTA.  
**Environmental Impacts and Mitigation:**  
- Identified resources present and those that may be impacted by each of the MMCV Elements.  
- Assessed location and magnitude of impact from each MMCV Element on each environment resource that is present/has the potential to be impacted in accordance with CDOT/FHWA protocols.  
- Proposed mitigation strategies in accordance with CDOT/FHWA protocols.  
- Provided next steps for implementation of each MMCV Element including anticipated level of study, next steps for each resources' analyses by MMCV Element, and permits/approvals that will likely need to be obtained. | ☑️ FTA  
☑️ RTD  
☑️ CDOT  
☑️ Cities of Boulder and Longmont  
☑️ Boulder County  
☑️ DRCOG  
☑️ CU Boulder |
| **5** Finalize PEL Study Document(s) | **The SH 119 Multi-Modal PEL Study** was reviewed by RTD, CDOT Region 4, CDOT Environmental Programs Branch, FTA, and FHWA. After finalization it was made available to all stakeholders via the website. | ☑️ FTA  
☑️ RTD  
☑️ CDOT |
B. How did the Study meet each of the PEL Coordination Points identified in 23 USC 168?

As illustrated by the crosswalk provided in Table 1 above, the SH 119 Multi-Modal PEL Study met each of the PEL Coordination Points required by FHWA/CDOT. The Study included: identification as to the need to complete a PEL study; development of the purpose and need; an alternatives analysis and evaluation (discussed in Section 6 below) including preliminary engineering; identification of potential environmental impacts and potential mitigation strategies (described in Section 9 below); and review of the PEL Study. Extensive stakeholder and public involvement was an integral aspect of the Study through an iterative, interactive process (described in Section 3 below).

C. What NEPA terminology/language was used and how did you define them? (Provide examples or list)

NEPA-like language was utilized to provide continuity for a future NEPA study and familiarize stakeholders with this terminology. Table 2 lists the NEPA terms used in this study.

<table>
<thead>
<tr>
<th>Planning study Terminology</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Purpose and Need</td>
<td>The purpose and need is a detailed statement describing the purpose for the project and the need for the project that is supported by data.</td>
</tr>
<tr>
<td>Study Area</td>
<td>Study area is the geographic area that was examined in this study for existing conditions, transportation needs, and environmental impacts.</td>
</tr>
<tr>
<td>PEL Study Approach</td>
<td>This study employed methods consistent with PEL Studies to identify/scope issues; develop and screen alternatives; and recommend an alternative, which is the MMCV. The stakeholder outreach was also consistent with PEL guidance from FHWA and CDOT; it provided the opportunity for stakeholder involvement throughout the process.</td>
</tr>
<tr>
<td>Public Outreach and Coordination</td>
<td>Similar to a NEPA study, this planning study used the scoping process to identify issues of interest or concern to the stakeholders, offered opportunities for involvement in the decision process, and documented the steps and outcome of the process.</td>
</tr>
<tr>
<td>Policy Advisory Committee (PAC)/Technical Advisory Committee (TAC)</td>
<td>The PAC was comprised of elected officials and senior members of their representative organizations, while the TAC was comprised of technical and staff members of organizations. These organizations were identified as stakeholders early in the process and consisted primarily of government agencies and chambers of commerce. Both committees were convened regularly at key steps in the study.</td>
</tr>
<tr>
<td>Alternatives Analysis, Alternatives Development, and Evaluation</td>
<td>These terms are used to describe the evaluation of alternatives that led to the selection of appropriate concepts to move forward for further study and ultimately to a recommended alternative, which is the MMCV.</td>
</tr>
<tr>
<td>Planning study Terminology</td>
<td>Definition</td>
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<td>--------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Recommended Alternative</td>
<td>This term refers to the ultimate and recommended design concept based on the alternative analysis process that will advance into the NEPA process and further design.</td>
</tr>
<tr>
<td>No-Action Alternative</td>
<td>The no-action alternative reflects a scenario should RTD decide not to construct any improvements other than continuing to maintain the transportation network as it currently exists. The no-action alternative is also used as a baseline comparison for alternative development and evaluation.</td>
</tr>
<tr>
<td>Existing Conditions, Affected Environment</td>
<td>These terms refer to the baseline conditions for community and environmental resources in the study area.</td>
</tr>
<tr>
<td>Categorical Exclusion</td>
<td>This term refers to the NEPA environmental review document that is prepared for more simple actions that do not individually or cumulatively have a significant impact.</td>
</tr>
<tr>
<td>Environmental Analyses</td>
<td>This term refers to identification of potential impacts of the transportation improvements on community and environmental resources in the study area.</td>
</tr>
</tbody>
</table>

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

The above terms can be used seamlessly in future NEPA studies that can build directly off this PEL Study. The terms will continue to be used in accordance with the 2017 CDOT NEPA Manual (CDOT, 2017). Utilizing these same terms will reduce confusion and demonstrate how the components of this planning study apply to the NEPA process.

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 CDOT and the local agency, with buy-in from FHWA, US Army Corps of Engineers (USACE), and USFWS.

The study incorporated both internal and external stakeholder input as well as extensive public outreach throughout an iterative alternatives’ evaluation process. A complete list and description of coordination points can be found in the SH 119 Multi-Modal PEL Study Community and Stakeholder Engagement Report (Virtegic, 2019); key steps and coordination points are listed below.

- **A Project Management Team** comprised of RTD and the consultation team met bi-weekly throughout the process.

- **The PAC** was comprised of elected officials and senior members of their representative organizations; it met five times concurrently with the TAC over the course of the Study.

- **The TAC** was comprised of technical and staff members of organizations. Generally, the PAC and TAC meetings were held together; however, the TAC met separately once during the Study. The initial PAC/TAC joint meeting introduced the study’s goals and asked the stakeholders about their vision for the BRT corridor. At the second PAC/TAC meeting in November 2017, input from the group started to define potential BRT routes,
their termini, and station locations. In March 2018, only the TAC met to discuss the BRT comparisons matrix; BRT trunk and branch alternatives; origin/destination patterns; and the model run summary. The May 2018 PAC/TAC joint meeting included discussion on the alternatives’ refinement and evaluation of the service levels, route patterns, and physical configuration options as well as the Tier 2 alternatives’ evaluation results. The December 2018 PAC/TAC joint meeting centered on the onboard survey results; the BRT route alternatives; the decision to capture input from non-riders through the online questionnaire; Tier 3 evaluation results and scoring; and funding opportunities. Discussion at the fifth and final PAC/TAC joint meeting in March 2019 focused on funding opportunities as well as the MMCV Elements and next steps for implementation.

- **An Agency Working Group** made up of representatives from RTD, CDOT, Boulder, Longmont, Boulder County, DRCOG, and the consultant team met 19 times during the development and evaluation of alternatives as well as the environmental analyses. The purpose of the agency workshops was to review and provide input to the alternatives’ development and evaluation. This group was essential in thinking through and analyzing the results derived from this process.

  In the Tier 2 Alternatives Analysis work, November 2017 through June 2018, the Agency Working Group focused on developing and analyzing BRT routes, stop locations, frequency of service, local transit connections, and testing different patterns. The group worked with RTD and the consultant team to develop and analyze 10 BRT scenarios that were modeled to understand transit ridership generation, services hours needed, cost of services, fleet needs, and the cost benefit.

  The Agency Working Group played a significant role in developing measures and metrics to analyze the alternatives in the Tier 3 process between June 2018 and February 2019. In the summer of 2018, the Agency Working Group identified 15 analytics to measure the alternatives in Tier 3. The Agency Working Group provided input on the recommended MMCV during its development and came to consensus on the need for its implementation during the spring of 2019.

- **Local, state, and federal agency meetings** were held as needed and at key decision-making points. Participants varied, depending on the focus of the meeting and included representatives from RTD, CDOT, Boulder, Longmont, Boulder County, FTA, and FHWA. Meetings included in-depth review and discussion of operating characteristics, BRT Routes, BRT configuration (on the shoulder, queue jump lanes, or managed lanes), MMCV Elements, environmental analyses, and a myriad of topics related to implementation.

- **The RTD Board** was briefed several times during the Study and was presented with the recommended MMCV in May 2019.
F. How should the PEL information below be presented in NEPA?

The vast majority of the technical data and analyses can be directly transferrable into NEPA studies. PEL studies usually have a shelf life of five years. Depending on when the NEPA study begins, data may need to be updated or sensitivity analyses completed. If Environmental Assessments (EAs) are required for any of the MMCV, instead of CatExs, the purpose and need; alternatives’ development and evaluation; environmental analyses; and mitigation strategies should be used to inform those studies. These pieces of the SH 119 Multi-Modal PEL Study can be used as the starting point to develop a more detailed and element-specific purpose and need statement as well as for alternatives’ refinement; the identification of sensitive resource for avoidance and mitigation; and continued stakeholder involvement.

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.

As discussed further in the SH 119 Multi-Modal PEL Study Community and Stakeholder Engagement Report (Virtegic, 2019), the SH 119 Multi-Modal PEL Study began in the spring of 2017 with a Public Involvement Plan that outlined objectives, strategies, tactics, and activities to engage members of the community and stakeholders. The goals of the Public Involvement Plan were to educate and engage internal and external stakeholders in the SH 119 Study Area as well as greater travel shed and to solicit stakeholder feedback about the potential transportation improvements. The Public Involvement Plan, developed at project initiation, outlined strategies, tactics, and a schedule focused on working with a broad base of stakeholder and community members.

The PAC was comprised of elected officials and senior members of their representative organizations. The TAC was comprised of technical and staff members of organizations. The PAC/TAC were convened five times coincidentally at key milestones during the project and the TAC met independently once. A subset of the TAC comprised of technical staff from Boulder County, Boulder, Longmont, CDOT, CU Boulder, DRCOG, RTD, and the consultant team made up the Agency Working Group. This group held interactive agency workshops monthly and bi-monthly throughout the alternatives’ development and evaluation process to review details of the analyses. In addition, there were individual meetings as needed with Boulder, Longmont, Boulder County, FTA, FHWA, and CDOT as need to focus on specific topics of the study. Additional detail on agency coordination can be found in Section 2.E above.

Public agencies will be provided an opportunity to review the PEL Study documents once they are published on-line. As each NEPA study is initiated, scoping with the appropriate jurisdictional and resource agencies will be undertaken to focus the efforts on the MMCV element(s) being implemented at that time.
B. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved in the PEL study? This includes all federal agencies if the study is being led by a local agency or transit-oriented study seeking to utilize the FHWA PEL Process.

Transportation agencies coordinated with during the SH 119 Multi-Modal PEL Study included CDOT Region 4, CDOT Environmental Programs Branch, FTA, FHWA/Colorado, Boulder County, Boulder, Longmont, CU Boulder, DRCOG, and CDOT Department of Transit and Rail.

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

Agency coordination will be required to initiate the environmental review process for implementation of MMCV elements with a federal nexus. Steps required depend on the type of future NEPA documentation prepared for the project elements, such as the preparation of a CatEx or an EA. Regardless of the level of NEPA documentation required, an initial project meeting with project sponsors will occur early in the process to discuss project scope, schedule, key milestones, resources evaluated, study area, and the need for public involvement and resource agency coordination. A higher level of coordination and agency and public scoping is required for an EA, should one be required. RTD has committed to ongoing coordination with the local and state agencies that have been involved in the PEL process.

4. Public Coordination

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

The foundation for SH 119’s stakeholder engagement and Public Involvement Plan was three-pronged and included collaboration, community, and communication. The project team used these strategies to frame how important issues were addressed with stakeholders, and the messages were optimized and coordinated in delivery across media, distribution channels, and service areas. In addition to the Agency Group Workshops, PAC, and TAC meetings described above, outreach to the chambers of commerce, businesses, and other stakeholders on the SH 119 Multi-Modal PEL Study was conducted including employers and interested groups located along the corridor between Boulder, and Longmont, as well as the unincorporated area of Niwot and community of Gunbarrel.

Public outreach included sending media releases/advisories to keep the communities informed on the project, including the following:

- A website ([www.SH119BRT.com](http://www.SH119BRT.com)) was established early in the process and maintained throughout the Study. It was routinely updated with information as the PEL Study progressed and provided the public with a way to submit comments electronically. A webpage was also set up on RTD’s website that included an overview of the project and a link to the primary website.

- A total of six news releases were distributed to the media, five articles were published in specific magazines or e-newsletters, and updates were posted routinely on the SH 119 website.
443. Emails/eblasts were used to communicate with the extensive database of interested residents and stakeholders in the northwest part of RTD that were collected during the FasTracks program.

