Appendix B
Analysis of Transportation Effects

ESA

FEHR PEERS

July 10, 2024

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Subject: DRAFT Analysis of Transportation Effects of Project Refinements to the Candlestick Point/Hunters Point Shipyard Phase II Project Since Certification of the Project's Final EIR (Addendum 7)

Dear Jose:

As you know, the Candlestick Point/Hunters Point Shipyard Phase II Project Final EIR (herein referred to as "2010 FEIR") was certified by the San Francisco Planning Commission and the San Francisco Redevelopment Commission in June 2010. The 2010 FEIR analyzed the originally proposed project (as described in Chapter II of the FEIR, hereafter referred to as "2010 FEIR Project"), several variants (as described in Chapter IV of the FEIR), and several alternatives (as described in Chapter VI of the FEIR). The City's subsequent actions approved a subset of the options analyzed in the EIR, including:

1. The Project with a stadium, with Candlestick Tower Variant 3D, Utilities Variant 4, and Shared Stadium Variant 5;
2. The Project without the stadium, with Non-Stadium R&D Variant 1, Candlestick Tower Variant 3D, and Utilities Variant 4;
3. The Project without the stadium, with Non-Stadium Housing Variant 2, Non-Stadium Housing/R&D Variant 2A, Candlestick Tower Variant 3D, and Utilities Variant 4; and
4. Sub-alternative 4A, which provides for the preservation of four historic structures in HPS2; Sub-alternative 4A could be implemented with either the stadium Variants or non-stadium Variants (see Board of Supervisors CEQA Findings, pp. 2–4).

Since the certification of the EIR, a number of refinements have been proposed to the 2010 FEIR Project. The 2014 Modified Project Variant included modifications to the 2010 FEIR Project Phasing Schedule and the schedules for implementation of the Transportation Plan and other public benefits which was included in Addendum 1, published on December 11, 2013 and approved by various City agencies and Office of Community Investment and Infrastructure (OCII) in 2014. The 2016 Modified Project Variant, included under Addendum 4, published and approved in 2016, analyzed modifications to the CP Design for Development and certain transportation

system changes that required modification of several CP-HPS2 Project plan documents. (The same City agencies also approved FEIR Addenda 2 and 3; however, both were not pursued by the Project sponsor and thus are not discussed further.) The 2018 Modified Project Variant, included in Addendum 5, which is most similar in land uses to the 2010 R&D Variant (Variant 1), listed above, was published and approved by various City agencies and OCII in 2018. The 2018 Modified Project Variant included several revisions to the land use in HPS, and minor revisions at CP, including a nearly negligible revision to the number of parks and a small decrease in the number of residential units. The 2019 Modified Project Variant, included in Addendum 6, is also most similar in land uses to the 2010 R&D Variant (Variant 1) and incorporated a number of changes that were analyzed in Addendum 5 and included a decrease in regional retail, increase in neighborhood retail and office uses, and replacement of the arena with a film arts center and performance venue in CP. Addendum 6 was published and approved by various City agencies and OCII in 2019.

The 2024 Modified Project Variant, summarized in Addendum 7, assumes the same land use program as proposed in the 2019 Modified Project Variant, however, transfers 2,050,000 square feet of R&D/office land uses from HPS2 to CP. The 2024 Modified Project Variant also proposes modifications to the Transit Operating Plan, cross-section alternatives that would only apply if certain existing privately owned parcels in CP are not acquired, and changes to construction phasing and the removal of sub-phases in CP. This letter summarizes the proposed refinements to determine whether and to what extent they would change conclusions regarding significant transportation-related impacts and associated mitigation measures as described in the 2010 FEIR.

Project Modifications

Table 1 highlights the 2024 Modified Project Variant transportation-related revisions included in Addendum 7, as well as other previously analyzed and approved revisions from prior addenda, followed by a brief description of the changes. **Table 2** summarizes the 2024 Modified Project Variant proposed land uses at Candlestick Point and at Hunters Point Shipyard Phase II (herein referred to as "CP" and "HPS2," respectively). Compared to the 2019 Modified Project, the 2024 Modified Project includes the following land use changes at CP: increase in R&D/office uses from 750 ksf to 2,800 ksf (includes a transfer of approximately 2,050 ksf of R&D/office from HPS2 to CP), allow R&D uses within CP Center, and hotel, film arts center, and performance venue uses permitted within the Candlestick Mixed Use Residential District. The remaining land uses (park, residential, retail, and community use) will remain consistent with the uses proposed under the 2019 Modified Project Variant. Additionally, a parking ratio of 2 parking spaces per 1,000 square

feet for the first 1,700,000 square feet of office/R&D development at CP Center. The Project applicant seeks to conduct a parking study once the 1,700,000 square feet of development is completed to right size the remaining parking needs, subject to review and approval by SFMTA. If the parking study is either not completed or not approved, a maximum parking ratio of 1.3 parking spaces per 1,000 square feet will apply to the remaining 1,100,000 square feet of office/R&D.. In HPS2, the Project sponsor maintains the land use program proposed under the 2019 Modified Project Variant with exception to the approximately 2,050 ksf of R&D/office relocated from HPS2 to CP.

The 2024 Modified Project Variant also includes alternative cross-sections in the event certain privately owned properties (herein referred to as NAPOTS) are not acquired by the Project Sponsor or City. The NAPOTS properties are comprised of ten privately-owned parcels and three public rights-of-way for proposed streets included in the Project. The NAPOTS properties are approximately bounded by Arelious Walker to the west, Egbert Avenue to the north, West Harney Way to the east, and Gilman Avenue to the south. **Figures 1A and 1B** illustrates the location of the cross-section, the existing proposed cross-section with acquiring NAPOTs, and the alternative cross-sections without acquiring NAPOTS. The 2010 FEIR assumes acquisition of the NAPOTS properties and the three public rights-of-way by the Developer or City, which would be reconfigured into development blocks and new public rights-of-way. As shown, the West Harney Way, Egbert Avenue, and Gilman Avenue cross-sections remain consistent and require no modifications in the event the Developer or City do not acquire the NAPOTS. The Arelious Walker cross-section would require some modifications with removal of an 8 foot-wide median, and reduced sidewalks on the east side of the street. The lane configurations along Arelious Walker would remain as proposed and would not alter the capacity of the roadway.

Table 1: Project Description Modifications

Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
Land Use	No Change	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed, and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions	• Convert 15.5 ksf of office to 6 ksf of local serving retail • Convert 42 ksf of performance venue space to 1,200-seat (42 ksf) cinema • All other uses (and balance of office and performance venue space) to remain unchanged • Reduce the number of seats in the performance venue from 10,000 to 5,600 (including a Performance Arts Center and a Film Arts Center)	2010 R&D Variant (Variant 1) land uses, plus the following changes: • Reduce R&D/Office from 5,000,000 square feet to 4,265,000 square feet at HPS2 • Add a 175-room hotel at HPS2 • Add 410,000 square feet of institutional/educational uses at HPS2 • Increase the retail/maker space from 125,000 square feet to 401,000 square feet at HPS2 • Relocation of 632 housing units from CP to HPS2 • Addition of 172 additional residential dwelling units at HPS2 previously approved but no longer planned to be built as part of HP Phase 1	Addendum 5 land uses, plus the following changes: • Reduce regional retail from 635 ksf to 170 ksf at CP • Increase office from 150 ksf to 1,000 ksf at CP (includes transfer of 368.5 ksf of R&D/office from HPS2 to CP) • Add 9.5 ksf of neighborhood retail at CP for a total of 134.5 ksf • Replace the 10,000-seat arena in CP with a 1,200-seat film arts center and 4,400 seat performance venue • Reduce hotel from 150 ksf to 130 ksf while maintaining 220 hotel rooms	Addendum 6 land uses, plus the following changes: • Increase R&D office uses at CP Center from 750 ksf to 2,800 ksf (includes transfer of 2,050 ksf of use from HSP2 with a commensurate reduction of R&D/office at HSP2) • Allow R&D within CP Center • Authorize hotel, film arts center, and performance venue to also be permitted in the Candlestick Mixed Use Residential District

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Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
Construction Phasing	Generally accelerated construction within CP, including the regional retail center, and postponed construction within Hunters Point Shipyard Phase II. As a result of changes to development phasing, also included changes to phasing of internal transportation infrastructure, off-site roadway improvements, and transit service improvements.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed, and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions	No changes to project construction phasing compared to Addendum 1. EIR analyzed an initial and long-term configuration for Harney Way. Addendum 4 analyzed the effects of splitting construction of the initial configuration into two phases. Attachment A in the transportation assessment included with Addendum 4 illustrates the initial configuration.	Same land uses within CP as 2010 R&D Variant (Variant 1) (with the exception of 632 residential units relocated from CP to HPS2 as part of the Modified Project), but with similar construction phasing to Addendum 1 (i.e., overall acceleration of construction at CP). Within HP, as a result of additional changes to development phasing, more substantial changes to construction phasing, including internal transportation infrastructure, off-site roadway improvements, and transit service improvements	Project construction phasing similar to Addendum 5. The CP construction schedule continues to assume that CP Center will be one of the earlier phases, followed by adjacent blocks. HPS2 construction phasing is consistent with Addendum 5; however, approximate start date is delayed due to the transfer of lands. In general, the changes in Addendum 6 account for delays in construction at HPS2 such that much of CP will be constructed prior to construction at HPS2.	Project construction phasing similar to Addendum 6 which advances CP ahead of HPS2. The CP construction schedule assumes that construction would occur between 2029 and 2058. Compared to the 2019 Modified Project Variant, modified construction phasing including seven major phases and the removal of sub-phases at CP. Development at HPS2 has been delayed and timing of construction is speculative.

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Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
Roadway Geometry							
Roadway Cross-sections	A number of changes to roadway cross-sections based on need to align roadways and standardize lane widths per SFMTA direction.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions	Additional changes to lane, sidewalk, and median widths to accommodate storm-water treatment and fire department requirements. Number of lanes and facility capacity generally remained unchanged. Attachment C of the transportation assessment included with Addendum 4 includes a cross-section comparison figure.	No changes in CP compared to Addendum 4. Changes in HPS2 South associated with re-orientation of street grid. Changes in R&D and HPS2 North associated with improvements to bicycle network to connect cycletrack through entire CP site, as well as to provide transit-only lanes on Lockwood Avenue. Generally, street design principles remain unchanged and facility capacity generally remains unchanged. Appendix D includes the revised cross-sections.	No changes in HPS2 compared to Addendum 5. In CP, Elder Samuel Pryor Smith Senior Street is revised slightly to accommodate transit, and off-site Harney Way is revised based on refined designs and a better understanding of the available right-of-way and proposed interim routing of the BRT route through Executive Park and across US 101 prior to construction of the Geneva Extension and interchange with US 101.	No changes in CP or HPS2 compared to Addendum 6 with exception to alternative cross-sections proposed in the event that privately-owned parcels are not acquired by the Project Sponsor or City. In the event that the privately owned parcels are not acquired, Arelious Walker, between Gilman Avenue and Egbert Avenue, would require some modifications with removal of 8 foot-wide median, and reduced sidewalks on the east side of the street.
Gilman Avenue	No Change	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions	Reconfigure the Gilman Avenue cross-section between Third Street and Arelious Walker. The cross-section would be revised to increase the sidewalk width and decrease the number of travel lanes from two lanes to one lane in each direction. Parking would remain on both sides of the street. Attachment D of the transportation assessment included with Addendum 4 illustrates the revised cross-section.	No change compared to Addendum 4	No change compared to Addendum 4	No change compared to Addendum 4

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Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
Roadway Alignment	Revised roadway alignment to accommodate changes to BRT alignment.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions	No changes to roadway alignment compared to Addendum 1.	Updated alignment of internal streets in HPS2 South associated with reorientation of street grid. Modified Project now also includes optional extension of Donahue Avenue from its current terminus south to connect to Crisp Avenue.	No changes compared to Addendum 5.	No changes compared to Addendum 5.
Yosemite Slough Bridge	Widen the bridge by four feet from the previously approved non-stadium project alternative, to accommodate bicycle and pedestrian circulation on both sides of the bridge. Total width still within the maximum width evaluated in the EIR for the Stadium Alternative.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions	No additional changes to Yosemite Slough Bridge cross-section since Addendum 1.	No additional changes to Yosemite Slough Bridge cross-section since Addendum 1.	No additional changes to Yosemite Slough Bridge cross-section since Addendum 1.	No additional changes to Yosemite Slough Bridge cross-section since Addendum 1.
Transit							
BRT Alignment	Convert proposed BRT lanes from a two-way, side-running alignment to a center-running alignment, where possible. At the CP site, the BRT lanes would be re-oriented such that both BRT lanes are on the west side of the Wedge Park.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions.	No additional changes to BRT alignment since Addendum 1.	No additional changes to BRT alignment since Addendum 1.	No additional changes to BRT alignment since Addendum 1.	No additional changes to BRT alignment since Addendum 1.

