

Appendix A

Transportation Analysis

Final Memorandum

Date: July 16, 2025

To: Deirdre Clem, Cal Poly Humboldt Facilities Management

cc: Marianne Lowenthal and Chris Mundhenk, Ascent Environmental

From: Ian Barnes, PE, and Bruno Lertora, Fehr & Peers

Subject: Cal Poly Humboldt Foster Campus Connectivity Project CEQA Transportation Analysis

WC23-3979

This technical memorandum documents the California Environmental Quality Act (CEQA) transportation analysis results for the proposed Cal Poly Humboldt Foster Campus Connectivity Project (project). This analysis reflects updated CEQA analysis procedures identified in the *California State University Transportation Impact Study Manual* (CSU TISM) and further discussions with CSU Chancellor's Office environmental staff.

The primary purpose of this evaluation is to provide a CEQA-compliant analysis of transportation system impacts, including an analysis of vehicle-miles traveled (VMT) per the CSU TISM and the State Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

Project Description

The project site is located at 2000 Foster Avenue, west of the Cal Poly Humboldt campus in the City of Arcata. The project site is bound by the McDaniel Slough to the east, Stewart Avenue to the north, Janes Road to the west, and Foster Avenue to the south. The site is currently unoccupied. The proposed project aims to construct a parking facility with up to 212 spaces. The project will include a bus island which will serve transit lines connecting students and faculty to campus and other locations. The proposed project does not include an increase in enrollment at the University. Both vehicular and emergency vehicle access to the project site would be provided via Foster Avenue.

The project site will be supported by shuttle service to/from campus at 15-minute headways. In addition to the 2000 Foster Avenue shuttle stop, the shuttle will also stop in the vicinity of 17th



Street/Q Street to intercept potential transit riders coming from the neighborhood to the south of the project site. By providing high-quality transit service, pedestrian trips along Foster Avenue will be minimized.

Existing Transportation System

As noted previously, public vehicular access to the site will be provided via Foster Avenue. Bicycle and pedestrian access will be provided via a new Class I multi-use trail proposed along Foster Avenue.

Foster Avenue is an east-west local street with one travel lane in each direction. Currently it connects with Q Street and 17 Street to the south and stretches all the way to the west end of the city where it turns into Jackson Ranch Road. The posted speed limit along Foster Avenue is 25 miles per hour. There are sidewalks and bike facilities present on Foster Avenue east of the McDaniel Slough; no pedestrian or dedicated bike facilities are found west of the slough.

Analysis Methods

The following discusses our analysis methods and assumptions for the assessment.

CEQA Transportation Analysis

As noted previously, the project is being analyzed under the auspices of the latest CEQA Guidelines and the CSU TISM. For CEQA Transportation analysis, projects are generally required to respond to the following CEQA Guidelines Appendix G checklist questions:

Would the project:

- a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?
- b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- d) Result in inadequate emergency access?

Criterion B is the formal implementation of the Senate Bill (SB) 743 requirement to analyze VMT as part of the CEQA Transportation section. Under SB 743, congestion related project effects (such as those measured by level of service or similar metrics) are deemed to be **less-than-significant** by statute. Relevant subsections of CEQA Guidelines section 15064.3(b) for the project read as follows:



- (1) **Land Use Projects.** *Vehicle-miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one half-mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle-miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*
- (4) **Methodology.** *A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.*

As noted above, the California State University System, in its capacity as lead agency, has the ability to select the methodology and CEQA significance criteria for use in the CEQA transportation section. CEQA transportation impact significance criteria are provided in the following section.

CEQA Transportation Impact Criteria

CEQA impacts are identified based on a project's VMT per capita and its effects on pedestrian, bicycle, and transit modes of travel. For land use projects, intersection operation impacts (such as those measured by congestion-based metrics such as level of service) are specifically excluded from CEQA consideration per CEQA Guidelines §15064.3 and Senate Bill 743. The detailed CEQA transportation section impact criteria are presented below.