446. Social media posts were created that directed people to the SH 119 website for information and to solicit feedback.

448. Presentations were given to community organizations, service clubs, homeowner associations, business associations, etc. to educate them about the project and solicit feedback. A total of eleven presentations, six community events, and two RTD-rider events (outreach efforts at the 8th Avenue/Coffman Station and the Downtown Boulder Station) during the course of the study.

453. Two telephone town halls occurred with RTD directors in order to reach a large number of residents/stakeholders.

455. A total of seven public meetings were held in Boulder, Longmont, and Niwot with a Spanish translator available at each meeting.

457. Onboard bus surveys and public questionnaires surveyed drivers and passengers to gauge perceptions and to obtain their opinions on service in the Study Area.

5. Corridor Vision/Purpose and Need

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

The study was undertaken to determine whether BRT is a viable alternative to optimize regional connectivity and mobility between and within Boulder and Longmont in accordance with the NAMS Recommendation. With regard to the purpose and need of the project, RTD clearly stated that “The purposes shall include multi-modal and comprehensive goals from all local agencies along the corridor. Accessibility for all modes including transit, bicycle, freight, auto, and pedestrian should be discussed to determine the consensus priorities for the corridor.” (RTD, 2016).

B. What is the vision for the corridor?

The SH 119 Multi-Modal PEL Study was initiated to build upon the NAMS recommendation, which was a single BRT route that was planned to operate in mixed-use traffic and use the shoulder of SH 119 as needed. As the project progressed and stakeholders from local, state, and federal agencies were engaged, it was determined that a MMCV would be needed to meet the study’s purpose and need. The MMCV has consensus from the local, state, and federal stakeholders that its elements should be advanced.
The MMCV elements include the following:

- Park-n-Rides at six locations
  - 63rd Street/SH 119
  - Niwot Road/SH 119 (existing)
  - SH 52/SH 119
  - 1st Avenue/Main Street (this Park-n-Ride is a part of FasTracks)
  - 8th Avenue/Coffman Street (existing)
  - Park Ridge Avenue/Main Street

- Stations and stops; stops are locations where passengers load and unload from buses and stations are stops that have built-in dwell times for buses and typically have limited amenities such as restrooms, ticket counters, and seating. For the purposes of the PEL Study, both stations and stops are referred to as stations.

**Boulder Stations:**

- CU East – Colorado Avenue/Discovery Drive or CU Main – Colorado Avenue/18th Street (termini will be determined in collaboration with CU as they complete their Transportation Plan currently underway)
- 30th Street/Arapahoe Avenue
- 14th Street/Canyon Boulevard (Downtown Boulder Station)
- 19th Street/Canyon Boulevard
- 30th Street/Colorado Avenue
- 28th Street/Canyon Boulevard
- 28th Street/Pearl Street
- 30th Street/Pearl Street (Boulder Junction Transit Center)
- 28th Street/Valmont Road
- 28th Street/Iris Avenue

**Longmont Stations:**

- Hover Street/SH 119
- Hover Street/Clover Basin Drive
- Hover Street/Nelson Road
- Nelson Road/Airport Road
- Airport Road/Pike Road
- 1st Avenue/Coffman Street
- 8th Avenue/Coffman Street (also a Park-n-Ride)
- Hover Street/Mountain View Avenue
▪ 17th Avenue/Main Street
▪ Park Ridge Avenue/Main Street (also a Park-n-Ride)

▪ BRT/Managed Lanes (for use by BRT, High-Occupancy Vehicles 3+, and tolled vehicles).
This MMCV element would construct two new lanes to the inside of SH 119, into the
median – one in the northbound direction and one in the southbound direction. The
new lanes would be used by BRT, cars with three or more passengers (high-occupancy
vehicles or HOVs), and users willing to pay a toll.

▪ Longmont Coffman Street Dedicated BRT Lanes. Longmont plans to convert one travel
lane on Coffman Street from a shared bus/car use to be BRT-use only.

▪ Boulder BAT Lanes. Boulder plans to convert travel lane(s) on each of the streets listed
below from a shared bus/car use to be BRT-use only.
  • Iris Avenue: between 28th Street and Foothills Parkway (eastbound only)
  • 28th Street: between Iris Avenue and Valmont Road
  • 28th Street: between Pearl Street and Canyon Boulevard

▪ BRT/Queue Jump Lanes at SH 52/SH 119. The BRT/queue jump lanes would be
constructed on SH 119 at the northbound and southbound approaches of the SH 52
intersection. They would address the substantial AM and PM peak period congestion.
They are extended intersection queue jump lanes providing a dedicated transit lane to
pass traffic queues at this traffic signal that can extend over a mile in each direction.

▪ Separated Bikeway. CDOT is completing a study for the location and design of a
separated bikeway that would be located in the SH 119 ROW between Boulder and
Longmont. Currently bicyclists use the shoulder of SH 119. The recommendations
include a separated 12-foot shared-use path along SH 119 between Foothills Parkway in
Boulder and Hover Street in Longmont.

▪ Boulder Intersection Improvements. In addition to the Boulder BAT lanes, there would
be two intersection improvements implemented at the 28th Street/Iris Avenue and
28th Street/Canyon Boulevard intersections to provide right-curb, bus-only left turns.
The bus-only left-turns will be coordinated with the existing double-left turn signal
phasing to ensure safe operation.

▪ Longmont Intersection Improvements. Longmont completed their SW Longmont Traffic
Operations Study in May 2019 (Longmont, 2019). It includes recommendations for
improving the Hover Street/SH 119 and Hover Street/Nelson Road intersections. These
improvements would be made independently of RTD’s implementation of BRT although
they would support this MMCV Element.

C. What were the goals and objectives?

Specific goals for the PEL Study were not formally developed as the purpose and need
addressed the reasons the study was undertaken. As noted in RTD’s 2016 request for
proposals, “The purposes shall include multi-modal and comprehensive goals from all local agencies along the corridor. Accessibility for all modes including transit, bicycle, freight, auto, and pedestrian should be discussed to determine the consensus priorities for the corridor.” (RTD, 2016).

D. What is the PEL Purpose and Need statement?

The purpose of the SH 119 Multi-Modal PEL Study is to optimize regional connectivity and mobility along SH 119 between and within Boulder and Longmont by providing multi-modal improvements that result in faster and more reliable transit travel in accordance with the NAMS (RTD, 2014).

The needs of the project are to:

- Address future travel demand on SH 119 between Boulder and Longmont with multi-modal improvements, including first- and last-mile connectivity
- Optimize transit services, connections, and ridership on SH 119 between and within Boulder and Longmont
- Reduce transit travel time and increase travel time reliability
- Advance the recommendation from the 2014 NAMS to provide efficient BRT service between and within the cities of Boulder and Longmont

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

Many of the NEPA studies can simply use the PEL Study’s purpose and need statement as it addresses why that specific MMCV element is being implemented. As many of the NEPA studies will be completed as CatExs, likely “C22” for actions entirely within operational ROW, a refined purpose and need statement will not be required. For the managed lanes, the project sponsor will need to review and potentially update the traffic information for the current planning year, and draft a purpose and need statement that reflects specific targets for implementation of the managed lanes that may include goals such as managing travel demand, shifting behavior/travel time, and/or financial goals if tolling is implemented.

6. Range of Alternatives Considered, Screening Criteria and Screening Process

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

A range of alternatives were evaluated as discussed in Section 3 of the SH 119 Multi-Modal PEL Study. During Tier 1 Alternatives’ Evaluation streetcar/light rail, monorail, commuter rail, and Personal Rapid Transit (PRT) were eliminated from further consideration; commuter rail is a part of FasTracks and remains a potential long-term improvement for future implementation. For the numerous transit routes that were studied, operating characteristics, station locations, and Park-n-Ride locations were evaluated. BRT/bus-on-shoulder, BRT/queue jump lanes at SH 52/SH 119, and BRT/managed lanes configurations...
on SH 119 between Boulder and Longmont were assessed. As a different study, CDOT examined alignments for separate bikeway in the SH 119 ROW between Boulder and Longmont.

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

A three-tiered evaluation process was used to screen BRT alternatives and identify the most appropriate solution for the corridor. The evaluation criteria were developed in close collaboration with the stakeholders, including the Agency Workshops. The three evaluation levels included:

Alternatives’ Evaluation Tier 1 – Evaluation of Technologies provided a high-level evaluation of conceptual alternative technologies and focus on BRT for more detailed analysis in this study.

Alternatives’ Evaluation Tier 2 – Service Level and BRT Route Pattern Alternatives analyzed the benefits of different BRT route patterns, branches, and service operations alternatives that resulted in several alternatives progressing into the Tier 3 evaluation. The alternatives developed for this evaluation were derived from the modeling analysis.

Alternatives’ Evaluation Tier 3 – Evaluation of Refined BRT Alternatives (routes, frequency, and physical improvements) provided a detailed analysis of the most promising BRT route pattern(s), physical configuration options, and operational alternatives to identify the two-route pattern recommended by the SH 119 Multi-Modal PEL Study. The focus of the Tier 3 alternatives’ evaluation exercise built on the Tier 2 evaluation, including factors related to the physical configuration of the proposed options, while continuing to address the Purpose and Need for the SH 119 Multi-Modal PEL Study. This evaluation resulted in the identification of the MMCV Elements.

C. For alternative(s) that were screened out, briefly summarize the reasons for eliminating or not recommending the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)

PRT is still in the early research and development stages with no system currently in proven, revenue-generating operation anywhere in the world. Consequently, PRT would not be available as a viable technology in the near term, so it was dropped from further consideration. Streetcar/light rail and monorail were screened as they are not compatible with the NAMS recommendation and as they cannot be implemented in the near-term. Commuter rail is a part of RTD’s FasTracks Program and remains as potential long-term improvement for future implementation, so it was removed from consideration for implementation in the near-term. The implementation of the MMCV does not preclude future commuter rail between Boulder and Longmont.

Several routes and patterns were analyzed under Tier 2 analysis through 10 different model runs. The routes and patterns with the lowest level of estimated ridership in 2040 were not carried farther into analysis.
Bus-on-shoulder was screened out as the BRT/managed lane configuration better meets the purpose and need of the SH 119 Multi-Modal PEL Study. CDOT is conducting a traffic and revenue study to evaluate the financial implications of constructing a managed lane along SH 119. While the SH 119 Multi-Modal PEL Study recommends the implementation of BRT/managed lanes, this will need to be further examined through a future NEPA study if it is found viable through the Traffic and Revenue Study. BRT/queue jumps remain a viable option although they are not a part of the MMCV since BRT/managed lanes better meets the purpose and need of the project.

D. How did the team develop alternatives? Was each alternative screened consistently?

The alternatives were developed and evaluated using a three-tiered process that applied evaluation criteria derived from the purpose and need statement as discussed in Section 6.B above. Working closely with the stakeholders including the local and state agencies; PAC; and TAC, criteria were established to evaluate alternatives during the Tier 2 and 3 analyses. Each alternative was screened consistently, as discussed further in Section 3 of the SH 119 Multi Modal PEL Study.

E. Which alternatives were recommended? Which should be brought forward into NEPA and why?

The MMCV Elements described below in Table 3 were recommended as they best met the evaluation criteria, which were derived from the purpose and need statement, as further described in Section 5.B above (Table 3).

**Table 3. MMCV Project Elements**

<table>
<thead>
<tr>
<th>RTD Project Elements</th>
<th>Agency to Advance through Project Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Enhancements</td>
<td></td>
</tr>
<tr>
<td>Park-n-Ride Facilities</td>
<td></td>
</tr>
<tr>
<td>Park-N-Ride Facility and Transit Hub (Park Ridge Rd and Main St, which is part of the RTD FasTracks Program)</td>
<td></td>
</tr>
<tr>
<td>2 BRT Routes</td>
<td></td>
</tr>
<tr>
<td>Coffman Street Dedicated BRT Lanes</td>
<td>Longmont</td>
</tr>
<tr>
<td>Boulder BAT Lanes</td>
<td>Boulder</td>
</tr>
<tr>
<td>BRT/Queue Jump Lanes at SH 52/SH 119 (If needed prior to BRT/managed lanes implementation)</td>
<td>Boulder County/CDOT</td>
</tr>
<tr>
<td>Boulder Intersection Improvements</td>
<td>Boulder/CDOT</td>
</tr>
<tr>
<td>Longmont Intersection Improvements</td>
<td>Longmont/CDOT</td>
</tr>
<tr>
<td>Dedicated BRT/Managed Lanes (including BRT, High Occupancy Vehicle (HOV)3+, and toll; systems costs)</td>
<td>CDOT</td>
</tr>
<tr>
<td>Separate Bikeway</td>
<td>CDOT</td>
</tr>
</tbody>
</table>

The following figures graphically depict some of the MMCV project elements.
Disclaimer: Graphic representation of BRT elements. Final BRT elements and design will be different than displayed.