Table 1: Project Description Modifications

Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
29 Sunset	Minor re-routing through CP.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions.	No additional changes to the 29 Sunset route since Addendum 1.	No additional changes to the 29 Sunset route since Addendum 1.	Minor revision to the 29 Sunset route within the site. The existing plan calls for the route to travel along Gilman Avenue, Earl Street, and Ingerson Avenue to West Harney Way. The revised route will be modified to use Elder Samuel Pryor Smith Senior Street to travel between Gilman and Ingerson avenues, instead of Earl Street. No other changes since Addendum 1.	No changes to the 29 Sunset route compared to Addendum 6.
Hunters Point Shipyard Transit Center	Relocate the Hunters Point Transit Center one block north from the originally proposed location, resulting in re-routing all bus routes traversing the transit center.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions.	No additional changes to the Hunters Point Shipyard Transit Center or transit routes since Addendum 1.	Relocate the Hunters Point Transit Center one block north from the revised location analyzed in Addendum 1, resulting in minor rerouting of all bus routes traversing the transit center in its vicinity.	No additional changes to the Hunters Point Shipyard Transit Center or transit routes since Addendum 5.	No additional changes to the Hunters Point Shipyard Transit Center or transit routes since Addendum 5.

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Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
Bicycle Network	Refine the bicycle network including the addition of a cycle track near the CP Retail Center. The cycle track would replace the Class II bike lanes originally proposed on Arelious Walker and Harney Way.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions.	Minor bicycle network refinement. Replace Class III sharrows with Class II bike lanes on Earl Street. Attachment H of the Transportation Assessment included with Addendum 4 shows the revisions to the bicycle network.	No changes to the bicycle network in CP compared to Addendum 4. Changes in HPS2 to realign the cycle track away from Crisp Avenue, through the open space to the south, and to connect to a midblock break within HPS2 South. Cycle track would continue through HPS2 South and across Drydock 4 as a two-way cycle track, and then travel up Spear and Robinson Street as a directional separated bicycle facility to connect to the cycle track planned in the Northside Park, west of Donahue Street. Figure 12 presents the Modified Project bicycle network.	No additional changes to the bicycle network since Addendum 5.	No additional changes to the bicycle network since Addendum 5.
Pedestrian Network	Minor refinements to the pedestrian network.	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions.	Addition of sidewalk on the west-side of Arelious Walker, between Jamestown Avenue and Ingerson Avenue. Other minor changes to sidewalk widths to accommodate storm-water runoff, as noted above.	Changes in HPS2 associated with realigned street grid; however, sidewalk widths and intersection density remain similar. Creation of two pedestrian bridges across Drydock 4. See Appendix D for revised cross-sections.	Changes in CP associated with cross-section changes noted in roadway geometry changes above, including Elder Samuel Pryor Smith Senior Street and off-site Harney Way. No additional changes to the pedestrian network in HPS2 since Addendum 5.	No changes to the pedestrian network in since Addendum 6.

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Project Description Component	Change from FEIR Assumptions for 2010 R&D Variant (Variant 1)						
	Addendum 1[1]	Addendum 2	Addendum 3	Addendum 4[2]	Addendum 5	Addendum 6	Addendum 7
Parking	Minor refinement to the total parking supply. Generally, the Project would supply parking within the range contemplated in the EIR (2,800 to 20,000 on- and/or off-street parking spaces).	Project change involved implementation of an Automated Waste Collection System to serve the entire project site, including very minor effects to the transportation system. That system is no longer proposed and the effects studied in Addendum 2 are no longer applicable to the Modified Project.	Project change does not impact transportation assumptions or conclusions.	Minor increases to the total off-street parking supply to account for loss of anticipated on-street parking. Accomplished through modifications to parking rates outlined in the D4D. Total parking supply is similar to what was initially contemplated in the EIR.	Minor changes to total supply associated with minor changes in land use and refinements to street and intersection designs. Decrease of approximately 725 spaces in Hunters Point and a decrease of approximately 250 in CP compared to 2010 R&D Variant (Variant 1). No changes to maximum parking rates by land use, however. Generally, the Project would supply parking within the range contemplated in the 2010 R&D Variant (Variant 1) (3,000 to 23,000 on- and/or off-street parking spaces).	Compared to Addendum 5, a decrease in total off-street parking supply at CP and HPS2. There are 1,020 fewer spaces in CP due to the change in land use and 154 fewer spaces in HPS2 due to the transfer of land from HPS2 to CP.	Modify the parking ratio for R&D/office uses in CP to 2 parking spaces per 1,000 square feet for the first 1,700,000 square feet of office/R&D development at CP Center. The Project applicant seeks to conduct a parking study once the 1,700,000 square feet of development is completed to right size the remaining parking needs, subject to review and approval by SFMTA. If the parking study is either not completed or not approved, a maximum parking ratio of 1.3 parking spaces per 1,000 square feet will apply to the remaining 1,100,000 square feet of office/R&D.

Notes:

1. Detailed changes to the Project Description are described in Addendum 1, dated December 11, 2013.

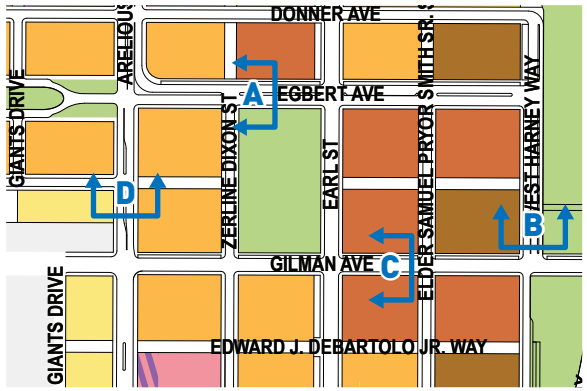
Addendum 4 did not propose revisions that would affect the transportation system or analysis at the Hunters Point Shipyard Phase II site. Detailed changes to the Project Description are described in Addendum 4, dated February 22, 2016.

Table 2: Modified Project Proposed Land Uses

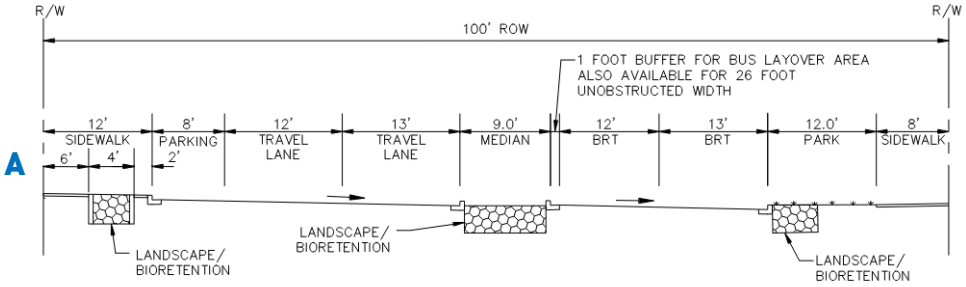
Land Use Program	2010 FEIR Variant 1 (R&D)				2019 Modified Project Variant				2024 Modified Project Variant			
	CP		HPS		CP		HPS		CP		HPS	
	Size	Units	Size	Units	Size	Units	Size	Units	Size	Units	Size	Units
Residential[1]	7,850	units	2,650	units	7,218	units	3,454	units	7,218	units	3,454	units
Neighborhood Retail/Maker Space[1,2]	125	ksf	125	ksf	134.5	ksf	301	ksf	134.5	ksf	301	ksf
Regional Retail	635	ksf	--	ksf	170	ksf	100	ksf	170	ksf	100	ksf
Office	150	ksf	--	ksf	1,000	ksf	--	ksf	--	ksf	--	ksf
Hotel	220	rooms	--	rooms	220	rooms	175	rooms	220	rooms	175	rooms
Community Services	50	ksf	50	ksf	50	ksf	50	ksf	50	ksf	50	ksf
Park	147	acres	238	acres	105.7	acres	232	acres	105.7	acres	232	acres
Arena	10,000	seats	--	seats	--	seats	--	seats	--	seats	--	seats
Film Arts Center	--	seats	--	seats	1,200	seats	--	seats	1,200	seats	--	seats
Performance Venue	--	seats	--	seats	4,400	seats	--	seats	4,400	seats	--	seats
R&D/Office	--	ksf	5,000	ksf	--	ksf	3,896.5	ksf	2,800	ksf	2,096.5	ksf
Artists' Studios	--	ksf	255	ksf	--	ksf	255	ksf	--	ksf	255	ksf
Marina	--	slips	300	slips	--	slips	300	slips	--	slips	300	slips
Institutional (Jr. HS/HS)	--	students	--	students	--	students	1,000[3]	students	--	students	1,000[3]	students
Institutional (HS/Post-Secondary)	--	students	--	students	--	students	1,000[3]	students	--	students	1,000[3]	students

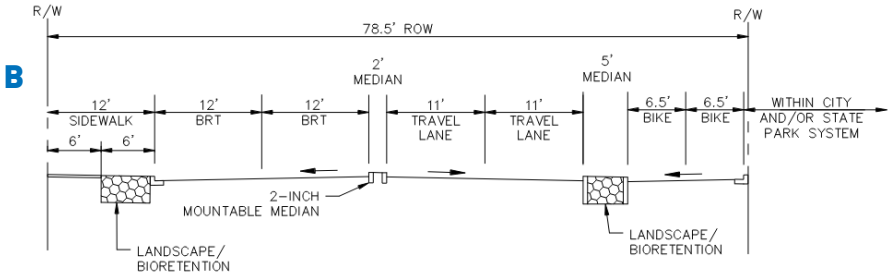
Notes:

1. The total amount of proposed land development for HPS Phase 2 shown in Table 2 includes 71 ksf of additional retail space and 172 additional dwelling units that will no longer be included as part of the HPS Phase 1 development, and therefore, would not represent "net new" approved development within the overall HPS Plan Area.
2. 75 ksf of the 301 ksf of Neighborhood Retail at HPS2 would be dedicated for maker space uses.
3. Includes 600 HS students and 400 college students. Half of the HS students would be on site at any given time. Only 1/3 of college students would be on site at any one time.

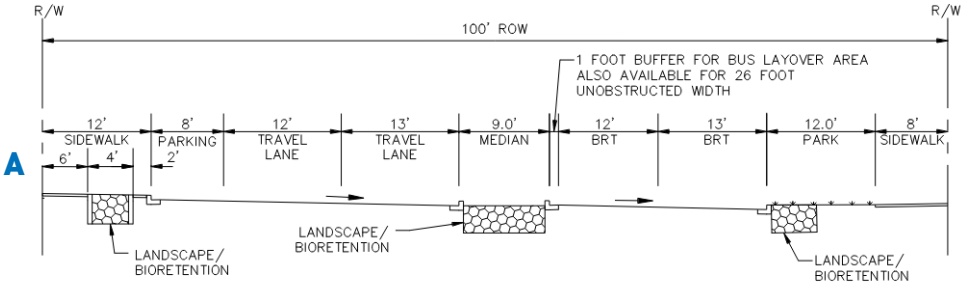


Cross-Section Acquiring NAPOTS Parcels





Cross-Section without Acquiring NAPOTS Parcels



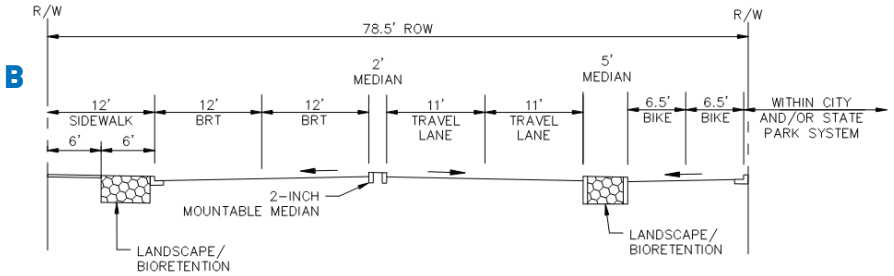
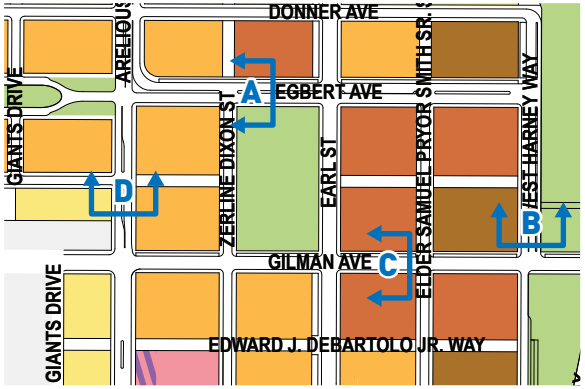
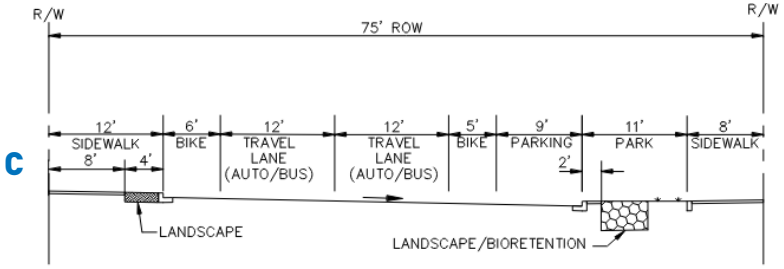
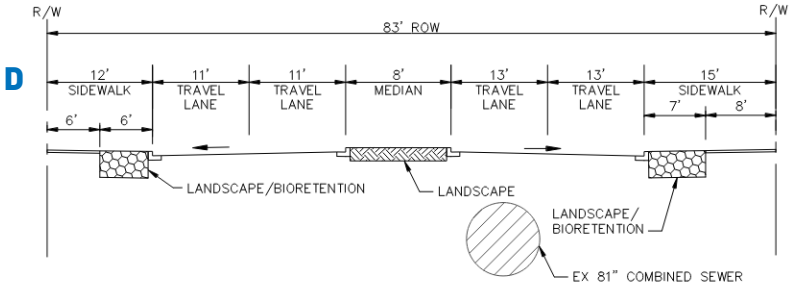


