

Table 5-2a. Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, those that May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Threatened, Endangered, or Special-Status Species</p>	<p>Migratory bird and/or raptor nests were not observed to be present during site visits in 2017 completed for the SH 119 Multi-Modal PEL Study; however, suitable habitat (i.e., large trees, open space, and man-made structures) is located within a half-mile of all these elements. The Colorado Division of Parks and Wildlife (CPW) requires a half-mile buffer radius be examined for migratory bird nests. In addition, all these MMCV elements are within Bald Eagle’s winter range and may contain habitat for threatened, endangered, or special-status species.</p> <p>Park-n-Rides</p> <p>63rd St/SH 119: A black-tailed prairie dog colony and several riparian areas, that may provide suitable habitat for threatened, endangered, or special-status species, are near this MMCV element in the median of SH 119 where the Park-n-Ride would be constructed.</p> <p>Niwot Rd/SH 119: There are trees that could provide habitat for migratory birds near this MMCV element. There may be suitable habitat for threatened, endangered, or special-status species in the median of SH 119 where the Park-n-Ride would be constructed.</p> <p>8th Ave/Coffman St: There are trees that could provide habitat for migratory birds near this MMCV element.</p> <p>Park Ridge Ave/Main St: The Rough and Ready Ditch flows south of the proposed Park-n-Ride facility, which may provide suitable habitat for threatened, endangered, or special-status species.</p> <p>Stations</p> <p>Boulder Stations: Several ditches, including the Boulder and White Rock Ditch; Boulder and Lefthand Ditch; and the Wellman Ditch are located near these MMCV elements in Boulder and may provide suitable habitat for threatened, endangered, or special-status species. There are trees that could provide habitat for migratory birds near this MMCV element.</p> <p>Longmont Stations: Several riparian areas and the South Peck Lateral are located near some of these MMCV elements in Longmont and may provide suitable habitat for threatened, endangered, or special-status species. There are trees that could provide habitat for migratory birds near this MMCV element.</p>	<p>Permanent Impacts: Impacts to prairie dog colonies will be analyzed in more detail during the NEPA study, along with impacts to migratory birds including Burrowing Owls and Bald Eagles. Habitat suitable for special-status species could be affected due to conversion of undeveloped lands to a transportation use.</p> <p>Temporary Impacts: There is a potential for construction including noise, light, and increased human activity to impact any migratory birds, raptors, and special-status species that may use the Study Area.</p>	<p>As these elements progress into further design, a biologist will need to complete surveys to identify habitat that may be suitable for threatened, endangered, or special-status species. Presence or lack of suitable habitat will need to be documented. Impacts to the habitat, if present, will be assessed to determine how these MMCV elements could affect threatened, endangered, or special-status species. Applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements during NEPA study. CDOT may require concurrence from the US Fish and Wildlife Service (USFWS) on the affected environment and potential impacts if suitable habitat is present.</p> <p>Pre-construction surveys for nesting migratory birds protected by the Migratory Bird Treaty Act (MBTA) will be completed if construction activities occur during the nesting season following methods set forth by the USFWS and CPW.</p>

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Riparian/ Senate Bill 40 (SB 40) Resources</p>	<p>Park-n-Rides 63rd St/SH 119: No potential SB 40 resources are located at this Park-n-Ride.</p> <p>Niwot Rd/SH 119: No potential SB 40 resources are located at this Park-n-Ride.</p> <p>8th Ave/Coffman St: There are no SB 40 resources adjacent to the MMCV element.</p> <p>Park Ridge Ave/Main St: The Rough and Ready Ditch flows south of the proposed Park-n-Ride.</p> <p>Stations Boulder Stations: Several ditches, including the Boulder and White Rock Ditch; Boulder and Lefthand Ditch; and the Wellman Ditch that may be SB 40 Resources are located near these MMCV elements in Boulder.</p> <p>Longmont Stations: The South Peck Lateral which may be a SB 40 Resource is located near some of the Longmont stations.</p>	<p>Permanent Impacts: Impacts need to be evaluated during NEPA study once SB 40 resources are mapped.</p> <p>Temporary Impacts: Temporary impacts to riparian areas may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As these MMCV elements progress into further design, a biologist will need to survey SB 40 resources. Based on the design, impacts to these resources will be quantified and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. If there will be permanent impacts to SB 40 resources, a formal or informal certification from the CPW will be required. Riparian trees and shrubs two inches or greater in breast-height diameter will need to be mitigated on a one-to-one basis.</p>

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Fish/Wildlife	<p>Park-n-Rides</p> <p>63rd St/SH 119: A black-tailed prairie dog colony and several riparian areas that could provide habitat are near this MMCV element in the median of SH 119.</p> <p>Niwot Rd/SH 119: There are large trees that could provide habitat within 0.25 miles of this MMCV element.</p> <p>8th Ave/Coffman St: There are large trees that could provide habitat within 0.25 miles of this MMCV element.</p> <p>Park Ridge Ave/Main St: The Rough and Ready Ditch flows south of the proposed Park-n-Ride facility but is likely outside the area of impact.</p> <p>Stations</p> <p>Boulder Stations: Several ditches, including the Boulder and White Rock Ditch; Boulder and Lefthand Ditch; and the Wellman Ditch that could provide habitat are located near these MMCV elements in Boulder.</p> <p>Longmont Stations: Several riparian areas and the South Peck Lateral are located near some of these MMCV elements in Longmont. These resources provide fish and wildlife habitat.</p>	<p>Permanent Impacts: Impacts need to be evaluated during the NEPA study. There may be permanent impacts to prairie dog colony and potentially other wildlife or fish including Burrowing Owls if these MMCV elements were to be constructed.</p> <p>Temporary Impacts: There may be temporary impacts to a prairie dog town and potentially other fish or wildlife if these MMCV elements were to be constructed. Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As this project element progresses into further design, a biologist will need to determine if there have been changes in the context of the PEL Study Area. CDOT may require a Biological Resources Report or Memorandum documenting the biological resources present and impacted, or lack thereof to them. Impacts to biological resources will be assessed and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p>

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Historic Resources/ Section 4(f)</p>	<p>A COMPASS database search and review of assessor’s data was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for potentially historic resources 45 years old or older. There are historic and potentially historic resources located adjacent to these MMCV elements. State Highway 119 was found to be significant in CDOT’s 2016 statewide historic highway inventory; the segment in this study will need to be evaluated once a project has been defined.</p> <p>Park-n-Rides Based on current Compass data, there are no known NRHP-eligible or listed resources within 100 feet of the 63rd St/SH 119, Niwot Rd/SH 119, or Park Ridge Ave/Main St Park-n-Rides.</p> <p>8th Ave/Coffman St: Based on current Compass data, there are six known NRHP-eligible or listed resources within 100 feet of this MMCV element with a determination of Not Eligible – Field.</p> <p>Stations Boulder Stations: Based on current Compass data, there is one known NRHP-eligible or listed resource adjacent to proposed Boulder station locations with a determination of Eligible – Field. There is potential for resources older than 45 years to be present adjacent to the station locations in Boulder.</p> <p>Longmont Stations: Based on current Compass data, there are two known NRHP-eligible or listed resources adjacent to proposed stations in Longmont. One resource was determined Eligible – Field and one resource is listed on the NRHP. There is potential for resources older than 45 years to be present adjacent to station locations in Longmont.</p>	<p>Permanent Impacts: Park-n-Rides Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Stations Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified once a project has been defined. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. Also, an effects determination will be required including an evaluation of the effects to SH 119.</p> <p>RTD will need to coordinate with CDOT upon project initiation to determine next steps with regard to Section 106 consultation. If required, the Section 106 process can be initiated once a project is defined.</p>

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Water Resources</p>	<p>Park-n-Rides 63rd St/SH 119: An unnamed drainage from Boulder Reservoir, the Boulder Feeder Canal, and Dry Creek (south) are in the vicinity, although no floodplains occur at this location.</p> <p>Niwot Rd/SH 119: The Hinman Ditch is in the vicinity of this MMCV element, although no floodplains occur at this location.</p> <p>8th Ave/Coffman St: There are no water resources or floodplains at this location.</p> <p>Park Ridge Ave/Main St The Rough Ready Ditch crosses Main St at this location, although no floodplains occur here.</p> <p>Stations Several water resources and floodplains cross these MMCV elements at the proposed station locations in Boulder and Longmont.</p>	<p>Permanent Impacts:</p> <p>Park-n-Rides 63rd St/SH 119: This MMCV element would result in the addition of approximately 1.2 acres of new impervious surfaces that could cause an increase in runoff and stormwater discharge to nearby water resources. There would be no impacts to floodplains.</p> <p>Niwot Rd/SH 119: This MMCV element would result in the addition of approximately 1.6 acres of new impervious surfaces that could cause an increase in runoff and stormwater discharge to nearby water resources. There would be no impacts to floodplains.</p> <p>8th Ave/Coffman St: These improvements are not expected to increase impervious surface. There would be no impacts to floodplains.</p> <p>Park Ridge Ave/Main St: These improvements are not expected to increase impervious surface as the project is within operational ROW that is already paved/hard surface.</p> <p>There would be no impacts to floodplains.</p> <p>Stations Project improvements are not expected to increase impervious surface as they are within operational ROW that is already paved/hard surface.</p> <p>Development within the floodplains could cause a change in flood elevations; however, it is unlikely due to the limited ground disturbance expected by these MMCV elements and that the areas are currently paved/hard surfaces.</p> <p>Temporary Impacts: Potential temporary direct impacts on water quality during construction could be caused by soil erosion from stormwater runoff. Also, soil excavation and grading during construction could increase the risk of erosion and sedimentation of nearby water bodies.</p>	<p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with Multiple Separate Storm Sewer System (MS4) permit for CDOT, Boulder, and Longmont; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit for Colorado Department of Public Health and Environment (CDPHE); ■ Storm Water Quality Control Permit (SWQCP) from Boulder County; ■ Boulder Groundwater Discharge Permit and Erosion Control Permit; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the Colorado Discharge Permit System (CDPS) from CDPHE; ■ Sewer Use and Drainage Permits from local municipalities.

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Wetland Resources and Waters of the US (WUS)</p>	<p>Park-n-Rides 63rd St/SH 119: There are approximately 0.2 acres of wetland resources within the PEL Study Area.</p> <p>Niwot Rd/SH 119: There are no wetland resources located at this site.</p> <p>8th Ave/Coffman St: There are no wetland resources located at this site.</p> <p>Park Ridge Ave/Main St: There are no wetland resources located at this site.</p> <p>Stations Wetland resources are found throughout Boulder and Longmont; however, there are no impacts expected to wetland resources as a result of the proposed stations as the sites are within operational ROW.</p>	<p>Permanent Impacts:</p> <p>Park-n-Rides 63rd St/SH 119: Roughly 0.2 acres of wetland resources and/or WUS may be permanently impacted due to the construction of the Park-n-Ride.</p> <p>Niwot Rd/SH 119: There would be no impacts to wetland resources and/or WUS.</p> <p>8th Ave/Coffman St: There would be no impacts to wetland resources and/or WUS.</p> <p>Park Ridge Ave/Main St: There would be no impacts to wetland resources and/or WUS.</p> <p>Stations Although wetland resources and WUS are found throughout Boulder and Longmont, there are no impacts expected to wetland resources as a result of the proposed stations as the sites are within operational ROW.</p> <p>Temporary Impacts: Temporary impacts during construction of the 63rd St/SH 119 Park-n-Ride may include impacts to wetland resources and/or open waters. Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As the Park-n-Ride at 63rd St/SH 119 progresses into further design, a biologist will need to determine if there have been changes in the context of the Wetlands Study Area. Based on the design, impacts will need to be calculated and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. CDOT requires 1 to 1 mitigation of wetland resources regardless of jurisdiction.</p> <p>In most circumstances the U.S. Army Corps of Engineers (USACE) allows nationwide permits (NWP) to be authorized if the impacted WUS is less than 0.5 acre. A NWP typically requires 45 days to receive verification from the USACE. Should the impacts exceed 0.5 acre, an individual permit (IP) will likely be required; an IP could trigger the need to complete the NEPA 404 Merger process. Additionally, impacts exceeding 300 linear feet of a non-wetland WUS would likely require an IP. Efforts to avoid and minimize wetland and WUS impacts should be incorporated into the design of these MMCV elements.</p>
<p>Section 6(f) Resources</p>	<p>Scott Carpenter Park, a Section 6(f) resource, is located near one of the Boulder stations. Section 6(f) resources are those that have received funds from the Land and Water Conservation Fund (LWCF) and are meant to be maintained for recreational use in perpetuity.</p>	<p>Permanent Impacts: It needs to be determined during the NEPA phase whether Scott Carpenter Park would be permanently impacted by these MMCV elements, which is highly discouraged. Current concepts would not affect the Park.</p> <p>Temporary Impacts: It needs to be determined during the NEPA phase whether Scott Carpenter Park would be temporarily impacted by these MMCV elements.</p>	<p>Further coordination will be required during NEPA study if these MMCV will impact any Section 6(f) resource, regardless of the level of NEPA study required. It is recommended that MMCV elements avoid any Section 6(f) resource; if impacts to Section 6(f) resources are unavoidable, coordination with CPW and the National Park Service (NPS) will be required.</p>

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Hazardous Materials	<p>Park-n-Rides</p> <p>63rd St/SH 119: There are two low-potential sites within a 0.25-mile radius of this MMCV element based on a GeoSearch database search conducted in 2018 as a part of the SH 119 Multi-Modal PEL Study (GeoSearch, 2018).</p> <p>Niwot Rd/SH 119: There are three low-potential sites and one high potential site within a 0.25-mile radius of this MMCV element based on a GeoSearch database search conducted in 2018 as a part of the SH 119 Multi-Modal PEL Study (GeoSearch, 2018).</p> <p>8th Ave/Coffman St: A GeoSearch database search was not conducted for areas within Longmont.</p> <p>Park Ridge Ave/Main St: A GeoSearch database search was not conducted for areas within Longmont.</p> <p>Stations</p> <p>Boulder Stations: A GeoSearch database search was not conducted for areas within Boulder.</p> <p>Longmont Stations: A GeoSearch database search was not conducted for Longmont.</p>	<p>Permanent Impacts: Depending on depths of construction necessary, there is moderate potential for impacts during construction. The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. Soil or surface contamination could be present based on past land uses.</p> <p>Temporary Impacts: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to these MMCV elements; however, this depends on ground disturbance depths during construction. Because of the limited ground disturbance expected, temporary impacts from hazardous materials are anticipated to be minimal.</p>	<p>CDOT Form 881 and potentially a Phase I Initial Site Assessment (ISA) will be required for these MMCV elements. A current database of known Recognized Environmental Conditions (RECs) will need to be obtained within 180 days of CDOT's approval of the first/top part of the CatEx Form 128. If facilities of concern are identified adjacent to the elements and depths of construction may impact these facilities, a Phase I Investigation and a Materials Management Plan (MMP) should be completed.</p>
Air Quality	<p>These MMCV elements fall within the following nonattainment and maintenance areas: Denver-Boulder carbon monoxide (CO) maintenance area; Denver Metro particulate matter (PM)₁₀ maintenance area; the Longmont CO maintenance area; and Denver-Boulder-Greeley-Ft. Collins-Loveland ozone (O₃) nonattainment area (CDPHE, 2005a, CDPHE, 2005b, CDPHE, 2005c, CDPHE, 2008).</p>	<p>Permanent Impacts: These MMCV elements are not a significant source of emissions; no permanent impacts are expected.</p> <p>Temporary Impacts: Neighboring areas could be exposed to construction-related and fugitive dust emissions during the construction phase.</p>	<p>Federal funding can only be used for projects that comply with the conformity provision of the Clean Air Act and the Environmental Protection Agency's (EPA's) transportation air quality conformity regulations (40 CFR 51 Subpart T, and 40 CFR 93 Subpart A). The project must be included in a conforming Transportation Improvement Program (TIP) and the Regional Transportation Plan (RTP). For MMCV elements within a nonattainment or maintenance area will need to be evaluated to determine if they are a project of air-quality concern requiring modeling of PM₁₀ or if current and/or projected future conditions meet any of the four criteria for modeling of CO during the NEPA study.</p>
Noise	<p>The SH 119 Multi-Modal PEL Noise Study Area includes residences, trails, parks, and commercial facilities that are considered sensitive noise receptors. The Noise Study Area for this PEL has been defined as a 500-foot buffer around the existing edge of pavement for SH 119 between Boulder and Longmont; this is a preliminary study area. During future NEPA studies, the noise study area will be modified to be 500-feet from the proposed edge of pavement.</p>	<p>Permanent Impacts: Potential noise impacts are unknown at this time and will need to be assessed during the NEPA study.</p> <p>Temporary Impacts: There is potential for temporary noise impacts during construction, for example there could be temporary noise impacts due to the use of construction equipment.</p>	<p>FHWA Guidance states that "construction or expansion of an existing ride-share lot and access roads to a ride-share lot are a Type I project (FHWA, 2011)." Therefore, the Park-n-Ride facilities meet CDOT's criteria that classify them as a Type I Project that requires a noise analysis. As such the future NEPA study will require a noise analysis, including noise modeling for the Park-n-Ride facilities as this is a Type I project.</p>

Table 5-2a (Cont.). Resources that May be Impacted by BRT Stations and Park-n-Ride Facilities, That May Require Additional Analyses, and Those That Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Environmental Justice (EJ)</p>	<p>There are EJ populations adjacent to the Park-n-Rides and stations. EJ populations are those that have a higher percentage of low-income and/or minority residences than the local jurisdictions.</p>	<p>Permanent Impacts: The project is anticipated to directly benefit EJ populations as well as the general population by providing enhanced transit access contributing to increased transportation choices and greater overall mobility.</p> <p>Temporary Impacts: Temporary impacts to EJ populations due to construction of these MMCV elements may occur in the form of detours, construction dust, and/or construction noise. In areas where there are EJ populations, and they make up the majority of the census tract or block groups that would be affected, they could be disproportionately affected by construction. These areas are primarily along parts of the BRT routes and stops/stations in both Boulder and Longmont.</p>	<p>CatExes do not typically require EJ analyses unless it is identified as a sensitive resource. As there are concentrations of low-income and/or minority populations present around these MMCV elements, an updated technical memorandum may be requested to reflect future updates to US Census data.</p> <p>As project-specific studies are undertaken, they will build upon the EJ outreach conducted during the PEL study. Outreach efforts during the PEL study included meeting with five organizations serving the Hispanic and low-income populations in Boulder and Longmont and translating project materials into Spanish, which is the second most commonly used language in these cities.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-2b. Resources that Are Not Expected to be Impacted by the RTD MMCV Elements— BRT Stations and Park-n-Ride Facilities, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Context	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Vegetation/ Noxious Weeds</p>	<p>The vegetation present within the SH 119 Multi-Modal PEL Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.</p>	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	<p>The presence of noxious weeds would be evaluated during future field visits.</p> <p>Best Management Practices (BMPs) will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p>
<p>Social and Community Resources/Parks and Trails/ Section 4(f)/ Non-Historic Resources</p>	<p>Park-n-Rides 63rd St/SH 119: There is a multi-use trail on the west side of 63rd St.</p> <p>Niwot Rd/SH 119: No social and community resources are located at this facility. A bicycle route/lane is located east of northbound SH 119; however, it would not be impacted by this MMCV element.</p> <p>8th Ave/Coffman St: This existing Park-n-Ride facility is near several social and community resources including Roosevelt Park, the St. Vrain Memorial Building, and a church on the west side of Coffman St. Roosevelt Park is considered a Section 4(f) resource.</p> <p>Park Ridge Ave/Main St: On-street bike routes are located near this Park-n-Ride along both Park Ridge Ave and Main St. A church is located near the northwest corner of this intersection.</p> <p>Stations Boulder Stations: Social and community resources at or near the Boulder stations include multi-use paths, bike lanes, and transit centers. Scott Carpenter Park, a Section 4(f) resource, is also located near one of the stations.</p> <p>Longmont Stations: Several social and community resources exist near the proposed stations in Longmont. These include sidewalks, off-street side paths, and on-street bike lanes. The Boulder County Fairgrounds is located directly east of the Hover St/Nelson Rd station, while Roosevelt Park [a Section 4(f) Resource] is located west of the Coffman St/8th Ave station.</p>	<p>Permanent Impacts: Park-n-Rides 63rd St/SH 119: The multi-use trail would not be permanently impacted by construction.</p> <p>Niwot Rd/SH 119: There would be no permanent impacts to social/community resources at this location.</p> <p>8th Ave/Coffman St: No permanent impacts likely would occur to these resources including Roosevelt Park, but this needs to be evaluated during the NEPA phase.</p> <p>Park Ridge Ave/Main St: These resources would not be permanently impacted by the Park-n-Ride, which is currently a paved parking lot.</p> <p>Stations Boulder Stations: No permanent impacts likely would occur to the multi-use paths, bike lanes, transit centers, or Scott Carpenter Park, but this needs to be evaluated during the NEPA phase.</p> <p>Longmont Stations: The sidewalks, off-street side paths, and on-street bike lanes, Boulder County Fairgrounds, and Roosevelt Park would incur no permanent impacts from the Longmont stations.</p> <p>Temporary Impacts: Park-n-Rides 63rd St/SH 119: The multi-use trail may be temporarily impacted during construction. Detours should be put in place during construction to maintain access, if access is likely to be disrupted.</p> <p>Niwot Rd/SH 119: There would be no temporary impacts.</p> <p>8th Ave/Coffman St: It is unlikely that Roosevelt Park would be temporarily impacted by the MMCV element, but this needs to be evaluated during the NEPA phase.</p> <p>Park Ridge Ave/Main St: The on-street bike routes may be temporarily impacted during construction activities.</p>	<p>Further coordination will be required during the NEPA study if these MMCV elements will impact any Section 4(f) resource, regardless of the level of NEPA study required. If impacts are temporary and/or beneficial to the resource, coordination will consist of documentation and notification/coordination with the Official with Jurisdiction. Detours during construction may be required to maintain access to recreational Section 4(f) resources.</p>