Figure 1. Typical BRT Elements

Figure 2. BRT/Managed Lane Cross Section
F. Did the public, stakeholders, and agencies have an opportunity to comment during this process? Summarize the amount of public interest in the PEL Study.

As discussed in Sections 3 and 4 above, agencies, stakeholders, and the public had the opportunity to comment throughout the alternatives’ development and evaluation process. Hundreds of comments and questions were received, mainly through the SH 119 webpage/website and some at public meetings. The nature of the comments evolved over the course of the study. Initially, comments ranged from complaints of the length of time it takes to commute on the bus between Boulder and Longmont, to suggested routing alternatives, and finally to why a study was being done for a bus instead of the Northwest Rail Corridor. The desire/need for a separate bikeway and more bicycle capacity on the bus were frequent comments throughout the course of the study. There were comments in support of the proposed BRT service as well as for preference(s) for the alternative people favored.

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

Unresolved issues include:

- Location of the CU Boulder BRT termini, which will be dependent on the CU Boulder Transportation Plan and could be either the main or east campus.

- CDOT will conduct a Traffic and Revenue study on SH 119 to determine the financial viability of the SH 119 BRT/managed lanes.

- The managed lanes are not in a fiscally constrained plan. In case the managed lanes are determined to not be a viable alternative, the BRT/queue jump lanes at SH 52/SH 119 can be carried forward as an alternative for implementation.

7. Planning Assumptions and Analytical Methods

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

The year 2040 was used to be consistent with the DRCOG planning year during which the study was completed.
B. What method was used for forecasting traffic volumes?

Synchro and Vissim software packages were used for the traffic analysis. Synchro was used for the larger study area to get a general sense of the traffic conditions. Vissim was used to provide a more detailed, micro-simulation traffic analysis for a better comparison between transit-specific alternatives at key study area intersections. As part of the Vissim traffic analysis, 15 intersections were chosen to be included in the models, as discussed further in Section 1.3.4 of the SH 119 Multi Modal PEL Study and the SH 119 Traffic Report (Apex, 2019).

Forecasting was based on traffic analysis zones (TAZs), which are a key element of the regional travel demand model maintained by DRCOG.

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

The long-range transportation plan includes BRT/on-shoulder of SH 119; however, DRCOG is amenable to modifying the plan to include the MMVC. The MMVC elements in Boulder and Longmont as well as the Park-n-Rides, station/stop enhancements, and transit signal priority are consistent with the long-range transportation plan.

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?

For transportation demand purposes, the land uses are summarized in terms of population and employment by DRCOG TAZs. Population estimates were obtained from the US Census Bureau (US Census Bureau, 2016) and the Colorado Department of Local Affairs (DOLA) State Demography Office (DOLA, 2018), DRCOG 2040 forecasts (DRCOG, 2018), and Colorado Labor Market Information (Colorado Department of Labor and Employment, 2018). The Land Use Conditions and Forecast Data Memorandum (ArLand, 2018) provides additional information.

8. What pieces of the PEL can transfer directly to the NEPA phase of a project?

All of the pieces of the PEL Study, including the Purpose and Need statement; alternatives’ development and evaluation; affected environment; conceptual design of MMVC elements; environmental context or corridor conditions; initial environmental impact assessment; and mitigation strategies can directly transfer to the NEPA phase of the project. However, at the time of the NEPA study, the project sponsor will need to confirm that there have been no major changes in affected environment or context. The level of additional data gathering and analysis depends on timing of the NEPA phase of each project element. Some MMVC elements, such as the managed lanes, may require additional analysis dependent on CDOT’s Traffic and Revenue study and further operational analyses. Additionally, it is likely that the DRCOG planning year will have changed by the time the managed lanes would be at the NEPA phase, which means that a sensitivity analyses and/or new traffic analyses are likely to be required. Neither air quality modeling nor noise modeling was completed as a part of this PEL Study. Air quality modeling is likely to be required for elements that include improvements at intersections.
operating at a level of service D or worse in the year of study or planning year and have CDOT oversight. Noise modeling will be required for Type I projects that have CDOT oversight.

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 were the resources reviewed and what was the method of review?

For resources present, the CDOT/FHWA protocol was followed for defining the study area, impact analyses, and the identification of mitigation strategies. Modeling for neither air quality nor noise was completed as the horizon/planning year may change before implementation of the elements that may require this assessment. And design is not available for all MMCV elements.
B. Is this resource present in the area and what is the existing environmental condition for this resource?

Refer to the SH 119 Multi-Modal PEL Study Section 5.2 Summary Table of Affected Environment, Direct and Temporary Construction Impacts for a description of existing environmental conditions for each MMCV element by resource. Archaeology and paleontology were dismissed from analyses as the MMCV elements are all within operational ROW which has been previously disturbed. Similarly, farmlands were not analyzed as they are not present within the operational ROW. Additionally, energy was not analyzed as it is not a consideration for the MMCV elements.

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

See Chapter 5, Affected Environment, Environmental Consequences, and Mitigation Strategies, of the SH 119 Multi-Modal PEL Study for understanding the supplemental data needed for NEPA studies. This section discusses potential resource impacts, mitigation strategies, and next steps for the implementation of each MMCV element.

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

Changes to the affected environment are unlikely as all MMCV elements are within operational ROW; however, during NEPA the project sponsor will need to confirm that there are no major changes in affected environment or context. Modeling for air quality and noise will need to be completed for elements triggering these analyses. Modeling for both air quality and noise will need to utilize traffic data for the planning year that is current at that time.

9. List resources 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.

See Table 4 below.

<table>
<thead>
<tr>
<th>Resource Dismissed from Further Analyses</th>
<th>Rationale for Dismissal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeology</td>
<td>Archaeological resources are unlikely to be present due to the past construction of the existing transportation facilities.</td>
</tr>
<tr>
<td>Paleontology</td>
<td>Paleontology resources are unlikely to be present due to the past construction of the existing transportation facilities.</td>
</tr>
<tr>
<td>Energy</td>
<td>There are no energy resources within the SH 119 Multi-Modal PEL Study Area and there are already buses and other vehicles operating on the existing transportation system.</td>
</tr>
<tr>
<td>Farmlands</td>
<td>The operational ROW is dedicated to transportation uses; therefore, no prime or unique farmlands are present within the SH 119 Multi-Modal PEL Study Area.</td>
</tr>
</tbody>
</table>
10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found.

Cumulative impacts were not assessed during this PEL Study. Cumulative impacts will be addressed during the NEPA phase of the project, as appropriate. This will include the development of resource-specific cumulative effects study areas that address both spatial and temporal effects.

For resources that will have not experience direct effects, the implementation of the MMCV will not contribute to cumulative effects. This includes archaeology, paleontology, farmlands, historic resources, Section 4(f) resources/historic (both historic), Section 6(f) resources, hazardous materials, land use, soils/geology, ROW, utilities, and energy. Additionally, resources for which impacts will be mitigated on-site are not expected to contribute to cumulative effects. This includes riparian/Senate Bill 40 resources. The direct impacts of implementing the MMCV on air quality and noise are unknown; these impacts, including cumulative effects (if required) will need to be evaluated during NEPA studies.

Below is a very high-level outline of the resources that may experience cumulative effects due to the implementation of the full MMCV.

- **Threatened, endangered, and special-status species as well as fish, wildlife, and vegetation:** due to conversion of undeveloped land to a transportation use a loss of habitat could result that would contribute to cumulative effects that includes the spread of noxious weeds.

- **Water resources:** the MMCV will result in new impervious surface areas that will increase stormwater runoff. Additionally, there will be new and extended/expanded waterway crossings. Both could contribute to cumulative effects to water resources/water quality.

- **Wetland resources:** there will be permanent impacts to wetland resources, some of which are likely under the jurisdiction of the USACE. Although CDOT will require 1:1 mitigation of all impacts to wetlands, regardless of jurisdiction, the mitigation may not occur on-site or within the same watershed; this could result in a contribution to cumulative effects on wetland resources.

- **Environmental Justice:** the permanent effect of implementing the MMCV is expected to an overall benefit to EJ communities as it will improve multi-modal connectivity. This would be a positive contribution to the cumulative effect of the evolving transportation system.

- **Social/community resources including recreational facilities/trails/open space/parks including Section 4(f)/Non-historic resources:** similar to EJ, the implementation of the MMCV is expected to improve multi-modal connectivity, which may improve access to and from social/community resources as well as recreational facilities/trails/open space/parks. This would be a positive contribution to the cumulative effect of the evolving transportation system.
Visual Context/Aesthetics: The addition of new paved surfaces and development of open land in the SH 119 ROW is expected to have a moderate effect to the visual context of the Study Area. This would contribute to the visual character which has been and is expected to continue to become more urbanized as a cumulative effect.

Transportation resources: similar to EJ, the implementation of the MMCV is expected to improve multi-modal connectivity, which enhance the transportation system. This would be a positive contribution to the cumulative effect of the evolving transportation system.

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

Proposed mitigation strategies are described in Section 5 of the SH 119 Multi-Modal PEL Study Report. They are consistent with standard CDOT/FHWA strategies as well as those of jurisdictional agencies that may be involved in the implementation of the MMCV elements, such as the USACE from which permit(s) are likely to be required for elements along SH 119 between Boulder and Longmont.

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?

It is anticipated that most of the project elements will require a CatEx-level NEPA study. For CatExes, public involvement is not required although agencies such as CDOT, RTD, and FHWA will review the CatExes, as appropriate. Additionally, both CDOT and RTD have committed to continued stakeholder involvement as the MMCV advances. If the managed lanes element requires an EA, public involvement and agency scoping will be required. Regardless of the level of NEPA study, the SH 119 PEL Study products that will be available to agencies and the public, as needed include the purpose and need statement; alternatives’ development and evaluation; affected environment; conceptual design plans; location and magnitude of potential environmental impacts; and mitigation strategies. These documents can be included by reference or used as attachments for future NEPA studies.

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

The SH 119 Multi-Modal PEL Study Report includes a set of tables, one for each MMCV element, as a part of Section 5 that describe the location and magnitude of potential environmental impacts as well as mitigation measures that can be applied towards these impacts that are anticipated to result from implementation of the MMCV. This section of the report also includes a list of the steps, as they related to environmental studies and permitting for each MMCV Element. The report was specifically set up this way to allow the project sponsors to take these tables directly out of it for use in future NEPA studies. CDOT is aware of the need to complete a traffic and revenue study for the managed lanes.
14. Provide a table of identified projects and/or a proposed phasing plan for corridor build out.

See Table 5 below; the MMCV Elements are listed by the anticipated timing of their implementation.

**Table 5. SH 119 Multi-Modal Corridor Vision Elements, Project Sponsors, Next Steps, and Likely Level of NEPA Study as well as Timing of NEPA Study**

<table>
<thead>
<tr>
<th>SH 119 Multi-Modal Corridor Vision Capital Project Elements in PEL Study</th>
<th>Project Sponsor(s)</th>
<th>Next Steps</th>
<th>Anticipated Level of NEPA Study and Timing</th>
</tr>
</thead>
</table>
| Boulder BAT Lanes                                                      | Boulder            | Boulder to complete design and CatEx. | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** 2020 |
| Coffman Street Dedicated BRT Lane                                     | Longmont/CDOT      | Longmont to complete design and CatEx. | **Level of Study:** CatEx likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** 2022 |
| Station Platforms                                                      | RTD                | RTD to complete CatEx.               | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way”.
**Timing:** 2022, one year prior to when RTD funds for constructing these BRT elements become available in 2023 |
| Park-n-Ride Facilities                                                 | RTD                | RTD to complete CatEx.               | **Level of Study:** if there are impacts to Main St (which is US 287) a CatEx may be required; it would likely be a Programmatic C22 for “Projects entirely within existing operational transportation right of way”.  
**Timing:** unknown |
| Park-n-Ride Facility and Transit Hub at 1st St/Main St, which is a FasTracks program element | RTD                | RTD to complete design               | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** When funding has been identified |
| Boulder Intersection Improvements                                      | Boulder/CDOT       | Boulder to complete final design and CatEx. | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** When funding has been identified |
<table>
<thead>
<tr>
<th>RTD Project Elements</th>
<th>Project Sponsor(s)</th>
<th>Next Steps</th>
<th>Anticipated Level of NEPA Study and Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longmont Intersection Improvements</td>
<td>Longmont/CDOT</td>
<td>Longmont and/or CDOT to identify funding and complete design and NEPA.</td>
<td>Level of Study: Could be a CatEx, Documented CatEx, or Templated EA based on funding source, direction from FHWA, level of controversy, and environmental concerns. Timing: When funding has been identified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Improvements at Hover St/Nelson Rd may require CDOT approval if there is no oversight from the agency.</td>
<td></td>
</tr>
<tr>
<td>BRT/Managed Lanes</td>
<td>CDOT/FHWA</td>
<td>CDOT to complete a Level 1 Traffic and Revenue Study in 2019 then identify funding options as well as complete design and NEPA.</td>
<td>Level of Study: Could be a CatEx, Documented CatEx, or Templated EA based on funding source, direction from FHWA, level of controversy, and environmental concerns. Timing: When funding has been identified</td>
</tr>
<tr>
<td>BRT/Queue Jump Lanes at SH 52/SH 119 (If needed)</td>
<td>Boulder County/CDOT/RTD</td>
<td>Boulder County/CDOT/RTD to complete design and CatEx.</td>
<td>Level of Study: CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.” Timing: unknown</td>
</tr>
<tr>
<td>Separate Bikeway</td>
<td>CDOT</td>
<td>CDOT to identify funding as well as complete design and CatEx.</td>
<td>Level of Study: CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.” or a Programmatic C3 for “Construction of bicycle and pedestrian lanes, paths, and facilities.” Timing: When funding has been identified</td>
</tr>
</tbody>
</table>
15. Provide a list of what funding sources have been identified to fund projects from this PEL?