Figure 1A

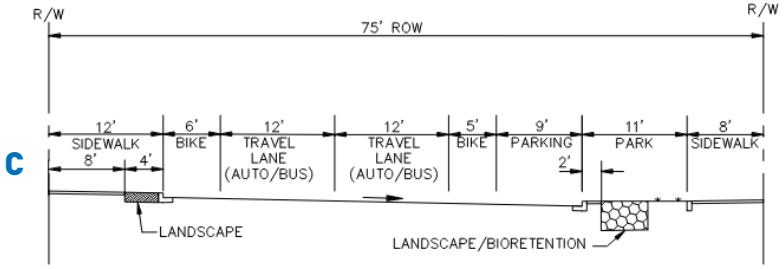


Cross-Section Acquiring NAPOTS Parcels





Cross-Section without Acquiring NAPOTS Parcels



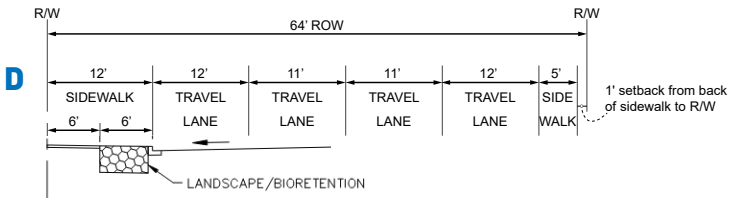


Figure 1B

NAPOTS Cross-Section Modifications

Subsequent to certification of the FEIR in 2010, the State of California enacted amendments to CEQA and the Office of Planning and Research (OPR) has issued new CEQA Guidelines concerning the assessment of transportation impacts that generally recommend using Vehicle Miles Traveled (VMT) and state that automobile delay does not constitute a significant impact under CEQA (PRC Section 21099 and CEQA Guidelines Section 15064.3). Pursuant to CEQA Section 21099(b)(2) such projects may not use automobile delay described solely by level of service (LOS) or parking, as described in CEQA Section 21099(d) as a criterion for determining significant impacts on the environment. Therefore, LOS and parking impacts is no longer a CEQA requirement. However, for comparison purposes, an automobile delay (level of service) and parking analysis is included to compare the 2024 Modified Project Variant to the 2010 FEIR findings. Additionally, a VMT analysis evaluating the 2024 Modified Project Variant is included at the end of this document.

Since the overall 2024 Modified Project Variant land use plan is identical to the 2019 Modified Project Variant, with exception to reallocating land use from HPS2 to CP, the analysis of the 2024 Modified Project Variant focuses on localized impacts that would be most effected by the land use changes. As described below, the 2024 Modified Project Variant results in similar or fewer trips generated compared to the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant; therefore, the 2024 Modified Project Variant's effect on the larger transportation network will be limited and those most effected are locations closest to the site's perimeter.

Travel Demand

Fehr & Peers conducted a detailed travel demand forecast of the 2024 Modified Project Variant land uses using the same methods as described in the 2010 EIR. As noted earlier, the 2010 FEIR analyzed the 2010 FEIR Project as well as several variants and alternatives to the originally proposed project. The land uses and travel demand characteristics of the 2024 Modified Project are similar to the 2010 R&D Variant (Variant 1) and the 2019 Modified Project Variant. Therefore, **Table 3**, below, compares the travel demand forecasts for the 2024 Modified Project Variant with both the 2010 FEIR Project, 2010 R&D Variant (Variant 1), and 2019 Modified Project Variant. Detailed calculation sheets are provided in **Appendix A**.

Table 3: Travel Demand Forecast Comparison (Vehicle Trips)

Scenario / Project Site	2010 FEIR Project	2010 R&D Variant (Variant 1)	2019 Modified Project Variant	2024 Modified Project Variant	Difference between 2024 Modified Project Variant	
					2010 R&D Variant (Variant 1)	2019 Modified Project Variant
AM Peak Hour						
CP	2,310	2,310	2,447	3,010	700	563
HP	1,924	3,065	3,047	2,383	-682	-664
Total	**4,234**	**5,375**	**5,494**	**5,393**	**18**	**-101**
PM Peak Hour						
CP	4,913	4,913	4,200	4,635	-278	435
HP	2,164	3,134	3,549	3,055	-79	-494
Total	**7,077**	**8,047**	**7,749**	**7,690**	**-357**	**-59**

As shown, during the AM peak hour, the 2024 Modified Project Variant would generate approximately 20 more vehicles trips compared to the 2010 R&D Variant (Variant 1) and 100 fewer vehicle trips compared to the 2019 Modified Project Variant. In the PM peak hour, the 2024 Modified Project Variant would generate approximately 360 and 60 fewer trips compared to the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant, respectively. Overall, the changes compared to the 2010 R&D Variant (Variant 1) represent a negligible change during the AM peak hour and a decrease of 2 percent in the PM peak hour. Similarly, compared to the 2019 Modified Project Variant, the 2024 Modified Project Variant would result in a decrease of 4 percent during the AM peak hour and a decrease of 1 percent during the PM peak hour. The change in travel demand with the 2024 Modified Project Variant is nominal and is due to more optimal internalization at CP compared to HPS2; therefore, resulting in a minor decrease to the overall project trip generation. The change would not likely cause a perceptible difference to the public, since the overall land use plan at CP and HPS remains consistent with the 2019 Modified Project Variant.

Tables 4 and **5**, below summarize the change in transit travel demand associated with the 2024 Modified Project Variant compared to the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant. Similar to the travel demand forecasts shown above, the 2024 Modified Project Variant would generate fewer transit trips than the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant in both the AM and PM peak.

Table 4: CPHPS2 Travel Demand Forecast Comparison (Transit Trips)

Scenario / Project Site	2010 R&D Variant (Variant 1)	2019 Modified Project Variant	2024 Modified Project Variant	Difference from 2010 R&D Variant (Variant 1)	Difference from 2019 Modified Project Variant
AM Peak Hour					
Inbound	1,103	1,440	1,176	73	-264
Outbound	1,215	918	1,132	-83	214
Total	**2,318**	**2,358**	**2,308**	**-10**	**-50**
PM Peak Hour					
Inbound	1,506	1,428	1,462	-44	34
Outbound	1,869	1,865	1,803	-66	-62
Total	**3,375**	**3,293**	**3,265**	**-110**	**-28**

Table 5: Travel Demand Forecast Comparison (Transit Trips) by Project Site

Scenario / Project Site	2010 R&D Variant (Variant 1)			2019 Modified Project Variant			2024 Modified Project Variant		
	CP	HPS2	Total	CP	HPS2	Total	CP	HPS2	Total
AM Peak Hour									
Inbound	299	916	1,103	634	806	1,440	609	567	1,176
Outbound	667	435	1,215	420	498	918	688	444	1,132
Total	**966**	**1,352**	**2,318**	**1,054**	**1,304**	**2,358**	**1,297**	**1,011**	**2,308**
PM Peak Hour									
Inbound	1,054	452	1,506	862	566	1,428	933	529	1,462
Outbound	835	1,033	1,869	907	958	1,865	1,057	746	1,803
Total	**1,889**	**1,486**	**3,375**	**1,769**	**1,524**	**3,293**	**1,990**	**1,274**	**3,265**

Below is a discussion of the effects of the proposed changes on the impacts identified in the 2010 FEIR.

Impact TR-1: On-site and Off-site Construction Impacts

As described in the 2010 FEIR, construction of the Project would result in Project-related and cumulative transportation impacts in the Project vicinity due to construction vehicle traffic and roadway construction. The 2010 FEIR concluded implementation of mitigation measure MM TR-1, which would require the Applicant to develop and implement a construction traffic management plan to reduce the impact of construction activities on transportation facilities, would reduce the impacts caused by construction, but not to a less-than-significant level.

The construction anticipated to occur as part of the 2024 Modified Project will be the same as or less than described for the 2010 FEIR Project, although the construction phasing would be different. The 2010 FEIR Project analysis anticipated development phasing that would create more construction activities in HPS2 in the early years of project buildout, with higher construction levels in CP during later phases. Additionally, the 2010 FEIR Project also included construction of a new NFL stadium in the very early phases of development, which would have resulted in much more intense construction activities than will likely ever occur during any of the non-stadium options.

The revised phasing proposed for the 2024 Modified Project Variant follows the 2019 Modified Project Variant which reverses the order of construction compared to the 2010 FEIR Project, with more construction activities in CP during the earlier years and more activity in the HPS2 site during later years. Since development at HPS2 has been delayed and timing of construction is speculative. Postponement of construction in HPS2 is primarily a result of delays in transferring land from the US Navy to the City and County of San Francisco.

At CP, construction is expected to occur between 2029 and 2058, increasing the total construction duration to 30 years, compared to ending in 2033 and a total duration of 20 years under the 2019 Modified Project Variant. The number of years during which construction is anticipated at CP has increased and the more substantial land development at the site is expected to occur later than originally anticipated.

Overall, although the timing and location of construction activities may vary within the site compared to what was originally anticipated, the construction activities are expected to create similar or less intense significant and unavoidable localized construction-related traffic impacts as

were originally described in Impact TR-1 in the EIR. Mitigation measure MM-TR-1, development of a Construction Traffic Management Program, would still apply, although impacts would continue to remain significant and unavoidable.

Therefore, construction of the Modified Project would not result in any new significant effects to transportation beyond those identified in the EIR nor would they result in a substantial increase in the severity of a significant impact, and no new mitigation measures would be required.

Impacts TR-2 through TR-16: Traffic Impacts to Regional and Local Roadway System, Study Intersections, and Freeway Facilities

As described in the 2010 FEIR, the Project would generate substantial amounts of new vehicular traffic resulting in a number of significant impacts and mitigation measures. More specifically, the 2010 FEIR identified Impact TR-2, a significant impact related to the Project's overall increase in traffic generation in relation to the current roadway system capacity. The 2010 FEIR identified Mitigation Measure MM TR-2, the development and implementation of the Project's Transportation Demand Management (TDM) plan as a means to lessen the severity of Project-generated traffic impact; however, Impact TR-2 would remain significant and unavoidable with mitigation.

The 2010 FEIR identified Impacts TR-3 through TR-8, which described locations where the Project would create new project-related impacts or contribute to significant cumulative impacts at study intersections. Mitigation Measures MM TR-4 (restriping at the intersection of Tunnel/Blanken), MM TR-6 (participating in the bi-county study and paying a fair share contribution toward improvements near the Geneva Avenue/US 101 interchange), MM TR-7 (restriping at the Amador/Cargo Way intersection), and MM TR-8 (participating in the bi-county study and paying a fair share contribution toward improvements near the Bayshore/Geneva intersection) were recommended to reduce the severity of Project-related impacts. However, due to uncertainty regarding implementation of mitigation measures, Impacts TR-3 through TR-8 were determined to remain significant and unavoidable with mitigation. The 2010 FEIR also identified Impact TR-9, which described the project's less than significant impact to a number of other study intersections.

At a slightly larger scale, the 2010 FEIR identified Impact TR-10, which describes the effect of Project-related traffic spilling over into nearby residential neighborhood streets. The 2010 FEIR determined this impact to be significant and referenced other mitigation measures described

elsewhere in the 2010 FEIR (including Mitigation Measure MM TR-2, the development and implementation of a TDM Plan) as appropriate strategies to reduce the severity of Impact TR-10. However, the 2010 FEIR determined that the impact would remain significant and unavoidable with mitigation.

