

State Route 59 Intersection Control

Intersection of State Route 59 and Gerard Avenue in Merced County

10-Mer-59-PM 13.4-13.8

10-1K620/1019000059

State Clearinghouse Number 2022050032

Initial Study with Negative Declaration

Volume 1 of 2



Prepared by the
State of California Department of Transportation

July 2022



General Information About This Document

Document prepared by: Sierra Ellison-Swabey, Associate Environmental Planner

The Initial Study circulated to the public for review and comments for 34 days between May 3, 2022 and June 6, 2022. Comments received during this period are included in Appendix B. Elsewhere, language has been added throughout the document to indicate where a change has been made since the circulation of the draft environmental document. Minor editorial changes and clarifications have not been so indicated.

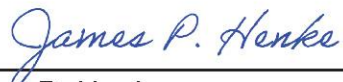
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Safety intersection improvements from 0.2 mile south (post mile 13.4)
to 0.2 mile north (post mile 13.8) of the intersection of State Route 59
and Gerard Avenue in Merced County near the City of Merced

**INITIAL STUDY
with Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
Responsible Agency: California Transportation Commission



James P. Henke
Environmental Office Chief, District 10
California Department of Transportation
CEQA Lead Agency

8/1/2022

Date

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Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: 2022050032

District-County-Route-Post Mile: 10-Mer-59-PM 13.4-13.8

EA/Project Number: 10-1K620/1019000059

Project Description

The California Department of Transportation (Caltrans) proposes a safety improvement project for the intersection of State Route 59 and Gerard Avenue in Merced County near the City of Merced. A single-lane roundabout will be installed to improve this intersection.

Project activities include work off the paved roadway, trenching, grading or other ground disturbance, drainage work, excess soil, tree and vegetation removal, structures on or adjacent to the proposed right-of-way, utility relocation, night work, and acquiring additional right-of-way.

Determination

An Initial Study has been prepared by Caltrans District 10. On the basis of this study, it is determined that the proposed action with the incorporation of the identified avoidance and minimization measures will not have a significant effect on the environment.

A handwritten signature in blue ink that reads 'James P. Henke'.

James P. Henke

Environmental Office Chief, District 10
California Department of Transportation

8/1/2022

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (known as CEQA) and the National Environmental Policy Act (known as NEPA). The project is a safety improvement project funded through the State Highway Operation and Protection Program and would receive both state and federal funding.

The safety project is near the City of Merced in Merced County, at the intersection of State Route 59 and Gerard Avenue. Merced County lies in the heart of the Central Valley in California, and the City of Merced is the county seat. Chapter 1 of this document discusses the project location, scope, and alternatives for the project, and Chapter 2 discusses the potential environmental impacts from the project.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to reduce the number and severity of broadside collisions at the intersection of State Route 59 and Gerard Avenue.

1.2.2 Need

A pattern of broadside collisions has been identified at the intersection of State Route 59 and Gerard Avenue due to failure to yield by motorists.

1.3 Project Description

The project description was updated after the draft environmental document completed circulation

Caltrans proposes a safety improvement project for the intersection of State Route 59 and Gerard Avenue in Merced County. A single-lane roundabout will be installed to improve this intersection. See Figures 1 and 2 for the Project Vicinity Map and Project Location Map, respectively.

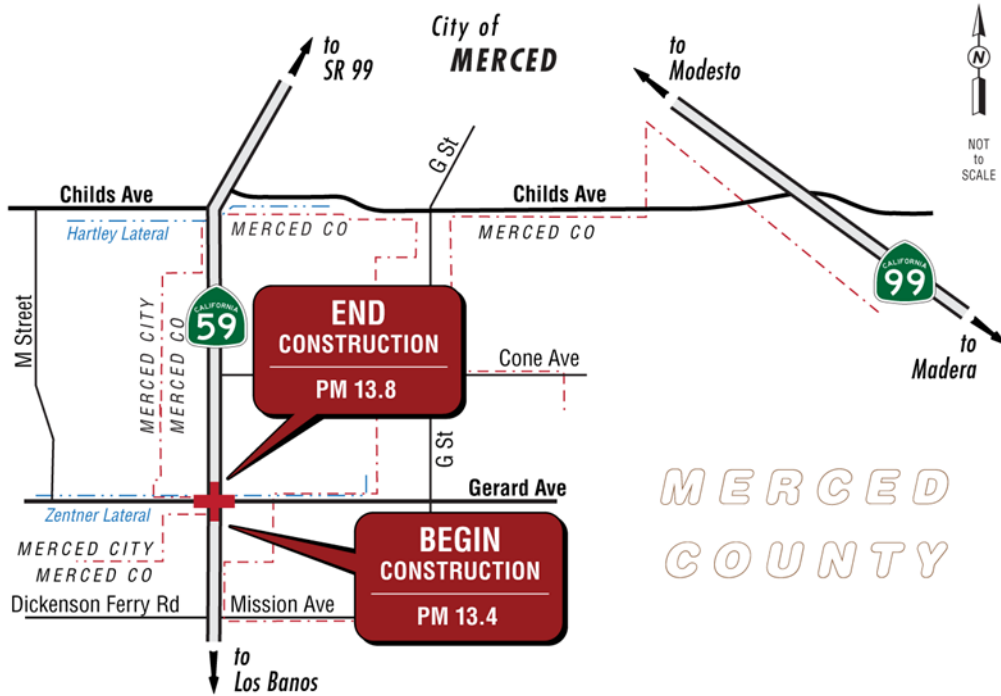
Construction activities would include roadway pavement widening and replacement, grading, or other ground disturbance such as trenching, removal of excess soil and pavement sections, minor vegetation removal, drainage facilities removal and installation, electrical improvements, signing and

striping improvements, removal of facilities within or next to proposed right-of-way, utility relocation, night work, and acquiring additional right-of-way on the corners of the intersection.

Figure 1: Project Vicinity Map



Figure 2: Project Location Map



The project limits run from post miles 13.4 to 13.8 on State Route 59, from 0.2 mile south to 0.2 mile north of the State Route 59 and Gerard Avenue intersection. The intersection is at post mile 13.63, near the City of Merced in Merced County.

The following paragraph was updated after the draft environmental document completed circulation.

The project will require staged construction and temporary lane closures, and may require traffic on Gerard Avenue to be redirected to Childs Avenue or Mission Avenue via other local roads to access State Route 59 during project construction. Detours may be required; details on the detour will be determined in the Plans, Specifications, and Estimates phase of the project. Refer to Figures 1 and 2 for the project location in relation to the county and local roads.

1.4 Project Alternatives

1.4.1 Build Alternatives

The following section has been revised after the circulation of the draft environmental document.

The Caltrans Project Development Team considered three build alternatives—Alternatives 1, 2, and 3—and a no-build alternative for intersection improvement at the State Route 59 and Gerard Avenue intersection in Merced County during the Project Approval and Environmental Document phase of the project.