Potential funding sources include the following that would be available by 2023 are shown in Table 6 below:

| Table 6. Secured and Potential Funding Sources for MMCV Implementation |
|-----------------------------|-----------------|-----------------|
| Source                     | Amount          | Notes                                      |
| **Existing External Funding Sources** |                 |                                             |
| RTD                        | $30 million (M) | Including $5M allocated for match to DRCOG Transportation Improvement Program grant |
| DRCOG                      | $8.15M          | Federal – Regional Transportation Improvement Program Grant |
| DRCOG                      | $5M             | Sub-regional match                          |
| CDOT                       | $9M             | Regional Priority Project - includes $1.7M match for DRCOG Transportation Improvement Program grant |
| City of Boulder            | $1M             | Cash match for BRT station enhancements     |
| City of Longmont           | $0.15M          | Cash match for Coffman St Dedicated BRT lane |
| **Potential Additional Funding Sources** |                 |                                             |
| Senate Bill 267 from CDOT Region 4 | $20M           |                                             |
| Senate Bill 267 Transit Grant from CDOT Division of Transit and Rail | $10M           |                                             |
| Federal BUILD Grant        | $25M            |                                             |
| Federal/State Grant for Bikeway | $10M          |                                             |
| Potential Regional Transportation Authority | $13.69M annually |                                             |

Economic & Planning Systems, Inc, 2019
References


Regional Transportation District (RTD), 2014. “Northwest Area Mobility Study,” June 2014.


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<tr>
<td>34</td>
<td>Arland</td>
<td>Arland Land Use Economics</td>
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<tr>
<td>35</td>
<td>Ave</td>
<td>Avenue</td>
</tr>
<tr>
<td>36</td>
<td>BAT</td>
<td>Business Access and Transit</td>
</tr>
<tr>
<td>37</td>
<td>Boulder</td>
<td>City of Boulder</td>
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<tr>
<td>38</td>
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<tr>
<td>39</td>
<td>CatEx</td>
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</tr>
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<td>CU</td>
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</tr>
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<tr>
<td>48</td>
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<tr>
<td>49</td>
<td>MMCV</td>
<td>Multi-Modal Corridor Vision</td>
</tr>
<tr>
<td>50</td>
<td>mph</td>
<td>miles per hour</td>
</tr>
<tr>
<td>51</td>
<td>NAMS</td>
<td>Northwest Area Mobility Study</td>
</tr>
<tr>
<td>52</td>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>53</td>
<td>PAC</td>
<td>Policy and Advisory Committee</td>
</tr>
<tr>
<td>54</td>
<td>PEL</td>
<td>Planning and Environmental Linkages</td>
</tr>
<tr>
<td>55</td>
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</tr>
<tr>
<td>56</td>
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<tr>
<td>57</td>
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<td>61</td>
<td>STIP</td>
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<tr>
<td>62</td>
<td>T2</td>
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<td>US Fish and Wildlife Service</td>
</tr>
<tr>
<td>68</td>
<td>Virtegic</td>
<td>Virtegic Group</td>
</tr>
</tbody>
</table>
This questionnaire is intended to act as a summary of the planning process and ease the transition from the planning study to a National Environmental Policy Act (NEPA) analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, and much (or all) of the history of decisions, etc., is not passed along. Different planning processes take projects through analysis at different levels of detail. Without knowing how far, or in how much detail a planning study went, NEPA project teams often re-do work that has already been done.

Planning teams need to be cautious during the alternatives’ evaluation process. Alternatives’ 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 cannot be considered viable alternatives, even if they reduce impacts to a particular resource. This questionnaire is consistent with 23 CFR 450 (planning regulations) and other Federal Highway Administration (FHWA) policy on Planning and Environmental Linkage (PEL) process.

Instructions: These questions should be used as a guide throughout the planning process. The questionnaire should be filled out as the study progresses. It is a beneficial tool to keep leadership and program managers up to date on a study’s progress. When a PEL study (i.e. corridor 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 the study to FHWA for review, the completed questionnaire will be included with the submittal. FHWA will use this questionnaire to assist in determining if an effective PEL process has been applied before NEPA processes are authorized to begin. The questionnaire should be included in the planning document as an executive summary, chapter, or appendix.

1. Background

A. What is the name of the PEL document and other identifying project information (e.g. subaccount or Statewide Transportation Improvement Program [STIP] numbers)?

The PEL Study document is named the State Highway (SH) 119 Multi-Modal PEL Study, it was initiated by the Colorado Regional Transportation District (RTD) in summer 2017 and was completed in summer 2019. PEL Study documents can be found online at: www.SH119BRT.com. The project does not have Colorado Department of Transportation (CDOT) subaccount number or a code as it was initiated by RTD.

B. Who is the lead agency for the study? (FHWA, FTA, CDOT, Local Agency)

The Federal Transit Administration (FTA) and the FHWA jointly acted as the lead agency and RTD sponsored the project. CDOT was involved throughout the Study as well since SH 119 is under their jurisdiction, as well as several of the city streets that are a part of the analyses and recommended for improvement(s).

C. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were conducted. (Include project start date and end date).
D. Provide a description of the existing transportation corridor, including project limits, length of study corridor, modes, number of lanes, shoulder, access control and surrounding environment (urban vs. rural, residential vs. commercial, etc.)

The Study Area for the PEL is generally the operational right of way (ROW) of SH 119 between the City of Boulder (Boulder) and the City of Longmont (Longmont) in Boulder County, Colorado as well as the streets within both cities along which Bus Rapid Transit (BRT) would be routed including the associated bus stops and stations as well as the recommended local improvements that are included in the SH 119 MMCV. The overall environmental context of the PEL Study varies from urban within both cities to rural along SH 119 between them.

Between Boulder and Longmont, SH 119 is a divided state highway with 4-6 travel lanes plus shoulders and a wide center median within a 200-250-foot wide ROW. The pavement in each direction of SH 119 is 40-60-feet wide totaling 80-120-feet of pavement, which leads to a large amount of additional ROW in the corridor that diverges between the median and the sides of the corridor. The cross section varies through the corridor and, in some locations, includes auxiliary lanes; right- and left-turn lanes; queue jump lanes for buses at 63rd Street and Jay Road; and other features. The pavement condition is generally very good and well-maintained although the roadway shoulders are not built to the same width and full depth strength as the general-purpose traffic lanes.
The proposed SH 119 BRT routes travel along state highways and city-owned streets in both Boulder and Longmont. In Boulder, these roadways have 4-6 lanes of travel; 28th Street, which is also a state highway and US highway (SH 119 and US 36), includes bicycle lanes; business access and transit (BAT) lanes; and has transit signal priority at its intersections in this segment.

Proposed BAT lanes in Boulder include Iris Avenue between 28th Street and Foothills Parkway (which is also SH 157); 28th Street between Iris Avenue and Valmont Road; and 28th Street between Pearl Street and Canyon Boulevard (which is also SH 119). The streets in Longmont are mixed-flow traffic and range from 2 lanes (one in each direction) with parking to a 5-lane roadway that is approximately 74 feet wide. Dedicated BRT lanes are proposed along Coffman Street in Longmont. There is an existing Park-n-Ride facility at 8th Avenue and Coffman that serves as a major transit hub. Along the proposed routes in Longmont, the streets do not have bicycle lanes, nor do the intersections have transit signal priority in place.

The posted speed limit on the BRT routes within Boulder and Longmont generally is 35 miles per hour (mph) with frequent signalized intersections. There are existing buses operating on the proposed routes within both cities along with vehicle traffic. Portions of the routes include sidewalk and bicycle paths.

Study Corridor Lengths:

- SH 119 between Boulder and Longmont = a little over 9 miles
- Orange BRT Route = a little over 20 miles
- Blue BRT Route = slightly under 19 miles

E. Who was the sponsor of the PEL study? (CDOT, Local Agency [name the local agency], Other)

RTD is the sponsor of the SH 119 Multi-Modal PEL Study. CDOT has also been involved consistently in the project as have the cities of Boulder and Longmont, and Boulder County.

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

- RTD: Chris Quinn, Project Manager; Perry Edman, Planning Project Manager—Environmental; Judy Lubow, Director, District I; Chuck Sisk, Director, District O; Lee Cryer, Planning Project Manager; Nataly Handlos, Lead Service Planner and Scheduler, North Team; Ali Imasepahi, Deputy SH 119 Project Manager/Systems Engineering Project Manager; Ravi Palakurthy, Transportation Planner; Lisa Trujillo, Manager of Public Outreach; Bill Van Meter, AGM, Planning; Christina Zazueta, Manager of Community Engagement
- FTA, Region 8: Tracey MacDonald, Director, Planning and Program Development Office; Kristen Kenyon, Community Planner
SH 119 Multi-Modal PEL Study

- **CDOT Region 4**: Johnny Olson, Previous Regional Transportation Director; Jim Eussen, Region Planning and Environmental Manager; Dan Marcucci, Resident Engineer; Karen Schneiders, Local Agency Environmental and Planning Manager

- **CDOT Department of Transit and Rail**: David Krutsinger, Deputy Director, Division of Transit and Rail

- **Parsons**: Phil Hoffman, Project Manager; Amber Haines, Deputy Project Manager, Rail and Transit Systems; Jen Leifheit, Quality Assurance Manager; Amber Brenzikofer, NEPA/Environmental Specialist; John Braaksma, Preliminary Engineering; Roland Genick, Stations/Urban Design

- **Pinyon Environmental, Inc.**: Amy Kennedy, Transportation Market Manager/SH 119 Environmental Analysis and Documentation Project Manager; Kate Turner, NEPA Specialist; Pamela Roszell, Environmental Scientist; Robyn Kullas, Technical Group Manager—NEPA and Environmental Planning; Jake Fritz, Environmental Scientist/Geographic Information Science Specialist

- **Apex Design**: Malinda Reese, Traffic Operations Analysis and Micro-simulation

- **ArLand Land Use Economics**: Arlene Taniwaki, Land Use Economic Development Analysis, Project Support

- **Boulder County**: Elise Jones, Commissioner; George Gerstle, Transportation Director (retired); Scott McCarey, Alternative Transportation Coordinator

- **City of Boulder**: Suzanne Jones, Mayor; Kathleen Bracke, Go Boulder Manager; Natalie Stiffler, Senior Transportation Planner; Jean Sanson, Senior Transportation Planner

- **City of Longmont**: Joan Peck, Council Member; Phil Greenwald, Transportation Planner; Shawn Lewis, Assistant City Manager; Micah Zogorski, Senior Civil Engineer

- **Denver Regional Council of Governments (DRCOG)**: Matthew Helfant, Senior Transportation Planner

- **University of Colorado (CU) – Boulder**: Tom McGann, Director Planning and Transportation Services; David Cook, Senior TDM Manager, CU Boulder

- **Harris Kocher Engineering Group**: Aaron Murphy, Aerial Mapping and Field Survey

- **Economic & Planning Systems**: Andrew Knudtson, Financial/Economic Development; Rachel Shindman, Financial/Economic Development

- **Connetics Transportation Group**: Susan Rosales, Transit Operations Analysis and Operation and Maintenance Costs

- **Felsburg, Holt & Ullevig**: Elliot Sulsky, Transportation Planning/Engineering; Holly Buck, Transportation Planning/Engineering

- **Fehr & Peers**: Charles Alexander, Transportation Planning/Engineering; Jon Nepstad, Transportation Planning/Engineering

- **H.C. Peck & Associates**: J. Parker, ROW Analysis

- **Virtegic Group**: Marta Sipeki, Stakeholder/Public Outreach
G. List the recent, current or near future planning studies or projects in the vicinity. What is the relationship of this project to those studies/projects?