Table 5-2b (Cont.). Resources that Are Not Expected to be Impacted by the RTD MMCV Elements— BRT Stations and Park-n-Ride Facilities, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Context	Anticipated Environmental Impact	Next Steps for NEPA Study
		<p>Stations</p> <p>Boulder Stations: The multi-use paths, bike lanes, and transit centers may have minor disturbances during construction. It is unlikely that Scott Carpenter Park would be impacted by these MMCV elements.</p> <p>Longmont Stations: The sidewalks and bike lanes may experience minor disturbances during construction. The Boulder County Fairgrounds most likely would not be impacted by these MMCV elements. Some improvements may be made inside Roosevelt Park, temporarily impacting this Section 4(f) resource.</p>	
<p>Visual Resources/ Aesthetics</p>	<p>These MMCV elements are located in multi-modal transportation corridors surrounded by commercial, industrial, and residential uses, along with open spaces, parks, and trails.</p>	<p>Permanent Impacts:</p> <p>Park-n-Rides</p> <p>63rd St/SH 119: This MMCV element would have a neutral visual impact as it would convert a small amount of undeveloped land located between the northbound and southbound lanes of SH 119 that is within operational ROW to a Park-n-Ride and at a location where there already is a parking lot.</p> <p>Niwot Rd/SH 119: This MMCV element would have a neutral visual impact as it would convert a small amount of undeveloped land located between the northbound and southbound lanes of SH 119 that is within operational ROW to a Park-n-Ride.</p> <p>Park Ridge Ave/Main St: This MMCV element would have a positive visual impact as it would convert a current parking lot to a Park-n-Ride facility. This would upgrade the safety and aesthetics of the current parking lot, would not substantially change the visual setting or context of PEL Study Area, and it is compatible with local and regional plans.</p> <p>8th Ave/Coffman St: This MMCV element would have a positive visual impact as it would convert a current parking lot to a Park-n-Ride facility. This would upgrade the safety and aesthetics of the current parking lot and would not substantially change the visual setting or context of the SH 119 Multi-Modal PEL Study Area and is compatible with local and regional plans.</p> <p>Stations These MMCV elements would have a positive visual impact as they would update signage, accessibility, and branding at the stations to be consistent. This would not significantly change the visual setting or context of PEL Study Area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if these MMCV elements are constructed, primarily due to the presence of construction equipment.</p>	<p>Visual resources/aesthetics are not typically evaluated as part of a CatEx unless there is a sensitive viewshed nearby or large change in the visual context due to the proposed improvements. At the time of the NEPA study, coordination with CDOT will be required to determine if there is a need to complete a Visual Impact Assessment (VIA). CDOT may require completion of a Visual Impact Checklist to determine the need for a VIA.</p>

Table 5-2b (Cont.). Resources that Are Not Expected to be Impacted by the RTD MMCV Elements— BRT Stations and Park-n-Ride Facilities, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Context	Anticipated Environmental Impact	Next Steps for NEPA Study
Soils and Geology	These MMCV elements are not located within sensitive or unique soils/geology.	<p>Permanent Impacts: Excavation within existing operational ROW may be required. There would be no impact to mineral or geological resources as the areas have already been designated for transportation uses.</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	Data has been collected as a part of the SH 119 Multi-Modal PEL Study. No further study is anticipated to be required for soils or geology regardless of whether a NEPA study is completed. This resource is not typically evaluated during a CatEx, which is the expected level of NEPA study, unless there is a sensitive soil/geologic unit present of concern.
Land Use	The land use adjacent to these MMCV elements is a mix of residential, commercial, recreational/open space, and industrial uses.	<p>Permanent Impacts: The Park-n-Rides and stations are anticipated to be within existing operational ROW and are compatible with regional and local land use policies and plans. There is no anticipated effect to land use from implementation of these MMCV elements.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if the Park-n-Rides and stations are implemented as the construction would be within operational ROW.</p>	No further analyses are anticipated to be required for land use if these elements remain with the operational ROW.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist in the vicinity of the Park-n-Rides and stations.	<p>Permanent Impacts: The Park-n-Rides and stations would benefit local neighborhoods and communities by improving access, mobility, safety, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, traffic congestion, dust, and noise.</p>	Data has been collected for socio-economic resources as part of the SH 119 Multi-Modal PEL Study. Additional studies are not expected to be necessary during the NEPA study. However, if there are changes in the preliminary design of these MMCV elements updates could be required.
Transportation Resources	The SH 119 Multi-Modal Study Area is used by personal vehicles, trucks, pedestrians, and bicyclists as well as bus routes.	<p>Permanent Impacts: Constructing the Park-n-Ride facilities and stations would reduce congestion; improve safety and traffic operations; improve multi-modal connectivity; and improve signage for multi-modal users.</p> <p>Temporary Impacts: Temporary impacts during construction activities could impact transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.</p>	Traffic analyses completed during the SH 119 Multi-Modal PEL study were based on a planning, or horizon, year of 2040. Should the planning year be 2045 or later when the NEPA study for these elements are undertaken, additional study or a sensitivity analyses could be required to confirm/modify the conceptual design to meet the needs of traffic forecasted for that year.
Utilities	There are numerous utilities including water lines, wastewater, electric, and gas lines.	<p>Permanent Impacts: Utilities may need to be relocated if these MMCV elements are implemented, with no permanent loss of service. Impacts will need to be assessed during future NEPA study.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to traffic signals during construction.</p>	Utilities would need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.
ROW	The operational ROW is bordered by a variety of land uses including residential, commercial, and industrial uses. The current conceptual designs would not require ROW acquisition or easements.	<p>Permanent Impacts: No permanent ROW impacts would occur if these MMCV elements are implemented as currently designed.</p> <p>Temporary Impacts: No temporary ROW impacts are anticipated to occur if these MMCV elements are implemented.</p>	During final design ROW impacts, or the lack thereof, would need to be confirmed.

Table 5-2b (Cont.). Resources that Are Not Expected to be Impacted by the RTD MMCV Elements— BRT Stations and Park-n-Ride Facilities, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Context	Anticipated Environmental Impact	Next Steps for NEPA Study
Paleontological Resources	These MMCV elements would be constructed within previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if these MMCV elements are implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if these MMCV elements are implemented.</p>	<p>No further analysis is anticipated to be required if these MMCV elements are implemented as currently designed due to the previously disturbed nature of the area.</p> <p>CDOT’s Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>
Archaeological Resources	A COMPASS database search was completed as a part of the PEL for known archaeological resources in the Study Area. There are no known or previously surveyed archaeological resources within 100 feet of these MMCV elements. However, the entire Study Area has not been surveyed for archaeological resources. There may be unknown archaeological resources within 100 feet of these MMCV elements, though because of the previously disturbed nature of the Study Area there is a low probability of uncovering unknown archaeological resources.	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if these MMCV elements are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if these MMCV elements are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	<p>It is not anticipated that additional analyses related to archaeological resources would be required for theses MMCV elements.</p> <p>CDOT’s Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.
 Note: Please refer to the Longmont Elements table for a discussion on the 1st St/Main St Park-n-Ride, which is part of the FasTracks Program.

Table 5-3a. Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Threatened, Endangered, or Special-Status Species</p>	<p>This MMCV element is near multiple streams, wetland resources, and riparian areas, some of which may provide habitat for various threatened, endangered, and special status species.</p> <p>Migratory bird and/or raptor nests were not observed to be present during sites visits in 2017 for the SH 119 Multi-Modal PEL Study; however, suitable habitat (i.e., large trees, open space, and man-made structures) is located within a half-mile of this element. The CPW requires a half-mile buffer radius be examined for migratory bird nests. Multiple prairie dog towns, which serve as suitable habitat for Burrowing Owls, are located southwest of this intersection as well. This MMCV element is within Bald Eagle’s winter range.</p>	<p>Permanent Impacts: Impacts to protected species, migratory birds, and Bald Eagles need to be further evaluated during the NEPA Study required to implement the BRT/managed lanes.</p> <p>Temporary Impacts: There is a potential for construction to impact migratory birds or raptors that may use the Study Area for nesting or foraging. Burrowing Owls may be temporarily impacted. Although no migratory bird or raptor nests were observed at the time of the site visit, they could be present during construction and therefore impacted.</p>	<p>As this element progresses into further design, a biologist will need to determine if there have been changes in the context of the PEL Study Area. Based on the design, impacts to biological resources will be assessed to determine whether this MMCV element will affect threatened, endangered, or special-status species and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p> <p>Pre-construction surveys for nesting migratory birds protected by the MBTA will be completed if construction activities occur during the nesting season following methods set forth by the USFWS and CPW.</p>
<p>Riparian/SB 40 Resources</p>	<p>Multiple waterways and riparian areas exist near SH 119, including unnamed ditches and field laterals; Boulder and White Rock Ditch; Holland Ditch; Williamson Ditch; Dry Creek; Fourmile Canyon Creek; and Lefthand Creek. These features may also be SB 40 Resources.</p>	<p>Permanent Impacts: Impacts to waterways are anticipated due to implementation of this MMCV element. Given the numerous waterways that are crossed, it is expected that SB 40 resources would be affected.</p> <p>Temporary Impacts: Temporary impacts during construction may include impacts to SB 40 resources. Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As this MMCV element progresses into further design, a biologist needs to survey SB 40 resources that could be affected by its implementation. Based on the design, impacts to SB 40 resources will be quantified and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p> <p>An SB 40 certification from CPW will be required. Riparian trees and shrubs two inches or greater in breast-height diameter will need to be mitigated on a one-to-one basis. The level of certification (formal or informal) will be dependent on the amount of impact.</p>
<p>Vegetation/ Noxious Weeds</p>	<p>The vegetation present within the Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.</p>	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	<p>The presence of noxious weeds would be evaluated during future field visits that are undertaken as design progresses during a NEPA study.</p> <p>Best Management Practices (BMPs) will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p>
<p>Fish/Wildlife</p>	<p>Boulder and White Rock Ditch; Holland Ditch; Williamson Ditch; Dry Creek; Fourmile Canyon Creek; and Lefthand Creek; along with unnamed ditches and field laterals and undeveloped lands, may provide habitat for fish and wildlife. Multiple prairie dog towns are located adjacent to SH 119.</p>	<p>Permanent Impacts: There may be permanent impacts to prairie dog towns and potentially other wildlife or fish if this MMCV element were to be constructed due to the conversion of undeveloped land in the SH 119 ROW surrounding the existing highway to transportation use.</p> <p>Temporary Impacts: There would be temporary impacts to prairie dog towns and potentially other fish or wildlife, including Burrowing Owls, if this MMCV element were to be constructed. Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As the BRT/managed lanes progress into further design, a biologist will need to determine if there have been changes in the context of the PEL Study Area. Based on the design, impacts to fish and wildlife will be assessed and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. CDOT will likely require documentation in the form of a Biological Resources Report or Memorandum.</p>

Table 5-3a (Cont.). Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Historic Resources/ Section 4(f)</p>	<p>In 2018, a Compass database file search and review of county assessor's data was completed as part of the SH 119 Multi-Modal PEL study, with an emphasis on resources 45 years or older. The Compass search indicated that there are five previously documented resources with field determinations adjacent to the BRT/managed lanes. State Highway 119 was identified as significant in CDOT's 2016 statewide historic highway inventory and the segment in the future project area will need to be evaluated.</p>	<p>Permanent Impacts: SH 119 between Boulder and Longmont would be permanently affected by construction of the BRT/managed lane; it is unknown at this time whether this would be an adverse or non-adverse effect.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>Once a project is identified, the Section 106 process can be initiated to identify historic properties and evaluate effects. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. This MMCV element will need to be evaluated for effects in accordance with Section 106 of the NHPA, including an evaluation of the impact on SH 119.</p> <p>Additionally, once a project is defined, previously documented resources with field determinations will need to be re-evaluated and there is potential to identify additional historic resources during field surveys.</p>

Table 5-3a (Cont.). Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Water Resources</p>	<p>A total of 20 water resources are crossed by the proposed BRT/managed lanes.</p> <p>Floodplains occur at several locations along this MMCV element.</p>	<p>Permanent Impacts:</p> <p>The estimated amount of new impervious surface is approximately 18 acres of new pavement for the addition of BRT/managed lanes on the inside of SH 119.</p> <p>Development within the floodplains could cause a change in flood elevations depending on the hydrology of the area.</p> <p>Temporary Impacts:</p> <p>Potential temporary direct impacts during construction on water quality could be caused by soil erosion from stormwater runoff. Also, soil excavation and grading during construction could increase the risk of erosion and sedimentation of nearby water bodies.</p>	<p>Construction within the identified floodplains could result in a change in current floodplain and floodway boundaries. Coordination with local jurisdictions including the Federal Emergency Management Agency (FEMA), Urban Drainage and Flood Control Division, Boulder County, Boulder, and Longmont should be conducted throughout the design process for potential impacts and permitting for work within floodplains and floodways. Floodplain modeling could likely be required to assess impacts at floodplain crossings and may require a Conditional Letter or Map Revision and Letter or Map Revision as well as permitting from local jurisdictions.</p> <p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with MS4 permit for CDOT and Boulder, Longmont, and Boulder County; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit from CDPHE; ■ SWQCP from Boulder County; ■ Boulder Groundwater Discharge Permit and Erosion Control Permit; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; ■ Sewer Use and Drainage Permits from local municipalities; ■ Boulder Floodplain Development Permits

Table 5-3a (Cont.). Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Wetland Resources and WUS</p>	<p>There are roughly 2.6 acres of wetland resources and/or WUS within the PEL Study Area.</p>	<p>Permanent Impacts: Approximately 1.45 acres of wetland resources or WUS may be permanently impacted during construction of this MMCV element.</p> <p>Temporary Impacts: Temporary impacts during construction may include impacts to wetland resources or WUS. Temporary impacts may include clearing and grubbing or removal of vegetation necessary to complete construction.</p>	<p>As this MMCV element progresses into further design, a biologist will need to determine if there have been changes in the context of the Wetland Study Area. Based on the design, applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. CDOT requires 1 to 1 mitigation regardless of jurisdiction.</p> <p>The USACE allows for a series of NWP's to be issued—one for each impacted area as long as the impacted area(s) of WUS are less than 0.5 acres and the impacts are to different drainages or wetland complexes. If the BRT/managed lanes are permitted through a series of permits or the impacts are less than 0.5 acres, it may qualify as a NWP 14 for transportation resources. A NWP typically requires 45 days to receive verification from the USACE. However, if the impacted areas are close to each other, the agency may require one permit for the areas affected.</p> <p>If impacts to WUS are calculated to be over the 0.5 acre threshold at a single area of impact or areas (if the USACE requires 1 permit for multiple areas that are close to each other) triggering the need for an IP, it is recommended that coordination with CDOT and the USACE occur early in the NEPA process to ensure the Section 404 permit is completed within the project schedule. If an IP is required, the process may take up to a year to receive verification from the USACE and may trigger the need to complete the NEPA 404 Merger process.</p>
<p>Social and Community Resources/Parks and Trails/ Section 4(f) Non-Historic</p>	<p>There are 20 social and community facilities within the Social and Community Resources Study Area of the proposed BRT/managed lanes. These resources include: Open Space and Mountain Parks (OSMP) and Boulder County Open Space parcels and conservation easements; the Fourmile Canyon Creek Trail; the IBM Connector Trail; various bike lanes/routes; and the Longmont to Boulder (LOBO) Regional Trail (which is considered a transportation resource).</p> <p>The Fourmile Canyon Creek Trail and the IBM Connector Trail are considered Section 4(f) resources.</p> <p>The open spaces, bike routes, and the LOBO Regional Trail are not considered Section 4(f) resources as they are not designated solely for recreational use.</p>	<p>Permanent Impacts: This MMCV element is not expected to permanently impact social and community resources including the trails.</p> <p>Temporary Impacts: Some of the bike lanes/routes may be temporarily impacted during construction activities. The Fourmile Canyon Creek Trail and the IBM Connector Trail, both of which are Section 4(f) resources, may be temporarily impacted during construction activities, but the trails would remain open, through detours if necessary.</p>	<p>Detours will be provided as appropriate. Further coordination will be required during the NEPA Study if the project elements impact any Section 4(f) resource regardless of the level of NEPA study required. If impacts are temporary and/or beneficial to the resource, coordination will consist of documentation and notification/coordination with the Official with Jurisdiction as well as determining detours during construction. However, if this MMCV element permanently incorporates a Section 4(f) resource into a transportation facility, a Section 4(f) evaluation is required.</p>
<p>Section 6(f) Resources</p>	<p>Section 6(f) resources are those that have received funds from the LWCF and are intended to be dedicated to recreational purposes in perpetuity. The Boulder Reservoir, located approximately 250 feet northwest of SH 119, is considered a Section 6(f) resource.</p>	<p>Permanent Impacts: The Boulder Reservoir would not be impacted by this project element.</p> <p>Temporary Impacts: Temporary impacts to the Boulder Reservoir should not occur during the construction of this project element.</p>	<p>As design progresses during the NEPA study, a review of the Section 6(f) database should be completed to determine if additional facilities have received LWCF. CPW maintains this file for the state of Colorado.</p>

Table 5-3a (Cont.). Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Hazardous Materials	There are three high-potential sites and 14 low-potential sites found adjacent to this MMCV element based on a GeoSearch database search conducted in 2018 as a part of the SH 119 Multi-Modal PEL Study (GeoSearch, 2018).	<p>Permanent Impacts: Depending on depths of construction necessary, there is moderate potential for impacts during construction. The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. Soil or surface contamination could be present based on past land uses.</p> <p>Temporary Impacts: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to the project element; however, this depends on ground disturbance depths during construction.</p>	CDOT Form 881 and potentially a Phase I ISA will be required for these MMCV elements. A current database of known RECs will need to be obtained within 180 days of CDOT’s approval of the first/top part of the CatEx Form 128. If facilities of concern are identified adjacent to the elements and depths of construction may impact these facilities, an MMP should be completed.
Air Quality	This MMCV element falls within the following nonattainment and maintenance areas: Denver-Boulder CO maintenance area; Denver Metro PM ₁₀ maintenance area; the Longmont CO maintenance area; and Denver-Boulder-Greeley-Ft. Collins-Loveland O ₃ nonattainment area (CDPHE, 2005a, CDPHE, 2005b, CDPHE, 2005c, CDPHE, 2008).	<p>Permanent Impacts: Increased emissions of particulates and CO may result in localized elevated concentrations as a result of the project element. A reduction in congestion along SH 119 may make it a more attractive route, resulting in an increase in vehicles miles traveled on it that could potentially result in impacts to air quality.</p> <p>Temporary Impacts: Neighboring areas could be exposed to construction-related and fugitive dust emissions during the construction phase.</p>	<p>Federal funding can only be used for projects that comply with the conformity provision of the Clean Air Act and the US Environmental Protection Agency (EPA) transportation air quality conformity regulations (40 CFR 51 Subpart T, and 40 CFR 93 Subpart A). The project must be included in a conforming TIP and the Regional Transportation Plan (RTP). The project design concept must be sufficiently defined to determine emissions at the time of the conformity determination.</p> <p>As there are intersections currently operating at LOS D or worse on SH 119 between Boulder and Longmont, “Hot Spot Modeling” will be required. Additionally, a determination will need to be made as to whether this is a project of air-quality concern necessitating a PM₁₀ analyses; this will be based on whether there is a significant increase in diesel-vehicle volumes as a result of the project. The current planning year horizon at the time that the NEPA study is initiated will need to be used for any modeling. At the time of the SH 119 Multi-Modal PEL Study, the planning year was 2040. If this MMCV were to be evaluated as an EA, the air quality reports would need to include Mobile Source Air Toxic (MSAT) and greenhouse gas analyses. Because the traffic levels are expected to be below 140,000, the MSAT analysis would be qualitative.</p>
Noise	Noise sensitive areas in the Noise Study Area, which is currently defined as a 500-foot buffer from the edge of pavement of the existing SH 119 between Boulder and Longmont, includes residences, trails, parks, and commercial facilities, including outdoor patios and balconies that are considered sensitive noise receptors. During future NEPA studies, the noise study area will be modified to be 500-feet from the proposed edge of pavement.	<p>Permanent Impacts: Potential noise impacts are unknown at this time and will need to be assessed during the NEPA study.</p> <p>Temporary Impacts: There is potential for temporary noise impacts during construction; for example, there could be temporary noise impacts due to the use of construction equipment.</p>	During the NEPA study that will need to be completed for the BRT/managed lanes, it will qualify as a “Type 1 Project” per CDOT’s noise guidelines and it will require noise modeling for the current planning year horizon as well as the existing year of the NEPA study. At the time of the completion of the SH 119 Multi-Modal PEL Study, the planning year is 2040; however, it is expected that a different planning year horizon will be in place at the time that will need to be used in the modeling.

Table 5-3a (Cont.). Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Visual Resources/ Aesthetics	SH 119 between Boulder and Longmont is a multi-modal transportation corridor surrounded by commercial, industrial, and residential uses, along with open spaces, parks, and trails.	<p>Permanent Impacts: This element would have a neutral visual impact as it would include additional lanes, signage, and tolls within existing CDOT operational ROW. This MMCV element would upgrade the facilities per CDOT visual guidelines. This would not substantially change the visual setting or context of the PEL Study Area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if this MMCV element is constructed. These would be due to the presence of construction equipment.</p>	The appropriate level of Visual Impact Assessment (VIA) will need to be determined during the NEPA study using the CDOT VIA Checklist. Given that the BRT/managed lanes are within a heavily used multi-modal transportation corridor, an abbreviated VIA may be appropriate, however, CDOT will need to provide confirmation of the appropriate level of analysis for potential visual impacts and would likely be required during the NEPA study.
Land Use	The land use near this MMCV element is a mix of agricultural, recreational, residential, commercial, and industrial uses.	<p>Permanent Impacts: The proposed BRT/managed lanes are within existing operational ROW and are compatible with regional and local land use policies and plans.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if this MMCV element is implemented as the construction would be within operational ROW. The improvements are consistent with currently adopted land use plans.</p>	If an EA is the future level of environmental review, additional documentation and analysis may be required for the BRT/managed lanes to incorporate any updates from Boulder, Longmont, and Boulder County land use and zoning data sets.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist near the project element.	<p>Permanent Impacts: This MMCV element would benefit local neighborhoods and communities by improving access, mobility, safety, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, traffic congestion, dust, and noise.</p>	Data has been collected for socio-economic resources within the SH 119 Multi-Modal PEL Study Area. Additional studies may be necessary to update socio-economic data in the future if more recent data becomes available during the future NEPA study or there are changes in the preliminary design of this MMCV element.
EJ	EJ populations are areas that contain a higher than average percentage of low-income and/or minority resident. There are EJ populations adjacent to the proposed BRT/managed lanes element.	<p>Permanent Impacts: This MMCV element is anticipated to directly benefit EJ populations as well as the general population by providing enhanced transit access contributing to increased transportation choices and greater overall mobility.</p> <p>Temporary Impacts: Temporary impacts to EJ populations due to construction of this MMCV element may occur in the form of detours, construction dust, and/or construction noise. In areas where there are EJ populations, and they make up the majority of the census tract or block groups that would be affected, they could be disproportionately affected by construction. These areas are primarily along parts of the BRT routes and stops/stations in both Boulder and Longmont.</p>	<p>An updated technical memorandum may be requested to reflect future updates to US Census data.</p> <p>As project-specific studies are undertaken, they will build upon the EJ outreach conducted during the PEL study. Outreach efforts during the PEL study included meeting with five organizations serving the Hispanic and low-income populations in Boulder and Longmont and translating project materials into Spanish, which is the second most commonly used language in these cities.</p>
Transportation Resources	SH 119 is used by personal vehicles, trucks, pedestrians, and bicyclists as well as serving as bus routes.	<p>Permanent Impacts: Implementing this element would reduce congestion and improve traffic operations including transit travel time and person delays.</p> <p>Temporary Impacts: Temporary impacts during construction activities could affect transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.</p>	Traffic analyses completed during the SH 119 Multi-Modal PEL Study were based on a planning year of 2040. It is expected that a different planning year horizon will be in place at the time of the NEPA study that will need to be completed for this MMCV element. Additional study or a sensitivity analyses will be required to confirm/modify the conceptual design to meet the needs of traffic forecasted for that planning year in place at the time of the NEPA study.