The 2010 FEIR also identified a number of significant Project-related impacts to freeway facilities, including Impacts TR-11 through TR-15. No feasible mitigation measures were identified for Impacts TR-11 through TR-13 and these impacts would be significant and unavoidable. Mitigation Measures MM TR-14 and MM TR-15, which called for participation in the bi-county study and payment of a fair share contribution toward improvements near the Geneva Avenue / US 101 interchange area, were identified to reduce the severity of Impacts TR-14 and TR-15; however, since the implementation of these measures was uncertain, Impacts TR-14 and TR-15 would also remain significant and unavoidable.

Finally, the 2010 FEIR identified Impact TR-16, a significant impact associated with the Project's contribution to traffic on Harney Way, which will be a primary access route for all modes between the Project site and regional transportation facilities (US 101, Bayshore Caltrain, Balboa Park BART, the Bay Trail, etc.). Mitigation Measure TR-16 called for the project to construct the initial phase of Harney Way at the outset of construction of the first major phase and monitor traffic congestion during future construction phases. When congestion reaches a certain point (mid-LOS D), the project will be required to implement the ultimate configuration of Harney Way, which would reduce the Project's impact to less than significant.

As shown in **Table 3**, the 2024 Modified Project Variant would be most similar to the AM vehicle trip generation of the 2010 R&D Variant (Variant 1) and the PM vehicle trip generation of the 2019 Modified Project Variant. The 2010 FEIR also included a discussion of how the transportation impacts associated with 2010 R&D Variant (Variant 1) would be different from those of the 2010 FEIR Project, summarized above. As noted in the 2010 FEIR (pp. IV-18 - IV-21), in addition to the same significant impacts as the 2010 FEIR Project, the 2010 R&D Variant (Variant 1) would also have significant project-level or cumulative impacts on five intersections that would not occur with the 2010 FEIR Project. Specifically, the 2010 R&D Variant (Variant 1) would have significant and unavoidable impacts at three additional intersections:

- Ingalls Street/Carrol Avenue
- Bayshore Boulevard/Oakdale Street
- Evans Avenue/Jennings Street

The 2010 R&D Variant (Variant 1) would also have significant impacts at two additional intersections that could be reduced to less than significant levels with mitigation:

- Crisp Road/Palou Avenue/Griffith Street
- Innes Avenue/Earl Street

Mitigation at Crisp Road/Palou Avenue/Griffith Street identified in the 2010 R&D Variant (Variant 1) would involve re-striping the southbound approach to provide a dedicated left-turn lane and a shared through/right-turn lane and prohibiting on-street parking on Griffith Street between Palou Avenue and Oakdale Avenue.

Mitigation at Innes Avenue/Earl Street identified in the 2010 R&D Variant (Variant 1) would involve constructing a new traffic signal at the intersection. Subsequent to the preparation of the EIR, the India Basin project was approved and certified, which includes construction of a traffic signal at this intersection.

The 2019 Modified Project Variant did not result in any new significant impacts and no new mitigation measures were identified to for Impacts TR-2 through TR-16.

There are two components to the discussion of the 2024 Modified Project Variant's traffic impacts: one component addresses how project refinements would affect impacts under long-term buildout conditions (similar to the conditions analyzed in the 2010 FEIR) and the other component addresses how changes to project phasing would affect auto access to the site during the buildout period. Below discusses the two components in detail.

Buildout Conditions

The 2010 FEIR's discussion of traffic impacts is based on project buildout. Refinements have been made to the internal roadway network, both to cross-section dimensions and roadway alignments since its approval in 2010. Refinements to roadway cross-sections have been made to continue to encourage slow-speed auto traffic, but also to better accommodate transit, bicyclists, and on-street parking based on recent SFMTA design guidance for travel lane widths. All of these changes have been discussed and approved in prior addenda, and are included in the 2024

Modified Project Variant.[1] The 2024 Modified Project Variant does not propose any additional modifications than those identified in the 2019 Modified Project Variant with exception to the cross-section alternatives required in the event that the NAPOTS parcels are not acquired by the Project Sponsor or City. As described above and illustrated in Figures 1A and 1B the West Harney Way, Egbert Avenue, and Gilman Avenue cross-sections remain consistent and require no modifications in the event the Project Sponsor or City does not acquire the NAPOTS. The Arelious Walker cross-section would require some modifications with removal of 8 foot-wide median, and reduced sidewalks on the east side of the street. The lane configurations along the remainder of Arelious Walker would remain as proposed and would not alter the capacity of the roadway.

The 2010 FEIR assessed cumulative (year 2030) weekday AM and PM peak hour intersection turning movement volumes for approximately 60 study intersections, assuming the development of the 2010 FEIR Project (and numerous variants and alternatives), a number of adjacent planned projects, and some background traffic growth on area roadways. The operating characteristics of these study intersections were described in terms of Level of Service ("LOS").[2]

Since the 2024 Modified Project Variant results in changes to the overall peak hour travel demand, as noted above, this assessment includes a LOS analysis at a subset of intersections closest to the areas within the Project site where land use changes are proposed (i.e., near CP) to assess the degree to which the 2024 Modified Project Variant may affect impact determinations identified in the 2010 FEIR. The subset of intersections evaluated is expected to include the intersections that experience the majority of project-related traffic volume changes, as they are closer to the project site where traffic is less dispersed. If changes to delay and LOS at these intersections are relatively small, it can reasonably be concluded that changes to other intersections and roadway segments further away from the Project site would be even smaller.

Below, **Table 6** summarizes the intersection LOS for intersections nearest to the CP portion of the Project site at full project buildout as described for the 2010 R&D Variant (Variant 1) in the EIR and as forecasted with the 2024 Modified Project Variant, including the proposed changes described above. As shown, the 2024 Modified Project Variant would have only minor effects to

[1] The 2024 Modified Project Variant includes all modifications to the land use and transportation network included in the most recent addenda, known as the 2019 Modified Project Variant, summarized in Addendum 6. Addendum 6 was published and approved in 2019. The changes described in this section are based on the changes approved in Addendum 6.

[2] LOS is a qualitative description of an intersection's performance based on the average delay of per vehicles traveling through it. Intersection levels of service range from "A", which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. LOS A through D are considered excellent to satisfactory service levels.

the intersection LOS analysis compared to the 2010 R&D Variant (Variant 1). No intersections that operate at LOS D or better under the 2010 R&D Variant (Variant 1) would deteriorate to LOS E or F, or deteriorate from LOS E under the 2010 R&D Variant (Variant 1) to LOS F. Furthermore, the intersections forecasted to operate at LOS E or F under conditions with the 2010 R&D Variant (Variant 1) would continue to operate at LOS E or F, respectively under the 2024 Modified Project Variant, with exception to one location, described below. Volume to capacity ratios at each of the intersections forecasted to operate at LOS F with delays over 80 seconds per vehicle would decrease or remain the same at all intersections, indicating better operating conditions than what was expected and described under the 2010 R&D Variant (Variant 1) in the EIR. Detailed intersection LOS calculations are included in **Appendix B**.

Table 6: Intersection Operations

Intersection[1]	FEIR Variant 1 (R&D)				2024 Modified Project Variant			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay/ LOS	V/C	Delay/ LOS	V/C	Delay/ LOS	V/C	Delay/ LOS	V/C
9. Gilman Avenue/Third Street[5]	**>80 / F**	**2.02**	**>80 / F**	**3.40**	**>80 / F**	**1.79**	**>80 / F**	**2.88**
27. Harney Way/US-101 Southbound Ramps	**>80 / F**	**2.34**	**>80 / F**	**3.28**	**>80 / F**	**2.34**	**>80 / F**	**3.24**
28. Harney Way/ US-101 Northbound Ramps	**>80 / F**	**1.39**	**>80 / F**	**1.75**	**>80 / F**	**1.39**	**>80 / F**	**1.71**
29. Harney Way/ Arelious Walker	25 / C	--	53 / D	--	23 / C	--	53 / D	--
32. Ingalls Street/ Carroll Avenue	31 / C	--	**59 / E**	**1.01**	29 / C	--	44 / D	--
33. Ingalls Street/ Egbert Avenue	9 / A	--	9 / A	--	9 / A	--	9 / A	--
34. Gilman Avenue/Arelious Walker[5]	30 / C	--	38 / D	--	40 / D	--	49 / D	--
59. Harney Way/Executive Park Boulevard	25 / C	--	27 / C		24 / C	--	27 / C	--

Notes:

1. Intersection numbers are based on EIR intersection numbering for reference and comparison purposes.
2. Delay in seconds per vehicle. For intersections operating at LOS F, delay calculations are not relevant, based on the HCM methodology, and therefore, delay is simply reported as greater than 80 seconds per vehicle. To allow for comparison in operating conditions at intersections operating at LOS F, the volume to capacity ratio (V/C) is also shown.
3. Intersections operating at LOS E or F shown in **bold**.
4. Refer to Tables 45 and 46, on pp. 167-172 of the Project's Transportation Impact Study, included as Appendix D to the FEIR, for LOS results for 2010 R&D Variant (Variant 1).

5. The analysis of conditions with the Modified Project at (9) Gilman/Third and (34) Gilman/Arelious Walker was performed using a more detailed and sophisticated software, the Synchro platform, than what was used in the FEIR in order to capture unique features of those intersections. Analysis of Modified Project conditions at Gilman/Third also reflects updated lane configurations established by SFMTA subsequent to publication of the EIR. Detailed calculations are included in Appendix B.

As shown in Table 6, above, the 2024 Modified Project Variant would result in improved operating conditions at the intersection of Ingalls Street/Carroll Avenue, where under the 2010 R&D Variant (Variant 1)[3] the Project would result in a significant and unavoidable impact (Impact TR-3); however, with the 2024 Modified Project Variant, it would not result in an impact as the intersection performs at an acceptable level of service. As such, the significant and unavoidable impact associated with Ingalls St/Carroll Avenue no longer applies.

Therefore, the 2024 Modified Project Variant would have similar or better impact conclusions to the 2010 R&D Variant (Variant 1) for Impacts TR-2 through TR-16. Mitigation measures MM TR-2, MM TR-4, MM TR-6, MM TR-7, MM TR-8, and MM TR-16 will continue to apply to the 2024 Modified Project Variant, including the additional locations identified for the 2010 R&D Variant (Variant 1) and incorporating revisions identified in previous EIR addenda.[4]

As required by mitigation measure TR-2, the Candlestick Hunters Point Shipyard Phase II Transportation Plan includes proposal of a TDM Plan for both CP and HPS2, as well as the creation of the Candlestick Point Hunters Point Shipyard Transportation Management Association (CPHPSTMA). As described in prior, approved iterations of the Transportation Plan, including the 2019 Transportation Plan, the CPHPSTMA will be formed to develop, implement, operate and administer strategies and programs to manage transportation resources in CP, HPS2, and Hunters Point Shipyard Phase 1 (HPS1). As described above, timing of HPS2 is speculative, therefore, the timing of TDM strategies that would also benefit HPS1 is unknown. Additionally, the TDM strategies needed to address the impact of the HPS1 development are far fewer than the TDM strategies needed to support the CP and HPS2 development. Therefore, the rationale to create a shared CPHPSTMA that includes CP, HPS1, and HPS2 may not be applicable and HPS1 can

[3] The Ingalls Street/Carroll Avenue intersection did not result in a significant and unavoidable impact under the Project scenario, only under 2010 R&D Variant (Variant 1).

4 The 2018 Modified Project Variant included a modified mitigation measure for the intersection of Crisp/Palou. The modification includes revising the southbound approach to provide a dedicated right-turn lane and a shared through/left-turn lane, prohibiting on-street parking on Griffith Street between Palou Avenue and Oakdale Avenue, and constructing the westbound approach on Crisp Avenue to provide two dedicated left-turn lanes and one shared through/right-turn lane. Addendum 5 concluded that the revised mitigation would result in a LOS D at the intersection, and therefore a less than significant impact with mitigation. The same conclusions still apply to the 2019 Modified Project Variant.

establish a separate TMA to serve its initial needs. The CPHPS2 TMA can commence as development at CP moves forward and while not necessary, a combined CPHPSTMA (inclusive of CP, HPS1 and HPS2), could be established once development at HPS2 occurs.

Timing of Traffic Improvements

The phasing of roadway infrastructure improvements was set forth in a memorandum included as Appendix A4 to the 2010 FEIR Comments & Responses.[5] An analysis of the 2024 Modified Project Variant phasing and roadway infrastructure implementation timing was conducted to determine whether the 2024 Modified Project Variant would provide auto circulation and access at a level adequate to meet the travel demand throughout the buildout period.

Candlestick Point

As described above, the 2024 Modified Project Variant includes a delayed construction schedule at CP compared to the 2019 Modified Project Variant. Construction is expected to occur between 2029 and 2058, as opposed to ending in 2033, as assumed in the 2019 Modified Project Variant, resulting in a total duration of 30 years compared to 20 years under the 2019 Modified Project Variant

As a result, and to respond to some of the changes in the order of development, revisions to the implementation phasing are proposed to better respond to land use phasing, summarized in **Table 7.**[6] As shown, most roadway improvements are scheduled to be implemented to the corresponding trigger (relative to development levels or adjacency) as proposed in the 2010 FEIR and 2019 Modified Project Variant. The prior triggers identified in the 2019 Modified Project Variant included a major phase and sub-phase trigger; however, the 2024 Modified Project Variant removes sub-phases and proposes seven major phases at CP (Phases 1 through 7).