Vehicle-Miles Traveled (VMT)

The State Office of Planning and Research (OPR), in their *Technical Advisory on the Evaluation of Transportation Impacts in CEQA* (December 2018), provided non-binding guidance on thresholds that can be used to analyze CEQA transportation impacts, using VMT as the quantified metric for evaluation. In its capacity as lead agency, the California State University System has adopted the *Technical Advisory* VMT metrics, methodologies, and thresholds as summarized in the CSU TISM. The basis of these OPR-recommended thresholds includes state climate planning documents and legislation.

CEQA Guidelines §15064.3(a) notes that, for the purposes of §15064.3 and CEQA Transportation analysis, VMT "refers to the amount and distance of automobile travel attributable to a project." This statement has been interpreted by OPR to mean automobile and light-duty truck travel (e.g.,



pickup trucks). For many residential land uses, the amount and distance of automobile travel is the overwhelming component of weekday daily VMT. OPR notes that heavy-duty truck VMT could be included for convenience and ease of calculation, if a lead agency chooses to include it in the calculations, but is not required.

In the *Technical Advisory*, OPR recommended thresholds and calculation approaches for three project types: residential, office, and retail. The thresholds and calculation approaches noted in the *Technical Advisory* are in part based on the legislative intent of SB 743, which include (1) promoting infill development, (2) promoting healthy communities by encouraging active transportation, and (3) helping California meet its statewide climate targets. In essence, the switch to VMT measures the efficiency of land use patterns and streamlines development that enhances a diversity of land uses and access to common goods and commercial/public services.

The CSU TISM recommends a significance threshold of 15% below existing VMT for project-level impacts associated with specific projects when measuring VMT on a per person or per capita basis, but there are no recommended VMT significance thresholds for parking projects. Upon discussion with CSU's Office of the Chancellor, Total VMT per Service Population was adopted as the metric and a net change of Total VMT per Service Population as the threshold. Because the project does not propose to increase student enrollment, the project would create a significant impact related to VMT if there is a net positive change in total VMT.

Public Transit System

The project would create a significant impact related to public transit service if either of the following criteria are met:

- The project generates a substantial increase in public transit riders that cannot be adequately served by existing public transit services; or,
- The project conflicts with existing or planned public transit facilities.

Pedestrian System

The project would create a significant impact related to the pedestrian system if any of the following criteria are met:

- The project design would not provide or would eliminate pedestrian facilities to connect to the area circulation system, or
- The project design would create hazardous conditions for pedestrians due to geometric design feature or introduction of incompatible uses, or
- The project conflicts with existing or planned pedestrian facilities.



Bicycle System

The project would create a significant impact related to the bicycle system if any of the following criteria are met:

- The project design would not provide or would eliminate bicycle facilities that connect to the area circulation system; or
- The project design would create hazardous conditions for bicyclists due to geometric design feature or introduction of incompatible uses; or
- The project conflicts with existing or planned bicycle facilities.

Vehicle System Hazard Impacts

The project would create a significant impact related to the vehicle system if any of the following criteria are met:

- The project design would substantially increase hazards due to a geometric design feature, or
- The project introduces incompatible vehicle uses to the system.

Note that, per Senate Bill 743 and CEQA Guidelines §15064.3, circulation system impacts as measured by metrics such as level of service are considered to be **less-than-significant** by statute.

Emergency Access

The project would create a significant impact related to emergency vehicle access if the following criterion is met:

- The project incorporates design features that limit or result in inadequate emergency vehicle access.

CEQA VMT Analysis

As noted previously in the CEQA significance criteria for VMT impacts discussion, Total VMT per Service Population was selected as the metric for this analysis. The two components needed to calculate Total VMT are trip generation and average trip length. Regarding trip generation, based on the "Parking Market Demand Study" prepared by Walker Consultants in 2018 (Walker Study), peak occupancy of parking spaces on campus is close to 100%. The study's conclusions suggest the parking supply is saturated and latent demand exists. Consequently, it can be presumed that the 212 proposed parking spaces proposed (Project Scenario) will be occupied.



Furthermore, the Humboldt State University 2004 Master Plan was approved to construct a total of 4,745 parking stalls in campus. The Master Plan identifies a future parking structure, which would provide up to 1,000 parking spaces, east of Union Street and north of 17th Street. However, this parking structure would be located on land that is not currently controlled by Cal Poly Humboldt and, as such, is not considered reasonably foreseeable. In addition, a further 37 existing parking stalls will be removed to allow for the development of approved projects. Based on discussions with CSU's Office of the Chancellor, it was determined that the project could take credit for the VMT reduction associated with these 1,037 parking spaces that either will not be built or that will be removed from the current parking supply on campus.