Table 5-3a (Cont.). Resources that May be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx, Documented CatEx, or Templated EA)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Utilities	There are numerous utilities including water lines, wastewater, electric, and gas lines.	<p>Permanent Impacts: Utilities may need to be relocated if this MMCV element is implemented, with no permanent loss of service. Impacts should be evaluated during future NEPA study.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to traffic signals during construction.</p>	Utilities will need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.

Table 5-3b. Resources that Are Not Expected to be Impacted by the BRT/Managed Lanes along SH 119 between Boulder and Longmont and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
ROW	SH 119 is bordered by developed mix of land uses, including designated open space, commercial, residential, industrial, and residential uses.	<p>Permanent Impacts: No permanent ROW impacts would occur if this MMCV element is implemented as the BRT/managed lanes are within the operational ROW of SH 119, based on the current design concept.</p> <p>Temporary Impacts: No temporary ROW impacts are anticipated to occur if this MMCV element is implemented.</p>	During final design ROW impacts, or the lack thereof, would need to be confirmed.
Soils and Geology	These MMCV elements are not located within sensitive or unique soils/geology.	<p>Permanent Impacts: Excavation within existing operational ROW may be required. There would be no impact to mineral of geological resources as the areas have already been designated for transportation use(s).</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	Data has been collected as a part of the SH 119 Multi-Modal PEL Study. No further study is anticipated to be required for soils or geology regardless of whether a NEPA study is completed. This resource is not typically evaluated during a CatEx, which is the expected level of NEPA study for BRT/managed lanes, unless there is a sensitive soil/geologic unit present of concern.
Paleontological Resources	This MMCV element would be constructed within a previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if this MMCV element is implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if this MMCV element is implemented.</p>	<p>No further analysis is anticipated to be required if this MMCV element is implemented due to the previously disturbed nature of the Study Area.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>
Archaeological Resources	A COMPASS database search was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for known archaeological resources in the Study Area. There are no known or previously surveyed archaeological resources within 100 feet of BRT/managed lanes' alignment. However, the entire Study Area has not been surveyed for archaeological resources. There may be unknown archaeological resources present that could be affected by this MMCV element, although this is unlikely due to the previously disturbed nature of the operational ROW of SH 119.	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if this MMCV element is constructed. However, it is unknown whether previously unidentified archaeological resources are present. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if this MMCV element is constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	<p>It is not anticipated that additional analyses would be required for this MMCV element related to archaeological resources as it is within the SH 119 operational ROW, which is previously disturbed.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-4a. Resources that may be Impacted by the Coffman Street Dedicated BRT Lanes and/or the 1st Avenue/Main Street Park-n-Ride, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx* for the Coffman Street Dedicated BRT Lanes; NEPA Study is not expected to be required for the 1st Avenue/Main Street Park-n-Ride, which is a part of RTD's FasTrack Program)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Threatened, Endangered, or Special-Status Species</p>	<p>Suitable habitat for federally listed threatened, endangered, or candidate species is not present at the location of either MMCV element. Both elements are within Bald Eagle's winter range.</p> <p>Migratory bird and/or raptor nests were not observed to be present during site visits in 2017 completed for the SH 119 Multi-Modal PEL Study; however, suitable habitat (i.e., large trees, open space, and man-made structures) is located within a half-mile of all these elements. The CPW requires a half-mile buffer radius be examined for migratory bird nests. In addition, all these MMCV elements are within Bald Eagle's winter range.</p>	<p>Permanent Impacts: There are no anticipated permanent effects to federally listed threatened, endangered, or candidate species; migratory birds are also not expected to be permanently impacted by the improvements.</p> <p>Temporary Impacts: There is a potential for construction to impact any migratory birds or raptors that may use the Study Area for nesting or foraging. Although no migratory bird or raptor nests were observed at the time of the site visit, they could be present during construction and therefore impacted temporarily.</p>	<p>Given the developed nature of the areas, it is unlikely that threatened, endangered, or special-status species would be affected. CDOT will provide project oversight for the Coffman St Dedicated BRT Lanes and will likely require a Biological Resources Report or Memorandum as part of a NEPA study. The Biological Resources Report or Memorandum would document the anticipated impact, or lack thereof, to threatened, endangered, or special status species.</p> <p>As these elements progress into further design, a biologist will need to determine if there have been changes in the context of the Study Area. Based on final design, impacts to biological resources will need to be evaluated and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p> <p>Pre-construction surveys for nesting migratory birds protected by the MBTA will be required if construction activities occur during the nesting season following methods set forth by the USFWS and CPW. This survey will be required regardless of whether a NEPA study is required.</p>
<p>Historic Resources/ Section 4(f)</p>	<p>A COMPASS database search and review of assessor's data was completed as a part of the SH 119 Multi-Modal PEL Study for potentially historic resources 45 years old or older in 2018.</p> <p>There are four previously recorded Office of Archaeology and Historic Preservation (OAHP) resources near the Coffman St Dedicated BRT Lanes with a determination of Eligible – Field, including one historic district. There is low potential for newly identified historic resources adjacent to this MMCV element because most age-eligible properties on Coffman St have already been evaluated for NRHP eligibility.</p> <p>There are no NRHP Eligible sites within 100 feet of the 1st Ave/Main St Park-n-Ride.</p>	<p>Permanent Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>Longmont will need to coordinate with CDOT upon project initiation for the Coffman St Dedicated BRT Lanes to determine next steps related to historic resources. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. Also, an effects determination will be required.</p>

Table 5-4a (Cont.). Resources that may be Impacted by the Coffman Street Dedicated BRT Lanes and/or the 1st Avenue/Main Street Park-n-Ride, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx for the Coffman Street Dedicated BRT Lanes; NEPA Study is not expected to be required for the 1st Avenue/Main Street Park-n-Ride, which is a part of RTD's FasTrack Program)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Water Resources</p>	<p>The Coffman St Dedicated BRT Lanes cross over the Slough 500-year floodplain.</p> <p>There are no water resources at the 1st Ave/Main St intersection.</p>	<p>Permanent Impacts: Reconstruction of Coffman St between 1st Ave and 9th Ave to include center-running BRT dedicated lanes would not permanently affect water resources. 1st Ave/Main St park-Ride is not expected to increase impervious surface as it is already a paved parking lot.</p> <p>Temporary Impacts: Potential temporary direct impacts from either element during construction on water quality could be caused by soil erosion from stormwater runoff. Also, soil excavation and grading during construction could increase the risk of erosion and sedimentation of nearby water bodies.</p>	<p>Neither element is expected to result in a change in current floodplain boundaries as they are already paved/hard surfaces. Coordination with local jurisdictions should be conducted throughout the design process for potential impacts and permitting for work within floodplains and floodways.</p> <p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with MS4 permit for Longmont; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit for CDPHE; ■ SWQCP from Boulder County; ■ Longmont Groundwater Discharge Permit and Erosion Control Permit; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; ■ Sewer Use and Drainage Permits from Longmont.
<p>Social and Community Resources/Parks and Trails (Section 4(f))</p>	<p>There are two social and community resources near the proposed Coffman St Dedicated BRT Lanes: Roosevelt Park and Boulder County Human Services, along with an existing bus route. Roosevelt Park is considered a Section 4(f) resource.</p> <p>There is an existing bus route near the 1st Ave/Main St Park-n-Ride.</p>	<p>Permanent Impacts: The Coffman St Dedicated BRT Lanes would not directly impact community resources as they are within the operational ROW.</p> <p>The 1st Ave/Main St Park-n-Ride is also within operational ROW and would not permanently affect community resources, although the impacts to Roosevelt Park need to be evaluated in the NEPA study.</p> <p>Temporary Impacts: Temporary impacts may occur in the form of detours, construction dust, and/or construction noise for either MMCV element. Temporary impacts to Roosevelt Park are possible during construction of the Coffman St Dedicate BRT Lanes.</p>	<p>Detours will be provided as appropriate to maintain access to these resources during construction of either MMCV element. Additional studies are not expected to be required regardless of whether a NEPA study is required as a CatEx does not typically require evaluation of community resources unless there is a sensitive resource that could be affected.</p> <p>Temporary impacts to Roosevelt Park are possible during construction of the Coffman St Dedicate BRT Lanes, which would require Section 4(f) documentation. Section 4(f) documentation would likely be a temporary occupancy notification to the Official with Jurisdiction.</p>
<p>Wetland Resources and WUS</p>	<p>There are no wetland resources or WUS adjacent to the 1st Ave/Main St Park-n-Ride nor the Coffman St Dedicated BRT Lanes.</p>	<p>NA – resource not present.</p>	<p>Given the developed nature of the areas around these elements, it is highly unlikely that “new” wetland resources or WUS will be present in the future. However, as these elements progress into further design, a biologist will need to determine if there have been changes in the context of the Wetland Study Area or design of these MMCV elements.</p>

Table 5-4a (Cont.). Resources that may be Impacted by the Coffman Street Dedicated BRT Lanes and/or the 1st Avenue/Main Street Park-n-Ride, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx for the Coffman Street Dedicated BRT Lanes; NEPA Study is not expected to be required for the 1st Avenue/Main Street Park-n-Ride, which is a part of RTD's FasTrack Program)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Hazardous Materials</p>	<p>A database search for hazardous materials (RECs) was not conducted for MMCV elements within Longmont. Based on review of the nearby land uses and aerial mapping, there are likely high- and low-potential facilities adjacent to the both elements.</p>	<p>Permanent Impacts: The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. The construction depth for the Coffman St Dedicated BRT Lanes is not expected to be more than a couple feet and may not reach groundwater. Soil or surface contamination could be present based on past land uses.</p> <p>Repaving the area at 1st Ave/Main St would also likely have limited depth of ground disturbance, reducing the potential for the project to encounter contaminated groundwater. Soil or surface contamination could be present based on past land uses.</p> <p>Temporary Impacts: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to the MMCV elements; however, this depends on ground disturbance depths during construction. Because of the limited ground disturbance expected, impacts from hazardous materials are expected to be minimal.</p>	<p>CDOT Form 881 and potentially a Phase I ISA will be required for the Dedicated BRT Lanes on Coffman St. A current database of known RECs will need to be obtained within 180 days of CDOT's approval of the first/top part of the CatEx Form 128. If facilities of concern are identified adjacent to either elements and depths of construction may impact these facilities, a Phase II Investigation and MMP should be completed.</p>
<p>Air Quality</p>	<p>The elements fall within the following: the Longmont CO Maintenance area and Denver-Boulder-Greeley-Ft. Collins-Loveland O₃ nonattainment area (CDPHE, 2005a, CDPHE, 2005b, CDPHE, 2005c, CDPHE, 2008).</p>	<p>Permanent Impacts: Increased emissions of particulates and/or CO may result in localized elevated concentrations as a result of the Coffman St Dedicated BRT Lanes. A reduction in congestion on roads that are to be improved will make them more attractive routes that can result in an increase in vehicle miles travelled that could potentially result in impacts to air quality.</p> <p>The 1st Ave/Main St Park-n-Ride will need to be evaluated to determine if it is substantial source of either PM₁₀ or CO.</p> <p>Temporary Impacts: Neighboring areas could be exposed to construction-related and fugitive dust emissions during the construction phase.</p>	<p>Federal funding can only be used for projects that comply with the conformity provision of the Clean Air Act and the EPA's transportation air quality conformity regulations (40 CFR 51 Subpart T, and 40 CFR 93 Subpart A). The project must be included in a conforming TIP and the RTP. The project design concept must be sufficiently defined to determine emissions at the time of the conformity determination.</p> <p>The Coffman St Dedicated BRT Lanes will require modeling for CO if any of the four criteria established by the conformity rule are met. Additionally, modeling for PM₁₀ will be required if there is a significant increase in diesel vehicle volumes as a result of the project. As there is no federal oversight associated with the Park Ridge Rd/Main St Park-n-Ride a determination as to whether it qualifies as a project of air-quality concern that would require "Hot Spot Modeling" will need to be made at the time of implementation.</p> <p>The current planning year horizon will need to be used for this modeling. At the time of the SH 119 Multi-Modal PEL Study, the planning year was 2040; however, the BRT Lanes on Coffman St is expected to be implemented during a different planning year that will need to be used for its hot-spot modeling.</p>
<p>Noise</p>	<p>Noise sensitive areas near both of these MMCV elements include residential locations, trails, parks, commercial facilities, and a health care facility.</p>	<p>Permanent Impacts: Potential noise impacts are unknown at this time and will need to be assessed during the NEPA study.</p> <p>Temporary Impacts: There could be temporary noise impacts due to the use of construction equipment.</p>	<p>The Coffman St. BRT Lanes may meet any of the Type I criteria established by CDOT's Noise Analysis and Abatement Guidelines; they may require noise modeling during the NEPA study.</p> <p>The 1st Ave/ Main St Park-n-Ride is not expected to have CDOT or FTA involvement; however, if the scope of the project changes such that CDOT or FTA oversight is included it will meet the definition of a Type I project that requires a noise analysis. The need for noise modeling will need to be evaluated at the time of this element's implementation based on whether a NEPA study would be required due to CDOT or FTA involvement.</p>
<p>Transportation Resources</p>	<p>Coffman St Dedicated BRT Lanes and the 1st Ave/ Main St Park-n-Ride areas are used by personal vehicles, trucks, pedestrians, and bicyclists as well as bus routes.</p>	<p>Permanent Impacts:</p>	<p>Traffic analyses completed during the SH 119 Multi-Modal PEL Study were based on a planning or horizon year of 2040. A different planning year is expected to be in place when the NEPA study for the Coffman</p>

Table 5-4a (Cont.). Resources that may be Impacted by the Coffman Street Dedicated BRT Lanes and/or the 1st Avenue/Main Street Park-n-Ride, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx for the Coffman Street Dedicated BRT Lanes; NEPA Study is not expected to be required for the 1st Avenue/Main Street Park-n-Ride, which is a part of RTD’s FasTrack Program)

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
		Implementing these MMCV elements would reduce congestion; improve safety and traffic operations; and improve multi-modal connectivity in Longmont. Temporary Impacts: Temporary impacts during construction activities could impact transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.	St Dedicated BRT Lanes element is undertaken. This may result in the need to complete additional study or a sensitivity analyses could be required to confirm/modify the conceptual design to meet the needs of traffic forecasted for that year.
EJ	There are EJ populations adjacent to both proposed MMCV elements.	Permanent Impacts: These MMCV elements are anticipated to directly benefit EJ populations as well as the general population by providing enhanced transit access contributing to increased transportation choices and greater overall mobility. Temporary Impacts: Temporary impacts to EJ populations due to construction of the 1st Ave/Main St Park-n-Ride and Coffman St Dedicated BRT Lanes may occur in the form of detours, construction dust, and/or construction noise. In areas where there are EJ populations, and they make up the majority of the census tract or block groups that would be affected, they could be disproportionately affected by construction. The Coffman St Dedicated BRT Lanes has areas that are comprised of primarily EJ populations.	CatExes do not typically require EJ analyses unless it is identified as a sensitive resource. As there are concentrations of low-income and/or minority populations present around the Coffman St Dedicated BRT Lanes, an updated technical memorandum may be requested to reflect future updates to US Census data. As project-specific studies are undertaken, they will build upon the EJ outreach conducted during the PEL study. Outreach efforts during the PEL study included meeting with five organizations serving the Hispanic and low-income populations in Boulder and Longmont and translating project materials into Spanish, which is the second most commonly used language in these cities.

Table 5-4b. Resources that Are Not Expected to be Impacted by the Coffman Street BRT Lanes and Park-n-Ride at 1st Avenue/Main Street and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Riparian/SB 40	There are no SB 40 resources adjacent to the Coffman St Dedicated BRT Lanes or 1st Ave/ Main St Park-n-Ride.	NA – SB 40 resources are not present at either element.	During the NEPA Study, reassessment of the presence, or lack thereof, of SB 40 resources should be completed.
Vegetation/ Noxious Weeds	The vegetation present within the Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	During the NEPA Study, reassessment of the vegetation should be completed.
Fish/Wildlife	Dry Creek and the St Vrain Creek flow under the 1 st Ave/ Main St Park-n-Ride, while the Coffman St Dedicated BRT Lanes cross over an additional waterway. Fish may be present in these waterways and there is a potential for wildlife in the area as well.	<p>Permanent Impacts: No permanent impacts to fish or wildlife would occur if these MMCV elements are constructed as they are within the existing operational ROW.</p> <p>Temporary Impacts: There may be minor temporary impacts to fish or wildlife from clearing and grubbing as well as general construction activities if these MMCV elements are constructed.</p>	During the NEPA Study, reassessment of presence, or lack thereof, of fish and wildlife should be completed.
Section 6(f)	There are no Section 6(f) resources present adjacent to the Coffman St Dedicated BRT Lanes or the 1 st Ave/Main St Park-n-Ride.	NA – no resources present.	During the NEPA Study, the CPW database listing properties that have received Section 6(f) should be reviewed to determine if there are any Section 6(f) properties adjacent to nearby these MMCV elements that could be affected.
Visual Resources/ Aesthetics	The MMCV elements are located in urbanized, multi-modal transportation areas surrounded by commercial and residential uses.	<p>Permanent Impacts: The Coffman St Dedicated BRT Lanes would have a positive visual impact as it would update signage, accessibility, and branding of the lanes to be consistent. This would not significantly change the visual setting or context of the area and is compatible with local and regional plans.</p> <p>The proposed 1st Ave/Main St Park-n-Ride would have a positive visual impact as it would convert a current parking lot to a Park-n-Ride facility. This would upgrade the safety and aesthetics of the current parking lot and would not significantly change the visual setting or context of the area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if the MMCV elements are constructed. These would be due to the presence of construction equipment.</p>	<p>No further analyses are anticipated to be required for visual resources/aesthetics unless there is a substantial change in the proposed design.</p> <p>Visual resources/aesthetics are not typically evaluated as part of a CatEx (which is the anticipated level of NEPA study that will be required for the Coffman St Dedicated BRT Lanes) unless there is a sensitive viewshed nearby or large change in the visual context due to the proposed improvements. However, CDOT may require completion of a Visual Impact Checklist as documentation that a VIA is not required.</p>
Soils and Geology	These MMCV elements are not located within sensitive or unique soils/geology.	<p>Permanent Impacts: Excavation within existing operational ROW may be required. There would be no impact to mineral or geological resources as the areas have already been designated for transportation use(s).</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	Data has been collected as a part of the SH 119 Multi-Modal PEL Study. No further study is anticipated to be required for soils or geology regardless of whether a NEPA study is completed. This resource is not typically evaluated during a CatEx, which is the expected level of NEPA study for the Coffman St Dedicated BRT Lanes, unless there is a sensitive soil/geologic unit present of concern.

Table 5-4b (Cont.). Resources that Are Not Expected to be Impacted by the Coffman Street BRT Lanes and Park-n-Ride at 1st Avenue/Main Street and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Land Use	The land use surrounding both MMCV elements is developed primarily for commercial and residential uses.	<p>Permanent Impacts: These proposed MMCV elements are anticipated to be within existing operational ROW; therefore, there would be no permanent impacts to land use. The project is compatible with regional and local land use policies and plans.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if the MMCV elements are implemented as the construction would be within operational ROW. The improvements are consistent with currently adopted land use plans.</p>	No further analyses are anticipated to be required for land use regardless of whether a NEPA study is completed.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist near both MMCV elements.	<p>Permanent Impacts: These MMCV elements would benefit local neighborhoods and communities by improving access, mobility, safety, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, traffic congestion, dust, and noise.</p>	Data has been collected for socio-economic resources as part of the SH 119 Multi-Modal PEL Study. Additional studies are not expected to be required regardless of whether there is a federal nexus. The level of NEPA study expected to be required for the Coffman St Dedicate BRT Lanes is a CatEx, which does not require evaluation of socio-economics unless there is a sensitive resource that could be affected.
Utilities	There are numerous utilities including water lines, wastewater, electric, and gas lines.	<p>Permanent Impacts: Utilities may need to be relocated if the MMCV elements are implemented, with no permanent loss of service.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to traffic signals during construction.</p>	Utilities would need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.
ROW	The operational ROW is bordered by developed, urban land uses. The current conceptual designs would not require ROW acquisition.	<p>Permanent Impacts: No permanent ROW impacts would occur if these MMCV elements are implemented.</p> <p>Temporary Impacts: No temporary ROW impacts are anticipated to occur if these MMCV elements are implemented.</p>	During final design ROW impacts, or the lack thereof, would need to be confirmed.
Paleontological Resources	These MMCV elements would be constructed within a previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if the Coffman St Dedicated BRT Lanes and/or 1st Ave/Main St Park-n-Ride MMCV elements are implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if the Coffman St Dedicated BRT Lanes and 1st Ave/Main St Park-n-Ride MMCV elements are implemented.</p>	<p>No further analysis is anticipated to be required if the Coffman St Dedicated BRT Lanes and 1st Ave/ Main St Park-n-Ride are implemented due to the previously disturbed nature of the Study Area.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be included in the plan set regardless of whether there is a federal nexus triggering the need for a NEPA study.</p>
Archaeological Resources	A COMPASS database search was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for archaeological resources. Based on this information and review of the study areas, which are previously disturbed, there are no known archaeological sites within 100 feet of either element. However, it is unknown whether archaeological resources are present underground.	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if the Coffman St Dedicated BRT Lanes and 1st Ave/Main St Park-n-Ride are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if the Coffman St Dedicated BRT Lanes and 1st Ave/ Main St Park-n-Ride are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	<p>It is not anticipated that additional analyses would be required for either element related to archaeological resources.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-5a. Resources that May be Impacted by the Hover Street/Nelson Road and Hover Street/SH 119 Intersection Improvements, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study (Anticipated to be CatExes, Documented CatExes, or Templated EA)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Threatened, Endangered, or Special-Status Species</p>	<p>Suitable habitat for federally listed threatened, endangered, or special-status species is not present at these MMCV elements. However, the MMCV elements are within Bald Eagle’s winter range.</p> <p>Migratory bird and/or raptor nests were not observed to be present during site visits for the SH 119 Multi-Modal PEL Study in 2017; however, suitable habitat (i.e., large trees, open space, and man-made structures) is located within a half-mile of the elements. A half-mile buffer is the radius that CPW requires be examined for migratory bird nests.</p>	<p>Permanent Impacts: There are no anticipated permanent effects to federally listed threatened, endangered, or special species; migratory birds are also not expected to be permanently impacted by the improvements.</p> <p>Temporary Impacts: There is a potential for construction to impact migratory birds or raptors that may use the Study Area for nesting or foraging. Although no migratory bird or raptor nests were observed at the time of the site visit, they could be present during construction and therefore impacted.</p>	<p>Given the developed nature of the areas as well as land use and zoning, it is unlikely that threatened, endangered, or special-status species would be affected by the implementation of these MMCV elements. It is expected that CDOT would provide project oversight and would require a Biological Resources Report or Memorandum as part of a NEPA study. The Biological Resources Report or Memorandum would document the anticipated impact, or lack thereof, to special status species.</p> <p>As these elements progress into further design, a biologist will need to determine if there have been changes in the context of the Study Area. Based on final design, impacts to biological resources will need to be evaluated and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p> <p>Pre-construction surveys for nesting migratory birds protected by the MBTA will be required if construction activities occur during the nesting season following methods set forth by the USFWS and CPW.</p>
<p>Historic Resources/ Section 4(f)</p>	<p>A COMPASS database search and review of assessor’s data was completed as a part of the SH 119 Multi-Modal PEL Study for potentially historic resources 45 years old or older in 2018.</p> <p>No documented historic or potentially historic sites were found to be adjacent to these intersections. Because of the recent construction of most buildings in these areas, there is very low potential for newly identified historic resources.</p>	<p>Permanent Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>The agency implementing the However St/SH 119 intersection improvement will need to coordinate with CDOT upon project initiation to determine next steps related to historic resources. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. Also, an effects determination will be required including an evaluation of the effects to SH 119.</p> <p>If there is no federal nexus for the Hover St/Nelson Rd intersection improvement, no further study is anticipated for this resource as a NEPA study would not be required.</p>