As shown, improvements along Arelious Walker and Harney Way are scheduled to be implemented at the same triggers or sooner than proposed in the 2010 FEIR and 2019 Modified Project Variant. Gilman Avenue improvements are scheduled to be implemented with CP Phase 4, with a portion of the Alice Griffith development. Based on the estimated traffic volumes along Gilman Avenue through Phase 4, the existing Gilman Avenue corridor should have sufficient

5 Fehr & Peers, Roadway and Transit Phasing Plan, March 17, 2010
6 Although previous EIR Addenda also considered revisions to the project phasing compared to what was analyzed in the EIR, the comparison in this Addendum compares the Modified Project with the FEIR Project, and not to previously contemplated revisions.

capacity to serve the anticipated traffic.[7] Improvements along Jamestown Avenue and Ingerson Avenue are largely streetscape improvements, and will not affect vehicular capacity, and therefore, are not tied to the level of development (or traffic). Therefore, in terms of assessing traffic impacts, the timing of improvements on Jamestown Avenue and Ingerson Avenue are not material and are included with development of CP Phase 7.

Furthermore, the need for auto route improvements around the Yosemite Slough Bridge is driven by the need for connecting BRT between HPS2 and CP. Since development at HPS2 is somewhat delayed compared to the forecasted schedule from the 2010 FEIR, these improvements are not needed as quickly; therefore, they can be postponed until implementation of BRT to HPS2. Similarly, the Carroll Avenue and Ingalls Street improvements are part of an overall strategy to provide increased auto capacity between HPS2 and CP and should be implemented simultaneously with development in HP.

[7] Improvements along Gilman Avenue are planned with CP Phase 4; however, improvements may be constructed earlier to meet transportation requirements consistent with CEQA mitigations measures.

Table 7: Project Street Segment Improvements – Candlestick Point

Intersection	Improvement	2010 FEIR Project (Non-Stadium Option)[4]		2019 Modified Project Variant		2024 Modified Project Variant	
		Traffic Volume Trigger?	Trigger	Traffic Volume Trigger?	Trigger[5]	Traffic Volume Trigger?	Trigger[5]
Arelious Walker Drive, Shafter Avenue to Carroll Avenue	Construct Yosemite Slough Bridge[1]	No	Implementation of BRT	No	Implementation of BRT (HP-04)	No	Implementation of BRT to HPS2
Arelious Walker Drive, Carroll Avenue to Gilman Avenue	Interim Two-Lane Condition (See Addendum 2)	N/A		No	CP-01 (Adjacency)	No	CP 1 (Complete with construction of Alice Griffith)
	Ultimate Condition (See description above)	No	Implementation of BRT	No	CP-07 (Implementation of BRT in CP)	No	CP 7 (Adjacency)[7]
Arelious Walker Drive, Gilman Avenue to Harney Way	Construct two travel lanes in each direction with center median/turn lane	No	Implementation of BRT	No	CP-02 (Adjacency)	No	CP 2 (Adjacency)
Harney Way Widening, Arelious Walker Drive to Thomas Mellon Drive	Near Term (See Addendum 2)	Yes	3,537 PM Peak Hour Vehicle Trips or Implementation of BRT[3]	No	CP-02 (Adjacency)	No	CP 2 (Adjacency)
	Long-Term (See Addendum 2)	TBD[2]	Per Mitigation Measure MM TR-16	TBD[2]	Per Mitigation Measure MM TR-16	TBD[2]	Per Mitigation Measure MM TR-16
Jamestown Avenue, Arelious Walker Drive to Third Street	Resurface and Restripe	No	Demolition of Candlestick Park	No	CP-07	No	CP 7
Ingerson Avenue, Arelious Walker Drive to Third Street	Resurface and Restripe	No	Demolition of Candlestick Park	No	CP-07	No	CP 7
Gilman Avenue, Arelious Walker Drive to Third Street	Reconstruct or Resurface and Restripe	No	TBD	No	CP-02	No	CP 4[8]

Table 7: Project Street Segment Improvements – Candlestick Point

Intersection	Improvement	2010 FEIR Project (Non-Stadium Option)[4]		2019 Modified Project Variant		2024 Modified Project Variant	
		Traffic Volume Trigger?	Trigger	Traffic Volume Trigger?	Trigger[5]	Traffic Volume Trigger?	Trigger[5]
Carroll Avenue, Arelious Walker Drive to Ingalls Street	See Figures 2.1.2A – 2.1.2G	Yes	3,131 PM Peak Hour Vehicle Trips (CP & HP)[c]	Yes	HP-04 (Approximately 3,900 PM Peak Hour Vehicle Trips, CP & HP)[3,6]	Yes	4,000 PM Peak Hour Vehicle Trips (CP & HP)[6]
Ingalls Street, Carroll Avenue to Thomas Avenue	See Figures 2.1.2A – 2.1.2G	Yes	3,131 PM Peak Hour Vehicle Trips (CP & HP)[c]	Yes	HP-04 (Approximately 3,900 PM Peak Hour Vehicle Trips, CP & HP)[3,6]	Yes	4,000 PM Peak Hour Vehicle Trips (CP & HP)[6]

Notes:

1. The cross-section for Yosemite Slough Bridge has been modified from what is shown in the EIR for the Non-Stadium alternative. However, at 45-feet in width, the structure would be smaller than the bridge approved in the Stadium scenario.
2. The isolated intersection analysis conducted for this study shows that the two intersections along Harney Way would operate acceptably with the near-term configuration even with full buildout of the project. However, because Harney Way is part of a complex series of roadway improvements and due to the inherent uncertainty in traffic forecasts, a study will be conducted prior to construction of each development phase to determine whether conditions are better or worse than projected. The results of that study will indicate whether additional development can be accommodated under the near-term configuration while maintaining acceptable LOS or whether widening is required.
3. Based on trip rates by land use used in the 2010 R&D Variant (Variant 1) and currently proposed phasing. See Appendix D for LOS calculation showing that approximately 90% of project-related growth (corresponding to approximately 3,900 vehicle trips) can be accommodated at this intersection before significant LOS impacts would occur.
4. As summarized in the FEIR (Comments and Responses, Appendix A4, Roadway and Transit Phasing Plan), Fehr & Peers, March 17, 2010. Note that the "Original Non-Stadium Option" as presented in the FEIR and replicated here is applicable to all non-stadium options.
5. Where multiple triggers are provided, the trigger shall be whichever event occurs first. When a sub-phase is listed as the trigger, the improvement shall be fully constructed and operational prior to occupancy of the sub-phase.
6. Although these segments are technically part of the CP improvements, they are part of an overall strategy to provide increased auto capacity between HPS2 and CP and should be implemented simultaneously with other improvements on Carroll Avenue and Ingalls Street that are triggered by development in HP.
7. Although improvements along this segment are based on construction of adjacent development, intersection improvements such as a traffic signal, may be installed in advance of the trigger if the intersection meets signal warrants or other City criteria.
8. Improvements along Gilman Avenue are planned with CP Phase 4; however, improvements may be constructed earlier to meet transportation requirements consistent with CEQA mitigations measures.

Figures 2 through **8** illustrate the available auto access routes based on the 2024 Modified Project Variant development and roadway infrastructure phasing. Phase 1 includes the 337 residential dwelling units on the Alice Griffith site which are already constructed and are estimated to generate approximately 100 PM peak hour auto trips, based on the methodology described in the 2010 FEIR. The initial configuration of Arelious Walker has been constructed between Gilman Avenue and Carroll Avenue. During this initial period, this segment of Arelious Walker provides one travel lane in each direction. Providing only one travel lane in each direction along Arelious Walker Drive is adequate for this initial phase, and essentially serves to connect the four development blocks together and provide connections to Carroll Avenue and Gilman Avenue, two primary east-west connections to the greater Bayview neighborhood. During later phases of development, as noted below, the remaining half of Arelious Walker Drive would be constructed such that two auto lanes would be provided in each direction. The construction of this interim portion of Arelious Walker Drive is consistent with and supports the final configuration of Arelious Walker Drive. Refer to Addendum 1 (Appendix A, Sub-Appendix D) for figures showing the interim and final configuration of Arelious Walker Drive.

Phase 2 would develop approximately 1,300 ksf of R&D/office, 55 ksf of neighborhood retail, and 640 residential units in a portion CP Center and development blocks along portions of Arelious Walker and Harney Way. To support this phase of development, key transportation infrastructure connecting CP to external routes will be constructed, including Harney Way between the CP Center and Thomas Mellon Drive and Arelious Walker Drive, between Harney Way and Gilman Avenue. This portion of Arelious Walker Drive would be constructed to its ultimate width of four lanes and would connect to the interim two-lane portion to the north of Gilman. Harney Way will be constructed to its initial configuration with four lanes, as described in the section above. Therefore, all of the major auto traffic infrastructure in CP required to connect project-related traffic to the external roadway network will be constructed.

Phase Boundary

Phase Access Routes

Figure 2

CP Phase 1

Phase Boundary

Phase Access Routes

Prior Phase Boundary

Prior Phase Access Routes

Figure 3

CP Phase 2

Phase Boundary

Phase Access Routes

Prior Phase Boundary

Prior Phase Access Routes

Figure 4

CP Phase 3

Phase Boundary

Phase Access Routes

Prior Phase Boundary

Prior Phase Access Routes

Figure 5

CP Phase 4

Phase Boundary

Phase Access Routes

Prior Phase Boundary

Prior Phase Access Routes

Figure 6

CP Phase 5

Phase Boundary

Phase Access Routes

Prior Phase Boundary

Prior Phase Access Routes

Figure 7

CP Phase 6

Phase Boundary

Phase Access Routes

Prior Phase Boundary

Prior Phase Access Routes

Figure 8

CP Phase 7

Mitigation Measure MM TR-16 in the 2010 FEIR requires Harney Way to be reconstructed prior to the issuance of a grading permit for the first Phase of development. However, as noted in EIR Addendum 1, construction of CP-01, Alice Griffith, does not connect to Harney Way and improvements to Harney Way would not affect auto capacity associated with CP-01; therefore, reconstruction of Harney Way is not necessary for that phase of development. Consequently, a modification was proposed to Mitigation Measure MM TR-16 as part of Addendum 1 (and subsequently approved by OCII, as noted earlier) to provide for Harney Way to be constructed such that it is complete prior to the issuance of occupancy permits for the second sub-phase of Major Phase 1, CP-02, now Phase 2. These same revisions addressed in Addendum 1 would continue to apply to Phase 2 of the 2024 Modified Project.

Phase 3 of CP would include construction of the remainder of CP Center and the blocks directly opposite CP Center across Ingerson Avenue, which includes approximately 1,500 ksf of R&D/office use, 850 residential units, and 90 ksf of retail. Roadways adjacent to the development would be constructed as part of Phase 3; however, no additional transportation improvements are proposed. Phase 4 of CP includes 16 ksf of retail, the movie theater, and approximately 910 residential units in a part of CP South and Alice Griffith. Similar to Phase 3, the roadways adjacent to the development would be constructed as part of Phase 4; including the construction of the Gilman Avenue off-site improvements.

Phase 5 includes the development of approximately 140 ksf of retail, 50 ksf of community uses, the hotel, and approximately 1,680 residential units in CP South. The roadways adjacent to Phase 5 would also be constructed. Phase 6 includes the development of approximately 520 residential units in Alice Griffth. Phase 7 includes the development of the remaining 2,270 residential units in CP North and the Performance Venue. Roadways adjacent to the development would be constructed, including the ultimate cross-section configuration along Arelious Walker, north of Gilman Avenue. Additionally, roadway off-site improvements along Jamestown Avenue and Ingerson Avenue would also be constructed during Phase 7.

The 2010 FEIR identified that the Carroll Avenue and Ingalls Street improvements would be triggered once approximately 3,150 vehicle trips are generated in CP and HPS. The analysis conducted for the 2010 FEIR was based on the original phasing, which as noted earlier, would develop the HPS2 site faster than currently proposed. As a result, the automobile route around Yosemite Slough was identified as appropriate infrastructure to provide access to CP and US 101 from the development at HPS2. The trigger in the 2010 FEIR was identified as the appropriate time when the improvements would be necessary.

However, based on current proposed phasing, the previously identified trigger point for the auto route around Yosemite Slough would be met with less development in the Hunters Point Shipyard and substantially more development in CP than originally anticipated. As a result, there is likely to be less auto demand for travel between the HPS2 site and US 101 or between the CP and HPS2 yard sites, making the auto route around Yosemite Slough less critical until development at HPS2 occurs.