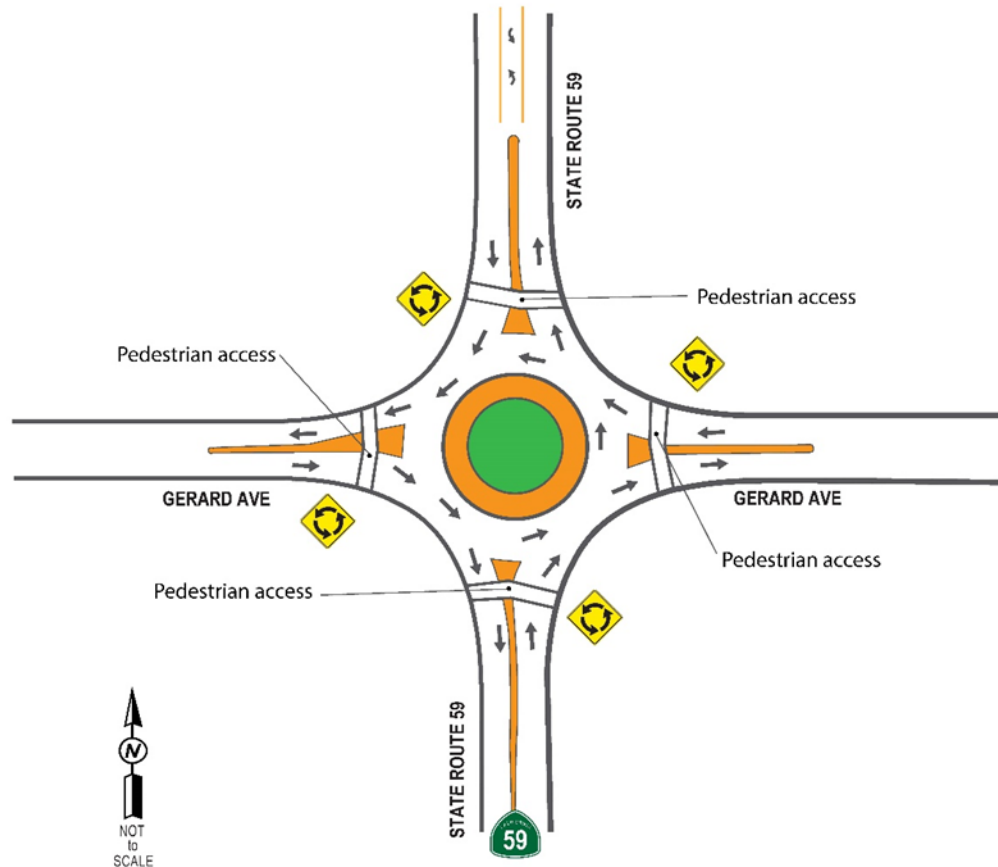
One of the build alternatives—Alternative 1—was considered but later eliminated from further discussion before the draft environmental document was completed. Another build alternative—Alternative 2—and the no-build alternative were eliminated from consideration after the draft environmental document completed circulation and a preferred alternative was selected. The remaining build alternative—Alternative 3—is discussed below, along with a conceptual rendering of proposed roundabout. See Section 1.6, Alternatives Considered but Eliminated from Further Discussion, for a discussion of the eliminated alternatives. Alternative 3 has been selected as the preferred alternative, and details are contained in Section 1.5.

Alternative 3—Roundabout

Alternative 3 will build a single-lane roundabout with a 135-foot inscribed circle diameter to accommodate Surface Transportation Assistance Act standards for truck turning movements at the intersection. The central island radius would be 30 feet with a mountable truck apron width of 15 feet with a circulating lane width of 22.5 feet. Splitter islands consisting of reversing curves would ensure proper speed reduction when entering the roundabout. The splitter islands will also provide a designated area for pedestrians to use to cross the intersection. Bicyclists would be able to use these areas or use the roundabout to navigate the intersection.

Advance flashing beacons will be included to warn motorists of the intersection control. Access management will be required for a minimum of 100 feet, measured from the inscribed circle diameter by the inclusion of curb, gutter, and curb ramps; also, no driveways are proposed within those areas. Lighting will be provided to improve visibility and safety at the intersection.

The central and splitter islands will provide an opportunity for hardscape or irrigated landscaping and planting. Unique community features would be considered to tie the project into the local surroundings. Figure 3 is a conceptual drawing of how the intersection would look with the roundabout.

Figure 3: Roundabout Conceptual Drawing

A drainage system composed of drainage inlets will be created to intercept and redirect runoff into underground storage facilities and convey the runoff to the City of Merced drainage basin (located east of the intersection on the south side of Gerard Avenue) or to a modified or new side storage ditch system. Final drainage details will be determined in the Plans, Specifications, and Estimates phase of the project. Installation of a lighting system, flashing beacon system, camera system, and traffic monitoring station will improve visibility and warn motorists approaching the single-lane roundabout. New electrical conduits will be trenched roughly 3 feet underground, with service access placed behind the concrete curb and gutter or sidewalks. All ground disturbance work is anticipated to have a maximum excavation depth of 6 feet or less, with 6 feet for drainage, 5 feet for signage, 3 feet for pavement, and 5 feet for light poles.

Alternative 3 will require additional right-of-way from four parcels. No residential or business relocations are expected. Temporary construction easements may be necessary when staging for construction or constructing private driveways.

This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the project. These measures are listed later in this chapter under “Standard Measures and Best Management Practices Included in All Build Alternatives.”

1.4.2 No-Build (No-Action) Alternative

The no-build alternative will leave the intersection as it is. If no action is taken and the project is not built, the intersection would stay the same, the intersection control issues would not be addressed, and the purpose and need of the project would not be met.

1.5 Identification of a Preferred Alternative

This section was added after the draft environmental document completed circulation.

The Caltrans Project Development Team evaluated the two build alternatives (Alternatives 2 and 3) and the no-build alternative for engineering, traffic and environmental considerations, including cost, environmental impacts, and values. Per CEQA policy, the draft environmental document was circulated to the public and various agencies for review and comment. A virtual public meeting was held during environmental document circulation period to gather additional input and comments.

After circulation was completed, and comments gathered and reviewed, the Caltrans Project Development Team met on June 15, 2022 to select a preferred alternative to carry to the next phase of the project. The preferred alternative was selected based on the discussions held during the meeting, public and agency comments received during draft environmental document circulation, and reviews of project technical data. A representative from Merced County also attended the meeting held on June 15, 2022. The meeting participants selected Alternative 3—construct a single-lane roundabout—as the preferred alternative. This decision was documented in the Caltrans Project Development Team meeting minutes and is reflected in the Caltrans Project Report. The basis for the recommendation is as follows:

- With a roundabout, Alternative 3 is anticipated to have a lower probability of accident occurrence than Alternative 2 (install traffic signal) would because a single-lane roundabout has fewer conflict points than a traffic signal has. Traffic data indicates that the lower the number of conflict points at an intersection, the lower the probability of an accident occurring. Also, the reduced speed of vehicles entering a roundabout provides greater potential for collision reduction.

- Alternative 3 meets the project’s purpose and need and is anticipated to meet Safety Index requirements.
- Alternative 3 received a higher score and was the recommended alternative in the Intersection Control Evaluation dated July 2, 2022.
- Alternative 3 has similar right-of-way requirements and environmental impacts compared to Alternative 2.

1.6 Alternatives Considered but Eliminated from Further Discussion

Section 1.6 was revised after the draft environmental document completed circulation and a preferred alternative was selected.

Two build alternatives and the no-build alternative have been eliminated from further consideration in the environmental document. Alternative 1 was eliminated prior to draft environmental document circulation, and Alternative 2 was eliminated after the draft environmental document completed circulation. Below is a description of the build alternatives and why they were eliminated.

Alternative 1 – All-Way Stop Control

Alternative 1 would have built an all-way stop-controlled intersection (using stop signs on all sides of the intersection), which would have included advance warning flashing lights and additional “stop ahead” signs and striping at the intersection of State Route 59 and Gerard Avenue. The existing intersection has a two-way stop control along Gerard Avenue and free-flowing traffic on State Route 59. With Alternative 1, there would have been the removal of existing pavement with sawcut and excavation along with pavement replacement and widening in all four corners of the intersection. Pedestrian crosswalks would have been added on all four legs of the intersection. Drainage replacement would have occurred for the two drainage inlets in the southeast and southwest corners of the intersection as well as improvements in the northeast and northwest corners of the intersection.

All proposed ground disturbance work would have had a maximum excavation depth of 6 feet or less, with 6 feet for drainage, 5 feet for signage, and 3 feet for pavement work.