Table 5-5a (Cont.). Resources that May be Impacted by the Hover Street/Nelson Road and Hover Street/SH 119 Intersection Improvements, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	
<p>Water Resources</p>	<p>Hover St/SH 119: There are no water resources or floodplains at this intersection.</p> <p>Hover St/Nelson Rd: Dry Creek (north), along with its 500-year floodplain, crosses just south of this intersection. Dry Creek (north) is a 303(d)-listed stream. Niwot Ditch crosses Hover St near the Hover St/Nelson Rd intersection. South Flat Ditch crosses Hover St just north of the Hover St/Nelson Rd intersection.</p>	<p>Permanent Impacts:</p> <p>Hover St/SH 119: Changes in impervious surface need to be calculated during the NEPA study.</p> <p>Hover St/Nelson Rd: Changes in impervious surface need to be calculated during the design. Development within the floodplain could cause a change in flood elevations.</p> <p>Temporary Impacts: Potential temporary direct impacts during construction on water quality of the intersection improvements could be caused by soil erosion from stormwater runoff. Also, soil excavation and grading during construction could increase the risk of erosion and sedimentation of nearby water bodies.</p>	<p>Changes in impervious surface will need to be calculated during design.</p> <p>Construction within the identified floodplains could result in a change in current floodplain boundaries. Coordination with local jurisdictions including FEMA, Urban Drainage and Flood Control Division, Boulder County, Boulder, and Longmont should be conducted throughout the design process for potential impacts and permitting for work within floodplains and floodways. Floodplain modeling may be required to assess impacts at floodplain crossings and may require a Conditional Letter of Map Revision and a Letter of Map Revision as well as permitting from local jurisdictions.</p> <p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with MS4 permit for both CDOT and Longmont; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit for CDPHE; ■ SWQCP from Boulder County; ■ Groundwater Discharge Permit and Erosion Control Permit; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; ■ Sewer Use and Drainage Permits from local municipalities; ■ Boulder Floodplain Development Permits
<p>Wetland Resources and WUS</p>	<p>Hover St/SH 119: There are no wetland resources or WUS at this intersection.</p> <p>Hover St/Nelson Rd: There are wetland resources or WUS adjacent to this intersection.</p>	<p>NA – resource not present.</p>	<p>As these MMCV elements progress into further design, a biologist will need to determine if there have been changes in the context of the Wetland Resource Study Area.</p>

Table 5-5a (Cont.). Resources that May be Impacted by the Hover Street/Nelson Road and Hover Street/SH 119 Intersection Improvements, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	
<p>Social and Community Resources/Parks and Trails/ Section 4(f)/ Non-Historic Resources</p>	<p>Hover St/SH 119: There are existing bicycle routes/lanes along both Hover St and SH 119.</p> <p>Hover St/Nelson Rd: The Boulder County Fairgrounds are located at the northeast corner of this intersection. Bicycle routes/lanes run along both Nelson Rd and Hover St at this intersection.</p>	<p>Permanent Impacts:</p> <p>Hover St/SH 119: A barrier-separated pedestrian path through a new grade-separated tunnel under Hover St would allow bicyclists and pedestrians to cross the north leg of Hover St safely, resulting in a positive permanent impact.</p> <p>Hover St/Nelson Rd: Continuous bicycle lanes are proposed along Nelson Rd, as well as curb-separated bicycle lanes on the northwest and southeast corners, resulting in a positive permanent impact. It is unlikely the fairgrounds would be directly affected by the MMCV element.</p> <p>Temporary Impacts:</p> <p>Hover St/SH 119: These existing bicycle routes/lanes would be temporarily impacted by the MMCV element; detours should be put in place if access to the resources is affected by the MMCV element.</p> <p>Hover St/Nelson Rd: The bicycle routes/lanes would be temporarily impacted, but it is unlikely the fairgrounds would be directly affected by the MMCV element.</p>	<p>During the NEPA study for the Hover St/SH 119 intersection improvements the Study Area should be reviewed to determine if there have been changes to the setting resulting in new or different potential impacts. If there is no federal nexus for the Hover St/Nelson Rd intersection improvement, no further study is anticipated for this resource as a NEPA study would not be required.</p>
<p>Hazardous Materials</p>	<p>The intersection improvements are in commercially developed parts of Longmont. A database search for RECs was not conducted within Longmont. Based on review of the nearby land uses and aerial mapping, there are likely high- and/or low-potential facilities adjacent to the both elements.</p>	<p>Permanent Impacts:</p> <p>Hover St/SH 119: The proposed westbound through movement is planned to be a grade-separated tunnel under Hover St. Soil or surface contamination could be present based on past land uses especially due to the depth of disturbance. Further evaluation is required during the NEPA study.</p> <p>Hover St/Nelson Rd: The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. Soil or surface contamination could be present based on past land uses. Repaving areas would also likely have limited depth of ground disturbance, reducing the potential for the project to encounter contaminated groundwater.</p> <p>Temporary Impacts:</p> <p>Hover St/SH 119: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to this intersection especially considering the depth of disturbance of this MMCV element and hazardous materials may be temporarily impacted during construction. Further evaluation is required during the NEPA study.</p> <p>Hover St/Nelson Rd: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to this intersection; however, this depends on ground disturbance depths during construction. Because of the limited ground disturbance expected, impacts from hazardous materials are anticipated to be minimal.</p>	<p>CDOT Form 881 and a Phase I ISA will be required for the Hover St/SH 119 intersection. A current database of known RECs will need to be obtained within 180 days of CDOT's approval of the first/top part of the CatEx Form 128. If RECs are identified adjacent to the elements and depths of construction may impact these facilities, a Phase II Investigation and MMP should be completed.</p> <p>If there is no federal nexus for the Hover St/Nelson Rd intersection improvement, no further study is anticipated for this resource as a NEPA study would not be required. However, it is recommended that an evaluation of the potential to encounter RECs during construction be completed regardless of CDOT involvement.</p>

Table 5-5a (Cont.). Resources that May be Impacted by the Hover Street/Nelson Road and Hover Street/SH 119 Intersection Improvements, those that May Require Additional Analyses, and Those that Need to be Documented in a Future NEPA Study

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	
<p>Air Quality</p>	<p>The elements fall within the Longmont CO maintenance area; Denver Metro PM10 maintenance area, and Denver-Boulder-Greeley-Ft. Collins-Loveland O3 nonattainment area (CDPHE, 2005a, CDPHE, 2005b, CDPHE, 2005, CDPHE, 2008).</p>	<p>Permanent Impacts: Hover St/SH 119: Currently, the intersection is at LOS F and therefore elevated concentrations of CO may be present. This MMCV element is likely to improve air quality at the intersection by reducing congestion. However, a reduction in congestion on roads that are to be improved will make them more attractive routes that can result in an increase in vehicle miles travelled that could potentially result in impacts to air quality.</p> <p>Hover St/Nelson Rd: Currently, the intersection is at LOS E and therefore elevated concentrations of CO may be present; this MMCV element is likely to improve air quality at the intersection by reducing congestion. However, a reduction in congestion on roads that are to be improved will make them more attractive routes that can result in an increase in vehicle miles travelled that could potentially result in impacts to air quality.</p> <p>Temporary Impacts: Neighboring areas could be exposed to construction-related and fugitive dust emissions during the construction phase.</p>	<p>Federal funding can only be used for projects that comply with the conformity provision of the Clean Air Act and the EPA transportation air quality conformity regulations (40 CFR 51 Subpart T, and 40 CFR 93 Subpart A). The project must be included in a conforming TIP and the RTP. The project design concept must be sufficiently defined to determine emissions at the time of the conformity determination.</p> <p>As part of the NEPA process, “Hot Spot Modeling” is required for intersections currently operating at an LOS of D or worse or if the intersection is predicted to operate at an LOS of D or worse after project implementation. It is anticipated that these intersection improvements will require “Hot Spot Modeling” for their reconfiguration during future NEPA study, if applicable. Additionally, a determination will need to be made as to whether this is a project of air-quality concern necessitating a PM10 analyses; this will be based on whether there will be a significant increase in diesel-vehicle volumes as a result of project implementation. If there is no federal nexus for the Hover Rd/Nelson intersection improvement, air quality may not be required for the Hover St/Nelson Rd intersection project as a NEPA study would not be required.</p>
<p>Noise</p>	<p>Noise sensitive areas in the Noise Study Area, which is a 500-foot buffer around each MMCV element, include residences, trails, parks, and commercial facilities that are also considered sensitive noise receptors. This is a preliminary study area for which noise measurements have not been taken nor have noise levels been predicted.</p>	<p>Permanent Impacts: Hover St/SH 119: Potential noise impacts are unknown at this time and will need to be assessed during the NEPA study.</p> <p>Hover St/Nelson Rd: Additional left-turn lanes and an additional through lane are proposed for northbound and southbound approaches in order to relieve traffic congestion. These improvements are considered a Type I Project per CDOT Noise Guidelines and further analysis is required, if there is CDOT oversight of the project.</p> <p>Temporary Impacts: There is potential for temporary noise impacts during construction due to use of construction equipment.</p>	<p>These MMCV elements will qualify as “Type 1 Projects” per CDOT’s noise guidelines and will require noise modeling for the current planning year. At the time of the completion of the SH 119 Multi-Modal PEL Study, the planning year is 2040; however, these MMCV elements will be implemented when a different planning year is in place. The current planning year, at the time of NEPA study will need to be used for modeling.</p> <p>If there is no federal nexus for the Hover St/Nelson Rd intersection improvement, a noise study may not be required; the need for noise modeling will need to be evaluated at the time of this element’s implementation based on whether a NEPA study would be required due to CDOT oversight.</p>
<p>EJ</p>	<p>There are EJ populations adjacent to both proposed MMCV elements.</p>	<p>Permanent Impacts: These MMCV elements are anticipated to directly benefit EJ populations as well as the general population by providing enhanced transit access contributing to increased transportation choices and greater overall mobility.</p> <p>Temporary Impacts: Temporary impacts to EJ populations due to construction of the intersection improvements may occur in the form of detours, construction dust, and/or construction noise. In areas where there are EJ populations, and they make up the majority of the census tract or block groups that would be affected, they could be disproportionately affected by construction. The Hover St/Nelson Rd intersection has areas that are comprised of primarily EJ populations on both the southeast and the northeast quadrants</p>	<p>CatExes do not typically require EJ analyses unless it is identified as a sensitive resource. As there are concentrations of low-income and/or minority populations present around the Hover St/Nelson Rd intersection, an updated technical memorandum may be requested to reflect future updates to US Census data.</p> <p>As project-specific studies are undertaken, they will build upon the EJ outreach conducted during the PEL study. Outreach efforts during the PEL study included meeting with five organizations serving the Hispanic and low-income populations in Boulder and Longmont and translating project materials into Spanish, which is the second most commonly used language in these cities.</p>

Table 5-5b. Resources that are Not Expected to be Impacted by the Hover St/Nelson Rd or Hover St/SH 119 Intersection Improvements and May Not Need to be Documented in a Future NEPA Study

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Riparian/SB 40	<p>Hover St/SH 119: There are no water resources at this intersection.</p> <p>Hover St/Nelson Rd: Dry Creek (north) crosses just south of this intersection, along which SB 40 resources may be located.</p>	<p>Permanent Impacts: Impacts to Dry Creek are not anticipated from the Hover St/Nelson Rd intersection improvements project.</p> <p>Temporary Impacts: Temporary impacts may include clearing and grubbing as well as removal of vegetation necessary to complete construction.</p>	Given the lack of anticipated impact to SB 40 resources it is expected that no further analyses during a NEPA study will be required. As the elements progress further into design, a biologist will need to determine if there have been changes in the design that could affect SB 40 resources.
Vegetation/ Noxious Weeds	The vegetation present within the SH 119 Multi-Modal PEL Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	<p>The presence of noxious weeds would be evaluated during future field visits.</p> <p>BMPs will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p>
Fish/Wildlife	<p>Hover St/SH 119: There are no water resources at this intersection and low potential for wildlife in the area.</p> <p>Hover St/Nelson Rd: Dry Creek (north), provides habitat for fish and wildlife. There may be fish and wildlife habitat along the South Flat Ditch and Niwot Ditch as well.</p>	<p>Permanent Impacts: No permanent impacts to fish or wildlife would occur if these project elements are constructed as they are within the existing operational ROW.</p> <p>Temporary Impacts: There may be minor temporary impacts to fish or wildlife from clearing and grubbing as well as general construction activities.</p>	No further study is anticipated to be required for fish or wildlife; this resource is not typically evaluated for a CatEx unless there is a sensitive resource nearby.
Section 6(f) Resources	Section 6(f) resources are those that have received funds from the LWCF and are intended to be dedicated to recreational purposes in perpetuity. There are no Section 6(f) resources present adjacent to these intersections.	NA – no 6(f) resources present.	As design progresses during the NEPA study, a review of the Section 6(f) database should be completed to determine if additional facilities have received LWCF. CPW maintains this file for the state of Colorado.
Visual Resources/ Aesthetics	The MMCV elements are located in an urbanized, multi-modal transportation corridor surrounded by commercial and residential uses.	<p>Permanent Impacts: The MMCV elements would have a neutral visual impact as they would upgrade the intersections within ROW. This would not substantially change the visual setting or context of the SH 119 Multi-Modal PEL Study Area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if the intersection improvements are constructed due to the presence of construction equipment at the roadways and intersections.</p>	<p>No further analyses are anticipated to be required for visual resources/aesthetics unless there is a substantial change in the proposed design.</p> <p>Visual resources/aesthetics are not typically evaluated as part of a CatEx unless there is a sensitive viewshed nearby or large change in the visual context due to the proposed improvements. CDOT may require completion of a Visual Impact Checklist to confirm need, or lack thereof, for a VIA. If there is no federal nexus for the Hover St/ Nelson Rd intersection improvement, no further study is anticipated for this resource.</p>
Soils and Geology	The MMCV elements are not located within sensitive or unique soils/geology.	<p>Permanent Impacts: Excavation within existing operational ROW would be required. There would be no impact to mineral or geological resources as the areas have already been designated for transportation use(s).</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	No further study is anticipated to be required for soils or geology regardless of whether a NEPA study is completed. This resource is not typically evaluated during a CatEx, which is the expected level of NEPA study, unless there is a sensitive soil/geologic unit present of concern.

Table 5-5b (Cont.). Resources that Are Not Expected to be Impacted by the Hover St/Nelson Rd or Hover St/SH 119 Intersection Improvements and May Not Need to be Documented in a Future NEPA Study

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Land Use	The land use surrounding these intersections is developed primarily for commercial and residential uses.	<p>Permanent Impacts: These proposed MMCV elements are anticipated to be within existing operational ROW; therefore, there would be no permanent impacts to land use. The project is compatible with regional and local land use policies and plans.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if the MMCV elements are implemented as the construction would be within operational ROW.</p>	No further analyses are anticipated to be required for land use.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist near these MMCV elements.	<p>Permanent Impacts: These MMCV elements would benefit local neighborhoods and communities by improving access, mobility, safety, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, traffic congestion, dust, and noise.</p>	No further analyses are anticipated to be required for socio-economics.
Transportation Resources	These roads/intersections are used by personal vehicles, trucks, pedestrians, and bicyclists as well as bus routes.	<p>Permanent Impacts: Implementing these both intersection improvements would reduce congestion; improve safety and traffic operations; and improve multi-modal connectivity in Longmont.</p> <p>Temporary Impacts: Temporary impacts during construction of either intersection improvement could impact transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.</p>	Traffic analyses were completed during the SH 119 Multi-Modal PEL Study and the recently completed SW Traffic Study (Longmont, 2019). It is anticipated that both intersection improvements will be made under a different planning year horizon. Additional evaluation or a sensitivity analyses could be required to confirm/modify the conceptual designs to meet the needs of traffic forecasted for that year.
Utilities	There are numerous utilities including water lines, wastewater, electric, and gas lines near both intersections.	<p>Permanent Impacts: Utilities may need to be relocated if the project elements are implemented, with no permanent loss of service.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to traffic signals during construction.</p>	Utilities would need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.
ROW	The transportation ROW is bordered by developed, urban land uses. The current conceptual designs would not require ROW acquisition.	<p>Permanent Impacts: Impacts will need to be evaluated during design.</p> <p>Temporary Impacts: Impacts will need to be evaluated during design.</p>	During final design ROW impacts, or the lack thereof, would need to be confirmed.
Paleontological Resources	These MMCV elements would be constructed within a previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if these MMCV elements are implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if these MMCV elements are implemented.</p>	<p>No further analysis is anticipated to be required if these MMCV elements are implemented due to the previously disturbed nature of the Study Area.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set regardless of whether there is a federal nexus triggering the need for a NEPA study.</p>

Table 5-5b (Cont.). Resources that Are Not Expected to be Impacted by the Hover St/Nelson Rd or Hover St/SH 119 Intersection Improvements and May Not Need to be Documented in a Future NEPA Study

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Archaeological Resources</p>	<p>A COMPASS database search was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for known archaeological resources in the Study Area. There are no known or previously surveyed archaeological resources within 100 feet of these MMCV elements. The entire Study Area has not been surveyed for archaeological resources. There may be unknown archaeological resources within 100 feet of these MMCV elements. However, because of the previously disturbed nature of the Study Area there is a low probability of uncovering unknown archaeological resources.</p>	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if these MMCV elements are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if the MMCV elements are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	<p>It is not anticipated that additional analyses would be required for the MMCV elements related to archaeological resources. However, CDOT will need to determine the need for additional survey for the Hover St/SH 119 intersection improvement; the Hover St/Nelson Rd intersection improvement will not require additional study unless there is a federal nexus.</p> <p>CDOT’s Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-6a. Resources that may be Impacted by the Boulder BAT Lanes and Intersection Improvements; those that may require Additional Analyses; and those that need to be Documented in a Future NEPA Study (Anticipated to be CatEx[s])*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Threatened, Endangered, or Special-Status Species</p>	<p>Suitable habitat for federally listed threatened, endangered, or special-status species is not present at these MMCV elements. However, the MMCV elements are within Bald Eagle’s winter range.</p> <p>Migratory bird and/or raptor nests were not observed to be present during site visits for the SH 119 Multi-Modal PEL Study in 2017; however, suitable habitat (i.e., large trees, open space, and man-made structures) is located within a half-mile of the elements. A half-mile buffer is the radius that CPW requires be examined for migratory bird nests.</p>	<p>Permanent Impacts: There are no anticipated permanent effects to federally listed threatened, endangered, or candidate species; migratory birds are also not expected to be permanently impacted by the improvements.</p> <p>Temporary Impacts: There is a potential for construction to impact migratory birds or raptors that may use the Study Area for nesting or foraging. Although no migratory bird or raptor nests were observed at the time of the site visit, they could be present during construction and therefore impacted.</p>	<p>Given the developed nature of the areas as well as land use and zoning, it is unlikely that threatened, endangered, or special-status species would be affected by the implementation of these MMCV elements. It is expected that CDOT would require a Biological Resources Report or Memorandum as part of a NEPA study. The Biological Resources Report or Memorandum would document the anticipated impact, or lack thereof, to threatened, endangered, or special-status species.</p> <p>As these elements progress into further design, a biologist will need to determine if there have been changes in the context of the Study Area. Based on final design, impacts to biological resources will need to be evaluated and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p> <p>Pre-construction surveys for nesting migratory birds protected by the MBTA will be required if construction activities occur during the nesting season following methods set forth by the USFWS and CPW.</p>
<p>Riparian/SB 40 Resources</p>	<p>Boulder BAT Lanes</p> <p>Iris Ave – 28th St to Foothills Pkwy: Wonderland Creek flows under Iris Ave near Bridger Trail.</p> <p>28th St – Iris Ave to Valmont Rd: The Boulder and White Rock Ditch crosses 28th St at this location.</p> <p>28th St – Pearl St to Canyon Blvd: Boulder and Left-Hand Ditch flows just south of Pearl Pkwy.</p> <p>Boulder Intersection Improvements</p> <p>28th St/Iris Ave: There are no water resources adjacent to this intersection.</p> <p>28th St/Canyon Blvd: There are no water resources adjacent to this intersection.</p>	<p>Permanent Impacts: Impacts to Wonderland Creek; Boulder and White Rock Ditch; and Boulder and Left-Hand Ditch are not anticipated from the BAT lanes. No impacts are expected from construction of the intersection improvements.</p> <p>Temporary Impacts: Temporary impacts may include clearing and grubbing as well as removal of vegetation necessary to complete construction.</p>	<p>Given the lack of anticipated impact to SB 40 resources it is expected that no further analyses during a NEPA study will be required. As the elements progress further into design, a biologist will need to determine if there have been changes in the design of them that could affect SB 40 resources.</p>
<p>Historic Resources/ Section 4(f)</p>	<p>A COMPASS database search and review of assessor’s data was completed as a part of the PEL for potentially historic resources 45 years old or older in 2018. No documented historic or potentially historic sites were found to be adjacent to the BAT Lanes or Intersection Improvement locations. Because of the recent construction of most buildings in these areas, there is very low potential for newly identified historic resources; however, the presence of potentially eligible resources will need to be evaluated during NEPA.</p>	<p>Permanent Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>The agency implementing these MMCV elements will need to coordinate with CDOT upon project initiation to determine next steps related to historic resources. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. Also, an effects determination may be required.</p>