Improvements around Yosemite Slough would be required when approximately 50 percent of the total forecasted vehicle traffic from CP and HPS2 is generated. Thus, the trigger for improvements to Carroll Avenue and the automobile route around Yosemite Slough has been modified based on vehicle trips. Intersection LOS calculation sheets demonstrating that the intersection would operate acceptably under its current configuration up to approximately 50 percent of the total forecasted growth is provided in **Appendix B**.

The remaining auto capacity enhancements on Arelious Walker Drive, between Gilman Avenue and Carroll Avenue, are triggered based on level of service operations, or accommodating BRT, whichever comes first. However, since the construction of HPS2 is delayed compared to the forecasted schedule from the 2010 FEIR and 2019 Modified Project Variant, the ultimate configuration along Arelious Walker is tied to the adjacent development. **Table 8**, below, summarizes the intersection analysis results for the interim configuration. As shown, the intersection could operate within an acceptable level of service through the completion of the CP development. Therefore, the construction of the ultimate condition would be tied to adjacent development, including implementation of BRT in CP. No significant impacts are anticipated to occur as a result of providing this interim condition. Detailed LOS calculations are provided in **Appendix B**.

Table 8: Interim Intersection Operations – Arelious Walker Drive

Scenario	Arelious Walker/Gilman (PM Peak Hour)	
	Delay	LOS
Interim Condition at completion of CP	53.6	D

Notes:
1. Intersection level of service (LOS) based on weighted average control delay per vehicle, according to the *2000 Highway Capacity Manual*.

Hunters Point Shipyard

As noted earlier, development at HPS2 is anticipated to occur later than anticipated in the 2010 FEIR and 2019 Modified Project Variant. Timing of HPS2 is speculative, therefore, the triggers for HPS2 will be identified at a later date when development at HPS2 proceeds. Until then, the 2024 Modified Project Variant triggers associated with infrastructure roadway improvements have remained consistent with the 2019 Modified Project Variant.

Given the transfer of land uses from HPS2 to CP, no new or substantially increased significant traffic impacts are expected as a result of the 2024 Modified Project Variant, including the modified phasing, compared to the traffic impacts described in the 2010 FEIR associated with the 2010 R&D Variant (Variant 1). Conditions would continue to operate similarly or better to conditions described in the 2010 FEIR. The impact would remain significant and unavoidable even with implementation of the identified mitigation measure. As a result of the analysis described above, no new or substantially increased significant traffic impacts are expected as a result of the 2024 Modified Project Variant or the modified phasing compared to the traffic impacts described in the 2010 FEIR associated with 2010 R&D Variant (Variant 1), and therefore, no new mitigation measures are required. Conditions with mitigation measures described in the 2010 FEIR (and as modified above) would continue to operate similarly to conditions described in the 2010 FEIR.

Impacts TR-17 through TR-30: Impacts to Local and Regional Transit Operations and Capacity

The 2010 FEIR described the Project's impacts to transit in Impacts TR-17 through TR-30. Impacts TR-17 through TR-20 identified that, with implementation of the 2010 FEIR Project's Transit Operating Plan (identified as Mitigation Measure MM TR-17), the Project would provide adequate transit capacity locally, at the standard Downtown screenlines, and regionally to meet its projected demand. With implementation of MM TR-17, Impacts TR-17 through TR-20 were determined to be less than significant.

The 2010 FEIR also identified Impacts TR-21 through TR-27, which describe impacts to transit travel time associated with Project-generated traffic congestion on specific corridors affecting specific transit lines. Mitigation Measures MM TR-21 through MM TR-27 were identified and consist of three parts:

- Transit travel times should be monitored throughout the course of project buildout to determine whether Project-generated traffic is decreasing transit travel speeds.

- If speeds are decreasing, travel time reduction measures should be implemented on the affected corridors. These measures typically involve dedication of transit-only lanes.

- If reduction measures are either infeasible or not effective at improving travel speeds, new vehicles should be purchased to allow SFMTA to maintain planned service frequencies.

However, because implementation of these measures requires substantial additional outreach and design, the feasibility of these measures is uncertain, and Impacts TR-21 through TR-27 were determined to be significant and unavoidable.

The 2010 FEIR also identifies Impact TR-28, a significant and unavoidable impact to SFMTA transit express routes using US 101 that may be slowed down by Project-generated freeway traffic for which no mitigation measures were identified. Impact TR-29 was identified as a less than significant impact to SFMTA transit express routes using I-280 because project-generated traffic on this route would not be as substantial. Impact TR-30 would be a significant and unavoidable impact to other regional transit routes (such as SamTrans express routes) using regional facilities to which the Project would contribute substantial amounts of traffic congestion.

The 2010 FEIR concluded that Variant 1 would have significant impacts to transit at the same locations as the 2010 FEIR Project, but that Variant 1 impacts would be more severe than the 2010 FEIR Project due to higher levels of traffic generated. No additional mitigation measures were required as part of the 2010 R&D Variant (Variant 1), although the number of additional vehicles that may be required on the 48 Quintara was determined to be higher than that of the Proposed Project. Generally, the mitigation measures would be as effective at reducing the impacts to transit associated with the 2010 R&D Variant (Variant 1) as they were forecasted to be at reducing the 2010 FEIR Project's impacts.

The 2024 Transit Operating Plan includes the addition of the 56 Rutland at CP but is otherwise generally consistent with the transit routes assumed in the recently updated 2019 Transit Operating Plan, included in the 2019 Modified Project Variant under Addendum 6, which was published and approved in 2019.

Transit Demand and Capacity

As shown in Tables 4 and 5 above, the changes contemplated as part of the 2024 Modified Project Variant would result in similar transit demand compared to the 2010 R&D Variant (Variant 1) and 2019 Modified Project Variant. **Tables 9** and **10** summarize transit ridership and capacity utilization for the Study Area Cordons and Downtown Screenlines, respectively. The capacity utilization calculations utilize the same capacity assumptions presented in the 2010 FEIR. As shown, the change in ridership as a result of the 2024 Modified Project Variant would not exceed Muni's 85 percent capacity utilization standards. Therefore, the proposed modifications will not result in additional or substantially more severe significant impacts beyond those identified in the 2010 FEIR under buildout conditions as it relates to transit capacity impacts (TR-17 through TR-20).

Table 9: Transit Ridership and Capacity Utilization at Study Area Cordons

Cordon/Peak Hour	2010 R&D Variant (Variant 1)		2024 Modified Project Variant	
	Ridership	Capacity Utilization	Ridership	Capacity Utilization
AM Peak Hour				
East of Third				
Inbound	2,585	65%	2,594	65%
Outbound	1,841	46%	1,829	46%
North Cordon				
Inbound	2,490	70%	2,499	70%
Outbound	2,257	64%	2,243	64%
West Cordon				
Inbound	3,108	78%	3,119	78%
Outbound	2,073	52%	2,060	52%
PM Peak Hour				
East of Third				
Inbound	2,280	57%	2,259	56%
Outbound	2,214	56%	2,200	56%
North Cordon				
Inbound	2,889	81%	2,863	80%
Outbound	2,299	65%	2,284	65%
West Cordon				
Inbound	2,076	52%	2,057	52%
Outbound	2,442	61%	2,427	61%

Table 10: Transit Ridership and Capacity Utilization at Downtown Screenlines

Cordon/Peak Hour	2010 R&D Variant (Variant 1)		2024 Modified Project Variant	
	Ridership	Capacity Utilization	Ridership	Capacity Utilization
AM Peak Hour				
Northeast	3,008	78%	3,007	78%
Northwest	8,949	75%	8,946	75%
Southeast	7,573	74%	7,570	74%
Southwest	7,674	76%	7,671	76%
Total All Screenlines	**27,204**	**75%**	**27,194**	**75%**
PM Peak Hour				
Northeast	3,140	78%	3,128	78%
Northwest	8,155	75%	8,123	75%
Southeast	8,306	84%	8,274	84%
Southwest	8,829	82%	8,795	82%
Total All Screenlines	**28,430**	**80%**	**28,320**	**80%**

Transit Delay

Mitigation Measure MM TR-17, which calls for the project applicant to work with SFMTA to implement the proposed transit service increases, would still apply. Mitigation Measures MM TR-21, MM TR-22, MM TR-23, MM TR-24, MM TR-25, MM TR-26, and MM TR-27, which call for the applicant and SFMTA to implement transit priority features or purchase new vehicles to maintain headways affected by Project-generated traffic congestion, would also still apply.

Impacts TR-21 through TR-30, describe that the Project travel demand would degrade local and regional traffic operations, which would increase transit travel times, resulting in some significant transit impacts. The 2024 Modified Project Variant change in travel demand, summarized in Table 3, may affect transit travel time and delay for routes adjacent to the CP Center including the 29 Sunset and 28R/BRT. **Table 11**, below, compares the modifications to access around CP Center as part of the 2024 Modified Project Variant to those analyzed in the 2019 Modified Project Variant for the PM peak hour when traffic conditions are most congested.

Table 11: Project Increase to Transit Travel Time (minutes: seconds) – PM Peak Hour

Route	Northbound/Eastbound (toward CP Center)		Southbound/Westbound (leaving CP Center)	
	2019 Modified Project Variant	2024 Modified Project Variant	2019 Modified Project Variant	2024 Modified Project Variant
29 Sunset[1,3]	0:55	0:52	N/A	N/A
28R/BRT[2]	3:39	4:11	3:19	4:58

Notes:
1. The 29-Sunset travel time reflects the route between Earl Street/Gilman Avenue intersection to/from the West Harney Way/Ingerson Avenue intersection.
2. The BRT travel time reflects the route between south of the Arelious Walker/Harney Way intersection to/from the West Harney Way/Ingerson Avenue intersection.
3. 29 Sunset southbound/westbound transit travel times (leaving CP Center) are not expected to change between the Modified Project and prior analysis as conditions are not changing leaving the site.

As shown, the travel time for 29 Sunset is expected to remain the same compared to the 2019 Modified Project Variant. The 2024 Modified Project Variant is expected to increase transit travel times in and out of the site by approximately 30 seconds and 1.5 minutes, respectively. The results of the travel time estimates are conservative as the analysis does not take into account that the BRT may experience less delay as a result of traveling on dedicated transit only lanes. Additionally, as summarized in Table 3, the 2024 Modified Project Variant results in fewer PM peak hour trips compared to the 2010 Project (Variant 1), as such, the 2024 Modified Project Variant transit operations are not anticipated to degrade beyond what was estimated in the 2010 FEIR. Therefore, the proposed modifications will not result in additional or substantially more severe significant impacts beyond those identified in the 2010 FEIR under buildout conditions as it relates to transit delay impacts (TR-21 through TR-27).

Transit Phasing

Similar to the Project's roadway infrastructure, the Project's transit network was proposed to be implemented at various levels throughout the development as described in the Transit Operating Plan. As a result of proposed changes to the development phasing, the transit phasing has been modified in order to ensure that the appropriate transit service is provided throughout the development as currently envisioned. The CPHPS Transportation Plan notes that the transit operating plan may be modified from what was approved in the 2010 FEIR to address changes in the operating environment and service demands based on SFMTA's planning methodology and public input if modifications result in:

- Similar or higher transit mode share to what was projected in the EIR
- Adequate capacity to serve projected transit ridership
- Similar or less severe traffic impacts to those identified in the EIR

Although the changes to the Transit Operating Plan are not specifically to address current or observable changes in the operating environment and service demands, the Project Sponsor and SFMTA believe that the proposed changes to development phasing would affect the future operating environment and service demands, and thus propose changes to the Transit Operating Plan to better meet future demands consistent with the Mitigation Measure MM TR-17 provisions.

The 2010 FEIR Project, the 2019 Modified Project analyzed in Addendum 6, and the 2024 Modified Project Variant transit phasing are shown in **Table 12**. **Appendix C** includes detailed comparison of the approximate number of transit trips (and approximate level of development) that would be in place at the time each level of transit service would be implemented under the 2010 FEIR Project and the 2024 Modified Project Variant. As noted earlier, development at CP and HPS2 is anticipated to occur later than anticipated in the 2010 FEIR and 2019 Modified Project Variant. The 2024 Transit Operating Plan has been revised to correspond to the revised development schedule for routes serving CP. The Transit Operating Plan would also require changes at HPS2 given the shift of 2,050,000 square feet of R&D/office uses from HSP2 to CP. However, given the uncertainty and timing of HPS2, a revised Transit Operating Plan at HPS2 will be provided once development proceeds.