Given the aforementioned conclusions from the Walker Study, it can be assumed that the Project Scenario would generate fewer trips than the parking spaces that have been approved but have not been built (Baseline Scenario). Parking turnover throughout the day is anticipated, but the frequency with which vehicles enter and exit the area will not vary between the Baseline Scenario and remote parking locations Project Scenario, and therefore it does not change the VMT conclusions. Then, in order to simplify the VMT calculations, it can be presumed that each parking spot proposed by the project would generate around two trips per day—one inbound trip to the project site in the AM peak period, and an outbound trip from the project site in the PM peak period.

For trip lengths considerations, GPS-based "Big Data" regarding campus-related trips was analyzed to estimate the average trip length of vehicles commuting to and from campus. The analysis found that the average one-way trip length is 5.7 miles. Given that the project site is located outside of campus, it is reasonable to expect an increase in the trip length of vehicles parking at the project site. Based on the distance between campus and the project site, and the main routes to and from campus, a one-mile increase in driving distances was assumed, resulting in a trip length of 6.7 miles for vehicles driving to the project site.

As shown in **Table 1** below, the Total VMT for the baseline scenario, which includes the 1,000 approved but not built parking spaces and the 37 existing spaces to be removed, is greater than the Total VMT that the 212 off-campus parking spaces proposed by the project would generate. This results in a net decrease in VMT, indicating that the impact to VMT from the project is **less-than-significant**. No mitigation measures are needed.



Table 1: Vehicle-Miles Traveled (VMT) Calculation

	Baseline Scenario	Project Scenario	Change in Total VMT
Parking Spots	1,037	212	-
Trip Generation	2,074	424	-
Trip Length	5.7	6.7	-
Total VMT	11,822	2,841	-8,981

Source: Fehr & Peers, 2024.

CEQA Transit, Pedestrian, and Bicycle Impacts

This following section evaluates the project’s potential impacts on multimodal transportation under Existing with Project conditions.

Transit

The project area is served by the Arcata & Mad River Transit System (A&MRTS), which provides fixed-route transit service within the City of Arcata. Additionally, paratransit service is also available for those who are unable to independently use the transit system due to medical and other conditions. The nearest public transit stop is located about 0.2 miles from the project site at the intersection of Foster Avenue and Alliance Road, which is served by the A&MRTS Green, Gold, and Orange routes running on weekdays with hourly headways. The transit system is expected to accommodate project-generated demand for transit services as the project is proposing to provide a shuttle to transport students between the parking lot and campus Monday through Friday at 15 minutes intervals. The project is not expected to conflict with existing or planned transit facilities. Therefore, impacts to transit are **less-than-significant**.

Pedestrian and Bicycle Systems

There is currently a sidewalk on Foster Avenue east of the McDanial Slough, but no sidewalk on either side of Foster Avenue at the project location. Alliance Road currently has a Class II bike lane between Spear Avenue and 11th Street, where it turns into a Class III bike route. According to the *Arcata General Plan 2045 (Draft 2023)*, Foster Avenue is planned to have segments of Class I multi-use paths and Class II bike lanes which would continue through Sunset Avenue, G Street, and H Street.

As noted previously, the project site will be served by a shuttle system operating at 15-minute headways. This shuttle service would meet the definition of high-quality transit per the Public Resources Code (Section 21155). Accordingly, it is likely that the shuttle service would serve as the connection between parking lot and the University, and thus few (if any) pedestrian and bicycle trips would be generated by the proposed site. Because the new shuttle service would be



attractive for nearby residents, a shuttle stop at 17th Street/Q Street is proposed in order to intercept riders from nearby areas before they must walk along the portion of Foster Avenue without sidewalks. Because the project does not eliminate or preclude bicycle and pedestrian facilities, nor does it create hazardous conditions for these modes, the impacts to the pedestrian and bicycle modes are ***less-than-significant***.