Table 5-6a (Cont.). Resources that may be Impacted by the Boulder BAT Lanes and Intersection Improvements; those that may require Additional Analyses; and those that need to be Documented in a Future NEPA Study (Anticipated to be CatEx(s))*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Water Resources</p>	<p>Boulder BAT Lanes</p> <p>Iris Ave—28th St to Foothills Pkwy: Wonderland Creek crosses at this location along with the Wonderland Creek floodplain.</p> <p>28th St—Iris Ave to Valmont Rd: The Boulder and White Rock Ditch crosses this MMCV element. The Boulder Creek 500-year floodplain occurs at this location.</p> <p>28th St—Pearl St to Canyon Blvd: The Boulder and Left-Hand Ditch crosses the MMCV element at this location, along with Boulder Creek.</p> <p>The Boulder Creek 500-year floodplain occurs at this location.</p> <p>Boulder Intersection Improvements</p> <p>28th St/Iris Ave: There are no water resources or floodplains at this location.</p> <p>28th St/Canyon Blvd: There are no water resources at this location, although the Boulder Creek 500-year floodplain occurs at this location.</p>	<p>Permanent Impacts:</p> <p>Boulder BAT Lanes</p> <p>Iris Ave—28th St to Foothills Pkwy: These improvements are not expected to increase impervious surface.</p> <p>Development within the floodplain could cause a change in flood elevations; however, it is unlikely due to the limited ground disturbance expected by the MMCV element.</p> <p>28th St—Iris Ave to Valmont Rd: These improvements are not expected to increase impervious surface.</p> <p>Development within the floodplain could cause a change in flood elevations; however, it is unlikely due to the limited ground disturbance expected by the MMCV element.</p> <p>28th St—Pearl St to Canyon Blvd: These improvements are not expected to increase impervious surface.</p> <p>Development within the floodplain could cause a change in flood elevations; however, it is unlikely due to the limited ground disturbance expected by the MMCV element.</p> <p>Boulder Intersection Improvements</p> <p>28th St/Iris Ave: Intersection Improvements would not increase impervious surface.</p> <p>No floodplains occur at this location; therefore, there would be no impacts to floodplains.</p> <p>28th St/Canyon Blvd: These improvements would not increase impervious surface.</p> <p>Development within the floodplain could cause a change in flood elevations.</p> <p>Temporary Impacts: Potential temporary direct impacts during construction on water quality of BAT Lanes and Intersection Improvements could be caused by soil erosion from stormwater runoff. Also, soil excavation and grading during construction could increase the risk of erosion and sedimentation of nearby water bodies.</p>	<p>Once design is available, the amount of new impervious surface that would be added due to construction of the Intersection Improvements will need to be quantified. Water quality BMPs will need to be included in the design, as appropriate.</p> <p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with MS4 permit for both CDOT and Boulder; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit for CDPHE; ■ SWQCP from Boulder County; ■ Boulder Groundwater Discharge Permit and Erosion Control Permit; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; ■ Sewer Use and Drainage Permits; ■ Boulder Floodplain Development Permits

Table 5-6a (Cont.). Resources that may be Impacted by the Boulder BAT Lanes and Intersection Improvements; those that may require Additional Analyses; and those that need to be Documented in a Future NEPA Study (Anticipated to be CatEx(s))*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Social and Community Resources/Parks and Trails/ Section 4(f)/ Non-Historic</p>	<p>Boulder BAT Lanes</p> <p>Iris Ave—28th St to Foothills Pkwy: There are four social and community resources adjacent to this MMCV element.</p> <p>28th St—Iris Ave to Valmont Rd: No social and community resources are located adjacent to this segment.</p> <p>28th St—Pearl St to Canyon Blvd: A multi-use path is located on the east side of 28th St and along the south side of Canyon Blvd.</p> <p>Boulder Intersection Improvements</p> <p>28th St/Iris Ave: Multi-use paths are located along the southeast corner and northwest corner of 28th St and Iris Ave. Existing sidewalk connections also exist along both sides of Iris Ave.</p> <p>28th St/Canyon Blvd: Multi-use paths are located along the east side of 28th St and along the south side of Canyon Blvd. None of these resources are classified as Section 4(f) resources as they are not dedicated to a recreational use.</p>	<p>Permanent Impacts:</p> <p>Iris Ave—28th St to Foothills Pkwy: Social and community resources are not expected to be directly impacted by the MMCV element.</p> <p>28th St—Iris Ave to Valmont Rd: NA.</p> <p>28th St—Pearl St to Canyon Blvd: The multi-use paths would not be affected by the MMCV element as construction is expected to remain within operational ROW.</p> <p>Temporary Impacts:</p> <p>28th St/Iris Ave: The multi-use paths and sidewalks may be temporarily impacted by the MMCV elements during construction.</p> <p>28th St/Canyon Blvd: The multi-use paths and sidewalks may be temporarily impacted by the MMCV elements during construction.</p>	<p>Detours will be provided as appropriate to maintain access to facilities and trails during construction, if needed. Additional studies are not expected to be required; these resources, with the exception of those that are dedicated to recreational use and that qualify as Section 4(f) resources, are not typically evaluated during a CatEx unless there is a sensitive resource present.</p>
<p>Hazardous Materials</p>	<p>The intersection improvements and BAT Lanes are in commercially developed parts of the Boulder. Past and present nearby land uses include retail stores; hotels; restaurants; automotive fueling and service stations (former and current); and professional offices. Hazardous materials may be present in or around either/both intersections. A Geosearch database search was not completed for MMCV elements located in Boulder during the SH 119 Multi-Modal PEL Study.</p>	<p>Permanent Impacts:</p> <p>The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. The construction depth for these MMCV elements is not expected to be more than two feet and may not reach groundwater. Soil or surface contamination could be present based on past land uses.</p> <p>Repaving areas would also likely have limited depth of ground disturbance, reducing the potential for the project to encounter contaminated groundwater.</p> <p>Temporary Impacts:</p> <p>There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to the MMCV elements; however, this depends on ground disturbance depths during construction. Because of the limited ground disturbance expected, impacts from hazardous materials are anticipated to be minimal.</p>	<p>CDOT Form 881 and potentially a Phase I ISA will be required for these MMCV elements. A current database of known RECs will need to be obtained within 180 days of CDOT's approval of the first/top part of the CatEx Form 128. If facilities of concern are identified adjacent to the elements and depths of construction may impact these facilities, a Phase II Investigation and MMP should be completed.</p>

Table 5-6a (Cont.). Resources that may be Impacted by the Boulder BAT Lanes and Intersection Improvements; those that may require Additional Analyses; and those that need to be Documented in a Future NEPA Study (Anticipated to be CatEx(s))*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Air Quality</p>	<p>The elements fall within the following nonattainment and maintenance areas: Denver-Boulder CO maintenance area; Denver Metro PM10 maintenance area; and Denver-Boulder-Greeley-Ft. Collins-Loveland O3 nonattainment area (CDPHE, 2005a, CDPHE, 2005b, CDPHE, 2008).</p>	<p>Permanent Impacts: Increased emissions of particulates may result in localized elevated concentrations as a result of the BAT Lanes. A reduction in congestion on roads that are to be improved will make them more attractive routes that can result in an increase in Vehicle Miles Travelled that could potentially result in impacts to air quality. The need to model PM10 will need to be evaluated during the future NEPA study.</p> <p>Currently, the 28th St/Iris Ave and 28th St/Canyon Blvd intersections are at LOS D and therefore elevated concentrations of CO may be present; the MMCV element is likely to improve air quality at the intersection by reducing congestion. The need to model PM10 will need to be evaluated during the future NEPA study.</p> <p>Temporary Impacts: Neighboring areas could be exposed to construction-related and fugitive dust emissions during the construction phase.</p>	<p>Federal funding can only be used for projects that comply with the conformity provision of the Clean Air Act and the EPA transportation air quality conformity regulations (40 CFR 51 Subpart T, and 40 CFR 93 Subpart A). The project must be included in a conforming TIP and the RTP. The project design concept must be sufficiently defined to determine emissions at the time of the conformity determination.</p> <p>As part of the NEPA process, “Hot Spot Modeling” for CO is required for intersections currently operating at an LOS of D or worse or if the intersection is forecasted to operate at an LOS of D or worse after project implementation. Additionally, modeling for PM10 is required for projects subject to conformity if there is a significant increase in the number of diesel vehicles as a result of project implementation. It is anticipated that the Intersection Improvements will require “Hot Spot” modeling for CO as there are failing intersections; at the time these MMCV elements are implemented. In the future NEPA study a determination will be made as to whether the BAT Lane is a project of air quality concern that requires modeling for PM10. The analyses will need to occur during a future NEPA study, which is anticipated to be a CatEx.</p>
<p>Noise</p>	<p>Noise sensitive areas in the Noise Study Area, which is a 500-foot buffer around the existing edge of pavement, include residences, trails, parks, and commercial facilities that are also considered sensitive noise receptors. This is a preliminary noise study area used in the PEL. In future NEPA studies the Noise Study Area may need to be modified to be a 500-foot buffer from the proposed edge of pavement.</p>	<p>Permanent Impacts: Potential noise impacts are unknown at this time and will need to be assessed during the NEPA study.</p> <p>Temporary Impacts: There is potential for temporary noise impacts during construction due to the use of construction equipment.</p>	<p>The BAT lanes are greater than 2,500-feet in length which classifies it as a Type I project per CDOT’s Noise Analysis and Abatement Guidelines that requires a noise analysis.</p> <p>The Intersection Improvements in Boulder do not trigger the need for noise modeling as currently designed as it does not meet any of the Type I Project criteria.</p>
<p>EJ</p>	<p>There are EJ populations adjacent to these proposed MMCV elements. EJ populations are those that have a higher percentage of low-income and/or minority residences than the local jurisdictions.</p>	<p>Permanent Impacts: The project is anticipated to directly benefit EJ populations as well as the general population by providing enhanced transit access contributing to increased transportation choices and greater overall mobility.</p> <p>Temporary Impacts: Temporary impacts to EJ populations due to construction of the MMCV elements may occur in the form of detours, construction dust, and/or construction noise. In areas where there are EJ populations, and they make up the majority of the census tract or block groups that would be affected, they could be disproportionately affected by construction. This includes areas along parts of the BAT lanes in Boulder.</p>	<p>CatExes do not typically require EJ analyses unless it is identified as a sensitive resource. As there are concentrations of low-income and/or minority populations present around BAT Lanes, an updated technical memorandum may be requested to reflect future updates to US Census data.</p> <p>As project-specific studies are undertaken, they will build upon the EJ outreach conducted during the PEL. Outreach efforts during the PEL included meeting with five organizations serving the Hispanic and low-income populations in Boulder and Longmont and translating project materials into Spanish, which is the second most commonly used language in these cities.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-6b. Resources that are not expected to be Impacted by the Boulder BAT Lanes and Intersection Improvements and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx[s])*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Vegetation/ Noxious Weeds	The vegetation present within the Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	<p>The presence of noxious weeds would be evaluated during future field visits.</p> <p>BMPs will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p>
Fish/Wildlife	Wonderland Creek; Boulder and White Rock Ditch; and the Boulder and Left-Hand Ditch may provide fish habitat. There is a potential for wildlife in the area as well.	<p>Permanent Impacts: No permanent impacts to fish or wildlife would occur if these MMCV elements are constructed as they are within the existing operational ROW.</p> <p>Temporary Impacts: There may be minor temporary impacts to fish or wildlife from clearing and grubbing as well as general construction activities.</p>	No further study is anticipated to be required for fish or wildlife; this resource is not typically evaluated for a CatEx.
Wetland Resources and WUS	No wetland resources or WUS exist at the BAT Lane locations or the Intersection Improvement locations.	NA – resource not present.	Given the developed nature of the areas around these elements, it is highly unlikely that “new” wetland resources or waters of the US will be present in the future. However, as these elements progress into further design, a biologist will need to determine if there have been changes in the context of the Wetland Resource Study Area or design of these MMCV elements.
Section 6(f) Resources	Section 6(f) resources are those that have received funds from the LWCF and are intended to be dedicated to recreational purposes in perpetuity. There are no Section 6(f) resources present adjacent to these road segments or intersections.	NA – no 6(f) resources present.	As design progresses during the NEPA study, a review of the Section 6(f) database should be completed to determine if additional facilities have received LWCF. CPW maintains this file for the state of Colorado.
Visual Resources/ Aesthetics	The MMCV elements are located in urbanized, multi-modal transportation corridors surrounded by commercial and residential uses.	<p>Permanent Impacts: Boulder BAT Lanes The BAT Lanes would have a positive visual impact as this MMCV would update signage, accessibility, and branding of the lanes to be consistent. This would not significantly change the visual setting or context of Study Area and is compatible with local and regional land uses.</p> <p>Boulder Intersection Improvements The MMCV element would have a neutral visual impact as it would upgrade the intersection mostly within ROW. This would not significantly change the visual setting or context of PEL Study Area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if the BAT Lanes or Intersection Improvements are constructed. These impacts would be due to the presence of construction equipment at the roadways and intersections.</p>	<p>No further analyses are anticipated to be required for visual resources/aesthetics unless there is a substantial change in the proposed design.</p> <p>Visual resources/aesthetics are not typically evaluated as part of a CatEx unless there is a sensitive viewshed nearby or large change in the visual context due to the proposed improvements. CDOT may require completion of a Visual Impact Checklist to confirm need, or lack thereof, for a Visual Impact Assessment.</p>
Soils and Geology	These MMCV elements are not located within sensitive or unique soils/geology.	<p>Permanent Impacts: Excavation within existing operational ROW would be required. There would be no impact to mineral or geological resources as the areas have already been designated for transportation use(s).</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	No further study is anticipated to be required for soils or geology regardless of whether a NEPA study is completed. This resource is not typically evaluated during a CatEx, which is the expected level of NEPA study, unless there is a sensitive soil/geologic unit present of concern.

Table 5-6b (Cont.). Resources that are not expected to be Impacted by the Boulder BAT Lanes and Intersection Improvements and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx[s])*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Land Use	The land use surrounding the BAT Lanes and Intersection Improvements is developed primarily for commercial and residential uses.	<p>Permanent Impacts: These proposed MMCV elements are anticipated to be within existing operational ROW; therefore, there would be no permanent impacts to land use. The project is compatible with regional and local land use policies and plans.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if the MMCV elements are implemented as the construction would be within operational ROW.</p>	No further analyses are anticipated to be required for land use during a future NEPA study.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist near these MMCV elements.	<p>Permanent Impacts: These MMCV elements would benefit local neighborhoods and communities by improving access, mobility, safety, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, traffic congestion, dust, and noise.</p>	The level of NEPA study required for these elements is assumed to be a CatEx, which does not require evaluation of socio-economics unless there is a sensitive resource that could be affected.
Transportation Resources	These roads/intersections are used by personal vehicles, trucks, pedestrians, and bicyclists as well as bus routes.	<p>Permanent Impacts: Implementing these MMCV elements would reduce congestion; improve safety and traffic operations; and improve multi-modal connectivity in Boulder.</p> <p>Temporary Impacts: Temporary impacts during construction activities could impact transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.</p>	Traffic analyses completed during the SH 119 Multi-Modal PEL Study were based on a planning or horizon year of 2040. It is anticipated that a different planning year will be in place when the NEPA study for these elements are undertaken; additional evaluation or a sensitivity analyses could be required to confirmed/modify the conceptual design to meet the needs of traffic forecasted for that year.
Utilities	There are numerous utilities including water lines, wastewater, electric, and gas lines.	<p>Permanent Impacts: Utilities may need to be relocated if the MMCV elements are implemented, with no permanent loss of service.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to traffic signals during construction.</p>	Utilities would need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.
ROW	The transportation ROW is bordered by developed, urban land uses. The current conceptual designs would not require ROW acquisition.	<p>Permanent Impacts: No permanent ROW impacts would occur if these MMCV elements are implemented.</p> <p>Temporary Impacts: No temporary ROW impacts are anticipated to occur if these MMCV elements are implemented.</p>	During final design ROW impacts, or the lack thereof, would need to be confirmed.
Paleontological Resources	These MMCV elements would be constructed within a previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if these MMCV elements are implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if these MMCV elements are implemented.</p>	<p>No further analysis is anticipated to be required if these MMCV elements are implemented due to the previously disturbed nature of the Study Area.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

Table 5-6b (Cont.). Resources that are not expected to be Impacted by the Boulder BAT Lanes and Intersection Improvements and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx[s])*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Archaeological Resources	A COMPASS database search was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for known archaeological resources in the Study Area. There are no known or previously surveyed archaeological resources within 100 feet of these MMCV elements. The entire Study Area has not been surveyed for archaeological resources. There may be unknown archaeological resources within 100 feet of these MMCV elements. However, because of the previously disturbed nature of the Study Area there is a low probability of uncovering unknown archaeological resources.	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if the MMCV elements are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if the MMCV elements are constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	It is not anticipated that additional analyses would be required for the MMCV elements related to archaeological resources. CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-7a. Resources that may be Impacted by the BRT/ Queue Jump Lanes at SH 52/SH 119, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Threatened, Endangered, or Special-Status Species	<p>This MMCV element is near several waterways (field laterals) and potentially riparian areas and undeveloped land, some of which may provide habitat for threatened, endangered, or special-status species.</p> <p>Migratory bird and/or raptor nests were not observed to be present during site visits in 2017 completed as a part of the SH 119 Multi-Modal PEL Study; however, suitable habitat (i.e., large trees, open space, and man-made structures) is located within a half-mile of this element. The CPW requires a half-mile buffer radius be examined for migratory bird nests. A prairie dog town, which serves as suitable habitat for Burrowing Owls, is located southwest of this intersection as well. This MMCV element is within Bald Eagle’s winter range.</p>	<p>Permanent Impacts: Impacts should be assessed during the NEPA study.</p> <p>Temporary Impacts: There is a potential for construction to impact any migratory birds or raptors that may use the Study Area for nesting or foraging. Burrowing Owls may be temporarily impacted. Although no migratory bird or raptor nests were observed at the time of the site visit, they could be present during construction and therefore impacted.</p>	<p>As this element progresses into further design, a biologist will need to survey the Study Area for suitable habitat for threatened, endangered, or special-status species. Based on the design, impacts to these resources will be assessed and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. CDOT may require consultation with the USFWS on habitat suitability and potential affects to threatened or endangered species.</p> <p>Pre-construction surveys for nesting migratory birds protected by the MBTA will be completed if construction activities occur during the nesting season following methods set forth by the CPW.</p>
Riparian/ SB 40 Resources	<p>Two waterways (field laterals) and potentially riparian areas exist near this intersection. SB 40 resources are riparian vegetation with a diameter of two inches or more at breast height.</p>	<p>Permanent Impacts: These field laterals may contain SB 40 resources; therefore, permanent impacts to SB 40 resources are possible if the laterals are impacted.</p> <p>Temporary Impacts: Temporary impacts to riparian areas may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As this MMCV element progresses into further design, a biologist will need to map SB 40 resources. Based on the design, impacts to these resources will be quantified and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. If SB 40 resources are affected, certification from CPW will be required. The level of certification (informal or formal) will be dependent on the magnitude of impact.</p>
Historic Resources/ Section 4(f)	<p>In 2018, a Compass database file search and review of county assessor's data was completed as part of the SH 119 Multi-Modal PEL study, with an emphasis on resources 45 years or older. The Compass search resulted in one previously documented resource with a field determination. State Highway 119 was identified as significant in CDOT's 2016 statewide historic highway inventory and the segment in the future project area will need to be evaluated. Once a project is defined, previously documented resources with field determinations will need to be re-evaluated and there is potential to identify additional historic resources during field surveys.</p>	<p>Permanent Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>Once a project is identified, the Section 106 process can be initiated to identify historic properties and evaluate effects. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. Also, an effects determination may be required.</p>
Hazardous Materials	<p>There are two high-potential sites within a 0.25-mile radius of the BRT/queue jump lanes at SH 52/SH 119 based on a GeoSearch database search conducted in 2018 as a part of the SH 119 Multi-Modal PEL Study (GeoSearch, 2018).</p>	<p>Permanent Impacts: Depending on depths of construction necessary, there is moderate potential for impacts during construction. The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. Soil or surface contamination could be present based on past land uses.</p> <p>Temporary Impacts: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to the MMCV element; however, this depends on ground disturbance depths during construction. Because of the limited ground disturbance expected, temporary impacts from hazardous materials are anticipated to be minimal.</p>	<p>CDOT Form 881 will be required for this MMCV element. A current database of known RECs will need to be obtained within 180 days of CDOT’s approval of the first/top part of the CatEx Form 128. If facilities of concern are identified adjacent to the element and depths of construction may impact these facilities, a MMP should be completed.</p>

Table 5-7a (Cont.). Resources that may be Impacted by the BRT/ Queue Jump Lanes at SH 52/SH 119, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Noise	Noise sensitive areas in the Noise Study Area, which is a 500-foot buffer around the footprint of the BRT/queue jump lanes at SH 52/SH 119, includes residences, trails, parks, and commercial facilities that are considered sensitive noise receptors. This is a preliminary noise study area used for the PEL; it will need to be refined to reflect the proposed edge of pavement if this element is implemented.	<p>Permanent Impacts: Potential noise impacts are unknown at this time and will need to be assessed during the NEPA study.</p> <p>Temporary Impacts: There is potential for temporary noise impacts during construction due to the use of construction equipment.</p>	MMCV elements that qualify as a “Type 1 Project” per CDOT’s noise guidelines will require noise modeling for the current planning horizon year as well as the year of the NEPA study. The SH 119 Multi-Modal PEL Study had a planning year of 2040; however, there will be a different planning year when this MMCV element is implemented and that year will need to be used for modeling purposes.
Transportation Resources	SH 119 is used by personal vehicles, trucks, pedestrians, and bicyclists as well as bus routes.	<p>Permanent Impacts: Implementing the MMCV element would reduce congestion; improve safety and traffic operations; and improve multi-modal connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction activities could impact transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.</p>	Traffic analyses completed during the SH 119 Multi-Modal PEL Study were based on a planning or horizon year of 2040. Should the planning year be 2045 or later when the NEPA study for this element is undertaken, additional study or a sensitivity analyses could be required to confirm/modify the conceptual design to meet the needs of traffic forecasted for that year.

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-7b. Resources That Are Not Expected to be Impacted by the BRT/Queue Jump Lanes, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Vegetation/ Noxious Weeds	The vegetation present within the SH 119 Multi-Modal PEL Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	<p>The presence of noxious weeds would be evaluated during future field visits.</p> <p>BMPs will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p>
Fish/Wildlife	Two field laterals are located near this intersection, which may provide fish and wildlife habitat. A prairie dog town is located southwest of this intersection.	<p>Permanent Impacts: There may be permanent impacts to a prairie dog town and potentially other wildlife or fish if this MMCV element were to be constructed.</p> <p>Temporary Impacts: Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	As this MMCV element progresses into further design, a biologist will need to determine if there have been changes in the context of the PEL Study Area. Based on the design, impacts to fish and wildlife will be assessed and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.
Water Resources	There are no water resources or floodplains at this location.	<p>Permanent Impacts: The amounts of impervious surface coverage will vary depending on which BRT/queue jump lane scenario is selected. If the queue jump lanes will be inside the existing lanes, the added impervious surface coverage will be approximately 3.8 acres. If the BRT/queue jump lanes at SH 52/SH 119 are outside the existing lanes, the acreage will be approximately 10.1 acres.</p> <p>There would be no permanent impacts to floodplains.</p> <p>Temporary Impacts: Potential temporary direct impacts during construction on water quality could be caused by soil erosion from stormwater runoff. Also, soil excavation and grading during construction could increase the risk of erosion and sedimentation of nearby water bodies.</p> <p>There would be no temporary impacts to floodplains.</p>	<p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with MS4 permit for both CDOT and Boulder County; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit for the CDPHE; ■ SWQCP from Boulder County; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; <p>Sewer Use and Drainage Permits from local municipalities.</p>
Wetland Resources and WUS	No wetland resources or WUS are present at this location.	NA – resource not present.	Given the developed nature of the areas around the BRT/queue jump lanes at SH 52/SH 119, it is highly unlikely that “new” wetland resources or WUS will be present in the future. However, as these elements progress into further design, a biologist will need to determine if there have been changes in the context of the Wetland Resource Study Area or design of this MMCV elements.
Social and Community Resources/Parks and Trails/ Section 4(f)/ Non-Historic Resources	No social and community resources exist near this intersection except open space parcels located to the east of SH 119. Section 4(f) resources are those that are dedicated for recreational use, are publicly owned, and open to the public are also not present at this intersection.	<p>Permanent Impacts: The open spaces would not be permanently impacted by the MMCV element.</p> <p>Temporary Impacts: The open spaces would not be temporarily impacted by the MMCV element.</p>	Additional studies are not expected to be required; CatExes do not typically require evaluation of community resources unless there is a sensitive resource that could be affected or there is a Section 4(f) resources that could be affected.
Section 6(f) Resources	There are no Section 6(f) resources present adjacent to this intersection.	NA – resource not present.	As design progressed during the NEPA study, a review of the Section 6(f) database should be completed to determine if additional facilities have received LWCF. CPW maintains this file for the state of Colorado.