- **FasTracks (2004 - ongoing).** FasTracks is a voter-approved comprehensive program established in 2004 to build 122 miles of new commuter rail and light rail; 18 miles of Bus Rapid Transit (BRT); 21,000 new parking spaces at light rail and bus stations; and enhanced bus service for easy, convenient bus/rail connections across its eight-county district. Planning activities are ongoing since the project elements were designed to be phased and funding has not been secured for all elements (RTD, 2019). The design and construction of the Northwest Rail Line (see below) and the 1st Street/Main Street Park-n-Ride in Longmont (an MMCV element) are part of the FasTracks Program.

- **Northwest Rail (2010 - ongoing).** The Northwest Rail line is a 41-mile high-capacity, fixed-guideway transit project from Denver Union Station to Longmont, passing through North Denver, Adams County, City of Westminster, City of Broomfield, City of Louisville, and Boulder. In July 2016 commuter rail started service between Denver Union Station and the Westminster Station. Also, in 2016, RTD allocated funds to build the end-of-the-line station in Longmont at 1st Street/Main Street (RTD, 2019). The design and construction of rail between Westminster and Longmont, which is expected to utilize BNSF railroad ROW that is adjacent to SH 119 between Boulder and Longmont is still a planned long-term transit improvement.

- **Northwest Area Mobility Study (2013 – 2014).** RTD began the Northwest Area Mobility Study (NAMS) in 2013 to collaboratively develop a consensus agreement with local and state agencies on near-term mobility improvements that would not preclude future implementation of Northwest Rail in the long-term. The NAMS addressed growing travel demand to provide improved mobility in the northwest region. The NAMS resulted in a prioritized list of mobility improvements, and BRT along SH 119, which would provide service between and within Boulder and Longmont, was identified as a high priority and a viable, cost-effective way to increase mobility within the Northwest Area of the RTD (RTD, 2014).

- **Longmont Roadway Plan (2014).** The Longmont Roadway Plan performed a technical analysis of the City’s street system and identified future roadway needs and improvements; these improvements would support the MMCV.

- **Longmont Multimodal Transportation Implementation Plan (2016).** This plan contains the technical analysis and more detailed background information related to the multi-modal transportation components of Envision Longmont (Longmont, 2016). It includes traffic forecasting information as well as phased improvement plans for roadways and the transit and bicycle system. SH 119 BRT is described as a component of this plan.

- **City of Boulder Transportation Master Plan update (underway; initiated in 2018).** The plan is the guiding policy document for Boulder’s transportation system. This update will establish transportation policy and investment priorities for the future. This project will likely be discussed in the update.
University of Colorado (CU) Boulder Transportation Master Plan (underway; initiated in 2019). The plan will define innovative possibilities for travel to, between, and through both the main and east campuses that address short-term needs and set a course for the long term. It will examine key drivers for alternative modes of transportation along with vehicular and parking needs. The SH 119 Multi-Modal PEL Study will likely be discussed in this plan.

Southwest Longmont Operations Study (2017-2019). The Southwest Longmont Operations Study addresses future demands on Longmont’s multi-modal transportation system in the southwest part of town. The Study examines the roadway network formed by Ken Pratt Boulevard (which is also SH 119), Hover Street, and Nelson Road, including major intersections along these corridors and identifies needed intersection and transportation system improvements, as well as pedestrian and bicycle improvements.

RTD Transportation Transformation (T2) Plan (in progress; initiated in 2019). The T2 Plan is a two-year project featuring extensive public outreach, engagement, and involvement that will cover comprehensive operations assessments and systems optimization; fiscal sustainability; scenario planning and system expansion; mobility expansion and emerging technologies; and the future of the workforce. The objective is to gain a comprehensive knowledge of the district’s transportation needs with an understanding that mobility changes have the potential of transforming how RTD serves its passengers and the public.

2. Methodology Used

A. Did the Study follow the FHWA PEL Process? If the Study was conducted by another US Department of Transportation agency, provide a crosswalk table to demonstrate how the FHWA Process was utilized.

The PEL Study followed the FHWA PEL process; please see crosswalk below.
<table>
<thead>
<tr>
<th>FHWA/CDOT Coordination Point</th>
<th>SH 119 PEL Study Actions</th>
<th>Agency Involvement</th>
</tr>
</thead>
</table>
| 1 Determine Reason for PEL Study and Desired Outcome | **Reason for PEL Study:**  
- Project has resulted in the identification of a MMCV that meets the Purpose and Need statement; however, the MMCV is not fully funded and/or in constrained plan meaning NEPA studies cannot be completed through to a Decision Document.  
- Completion of a PEL Study provides a documentation of the purpose and need statement; alternatives development and evaluation; environmental analyses and mitigation strategies; and financial analyses to be used in subsequent NEPA studies.  
- MMCV Elements have independent utility and will be implemented over time as funding becomes available.  
- MMCV Elements are expected to be implemented by more than one agency under multiple NEPA studies over multiple years.  
**Desired Outcome:**  
- Complete a PEL Study that captures purpose and need; alternatives development and evaluation; location and magnitude of anticipated environmental impacts; identifies mitigation strategies; and lists out next steps for implementation in order to support completed of future NEPA studies to implement the MMCV. | ✓ FTA  
✓ RTD  
✓ CDOT  
✓ Cities of Boulder and Longmont  
✓ Boulder County  
✓ DRCOG  
✓ CU Boulder |
### FHWA/CDOT Coordination Point

#### Develop Purpose and Need; Goals and Objectives

**Project Purpose:**
The purpose of the SH 119 Multi-Modal PEL Study is to optimize regional connectivity and mobility along SH 119 between and within Boulder and Longmont by providing multi-modal improvements that result in faster and more reliable transit travel in accordance with the NAMS (RTD, 2014).

**Project Need:**
The needs of the project are to:
- Address future travel demand on the SH 119 between Boulder and Longmont with multi-modal improvements, including first- and last-mile connectivity;
- Optimize transit services, connections, and ridership on SH 119 between and within Boulder and Longmont;
- Reduce transit travel time and increase travel time reliability; and
- Advance the recommendation from the 2014 NAMS to provide efficient BRT service between and within the cities of Boulder and Longmont.

<table>
<thead>
<tr>
<th>Agency Involvement</th>
</tr>
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<tbody>
<tr>
<td>✓ FTA</td>
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<tr>
<td>✓ RTD</td>
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</tr>
<tr>
<td>✓ DRCOG</td>
</tr>
<tr>
<td>✓ CU Boulder</td>
</tr>
</tbody>
</table>
### Identify and Screen Alternatives

**Conducted three tiers of alternatives development and evaluation:**

1. **Alternatives’ Evaluation Tier 1 – Evaluation of Technologies** provided a high-level evaluation of conceptual alternative technologies and focused on BRT for more detailed analysis.

2. **Alternatives’ Evaluation Tier 2 – Service Level and BRT Route Pattern Alternatives** analyzed the benefits of different BRT route patterns, branches, and service operations alternatives resulting in several alternatives taken into the third and final tier of evaluation.

3. **Alternatives’ Evaluation Tier 3 – Evaluation of Refined BRT Alternatives (routes, frequency, and physical improvements)** conducted a detailed analysis of the most promising BRT route pattern(s), physical configuration options, and operational alternatives to define the BRT element for completion of preliminary engineering and environmental study. The focus of the Tier 3 alternatives’ evaluation built on the Tier 2 evaluation and included factors related to the physical configuration of the alternatives. It identified a MMCV that includes BRT operating on managed lanes on SH 119 between Boulder and Longmont, Park-n-Rides, station enhancements, a separated bikeway, and dedication of streets within Boulder and Longmont for BRT or BAT.
<table>
<thead>
<tr>
<th>FHWA/CDOT Coordination Point</th>
<th>SH 119 PEL Study Actions</th>
<th>Agency Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Identify Environmental Impacts and Potential Mitigation</td>
<td>Scoping:&lt;ul&gt;&lt;li&gt;Reviewed list of environmental resources; identified those present and those potentially impacted; discussed expected level of impact anticipating that all impacts would be within operational ROW.&lt;/li&gt;&lt;li&gt;Toured study area with RTD/FTA.&lt;/li&gt;&lt;/ul&gt;Environmental Impacts and Mitigation:&lt;ul&gt;&lt;li&gt;Identified resources present and those that may be impacted by each of the MMCV Elements.&lt;/li&gt;&lt;li&gt;Assessed location and magnitude of impact from each MMCV Element on each environment resource that is present/has the potential to be impacted in accordance with CDOT/FHWA protocols.&lt;/li&gt;&lt;li&gt;Proposed mitigation strategies in accordance with CDOT/FHWA protocols.&lt;/li&gt;&lt;li&gt;Provided next steps for implementation of each MMCV Element including anticipated level of study, next steps for each resources' analyses by MMCV Element, and permits/approvals that will likely need to be obtained.&lt;/li&gt;&lt;/ul&gt;</td>
<td>✓ FTA ✓ RTD ✓ CDOT ✓ Cities of Boulder and Longmont ✓ Boulder County ✓ DRCOG ✓ CU Boulder</td>
</tr>
<tr>
<td>5 Finalize PEL Study Document(s)</td>
<td>The SH 119 Multi-Modal PEL Study was reviewed by RTD, CDOT Region 4, CDOT Environmental Programs Branch, FTA, and FHWA. After finalization it was made available to all stakeholders via the website.</td>
<td>✓ FTA ✓ RTD ✓ CDOT</td>
</tr>
</tbody>
</table>
B. How did the Study meet each of the PEL Coordination Points identified in 23 USC 168?

As illustrated by the crosswalk provided in Table 1 above, the SH 119 Multi-Modal PEL Study met each of the PEL Coordination Points required by FHWA/CDOT. The Study included:
identification as to the need to complete a PEL study; development of the purpose and need; an alternatives analysis and evaluation (discussed in Section 6 below) including preliminary engineering; identification of potential environmental impacts and potential mitigation strategies (described in Section 9 below); and review of the PEL Study. Extensive stakeholder and public involvement was an integral aspect of the Study through an iterative, interactive process (described in Section 3 below).

C. What NEPA terminology/language was used and how did you define them? (Provide examples or list)

NEPA-like language was utilized to provide continuity for a future NEPA study and familiarize stakeholders with this terminology. Table 2 lists the NEPA terms used in this study.

<table>
<thead>
<tr>
<th>Planning study Terminology</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose and Need</td>
<td>The purpose and need is a detailed statement describing the purpose for the project and the need for the project that is supported by data.</td>
</tr>
<tr>
<td>Study Area</td>
<td>Study area is the geographic area that was examined in this study for existing conditions, transportation needs, and environmental impacts.</td>
</tr>
<tr>
<td>PEL Study Approach</td>
<td>This study employed methods consistent with PEL Studies to identify/scope issues; develop and screen alternatives; and recommend an alternative, which is the MMCV. The stakeholder outreach was also consistent with PEL guidance from FHWA and CDOT; it provided the opportunity for stakeholder involvement throughout the process.</td>
</tr>
<tr>
<td>Public Outreach and Coordination</td>
<td>Similar to a NEPA study, this planning study used the scoping process to identify issues of interest or concern to the stakeholders, offered opportunities for involvement in the decision process, and documented the steps and outcome of the process.</td>
</tr>
<tr>
<td>Policy Advisory Committee (PAC)/Technical Advisory Committee (TAC)</td>
<td>The PAC was comprised of elected officials and senior members of their representative organizations, while the TAC was comprised of technical and staff members of organizations. These organizations were identified as stakeholders early in the process and consisted primarily of government agencies and chambers of commerce. Both committees were convened regularly at key steps in the study.</td>
</tr>
<tr>
<td>Alternatives Analysis, Alternatives Development, and Evaluation</td>
<td>These terms are used to describe the evaluation of alternatives that led to the selection of appropriate concepts to move forward for further study and ultimately to a recommended alternative, which is the MMCV.</td>
</tr>
</tbody>
</table>
### Planning study Terminology

<table>
<thead>
<tr>
<th>Planning study Terminology</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Alternative</td>
<td>This term refers to the ultimate and recommended design concept based on the alternative analysis process that will advance into the NEPA process and further design.</td>
</tr>
<tr>
<td>No-Action Alternative</td>
<td>The no-action alternative reflects a scenario should RTD decide not to construct any improvements other than continuing to maintain the transportation network as it currently exists. The no-action alternative is also used as a baseline comparison for alternative development and evaluation.</td>
</tr>
<tr>
<td>Existing Conditions, Affected</td>
<td>These terms refer to the baseline conditions for community and environmental resources in the study area.</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
</tr>
<tr>
<td>Categorical Exclusion</td>
<td>This term refers to the NEPA environmental review document that is prepared for more simple actions that do not individually or cumulatively have a significant impact.</td>
</tr>
<tr>
<td>Environmental Analyses</td>
<td>This term refers to identification of potential impacts of the transportation improvements on community and environmental resources in the study area.</td>
</tr>
</tbody>
</table>

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

The above terms can be used seamlessly in future NEPA studies that can build directly off this PEL Study. The terms will continue to be used in accordance with the 2017 CDOT NEPA Manual (CDOT, 2017). Utilizing these same terms will reduce confusion and demonstrate how the components of this planning study apply to the NEPA process.