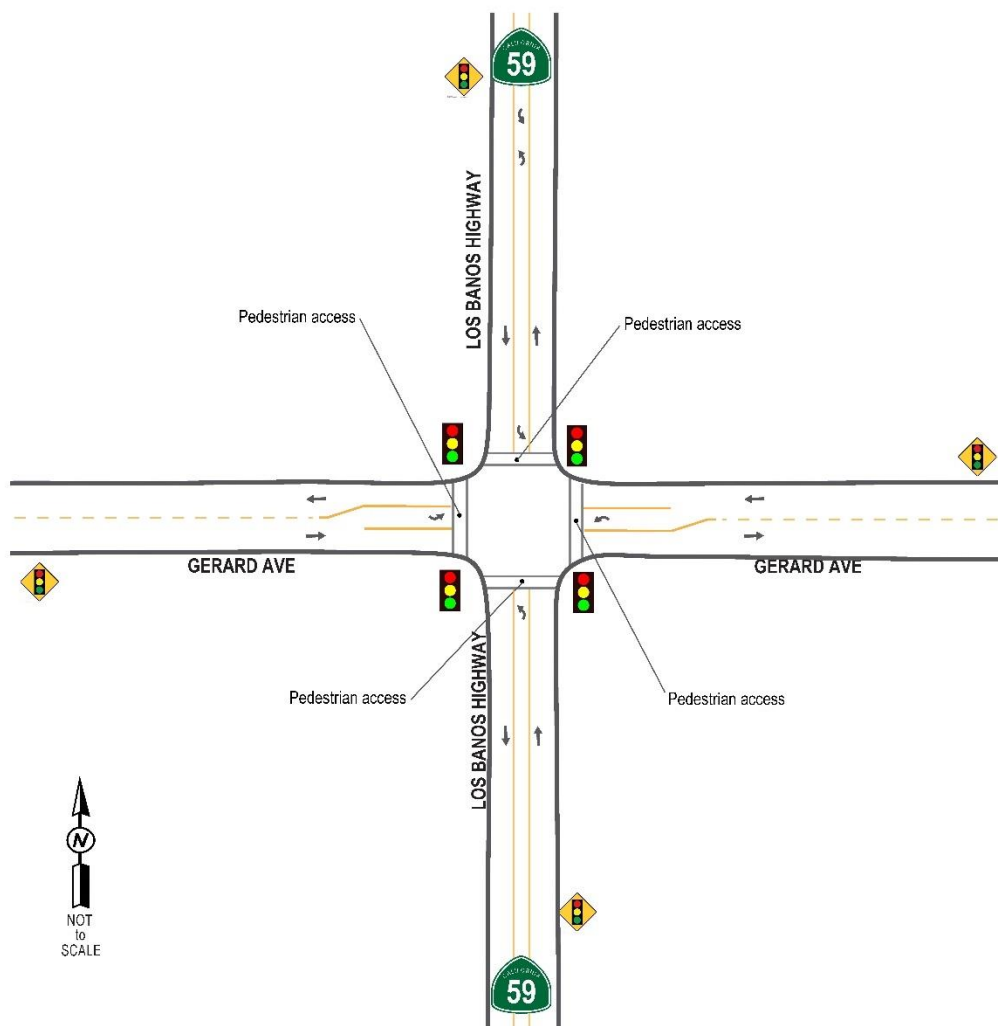
This alternative would have required additional right-of-way on all sides of the intersection to accommodate these changes. Utility relocation of overhead poles and lines would have also been expected. No residential or business relocations were needed for this alternative.

The Caltrans Project Development Team eliminated Alternative 1 from further consideration at the draft project report constructability review meeting held

on January 7, 2022, before the draft environmental document circulation. The alternative was eliminated because of its failure to meet traffic safety warrants and traffic operations standards once constructed.

Alternative 2 – Traffic Signal

Alternative 2 would have installed a traffic signal at the intersection of State Route 59 and Gerard Avenue. The intersection would have been widened on all sides to accommodate protected left turns, Surface Transportation Assistance Act standards for trucks, channelization, and shoulders. Advance warning signs and flashing beacons would have been installed before the intersection to warn motorists approaching the signal. Lights would have been installed at the intersection to improve visibility, and pedestrian crosswalks would have been added on all legs of the intersection. The sidewalks, curbs, and gutters would have been replaced or improved for all corners of the intersection. New electrical conduits would have been trenched to provide service access behind the concrete curb, gutter, or sidewalk. In addition, a drainage system composed of drainage inlets would have been created to intercept and redirect water runoff into underground storage facilities. The drainage system would have also conveyed the runoff to the City of Merced's drainage basin (located east of the intersection on the south side of Gerard Avenue) or to a modified or new side storage ditch system. All ground disturbance work was expected to have a maximum excavation depth of 12 feet or less, with 12 feet for signal pole foundations, 6 feet for drainage, 5 feet for signage, 3 feet for pavement, and 5 feet for light poles if separate from signal poles. Figure 4 is a conceptual drawing of Alternative 2 with a traffic signal at the intersection.

Figure 4: Traffic Signal Conceptual Drawing

Currently, stormwater runoff from the intersection flows into nearby undeveloped parcels and filters into the ground or evaporates. The drainage system would have been composed of drainage inlets along the flow line of concrete curbs and gutters. The drainage inlets would have intercepted and discharged the runoff into either existing system, underground storage pipes, modified or new ditches, or be conveyed to the existing City of Merced drainage basin. Final drainage details would have been determined in the Plans, Specifications, and Estimates phase.

The work for this alternative would have required additional right-of-way on all sides of the intersection to accommodate widening, channelization, shoulders, and drainage. To minimize right-of-way, utility relocation, and construction costs, the Caltrans Project Development Team had considered nonstandard shoulder width and nonstandard clear recovery zone width for

this alternative. The inclusion of these nonstandard design features would have been determined in the Plans, Specifications, and Estimates phase.

The Caltrans Project Development Team eliminated Alternative 2 from further consideration at a meeting held on June 15, 2022, after the draft environmental document had completed circulation and comments from the public were collected and reviewed. The team eliminated the alternative due to the discussions held at this meeting, which indicated that Alternative 2 had fewer safety benefits compared to Alternative 3.

1.7 Standard Measures and Best Management Practices Included in All Build Alternatives

- AQ 1—Caltrans Standard Specifications Section 14-9.02 (Air Pollution Control) to comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including those provided in Government Code Section 11017 (California Public Contract Code Section 10231). Do not dispose of material by burning.
- AQ 2—Caltrans Standard Specifications Section 10-5 (Dust Control) includes general specifications for controlling dust resulting from the proposed work.
- AQ 3—A Dust Control Plan approved by the San Joaquin Valley Air Pollution Control District is needed if at least 2,500 cubic yards of material are moved in a day for at least three days of the project or 5 or more acres of land will be disturbed during construction.
- BIO 1—Caltrans Standard Special Provision 14-6.03B (Bird Protection) protects migratory and nongame birds, their occupied nests, and their eggs.
- BIO 2—A preconstruction survey for migratory birds and raptors will be required no more than 14 days prior to construction, if construction activities occur within the migratory nesting season (February 1 to September 30). If migratory birds or raptors are found nesting within or adjacent to a work area during construction, the following Environmentally Sensitive Area (ESA) buffers would be required:
 - If any active migratory bird nest is observed, a 100-foot Environmentally Sensitive Area buffer is required.
 - If an active burrowing owl is observed during non-breeding season (September 1 to January 31), then a 165-foot Environmentally Sensitive Area buffer would be required. If observed during breeding season (February 1 to August 31), then a 250-foot buffer is required.

- If an active raptor nest is observed, a 300-foot Environmentally Sensitive Area buffer is required. If an active Swainson's hawk nest is observed, a 600-foot Environmentally Sensitive Area buffer is required.
- All above Environmentally Sensitive Area buffers would be implemented and avoided until the young have fledged or a qualified biologist determines that construction may proceed.
- CUL 1—Caltrans Standard Specifications Section 14-2.03A (Archaeological Resources General) for incidences when archaeological resources are discovered within or near construction limits.
- GHG 1—Install pedestrian crosswalks to address the needs of bicyclists, pedestrians and disabled and contribute to a “Complete Streets” environment.
- GHG 2—Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.
- GHG 3—Schedule truck trips outside of peak morning and evening commute hours.
- GHG 4—Schedule longer-duration lane closures to reduce the number of equipment mobilization efforts.
- GHG 5—For improved fuel efficiency from construction equipment:
 - Maintain equipment in proper tune and working condition.
 - Right-size equipment for the job.
 - Use equipment with new technologies where feasible.
- GHG 6—Use recycled water or reduce consumption of potable water for construction.
- HW 1—If the scope of work requires striping removal prior to cold-planing, then Caltrans Standard Special Provision 14-11.12 would be added in the construction contract and the contractor will manage the removed stripes and pavement markings as hazardous.
- HW 2—If the scope of work requires to cold-plane the entire road surface, including any yellow paint/striping, and if calculations show that the cold-planing residue will not be a hazardous waste, then Caltrans Standard Special Provision 36-4 would be added in the construction contract and waste would be managed as construction debris.
- HW 3—Caltrans Standard Special Provision Section 14-11.14 for encountering treated wood waste would be included in the construction contract.