Table 5-7b (Cont.). Resources That Are Not Expected to be Impacted by the BRT/Queue Jump Lanes at SH 52/SH 119, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Visual Resources/ Aesthetics	This MMCV element is located in a multi-modal transportation corridor surrounded by commercial, industrial and residential uses, along with open spaces, parks, and trails.	<p>Permanent Impacts: The MMCV element would have a neutral visual impact as BRT/queue jump lanes at SH 52/SH 119 would be added within CDOT ROW on an existing multi-modal transportation facility. This would not substantially change the visual setting or context of the PEL Study Area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if this MMCV element is constructed. These would be due to the presence of construction equipment.</p>	<p>No further analyses are anticipated to be required for visual resources/aesthetics unless there is a substantial change in the proposed design.</p> <p>Visual resources/aesthetics are not typically evaluated as part of a CatEx unless there is a sensitive viewshed nearby or large change in the visual context due to the proposed improvements. However, CDOT may require completion of a Visual Impact Checklist to document visual impacts, or lack thereof, and confirm lack of need to complete a VIA.</p>
Soils and Geology	This MMCV element is not located within sensitive or unique soils/geology.	<p>Permanent Impacts: Excavation within existing operational ROW may be required. There would be no impact to mineral or geological resources as the areas have already been designated for transportation uses.</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	The affected environment documentation has been completed and can be included during the NEPA Study. It is not anticipated that additional work related to soils or geology will be required during the NEPA study as these resources are not usually evaluated in a CatEx unless there is a sensitive resource present.
Land Use	The land use near the SH 52/SH 119 intersection is predominantly agricultural and designated open space along with some residential and commercial uses.	<p>Permanent Impacts: The proposed BRT/queue jump lanes at SH 52/SH 119 are anticipated to be within existing operational ROW and are compatible with regional and local land use policies and plans as well as the adjacent land uses.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if the proposed BRT/queue jump lanes at SH 52/SH 119 are implemented as the construction would be within operational ROW. The improvements are consistent with currently adopted land use plans.</p>	No further analyses are anticipated to be required for land use.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist in the vicinity of the SH 52/SH 119 intersection.	<p>Permanent Impacts: The proposed BRT/queue jump lanes at SH 52/SH 119 would benefit local neighborhoods and communities by improving access, mobility, safety, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, traffic congestion, dust, and noise.</p>	Data has been collected for socio-economic resources as a part of the SH 119 Multi-Modal PEL Study. Additional studies are not expected to be necessary during the future NEPA Study.
EJ	There are EJ populations adjacent to the SH 52/SH 119 intersection.	<p>Permanent Impacts: The project is anticipated to directly benefit EJ populations as well as the general population by providing enhanced transit access contributing to increased transportation choices and greater overall mobility.</p> <p>Temporary Impacts: Temporary impacts to EJ populations due to construction of this MMCV element may occur in the form of detours, construction dust, and/or construction noise. However, these impacts would not be borne disproportionately by EJ populations as they would affect all people accessing the area and the majority of the area surrounding the BRT/queue jump lanes at SH 52/SH 119 are not EJ.</p>	<p>No further study is anticipated to be required for EJ resources. CatExes do not typically require EJ analyses unless it is identified as a sensitive resource during future study.</p> <p>However, outreach targeted for EJ populations should be conducted during project-specific studies as there are low-income and/or minority populations near and adjacent to MMCV elements that would be affected, potentially disproportionately, by construction."</p>

Table 5-7b (Cont.). Resources That Are Not Expected to be Impacted by the BRT/Queue Jump Lanes at SH 52/SH 119, and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Utilities	There are numerous utilities including water lines, wastewater, electric, and gas lines.	<p>Permanent Impacts: Utilities may need to be relocated if this MMCV element is implemented, with no permanent loss of service.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to traffic signals during construction.</p>	Utilities would need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.
ROW	The transportation ROW is bordered primarily by agricultural lands and designated open space. The current conceptual designs would not require ROW acquisition.	<p>Permanent Impacts: No permanent ROW impacts would occur if this MMCV element is implemented.</p> <p>Temporary Impacts: No temporary ROW impacts are anticipated to occur if this MMCV element is implemented.</p>	During final design ROW impacts, or the lack thereof, would need to be confirmed.
Paleontological Resources	The BRT/queue jump lanes at SH 52/SH 119 would be constructed within a previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if this MMCV element is implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if this MMCV element is implemented.</p>	<p>No further analysis is anticipated to be required if this MMCV element is implemented due to the previously disturbed nature of the Study Area.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>
Archaeological Resources	A COMPASS database search was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for known archaeological resources in the Study Area. There are no known or previously surveyed archaeological resources within 100 feet of this MMCV element. The entire Study Area has not been surveyed for archaeological resources; there may be unknown archaeological resources present; however, due to the previously disturbed nature of the Study Area there is a low probability of uncovering unknown archaeological resources.	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if this MMCV element is constructed. However, it is unknown whether archaeological resources are present in areas that have not been previously surveyed. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if this MMCV element is constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	<p>It is not anticipated that additional analyses would be required for archaeological resources during a NEPA study; however, CDOT will determine if additional surveys are required.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-8a. Resources that may be Impacted by the Separated Bikeway Corridor, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Threatened, Endangered, or Special-Status Species</p>	<p>The proposed separated bikeway corridor crosses multiple streams, wetland resources, and riparian areas as well as undeveloped areas with SH 119 ROW some of which may provide habitat for threatened, endangered, and special-status species. Six prairie dog towns, which serve as suitable habitat for Burrowing Owls, are located within the proposed separated bikeway corridor based on field surveys completed in 2017 as part of the SH 119 Multi-Modal PEL Study.</p> <p>There is suitable habitat (i.e., large trees, open space, and man-made structures) for migratory birds and raptors within a half-mile of all these elements. The CPW requires a half-mile buffer radius be examined for migratory bird nests. In addition, the proposed separated bikeway corridor elements are within Bald Eagle’s winter range.</p>	<p>Permanent Impacts: Impacts to protected species, migratory birds, and Bald Eagles need to be further evaluated once future project activities are determined during the NEPA phase.</p> <p>Temporary Impacts: There is a potential for construction to impact any special-status species, migratory birds, or raptors that may use the Study Area for nesting or foraging. Burrowing Owls may be temporarily impacted. Although no migratory bird or raptor nests were observed at the time of the site visit, they could be present during construction and therefore impacted.</p>	<p>As this element progresses into further design, a biologist will need to determine if there have been changes in the context of the PEL Study Area. Habitat surveys for special-status species should be conducted to determine if the bikeway may affect them. Based on the design, impacts to biological resources/habitat will be assessed and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. CDOT may require consultation with the USFWS to request concurrence on the findings of the habitat survey and the potential for the bikeway to affect threatened or endangered species.</p> <p>Pre-construction surveys for nesting migratory birds protected by the MBTA will be completed if construction activities occur during the nesting season following methods set forth by the USFWS and CPW.</p>
<p>Riparian/SB 40 Resources</p>	<p>SB 40 resources exist around the 18 streams that cross the proposed separated bikeway corridor.</p>	<p>Permanent Impacts: Permanent impacts to SB 40 resources may occur as a result of the construction of the bikeway; SB 40 resources should be mapped and impacts quantified.</p> <p>Temporary Impacts: Temporary impacts during construction may include impacts to SB 40 resources. Temporary impacts may include clearing and grubbing as well as removal of vegetation necessary to complete construction.</p>	<p>When the design of the bikeway progresses during a NEPA study, SB 40 resources will need to be mapped. Based on the design, impacts to SB 40 resources will be quantified and applicable mitigation strategies will be committed to in accordance with CPW requirements. An SB 40 certification from CPW will be required. Riparian trees and shrubs two inches or greater in breast-height diameter will need to be mitigated on a one-to-one basis. The level of certification (informal or formal) will be dependent on the magnitude of impact.</p>
<p>Historic Resources/ Section 4(f)</p>	<p>In 2018, a Compass database file search and review of county assessor's data was completed as part of the SH 119 Multi-Modal PEL study, with an emphasis on resources 45 years or older. Based on this file search, there is one previously documented property with a field determination; four supporting linear segments; and a single NRHP-listed property adjacent to this MMCV element. In addition, State Highway 119 was determined to be significant in CDOT’s 2016 statewide historic highway inventory. Once a project is defined, all of these resources will need to be evaluated, and there is potential for additional properties to be identified through field survey. It is expected that the MMCV element will be constructed within highway ROW.</p>	<p>Permanent Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p> <p>Temporary Impacts: Effects are unknown at this time; they will need to be evaluated during the NEPA Study.</p>	<p>Once a project is identified, the Section 106 process can be initiated to identify historic properties and evaluate effects. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing. Also, an effects determination may be required.</p>

Table 5-8a (Cont.). Resources that may be Impacted by the Separated Bikeway Corridor, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Water Resources</p>	<p>A total of 18 water resources are crossed by the proposed separated bikeway corridor, along with floodplains at several locations.</p>	<p>Permanent Impacts: The separated bikeway corridor would result in the addition of approximately 14 acres of new impervious surfaces, which would increase runoff and stormwater discharge to nearby water resources.</p> <p>Floodplains occur at several locations along the separated bikeway corridor. Development within the floodplains has the potential to cause a change in flood elevations depending on the hydrology of the area.</p> <p>Temporary Impacts: Potential temporary direct impacts during construction on water quality could be caused by soil erosion from stormwater runoff. Soil excavation and grading during construction could increase the risk of erosion and sedimentation.</p>	<p>As the design progresses, the amount of new impervious surface it creates will need to be calculated. Water quality impacts for the separated bikeway corridor will be mitigated during the design phase; this will include stormwater management plans and compliance with MS4 permits. BMPs, as appropriate will need to be incorporated in the design.</p> <p>Construction within the identified floodplains could result in a change in current floodplain and floodway boundaries. Coordination with local jurisdictions including FEMA, Urban Drainage and Flood Control Division, Boulder County, Boulder, and Longmont should be conducted throughout the design process for potential impacts and permitting for work within floodplains and floodways. Floodplain modeling may be required to assess impacts at floodplain crossings and may require a Conditional Letter of Map Revision and a Letter of Map Revision as well as permitting from local jurisdictions.</p> <p>The following permits and/or actions related to water quality and floodplains may be required as part of the proposed project:</p> <ul style="list-style-type: none"> ■ Compliance with MS4 permit for CDOT and potentially Boulder as well as Longmont; ■ Construction Dewatering Operations Permit if groundwater is discharged from excavation to any waters of the State; ■ Erosion Control permit for CDPHE; ■ SWQCP from Boulder County; ■ Groundwater Discharge Permit and Erosion Control Permit; ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; ■ Sewer Use and Drainage Permits from local municipalities; and ■ Floodplain Development Permits.

Table 5-8a (Cont.). Resources that may be Impacted by the Separated Bikeway Corridor, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Wetland Resources and WUS</p>	<p>The proposed separated bikeway corridor crosses 18 waterways and ditches, some of which may contain wetland resources and/or WUS.</p>	<p>Permanent Impacts: Roughly 0.2 acres of wetland resources or WUS may be permanently impacted due to the construction of the bikeway.</p> <p>Temporary Impacts: Temporary impacts during construction may include impacts to wetland resources /open waters. Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	<p>As the bikeway progresses into further design, a biologist will need to determine if there have been changes in the context of the Wetland Resource Study Area and calculate both permanent and temporary impact to wetlands and WUS. Based on the design, applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements. As the separated bikeway corridor is within the SH 119 ROW, a CatEx will be required by CDOT for its implementation. CDOT requires 1 to 1 mitigation regardless of jurisdiction.</p> <p>The USACE allows for a series of nationwide permits to be issued—one for each impacted area as long as the impacted area(s) of WUS are less than 0.5 acres and are across different drainage or wetland complexes. If the bikeway is permitted through a series of permits or the impacts are less than 0.5 acres, it will qualify as a NWP 14, or series of permits, for transportation resources. An NWP typically requires 45 days to receive verification from the USACE. However, if the impacted areas are close to each other, the USACE may require one permit for the bikeway.</p> <p>If impacts to WUS are calculated to be over the 0.5-acre threshold triggering the need for an IP, it is recommended that coordination with CDOT and the USACE occur early in the NEPA process to ensure the Section 404 permit is completed within the project schedule. If an IP is required, the process may take up to a year to receive verification from the USACE and could trigger the need to complete the NEPA 404 Merger process</p>
<p>Social and Community Resources/Parks and Trails/ Section 4(f) Non-Historic</p>	<p>Social and community resources near the proposed separated bikeway corridor include the following: Boulder OSMP as well as Boulder County Open Space parcels and conservation easements; the Fourmile Canyon Creek Trail; the IBM Connector Trail; various bike lanes/routes; and the Longmont to Boulder (LOBO) Regional Trail.</p> <p>Since the Fourmile Canyon Creek Trail and the IBM Connector Trail are publicly owned and dedicated for recreational use, they are both Section 4(f) resources under the Department of Transportation Act of 1966,</p>	<p>Permanent Impacts: The bikeway would enhance the multi-modal connectivity within the Study Area, including connectivity with Section 4(f) resources.</p> <p>Temporary Impacts: The Fourmile Canyon Creek Trail and the IBM Connector Trail, both of which are Section 4(f) resources, would likely be impacted by bikeway construction; appropriate detours would be put into place during construction.</p>	<p>Construction of the bikeway within SH 119 ROW will trigger CDOT involvement and require a NEPA study. As there are trails within the SH 119 ROW that may be affected, the agency maintaining those facilities will need to be coordinated with during the NEPA study. If impacts are temporary and/or beneficial to the resource, coordination would likely consist of documentation and notification/coordination with the Official with Jurisdiction as well as maintaining access during construction. When a MMCV element, such as the separated bikeway corridor, permanently incorporates a Section 4(f) resource into a transportation facility, a Section 4(f) evaluation is required. The need for this evaluation will be determined during</p>

Table 5-8a (Cont.). Resources that may be Impacted by the Separated Bikeway Corridor, those that may require Additional Analyses, and those that need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
<p>Hazardous Materials</p>	<p>There are 3 high-potential sites and 14 low-potential hazardous materials sites found adjacent to the separated bikeway corridor based on a GeoSearch database search conducted in 2018 as a part of the SH 119 Multi-Modal PEL Study (GeoSearch, 2018).</p>	<p>Permanent Impacts: The likelihood of permanent impacts from hazardous materials are dependent on the type of facility impacted. The construction depth for the bikeway is not expected to be more than a couple feet and may not reach groundwater. Soil or surface contamination could be present based on past land uses adjacent to SH 119 and spills from vehicular crashes on SH 119.</p> <p>Temporary Impacts: There is potential for construction to encounter hazardous materials adjacent (within a 0.25-mile radius) to the separated bikeway corridor; however, this depends on ground disturbance depths during construction. Because of the limited ground disturbance expected, impacts from hazardous materials are expected to be minimal.</p>	<p>CDOT Form 881 and potentially a Phase I ISA will be required for these MMCV elements. A current database of known RECs will need to be obtained within 180 days of CDOT's approval of the first/top part of the CatEx Form 128. If facilities of concern are identified adjacent to the elements and depths of construction may impact these facilities, an MMP should be completed.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

Table 5-8b. Resources that Are Not Expected to be Impacted by the Separated Corridor Bikeway and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Vegetation/ Noxious Weeds	The vegetation present within the Study Area mainly consists of mowed grasses, shrubs, and trees. Noxious weeds may be present.	<p>Permanent Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p> <p>Temporary Impacts: The disturbance of soils due to construction activities could contribute to the spread of noxious weed species or introduction of new weed species from outside sources.</p>	<p>The presence of noxious weeds would be evaluated during future field visits that are undertaken as design progresses during a NEPA study.</p> <p>BMPs will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p>
Fish/Wildlife	Eighteen waterways/ditches flow under the bikeway. Fish may be present in these waterways and there is a potential for wildlife in the area as well. The bikeway is slated to traverse six existing prairie dog towns.	<p>Permanent Impacts: There would be permanent impacts to prairie dog towns, including Burrowing Owls, and potentially other wildlife or fish if the bikeway were to be constructed.</p> <p>Temporary Impacts: There would be temporary impacts to prairie dog towns and potentially other fish or wildlife, including Burrowing Owls, if the bikeway were to be constructed. Temporary impacts may include clearing and grubbing and removal of vegetation necessary to complete construction.</p>	As the bikeway progresses into further design during the NEPA study, a biologist will need to determine if there have been changes in the context of the PEL Study Area. Based on the design, impacts to biological resources will be assessed and applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.
Section 6(f) Resources	Section 6(f) resources are those that have received funds from the LWCF and are intended to be dedicated to recreational purposes in perpetuity. The Boulder Reservoir, located approximately 250 feet northwest of SH 119, is considered a Section 6(f) resource.	<p>Permanent Impacts: The Boulder Reservoir should not be impacted by the bikeway.</p> <p>Temporary Impacts: Temporary impacts should not occur during the construction of the bikeway.</p>	As design progresses during the NEPA study, a review of the Section 6(f) database should be completed to determine if additional facilities have received LWCF. CPW maintains this file for the state of Colorado.
Air Quality	The bikeway falls within the following nonattainment and maintenance areas: Denver-Boulder CO maintenance area; Denver Metro PM10 maintenance area; and Denver-Boulder-Greeley-Ft. Collins-Loveland O ₃ nonattainment area (CDPHE, 2005a, CDPHE, 2005b, CDPHE, 2008).	<p>Permanent Impacts: The bikeway is not a source of emissions; no permanent impacts are expected. Additionally, bike trails are exempt from conformity under the conformity rule.</p> <p>Temporary Impacts: Neighboring areas could be exposed to construction-related and fugitive dust emissions during the construction phase.</p>	No further analysis is required; CDOT may require a memorandum-to-file during the NEPA study.
Noise	Bikeways are a Type III project and are exempt from noise modeling.	<p>Permanent Impacts: There is no potential for traffic noise impacts as a result of the bikeway.</p> <p>Temporary Impacts: There is the potential for temporary noise impacts due to use of construction equipment needed to build the bikeway.</p>	This project is considered a Type III Project per CDOT Noise Guidelines, making it exempt from the requirement to model current and future noise levels. No further analysis is required; CDOT may require a memorandum documenting the bikeway as a Type III project.
Visual Resources/ Aesthetics	SH 119 between Boulder and Longmont has a rural visual context that is likely to transition to a more suburban context in the reasonably foreseeable future.	<p>Permanent Impacts: The bikeway would have a neutral visual impact as it would add a separated bikeway within CDOT ROW, which is already a heavily used transportation corridor with cyclists using the shoulder of SH 119. Construction of a bikeway on its own alignment is not expected to substantially change the visual setting or context of the Study Area and is compatible with local and regional plans.</p> <p>Temporary Impacts: Minor, temporary impacts may occur to visual resources if the bikeway is constructed. These would be due to the presence of construction equipment.</p>	Locating the bikeway within SH 119's ROW will trigger the need to complete a NEPA study, the level of study is assumed to be a CatEx. Visual resources/aesthetics are not typically evaluated as part of a CatEx unless there is a sensitive viewshed nearby or large change in the visual context due to the proposed improvements. At the time of the NEPA study, coordination with CDOT will be required to determine if there is a need to complete a VIA. CDOT may require completion of a Visual Impact Checklist to determine the need for a VIA.

Table 5-8b (Cont.). Resources that Are Not Expected to be Impacted by the Separated Corridor Bikeway and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Soils and Geology	These MMCV elements are not located within sensitive or unique soils/geology.	<p>Permanent Impacts: The bikeway would include excavation within existing operational ROW. There would be no impact to mineral or geological resources as a result of the bikeway as the area has already been designated for transportation use(s).</p> <p>Temporary Impacts: The potential for temporary soil erosion during construction will be minimized by use of BMPs including soil wetting and use of soil erosion blankets.</p>	No further study is anticipated to be required for soils or geology regardless of whether a NEPA study is completed. This resource is not typically evaluated during a CatEx, which is the expected level of NEPA study, unless there is a sensitive soil/geologic unit present of concern.
Land Use	The land use adjacent to the bikeway is a mix of agricultural, designated open space, residential, recreational, commercial, and industrial uses.	<p>Permanent Impacts: The bikeway is anticipated to be within the operational ROW of SH 119; it is compatible with regional and local land use policies and plans.</p> <p>Temporary Impacts: No temporary impacts to land use would occur if the bikeway is built as the construction would be within operational ROW. The improvements are consistent with currently adopted land use plans.</p>	No further analyses are anticipated to be required for land use.
Socio-economics	A variety of socio-economic classes, households, and employment opportunities exist near the bikeway.	<p>Permanent Impacts: The bikeway would substantially benefit local neighborhoods and communities by improving access, mobility, and enhancing multi-modal transportation connectivity.</p> <p>Temporary Impacts: Temporary impacts during construction could occur as residents and business patrons could be temporarily affected by limited access, dust, and noise.</p>	Additional studies are not expected to be required if a CatEx is required as this level of NEPA study does not require evaluation of socio-economics unless there is a sensitive resource that could be affected.
EJ	EJ populations are areas that contain a higher than average percentage of low-income and/or minority resident. EJ populations are present adjacent to the bikeway in the areas of north Boulder, a few locations along SH 119 between Boulder and Longmont as well as southern Longmont.	<p>Permanent Impacts: The bikeway is anticipated to directly benefit EJ populations by providing enhanced multi-modal access, contributing to increased transportation choices and greater overall mobility.</p> <p>Temporary Impacts: Temporary impacts to EJ populations due to construction of the bikeway may occur in the form of detours, construction dust, and/or construction noise. However, these impacts would not be borne disproportionately by EJ populations as they would affect all people accessing the area.</p>	<p>No further study is anticipated to be required for EJ resources. The anticipated level of NEPA study is assumed to be a CatEx. CatExes do not typically require EJ analyses unless it is identified as a sensitive resource and there is the potential for them to be disproportionately adversely affected.</p> <p>However, outreach targeted for EJ populations should be conducted during project-specific studies as there are low-income and/or minority populations near and adjacent to MMCV elements that would be affected, potentially disproportionately, by construction.</p>
Transportation Resources	SH 119 is used by personal vehicles, trucks, buses, pedestrians, and bicyclists as well as serving bus routes.	<p>Permanent Impacts: Implementing the bikeway would improve multi-modal connectivity throughout the SH 119 Corridor.</p> <p>Temporary Impacts: Temporary impacts during construction activities could impact transportation facilities through roadway and lane closures; detours; increased congestion; and increased travel time.</p>	No additional study for transportation resources is expected to be required for construction and maintenance of the bikeway.