**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 CDOT and the local agency, with buy-in from FHWA, US Army Corps of Engineers (USACE), and USFWS.

The study incorporated both internal and external stakeholder input as well as extensive public outreach throughout an iterative alternatives’ evaluation process. A complete list and description of coordination points can be found in the SH 119 Multi-Modal PEL Study Community and Stakeholder Engagement Report (Virtegic, 2019); key steps and coordination points are listed below.

- **A Project Management Team** comprised of RTD and the consultation team met bi-weekly throughout the process.

- **The PAC** was comprised of elected officials and senior members of their representative organizations; it met five times concurrently with the TAC over the course of the Study.

- **The TAC** was comprised of technical and staff members of organizations. Generally, the PAC and TAC meetings were held together; however, the TAC met separately once during the Study. The initial PAC/TAC joint meeting introduced the study’s goals and asked the stakeholders about their vision for the BRT corridor. At the second PAC/TAC meeting in November 2017, input from the group started to define potential BRT routes,
their termini, and station locations. In March 2018, only the TAC met to discuss the BRT comparisons matrix; BRT trunk and branch alternatives; origin/destination patterns; and the model run summary. The May 2018 PAC/TAC joint meeting included discussion on the alternatives’ refinement and evaluation of the service levels, route patterns, and physical configuration options as well as the Tier 2 alternatives’ evaluation results. The December 2018 PAC/TAC joint meeting centered on the onboard survey results; the BRT route alternatives; the decision to capture input from non-riders through the online questionnaire; Tier 3 evaluation results and scoring; and funding opportunities. Discussion at the fifth and final PAC/TAC joint meeting in March 2019 focused on funding opportunities as well as the MMCV Elements and next steps for implementation.

- An Agency Working Group made up of representatives from RTD, CDOT, Boulder, Longmont, Boulder County, DRCOG, and the consultant team met 19 times during the development and evaluation of alternatives as well as the environmental analyses. The purpose of the agency workshops was to review and provide input to the alternatives’ development and evaluation. This group was essential in thinking through and analyzing the results derived from this process.

In the Tier 2 Alternatives Analysis work, November 2017 through June 2018, the Agency Working Group focused on developing and analyzing BRT routes, stop locations, frequency of service, local transit connections, and testing different patterns. The group worked with RTD and the consultant team to develop and analyze 10 BRT scenarios that were modeled to understand transit ridership generation, services hours needed, cost of services, fleet needs, and the cost benefit.

The Agency Working Group played a significant role in developing measures and metrics to analyze the alternatives in the Tier 3 process between June 2018 and February 2019. In the summer of 2018, the Agency Working Group identified 15 analytics to measure the alternatives in Tier 3. The Agency Working Group provided input on the recommended MMCV during its development and came to consensus on the need for its implementation during the spring of 2019.

- Local, state, and federal agency meetings were held as needed and at key decision-making points. Participants varied, depending on the focus of the meeting and included representatives from RTD, CDOT, Boulder, Longmont, Boulder County, FTA, and FHWA. Meetings included in-depth review and discussion of operating characteristics, BRT Routes, BRT configuration (on the shoulder, queue jump lanes, or managed lanes), MMCV Elements, environmental analyses, and a myriad of topics related to implementation.

- The RTD Board was briefed several times during the Study and was presented with the recommended MMCV in May 2019.
F. How should the PEL information below be presented in NEPA?

The vast majority of the technical data and analyses can be directly transferrable into NEPA studies. PEL studies usually have a shelf life of five years. Depending on when the NEPA study begins, data may need to be updated or sensitivity analyses completed. If Environmental Assessments (EAs) are required for any of the MMCV, instead of CatExs, the purpose and need; alternatives’ development and evaluation; environmental analyses; and mitigation strategies should be used to inform those studies. These pieces of the SH 119 Multi-Modal PEL Study can be used as the starting point to develop a more detailed and element-specific purpose and need statement as well as for alternatives’ refinement; the identification of sensitive resource for avoidance and mitigation; and continued stakeholder involvement.

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.

As discussed further in the *SH 119 Multi-Modal PEL Study Community and Stakeholder Engagement Report* (Virtegic, 2019), the SH 119 Multi-Modal PEL Study began in the spring of 2017 with a Public Involvement Plan that outlined objectives, strategies, tactics, and activities to engage members of the community and stakeholders. The goals of the Public Involvement Plan were to educate and engage internal and external stakeholders in the SH 119 Study Area as well as greater travel shed and to solicit stakeholder feedback about the potential transportation improvements. The Public Involvement Plan, developed at project initiation, outlined strategies, tactics, and a schedule focused on working with a broad base of stakeholder and community members.

The PAC was comprised of elected officials and senior members of their representative organizations. The TAC was comprised of technical and staff members of organizations. The PAC/TAC were convened five times coincidentally at key milestones during the project and the TAC met independently once. A subset of the TAC comprised of technical staff from Boulder County, Boulder, Longmont, CDOT, CU Boulder, DRCOG, RTD, and the consultant team made up the Agency Working Group. This group held interactive agency workshops monthly and bimonthly throughout the alternatives’ development and evaluation process to review details of the analyses. In addition, there were individual meetings as needed with Boulder, Longmont, Boulder County, FTA, FHWA, and CDOT as need to focus on specific topics of the study.

Additional detail on agency coordination can be found in Section 2.E above.

Public agencies will be provided an opportunity to review the PEL Study documents once they are published on-line. As each NEPA study is initiated, scoping with the appropriate jurisdictional and resource agencies will be undertaken to focus the efforts on the MMCV element(s) being implemented at that time.
B. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved in the PEL study? This includes all federal agencies if the study is being led by a local agency or transit-oriented study seeking to utilize the FHWA PEL Process.

Transportation agencies coordinated with during the SH 119 Multi-Modal PEL Study included CDOT Region 4, CDOT Environmental Programs Branch, FTA, FHWA/Colorado, Boulder County, Boulder, Longmont, CU Boulder, DRCOG, and CDOT Department of Transit and Rail.

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

Agency coordination will be required to initiate the environmental review process for implementation of MMCV elements with a federal nexus. Steps required depend on the type of future NEPA documentation prepared for the project elements, such as the preparation of a CatEx or an EA. Regardless of the level of NEPA documentation required, an initial project meeting with project sponsors will occur early in the process to discuss project scope, schedule, key milestones, resources evaluated, study area, and the need for public involvement and resource agency coordination. A higher level of coordination and agency and public scoping is required for an EA, should one be required. RTD has committed to ongoing coordination with the local and state agencies that have been involved in the PEL process.

4. Public Coordination

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

The foundation for SH 119’s stakeholder engagement and Public Involvement Plan was three-pronged and included collaboration, community, and communication. The project team used these strategies to frame how important issues were addressed with stakeholders, and the messages were optimized and coordinated in delivery across media, distribution channels, and service areas. In addition to the Agency Group Workshops, PAC, and TAC meetings described above, outreach to the chambers of commerce, businesses, and other stakeholders on the SH 119 Multi-Modal PEL Study was conducted including employers and interested groups located along the corridor between Boulder, and Longmont, as well as the unincorporated area of Niwot and community of Gunbarrel.

Public outreach included sending media releases/advisories to keep the communities informed on the project, including the following:

- A website (www.SH119BRT.com) was established early in the process and maintained throughout the Study. It was routinely updated with information as the PEL Study progressed and provided the public with a way to submit comments electronically. A webpage was also set up on RTD’s website that included an overview of the project and a link to the primary website.

- A total of six news releases were distributed to the media, five articles were published in specific magazines or e-newsletters, and updates were posted routinely on the SH 119 website.
Emails/eblasts were used to communicate with the extensive database of interested residents and stakeholders in the northwest part of RTD that were collected during the FasTracks program.

Social media posts were created that directed people to the SH 119 website for information and to solicit feedback.

Presentations were given to community organizations, service clubs, homeowner associations, business associations, etc. to educate them about the project and solicit feedback. A total of eleven presentations, six community events, and two RTD-rider events (outreach efforts at the 8th Avenue/Coffman Station and the Downtown Boulder Station) during the course of the study.

Two telephone town halls occurred with RTD directors in order to reach a large number of residents/stakeholders.

A total of seven public meetings were held in Boulder, Longmont, and Niwot with a Spanish translator available at each meeting.

Onboard bus surveys and public questionnaires surveyed drivers and passengers to gauge perceptions and to obtain their opinions on service in the Study Area.

5. **Corridor Vision/Purpose and Need**

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

   The study was undertaken to determine whether BRT is a viable alternative to optimize regional connectivity and mobility between and within Boulder and Longmont in accordance with the NAMS Recommendation. With regard to the purpose and need of the project, RTD clearly stated that “The purposes shall include multi-modal and comprehensive goals from all local agencies along the corridor. Accessibility for all modes including transit, bicycle, freight, auto, and pedestrian should be discussed to determine the consensus priorities for the corridor.” (RTD, 2016).

   B. **What is the vision for the corridor?**

   The SH 119 Multi-Modal PEL Study was initiated to build upon the NAMS recommendation, which was a single BRT route that was planned to operate in mixed-use traffic and use the shoulder of SH 119 as needed. As the project progressed and stakeholders from local, state, and federal agencies were engaged, it was determined that a MMCV would be needed to meet the study’s purpose and need. The MMCV has consensus from the local, state, and federal stakeholders that its elements should be advanced.
The MMCV elements include the following:

- Park-n-Rides at six locations
  - 63rd Street/SH 119
  - Niwot Road/SH 119 (existing)
  - SH 52/SH 119
  - 1st Avenue/Main Street (this Park-n-Ride is a part of FasTracks)
  - 8th Avenue/Coffman Street (existing)
  - Park Ridge Avenue/Main Street

- Stations and stops; stops are locations where passengers load and unload from buses and stations are stops that have built-in dwell times for buses and typically have limited amenities such as restrooms, ticket counters, and seating. For the purposes of the PEL Study, both stations and stops are referred to as stations.

**Boulder Stations:**

- CU East – Colorado Avenue/Discovery Drive or CU Main – Colorado Avenue/18th Street (termini will be determined in collaboration with CU as they complete their Transportation Plan currently underway)
- 30th Street/Arapahoe Avenue
- 14th Street/Canyon Boulevard (Downtown Boulder Station)
- 19th Street/Canyon Boulevard
- 30th Street/Colorado Avenue
- 28th Street/Canyon Boulevard
- 28th Street/Pearl Street
- 30th Street/Pearl Street (Boulder Junction Transit Center)
- 28th Street/Valmont Road
- 28th Street/Iris Avenue

**Longmont Stations:**

- Hover Street/SH 119
- Hover Street/Clover Basin Drive
- Hover Street/Nelson Road
- Nelson Road/Airport Road
- Airport Road/Pike Road
- 1st Avenue/Coffman Street
- 8th Avenue/Coffman Street (also a Park-n-Ride)
- Hover Street/Mountain View Avenue
▪ 17th Avenue/Main Street
▪ Park Ridge Avenue/Main Street (also a Park-n-Ride)

▪ BRT/Managed Lanes (for use by BRT, High-Occupancy Vehicles 3+, and tolled vehicles). This MMCV element would construct two new lanes to the inside of SH 119, into the median – one in the northbound direction and one in the southbound direction. The new lanes would be used by BRT, cars with three or more passengers (high-occupancy vehicles or HOVs), and users willing to pay a toll.