- NQ 1—Caltrans Standard Specification Section 14-8 (Noise Control) for controlling noise and vibrations.
- NQ 2—All equipment will have sound-control devices that are no less effective than those provided on the original equipment.
- RW 1—If relocations are required due to right-of-way needs, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 provides for numerous benefits to relocated individuals to assist them both financially and with advisory services related to relocating their home or business operations.
- WQ 1—Caltrans Standard Specifications Section 13-1 (Water Pollution Control) would be added to the construction contract. The contractor must abide by best management practices and address all potential water quality impacts that may occur during construction.

1.8 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, has been prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

1.9 Permits and Approvals Needed

No environmental permits, licenses, agreements, or certifications are anticipated for the project.

Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A “No Impact” answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below.

“No Impact” determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report (bound separately in Volume 2), and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Visual Impact Assessment Level Questionnaire dated March 14, 2022, the following significance determinations have been made:

Except as provided in Public Resources Code Section 21099:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact

Question—Would the project:	CEQA Significance Determinations for Aesthetics
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

2.1.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Considering the information in the project description, project scope, and project location, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	No Impact

2.1.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

The following sentence was updated after the draft environmental document completed circulation. Considering the information in the State Route 59/Gerard Avenue Intersection Control—Air Quality Memo dated July 18, 2022, which the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Air Quality
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	No Impact

Question—Would the project:	CEQA Significance Determinations for Air Quality
c) Expose sensitive receptors to substantial pollutant concentrations?	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No Impact

2.1.4 Biological Resources

Considering the information in the Biological Resources Evaluation (No Effect) Memo dated February 28, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration Fisheries?	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact

Question—Would the project:	CEQA Significance Determinations for Biological Resources
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

2.1.5 Cultural Resources

Considering the information in the Archaeological Survey Report dated November 2021 and Historic Property Survey Report dated November 17, 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

2.1.6 Energy

Considering the project's scope and anticipated duration, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Energy
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

2.1.7 Geology and Soils

Considering the information in the Paleontology Memo dated December 28, 2021, the California Department of Conservation Regulatory portal, and the project location and scope, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. 	No Impact
ii) Strong seismic ground shaking?	No Impact
iii) Seismic-related ground failure, including liquefaction?	No Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

2.1.8 Greenhouse Gas Emissions

Considering the information in the Climate Change and Greenhouse Gas Analysis technical memo dated March 4, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact

Affected Environment

The project lies in an urban area of the City of Merced in Merced County at the intersection of State Route 59 and Gerard Avenue. Commercial and/or light industrial businesses sit on all four corners of the intersection, and residential buildings are behind the commercial and industrial areas. State Route 59 is a two-lane, free-flowing highway through this intersection, and Gerard Avenue has stop signs. This area is frequented by agricultural, commercial, and residential traffic.

Environmental Consequences

Greenhouse gas emissions are anticipated from the temporary construction activities during the 200 working days of the project construction timeline. The Caltrans Construction Emissions Tool (CALCet V1.1) estimated that approximately 230 tons of carbon dioxide emissions would be generated through construction-related activities.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are required at this time. The project will include best management practices and standard specifications, and incorporate feasible project-level greenhouse gas reduction strategies to meet statewide and agency goals. Implementation of these strategies, mentioned in Section 1.5, will reduce construction-related impacts to a less than significant level.

The project will not conflict with any applicable greenhouse gas reduction plan, policy, or regulation.

2.1.9 Hazards and Hazardous Materials

Considering the information in the Hazardous Waste Initial Site Assessment for State Route 59 Intersection Control dated August 30, 2021 and the Hazardous Waste Preliminary Site Investigation dated August 4, 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less Than Significant Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

Affected Environment

The existing intersection of State Route 59 and Gerard Avenue is a four-legged intersection, with light industrial and commercial businesses on each corner and residential dwellings beyond the intersection along Gerard Avenue. An Initial Site Assessment and a Preliminary Site Investigation were completed for this project in August 2021. One open and two closed hazardous waste remediation sites are within or adjacent to the project area, and there is potential to encounter residual contamination from these sites during construction.

The Preliminary Site Investigation studied all corners of the intersection except the northeast corner, which was paved and not included in the scope of work, to assess aurally deposited lead and total petroleum hydrocarbons in the surface soils at the intersection where construction may occur. Petroleum hydrocarbons are chemicals found in oil and gasoline. Aurally deposited lead refers to the tiny particles of lead emitted by exhaust that settle into the soils next to freeways and roads and can build up over time.

The aurally deposited lead analysis included all three corners of the Preliminary Site Investigation area; the total petroleum hydrocarbons analysis was limited to the southwest corner of the intersection. The southwest corner is the site of a former leaking underground storage tank associated with the N&S Tractor Company, which became a closed site on June 6, 1996. The results of the analysis indicated that levels of total petroleum hydrocarbons in the soil at the intersection are not above regulatory screening levels. The results of the aurally deposited lead analysis indicated there is some aurally deposited lead present in soils around the intersection and that lead would be classified as regulated waste.

The Initial Site Assessment report included summarized findings from the Preliminary Site Investigation and included analysis of asbestos-containing materials, naturally occurring asbestos, striping, and treated wood waste. It is unlikely the project will encounter naturally occurring asbestos, and there is minimal potential to encounter asbestos-containing materials. There is potential to encounter striping and treated wood waste in the project area, and Caltrans Standard Special Provisions will be required.

Environmental Consequences

Cortese List: Section 65962.5(a)

There are two closed remediation sites and one open remediation site within or adjacent to the project area. Table 1 lists the remediation sites, their locations, and status of the sites.

Table 1: Remediation Sites

Site Name	Site Number	Address	City	Status
N&S Tractor Co.	T0604700076	600 Highway 59 S.	Merced	Closed
Dickey Petroleum	SL0604711188	395 South Highway 59	Merced	Closed
Dickey Petroleum	T0604700339	385 Highway 59 S.	Merced	Active

An active remediation site and a closed remediation site are at Dickey Petroleum, which is northwest of the intersection of State Route 59 and Gerard Avenue. Project work is not expected to affect these two remediation sites. The other closed remediation site is at N&S Tractor Co. on the southwest corner of the intersection. Due to the scope and footprint of project work, this site would be affected by all three (originally proposed) build alternatives. Technical studies have indicated that the levels of total petroleum hydrocarbons in the soil at the intersection are not above regulatory screening levels and would not require mitigation. However, because the N&S Tractor Co. site is a Cortese List site, there would be a less than significant impact on hazardous materials.

Aerially Deposited Lead

Results of soil testing at the intersection indicate the soil will be classified as a regulated waste unless “hot spot” areas are tested and could be treated as a separate waste stream. The District Hazardous Waste Technical Specialist will work with Design staff to determine the most likely excavation areas for this “hot spot” analysis during the Plans, Specifications, and Estimates phase of the project. Based on the outcome of these discussions, additional Caltrans Standard Special Provisions and reporting may be required in addition to the ones discussed in following section.

Striping

Yellow-painted striping and pavement markings are present in the project area and may contain concentrations of lead. The project work may require removal of the striping before the road surface is cold-planed (scraped off). With avoidance and minimization measures, there will be no impact on hazardous materials.

Treated Wood Waste

Treated wood waste is anticipated on this project. With implementation of avoidance and minimization measures, there will be no impact on hazardous materials.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to minimize hazardous waste impacts to less than significant. Additional details on these measures can be found in the Initial Site Assessment. Additional measures may be added after “hot spot” analysis is completed in the Project Specifications and Estimate phase.