It is recommended that the project includes wayfinding signage to guide pedestrians and cyclists to and from key locations beyond the project site such as the University and downtown Arcata via available transit routes.

CEQA Vehicle System Hazard Impacts

Vehicular site access will be provided via two proposed driveways along Foster Avenue, a local road with a posted speed limit of 25 miles per hour. The width of the driveways is 30 feet. The throat lengths of the driveways, when measured from the roadway to the first conflict point, are approximately 50 and 80 feet, respectively. The length when measured from the back of sidewalk is 35 feet minimum. The throat lengths and widths would be adequate for vehicles entering and exiting the parking area. There is no existing on-street parking directly in front of the project site, and the conceptual site plan does not propose any on-street parking.

Stopping sight distance is a critical factor that ensures drivers have enough time and space to stop to avoid hazards. According to Table 201.1 of the Caltrans *Highway Design Manual*, the stopping sight distance at 25 miles per hour is 150 feet. The sight distance entering the project site at both driveways appears to be more than 150 feet, indicating that the sight distance should be adequate. It is strongly recommended that the final site plan be reviewed for potential sight distance impediments including new signs, above ground utility boxes, or landscaping proposed in the sight triangle.

Overall, the project does not introduce incompatible uses to the roadway system, nor would it introduce geometric features that would result in hazardous conditions. Thus, the project's impact to the vehicle system is ***less-than-significant***. The preceding finding is related to the project's interface with the public roadway system and the project's effect on hazards to the public roadway system; site design recommendations are presented later in this memorandum.

CEQA Emergency Access Impacts

Factors such as number of access points, roadway width, and proximity to fire stations determine whether a project provides sufficient emergency access. The closest fire station to the project site is located approximately one mile to the southeast of the project site at 9th Street and F Street.



The project site includes two access points for emergency vehicles, both approximately 30 feet wide. The site plan also includes driveways off Foster Avenue for public vehicular access. The internal driving aisles are 25- and 30-foot-wide, respectively, sufficient for emergency vehicle circulation. The University will collaborate with the City to integrate the design of the development into the City's emergency response and evacuation plans for wildfires, floods, and other potential emergency situations. It is strongly recommended that the final site plan be reviewed and approved by the City's Fire Chief.

The proposed on-site roadway design provides adequate emergency vehicle circulation and sufficient clearance to accommodate likely emergency vehicle movements. Therefore, the project's impacts to emergency vehicles are ***less-than-significant***.

Site Plan Review

This section analyzes site access and internal circulation for vehicles, pedestrians, and bicyclists. The recommendations provided in this section are not CEQA mitigation measures and are provided for informational purposes only. **Figure 1** includes the proposed site plan.

The project can be accessed via Foster Avenue approximately one mile west of the US 101/ Sunset Avenue undercrossing. The project driveways connect the site's internal driving aisles to Foster Avenue. The 30-foot-wide driving aisle looping around the site, as well as the 25-foot-wide driving aisles between the 90-degree parking stalls, comply with the Arcata Municipal Code and are sufficient for two-way vehicle circulation and emergency vehicle circulation. The project provides standard and ADA parking stalls, as well as a bus island located at the north-end of the site.

The site circulation layout is designed to accommodate emergency vehicle access. Vehicle circulation diagrams provided as part of the site plan demonstrate that large vehicles, including fire trucks, can navigate the internal drive aisles and complete turning movements throughout the site. Pedestrian infrastructure is limited. The site does not provide sidewalks or dedicated walkways within the parking area or along Foster Avenue. However, one marked crosswalk is included on-site to provide a connection between the ADA parking area and the shuttle boarding island.

The absence of continuous pedestrian pathways and limited crossing infrastructure may constrain safe and accessible circulation within the site, particularly for individuals traveling on foot between general parking stalls and the shuttle area. Pedestrian movement outside of the single crosswalk would occur within shared vehicle aisles, which may reduce visibility and predictability for both drivers and pedestrians.