▪ Longmont Coffman Street Dedicated BRT Lanes. Longmont plans to convert one travel lane on Coffman Street from a shared bus/car use to be BRT-use only.

▪ Boulder BAT Lanes. Boulder plans to convert travel lane(s) on each of the streets listed below from a shared bus/car use to be BRT-use only.
  • Iris Avenue: between 28th Street and Foothills Parkway (eastbound only)
  • 28th Street: between Iris Avenue and Valmont Road
  • 28th Street: between Pearl Street and Canyon Boulevard

▪ BRT/Queue Jump Lanes at SH 52/SH 119. The BRT/queue jump lanes would be constructed on SH 119 at the northbound and southbound approaches of the SH 52 intersection. They would address the substantial AM and PM peak period congestion. They are extended intersection queue jump lanes providing a dedicated transit lane to pass traffic queues at this traffic signal that can extend over a mile in each direction.

▪ Separated Bikeway. CDOT is completing a study for the location and design of a separated bikeway that would be located in the SH 119 ROW between Boulder and Longmont. Currently bicyclists use the shoulder of SH 119. The recommendations include a separated 12-foot shared-use path along SH 119 between Foothills Parkway in Boulder and Hover Street in Longmont.

▪ Boulder Intersection Improvements. In addition to the Boulder BAT lanes, there would be two intersection improvements implemented at the 28th Street/Iris Avenue and 28th Street/Canyon Boulevard intersections to provide right-curb, bus-only left turns. The bus-only left-turns will be coordinated with the existing double-left turn signal phasing to ensure safe operation.

▪ Longmont Intersection Improvements. Longmont completed their SW Longmont Traffic Operations Study in May 2019 (Longmont, 2019). It includes recommendations for improving the Hover Street/SH 119 and Hover Street/Nelson Road intersections. These improvements would be made independently of RTD’s implementation of BRT although they would support this MMCV Element.

C. What were the goals and objectives?

Specific goals for the PEL Study were not formally developed as the purpose and need addressed the reasons the study was undertaken. As noted in RTD’s 2016 request for
proposals, “The purposes shall include multi-modal and comprehensive goals from all local agencies along the corridor. Accessibility for all modes including transit, bicycle, freight, auto, and pedestrian should be discussed to determine the consensus priorities for the corridor.” (RTD, 2016).

D. What is the PEL Purpose and Need statement?

The purpose of the SH 119 Multi-Modal PEL Study is to optimize regional connectivity and mobility along SH 119 between and within Boulder and Longmont by providing multi-modal improvements that result in faster and more reliable transit travel in accordance with the NAMS (RTD, 2014).

The needs of the project are to:

- Address future travel demand on SH 119 between Boulder and Longmont with multi-modal improvements, including first- and last-mile connectivity
- Optimize transit services, connections, and ridership on SH 119 between and within Boulder and Longmont
- Reduce transit travel time and increase travel time reliability
- Advance the recommendation from the 2014 NAMS to provide efficient BRT service between and within the cities of Boulder and Longmont

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

Many of the NEPA studies can simply use the PEL Study’s purpose and need statement as it addresses why that specific MMCV element is being implemented. As many of the NEPA studies will be completed as CatExs, likely “C22” for actions entirely within operational ROW, a refined purpose and need statement will not be required. For the managed lanes, the project sponsor will need to review and potentially update the traffic information for the current planning year, and draft a purpose and need statement that reflects specific targets for implementation of the managed lanes that may include goals such as managing travel demand, shifting behavior/travel time, and/or financial goals if tolling is implemented.

6. Range of Alternatives Considered, Screening Criteria and Screening Process

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

A range of alternatives were evaluated as discussed in Section 3 of the SH 119 Multi-Modal PEL Study. During Tier 1 Alternatives’ Evaluation streetcar/light rail, monorail, commuter rail, and Personal Rapid Transit (PRT) were eliminated from further consideration; commuter rail is a part of FasTracks and remains a potential long-term improvement for future implementation. For the numerous transit routes that were studied, operating characteristics, station locations, and Park-n-Ride locations were evaluated. BRT/bus-on-shoulder, BRT/queue jump lanes at SH 52/SH 119, and BRT/managed lanes configurations
on SH 119 between Boulder and Longmont were assessed. As a different study, CDOT examined alignments for separate bikeway in the SH 119 ROW between Boulder and Longmont.

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

A three-tiered evaluation process was used to screen BRT alternatives and identify the most appropriate solution for the corridor. The evaluation criteria were developed in close collaboration with the stakeholders, including the Agency Workshops. The three evaluation levels included:

**Alternatives’ Evaluation Tier 1 – Evaluation of Technologies** provided a high-level evaluation of conceptual alternative technologies and focus on BRT for more detailed analysis in this study.

**Alternatives’ Evaluation Tier 2 – Service Level and BRT Route Pattern Alternatives** analyzed the benefits of different BRT route patterns, branches, and service operations alternatives that resulted in several alternatives progressing into the Tier 3 evaluation. The alternatives developed for this evaluation were derived from the modeling analysis.

**Alternatives’ Evaluation Tier 3 – Evaluation of Refined BRT Alternatives (routes, frequency, and physical improvements)** provided a detailed analysis of the most promising BRT route pattern(s), physical configuration options, and operational alternatives to identify the two-route pattern recommended by the *SH 119 Multi-Modal PEL Study*. The focus of the Tier 3 alternatives’ evaluation exercise built on the Tier 2 evaluation, including factors related to the physical configuration of the proposed options, while continuing to address the Purpose and Need for the *SH 119 Multi-Modal PEL Study*. This evaluation resulted in the identification of the MMCV Elements.

C. For alternative(s) that were screened out, briefly summarize the reasons for eliminating or not recommending the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)

PRT is still in the early research and development stages with no system currently in proven, revenue-generating operation anywhere in the world. Consequently, PRT would not be available as a viable technology in the near term, so it was dropped from further consideration. Streetcar/light rail and monorail were screened as they are not compatible with the NAMS recommendation and as they cannot be implemented in the near-term. Commuter rail is a part of RTD's FasTracks Program and remains as potential long-term improvement for future implementation, so it was removed from consideration for implementation in the near-term. The implementation of the MMCV does not preclude future commuter rail between Boulder and Longmont.

Several routes and patterns were analyzed under Tier 2 analysis through 10 different model runs. The routes and patterns with the lowest level of estimated ridership in 2040 were not carried farther into analysis.
Bus-on-shoulder was screened out as the BRT/managed lane configuration better meets the purpose and need of the SH 119 Multi-Modal PEL Study. CDOT is conducting a traffic and revenue study to evaluate the financial implications of constructing a managed lane along SH 119. While the SH 119 Multi-Modal PEL Study recommends the implementation of BRT/managed lanes, this will need to be further examined through a future NEPA study if it is found viable through the Traffic and Revenue Study. BRT/queue jumps remain a viable option although they are not a part of the MMCV since BRT/managed lanes better meets the purpose and need of the project.

D. How did the team develop alternatives? Was each alternative screened consistently?

The alternatives were developed and evaluated using a three-tiered process that applied evaluation criteria derived from the purpose and need statement as discussed in Section 6.B above. Working closely with the stakeholders including the local and state agencies; PAC; and TAC, criteria were established to evaluate alternatives during the Tier 2 and 3 analyses. Each alternative was screened consistently, as discussed further in Section 3 of the SH 119 Multi Modal PEL Study.

E. Which alternatives were recommended? Which should be brought forward into NEPA and why?

The MMCV Elements described below in Table 3 were recommended as they best met the evaluation criteria, which were derived from the purpose and need statement, as further described in Section 5.B above (Table 3).

### Table 3. MMCV Project Elements

<table>
<thead>
<tr>
<th>RTD Project Elements</th>
<th>Agency to Advance through Project Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Enhancements</td>
<td></td>
</tr>
<tr>
<td>Park-n-Ride Facilities</td>
<td></td>
</tr>
<tr>
<td>Park-n-Ride Facility and Transit Hub (Park Ridge Rd and Main St, which is part of the RTD FasTracks Program)</td>
<td>RTD</td>
</tr>
<tr>
<td>2 BRT Routes</td>
<td></td>
</tr>
<tr>
<td>Coffman Street Dedicated BRT Lanes</td>
<td>Longmont</td>
</tr>
<tr>
<td>Boulder BAT Lanes</td>
<td>Boulder</td>
</tr>
<tr>
<td>BRT/Queue Jump Lanes at SH 52/SH 119 (If needed prior to BRT/managed lanes implementation)</td>
<td>Boulder County/CDOT</td>
</tr>
<tr>
<td>Boulder Intersection Improvements</td>
<td>Boulder/CDOT</td>
</tr>
<tr>
<td>Longmont Intersection Improvements</td>
<td>Longmont/CDOT</td>
</tr>
<tr>
<td>Dedicated BRT/Managed Lanes (including BRT, High Occupancy Vehicle (HOV)3+, and toll; systems costs)</td>
<td>CDOT</td>
</tr>
<tr>
<td>Separate Bikeway</td>
<td>CDOT</td>
</tr>
</tbody>
</table>

The following figures graphically depict some of the MMCV project elements.
Figure 1. Typical BRT Elements

Figure 2. BRT/Managed Lane Cross Section

Disclaimer: Graphic representation of BRT elements. Final BRT elements and design will be different than displayed.
F. Did the public, stakeholders, and agencies have an opportunity to comment during this process? Summarize the amount of public interest in the PEL Study.

As discussed in Sections 3 and 4 above, agencies, stakeholders, and the public had the opportunity to comment throughout the alternatives’ development and evaluation process. Hundreds of comments and questions were received, mainly through the SH 119 webpage/website and some at public meetings. The nature of the comments evolved over the course of the study. Initially, comments ranged from complaints of the length of time it takes to commute on the bus between Boulder and Longmont, to suggested routing alternatives, and finally to why a study was being done for a bus instead of the Northwest Rail Corridor. The desire/need for a separate bikeway and more bicycle capacity on the bus were frequent comments throughout the course of the study. There were comments in support of the proposed BRT service as well as for preference(s) for the alternative people favored.

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

Unresolved issues include:

- Location of the CU Boulder BRT termini, which will be dependent on the CU Boulder Transportation Plan and could be either the main or east campus.

- CDOT will conduct a Traffic and Revenue study on SH 119 to determine the financial viability of the SH 119 BRT/managed lanes.

- The managed lanes are not in a fiscally constrained plan. In case the managed lanes are determined to not be a viable alternative, the BRT/queue jump lanes at SH 52/SH 119 can be carried forward as an alternative for implementation.

7. Planning Assumptions and Analytical Methods

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

The year 2040 was used to be consistent with the DRCOG planning year during which the study was completed.
B. What method was used for forecasting traffic volumes?

Synchro and Vissim software packages were used for the traffic analysis. Synchro was used for the larger study area to get a general sense of the traffic conditions. Vissim was used to provide a more detailed, micro-simulation traffic analysis for a better comparison between transit-specific alternatives at key study area intersections. As part of the Vissim traffic analysis, 15 intersections were chosen to be included in the models, as discussed further in Section 1.3.4 of the *SH 119 Multi Modal PEL Study* and the *SH 119 Traffic Report* (Apex, 2019).

Forecasting was based on traffic analysis zones (TAZs), which are a key element of the regional travel demand model maintained by DRCOG.

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

The long-range transportation plan includes BRT/on-shoulder of SH 119; however, DRCOG is amenable to modifying the plan to include the MMCV. The MMVC elements in Boulder and Longmont as well as the Park-n-Rides, station/stop enhancements, and transit signal priority are consistent with the long-range transportation plan.

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?

For transportation demand purposes, the land uses are summarized in terms of population and employment by DRCOG TAZs. Population estimates were obtained from the US Census Bureau (US Census Bureau, 2016) and the Colorado Department of Local Affairs (DOLA) State Demography Office (DOLA, 2018), DRCOG 2040 forecasts (DRCOG, 2018), and Colorado Labor Market Information (Colorado Department of Labor and Employment, 2018). The *Land Use Conditions and Forecast Data Memorandum* (ArLand, 2018) provides additional information.