HW 1—If the scope of work requires striping removal prior to cold-planing, then Caltrans Standard Special Provision 14-11.12 will be added in the construction contract and the contractor will manage the removed stripes and pavement markings as hazardous.

HW 2—If the scope of work requires cold-planing the entire road surface, including any yellow paint/striping, and calculations show that the cold-planing residue will not be a hazardous waste, then Caltrans Standard Special Provision 36-4 will be added in the construction contract and waste will be managed as construction debris.

HW 3—Caltrans Standard Special Provision Section 14-11.14 for encountering treated wood waste will be included in the construction contract.

2.1.10 Hydrology and Water Quality

Considering the information in the Location Hydraulic Study dated July 31, 2019, and the Water Compliance Memorandum for State Route 59 Intersection Control Project dated June 23, 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation onsite or offsite;	No Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	No Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	No Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

2.1.11 Land Use and Planning

Considering the information in the Merced County General Plan adopted December 10, 2013, the Draft Relocation Impact Report dated November 29, 2021, and the Community Impact Assessment dated March 3, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact

2.1.12 Mineral Resources

Considering the information in the Merced County General Plan adopted December 10, 2013 and the scope of the project, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact

2.1.13 Noise

Considering the information in the Noise Compliance Study dated December 30, 2021, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

2.1.14 Population and Housing

Considering the information in the scope of the project and the information in the Community Impact Assessment dated March 3, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Population and Housing
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

2.1.15 Public Services

Considering the project location, scope of work, and the Section 4(f) Memo dated March 4, 2022, the following significance determinations have been made:

Question:	CEQA Significance Determinations for Public Services
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	No Impact
Police protection?	No Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

2.1.16 Recreation

Considering the information in Section 4(f) Memo dated March 4, 2022, and the Community Impact Assessment dated March 3, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Recreation
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact

2.1.17 Transportation

Considering the information in the Intersection Control Evaluation dated July 2, 2021 and the Traffic Operations Analysis Report (TOAR) completed August 20, 2020, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Transportation
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	Less Than Significant Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	No Impact

Affected Environment

The existing intersection of State Route 59 and Gerard Avenue consists of two-way stop control on Gerard Avenue and free-flowing traffic on State Route 59. The stop signs on Gerard Avenue indicate that cross traffic does

not stop, and there are no pedestrian crossing areas, bicycle lanes, or sidewalks at this intersection.

The Traffic Investigation Report approved on December 7, 2018 identified a pattern of broadside collisions at this intersection. This project was proposed originally with three build alternatives to address safety concerns at the intersection. The traffic report found that the existing intersection configuration of two-way stop control will operate at an unacceptable level of service (rating of “F”) for the project Design Years of 2041 and 2046 and will not provide adequate service for the traveling public.

For this project, level of service refers to a grading scale associated with delays in seconds for traffic at the intersection, with “level of service A” having free-flow traffic conditions with little or no delays, and “level of service F” having over-saturated conditions where traffic flows exceed design capacity resulting in long line and delays. Design year refers to an estimation of future traffic demand and volume expected for a facility in that year. For additional details on traffic patterns, flows, data, and changes, refer to the Traffic Operations Analysis Report completed August 20, 2020 and the Intersection Control Evaluation completed July 2, 2021 for all alternatives.

Environmental Consequences

The build alternatives are all expected to reduce the number and severity of broadside collisions compared to existing conditions through intersection control and would improve traffic operations at the intersection. All build alternatives are expected to have approximately the same total miles traveled during the morning and evening peak hours. Peak hours, or “rush hours,” are the times of day when the highest volumes of traffic congestion and crowding occur on roads and public transportation. Regardless of the build alternative, the intersection will need to serve the same projected volume of traffic because the project deals with a spot location improvement and would not divert traffic from the existing intersection. Because the vehicle miles traveled are approximately the same for all build alternatives, a comparison of the level of service rating between alternatives is provided below to help show the change in intersection control for the traveling public.

Alternative 2 would have operated under acceptable traffic operations conditions at level of service rating “B” in morning peak hours and “C” in evening peak hours in Opening Year 2026 and Design Year 2041. Traffic signals can potentially reduce the likelihood of pedestrian-vehicle incidents at intersections by using signal phasing to permit only a few legal movements at any given time. Vehicle movements like red-light running (illegal), right turn on green (legal), left turn on green (legal for protected-permissive or permissive left-turn phasing), and right turn on red (legal in most of the U.S.) at signalized intersections can create potential conflict points with pedestrians under typical traffic signal phasing. Conflict points are locations in or on the approaches at an intersection where vehicle paths merge, diverge, or cross.

Alternative 3 has fewer conflict points than Alternative 2. Roundabouts have lower traffic speeds, which can result in less crash severity. Due to lower vehicle speeds and smaller number of conflict points, roundabouts are considered to have a higher safety benefit than other types of intersections. Vehicle speeds are reduced by the design of the intersection, and the conflict points for pedestrians occur only when a vehicle is entering and exiting the roundabout. Minor delays to vehicles are offset by the increased safety for pedestrians at roundabout-type intersections. Alternative 3 will operate at an overall level of service rating “B” in both the morning and evening peak hours for Opening Year 2026 and Design Year 2046.

For the Opening Year (2026), when comparing the vehicle hours of delay for Alternative 3 to the other alternatives, the amount of time delayed during the morning and evening peak hours is approximately up to three times higher for Alternative 2 and 20 times higher for the no-build alternative.

For Design Year (2041), when comparing the vehicle hours of delay for Alternative 2 to the other alternatives, the amount of time delayed during the morning and evening peak hours is approximately up to 26 times higher for the no-build alternative.

For Design Year (2046), when comparing the vehicle hours of delay for Alternative 3 to the other alternatives, the amount of time delayed during the morning and evening peak hours is approximately up to 100 times higher than the no-build alternative.

The no-build alternative would not change existing conditions and would not address the issues of broadside collisions at this intersection. In comparison to Alternative 3 for amount of vehicle hours of delay, delay under the no-build alternative is up to 20 times longer for Design Year 2041 and 100 times longer for Design Year 2046. And the no-build alternative is anticipated to have a level of service rating “F” for both Design Years 2041 and 2046.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans’ standard measures and best management practices will be included in the construction contract to address any potential traffic issues. Business access is expected to remain roughly the same, with small changes caused by sidewalk additions at corners of the intersection. Widening of the intersection will allow trucks to complete turns. Project-level measures to reduce vehicle miles traveled include constructing a roundabout to increase traffic flow, incorporating complete streets elements, and constructing pedestrian crossings. No other project-specific avoidance or minimization measures are proposed at this time.

2.1.18 Tribal Cultural Resources

Considering the information in the Archaeological Survey Report dated November 2021 and Historic Property Survey Report dated November 17, 2021, the following significance determinations have been made:

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question:	CEQA Significance Determinations for Tribal Cultural Resources
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No Impact

2.1.19 Utilities and Service Systems

Considering the project scope, location, and preliminary design, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant Impact

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

Affected Environment

The project location is in an urbanized area of Merced County with light commercial and industrial buildings surrounding the intersection. There are several existing utilities, including overhead electrical, power, gas, water, irrigation, and sewer lines.

Environmental Consequences

All build alternatives are anticipated to impact utilities and require utility relocation because of the widening of the intersection to accommodate the intersection control measures and truck turning.

Based on the current preliminary design, the build alternatives require the following utility relocations:

- Alternative 2 would have relocated seven utility poles, and associated overhead utility lines may have required relocation. Portions of underground utilities may have required relocation.
- Alternative 3 (the preferred alternative) will relocate six utility poles, and associated overhead utilities may need to be relocated. Portions of underground utilities may also need to be relocated.

The following paragraph was updated after the draft environmental document completed circulation. Additional and more concrete details on the number and location of utilities impacted will be determined once design is finalized on the selected preferred alternative (Alternative 3) during the Plans, Specifications, and Estimates phase, if the project is approved.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans’ standard measures and best management practices will be included in the construction contract to address any potential utility issues. No project-specific avoidance, minimization and/or mitigation measures are proposed at this time, and the project will have a less than significant impact on the environment.