Table 12: Transit Phasing[5]

Route	Frequency	2010 FEIR		2019 Modified Project		2024 Modified Project Variant	
		Major Phase	Approx. Year	Major Phase	Approx. Year	Major Phase	Approx. Year
Hunters Point Shipyard Phase II							
Hunters Point Express (HPX)	20 10 6	1 1[1] N/A	2017 2019[1] N/A	1/HP-01 2/HP-04 3/HP-06	2034[3] 2037 2037	HP 1 HP 2 HP 3	TBD[6] TBD[6] TBD[6]
23 Monterey	20	1	2017	1/HP-01	2034	HP 1	TBD[6]
23 Monterey or 24 Divisadero[2]	15 10	2 2	2023 2025	2/HP-04 3/HP-06	2037 2037	HP 2 HP 3	TBD[6] TBD[6]
48 Quintara	15 10	1 1	2015 2019	1/HP-01 2/HP-03	2034 2035	HP 1 HP 2	TBD[6] TBD[6]
44 O'Shaughnessy	10 7.5 6.5	N/A 1 1	N/A 2017 2019	1/HP-02 2/HP-03 3/HP-06	2033 2035 2037	HP 1 HP 2 HP 3	TBD[6] TBD[6] TBD[6]
Candlestick Point							
Candlestick Point Express (CPX)	20 15 10 5	2 2 3 N/A	2021 2022 2027 N/A	N/A 1/CP-03 1/CP-02 N/A	N/A 2024 2025 N/A	N/A CP 4 N/A CP 5	N/A 2036 N/A 2041
29 Sunset	10 5	2 2	2021 2022	1/CP-03 1/CP-02	2024 2026	CP 2 CP 3	2031 2034
56 Rutland	20	N/A	N/A	N/A	N/A	CP 2	2031
Routes Serving Both Sites							
28R/BRT to CP	8 5	N/A N/A	N/A N/A	N/A 3/CP-07[6]	N/A 2028[6]	CP 7 N/A	2050 N/A
28R/BRT to CP and HPS (Includes Construction of Yosemite Slough Bridge)	8	2	2021	N/A	N/A	N/A	N/A
	5	2	2022	2/HP-04	2037	TBD[4]	TBD[4]
T Third	6 5	2 3	2020 2025	No Change - Not triggered by project development		No Change - Not triggered by project development	

Notes:

1. Approved Transit Operating Plan called for service increases to 12-minute headways. This has been revised to 10-minute headways as part of the 2019 Modified Project Variant.
2. The 23 Monterey service may extend into HPS2 until SFMTA's fleet is modified to eliminate the need for OCS wires extended into the HPS2 site, at which point the 24 Divisadero would be extended and the 23 Monterey would return to its original (existing) routing. Note that the Approved Transit Operating Plan also called for

three levels of service, corresponding to 15-, 10-, and 7.5-minute frequencies. The Modified Transit Operating Plan has been changed to reduce service levels somewhat on this route and increase service levels on express bus routes based on direction from SFMTA staff.

3. Although the anticipated development schedule calls for the first portions of HP-01 to be completed in 2029, that portion is primarily reconstruction of existing artists' studios. The first portion of new development is scheduled to be complete by approximately 2034, which is when new transit service would likely be warranted.
4. Similar to the 2019 Transit Operating Plan, due to the delay in construction at HP, the BRT is only expected to serve CP. The BRT route would not extend into HPS2 a later phase is identified. Additionally, the construction of the Yosemite Slough Bridge would not be triggered until the BRT extends from CP to HPS2.
5. Based on discussions with SFMTA, the agency will provide transit service commensurate with customer demand as phases of development are built out and passenger destinations are better known. Given the substantial delay in the HPS2 development and delay in other developments along the Geneva-Harney corridor, demand for BRT service will likely be substantially lower than originally expected as initial phases of the CP development are built out. Changes to BRT and other transit serving the CPHPS2 site may be necessary to meet customer demand during that time. Mitigation measure MM TR 17 notes that the transit operating plan may be modified from what was approved in the 2010 FEIR "to address changes in the operating environment and service demands" based on SFMTA's planning methodology and public input if modifications result in:
    - Similar or higher transit mode share to what was projected in the 2010 FEIR
    - Adequate capacity to serve projected transit ridership
    - Similar or less severe traffic impacts to those identified in the 2010 FEIR
6. Timing of HPS2 is speculative, therefore, the approximate year of the trigger will be determined at a later date, once development at HPS2 proceeds.

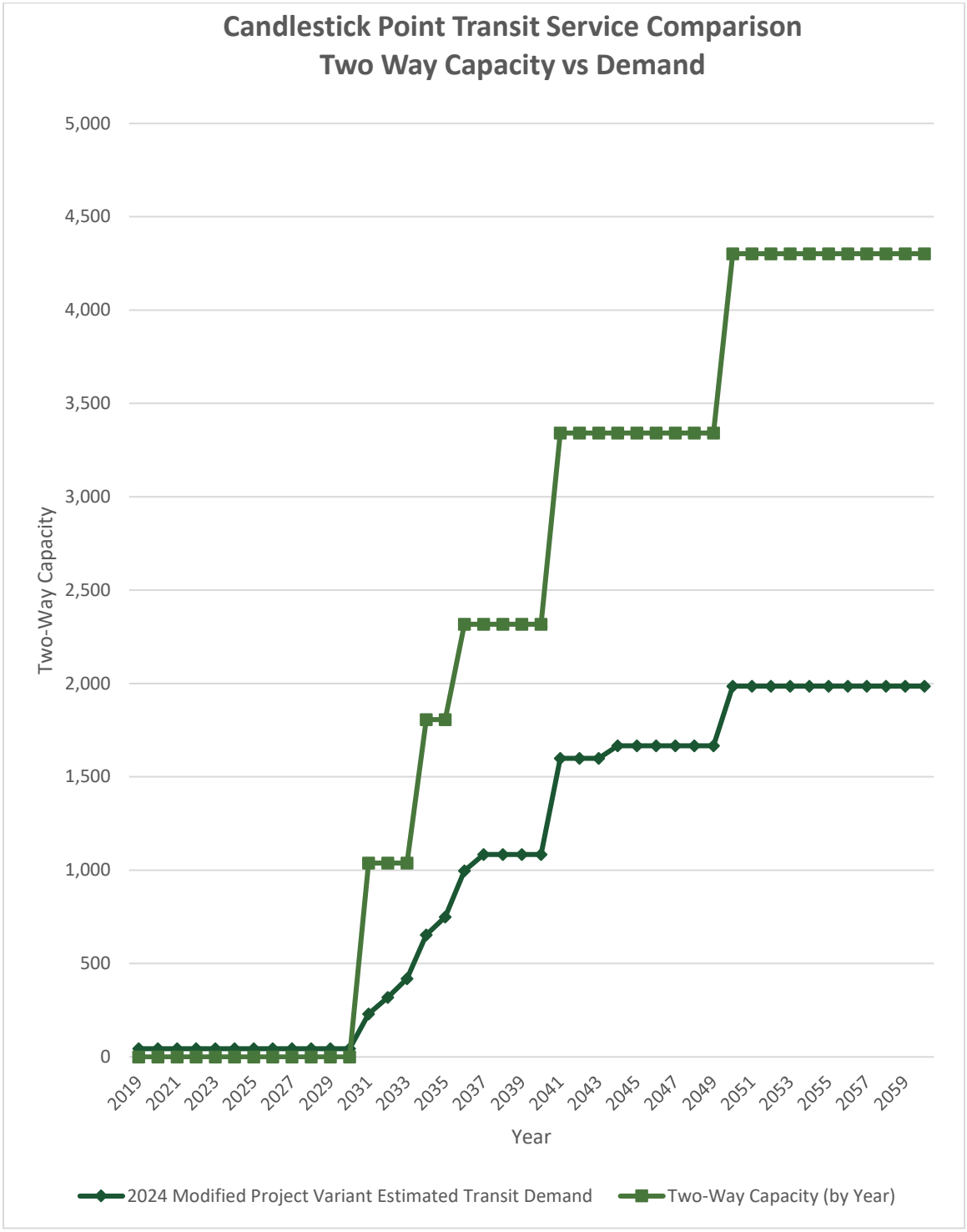
As shown in Table 12, the development phases shown as triggers for each route and change in frequency for the 2024 Transit Operating Plan are generally consistent with the triggers identified under the 2019 Transit Operating Plan, though some modifications are anticipated as the 2024 Modified Project Variant consolidates the Major Phase and sub-phases in the 2019 Modified Project Variant to seven overall phases.

The 28R/BRT triggers are similar to those identified under the approved 2019 Transit Operating Plan. Additionally, similar to the 2019 Modified Project Variant, due to the delay in construction at HP, BRT service is only expected to serve CP once triggered with completion Phase 7. The BRT route would not extend into HPS2 until a later phase. During this interim period, the BRT route would follow the same route within CP as the CPX.

The 2024 Transit Operating Plan initiates the extension of the 29 Sunset and 56 Rutland into the Project site with development of Phase 2. The 29 Sunset is anticipated to increase service to five minute headways with completion of Phase 3. The CPX is initiated with development of Phase 4 at 15 minute headways then reduces to five minute headways with development of Phase 5.

Figure 9 summarizes the level of transit supply proposed to be implemented over time relative to the expected transit ridership demand, based on the development phasing schedule and the transit implementation triggers described above, for CP. As shown in Figure 9, the level of transit service relative to demand will always remain substantially higher than the demand at CP.

Figure 9: Candlestick Point Transit Demand vs Proposed Capacity (PM Peak Hour)



Appendix C provides a year-by-year summary of anticipated development, auto trip generation, and transit trip generation for the CP, which, along with anticipated transit phasing described in Table 12, formed the basis for Figure 9. Based on the transit capacity summarized above, the revised transit operating plan will be adequate serve the expected demand and the 2024 Modified Project Variant will not substantially increase the severity of significant impacts identified in the 2010 FEIR, and no additional mitigation measures are required.

Impact TR-31 and TR-32: Bicycle Circulation

The 2010 FEIR identified Impacts TR-31 and TR-32 to bicycle circulation. Impact TR-31 generally describes the overall improvement to the area wide bicycle network that would result from the Project. Impact TR-32 describes a significant impact to Bicycle Routes #70 and #170 on Palou Avenue that would be adversely affected by the substantial increases to transit service along this street. Mitigation Measure MM TR-32 calls for relocating the bicycle routes to another nearby street with fewer conflicts, although the measure does not specify where the bicycle facilities should be relocated to.

As noted in the 2010 FEIR, bicycle facilities are typically categorized as one of four "classes." A Class I facility is a dedicated, off-street space for bicycles to operate without interference from cars, except at intersections. Class I facilities can be one-way or two-way, and can also be shared with pedestrians in some cases. Class II facilities are on-street striped bicycle lanes, which allocate specific space on the street for bicycle use only. Class III facilities are bicycle routes, which do not allocate space dedicated for bicycles, but often include signage and "sharrow" pavement markings alerting drivers to the likely presence of bicycles. Class IV facilities are exclusively for the use of bicycles and are separated from adjacent auto traffic lanes.

The 2024 Modified Project Variant incorporates changes evaluated and approved in prior Addenda and does not propose any new changes to the bicycle network. Therefore, they are not discussed further here, and no new significant impacts or mitigation measures would be required.

Impacts TR-33 and TR-34: Pedestrian Circulation

The 2010 FEIR identified Impacts TR-33 and TR-34 and determined that the Project would cause less than significant impacts on pedestrian circulation. The 2024 Modified Project Variant maintains the project's goals of prioritizing the pedestrian realm through provision of generous sidewalks with streetscape amenities and safety measures, such as bulbouts at key locations. As

noted earlier, sidewalks would generally remain between 12 and 15 feet, within the range of sidewalks considered in the original plan.

The 2024 Modified Project Variant includes minor changes evaluated and approved in prior Addenda and does not propose any new changes. Therefore, the results of the 2024 Modified Project Variant are expected to be similar to Impacts TR-33 and TR-34, as described in the 2010 FEIR and subsequent addenda, and no new significant impacts or mitigation measures would be required.

Impacts TR-35 and TR-36: Parking

The 2010 FEIR concluded there would be a range of between approximately 3,000 spaces and 23,000 spaces in the entire development area. Further, it identified Impacts TR-35 and TR-36, which determined that although the Project would result in a shortfall of parking spaces compared to its projected demand and would remove some existing on-street parking spaces, the Project's impacts to parking conditions would be less than significant.

The 2024 Modified Project Variant proposes to modify the vehicular parking ratios included in the approved Transportation Plan for R&D/office uses at CP. The 2024 Modified Project Variant includes a parking ratio of 2 parking spaces per 1,000 square feet for the first 1,700,000 square feet of office/R&D development at CP Center. The Project applicant seeks to conduct a parking study once the 1,700,000 square feet of development is completed to right size the remaining parking needs, subject to review and approval by SFMTA. If the parking study is either not completed or not approved, a maximum parking ratio of 1.3 parking spaces per 1,000 square feet will apply to the remaining 1,100,000 square feet of office/R&D.