8. What pieces of the PEL can transfer directly to the NEPA phase of a project?

All of the pieces of the PEL Study, including the Purpose and Need statement; alternatives’ development and evaluation; affected environment; conceptual design of MMVC elements; environmental context or corridor conditions; initial environmental impact assessment; and mitigation strategies can directly transfer to the NEPA phase of the project. However, at the time of the NEPA study, the project sponsor will need to confirm that there have been no major changes in affected environment or context. The level of additional data gathering and analysis depends on timing of the NEPA phase of each project element. Some MMVC elements, such as the managed lanes, may require additional analysis dependent on CDOT’s Traffic and Revenue study and further operational analyses. Additionally, it is likely that the DRCOG planning year will have changed by the time the managed lanes would be at the NEPA phase, which means that a sensitivity analyses and/or new traffic analyses are likely to be required. Neither air quality modeling nor noise modeling was completed as a part of this PEL Study. Air quality modeling is likely to be required for elements that include improvements at intersections.
operating at a level of service D or worse in the year of study or planning year and have CDOT oversight. Noise modeling will be required for Type I projects that have CDOT oversight.

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 were the resources reviewed and what was the method of review?

For resources present, the CDOT/FHWA protocol was followed for defining the study area, impact analyses, and the identification of mitigation strategies. Modeling for neither air quality nor noise was completed as the horizon/planning year may change before implementation of the elements that may require this assessment. And design is not available for all MMCV elements.
B. Is this resource present in the area and what is the existing environmental condition for this resource?

Refer to the SH 119 Multi-Modal PEL Study Section 5.2 Summary Table of Affected Environment, Direct and Temporary Construction Impacts for a description of existing environmental conditions for each MMCV element by resource. Archaeology and paleontology were dismissed from analyses as the MMCV elements are all within operational ROW which has been previously disturbed. Similarly, farmlands were not analyzed as they are not present within the operational ROW. Additionally, energy was not analyzed as it is not a consideration for the MMCV elements.

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

See Chapter 5, Affected Environment, Environmental Consequences, and Mitigation Strategies, of the SH 119 Multi-Modal PEL Study for understanding the supplemental data needed for NEPA studies. This section discusses potential resource impacts, mitigation strategies, and next steps for the implementation of each MMCV element.

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

Changes to the affected environment are unlikely as all MMCV elements are within operational ROW; however, during NEPA the project sponsor will need to confirm that there are no major changes in affected environment or context. Modeling for air quality and noise will need to be completed for elements triggering these analyses. Modeling for both air quality and noise will need to utilize traffic data for the planning year that is current at that time.

9. List resources 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.

See Table 4 below.

<table>
<thead>
<tr>
<th>Resource Dismissed from Further Analyses</th>
<th>Rationale for Dismissal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeology</td>
<td>Archaeological resources are unlikely to be present due to the past construction of the existing transportation facilities.</td>
</tr>
<tr>
<td>Paleontology</td>
<td>Paleontology resources are unlikely to be present due to the past construction of the existing transportation facilities.</td>
</tr>
<tr>
<td>Energy</td>
<td>There are no energy resources within the SH 119 Multi-Modal PEL Study Area and there are already buses and other vehicles operating on the existing transportation system.</td>
</tr>
<tr>
<td>Farmlands</td>
<td>The operational ROW is dedicated to transportation uses; therefore, no prime or unique farmlands are present within the SH 119 Multi-Modal PEL Study Area.</td>
</tr>
</tbody>
</table>
10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found.

Cumulative impacts were not assessed during this PEL Study. Cumulative impacts will be addressed during the NEPA phase of the project, as appropriate. This will include the development of resource-specific cumulative effects study areas that address both spatial and temporal effects.

For resources that will have not experience direct effects, the implementation of the MMCV will not contribute to cumulative effects. This includes archaeology, paleontology, farmlands, historic resources, Section 4(f) resources/historic (both historic), Section 6(f) resources, hazardous materials, land use, soils/geology, ROW, utilities, and energy. Additionally, resources for which impacts will be mitigated on-site are not expected to contribute to cumulative effects. This includes riparian/Senate Bill 40 resources. The direct impacts of implementing the MMCV on air quality and noise are unknown; these impacts, including cumulative effects (if required) will need to be evaluated during NEPA studies.

Below is a very high-level outline of the resources that may experience cumulative effects due to the implementation of the full MMCV.

- **Threatened, endangered, and special-status species as well as fish, wildlife, and vegetation:** due to conversion of undeveloped land to a transportation use a loss of habitat could result that would contribute to cumulative effects that includes the spread of noxious weeds.

- **Water resources:** the MMCV will result in new impervious surface areas that will increase stormwater runoff. Additionally, there will be new and extended/expanded waterway crossings. Both could contribute to cumulative effects to water resources/water quality.

- **Wetland resources:** there will be permanent impacts to wetland resources, some of which are likely under the jurisdiction of the USACE. Although CDOT will require 1:1 mitigation of all impacts to wetlands, regardless of jurisdiction, the mitigation may not occur on-site or within the same watershed; this could result in a contribution to cumulative effects on wetland resources.

- **Environmental Justice:** the permanent effect of implementing the MMCV is expected to an overall benefit to EJ communities as it will improve multi-modal connectivity. This would be a positive contribution to the cumulative effect of the evolving transportation system.

- **Social/community resources including recreational facilities/trails/open space/parks including Section 4(f)/Non-historic resources:** similar to EJ, the implementation of the MMCV is expected to improve multi-modal connectivity, which may improve access to and from social/community resources as well as recreational facilities/trails/open space/parks. This would be a positive contribution to the cumulative effect of the evolving transportation system.
- **Visual Context/Aesthetics**: The addition of new paved surfaces and development of open land in the SH 119 ROW is expected to have a moderate effect to the visual context of the Study Area. This would contribute to the visual character which has been and is expected to continue to become more urbanized as a cumulative effect.

- **Transportation resources**: similar to EJ, the implementation of the MMCV is expected to improve multi-modal connectivity, which enhance the transportation system. This would be a positive contribution to the cumulative effect of the evolving transportation system.

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

   Proposed mitigation strategies are described in Section 5 of the *SH 119 Multi-Modal PEL Study Report*. They are consistent with standard CDOT/FHWA strategies as well as those of jurisdictional agencies that may be involved in the implementation of the MMCV elements, such as the USACE from which permit(s) are likely to be required for elements along SH 119 between Boulder and Longmont.

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?

   It is anticipated that most of the project elements will require a CatEx-level NEPA study. For CatExes, public involvement is not required although agencies such as CDOT, RTD, and FHWA will review the CatExes, as appropriate. Additionally, both CDOT and RTD have committed to continued stakeholder involvement as the MMCV advances. If the managed lanes element requires an EA, public involvement and agency scoping will be required. Regardless of the level of NEPA study, the SH 119 PEL Study products that will be available to agencies and the public, as needed include the purpose and need statement; alternatives' development and evaluation; affected environment; conceptual design plans; location and magnitude of potential environmental impacts; and mitigation strategies. These documents can be included by reference or used as attachments for future NEPA studies.

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

   The SH 119 Multi-Modal PEL Study Report includes a set of tables, one for each MMCV element, as a part of Section 5 that describe the location and magnitude of potential environmental impacts as well as mitigation measures that can be applied towards these impacts that are anticipated to result from implementation of the MMCV. This section of the report also includes a list of the steps, as they related to environmental studies and permitting for each MMCV Element. The report was specifically set up this way to allow the project sponsors to take these tables directly out of it for use in future NEPA studies. CDOT is aware of the need to complete a traffic and revenue study for the managed lanes.
14. Provide a table of identified projects and/or a proposed phasing plan for corridor build out.

See Table 5 below; the MMCV Elements are listed by the anticipated timing of their implementation.

**Table 5. SH 119 Multi-Modal Corridor Vision Elements, Project Sponsors, Next Steps, and Likely Level of NEPA Study as well as Timing of NEPA Study**

<table>
<thead>
<tr>
<th>SH 119 Multi-Modal Corridor Vision Capital Project Elements in PEL Study</th>
<th>RTD Project Elements</th>
<th>Project Sponsor(s)</th>
<th>Next Steps</th>
<th>Anticipated Level of NEPA Study and Timing</th>
</tr>
</thead>
</table>
| Boulder BAT Lanes | | Boulder | Boulder to complete design and CatEx. | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** 2020 |
| Coffman Street Dedicated BRT Lane | | Longmont/CDOT | Longmont to complete design and CatEx | **Level of Study:** CatEx likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** 2022 |
| Station Platforms | | RTD | RTD to complete CatEx | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way”.  
**Timing:** 2022, one year prior to when RTD funds for constructing these BRT elements become available in 2023 |
| Park-n-Ride Facilities | | RTD | RTD to complete CatEx | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way”.  
**Timing:** unknown |
| Park-n-Ride Facility and Transit Hub at 1st St/Main St, which is a FasTracks program element | | RTD | RTD to complete design | **Level of Study:** if there are impacts to Main St (which is US 287) a CatEx may be required; it would likely be a Programmatic C22 for “Projects entirely within existing operational transportation right of way”.  
**Timing:** unknown |
| Boulder Intersection Improvements | | Boulder/CDOT | Boulder to complete final design and CatEx. | **Level of Study:** CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.”  
**Timing:** When funding has been identified |
<table>
<thead>
<tr>
<th>RTD Project Elements</th>
<th>Project Sponsor(s)</th>
<th>Next Steps</th>
<th>Anticipated Level of NEPA Study and Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longmont Intersection Improvements</td>
<td>Longmont/CDOT</td>
<td>Longmont and/or CDOT to identify funding and complete design and NEPA. Improvements at Hover St/Nelson Rd may require CDOT approval if there is no oversight from the agency.</td>
<td>Level of Study: Could be a CatEx, Documented CatEx, or Templated EA based on funding source, direction from FHWA, level of controversy, and environmental concerns. Timing: When funding has been identified</td>
</tr>
<tr>
<td>BRT/Managed Lanes</td>
<td>CDOT/FHWA</td>
<td>CDOT to complete a Level 1 Traffic and Revenue Study in 2019 then identify funding options as well as complete design and NEPA.</td>
<td>Level of Study: Could be a CatEx, Documented CatEx, or Templated EA based on funding source, direction from FHWA, level of controversy, and environmental concerns. Timing: When funding has been identified</td>
</tr>
<tr>
<td>BRT/Queue Jump Lanes at SH 52/SH 119 (If needed)</td>
<td>Boulder County/CDOT/RTD</td>
<td>Boulder County/CDOT/RTD to complete design and CatEx.</td>
<td>Level of Study: CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.” Timing: unknown</td>
</tr>
<tr>
<td>Separate Bikeway</td>
<td>CDOT</td>
<td>CDOT to identify funding as well as complete design and CatEx.</td>
<td>Level of Study: CatEx, likely Programmatic C22 for “Projects entirely within existing operational transportation right of way.” or a Programmatic C3 for “Construction of bicycle and pedestrian lanes, paths, and facilities.” Timing: When funding has been identified</td>
</tr>
</tbody>
</table>
15. Provide a list of what funding sources have been identified to fund projects from this PEL?

Potential funding sources include the following that would be available by 2023 are shown in Table 6 below:

Table 6. Secured and Potential Funding Sources for MMCV Implementation

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing External Funding Sources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTD</td>
<td>$30 million (M)</td>
<td>Including $5M allocated for match to DRCOG Transportation Improvement Program grant</td>
</tr>
<tr>
<td>DRCOG</td>
<td>$8.15M</td>
<td>Federal – Regional Transportation Improvement Program Grant</td>
</tr>
<tr>
<td>DRCOG</td>
<td>$5M</td>
<td>Sub-regional match</td>
</tr>
<tr>
<td>CDOT</td>
<td>$9M</td>
<td>Regional Priority Project - includes $1.7M match for DRCOG Transportation Improvement Program grant</td>
</tr>
<tr>
<td>City of Boulder</td>
<td>$1M</td>
<td>Cash match for BRT station enhancements</td>
</tr>
<tr>
<td>City of Longmont</td>
<td>$0.15M</td>
<td>Cash match for Coffman St Dedicated BRT lane</td>
</tr>
<tr>
<td><strong>Potential Additional Funding Sources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senate Bill 267 from CDOT Region 4</td>
<td>$20M</td>
<td></td>
</tr>
<tr>
<td>Senate Bill 267 Transit Grant from CDOT Division of Transit and Rail</td>
<td>$10M</td>
<td></td>
</tr>
<tr>
<td>Federal BUILD Grant</td>
<td>$25M</td>
<td></td>
</tr>
<tr>
<td>Federal/State Grant for Bikeway</td>
<td>$10M</td>
<td></td>
</tr>
<tr>
<td>Potential Regional Transportation Authority</td>
<td>$13.69M annually</td>
<td></td>
</tr>
</tbody>
</table>

Economic & Planning Systems, Inc, 2019
References


Regional Transportation District (RTD), 2014. “Northwest Area Mobility Study,” June 2014.