2.1.20 Wildfire

Considering the information in the Climate Change and Greenhouse Gas Analysis dated March 4, 2022, the following significance determinations have been made:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

2.1.21 Mandatory Findings of Significance

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less Than Significant Impact

Affected Environment

As discussed in Chapter 1 of this document, the project is in an urbanized area of Merced County, with commercial and industrial businesses surrounding the intersection. The existing intersection has two-way stop control on Gerard Avenue and free-flowing traffic on State Route 59. All build alternatives will add intersection control to the intersection.

Environmental Consequences

The project may impact greenhouse gas emissions, hazards and hazardous materials, transportation, and utilities and service systems, but with the implementation of avoidance and minimization measures as discussed in Chapter 2, the effects will be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

With the implementation of avoidance and minimization measures, the project will have a less than significant impact on the environment. All other impacts will be avoided and minimized through the implementation of Caltrans' best management practices, standard specifications, and standard special provisions. Therefore, the project will not have a significant impact on human beings either directly or indirectly.

Appendix A Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION

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September 2021

NON-DISCRIMINATION POLICY STATEMENT

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For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in blue ink, appearing to read 'Toks Omishakin'.

Toks Omishakin
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment."

Appendix B Comment Letters and Responses

This appendix contains the comments received during the public circulation and comment period from May 3, 2022 to June 6, 2022, retyped for readability. One additional comment received on June 7, 2022, is also included per approval from Senior Environmental Planner C. Scott Guidi. The comment letters are stated verbatim as submitted, with acronyms, abbreviations, and any original grammatical or typographical errors included. A Caltrans response follows each comment presented. Copies of the original comment letters and documents can be found in Volume 2 of this document.

The State Clearinghouse is not currently providing close-of-review-period letters, so Caltrans staff checked the State Clearinghouse website page for the project after the review period closed on June 6, 2022. No comments were found on the State Clearinghouse website for this project.

Comment from Robert (Bob) Silva

From: ajax2400@aol.com <ajax2400@aol.com>
Sent: Tuesday, May 17, 2022 10:36 AM
To: Guidi, Scott@DOT <Scott.Guidi@dot.ca.gov>
Subject: EA 10-1k620 S. Hwy. 59/Gerard Intersection

Scott:

My background is 8 years with the City of Atwater Engineering Department, 7 years with private civil engineering companies and 14 years with Caltrans at Headquarters, and Structures (Bridges) and 10 years as a Transportation Surveyor in District 6.

I am familiar with the roundabout on Highway 88 and Liberty Road, PM SJ22.09.

I travel to Fiddletown twice a year + and have passed through that intersection just after it was completed and just this month. As I expected, the trucks can't safely pass through it as demonstrated by the tire marks on the curbs and well onto the sidewalks.

I recommend you take a road trip and see for yourself.

This second time through it I was nearly struck by a vehicle who did not yield at the cross street.

I have passed through roundabouts on SR49 (PM AMA 17.218) Plymouth and SR137/43 (KIN 1.46) at Corcoran.

The amount of traffic here on South Highway 59, both vehicle and trucks had significantly increased in the last few years.

Much of the truck traffic is from northbound Highway 99 exiting to westbound Highway 152 to northbound Highway 59 to avoid the weigh scales north of Chowchilla.

That's evident as they go back to northbound 99 in Merced.

Since I live at 1232 S. Hwy. 59 and pass through that intersection nearly every day and the vehicle and pedestrian cross traffic has greatly increased due to the new subdivisions on either side of the highway.

My recommendation is to install a traffic acuated traffic signal with pedestrian heads and possibly if space exists, left turn lanes.

Since the Hwy. 59 and Childs Ave. intersection was signalized, (much needed) north bound traffic sometimes backs up to Gerard. I have seen it further than that on occasion.

Thank you for your time.

Robert (Bob) Silva
1232 S. Hwy. 59
Merced, CA. 95341
ajax2400@aol.com
(209) 722-4681

Response to comment

Thank you for your comment and interest in this project. Caltrans has noted your alternative preference and concerns regarding the different alternatives proposed in the draft environmental document.

Per discussion with Caltrans Traffic Operations Specialists and technical data collected for the Traffic Operations Analysis Report dated August 20, 2020, it was determined that a roundabout at the intersection of State Route 59 and Gerard Avenue would have better performance than a traffic signal at this intersection. Please see Appendix C in this document for excerpts from the Traffic Operations Analysis Report, and the Intersection Control Evaluation dated July 2, 2021. The figures in Appendix C show the performance of both Alternative 2 and Alternative 3, with Alternative 3 showing a higher performance overall. The Traffic Operations Analysis Report and the Intersection Control Evaluation are available upon request in Volume 2. If you would like to request a copy of Volume 2 or an individual technical study, please send your request to:

C. Scott Guidi
District 10 Environmental Division
California Department of Transportation
1976 East Doctor Martin Luther King Junior Boulevard, Stockton,
California 95205
Or send your request via email to: scott.guidi@dot.ca.gov
Or call: 209-479-1839

Please refer to Section 1.5 of this document for additional information on the preferred alternative (Alternative 3).

Comment from Mike Mackenzie

From: Mike Mackenzie <mikemac484@gmail.com>
Sent: Thursday, May 19, 2022 9:13 AM
To: Guidi, Scott@DOT <Scott.Guidi@dot.ca.gov>
Subject: mission street in Merced

My name is Mike Mackenzie, i am a 30 resident of Reilly Rd in Merced and have used hwy 59 to enter Merced. After watching the web cast and listening to all of you I have input.

i am against signal light. The amount of traffic that would back up will be a major concern. The amount of traffic and big rigs that access that will cause a long line of back up and slow moving. When the big rigs start through an intersection it is a very slow process , allowing a few cars through at a time, thus backing up traffic and with the alternative to use Mission Rd.to go around.

This is the problem now with the Childs St signal light, adding another light will cause more delay. Slowing and stopping traffic will become a big problem.

I am in favor or the circular drive through or NO change at all

The circular drive through would keep all traffic moving from all directions, having little to no stopping. This would keep the flow of traffic moving and better for all directions.

Response to comment

Thank you for your comment and interest in this project. Caltrans has noted your alternative preference and concerns regarding the alternatives proposed in the draft environmental document. Please refer to Section 1.5 of this document for additional information on the preferred alternative (Alternative 3).

Comment from Jim Tanioka

From: Jim Tanioka <jimtanioka@gmail.com>
Sent: Sunday, May 29, 2022 7:22 PM
To: Guidi, Scott@DOT <Scott.Guidi@dot.ca.gov>
Subject: State Route 59 Intersection Control Project

Mr. Guidi

The traffic signal (alternative 2) is the optimal solution to reduce the number and severity of broadside collisions at the intersection of State Route 59 and Gerard Avenue, while also keeping traffic congestion to a minimum. A roundabout would potentially create more traffic congestion for two reasons. According to the US Department of Transportation (USDOT), Roundabouts are not the solution for Two-way stop control (TWSC) intersections with heavy traffic on the major street and low-volume cross street traffic on the minor street because they create a 'significant impediment to the major (streets) movement' (USDOT, 2000, p. 64). The heavy traffic of the major street (Highway 59) would be significantly impacted by the low volume traffic on the minor street (Gerald) with a roundabout. The USDOT also states that, "significant types of traffic may result in vehicles with difficulty negotiating the roundabout, such as oversized trucks" (USDOT, 2010, p.63). Highway 59 has a high volume of large semis traveling on it, which would be impeded by the roundabout.

Reference

U.S Department of Transportation. *Roundabouts: An Informational Guide*. Robinson et all. Federal Highway Administration, 2000. Publication No. FHWA-RD-00-067. Available at: <https://www.fhwa.dot.gov/publications/research/safety/00067/00067.pdf>, Accessed: 5/16/2022.

U.S Department of Transportation. *Roundabouts: An Informational Guide Second Edition*. Rodegerdts et all. National Academy of Sciences, 2010. Library of Congress Control Number 2010937912. Available at: <https://nacto.org/docs/usdg/nchrprpt672.pdf>, Accessed: 5/16/2022.