Recommendations to enhance circulation and support user safety and wayfinding include are provided below:

- Provide pedestrian pathways throughout the site to allow safe pedestrian access to the parking stalls as well as the bus island
- Provide high-visibility crossings between the driving aisles and by using patterns or raised crossings
- Add pedestrian crossing signage throughout the site, especially around the bus island
- Add wayfinding signage to different parking areas (ADA parking, bike parking)
- Provide short-term (typically in the form of bicycle racks) and long-term (typically in a secured bike room or bike lockers) bicycle parking

Conclusion

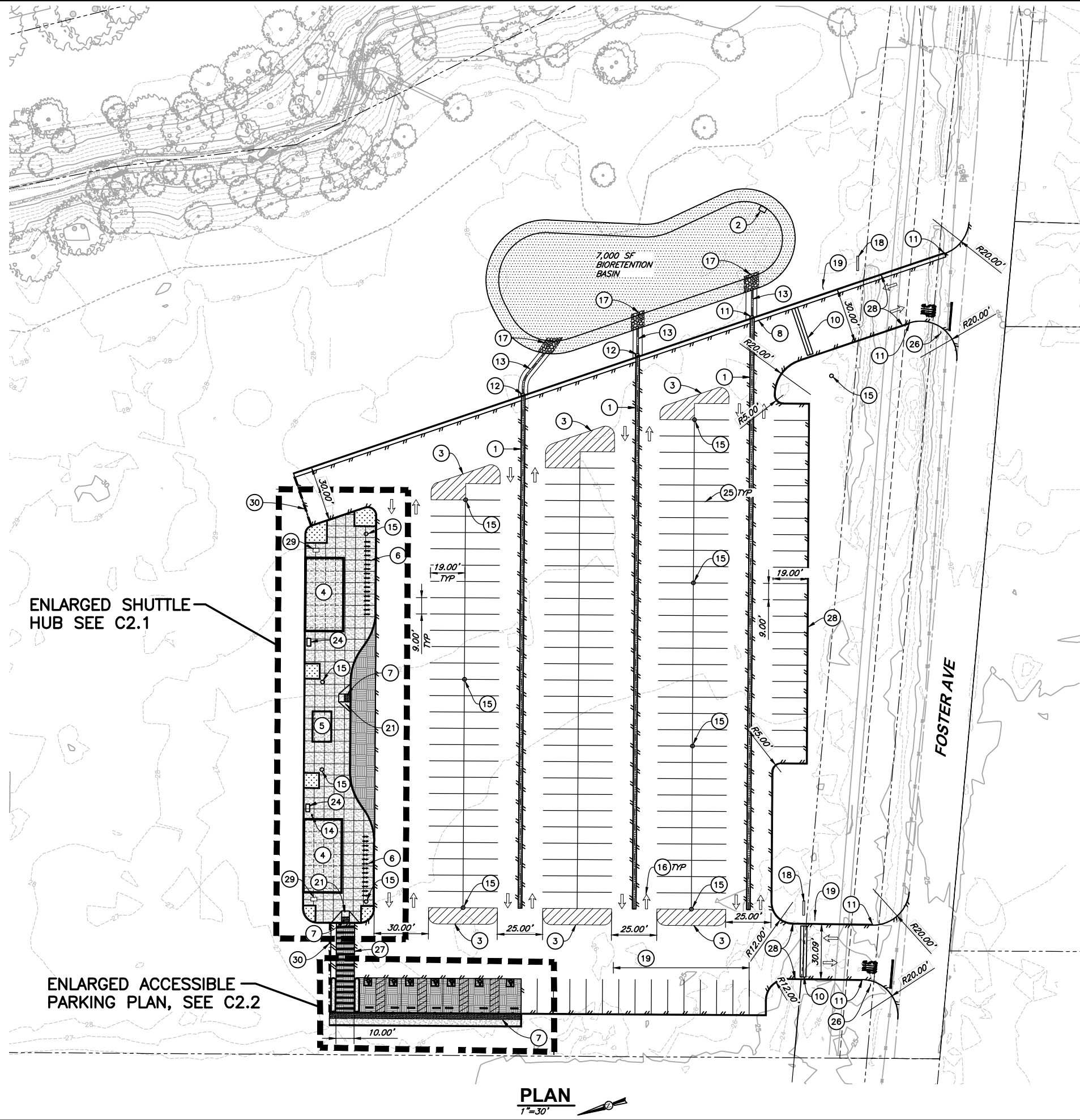
Based on the analysis presented in this memorandum, the project would result in ***less-than-significant impacts*** under the CEQA Transportation section, and no mitigation measures are required.