Table 5-8b (Cont.). Resources that Are Not Expected to be Impacted by the Separated Corridor Bikeway and May Not Need to be Documented in a Future NEPA Study (Anticipated to be a CatEx)*

Resource	Affected Environment/Corridor Conditions	Anticipated Environmental Impact	Next Steps for NEPA Study
Utilities	There are numerous utilities in the Study Area including water lines, wastewater, electric, and gas lines.	<p>Permanent Impacts: Utilities may need to be relocated if the MMCV elements are implemented, with no permanent loss of service.</p> <p>Temporary Impacts: Relocation of underground utilities within the ROW may be required as part of the construction activities. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to CDOT traffic signals during construction.</p>	Utilities will need to be surveyed and avoidance or relocation measures incorporated into the plan set, as appropriate.
ROW	The bikeway is expected to be completely within the operational transportation ROW of SH 119. No easements or ROW acquisition is expected for its construction, operation, or maintenance.	<p>Permanent Impacts: No permanent ROW impacts would occur if the bikeway is implemented.</p> <p>Temporary Impacts: No temporary ROW impacts are anticipated occur if the bikeway is implemented.</p>	During final design ROW impacts, or the lack thereof, will need to be confirmed.
Paleontological Resources	The bikeway would be constructed within a previously disturbed ROW that is currently used for transportation purposes. Paleontological resources are unlikely to be present due to the past construction of the existing transportation facility.	<p>Permanent Impacts: No permanent impacts to paleontological resources are anticipated if the bikeway is implemented.</p> <p>Temporary Impacts: No temporary impacts to paleontological resources are anticipated if the bikeway is implemented.</p>	<p>No further analysis is anticipated to be required if the bikeway is implemented.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>
Archaeological Resources	A COMPASS database search was completed in 2018 as a part of the SH 119 Multi-Modal PEL Study for cultural resources. Based on this information and review of the study areas, which are in previously disturbed areas, there are no known archaeological sites within the bikeway alignment, which is entirely within SH 119's operational ROW. However, it is unknown whether archaeological resources are present underground as the area has not been fully surveyed.	<p>Permanent Impacts: No permanent impacts to archaeological resources are anticipated to occur if the bikeway is constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p> <p>Temporary Impacts: Temporary impacts to archaeological resources are not anticipated to occur if the bikeway is constructed. However, it is unknown whether archaeological resources are present underground. If archaeological resources are present, they could be impacted during construction.</p>	<p>It is not anticipated that additional analyses would be required for archaeological resources; however, CDOT will make the determination as the need to complete surveys for the bikeway's alignment.</p> <p>CDOT's Standard Specification to halt work if resources are encountered during construction will be include in the plan set.</p>

* The resources impacted and the level of effort to document them is based on analyses from the SH 119 Multi-Modal PEL Study. The agency sponsoring the improvements will need to scope the project with CDOT and other jurisdictional agencies upon initiation of the NEPA study.

5.3 Mitigation Strategies

Mitigation strategies are required for resources that would be affected by implementation of the MMCV and as described in Table 5-9 below.

Table 5-9. Mitigation Strategies

Resource Being Mitigated or Permitted	Mitigation Measure	Permits/Certifications that may be Required
Biological Resources	Avoidance of wetland resources, riparian areas, prairie dog towns, and other important habitat for protected species is recommended during the NEPA planning phase. Pre-construction surveys for nesting migratory birds protected by the MBTA will be completed if construction activities occur during the nesting season following methods set forth by the USFWS and CPW. Clearing and grubbing should be scheduled to avoid taking of migratory birds.	CDOT requires compliance with SB 40 for CDOT projects affecting riparian vegetation. As the BRT/managed lanes and separated bikeway corridor would cross waterways, a SB 40 Certification is anticipated to be required for these MMCV elements. If suitable habitat for threatened and endangered species is affected by construction of the BRT/managed lanes and separated bikeway corridor, formal consultation with the USFWS will be required.
Historic Resources/Section 4(f)/Historic Resources	If an NRHP-eligible resource cannot be avoided and will result in an adverse effect, mitigation will be discussed with the project stakeholders and the SHPO.	There are no required permits for historic resources.
Water Resources	<p>During construction activities, the contractor will develop and adhere to a Stormwater Management Plan (SWMP). The SWMP will detail the seeding, plantings, and protections (e.g., silt fence, construction fence, erosion logs) and BMPs that will be implemented.</p> <ul style="list-style-type: none"> ■ Stormwater Management Plan (SWMP) including BMPs that will include erosion controls that will be put in place while work is in progress to reduce erosion in the project area and to minimize impacts to aquatic resources from sedimentation. ■ A Spill Prevention, Control, and Countermeasure Plan ■ Temporary stormwater management controls 	<ul style="list-style-type: none"> ■ Compliance with the or MS4 permit(s) ■ Construction Dewatering Operations Permit ■ Erosion Control Permit from CDPHE; ■ Storm Water Quality Control Permit from Boulder County; ■ Groundwater Discharge Permit and Erosion Control Permit; ■ Stormwater Construction Activity Permit and Permanent Stormwater Control Permit;

Resource Being Mitigated or Permitted	Mitigation Measure	Permits/Certifications that may be Required
	<ul style="list-style-type: none"> ■ Permanent water quality control may be required 	<ul style="list-style-type: none"> ■ General Permit for Stormwater Discharges Associated with Construction Activities (the Stormwater Construction Permit) under the CDPS from CDPHE; ■ Sewer Use and Drainage Permits from local municipalities; ■ Boulder County, City of Boulder, and City of Longmont Floodplain Development Permits
Wetland Resources and WUS	Mitigation measures are not yet finalized, but conservation measures and BMPs should be incorporated into project plans to minimize and mitigate impacts to wetland resources and WUS. Implementation of the MMCV will follow applicable NWP conditions.	A Clean Water Act Section 404 permit will likely be required for impacts to WUS. An IP may be required where impacts exceed 0.5 acre; this could trigger the need to complete the NEPA 404 Merger process. However, other specific components of a project could trigger an IP (e.g., disturbance of over 300 linear feet, river channel realignment, etc.).
Social and Community Resources; Parks and Recreation including Section 4(f)/Non-Historic Resources and Section 6(f) Resources	Access will be maintained to social and community resources during construction and signs indicating access points will be posted. Residents and stakeholders will be updated with information regarding the project's construction activities (i.e., schedule, traffic circulation plans, traffic signage). Additionally, construction may be phased to minimize traffic-congestion impacts.	No permits are required related to social and community resources including Section 4(f) and Section 6(f) resources.
Hazardous Materials	Consideration will be given to conduct additional investigations (i.e., soil and groundwater sampling) for properties identified as having a high potential to impact the MMCV element, in order to evaluate subsurface conditions and to identify any potential hazardous material management issues.	If construction for the MMCV elements is impacted by hazardous materials, coordination with CDPHE may be necessary.

Resource Being Mitigated or Permitted	Mitigation Measure	Permits/Certifications that may be Required
Air Quality	<p>The construction phase could have localized diesel-emitting sources, which will temporarily affect air quality conditions during construction. While emissions from construction cannot currently be quantified, they can be mitigated by employing some of the following BMPs:</p> <ul style="list-style-type: none"> ■ Cover, wet, compact, or use chemical stabilization binding agent, to control dust and excavated materials at construction sites. ■ Use wind barriers and wind screens to prevent spreading of dust from the site. ■ Have a wheel wash station and/or crushed stone apron at egress/ingress areas to prevent dirt being tracked onto public streets. ■ Use street sweepers to remove dirt tracked onto streets. ■ Cover dump trucks that are hauling material leaving sites to prevent dirt from spilling onto public streets. ■ Minimize disturbed areas—particularly in winter. ■ Prohibit unnecessary idling of construction equipment. ■ Locate construction diesel engines as far away as possible from residential areas. ■ Locate staging areas as far away as possible from residential areas. ■ Require heavy construction equipment to use the cleanest available engines or be retrofitted with diesel particulate-control technology. ■ Use alternatives to diesel engines and/or diesel fuels, such as biodiesel, liquefied natural gas, or compressed natural gas, fuel cells, and electric engines, if applicable. ■ Install engine pre-heater devices to eliminate unnecessary idling for wintertime construction. 	<p>The MMCV elements will need to follow the requirements of filing an Air Pollution Emission Notice (APEN) with the Colorado Air Pollution Control Division to fulfill EPA’s concerns regarding air quality impacts. An APEN is required when over 25 acres of ground is disturbed or if project construction is greater than six months in duration.</p>

Resource Being Mitigated or Permitted	Mitigation Measure	Permits/Certifications that may be Required
	<ul style="list-style-type: none"> ■ Prohibit tampering with equipment to increase horsepower or to defeat an emission control device's effectiveness. ■ Require construction vehicle engines to be properly tuned and maintained. ■ Use construction vehicles and equipment with the minimum practical engine size for the intended job. 	
Noise	<p>If exceedances are identified during noise modeling, an analyze to determine if mitigation is feasible and reasonable will need to be conducted. The potential need for mitigation is unknown at this time.</p> <p>Construction noise impacts can be mitigated by keeping machines in good working order; particularly with respect towards mufflers and exhaust pieces of equipment. If construction is to occur during nighttime hours applicable permits should be obtained for the MMCV elements.</p>	<p>If project elements are to be constructed during nighttime hours, the applicable permits must be obtained from the City of Boulder pursuant to Ordinance 5-9-3 Section b(2) and City of Longmont Ordinance 10.20.110 Section D(4).</p>
Visual Resources/Aesthetics	<p>It is expected that conventional mitigation measures will be utilized to mitigate visual impacts.</p>	<p>No permits are required for visual resources.</p>
Soils and Geology	<p>No mitigation would be required for soils and geology.</p>	<p>No permits are required for soils and geology.</p>
Land Use	<p>Mitigation measures for land use are not required as part of the MMCV elements.</p>	<p>It is unlikely that permits will be required for land use.</p>
Socio-economics	<p>Access will be maintained to local businesses during construction and signs indicating access points will be posted. Local residents and businesses will be updated with information regarding the project's construction activities (i.e., schedule, traffic circulation plans, traffic signage). To avoid disruption to local residents and businesses during construction, new access points will be provided before the existing access points are removed.</p> <p>Mitigation for construction impacts will consider implementation of the following measures, as appropriate, during final engineering design and construction:</p> <p>Coordination with emergency-service providers to identify methods to minimize</p>	<p>No permits are needed for socio-economic resources.</p>

Resource Being Mitigated or Permitted	Mitigation Measure	Permits/Certifications that may be Required
	delays and provide access to properties during construction. Provision of temporary transit shelters and of information for transit patrons about temporary changes in transit-shelter locations prior to construction.	
EJ	The impacts requiring mitigation for EJ populations are typically ROW acquisitions, relocations, and temporary construction impacts. It is unlikely that MMCV elements will require ROW acquisitions or relocations. However, outreach targeted for EJ populations should be conducted during project-specific studies as there are low-income and/or minority populations near and adjacent to MMCV elements that would be affected, potentially disproportionately, by construction.	No permits required for this resource.
Transportation Resources	During final design, access points (i.e., new, modified, or combined) will be identified in a formal access-control plan prepared for the MMCV elements. All access points will be constructed in accordance with local, regional, and state standards.	A Construction Access Permit will be required for detours and lane closures for implementation of MMCV elements that receive CDOT oversight.

5.4 Next Steps for Environmental Analyses

As described in previously in this section, additional environmental analyses will be required during NEPA studies and project implementation. The below table provides additional detail on these next steps and Appendix B discusses the next steps more thoroughly. Next steps specific to each resource are summarized in Table 5-10.

Table 5-10. Next Steps by Resource

Resource	Next Steps
Biological Resources	Preliminary mapping of biological resources has been completed and is documented in this SH 119 Multi-Modal PEL Study Appendix A of this report; however, habitat studies will likely be necessary for the 63 rd St/SH 119 Park-n-Ride, the BRT/managed lane, BRT/queue jump lanes at SH 52/SH 119, and the separated bikeway corridor. CDOT may require consultation with the USFWS to request concurrence on the findings of the habitat survey and the potential for the MMCV elements to affect threatened or endangered species. SB 40 resources will need to be mapped during the NEPA study for MMCV elements that have CDOT involvement. Based on the design, impacts to SB 40 resources would

Resource	Next Steps
	<p>be quantified and applicable mitigation strategies will be committed. An SB 40 certification from CPW may be required depending on impacts. The level of certification (informal or formal) will be dependent on the magnitude of impact.</p> <p>The presence of noxious weeds will need to be evaluated during future field visits that are undertaken as design progresses during a NEPA study. BMPs will need to be included in the plan set to limit the risk of spreading noxious weeds during construction.</p> <p>MMCV elements, regardless of funding, should comply with MBTA regulations to protect migratory birds. Depending on construction timing, MBTA bird surveys may be necessary if construction is expected to be within MBTA and/or Raptor nesting season.</p>
<p>Historic Resources/Section 4(f)/Historic</p>	<p>Data was collected for potential historic resources within the Historic Resources' Study Area. For MMCV elements that may have potential to affect historic properties, Section 106 consultation may be necessary. The database search does not account for new properties that may be documented in a field survey or resources that have not yet been entered into the database, so there is potential for additional resources to be identified. A new database search should be completed upon project initiation and a field survey may be required to determine if there are additional properties that could be eligible for listing.</p>
<p>Water Resources</p>	<p>Construction within the identified floodplains could result in a change in current floodplain and floodway boundaries. Coordination with local jurisdictions including FEMA), Urban Drainage and Flood Control District, Boulder County, Boulder, and Longmont should be conducted throughout the design process for potential impacts and permitting for work within floodplains and floodways.</p> <p>Floodplain modeling would likely be required to assess impacts at floodplain crossings and may require a Conditional Letter of Map Revision and Letter of Map Revision as well as permitting from local jurisdictions.</p> <p>MMCV elements that may require additional floodplain modeling and/or permits include: 1st Ave/Main St (US 287) Park-n-Ride, BRT/managed lanes, separated bikeway corridor, and the Boulder and Longmont Intersection Improvements (all except the 28th St/Iris Ave Intersection) within the floodplains.</p> <p>Water quality concerns for MMCV elements will be mitigated during the design phase; this may include stormwater management plans and/or compliance with MS4 permits.</p>

Resource	Next Steps
Wetland Resources and WUS	<p>Preliminary mapping of wetland resources and WUS resources has been completed and is documented in this SH 119 Multi-Modal PEL Study as Appendix A of this report. As discrete MMCV elements progress into further design, a biologist will need to determine if there have been changes in the context of the Wetland Resource Study Area. Based on the design, applicable mitigation strategies will be committed to in accordance with applicable local, state, and federal requirements.</p> <p>Additionally, if impacts to WUS are calculated to be over the 0.5-acre threshold for the BRT/managed lanes; it is recommended that coordination with the USACE occur early in the NEPA process to ensure the Section 404 permit is completed within the project schedule. If an IP is required, the process may take up to a year to receive a permit verification from the USACE and may trigger the need to complete the NEPA 404 Merger process. A NWP takes 45 days to receive permit verification.</p>
Social and Community Resources; Parks and Recreation including Section 4(f)/Non-Historic Resources and Section 6(f) Resources	<p>Further coordination will be required during NEPA studies if the MMCV will impact any Section 4(f) or Section 6(f) resource; regardless of the level of NEPA study required. If impacts are temporary and/or beneficial to the resource, coordination will consist of documentation and notification/coordination with the Official with Jurisdiction as well as determining detours during construction. The following MMCV elements are likely to require Section 4(f) documentation during the NEPA process: the Boulder intersection improvements, 63rd St/SH 119 Park-n-Ride, 8th Ave/Coffman Park-n-Ride, Longmont Stops, BRT/managed lanes, and separated bikeway corridor.</p> <p>It is recommended that MMCV elements avoid any Section 6(f) resource; if impacts to Section 6(f) resources are unavoidable, coordination with CPW and the NPS will be required.</p>
Hazardous Materials	<p>A CDOT Form 881 and/or a Phase I ISA is recommended for all MMCV elements, regardless of whether a NEPA study is required or the level of NEPA documentation required. If facilities of concern are identified adjacent to the MMCV element and depths of construction may impact these facilities, a Phase II Investigation and MMP should be conducted.</p>
Air Quality	<p>Federal funding can only be used for projects that comply with the conformity provision of the Clean Air Act and the EPA transportation air quality conformity regulations (40 CFR 51 Subpart T, and 40 CFR 93 Subpart A). The project must be included in a conforming TIP and the RTP. The project design concept must be sufficiently defined to determine emissions at the time of the conformity determination.</p> <p>An additional analysis, “Hot Spot Modeling”, is required for intersections currently operating at a deficient LOS of D or worse or are forecasted to have a LOS of D or worse after project implementation. Hot spot modeling is a method of calculating the CO concentrations along roadways and near intersections. The purpose of hot spot modeling is to evaluate whether a project could cause, or contribute to, a violation of the CO National Ambient Air Quality Standards. Hot spot modeling is also required for PM₁₀. Projects of air quality concern are certain highway and transit projects that result in a significant increase in diesel vehicle traffic as a result of project implementation. Pursuant to 40 CFR 93.123(b)(2), particulate matter hot spot analyses are required for projects of air quality concern within non-attainment or attainment/maintenance areas (EPA, 2012).</p> <p>MMCV elements that will likely require additional air quality analysis (including Hot Spot Analysis) during NEPA study include the BRT/managed lanes, BRT/BAT Lanes, and the Boulder and Longmont Intersections Improvements that include state</p>

Resource	Next Steps
	<p>highways. Existing and future LOS will be evaluated to determine the need for CO modeling. Future diesel vehicle counts (what they will be after the project element is implemented) must be analyzed to determine if PM10 modeling will be required.</p> <p>MMCV elements such as station enhancements, Park-n-Rides, and the separated bikeway corridor are likely not a substantial source of emissions and will likely require no further analysis for air quality. However, during the NEPA study, it will need to be determined as to whether the station enhancements or Park-n-Rides will qualify as a project of air-quality concern, necessitating analyses.</p>
Noise	<p>When NEPA Studies are completed, MMCV elements that qualify as a “Type 1 Project” per CDOT’s noise guidelines will require noise modeling for the planning year. The current planning year is 2040; however, the DRCOG model will be updated to 2045 in late 2019. This means that Type I projects undertaken after the 2045 Model is approved will need to use that plan for noise modeling and design year (2045) conditions for each MMCV element. Should some elements not be undertaken in the next 5 years, the model years would need to 2050 or later, depending on timing.</p> <p>MMCV elements that may require additional noise studies during the NEPA phase include: the BRT/managed lanes, the SH52/SH 119 Queue Jump Lanes, the Park-n-Rides Hover St/SH 119 intersection Improvement in Longmont, and the Hover St/Nelson Rd intersection Improvement in Longmont if there is state funding or oversight. Additionally, the new and expanded Park-n-Rides will qualify as a Type 1 project and require noise modeling. As a component of the noise analysis, mitigation will be assessed for feasibility and reasonableness and recommended as appropriate for the MMCV element.</p>
Visual Resources/Aesthetics	<p>Additional visual assessments may be required for specific MMCV elements during NEPA studies. Further public involvement may also be required MMCV elements. For MMCV elements that do not result in a substantial visual change (station enhancements, BAT lanes), no additional visual assessment is expected to be needed. For MMCV elements that have a greater potential to change the visual setting (BRT/managed lanes), an Abbreviated VIA may be required. Additionally, a programmatic or non-programmatic CatEx does not typically require visual resources to be reviewed unless there are extraordinary circumstances. An EA would likely require a VIA.</p>
Soils and Geology	<p>The affected environment documentation has been completed and can be included during the NEPA Study for MMCV elements. The next steps required for soils and geologic resources are minimal but may include updates as needed depending on SH 119 Multi-Modal PEL Study Area changes and/or preferences from project stakeholders.</p>
Land Use	<p>An analysis of the affected environment has been completed for land use within the SH 119 Multi-Modal PEL Study Area. Next steps for land use are minimal for the majority of the MMCV elements that are expected to be considered a CatEx. Additional documentation and analysis may be required in the future for an EA (BRT/managed lanes) to incorporate updates from Boulder County land use and zoning data.</p>
Socio-economics	<p>Data has been collected for socio-economic resources within the SH 119 Multi-Modal PEL Study Area. Additional studies may be required to update socio-economic data in the future if more recent data becomes available during the future NEPA planning phase or there are changes in the preliminary design of MMCV elements.</p>

Resource	Next Steps
EJ	<p>This SH 119 Multi-Modal PEL Study has completed a review of the affect environment for EJ populations within the EJ Study Area. The next steps for EJ will depend on the level of NEPA review required for the MMCV elements. No additional EJ analysis is typically required for CatExes, unless it is identified as a sensitive resource.</p> <p>MMCV elements that would require an EA (BRT/managed lanes) may request an updated technical memorandum to reflect future updates to US Census data. As project-specific studies are undertaken, they will build upon the EJ outreach conducted during the PEL. Outreach efforts during the PEL included meeting with five organizations serving the Hispanic and low-income populations in Boulder and Longmont and translating project materials into Spanish, which is the second most commonly used language in these cities.</p>
Transportation Resources	<p>Further analysis of different capital improvements including shoulder reinforcement/widening, BRT/queue jump lanes at SH 52/SH 119, and BRT/managed lanes along the SH 119 corridor, may be required. These analyses may be required if there is a different planning or horizon year when the elements are in the NEPA phase. The planning year for the SH 119 Multi-Modal PEL Study was 2040; it is anticipated that DRCOG will adopt a plan with a horizon year of 2045 in 2019. At the time of implementation, coordination with CDOT will be required and may including updating traffic analyses to the planning year that is current at that time or completion of sensitivity analyses to determine if the MMCV elements address planning year needs.</p>

6. AGENCY COORDINATION AND STAKEHOLDER INVOLVEMENT

6.1 Community and Stakeholder Engagement

The SH 119 PEL Study began in August 2017 with a public involvement plan (PIP) that outlined objectives, strategies, tactics, and activities to engage members of the community and stakeholders. The goals of the PIP were to:

1. educate and engage internal and external stakeholders in the SH 119 PEL Study Area, and
2. solicit stakeholder feedback about potential transportation improvements.

The foundation for SH 119's PIP was Collaboration, Community, and Communication. These strategies were used to frame how important issues were addressed with stakeholders, and that messages were optimized and coordinated in delivery across media, distribution channels, and service areas. This three-pronged approach employed a strategic, proactive, consistent, and thoughtful stakeholder coordination and public involvement program managed by:

- Showing the stakeholders, the **Collaborative** value of working together toward a common mission;
- Emphasizing to residents and stakeholders that they are a **Community** and that this project is for their benefit; and
- **Communicating** consistently and honestly with internal and external stakeholders and listening to their feedback.