James Tanioka
Owner of Tanioka Farms
Cell phone: (209) 769-5627
E-mail: jimtanioka@gmail.com

Response to comment from Jim Tanioka

Comment 1

The traffic signal (alternative 2) is the optimal solution to reduce the number and severity of broadside collisions at the intersection of State Route 59 and Gerard Avenue, while also keeping traffic congestion to a minimum.

Response to comment 1

Thank you for your comment and interest in this project. Caltrans has noted your alternative preference and concerns regarding the different alternatives proposed in the draft environmental document.

Per discussion with Caltrans Traffic Operations Specialists and technical data collected for the Traffic Operations Analysis Report dated August 20, 2020, it was determined that a roundabout at the intersection of State Route 59 and Gerard Avenue would have better operational performance than a traffic signal at this intersection. Please see Appendix C for excerpts from the Traffic Operations Analysis Report dated August 20, 2022, and the Intersection Control Evaluation dated July 2, 2021. The figures in Appendix C show the operational performance of both Alternative 2 and Alternative 3, with Alternative 3 showing a higher operational performance overall. Alternative 3 would also reduce congestion at the intersection. The Traffic Operations Analysis Report and the Intersection Control Evaluation are available upon request in Volume 2. If you would like to request a copy of Volume 2 or an individual technical study, please send your request to:

C. Scott Guidi
District 10 Environmental Division
California Department of Transportation
1976 East Doctor Martin Luther King Junior Boulevard, Stockton,
California 95205
Or send your request via email to: scott.guidi@dot.ca.gov
Or call: 209-479-1839

Please refer to Section 1.5 of this document for additional information on the preferred alternative (Alternative 3).

Comment 2

A roundabout would potentially create more traffic congestion for two reasons. According to the US Department of Transportation (USDOT), Roundabouts are not the solution for Two-way stop control (TWSC) intersections with heavy traffic on the major street and low-volume cross street traffic on the minor street because they create a 'significant impediment to the major (streets) movement' (USDOT, 2000, p. 64). The heavy traffic of the major street (Highway 59) would be significantly impacted by the low

volume traffic on the minor street (Gerald) with a roundabout. The USDOT also states that, “significant types of traffic may result in vehicles with difficulty negotiating the roundabout, such as oversized trucks” (USDOT, 2010, p.63). Highway 59 has a high volume of large semis traveling on it, which would be impeded by the roundabout.

Response to comment 2

Thank you for your comment regarding traffic congestion and delay. According to Caltrans traffic data, the difference in the amount of traffic on Gerard Avenue to State Route 59 would not cause the delays described in your comment regarding low volume roads. Gerard Avenue’s traffic volume is approximately 30 percent of that of the mainline (State Route 59). In addition, all alternatives that were proposed in the draft environmental document were designed to accommodate large trucks and meet Surface Transportation Assistance Act standards for truck turning movements at the intersection. Additional technical traffic data is contained in the Traffic Operations Analysis Report and the Intersection Control Evaluation (in Volume 2), which are available upon request.

As mentioned previously, if you would like a copy of any of the technical studies, please submit a request to C. Scott Guidi.

Comment from Mike Morris, Merced Irrigation District

From: Michael Morris <mmorris@mercedid.org>

Sent: Monday, June 6, 2022 8:36 AM

To: Guidi, Scott@DOT <Scott.Guidi@dot.ca.gov>

Subject: State Route 59 Intersection Control project (10-1K620) draft environmental document

Scott,

Attached are MID comments to the proposed project. Let me know if you have any questions.

Thanks,

Mike Morris L.S.
Survey Project Manager
Merced Irrigation District
744 W 20th Street
Merced, CA 95344
Phone (209) 354-2882

Email attachment



June 3, 2022

C. Scott Guidi, Senior Environmental Planner
California Department of Transportation
P.O. Box 2048, Stockton, CA 95201
1976 East Doctor Martin Luther King Junior Boulevard
Stockton, CA 95205

Subject: Proposed Negative Declaration for the State Route 59 Intersection Control project.

PM:1 3.4-13.8

Project EA: 10-1K620

Dear Mr. Guidi:

The Merced Irrigation District (MID) has reviewed the above referenced document and offers the following comments:

MID operates and maintains the Zentner Lateral (66" diameter HDPE pipeline) along the south line of Gerard Avenue located within a 40 foot wide Right-of-Way to the East of Hwy 59 as described in that certain document recorded in Volume L of Agreements Page 541, Merced County Records and a prescriptive right-of-way currently west of Hwy 59, currently utilizing approximately 40 feet plus or minus.

MID offers the following comments:

1. If storm water runoff is to be discharged from the site into any MID facility through a new or existing drainage system, MID may require Caltrans to enter into a drainage agreement, paying all applicable fees. Allowing storm drainage from the project site will be dependent upon available capacity within MID facilities in the area.
2. A signature block to be provided for MID on all Improvement Plans associated with MID facility modifications or work within the MID right-of-way.

3. Caltrans must enter into an “Encroachment Agreement” for any work associated with MID facilities and pay all applicable fees.
4. The irrigation season is historically from March 1st to October 31st and no work is allowed on MID facilities at this time, without written approval. The Zentner Lateral collects storm drainage flows year round. Any work on the Zentner Lateral will require storm flows to be bypassed.

MID reserves the right to impose further conditions as necessary.

Thank you for the opportunity to comment on the above referenced applications. If you have any questions, please contact me at (209) 354-2882.

Sincerely,

Mike Morris

Mike Morris L.S.
Survey Project Manager
Merced Irrigation District
744 W 20th Street
Merced, CA 95344

Response to comment from Mike Morris, Merced Irrigation District

Comment 1

If storm water runoff is to be discharged from the site into any MID facility through a new or existing drainage system, MID may require Caltrans to enter into a drainage agreement, paying all applicable fees. Allowing storm drainage from the project site will be dependent upon available capacity within MID facilities in the area.

Response to comment 1

Thank you for your comment and interest in this project. The project will not discharge any stormwater runoff into any Merced Irrigation District facility. It is not anticipated that a drainage agreement with Merced Irrigation District would be required.

Comment 2

A signature block to be provided for MID on all Improvement Plans associated with MID facility modifications or work within the MID right-of-way.

Response to comment 2

The facility is a utility, and therefore relocation plans would need to be created from Merced Irrigation District based on conflict plans provided by Caltrans. The plans created by the Merced Irrigation District would have their signature block and internal approval on them. Then Caltrans Right-of-Way Utilities division will provide Caltrans Design a signature approval block for the Project Engineer to sign and date on the relocation plans. Caltrans does not put other entities', such as Merced Irrigation District's, signature block on approved plans used for advertising the project.

Comment 3

Caltrans must enter into an "Encroachment Agreement" for any work associated with MID facilities and pay all applicable fees.

Response to comment 3

If work from the Caltrans contractor occurs within the Merced Irrigation District right-of-way, then an Encroachment Permit will be pursued. Whether the handling of the permit is by Caltrans first for approval and then by Caltrans contractor or just by Caltrans, that would be decided at that time. If no work occurs within the Merced Irrigation District's right-of-way, then no Encroachment Permit will be pursued.

Comment 4

The irrigation season is historically from March 1st to October 31st and no work is allowed on MID facilities at this time, without written approval. The Zentner Lateral collects storm drainage flows year round. Any work on the Zentner Lateral will require storm flows to be bypassed.

Response to comment 4

Thank you for the information regarding the irrigation season for Merced Irrigation District facilities. Caltrans has noted the approval requirement for storm flows bypass if work is required on the Zentner Lateral.

Comment from Sytesh Hampton

From: Sytesh Hampton <reply-to+6538997d97da@crm.wix.com>

Sent: Tuesday, June 7, 2022 7:11 PM

To: Guidi, Scott@DOT <Scott.Guidi@dot.ca.gov>

Subject: [SR 59 Intersection] Get in touch - new submission

Comment 1

I believe that a temporary immediate solution would be to add stop signs to make a 4 way stop on Gerard & Hwy 59 with cross walks and if possible lighted crosswalks with flashing lights as I've seen a lot of people cross the busy highway. Long term I think the best option would be a 4 way light which of course includes crosswalks.