This completes our CEQA Transportation assessment for the proposed Cal Poly Humboldt Foster Campus Connectivity Project in the City of Arcata. Please call Bruno Lertora at (925) 357-3373 with any questions.

Attachments

Figure 1 Project Site Plan

SAVED: 5/16/2025 9:54 AM JFOSTER, PLOTTED: 5/16/2025 10:02 AM JOHN FOSTER
P:\Eureka\2023\023165-CPH-Parking\Draws\023165-SITE.dwg



PLAN
1"=30'

KEYNOTES

NO.	DESCRIPTION	DETAIL REFERENCE
1	CONCRETE VALLEY GUTTER	DETAIL 8/SHEET C6.3
2	DRAIN INLET	DETAIL 1/SHEET C6.5
3	END ROW STRIPING	-
4	BIKE SHELTER	DETAIL 1/SHEET C6.8
5	BUS SHELTER	DETAIL 1/SHEET C6.8
6	BIKE RACKS	DETAIL 2/SHEET C6.8
7	DETECTABLE WARNING SURFACE	DETAIL 4/SHEET C6.4
8	CURB AND GUTTER	DETAIL 9/SHEET C6.3
9	ASPHALT DIKE	DETAIL 7/SHEET C6.6
10	SPEED HUMP	DETAIL 6/SHEET C6.6
11	CURB END	DETAIL 10/SHEET C6.3
12	GUTTER DEPRESSION	DETAIL 6/SHEET C6.5
13	ROCK-LINED DRAINAGE SWALE	DETAIL 5/SHEET C6.5
14	HOSE BIBB	DETAIL 6/SHEET C6.6
15	LIGHT STANDARD	SEE ELECTRICAL PLANS
16	DIRECTIONAL ARROW STRIPING	DETAIL 3/SHEET C6.6
17	ENERGY DISSIPATOR	-
18	CAL POLY HUMBOLDT MONUMENT ENTRY SIGN	DETAIL 1/SHEET C6.6
19	UNAUTHORIZED VEHICLE SIGN (R100B)	DETAIL 1&2/SHEET C6.4
20	CURB AND SIDEWALK	DETAIL 2/SHEET C6.3
21	CURB RAMP	DETAIL 5/SHEET C6.4
22	FLUSH WALK	-
23	WHEEL STOP	DETAIL 3/SHEET C6.4
24	TRASH RECEPTACLE	DETAIL 3/SHEET C6.8
25	PARKING STALL STRIPING	-
26	STOP SIGN	DETAIL 1/SHEET C6.6
27	CROSSWALK	DETAIL 8/SHEET C6.6
28	CONCRETE CURB	DETAIL 6/SHEET C6.3
29	WATER VAULT	DETAIL 4/SHEET C6.6
30	CALTRANS TYPE E DIKE	DETAIL 7/SHEET C6.6

LEGEND

HATCH	DESCRIPTION	DETAIL REFERENCE
[Pattern]	BIORETENTION AREA	DETAIL 1/SHEET C6.7
[Pattern]	STANDARD PLANTER AREA	-
[Pattern]	PEDESTRIAN CONCRETE PAVING	DETAIL 2/SHEET C6.3
[Pattern]	VEHICULAR CONCRETE PAVING	DETAIL 3/SHEET C6.3
[Pattern]	AC PAVING	DETAIL 7/SHEET C6.3
[Pattern]	CALTRANS TYPE E DIKE	DETAIL 7/SHEET C6.6



812 W. WABASH AVE.
EUREKA, CA. 95501
WWW.SHN-ENGR.COM
707-441-8855

VERIFY SCALES

BAR IS ONE INCH ON
ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON
THIS SHEET, ADJUST
SCALES ACCORDINGLY

NOT FOR
CONSTRUCTION



CAL POLY HUMBOLDT
FOSTER CAMPUS CONNECTIVITY PROJECT
ARCATA, CALIFORNIA

SITE PLAN

DATE	05/2025	DSGN	CC
PROJ. NO.	023165	DR	CDN/JWF
SHEET		CHK	JSO

C2.0