Public input was used during steps of the SH 119 PEL Study: development of the purpose and need statement; the alternatives development and screening; and the conceptual design. There is a separate report, *The SH 119 Multi-Modal PEL Study Community and Stakeholder Engagement Report* (Virtegitic Group, 2019) found in Appendix D, that provides in depth details of the different strategies and involvement tactics the PEL Study used; includes notes and PowerPoint slides from various meetings; describes the purpose and goals of different input opportunities; and documents how the results from stakeholder involvement were used in the PEL Study. A summary of different tactics, opportunities and efforts to reach the community during the SH 119 Multi-Modal PEL Study are provided below in Table 6-1.

More than 475 comments and questions were received, mainly through the SH 119 webpage/ website and some at public meetings. Each comment was acknowledged and responded to. The comments mainly focused on:

- Rail instead of BRT 22%
- Need for a separate bikeway 18%
- Option preferences 16%
- Route suggestions 15%

Table 6-1. SH 119 PEL Study: Overview of Public Involvement Activities

Community and Stakeholder Engagement Tactic	Highlight of Activity
Agency Workshops	<p>The purpose of the monthly and bi-monthly agency workshop meetings was to review and provide input to the Alternatives Analysis and concept plans. There were three tiers in the Alternatives Analysis process. Tier 1 focused on evaluating various transit technologies, Tier 2 analyzed different BRT routes and service levels, and Tier 3 expanded the BRT analysis to include physical improvements on the roadway. The Agency Working Group was essential in thinking through and analyzing the results derived from this process. The Agency Workshop Group met 19 times through the course of the PEL Study.</p>
PAC and TAC Committees	<p>Soliciting input from and making decisions with the PAC and TAC members, on each phase of the PEL Study, were vital. All of the elements of the PEL Study required the support of the corridor stakeholders. Meeting with the members of the PAC and TAC at important juncture points in the PEL Study allowed the building of consensus before moving forward.</p> <p>There were 11 members on the PAC representing the Boulder Chamber, Boulder County, CDOT, City of Boulder, City of Longmont, Commuting Solutions, Longmont Chamber of Commerce, North Area Transportation Alliance, RTD District I, RTD District O, and the CU – Boulder. The TAC membership consisted of elected officials and senior officials of their representative organizations.</p>
Business Outreach	<p>Employers and employees in the PEL Study area attended public meetings and outreach events to get information about the PEL Study and provide input. Contact was made with 19 of the major businesses/employers and business associations in the PEL Study area with limited success.</p> <p>The Niwot Business Association was instrumental in promoting the Niwot public meeting in February 2019. Additionally, the Northwest Chamber Alliance welcomed a presentation in September 2018 and asked to be a project partner.</p>
Public Outreach/ Involvement	<p>The media relations consisted of creating and writing news releases and magazine articles as well as providing requested information to news sources and being interviewed by reporters. A total of eight news releases were distributed to media during the course of the PEL Study. Comment activity from the SH 119 webpage and website always increased after a news story appeared and generated opinions, questions, or requests for further clarification. The news stories also prompted people to complete an online questionnaire.</p>
Media Opportunities	<p>The public involvement team will reach out to media outlets when the PEL Study concludes to allow for an in-depth understanding of the PEL Study, the BRT recommendation and the SH 119 MMCV.</p>

Community and Stakeholder Engagement Tactic	Highlight of Activity
Visual Graphics	<p>Photos were taken at public outreach events and used in social media posts (Facebook, Twitter, and Instagram), media releases, brochures, and reports. A variety of graphics, charts, figures, icons, and maps were created to visually tell the ‘story’ of the PEL Study, the process, analyses including route options, roadway physical improvements, potential impacts, and outcomes of the various work efforts.</p> <p>The photos, figures, graphics, tables, and maps were used to communicate information to stakeholders, the PAC/TAC, and the community; these materials were integral in gathering comments and responses to shape the alternatives analysis. Materials were also routinely posted to the website.</p>
Website	<p>There were two websites the public could access for information: a webpage on www.RTD-Denver.com site and an external site, www.sh119brt.com, that was linked from the RTD webpage.</p>
Email Communications	<p>The PEL Study maintained a comprehensive list of people and news media interested in the SH 119 project. Media included print, radio, TV, and web as well as Spanish print and electronic media in the metro area. Individuals on the list came from the Northwest Rail and NAMS database; current commenters on the SH 119 PEL Study and those who opted in at meetings; and events. There were approximately 4,200 names in the database for this project.</p>
Use of Social Media	<p>A series of six social media postings for Facebook, Twitter, and Instagram was created over the course of the PEL Study. These posts focused on directing people to the SH 119 website for information about the PEL Study and to solicit their feedback through completion of the online questionnaire.</p>
Community/EJ Meetings; Business Meetings; and Transit-Rider Events	<p>There were 11 presentations including 5 to organizations serving the Hispanic and low-income populations in the cities of Boulder and Longmont; 6 community events; and 2 transit rider events during the course of the PEL Study to provide information, answer questions, and solicit feedback. More than 1,000 people were reached.</p>
Collateral Materials	<p>Many communication tools were used to keep people informed about the PEL Study and to encourage feedback. A variety of materials were developed to provide information about the PEL Study, route alternatives, roadway improvements, etc., and to direct people to the website for their feedback. These materials included brochures, fact sheets, supporting documents on various phases of the PEL Study, flyers, public meetings, PowerPoint presentations, onboard surveys, and questionnaires. All information materials were provided in both English and Spanish. All public-facing documents on the website were American Disabilities Act Section 508 compliant.</p>
Telephone Town Halls	<p>In spring 2018, RTD hosted telephone town halls with each of the RTD directors. In the telephone town halls with Director Judy Lubow (District I) on March 29, 2018 and Director Chuck Sisk (District O) on April 11, 2018, the SH 119 PEL Study was discussed, explaining what BRT is, what the PEL Study’s purpose was, emphasizing that the BRT is not a replacement for the rail line, and that the money used for the PEL Study and the proposed BRT is not coming out of the FasTracks funds. Director Lubow had roughly 1,000 participants and Director Sisk had approximately 1,130 participants on their respective calls.</p>

Community and Stakeholder Engagement Tactic	Highlight of Activity
Public Information Officer Briefings	Public Information Officers attended the public meetings; received all of the media releases and eblasts; and helped post information on their respective websites.
Public Meetings	There were three sets of public meetings for a total of seven individual meetings held over the course of the PEL Study: three meetings in the Boulder, three in Longmont, and one at Niwot in Boulder County. A total of 235 members of the public attended the meetings to hear about the PEL Study's goals and progress; ask questions; and provide comments.
Onboard Bus Survey and Public Questionnaire	<p>Another important element in the community outreach was the onboard rider survey and online questionnaire used to determine BRT route preferences, which helped to inform the Tier 3 alternatives evaluation. On October 25, 2018, an onboard rider survey was conducted on the BOLT and J routes. There was a 27 percent response rate (228 surveys returned), which is slightly higher than other RTD onboard surveys.</p> <p>Complementing this activity, an online questionnaire was generated for the public to capture their input on the BRT route preference that was open in the fall of 2018 to January 31, 2019. There were 1,343 people that accessed the online questionnaire, which asked the same questions as the onboard survey.</p>

7. FUNDING SCENARIOS

As a part of this PEL Study, funding and financing options related to the costs of construction and operations for the SH 119 MMCV were evaluated (Economic & Planning Systems, 2019). The following discussion summarizes the findings from the *SH 119 Multi-Modal PEL Study: Funding Plan*, found in Appendix E. In considering both funding and financing, dollars attributed to a new source (e.g., a dedicated sales tax) are evaluated as ‘funding,’ whereas those that convert a future revenue stream into a present value for capital expenditures (e.g. bonds) are considered ‘financing.’ The primary focus of this effort was on funding sources, with a general analysis of how these funding tools may be used to finance the project.

This analysis included:

- A comprehensive list of funding and financing mechanisms available at the federal, state, and local levels that may be applicable to implementation of the SH 119 MMCV.
- An application of evaluation criteria to determine the most suitable mechanisms for implementation of the SH 119 MMCV, separating the comprehensive list into Top-Tier (more promising) and Lower-Tier (less promising) Options.
- A detailed analysis of the Top Tier Options, including revenue generation estimates specific to Boulder and Longmont as well as SH 119 between Boulder and Longmont.
- An assembling of the most suitable mechanisms into three funding strategies, each addressing the needs of this project in different ways.

7.1 Cost Assumptions

The available funds committed to the SH119 MMCV totals \$53.3 million, which is not enough to fully fund all the elements. The capital cost estimate for the SH 119 MMCV includes construction and indirect costs related to the MMCV Elements with the exception of the intersection improvements in Boulder or Longmont. It also does not include the SH 52/SH 119 grade-separated interchange, currently under consideration by CDOT. Capital costs are discussed above in Section 4.2 and are presented in 2023 (year of expenditure) dollars, escalated by 3.0 percent per year from 2018 to 2023 (Parsons, 2019). All costs are evaluated and escalated with the goal of a construction start in 2023. Revenues have been evaluated in constant dollars (no inflation or escalation). This avoids additional assumptions and uncertainties associated with applying growth and appreciation rates over a long-term forecast.

7.2 Evaluation Criteria

A set of four criteria was established to evaluate, compare, and screen each funding and financing option:

- **Revenue Yield** refers to the revenue generating capacity of a particular funding source. This criterion was not applied to financing mechanisms, because they require a dedicated funding source for repayment over the long term.
- **Stability** refers to whether the funding source or financing technique is subject to uncertain fluctuations that can impact the ability to project future revenue with certainty, as well as the ability to rely on the source to back revenue bonds for financing the project.
- **Legal Parameters** refers to the legal limitations and/or requirements for creating a funding source or financing technique that will dedicate the revenue stream to a MMCV Element.
- **Ease of Administration** refers to the ability of the current state, regional, or local governments to implement and administer the funding mechanisms and/or financing techniques.

7.3 Funding

7.3.1 COMMITTED EXTERNAL FUNDING SOURCES

A total of \$53.3 million has been committed to the SH119 BRT project as shown in Table 7-1. Committed funding sources include:

- **RTD:** RTD has committed \$30 million in capital funding for this project; this total includes a \$5 million match for the County's TIP Regional Grant from DRCOG and does not include FasTracks money.
- **DRCOG:** The SH 119 BRT project received \$8.15 million in federal funding from FHWA through a TIP Regional Grant, as well as \$5 million through the sub-regional match.
- **CDOT:** The SH 119 MMCV has been allocated \$9 million in Regional Priority Project (RPP) funding; this includes \$1.7 million in matching funds for the TIP Regional Grant.
- **Boulder:** Boulder has committed \$1 million in matching funds for BRT station enhancements.
- **Longmont:** Longmont has committed \$150,000 in matching funds for the Coffman Street Dedicated BRT Lanes.

Table 7-1. Committed External Funding Sources

Source	Description	Amount (Millions)
RTD	Includes \$5M match for DRCOG TIP Grant	\$30.00
DRCOG	Federal – TIP Regional Grant	\$8.15
DRCOG	Sub-regional match	\$5.00
CDOT	Regional Priority Project – includes \$1.7 M match for DRCOG TIP Grant	\$9.00
Boulder	Cash match for BRT Station Enhancements	\$1.00
Longmont	Cash match for Coffman St Dedicated BRT Lanes	\$0.15
Total		\$53.30

7.3.2 POTENTIAL ADDITIONAL FUNDING SOURCES

In addition to the \$53.3 million of committed funds for the SH 119 MMCV, an additional \$65 million may be available through other sources listed in Table 7-2. These funding sources can be used towards the costs of implementing the MMCV. After a detailed review of FTA New and Small Starts grant criteria, the team concluded that these are not realistic sources; as such they are not listed below.

Table 7-2. Sources of Potential Additional Funding

Source	Amount Millions
SB 267 from CDOT Region 4	\$20.00
SB 267 Transit Grant from CDOT DTR	\$10.00
Federal BUILD Grant	\$25.00
Federal/State Grant for Bike Path	\$10.00
Total	\$65.00

7.3.3 TOTAL CAPITAL FUNDING REQUIRED

The committed and potential funding sources available, as outlined above, were used to determine the remaining balance of additional funding required for the implementation of the SH 119 MMCV. Preliminary cost estimates indicated that approximately \$246 million in 2023 dollars would be needed to fully implement the MMCV; however, for purposes of this funding analyses, that amount was increased to \$270 million. The reason for this increase is that timing of when each element will be implemented is unknown, and the timing is expected to affect the cost of implementation as the price of labor and construction materials fluctuates. Increasing the estimated cost for full implementation of the MMCV provides a buffer, should projects be initiated after 2023; it also helps account for the uncertainty of the future costs of labor and materials.

As shown in Table 7-3, if the funding sources listed in Table 7-2 were obtained approximately \$151.7 million in additional funding would be needed for full implementation of the MMCV. If only committed funds are available, then \$216.7 million in additional funding would be required for capital costs associated with the project.

Table 7-3. SH 119 Funding Needs Summary

Source	All Available Funding \$ Millions	Committed Funding Only \$ Millions
RTD/DRCOG	\$53.3	\$53.3
Supplemental Potential for Additional Funding Sources	\$65.0	--
Local Generation Required	\$151.7	\$216.7
Total Project Cost	\$270.0	\$270.0

7.4 Cost and Funding Options/Scenarios

Based on the initial evaluation of funding options, revenue potentials, the local context, and the needs of the SH 119 MMCV, funding tools were “bundled” in order to create scenarios that could meet funding needs and that are reasonably attainable. In addition to funding the SH 119 MMCV, a Boulder County-Wide BRT scenario is also included in this analysis, that would be used to fund not only the SH 119 BRT but also the other NAMS-recommended BRT routes in the County. As a final suite of options, three funding scenarios are presented:

Focused: Regional Transportation Authority (RTA) on the SH 119 MMCV. Colorado law allows cities and counties to form Regional Transportation Authorities (RTAs) to fund and build transportation infrastructure improvements and provide transportation services within a multijurisdictional area boundary. An RTA has the power to build, finance, operate, and maintain any regional transportation system. Most RTAs in Colorado provide funding for the construction and operation of transit projects.

In this scenario, an RTA of a 1.5-mile buffer around the BRT routes would be formed within which lodging, sales, and property taxes would be raised above their current levels. These revenue tools would be used to back bonds for the project. This scenario only includes capital costs.

As shown in Table 7-4, an RTA within the 1.5-mile buffer area could generate \$17.5 million annually; if bonded, this revenue could generate \$175 million in funding for the project. Given the range of \$151.7 to \$216.7 million needed to address capital costs, this shows that in order to fund all SH 119 MMCV elements, most of the potential funding sources are needed. If these funds do not materialize, some capital improvements may have to be delayed or reduced in cost through modifications such as changes in design.

Table 7-4. SH 119 Bond Proceeds

Source	All Available Funding	Committed Funding Only
	\$ Millions	\$ Millions
Local Generation Required	\$151.7	\$216.7
Regional Transportation Authority		
Lodging Tax (2.0%)	\$2.12	\$2.12
Sales Tax (0.10%)	\$3.95	\$3.95
Property Tax (3 mills)	\$11.43	\$11.43
Total Annual Revenue	\$17.50	\$17.50
Bond Capacity	\$175.0	\$175.0
Net Position (Surplus/Deficit)	\$23.29	(\$41.71)

Source: Economic & Planning Systems, 2019

Broad: Countywide Bond. If Boulder County decided to move forward with the other BRT corridors identified in the NAMS, there could be justification for a county-wide tax that would generate funding for these other projects as well as the SH 119 MMCV. This scenario includes an increase in the existing county-wide sales tax as well as implementation of a new tax in Boulder – an Occupational Privilege Program. An Occupational Privilege Program (sometimes referred to as an employee tax or head tax) raises revenue through taxing businesses operating within a local jurisdiction and/or taxing the employees of the businesses.

Table 7-5 shows that this option would generate between \$484 to \$549 million in funding required to complete the capital construction of the SH 119 MMCV, as well as some of the BRT projects located in Boulder County that were recommended by the 2014 NAMS study. In addition to capital costs, this scenario includes \$17.48 million in annual funding for ongoing O&M costs. Revenue tools would be used to service the debt for these projects.

Table 7-5. Countywide Bond Proceeds

Source	All Available Funding	Committed Funding Only
	\$ Millions	\$ Millions
Local Generation Required	\$483.7	\$548.7
Boulder County Consortium		
County Sales Tax (80% of one penny)	\$50.00	\$50.00
City of Boulder Occupational Privilege Program	\$8.00	\$8.00
Total Annual Revenue	\$58.00	\$58.00
Less: Annual Operations and Maintenance	(\$19.48)	(\$19.48)
Net Available Annually	\$38.52	\$38.52
Bond Capacity	\$385.2	\$385.2
Net Position (Surplus/Deficit)	(\$98.50)	(\$163.50)

Source: Economic & Planning Systems, 2019

Broad: Countywide Pay-As-You-Go. In this scenario, a countywide pay-as-you-go funding strategy uses the same revenue tools as the countywide bond strategy; however, these revenues are expended as they are collected, rather than bonded against and expended upfront. This strategy is modeled over 15 years after which time the program could be eliminated or extended to pay for other transportation needs in the County.

This option also addresses the \$484 to \$549 million in funding required to complete the capital construction of the SH 119 MMCV, as well as a portion of the BRT projects in Boulder County identified in the NAMS study. This scenario presents a phased strategy for project construction and includes funding for capital costs as well as ongoing O&M costs. Funding would be used in a pay-as-you-go structure, with revenue available to spend as it is collected.

7.5 Next Steps to Obtain Funding

Implementation of any of the new funding scenarios outlined above in Section 7.4 is likely to require voter approval; it is recommended that jurisdictions that would be involved in these scenarios should plan for having one or more on the November 2020 ballot. If approved by voters in 2020 this would allow tax collection to begin in 2021, which would support a construction start date of 2023.

For some of the scenarios steps to implement them have already been initiated. Specifically, recent polling by Boulder County indicates support for a county-wide sales tax. However, additional work and outreach will be needed to implement any of the other funding mechanisms discussed above. The recommended timeline is:

- Resolution of the technical basis for funding through the end of 2019,
- Community outreach occurring in January through October 2020, and
- Countywide election regarding the new funding tool(s) on the November 2020 ballot

8. REFERENCES

- Apex, 2019. "SH 119 BRT Traffic Analysis Report". March 2019.
- ArLand Land Use Economics (ArLand), 2018. "Land Use Conditions and Forecast Data Memorandum" for the "SH 119 Multi-Modal PEL Study." September 2018.
- Colorado Department of Public Health and Environment (CDPHE), 2005a. "Carbon Monoxide Maintenance Plan for the Denver Metropolitan Area."
https://www.colorado.gov/pacific/sites/default/files/AP_PO_Denver-Carbon-Monoxide-Attainment-Maintenance-Plan.pdf. Accessed November 2017.
- Colorado Department of Public Health and Environment (CDPHE), 2005b. "PM₁₀ Maintenance Plan for the Denver Metropolitan Area."
https://www.colorado.gov/pacific/sites/default/files/AP_PO_Denver-PM10-Attainment-Maintenance-Plan.pdf. Accessed November 2017.
- Colorado Department of Public Health and Environment (CDPHE), 2005c. "Revised Carbon Monoxide Maintenance Plan for the Longmont Attainment/Maintenance Area."
<https://environmentalrecords.colorado.gov/HPRMWebDrawer/RecordView/1281846>
- Colorado Department of Public Health and Environment (CDPHE), 2008. "Metro and North Front Range Ozone Action Plan: Including Revisions to the State Implementation Plan."
https://www.colorado.gov/pacific/sites/default/files/AP_PO_Denver-Ozone-Action-Plan-2008.pdf. Accessed November 2017.
- Colorado Department of Transportation (CDOT), 2016. CDOT Online Transportation Information System, Station ID 104352, 2016.
- Colorado Department of Transportation (CDOT), 2016. CDOT PEL Handbook, January 2016.
- CU Boulder, 2019. "CU Boulder Transportation Master Plan" currently underway, anticipated completion date of December 2019. Available at: <https://www.colorado.edu/masterplan/tmp>
- Denver Regional Council of Governments (DRCOG), 2016. "Urban Sim Land Use Forecast." December 2016.
- Denver Regional Council of Governments (DRCOG), 2018. "DRCOG 2040 Metro Vision Regional Transportation Plan." April 2018.
- Economic & Planning Systems, 2019 "SH 119 Multi-Modal PEL Study: Funding Plan" June 2019.
- Federal Highway Administration (FHWA), 2011. "Highway Traffic Noise: Analysis and Abatement Guidance." December 2011.

Federal Highway Administration (FHWA), 2012. "MAP-21 Sections 1316 & 1317 New Categorical Exclusions: Operational Right of Way 23 CFR 771.117(c)(22)." Available at: https://www.fhwa.dot.gov/map21/docs/map21_%201316_1317.pdf Accessed May 3, 2019.

GeoSearch, 2018. "E RecSearch Report for SH 119 RTD Projects Section One" and "E RecSearch Report for SH 119 RTD Projects Section Two," September 18, 2018.

Longmont, 2019. "Final Recommended Alternatives Report, Southwest Longmont Operations Study." April 2019.

Longmont, 2018. "Longmont Enhanced Multi-use Corridor Plan." March 2018.

Parsons, 2019. "SH 119 Capital Cost Estimate Basis/Definitions for Locally SH 119 BRT Preferred Alternative." May 2019.

Pinyon Environmental (Pinyon), 2019. "SH 119 Multi-Modal PEL Study." August 2019.

Regional Transportation District (RTD), 2014. "Northwest Area Mobility Study." August 2014.

Regional Transportation District (RTD), 2016. "RTD SH 119 Scope of Work; Part 3, Scope of Work/Services/Technical Specifications." November 2016.

Regional Transportation District (RTD), 2017. Run Board: TriTAPT Data, January 2017.

Transit Center, 2016. "Who's on Board 2016." Available at: <http://transitcenter.org/publications/whos-on-board-2016/#introduction>

Transportation Research Board, 2010. "Highway Capacity Manual 2010." December 2010.

US Environmental Protection Agency (EPA), 2012. "Transportation Conformity Rule." March 2012.

Virtegitic Group, 2019. "SH 119 Multi-Modal PEL Study Community and Stakeholder Engagement Report." June 2019.

Wetland Training Institute, 1987. "Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual." USACE and Wetland Training Institute, 1987.

APPENDIX A. FHWA COLORADO DIVISION PLANNING ENVIRONMENTAL LINKAGES QUESTIONNAIRE (PROVIDED ON SEPARATE CD)

**APPENDIX B. CORRIDOR CONDITIONS AND ENVIRONMENTAL
IMPACTS/MITIGATION STRATEGIES/NEXT STEPS REPORT (PROVIDED
ON SEPARATE CD)**

APPENDIX C. SH 119 MMCV PEL STUDY TRAFFIC REPORT (PROVIDED ON SEPARATE CD)

APPENDIX D. SH 119 MMCV PEL STUDY COMMUNITY AND STAKEHOLDER INVOLVEMENT REPORT (PROVIDED ON SEPARATE CD)

D.1 FTA, FHWA, CDOT, RTD, LOCAL AGENCIES

D.2 TAC/PAC

D.3 AGENCY WORKSHOPS

D.4 STAKEHOLDER INVOLVEMENT

APPENDIX E. SH 119 MMCV PEL STUDY FUNDING PLAN