Response to comment 1

Thank you for your comments and interest in this project. Caltrans has noted your alternative preference and suggestion of an interim 4-way stop (stop signs) for the intersection. After reviewing the traffic data and consulting with Caltrans Traffic Safety and Traffic Operations Specialists, it was determined that Caltrans will not be pursuing an interim 4-way stop (all-way stop control) at the intersection of State Route 59 and Gerard Avenue. This is due to several factors, including existing constraints at this intersection. The intersection of State Route 59 and Gerard Avenue is on a designated truck route, and trucks frequently cross this intersection. The addition of just stop signs on all sides of the intersection, without any other improvements made to the intersection, would not address the current transportation needs, and instead may cause traffic safety concerns. If stop signs were added to the intersection on all sides, it may cause issues with trucks' abilities to safely complete turn movements. To accommodate safe truck turning movements, the intersection would have to be widened, as described in Alternative 1, which was eliminated from further consideration prior to circulation of the draft environmental document. Please see Section 1.6 for additional details on Alternative 1. In addition, an all-way stop control will not meet traffic safety warrants and traffic operations standards for when the project is complete.

Comment 2

Also mission avenue would not be the best route to divert traffic down the road has not been well maintained and is already crumbling as well as the school is there and some parts of the day it would be horrible congestion. Unless the road has proper maintenance and is widened a little prior to the diversion I would say this is a bad idea.

Response to comment 2

Thank you for your input regarding the potential detours for this project during construction. Caltrans has noted your comment and will take it into consideration while planning detours during the Plans, Specifications, and Estimates phase of the project. Please note, any work, such as widening or maintenance, of local roads like Mission Avenue is outside of the scope of this project and therefore will not be included.

Appendix C Excerpts from the Traffic Operations Analysis Report and the Intersection Control Evaluation

Appendix C was added after the draft environmental document completed circulation.

The following two figures are from the Traffic Operations Analysis Report dated August 20, 2020 and show the analysis results for Design Year 2041 and Design Year 2046 for a traffic signal and a roundabout at the intersection of State Route 59 and Gerard Avenue. Additional details are available in the Traffic Operations Analysis Report contained in Volume 2.

Figure C-1: Design Year 2041 Analysis Results (Traffic Signal)

SCENARIO	APPROACH	SIGNAL W/DEDICATED LEFT TURN LANES			
	MOVEMENT	AVAILABLE STORAGE (ft)	REQUIRED STORAGE 95TH % QUEUE (ft)	DELAY BY MOVEMENT (sec)	LEVEL OF SERVICE (LOS)
MER 59 - Gerard Avenue Intersection	EBL	300	73 (158)	31.1 (48.7)	C (D)
	EBT/R	>1,000	125 (148)	23.1 (39.4)	C (D)
	WBL	300	62 (62)	32.8 (36.0)	C (D)
	WBT/R	>1,000	115 (113)	24.7 (37.8)	C (D)
	NBL	500	86 (123)	32.4 (49.0)	C (D)
	NBT/R	>1000	308 (235)	12.3 (11.2)	B (B)
	SBL	500	80 (195)	35.7 (88.1)	D (F)
	SBT/R	>1000	205 (346)	11.0 (15.8)	B (B)
OVERALL INTERSECTION MEASURES OF EFFECTIVENESS (MOE'S)	MOE'S	OVERALL DELAY (sec)		15.5 (25.1)	
		OVERALL LOS		B (C)	
		DEGREE OF SATURATION		1.010 (0.928)	
		AVERAGE SPEED		23.1 (23.3)	
		VMT (veh-mi)		1,187.1 (1,200.5)	
		VHD (veh-hr)		18.95 (19.93)	
		CO ₂ EMISSION (kg / hr)		672.4 (585.7)	
		FUEL CONSUMPTION (gal / hr)		74.0 (64.9)	
		EMISSIONS (kg / hr)		3.068 (2.145)	

Figure C-2: Design Year 2046 Analysis Results (Roundabout)

SCENARIO	APPROACH	SINGLE LANE ROUNDABOUT			
	MOVEMENT	AVAILABLE STORAGE (ft)	REQUIRED STORAGE 95TH % QUEUE (ft)	DELAY BY MOVEMENT (sec)	LEVEL OF SERVICE (LOS)
MER 59 - Gerard Avenue Intersection	EB	>1000	54.2 (116.5)	8.2 (14.1)	A (B)
	WB	>1000	70.6 (42.4)	14.0 (9.1)	B (A)
	NB	>1000	625.8 (327.8)	21.9 (16.9)	C (B)
	SB	>1000	137.8 (401.1)	10.5 (16.4)	B (B)
OVERALL INTERSECTION MEASURES OF EFFECTIVENESS (MOE'S)	MOE's	OVERALL DELAY (sec)		15.5 (15.7)	
		OVERALL LOS		B (B)	
		DEGREE OF SATURATION		0.822 (0.765)	
		AVERAGE SPEED		29.8 (29.6)	
		VMT (veh-mi)		1,180.6 (1,240.8)	
		VHD (veh-hr)		8.05 (8.53)	
		CO ₂ EMISSION (kg / hr)		616.4 (578.8)	
		FUEL CONSUMPTION (gal / hr)		67.8 (64.1)	
EMISSIONS (kg / hr)		2.855 (2.236)			

The following figure is from the Intersection Control Evaluation dated July 2, 2021. The scoring matrix shows the results of the Intersection Control Evaluation process and the scorings completed by the Caltrans Project Development Team functional units with input from Merced County. Additional details are available in the Intersection Control Evaluation contained in Volume 2.

Figure C-3: Intersection Control Evaluation Scoring Matrix Result Comparison

ICE EVALUATION SCORING SUMMARY (AVERAGED SCORES)			
DEPARTMENT	Alternative 1 (AWSC)	Alternative 2 (Signal)	Alternative 3 (Single Lane Roundabout)
Caltrans Program Project Management	42	79	91
Caltrans Construction	-	-	-
Caltrans Design	48	79	101
Caltrans Freeway & Highway Operations	70	82	93
Caltrans Environmental	38	63	75
Caltrans Traffic Safety	56	68	76
Caltrans Maintenance	-	-	-
Caltrans Planning	-	-	-
Caltrans Traffic Engineering	-	-	-
City of Merced	-	-	-
Merced County	35	57	16
Merced County Association of Governments (MCAG)	-	-	-
TOTAL	289	428	452
Project Cost	\$290,000	\$5,225,000	\$5,885,000
Projected Collision Cost Savings Over 20 Years	\$12,930,000	\$7,645,000	\$16,548,000
Daily Vehicle Hours of Delay (Design Year)	815	647	899
Benefit / Cost Ratio (Design Year - 2046)	44.59	1.46	2.81
	Fail before Design Year		

Note: (-) Did not provide scores.

List of Technical Studies Bound Separately (Volume 2)

- Archaeological Survey Report
- Biological Resources Evaluation (No Effect) Memo
- Climate Change and Greenhouse Gas Analysis Memo
- Community Impact Assessment Memo
- Draft Relocation Impact Report
- Hazardous Waste Initial Site Assessment
- Hazardous Waste Preliminary Site Investigation
- Historic Property Survey Report
- Intersection Control Evaluation
- Location Hydraulic Study
- Section 4(f) Analysis Memo
- Noise Compliance Study
- Traffic Operations Analysis Report
- Visual Impact Assessment Level Questionnaire
- Paleontology Memo

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to:

C. Scott Guidi
District 10 Environmental Division
California Department of Transportation
1976 East Doctor Martin Luther King Junior Boulevard, Stockton, California 95205

Or send your request via email to: Scott.Guidi@dot.ca.gov
Or call: 209-479-1839

Please provide the following information in your request:

Project title: State Route 59 Intersection Control Initial Study with Negative Declaration

General location information: Intersection of State Route 59 and Gerard Avenue

District number-county code-route-post mile: 10-Mer-59-PM 13.4-13.8

Project ID number: 10-1K620/1019000059