Table 13, below, compares the maximum amount of parking allowed for 2010 R&D Variant (Variant 1), 2019 Modified Project Variant, and the 2024 Modified Project Variant. The 2024 Modified Project Variant includes a slight increase in the maximum allowed parking supply compared to the 2010 R&D Variant (Variant 1). Specifically, the resulting maximum parking spaces proposed under the 2024 Modified Project Variant would result in approximately 40 more spaces than identified under the 2010 R&D Variant (Variant 1).

Since the 2024 Modified Project Variant would provide parking within the range identified in the 2010 FEIR and does not result in a decrease in parking supply, , the conclusions in the 2010 FEIR related to parking, as described in Impacts TR-35 and TR-36, remain valid, no new significant impacts have been identified, and no new mitigation measures would be required.

Table 13: Maximum Allowed Parking Supply

Parking Type	2010 R&D Variant (Variant 1)			2019 Modified Project Variant			2024 Modified Project Variant		
	CP	HP	Total	CP	HP	Total	CP[1]	HP	Total
On-Street	1,360	1,678	3,038	1,360	1,487	2,847	1,360	1,487	2,847
Off-Street	10,196	9,678	19,874	9,330	9,793	19,123	12,831	7,275	20,106
Total	**11,556**	**11,356**	**22,912**	**10,690**	**11,280**	**21,970**	**14,191**	**8,762**	**22,953**

Source: Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR (2010) and FivePoint (2019)

Impact TR-37: Loading

The 2010 FEIR identified Impact TR-37 and determined that the Project would provide adequate loading supply and therefore concluded that impacts related to loading would be less than significant, and that no mitigation measures would be required. As the 2024 Modified Project Variant does not change the overall loading requirements, implementation of the 2024 Modified Project Variant would not result in any new significant impacts related to loading and no new mitigation measures would be required.

Impacts TR-38 through TR-50: Stadium Impacts

The 2010 FEIR included a number of impacts related to operation of the proposed new NFL stadium in the HPS2 site. However, the stadium is not part of the 2024 Modified Project Variant and these impacts and associated mitigation measures no longer apply.

Impact TR-51 through TR-55: Arena Impacts

The 2010 FEIR determined that the Project's proposed Arena use would create new impacts. Specifically, Impact TR-51 noted that the arena component of the Project would create significant and unavoidable traffic and site access impacts and required development of an event Transportation Management Plan (TMP) by the arena operator as Mitigation Measure MM TR-51. However, even with MM TR-51, the arena's impacts to site access and traffic would be significant and unavoidable. The 2010 FEIR also identified as part of impact TR-52, that the arena's traffic generation would have significant impacts to transit operation and identified Mitigation Measure MM TR-23.1 (operational improvements to the 29 Sunset route) as a way to reduce the effects of the arena traffic on the 29 Sunset travel times. However, even with implementation of these two mitigation measures, the 2010 FEIR concluded that the arena's impacts to traffic congestion and

transit operations would remain significant and unavoidable. The 2010 FEIR also determined that the arena would have a less than significant impact on bicycle circulation (TR-53), pedestrian circulation (TR-54), and parking conditions (TR-55).

The 2024 Modified Project Variant includes changes evaluated and approved in prior Addenda, including the replacement of the proposed Arena by a film arts center and performance venue proposed in the 2019 Modified Project Variant and approved in Addendum 6. Therefore, they are not discussed further here, and no new significant impacts or mitigation measures would be required.

Impact TR-56: Air Traffic Impacts

The 2010 FEIR determined that the Project would have a less than significant impact on air traffic. The 2024 Modified Project Variant would contain the same overall land uses and general development form and would not change the 2010 FEIR's conclusion regarding air traffic. The 2024 Modified Project Variant would not create any new significant impacts with respect to air traffic and no additional mitigation measures are required.

Impact TR-57: Hazards due to Design Features

The 2010 FEIR determined that the Project's transportation infrastructure would be designed in accordance with City standards and would be reviewed and approved by the City prior to construction. As a result, the Project's impacts to hazards would be less than significant. The 2024 Modified Project Variant would also be designed accordance with City standards and would be reviewed and approved by the City. Therefore, no new significant impacts to design features have been identified and no mitigation measures are required.

Impact TR-58: Emergency Access

The 2010 FEIR determined that the Project's transportation infrastructure would adequately facilitate emergency access and be designed to City standards, which include provisions that address emergency vehicles. The 2024 Modified Project Variant would also be designed accordance with City standards and would be reviewed and approved by the City. Therefore, no new significant impacts to emergency access have been identified and no mitigation measures are required.

Cumulative Impacts

As noted in the 2010 FEIR, the discussion of cumulative impacts was included with the discussion of project-related impacts in Impacts TR-1 through TR-58 and no additional cumulative impact discussion is necessary. Similar to what is described above and in the 2010 FEIR, since the 2024 Modified Project Variant would generate similar levels of travel demand at buildout and would have a similar transportation infrastructure, the 2024 Modified Project Variant's contribution to cumulative impacts would be the same as what is described in the 2010 FEIR.

VMT Analysis

Subsequent to certification of the FEIR in 2010, the State of California enacted amendments to CEQA and the Office of Planning and Research (OPR) has issued new CEQA Guidelines concerning the assessment of transportation impacts that generally recommend using VMT and state that automobile delay does not constitute a significant impact under CEQA (PRC Section 21099 and CEQA Guidelines Section 15064.3). Pursuant to CEQA Section 21099(b)(2), once these Guidelines are adopted, projects may not use automobile delay described solely by level of service (LOS) as a criterion for determining significant impacts on the environment. Thus, OCII, as lead agency, has determined that it may not use automobile delay described solely by LOS as a criterion for determining significant impacts on the environment. The Guidelines also state that projects may be presumed to have a less than significant VMT impact if they are in a Transit Priority Area (TPA). The majority of the CP site is within a TPA as identified by the Metropolitan Transportation Commission.[8] While the majority of the Project site is located within a TPA and could be presumed to result in a less than significant impact, a VMT analysis was performed. Accordingly, in addition to the foregoing LOS-based analysis (provided for continuity with the previous analysis performed in the 2010 FEIR and subsequent addenda), the lead agency is providing an assessment of transportation impacts of the 2024 Modified Project Variant using a VMT threshold and methodology, which the Commission of Community Investment and Infrastructure adopted in 2019. OCII's VMT threshold and methodology is consistent with the Governor's Office of Planning and Research publication *Technical Advisory on Evaluating Transportation Impacts Under CEQA* (December 2018) as appropriately modified by discussion of VMT-based significance criteria and methodology for vehicle trips included in the San Francisco Planning Department publication Transportation Impact Analysis Guidelines (October 2019), as further set out below.

[8] https://opendata.mtc.ca.gov/datasets/MTC::transit-priority-areas-2021-1/explore?location=37.734460%2C-122.315058%2C12.94

VMT Significance Criteria

The Commission of Community Investment and Infrastructure has adopted or is considering adopting the following thresholds of significance:

- The project would have a significant effect on the environment if it would cause substantial additional VMT.
- The project would have a significant effect on the environment if it would substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes) or by adding new roadways to the network.[9]

When utilizing these thresholds, the VMT assessment should analyze transportation conditions and identifying the transportation impacts of a proposed project in San Francisco based on the following:

- A residential project would generate substantial additional VMT if it exceeds the regional household VMT per capita minus 15 percent
- An office project would generate substantial additional VMT if it exceeds the regional VMT per employee minus 15 percent
- Retail projects should use a VMT efficiency metric approach: a project would generate substantial additional VMT if it exceeds the regional VMT per retail employee minus 15 percent
- Mixed-use projects, each proposed land use is evaluated independently, per the criteria described above

VMT Assessment

Table 14, below, presents the existing (Year 2020) and future year (Year 2050) VMT per capita rates for the Bay Area region and for the TAZs at CP that include the 2024 Modified Project Variant for both existing conditions and future year 2050 conditions. The VMT per capita rates are based on the SF-CHAMP model, which was recently updated to reflect the City of San Francisco Housing Element Update (2022) and 2019 Modified Project Variant in CP and HPS. Since the 2024 Modified Project Variant proposes similar land uses as the 2019 Modified Project Variant, it is

[9] The Project's roadway capacity improvements are not considered a significant impact because the Project is not adding capacity to address existing congestion such that it would induce demand. Additionally, the roadway capacity improvements are local serving and associated with the demand from the Project; therefore, this criterion does not apply.

reasonable to utilize the San Francisco Transportation Information Map, for VMT rates.[10] For residential development, the existing regional average daily VMT per capita is 18.6. For office and retail development, the existing regional average daily work-related VMT per employee is 25.7 and 14.9, respectively.

The CP portion of the 2024 Modified Project Variant includes residential, R&D/office, retail, hotel, and community uses, performance venue, and film arts center. Similar to the 2019 Modified Project, this analysis considers VMT associated with R&D/office uses to be similar to office and VMT associated with hotel uses are considered to be similar to residential. The film arts center and performance venue have components that function similarly to retail and office as they attract similar users (employees and guests) that would likely travel similar distances. The community uses, which can include a variety of uses, such as fire or police services, childcare, and/or other community serving uses, are still somewhat undefined, but will likely function similar to local serving retail uses, as it will likely attract users that travel a similar distance as retail users. Therefore, the evaluation of the three primary land use categories for which data is available from the city adequately covers VMT patterns associated with all land uses at CP.

The SF-CHAMP model represents the CP site with three TAZs: TAZ 882, TAZ 881, TAZ 891. TAZ 882, which represents CP North, and TAZ 891, which represents Alice Griffith, are primarily comprised of residential units. TAZ 881 represents CP South/CP Center which is primarily comprised of residential, R&D/office, retail, hotel, and community uses, performance venue, and film arts center.

The VMT per capita for residential uses in CP is below the analysis thresholds of 15 percent below the regional average under existing and year 2050 conditions, which equates to 15.8 and 14.5, respectively. The VMT per capita for office uses at CP would currently exceed the threshold of 21.9 for a portion of CP; however, by year 2050, the office land use would generate a VMT per capita below the year 2050 regional threshold of 20.2. Retail uses, which are located in CP South/CP Center (TAZ 881), have an existing and future year VMT per capita that meet the analysis threshold of 15 percent below the regional average of 12.7 and 13.3 under existing and year 2050, respectively. Retail uses in CP North (TAZ 882) and Alice Griffith (TAZ 891) have an existing VMT per capita of 11.1 and 12.7, respectively, meeting the existing threshold. Under year 2050 conditions, CP North and Alice Griffith result in a VMT per capita of 18.8 and 17.6, respectively, exceeding the threshold under year 2050 conditions. However, the 2024 Modified Project

[10] San Francisco Transportation Information Map: https://sfplanninggis.org/TIM/

primarily proposes residential uses in CP North and Alice Griffith, and the community uses identified in CP North are local serving and would cater to those nearby the site; therefore, it is reasonable to conclude that the retail land use findings in CP North and Alice Griffith do not apply to the 2024 Modified Project Variant. By year 2050, residential uses in CP North, CP South/CP Center, and Alice Griffith would generate VMT per capita below the regional average and meet the threshold of significance. Similarly, retail and office uses in CP South/CP Center would generate VMT per capita below the regional average and meet the threshold of significance. Similar to the 2019 Modified Project Variant, the increased density associated with the 2024 Modified Project Variant reduces the need for people to travel outside of the area for goods and services, and also because the substantial investment in transit service to the site reduces the need for people to travel to and from the site by automobile. Therefore, buildout of the 2024 Modified Project Variant itself would reduce the VMT per capita at the site such that it would not exceed the VMT thresholds.

Table 14: Daily Vehicle Miles Traveled per Capita[1]

Land Use	Bay Area			Candlestick Point					
				TAZ 882 (CP North)		TAZ 881 (CP South/Retail)		TAZ 891 (Alice Griffith)	
	Regional Average	Regional Average minus 15%	Year 2040 Regional Average minus 15%	Existing	Future Year 2040 (With Buildout of Proposed Project)	Existing	Future Year 2040 (With Buildout of Proposed Project)	Existing	Future Year 2040 (With Buildout of Proposed Project)
Households (Residential)	18.6	15.8	14.5	13.0	11.1	13.2	11.7	10.3	10.5
Employment (Office)	25.7	21.9	20.2	**23.3**	14.9	**25.7**	19.1	21.5	18.6
Visitors (Retail)	14.9	12.7	13.3	11.1	**18.8**	10.2	5.0	12.7	**17.6**

Notes:
1. VMT rates exceeding the respective threshold are shown in **bold**.

Source: www.sftransportationmap.org (accessed April 2024)

Conclusion

In conclusion, the 2024 Modified Project Variant would not change or alter any of the 2010 FEIR's findings with respect to transportation impacts. All impacts would remain less than significant, less than significant with mitigation, or significant and unavoidable, as previously identified, and no new mitigation measures would be required. Additionally, the 2010 FEIR's transportation cumulative impact conclusions would not be altered.

We hope you have found this useful.

Sincerely,

FEHR & PEERS

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Principal

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